

# TB1200

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# Implementation and Support

SAP Business One, Version 9.3



- SAP Business One
- Collection 98

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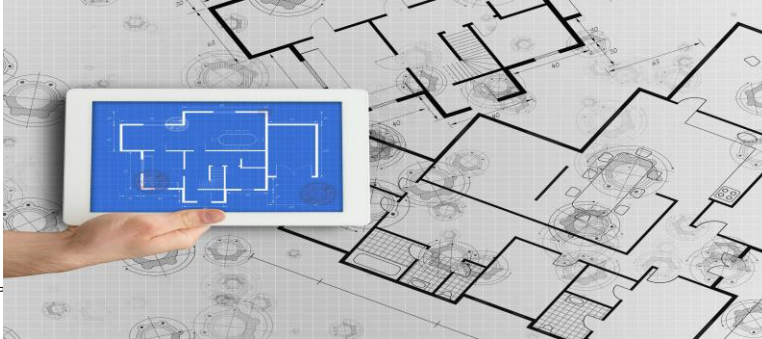
**Unit 2 System Setup and Administration**

**Unit 3 Customization Tools**

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# Implementation Tools: Implementation Project

SAP Business One Version 9.3



- This topic covers the implementation project for a new SAP Business One installation.

## Objectives



### Objectives:

- Explain the advantages of a project methodology
- List the key activities in an implementation project
- Describe the tools and templates provided with SAP's AIP methodology
- Use and customize the embedded project plans in SAP Business One

On completion of this topic, you will be able to:

- Explain the advantages of a project methodology
- List the key activities in an implementation project
- Describe the tools and templates provided with SAP's AIP methodology
- Use and customize the embedded project plans in SAP Business One



## Business Example



It's more than just installing the software. . .

A successful SAP Business One implementation involves careful planning and execution

How do you move from a sales contract with a list of customer requirements to a success story?



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- It's more than just installing the software. . . In fact that part is usually the easiest part of the implementation.
- As an implementation consultant, you usually get involved at the closure of the sales cycle. Therefore it is important that you get a thorough background to the customer from the sales team, including the customer's goals, concerns and overall business processes.
- SAP provides many resources to help you, including a structured methodology for implementations. This methodology is based on the practical experiences of SAP and many implementation partners. Within this methodology, you will find project plans, as well as tools and documents to help you be successful.

## Quiz

What strategies can you use to be successful in an implementation project? Review the list and identify one or more strategies that you would use to increase your chances of success.

- ☐ Leverage SAP's experience
- ☐ Leverage the expertise of other partners
- ☐ Use a detailed project plan to ensure all necessary tasks are completed
- ☐ Set and manage the customer expectations
- ☐ Thoroughly understand the requirements and scope of the project
- ☐ Have a change management process
- ☐ Involve the customer in major project decisions
- ☐ Assess and mitigate risk continually during the project



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What strategies can you use to be successful in an implementation project?

Take a few moments to review the list and identify one or more strategies that you would use to increase your chances of success.

Would you:

- ☐ Leverage SAP's experience?
- ☐ Leverage the expertise of other partners?
- ☐ Use a detailed project plan to ensure all necessary tasks are completed?
- ☐ Set and manage the customer expectations?
- ☐ Thoroughly understand the requirements and scope of the project?
- ☐ Have a change management process?
- ☐ Involve the customer in major project decisions?
- ☐ Assess and mitigate risk continually during the project?

## Quiz

What strategies can you use to be successful in an implementation project?

- ☒ Leverage SAP's experience
- ☒ Leverage the expertise of other partners
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- ☒ Have a change management process
- ☒ Involve the customer in major project decisions
- ☒ Assess and mitigate risk continually during the project



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- All the strategies marked will increase the success of an implementation project.

## Implementation Consultant Role - Responsibilities

### Project Management

- Build relationship with customer
- Manage expectations and scope during implementation
- Train end users

### Business Process

- Analysis of customer's existing business processes
- Map/fit to SAP Business One configuration
- Identify and scope custom software and reports

### Technical

- Identify and migrate legacy data
- Install SAP Business One in system landscape
- Setting up business processes and configuration in SAP Business One

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An implementation project requires a diverse range of skills in addition to product knowledge:

- Project management and managing customer relationships and expectations
- Training for end users
- Analyzing and mapping the customer's business processes to a solution
- Identification and scoping of customer software and reports
- Technical skills such as migrating legacy data, and installing SAP Business One in the system landscape
- Setting up the business processes (sales, purchasing, logistics, finance, reporting, etc.) and configuration in SAP Business One

What do you consider is the most difficult part of the implementation consultant job?

Existing partners tell us that the most difficult tasks in the implementation are concerned with **analyzing the customer's business processes and mapping them to an SAP Business One configuration.**

Partners also find that data migration is often a difficult task, since a knowledge of the database tables is required and often the customer's data does not map easily to SAP Business One. Data migration often takes longer than expected.

Do not underestimate the time needed to collect and analyze customer business requirements. Allow sufficient time during the sales process and during the implementation for these tasks.

## Resources

### Partner-specific Resources

#### SAP PartnerEdge

- Information, training, and assets for pre-sales, sales, implementation, and support
- S-user required

#### Local Product Experts

- Country-level support and training
- Localization aspects

#### Support Launchpad

- Primary interface for supporting customers
- Software download
- License request

#### Partner Services Advisor

- Point of contact for contractual partnership with SAP and onboarding
- Expert sessions

### General Information Sources

#### Learning Hub

- Learning Journeys (self-paced learning for you and your customers)
- No S-user required

#### SAP Community

- Forums for implementation questions
- Blogs
- No S-user required

#### Help Portal

- How to guides and product roadmaps
- No S-user required



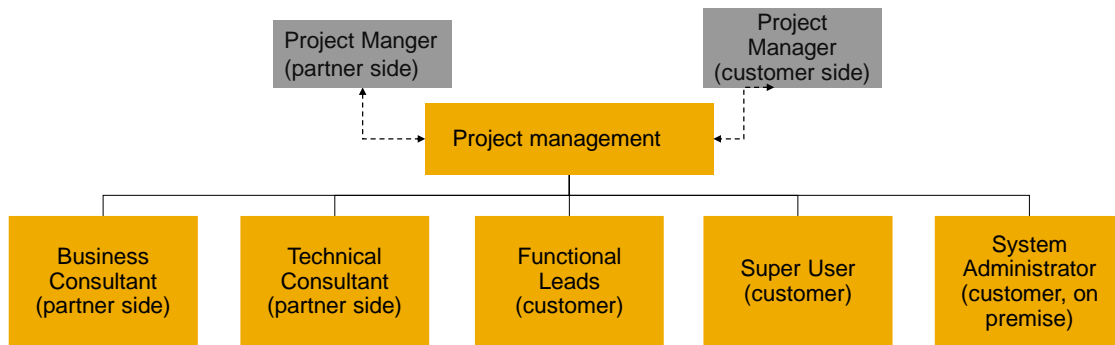
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SAP provides various resources to help you. Going anti-clockwise they include:

- The PartnerEdge portal (at <https://partneredge.sap.com/en/products/business-one/implement.html>) is an information source for consultants. You need a user ID (the S-number), which authorizes you to use most of the services on the portal. Every consultant should get a personal user ID. If you are a new partner to SAP, and your organization has signed SAP's partner agreement, you can request a user ID on PartnerEdge.
- Most countries have a country Local Product Expert who is an expert in the SAP Business One product and the requirements of your localization. The LPE can assist with localization issues.
- The support launchpad (<https://launchpad.support.sap.com/>) is your primary interface for supporting customers after they have gone live. You can also download the software from this site, and request license keys for users. You can also access the launchpad from PartnerEdge.
- A Partner Service Advisory (PSA) organization provides you with a single point of contact for contractual and partnership-related questions and for onboarding. The PSA also facilitates live and recorded enablement sessions on a variety of topics.
- The help portal is a single source for documentation such as how to guides, what's new, product roadmaps, license charts, etc. Visit [help.sap.com](https://help.sap.com) and search for SAP Business One. This site is also available to your customers.
- The SAP Community (<https://www.sap.com/community>) is a source for blogs and Q&A on implementation and technical topics. You can also ask a question or write a blog.
- The Learning Hub publishes self-paced training (with case studies, simulations and assessments) on SAP Business One. Both you and your customers can access the training for free. Registration is required. To register or login, go to <https://training.sap.com/businessone>.

## Project Team Roles and responsibilities



A typical small business project requires both a project manager from the partner side and a project manager from the customer side.

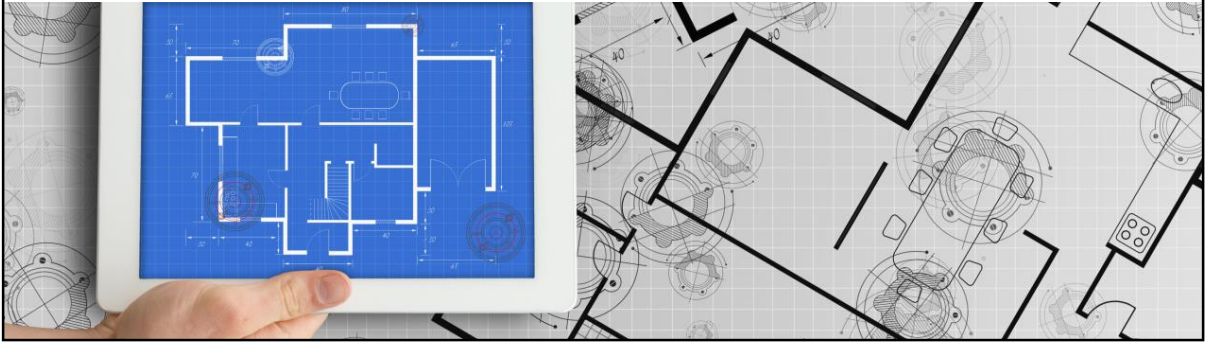
Also from the partner side the tasks might be split between a business consultant and a technical consultant:

- The business consultant runs the business process workshops and produces the Business Blueprint
- The technical consultant installs and configures the system per the Business Blueprint
- The two roles might be performed by one person, or by multiple people

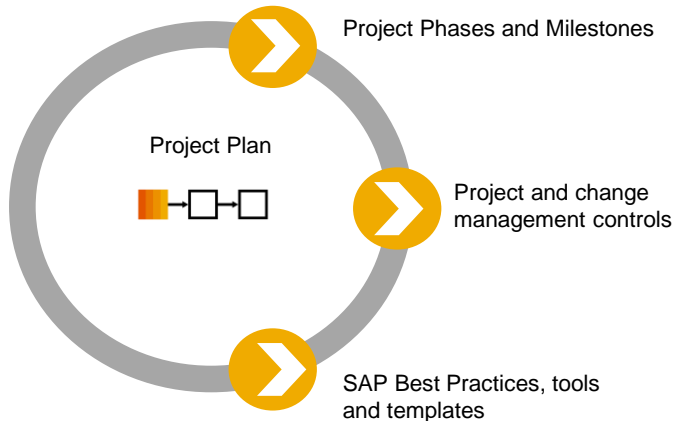
On the customer side, in addition to the project manager, the following roles are required for the project:

- A functional lead representing each area, such as sales, purchasing, accounting, warehouse, etc. The functional leads must attend the business process workshops and also perform the testing of the business processes that they control
- A super user should be appointed from the customer. This person will be trained to perform administrative functions on the new system in production, such as creating users, setting authorizations. This person will receive training in all areas of SAP Business One.
- A technical person from the customer should be part of the project team (for on premise systems).

# Methodology



## Implementation Methodology



### Business Value:

- Proven project structure with formal phases and milestones
- Adds change management and project management controls

### AIP methodology:

- Recommended for SAP Business One implementations as it is based on the practical experiences of SAP and many partners
- Provides tools and templates for business process analysis, business blueprint, data migration, etc.
- Download from PartnerEdge

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A methodology is more than just a project plan. It applies structure to a project by adding formal phases, with milestones that must be achieved before the project can progress. It applies project management and change management controls to a project.

Your partner organization may have its own methodology. If so, you should learn the methodology and tools in use at your company.

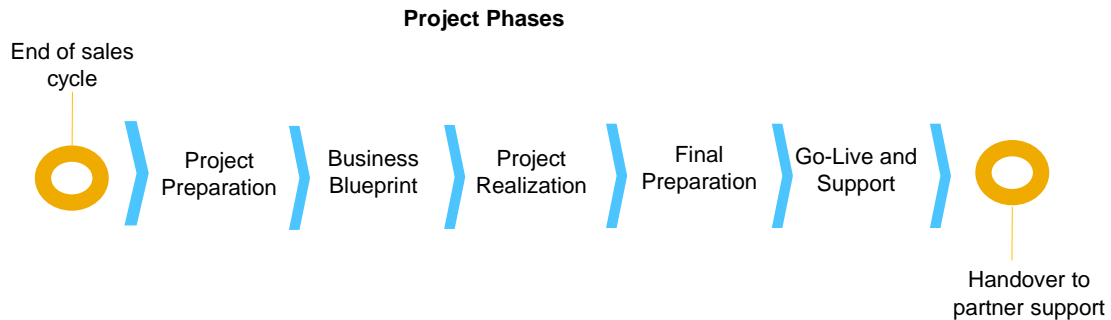
SAP recommends the Accelerated Implementation Program (AIP) for SAP Business One implementations, as it is specifically designed for small business installations (on premise and in the cloud) and is based on the practical experiences of SAP and many partners.

The AIP methodology contains best practices, guides, tools and templates. The methodology and materials are available for you to download from SAP PartnerEdge. All the tools and templates are provided in Microsoft Word or Excel format and you can modify to your own requirements. The flexibility to use all, or some of the methodology is up to you.



## AIP Implementation Methodology Phases

- Specifically designed for SAP Business One implementations
- Divides an implementation into five phases:

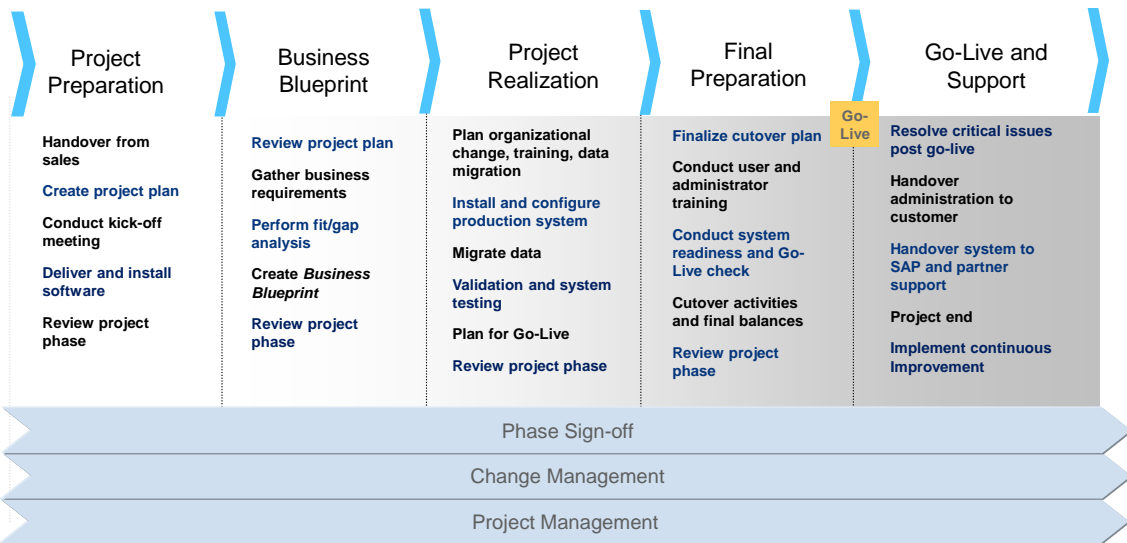


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- The AIP methodology divides an implementation project into five phases. These phases cover the period starting with the *handover from the sales team* to right before the *handover to the partner support organization*. The phases are:
  1. Project Preparation. Get ready for the implementation project with the initial planning with the sales team.
  2. Business Blueprint. Business process analysis and mapping.
  3. Project Realization. Configuration and customization of the customer's company database.
  4. Final Preparation. Get ready for the go-live.
  5. Go-Live and Support. Make sure the customer's new system is functioning as planned for a predefined period before handing over the customer to your support team.

## At a Glance Key Activities Per Phase

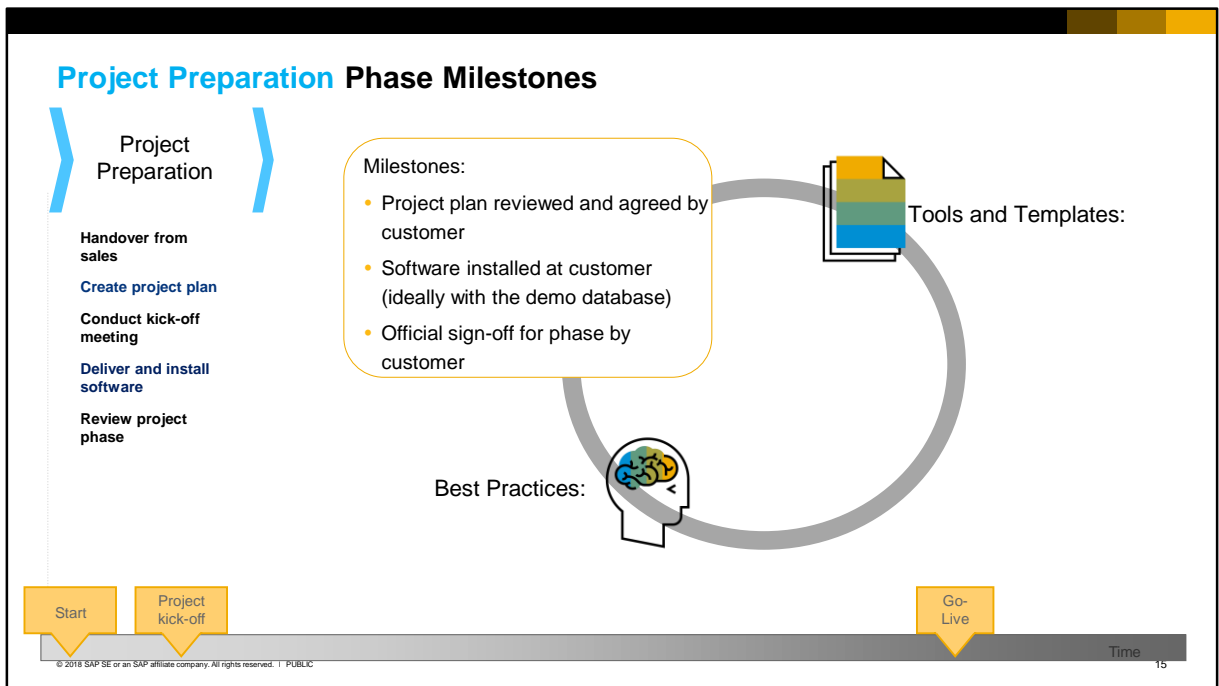


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The methodology blends the key activities in a phase with change and project management.

- **Project Preparation:** the focus is on providing a smooth transition from the sales cycle. The implementation team may not have participated in the sales cycle, so it is important to have a detailed handover from sales. The other focus is building a relationship with the customer. The major deliverable is the software – the SAP Business One software is delivered and installed, marking the contractual start of the project.
- **Business Blueprint:** the focus is on mapping a solution to run the customer's business processes. Business process mapping might seem strange to have here (wasn't that done during the sales cycle?). What takes place in this phase is a detailed analysis of each of the customer's business processes and how they will be configured in the new system. This might require customization to meet any gaps. The major deliverable is the Business Blueprint – the roadmap for the next phase. The Business Blueprint documents the system configuration to support the business processes.
- **Project Realization:** the system is configured and the data from the customer's legacy system is migrated over. This enables testing and validation using the customer's own data. During this stage you need to plan for the next stage: analyzing the need for training, and assessing how ready the customer is for production deployment.
- **Final Preparation:** the end users are trained and a decision is made to go-live. A readiness check should contain a list of criteria that must be met before go-live. The end users should be fully trained, the hardware and infrastructure in place, and operational procedures documented, and so on. Right before the switch to production, final data is migrated over including the current balances for the general ledger and the outstanding customer and vendor balances.
- **Go-live and Support:** you monitor the new system and resolve any critical issues related to the implementation, before officially "handing over" the customer to your support team.



Let's look at the individual phases in more detail.

In Project Preparation, key **activities** for an implementation consultant are to:

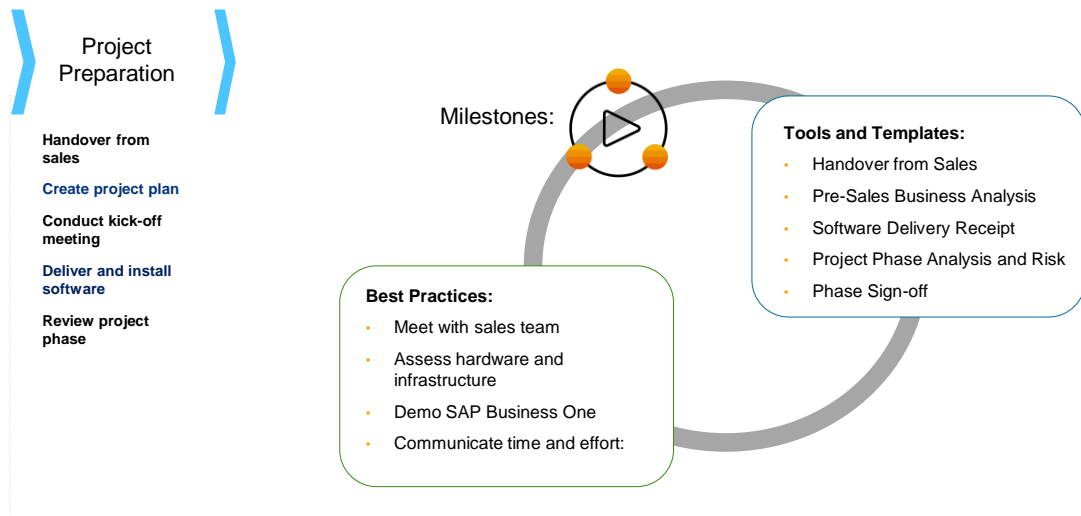
- Conduct a handover with the sales team
- Create an implementation project plan
- Attend the kick-off meeting (which should be organized by the sales team).
- Install the SAP Business One software (ideally with the demo database)

Note: The customer project manager and other key team members should have been appointed during the sales cycle. The sales team has responsibility to ensure that the customer has staffed the project team and that the project is supported by the company owner or sponsor.

The **milestones** which you can use to measure the success of this phase are:

- Project plan reviewed and agreed by customer
- Software installed at customer
- Official sign-off for this phase by the customer. This sign-off signifies that the customer agrees with the project plan and schedule.

## Project Preparation Phase Best Practices, Tools and Templates



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The recommended SAP **best practices** for this phase are:

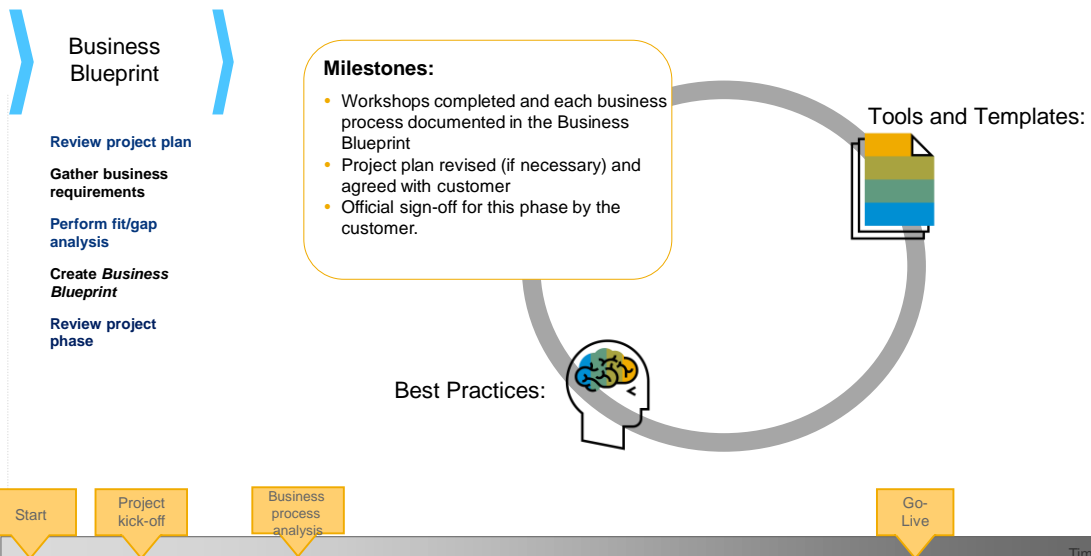
- Meet with sales team *before* the kick-off meeting to understand the customer processes, goals, pain points, unique requirements, risks or constraints (including major changes in the future or an upcoming busy season that could jeopardize the project). You should ensure that customer expectations set during the sales process are feasible and that product capabilities have not been miscommunicated or oversold.
- Assess the hardware and infrastructure at the customer: this includes the server (for on premise) and the network and desktop infrastructure. Doing this early allows time for upgrades to be ordered.
- Demo SAP Business One at the kick-off meeting, using the demo database: it is a good idea to introduce the customer to SAP Business One as early as possible. You can even create master data and documents in the demo database using the customer's own business partners and products. By demoing the product you give the customer team a visual understanding and the opportunity to ask any nagging early questions.
- Clearly communicate the time and effort you require from the customer team. Often small businesses have a hard time releasing staff to work on projects, but this is necessary for the success of the project so should be addressed at the kick-off meeting. A functional lead should be nominated from each business area (sales, purchasing, accounting, etc.).

Tools and templates you can leverage in this phase include:

- Handover from Sales Checklist and Pre-Sales Business Analysis for documenting the customer goals and requirements
- Software Delivery Receipt to document the delivery of the software
- Phase Sign-off to acknowledge the completion of the phase
- Project Phase Analysis and Risk spreadsheet to assess and estimate project risk, based on a series

of answers that you supply.

## Business Blueprint Phase Milestones



**Business Blueprint** focuses on a detailed analysis of the customer's business processes and requirements. Your activities are to:

- Conduct business process requirements gathering workshops
- Map the processes to a solution and identify any gaps
- Complete a business blueprint, which documents how the system will be configured

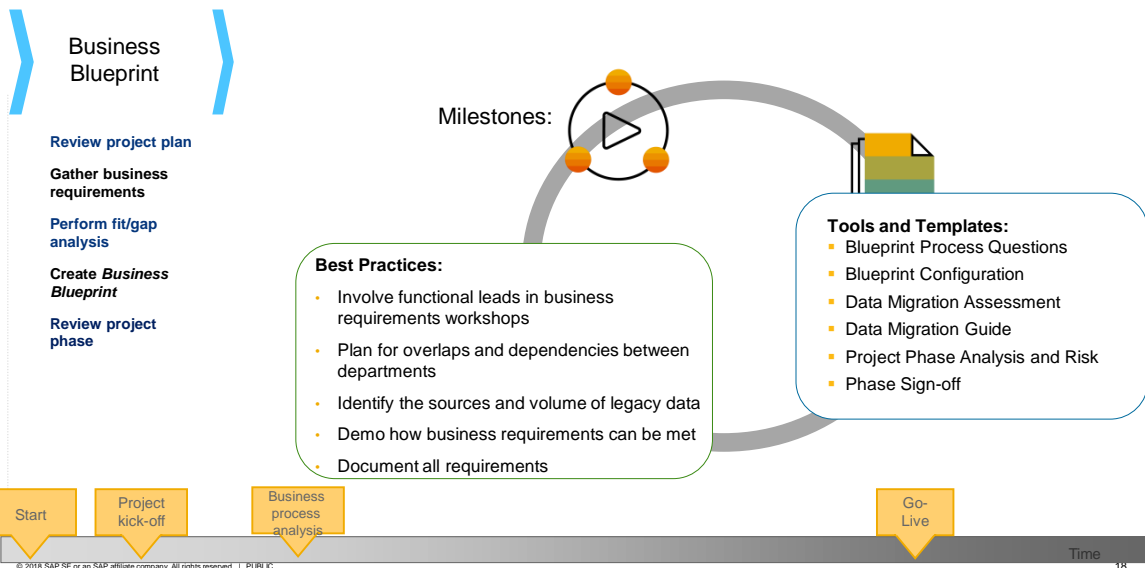
SAP recommends you conduct requirements gathering workshop by process, for example:

- Sales
- Purchasing
- Inventory management
- Production and MRP
- Financials and accounting
- Service
- Banking

Since each customer is different, you may want to organize the workshops in other ways. Remember to include master data and reporting in each workshop. The functional lead from the business area should attend the relevant workshop, also someone from accounting. In the workshop you should ask the functional leads to describe their existing process and operations. You can then demonstrate these processes in the system. The **milestones** for this phase are:

- Business process workshops completed and documented in the Business Blueprint
- Project plan revised (if necessary) and agreed with customer
- Official sign-off for this phase by the customer.

## Business Blueprint Phase Best Practices, Tools and Templates



The recommended SAP **best practices** for this phase are:

- Conduct workshops with the customer functional leads from each business area or department. In these workshops, you should analyze the detailed steps in each of the customers processes. In addition to major processes such as sales, purchasing, and service, you should cover reporting and financial processes.
- When scheduling the different workshops, plan for overlaps and dependencies between departments.
- During the workshops, you should identify the sources and volume of the legacy data that needs to be migrated.
- Use SAP Business One during the workshops to demonstrate how business requirements can be addressed by the system
- Document all requirements in the Business Blueprint and make sure the customer understands that this is the scope of the project

Tools and templates you can leverage in this phase include:

- Blueprint Process Questions
- Blueprint Configuration
- Data Migration Assessment
- Data Migration Guide
- Phase Sign-off
- Project Phase Analysis and Risk to review the phase and assess how well the project is going and if any risks have materialized

## Blueprint Process Questions

### Contents

1. Introduction .....	
1.1. Purpose .....	
1.2. Blueprint Configuration .....	
1.3. Related Documents .....	
2. Blueprint Process Questions .....	
2.1. Bookkeeping Master Data Management .....	
2.2. Journal Entry Posting and Analysis .....	
2.3. Payments (Incoming and Outgoing) .....	
2.4. Bank Statement Processing and Reconciliation .....	
2.5. Budget Management and Analysis .....	
2.6. Cost Accounting Management and Analysis .....	
2.7. Customer Management .....	
2.8. Inventory .....	
2.9. Production Administration and Analysis .....	
2.10. MRP .....	
2.11. Service Administration and Analysis .....	
2.12. Human Resources Management .....	

- List of generic questions for each business process
- Use during requirements gathering workshops to ascertain the details of each customer business process

## Blueprint Configuration

### Blueprint Configuration

1. Introduction
2. Company Creation
3. Company Details
3.1. General
3.2. Basic Initialization
3.3. Accounting and Tax Data
4. General Settings
5. Document Settings
5.1. General
5.2. Per Document Settings
5.3. Document Numbering
5.4. Predefined Text
6. Alerts
8.5. Projects
8.6. Tax Codes
8.7. Withholding tax
8.8. Recurring Postings
8.9. Transaction Templates
9. Banking
9.1. Bank Information
9.2. Bank Charge Allocation codes
9.3. Payment Methods
9.4. Payment Run Defaults
10. Inventory

- Master document for the setup and configuration changes needed in SAP Business One to implement each business process

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The Blueprint Process Questions and the Blueprint Configuration are key implementation documents for SAP Business One.

Like all AIP documents they are provided as templates, and you can edit, extend and configure them for your use.

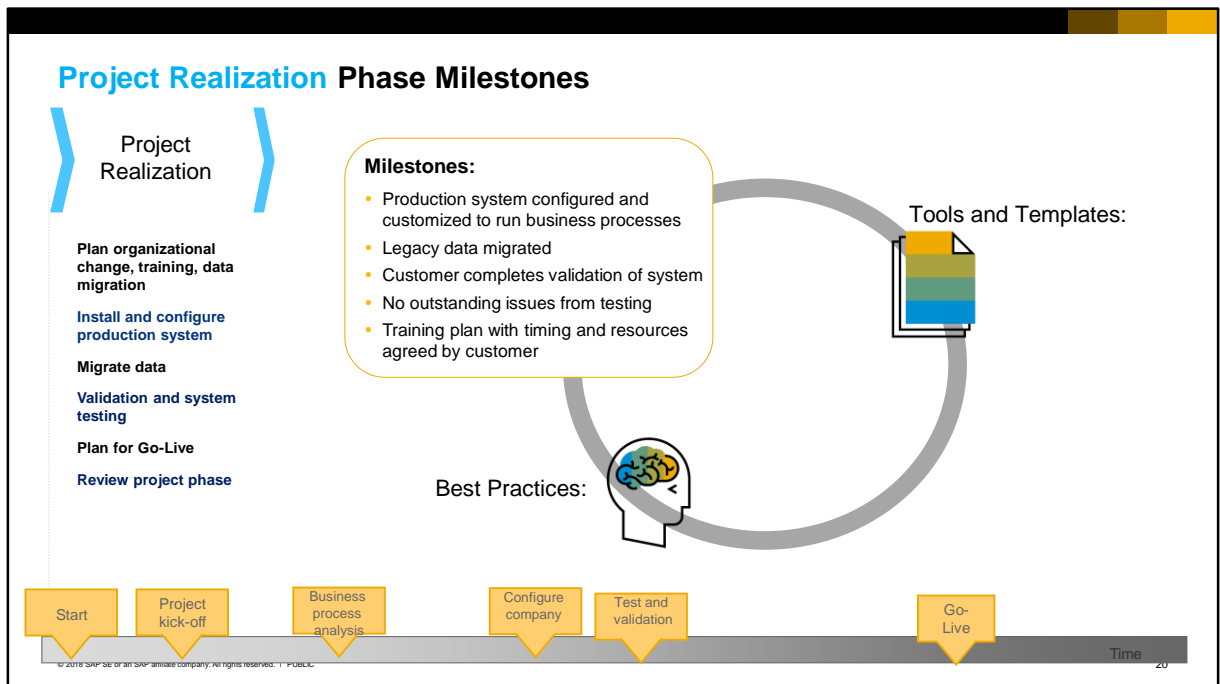
These two documents work hand-in hand:

- Use the business process questions during the requirements gathering workshops to ascertain the details of each customer process. Be sure to add additional questions to cover extended processes not covered in the list.
- Use the information gathered from the detailed questions to document the required system configuration and settings in the blueprint configuration document. capture the required setup and configuration changes needed to implement the business process. You can use the blueprint document as a checklist when making the setup and configuration changes in the company database. At the end of the project, provide a copy of this completed document to your support organization.

Questions are listed for each business process. try to use the customer's terminology, not SAP Business One terminology.

You should record the setup and configuration changes needed for each process.



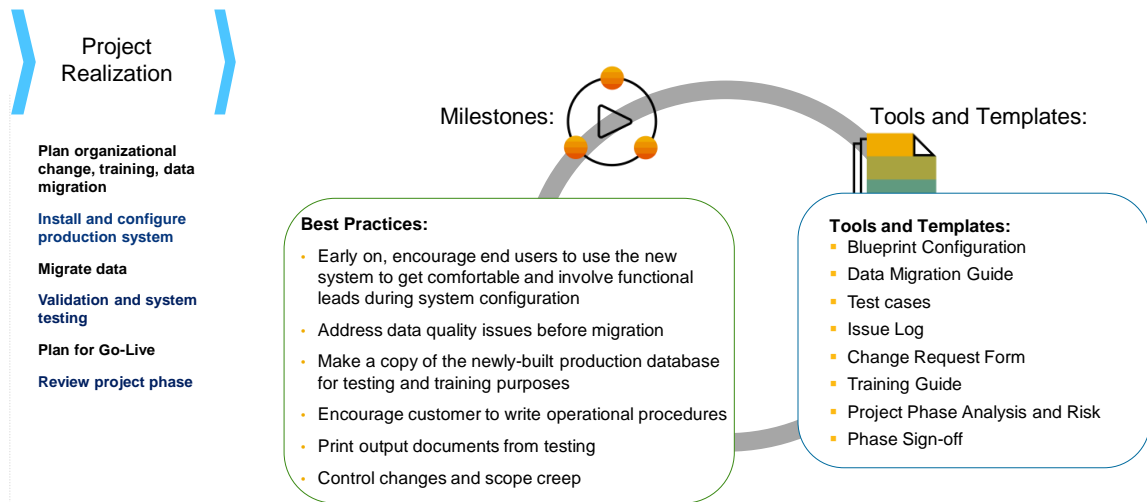


**Project Realization** is the heart of the project. The **milestones** for this phase are:

- Production system configured and customized to run business processes. After the configuration is complete you should make a copy of the production database that can be used for testing and training.
- Legacy data migrated
- Customer completes validation of system. You should carefully plan the test cases with the customer. Test cases should cover not just the business process within SAP Business One but the end to end process including external system interfaces. The customer should ensure that test plans cover all test cases. The test cases supplied with the AIP can be used as a base for developing procedures for system testing.
- No outstanding issues from testing
- Training plan with timing and resources agreed by customer. During this phase the consultant should *plan* the training of end users. The training will occur in the next phase, but you should get a commitment from the customer now for users' time to attend training. The training might be delivered by the consultant, or by the customer, depending on the contract. The Training Guide in the AIP materials provides tips and guidelines for end user training.

**Note:** There may be a need for change management during this phase, since many users will be using the system for the first time and there could be a reassignment of roles or duties.

## Project Realization Phase Best Practices, Tools and Templates



### The **best practices** are:

- Early on, encourage end users to log into the new system and practice their own work to get a comfort level. Involve customer functional leads during the configuration of the new system in order to make them feel part of the process.
- Address the issue of data quality and integrity with the customer. Unless otherwise agreed, it is normally the customer's responsibility to "clean up" the legacy data before migration, and the consultant is only responsible for the actual migration.
- After you have configured the production system, make a copy of the database, and use this copy for system validation and system testing and for training.
- Encourage the customer to create operational procedures now. It is much easier to create these at the same time that the business processes are being validated. And they can also be used and proofed during system testing.
- Print a copy of all output documents, i.e., invoices, purchase orders, reports, etc., and financial statements and have the customer sign off upon acceptance
- During the customer validation there is the possibility of changes to scope. Make sure you document all requested changes and discuss with the customer any impact on the project scope and costs. The project plan should be updated to reflect any change of scope or timeline.

### Tools and templates you can leverage in this phase include:

- Blueprint Configuration and Data Migration Guide from the previous phase
- Test Cases
- Issue Log
- Change Request Form
- Training Guide
- Phase Sign-off and Project Phase Analysis and Risk

## Data Migration Guide

### Table of Contents

1. Introduction
2. Assessing the Data Migration Scope
  - 2.1. Consistent Documents
    - 2.1.1. Data Migration Assessment
    - 2.1.2. Migration Object List Worksheet
3. Cleansing and Transforming Legacy Data
  - 3.1. Data Cleansing
  - 3.2. Data Transformation
  - 3.3. Tools

- Structured approach to data migration during an implementation project and step-by-step instructions for opening balances

- 6.4. Items and Item Prices
7. Item Quantities and Costs
  - 7.1. Options for Migration of Item Quantities and Costs
  - 7.2. Inventory Opening Balances Transaction
    - 7.2.1. Perpetual Inventory
  - 7.3. Data Transfer Workbench – Stocktaking Template
    - 7.3.1. Step 1 – Stock Taking
    - 7.3.2. Step 2 – Stock Posting
  - 7.4. Goods Receipt w/o PO
    - 7.4.1. Data Transfer Workbench – Goods Receipt w/o PO
    - 7.4.2. Manual Goods Receipt w/o PO
    - 7.4.3. Perpetual Inventory

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## Project Phase Analysis and Risk

TOPIC	TASKS	ANSW. (YES/NO)	COMMENTS	RISK LEVEL (1 to 10)
Project Meetings	Project meeting structure			
	1. Partner Internal (Partner Project Manager – Consultants)	F (H)		F (H)
	2. Project Managers (Customer – Partner)	F (H)		F (H)
	3. Project Teams (Customer – Partner)	F (H)		F (H)
	4. Steering Committee (Customer – Partner)	F (H)		F (H)
Business Processes Configuration	Business Process verification			
	1. Were the processes configured according to the Blueprint signed by the customer?	F (H)		F (H)
	2. Were the configured processes (prototypes without			
Test Activities	Unit Test activities (Test system)			
	1. Were proper test cases provided to the users?	F (H)		F (H)
	2. Has the test been executed with real master and balance data?	F (H)		F (H)
	3. Did users complete the test cases using data from real documents?	F (H)		F (H)
	4. Were the issues reported by users documented?	F (H)		F (H)
Risk Assessment	5. Did the partner correct the issues that were reported?	F (H)		F (H)
<div> <div>Risk Assessment</div> <div>P. Preparation</div> <div>Blueprint</div> <div>P. Realization</div> <div>F. Preparation</div> <div>Go Live &amp; Support</div> <div>Balance ...</div> </div>				

- Questions to assess and evaluate project risk

The Data Migration Guide gives you a step-by-step approach to importing legacy data including a recommended order for data migration and opening balances.

The Project Phase Analysis and Risk spreadsheet contains questions to assess project risk during each phase of the implementation project. You can evaluate overall risk by entering the likely risk for each question.

## Final Preparation Phase Milestones

### Final Preparation

#### Finalize cutover plan

Conduct user and administrator training

Conduct system readiness and Go-Live check

Cutover activities and final balances

Review project phase

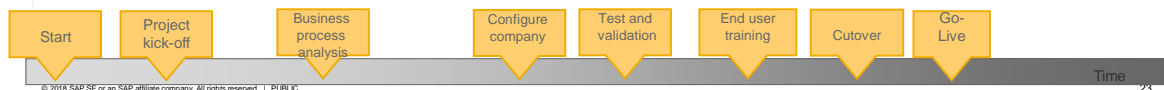
#### Milestones:

- End users trained and able to use the system to perform their jobs
- System readiness for "go-live" confirmed
- Cutover activities completed
- Phase sign-off

#### Tools and Templates:



#### Best Practices:



The goal of Final Preparation is to bring the newly configured system, along with the infrastructure and the users, to the point where it can be switched to production use. This phase ends with the switch to production from the legacy system to SAP Business One.

The **milestones** are:

- End users trained and able to use the system to perform their jobs
- System readiness for "go-live" is confirmed and a go-live data agreed with customer. The readiness check should include criteria that must be met before go-live. All remaining critical open issues must be resolved, the hardware and infrastructure must be in place, and operational procedures documented.
- Cutover activities completed before the switch to production, The cutover period happens just before go-live, when many activities must take place in the correct sequence and in a very short timeframe, so that the new system can fully run the production workload. Activities include:
  - Freezing the legacy system
  - Migrating last-minute master data, final item quantities from stock count, open transactions such as purchase and sales orders, and balance sheet accounts. See the *Opening Balances* topic in this training for more details.
  - Reconciliation of accounting between the legacy system and the new system
- Phase sign-off by customer

## Final Preparation Phase Best Practices, Tools and Templates

### Final Preparation

#### Finalize cutover plan

Conduct user and administrator training

Conduct system readiness and Go-Live check

Cutover activities and final balances

Review project phase

Milestones:

#### Best Practices:

- Adapt SAP provided slides for user training
- Allow each user hands-on access during training
- Reference the AIP project plan and other AIP materials for cutover activities, system readiness criteria and opening balance migration steps
- Conduct cutover activities over weekend
- Make sure customer signs off on phase

#### Tools and Templates:

- Data Migration Guide
- Training Guide
- Project Phase Analysis and Risk
- Phase Sign-off

### The **best practices** are:

- Use and adapt SAP provided slides for end user training (slides are provided for download from PartnerEdge).
- During training, allow each user to work on the SAP Business One system individually. It is imperative that end users are fully prepared to use the new system. Even if you do not conduct the training, you need to assess that the users are ready.
- Cutover activities are documented in the AIP project plan.
- Suggestions for the system readiness check are documented in the project analysis and risk spreadsheet in the AIP materials.
- Reference the data migration guide for step-by-step instructions for opening balance migration.
- Schedule cutover activities over a weekend or other quiet time.
- Make sure the customer signs off on this important phase – the sign off commits the customer to the go-live date.

### Tools and templates you can leverage are:

- Data Migration Guide
- Training Guide
- Phase Sign-off
- Project Phase Analysis and Risk

## Go-Live and Support Phase Milestones, Best Practices, Tools and Templates



- **Go-Live and Support** is the final phase in the project. As the name suggests, the newly-built system is now running in production. Support in this context means that you resolve any issues related to the new system, for a period of time which should be specified in the contract.
- When all critical issues are resolved, the implementation team “hands over” the system to the customer team and to the partner’s support team, and to SAP. Make sure that the customer’s IT administrator is fully trained and able to support the system in operations. Also your own support department should be prepared to support the new customer.
- As far as the AIP is concerned, this is the closure of the project. The customer accepts the system in production by signing the phase sign-off form.

### Best practices include:

- Provide your support staff with the documented Business Blueprint and any other project documentation.
- Involve the SAP Business One account manager as well as the customer’s steering committee (if applicable) in project closing.
- Schedule a “Review and Optimization Conference four to six week after the project closing meeting. This gives you the opportunity to assess how well the system is performing and also allows you to plan additional enhancements.

## AIP Tools and Templates Summary

	Pre sales / Project Preparation	Business Blueprint	Project Realization	Final Preparation	Go Live & Support
<b>Business Process Analysis</b>	<ul style="list-style-type: none"> <li>Pre-Sales Analysis</li> <li>Handover from Sales</li> </ul>	<ul style="list-style-type: none"> <li>Blueprint Process questions</li> <li>BPML tool</li> <li>BPML User guide</li> </ul>	<ul style="list-style-type: none"> <li>Data Migration guide</li> </ul>	<ul style="list-style-type: none"> <li>Data Migration guide</li> </ul>	
<b>Configuration / Infrastructure / Testing</b>	<ul style="list-style-type: none"> <li>Software Delivery receipt</li> </ul>	<ul style="list-style-type: none"> <li>Blueprint Configuration</li> <li>Data Migration Assessment</li> <li>Data Migration guide</li> </ul>	<ul style="list-style-type: none"> <li>Blueprint Configuration</li> <li>Migration Object list</li> <li>BPML tool</li> <li>Test Strategy guide</li> <li>Test Cases</li> </ul>		
<b>Project Management</b>	<ul style="list-style-type: none"> <li>Kickoff Meeting presentation</li> <li>Service Level Agreement</li> </ul>	<ul style="list-style-type: none"> <li>Training guide</li> <li>Change Request form</li> </ul>	<ul style="list-style-type: none"> <li>Change Request form</li> <li>Training Plan by Role</li> <li>Training guide</li> <li>Issue and Change log</li> </ul>	<ul style="list-style-type: none"> <li>Training Plan by Role</li> </ul>	
	<ul style="list-style-type: none"> <li>Project Plan</li> <li>Meeting Agenda</li> <li>Meeting Minutes</li> <li>Phase and Risk Analysis tool</li> <li>Phase Sign-off</li> </ul>				

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- The AIP materials are shown here organized according to each phase and by purpose:
  - **Business Process Analysis tools and templates** are provided for pre-implementation scoping and fact finding, for gathering detailed business process requirements, and for gathering data migration requirements. A Data Migration Guide provides a step-by-step approach to data migration and is a good reference for entering opening balances.
  - **Configuration, Infrastructure and Testing tools and templates** are provided to record the handover of software to the customer, and to document the setup and configuration. A tracking spreadsheet tool is provided for object migration. Sample test cases are provided in a spreadsheet, along with a Test Strategy guide.
  - **Project Management tools and templates** include a PowerPoint template for the initial kick-off meeting with the customer, and a sample Service Level Agreement (SLA). You can use the Training Guide as a reference for planning training during the implementation. Also supplied is a Change Request form and a change/issue log for managing issues during the implementation. The final tool worth a mention is the Phase Sign-off form. You should use this to get customer sign-off for a key deliverable or phase in order to keep the project on track.
  - The *Risk Assessment* spreadsheet is a tool that automatically calculates the estimates project risk, based on a series on answers that you supply.

# Project Plan





## AIP Project Plan - Embedded

**Administration > System Initialization > Implementation Center > Implementation Project**

Complete	Step	I...	N...	A...	Start Date	Finish Date	Actual Duration (Hours)	Total Pla...
<input type="checkbox"/>	Project Preparation							
<input type="checkbox"/>	Internal Prep							
<input type="checkbox"/>	Conduct Handover with Sales Team							
<input type="checkbox"/>	Allocate Project Resources (Partner Side)							
<input type="checkbox"/>	Create High-Level Project Plan (Outline)							
<input type="checkbox"/>	Consider Cloud Deployment							
<input type="checkbox"/>	Conduct Initial Planning Call with Client							
<input type="checkbox"/>	Confirm Project Scope with Client							
<input type="checkbox"/>	Identify Project Team Members (Client)							
<input type="checkbox"/>	Confirm Availability of Hardware and							
<input type="checkbox"/>	Define Project Timelines and Project							
<input type="checkbox"/>	Project Plan							

- Complete project plan for a SAP Business One implementation, aligned to AIP methodology
- On-premise or Cloud
- Contains detailed tasks for all AIP phases, viewable at 6 levels of granularity
- Translated into localization language
- During an implementation project, the plan can be shared by project team members to:
  - Attach project documents
  - Record task deadlines and actual time

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- An implementation project plan is provided with the AIP materials. You can also find this plan embedded in the SAP Business One client application with the Implementation Center tools.
- The plan is fully aligned to the AIP phases and can be used for on-premise or Cloud deployments.
- You can expand and view the tasks at six different levels of granularity.
- Many partners will find the embedded plan easier to use and it has several advantages. Because it is part of the client application it is translated into the localization language and can be easily accessed by users on the project team including customers. And you can attach and share project documents, and record planned and actual time for a task or phase.

## Project Plan Templates

**Administration > System Initialization > Implementation Center > Implementation Project**

The screenshot shows the SAP Implementation Project interface. At the top, there's a navigation bar with 'Administration > System Initialization > Implementation Center > Implementation Project'. Below this, the 'Implementation Project' window is open. It has tabs for 'Progress' and 'Plan'. The 'Plan' tab is active, showing a table of project plan templates. The table has columns for 'Select', 'Step', 'Info.', 'Notes', 'Attachments', and 'Planned Time (h)'. The 'Step' column lists various project phases like 'Project Handover', 'Project Preparation', 'Internal Prep', 'Project Plan', 'Technical Infrastructure Checklist', 'Software Checklist', 'Kick-Off Meeting', 'Review Project Phase', 'Business Blueprint', 'Project Realisation', 'Final Preparation', and 'Go Live & Support'. To the right of the table, there are buttons for 'Add' and 'Duplicate'. A dropdown menu is open next to the 'Duplicate' button, showing three options: 'Detailed Project Plan', 'Narrowed Project Plan', and 'Pre-Configured Project Plan'. A text box overlay on the right side of the screenshot provides information about the project plan templates.

Project plan templates provided in the system:

- Detailed plan includes all AIP phases
- Narrowed plan covers only the final three phases
- Pre-configured plan contains Starter Pack tasks
- Choose duplicate icon to generate a plan from a selected template, or choose add icon to create your own blank plan

- Three different project plans are provided to you:
  - Detailed project plan. This plan contains tasks for the five phases defined in SAP's Accelerated Implementation Program (AIP) methodology.
  - Narrowed project plan. This plan contains tasks for just the Project Realization, Final Preparation and Go Live phases of the Accelerated Implementation Program methodology. This is useful for an implementation-only partner.
  - Pre-configured project plan. This plan contains the necessary tasks to manage an implementation based on the entry-level SAP Business One Starter Package.
- The project plans are designed to be used as templates: open a plan template and select the duplicate template icon to generate a new plan that you can edit. The new plan has all the tasks from the template.
- You can also select the add icon to create a new, empty plan and set up your own tasks.

## Planning Tasks

Implementation Project

Progress **Plan**

Select Level: 5

Project Template: My Project Plan

Select	Step	Info.	Notes	Attachments	Planned Time	Total Planned Time
<input type="checkbox"/>	Project Preparation				22	22
<input type="checkbox"/>	Internal Prep				2	9
<input type="checkbox"/>	Technical Infrastructure Checklist				1	1
<input type="checkbox"/>	Software Checklist				1	1
<input type="checkbox"/>	Kick-Off Meeting				8	8
<input type="checkbox"/>	Review Project Phase				8	8
<input type="checkbox"/>	Business Blueprint				58	58
<input type="checkbox"/>	Blueprint Process Identification				24	24
<input type="checkbox"/>	Migration Assessment				10	10
<input type="checkbox"/>	Fit/Gap Analysis and Final Blueprint Documentation				16	16
<input type="checkbox"/>	Review Project Phase				8.00	8
<input type="checkbox"/>	Project Realization					85

Notes for Project Preparation:  
See attached document

Attachment

Target Path	File Name	Attachment Date
C:\ProjectDoc\B1A3P30 - Handover from Sales		11.12.17

- On the **Plan** tab, you can:
- Enter estimates for a task or (in hours). Times are rolled up to higher level parent task and phase
- Add info, notes and attach documents to a task or phase

Implementation Center Path Settings

Executable Paths Quick Copy Paths **Project Implementation Paths**

Project Attachments Folder: C:\ProjectDoc\

To add an attachment you must define path to folder in Implementation Center Path Settings

There are two tabs on the project plan - Progress and Plan. On the Plan tab, you can estimate the planned time in hours for a task at any level, or for a phase. The times are rolled up to the higher level parent task and phase.

You can also add information, notes and attach documents to a task. For example you could add the Handover from Sales AIP document to the Project Preparation task, or the Business Blueprint document to the Business Blueprint task.

When you add info, notes or documents, the gray icon changes to blue.

**Note:** To save a document as an attachment to a project plan, you must define the path to a project attachments folder. This is not defined in the General Settings but is done in the *Path Settings* of the Implementation Center. The document you browse for will be copied to this folder for use in the project plan.

## Managing Project Progress

The screenshot shows the 'Implementation Project' window with the 'Progress' tab selected. The main table displays project tasks with columns for Start Date, Finish Date, Actual Duration (Hours), Total Planned Time (Hours), and Progress (%). An orange arrow points from the 'Actual Duration' column to the 'Time Record' window.

Complete	Step	L...	R...	A...	Start Date	Finish Date	Actual Duration (Hours)	Total Planned Time (Hours)	Progress (%)
<input type="checkbox"/>	Preparation				02.03.18	26.03.18	40	40	100
<input type="checkbox"/>	Technical Installation				03.03.18	23.03.18	40	40	100
<input type="checkbox"/>	Technical Installation and Initialization						0	0	0
<input type="checkbox"/>	Hardware Installation						0	0	0
<input type="checkbox"/>	Server Software Installation						0	0	0
<input type="checkbox"/>	Client Software Installation						0	0	0
<input type="checkbox"/>	Template Installation						0	0	0
<input type="checkbox"/>	Add-on Installation						0	0	0
<input type="checkbox"/>	Users						0	0	0
<input type="checkbox"/>	Invoice						0	0	0

The 'Time Record' window shows a table with columns: Date, Start Time, End Time, Duration (Hrs.), Owner, and Remarks.

Date	Start Time	End Time	Duration (Hrs.)	Owner	Remarks
03.03.18	08:00	12:00	4	Consultant	
04.03.18	08:00	14:00	6	Consultant	

- Managing project progress is done on the **Progress** tab
- You can enter start and end dates for a task and record actual time spent on a task in time record
- When entering time you must select an owner (employee master data is required)

On the Progress tab, you can enter the estimated start and end date for a task, and record the actual time spent on a task. To enter time, click the orange arrow in the *Actual Duration* column to open the Time Record window.

Note that the owner name is required when you record time. The owner needs to have an employee master data record but does not need a user account.

The time is recorded in the Actual Duration column and rolls up to a higher level task.

Progress to date is calculated and appears in the Progress % column.

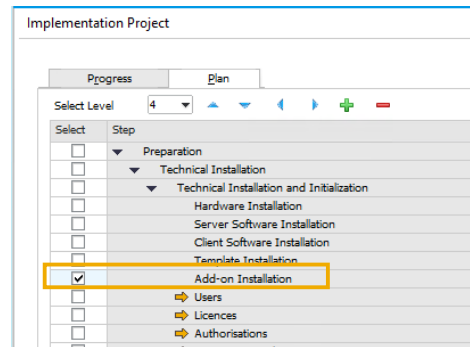
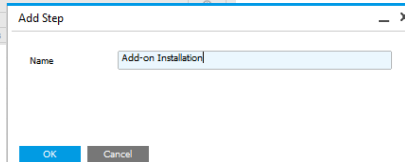
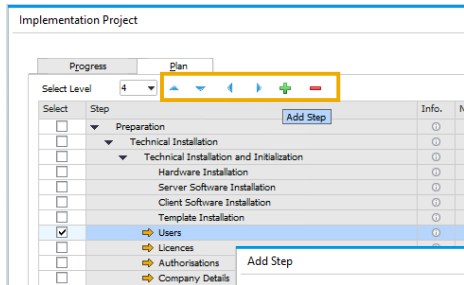
## Task Integration with Configuration Screens

The screenshot shows the 'Implementation Project' window. On the left, a tree view lists various project steps under 'Progress'. The 'Warehouses' step is highlighted with a yellow arrow pointing to the 'Warehouses - Setup' configuration window on the right. The configuration window has tabs for 'General' and 'Drops Ship'. The 'General' tab is active, showing fields for Warehouse Code, Warehouse Name, Location, Street/PO Box, Block, Building/Floor/Room, Zip Code, City, Country, State, Federal Tax ID, GLN, Tax Office, Address Name 1, and Address Name 2. There are checkboxes for 'Inactive', 'Drop Ship', 'Nettable', and 'Enable Bin Locations'. A 'Show Location in Web Browser' link is also present. At the bottom of the configuration window are 'Add' and 'Cancel' buttons.

Project tasks include links to relevant setup and configuration screens

- The project tasks contain direct links to relevant SAP Business One setup and configuration screens.
- In the example shown, when you select the link arrow for the task “Set up Warehouses”, the relevant setup window automatically opens.
- As you can imagine, this can speed up the time for a consultant to share and configure settings with the customer. Once the setting is done, the consultant can then select the task complete checkbox to indicate as a record that the configuration is done.

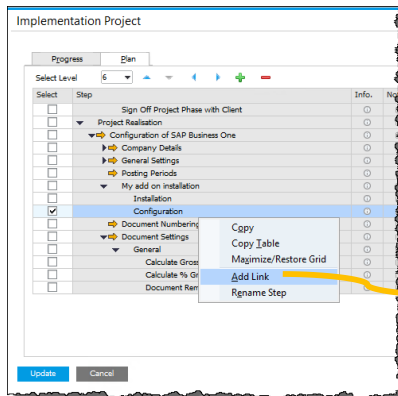
## Adding and Removing Tasks



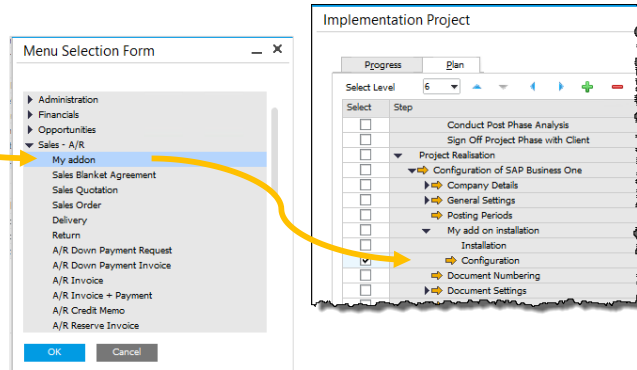
- To add or remove a task, select a task then choose the + or – icon to add a new task after the selected task, or remove the selected task
- To move a task, or move to a different level, choose one of the arrows

- To add a new task, select a task and use the plus icon. The new task is added after the selected task.
- You can move any task to a new location by selecting it and using the up and down arrow icons.
- You can change the level and indentation of any task using the right and left arrow icons.
- To remove a task, select it and use the minus icon.

## Embedding Links for a Task



- If a new task has a configuration screen, you can add a direct link in the project plan
- An example might be the configuration tasks for an add-on



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- When you add a new task to a plan, you have the option to add links to related configuration screens. This is useful if you have an add-on as part of the solution – you can add tasks for installing the add-on and provide links to the configuration of the add-on.
- To add a link to a task:
  - First, select the checkbox for the task.
  - Next, choose *Add Link* from the context menu.
  - In the *Menu Selection Form*, you can select the appropriate menu item from the SAP Business One menu.
  - After you make a selection, the orange link arrow appears to the left of the task name.

## Summary



Key points from this topic:

- You can improve the success of a project by adopting certain strategies such as change management, risk management, and leveraging experience of SAP and other partners.
- A structure project methodology, such as the SAP Accelerated Implementation Program (AIP) is a proven methodology with best practices for an SAP Business One implementation.
- The AIP methodology divides an implementation into phases with milestones. These phases cover the period from the *handover from the sales team* to right before the *handover to the support organization*.
- The methodology provides tools and templates to assist you with business process analysis, data migration, risk analysis, change management, test strategy, and training plans.
- The project plans embedded in the SAP Business One client are easy to use and include all the recommend project activities. You can generate your own project plan from a template, or create a blank plan in the system. You can attach shared project documentation and record planned and actual time and progress in the embedded plan.

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Here are some key points to take away from this session.

- You can improve the success of an implementation project by adopting certain strategies such as change management, risk management, and leveraging the experience from SAP and other partners.
- SAP's Accelerated Implementation Program (AIP) is a proven project methodology for an SAP Business One implementation. It is based on the practical experiences of SAP and many partners.
- The AIP methodology divides an implementation into phases with milestones. These phases cover the period starting with the *handover from the sales team* to right before the *handover to the support organization*:
  - Project Preparation: The project plan is created for the implementation. A kick-off meeting is held with the customer, and the software is delivered.
  - Business Blueprint: The focus is on analyzing the customers business processes and requirements, and mapping them to a solution.
  - Project Realization: The heart of the project where the company is configured to match the business blueprint. Testing also takes place.
  - Final Preparation: The focus is on preparing for go-live. The go-live date is set, the users are trained, and the final balances transferred over.
  - Go-Live and Support: After go-live the customer moves into support mode.
- The methodology provides best practices, tools and templates to assist you with business process analysis, data migration, risk analysis, change management, test strategy, and training plans.
- The project plans embedded in the SAP Business One client are easy to use, include all the recommended project activities, and integrate tasks with the configuration screens.
- You can generate your own project plan from one of the templates, or create a blank plan in the system. You can attach shared project documentation to the embedded plan, and record planned

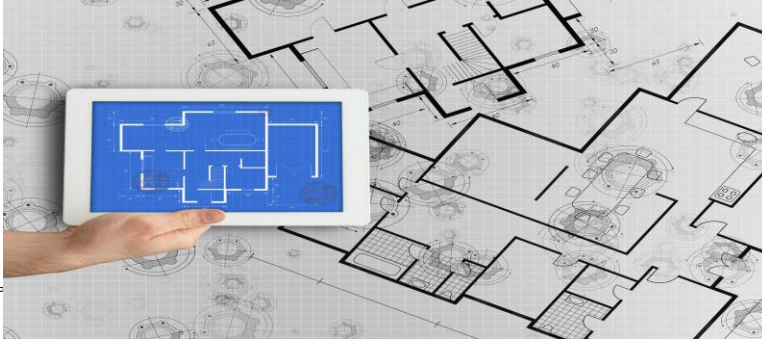


and actual time and progress.

# Implementation Tools:

## Express Configuration Wizard

SAP Business One Version 9.3



- The Express Configuration Wizard simplifies the task of creating and configuring a new company database.

## Objectives



At the end of this course, you will be able to:

- Create a new SAP Business One company, and
  - Configure key settings in a company
- by following an easy to use wizard

- At the end of this topic, you will be able to create a new SAP Business One company, and configure key settings in a company by following an easy to use wizard.

## Business Example



You want to make sure that you configure key settings in the correct order.

Additionally, the customer has asked for an audit log showing all configuration settings.

**Solution:** The Express Wizard provides a structured, systematic way to create and/ or configure a company. Additionally, an audit report is automatically saved of any settings or configuration changes made in the wizard.



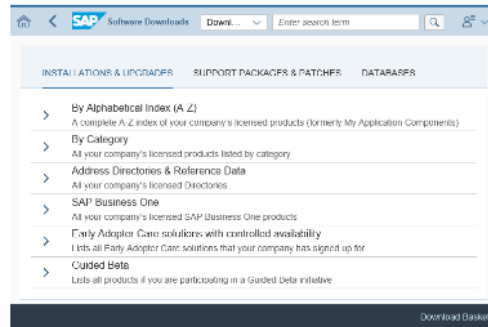
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- Let us look at a business example.
- You are configuring a new customer database and want to make sure that you configure key settings in the correct order. In addition the customer has asked for an audit log of all configuration settings.
- **Solution:** The Express Wizard provides a structured, systematic way to create and/or configure a new company. In addition an audit report is automatically saved of any settings or configuration changes made in the wizard.

## Software Installation

- SAP Business One software is downloaded from the software download center (accessible from PartnerEdge or from the support portal)
- For step-by-step installation instructions, reference the **Administrator's Guide**
- During the installation you set the site user password
- You can optionally install a demo database during the software installation
- You can use the software for 31 days without a license



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Links are available on PartnerEdge for authorized partners to download the SAP Business One software.

For step-by-step installation instructions, reference the Administrator's Guide.

During the installation you set the site user (B1SiteUser) password. The site user password is required for various system-level tasks such as:

- Creating new companies
- Upgrading to a new release or patch level
- Accessing the System Landscape Directory (SLD)
- Creating a database user with read-only privileges for reports and queries

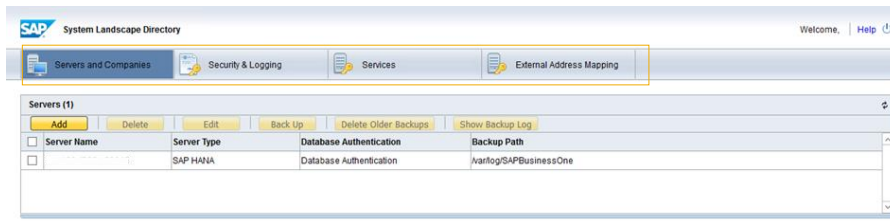
**Note:** The site user password can only subsequently be changed in the System Landscape Directory (SLD).

You can run the newly-installed SAP Business One product version for 31 days without a license. To continue working with the application after 31 days, you must install a valid license key assigned by SAP.

## System Landscape Directory

***https://<Server>:<Port>/ControlCenter***

- Central workplace for managing company databases on the database servers
- Managing security including database authentication, single sign-on, encryption keys, site user password, database user credentials
- Managing license, mail, alerts and browser access services



The System Landscape Directory (SLD) is the central workplace for performing various administrative and security tasks. It is accessible from a web browser using the url shown above.

Use the SLD to:

- Manage companies on the database servers. Companies added here will show on the user's login screen.
- Manage authentication for database users
- Enable single-sign-on functionality
- Manage encryption keys used to encrypt data in SAP Business One
- Change the site user password
- Change the database user used to connect to the database server

On the Services tab of the SLD, you can manage various services including:

- The license service
- The mail and alerts services
- The browser access service

## Creating a New Company

### *Administration > Choose Company*

Options for creating a new company (select the icon to the right of the New button)

- To create a new company, choose **New** from the Choose Company window
- To create and configure a new company using a wizard, choose **New Using Wizard** from the Choose Company window

The B1SiteUser password is required

Choose Company

User ID:  Password:

☐ Log on with Current Domain User

Current Server:  Database:

Companies on Current Server

Company Name	Database Name	Localization	Version
ABC	ABC	United Kingdom/1: 920120	

New

Find By:  
☒ Company Name  
☐ Database Name

You will be prompted to enter the site user password to proceed.

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To create a new company, choose **Administration → Choose Company**.

In the choose company window select the icon to the right of the *New* button to see the dropdown entries:

- Choose *New* to create a new company. After you create the company you can use the configuration windows under the Administration menu to configure it.
- Choose *New Using Wizard* to create the company database and configure the company using the wizard. The wizard makes it possible for a partner organization to adopt a uniform approach to configuration with consultants following a recommended sequence for configuration.

In both cases you will be prompted to enter the **site user password** to proceed.

# Creating a New Company with Express Configuration Wizard





## Express Configuration Wizard – Company Details

Initial details for the company

- License required (or Trial Version)
- Name and database name
- Option to copy to UDFs, UDTs and UDOs from current company
- Local settings activates local tables and functionality
- Chart of accounts template (or user-defined)
- Localization
- Base language for UI

The screenshot shows the 'Express Configuration Wizard' window. On the left is a sidebar with steps: 1 Company Details, 2 Accounting, 3 Banking, 4 Business Partners, 5 Inventory, 6 Sales & Purchasing, and 7 Users. Step 1 is highlighted. The main content area is titled 'Creating a New Company'. It includes a 'Trial Version' checkbox, input fields for 'Company Name' and 'Database Name', checkboxes for 'Copy User-Defined Fields and Tables' and 'Copy User-Defined Objects', a 'License' dropdown set to 'SAP-INTERM-SAP-INTERN(GLOBAL)', and dropdowns for 'Local Settings' (set to 'U'), 'Chart of Accounts' (set to 'U'), and 'Base Language' (set to 'English (United States)'). There is also a 'Define Posting Periods' button. At the bottom right are 'Cancel', 'Back', 'Next', and 'Finish' buttons. A 'Help' link is in the top right corner.

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The wizard first takes you to the standard company creation screen where you enter the initial details for the new company:

- If this is a new SAP Business One installation, you can select the *Trial Version* checkbox. After the 31 day window expires, you must install the license key. If a license is already installed, the new company must be for the same localization.
- Name and database name. The name appears in the Company Details screen.
- Option to copy the user-defined fields, tables and objects from the current company to the new company. This can be useful when there is a need to create an additional company for the customer's business or to create a test database.
- Local Settings. When you select the localization settings, this activates local tables and functionality for the new company. You cannot change the localization after the company is created.
- Chart of Accounts. The chart of accounts templates you see depend on the local settings. If you choose the "template" option, a default chart of accounts will be created automatically based on the localization; and you can edit these accounts as desired. Alternatively you can choose the option "user-defined". Only the top-level drawers are provided in a user-defined chart of accounts, allowing you to manually add accounts to the drawers. **Note:** You cannot change the chart of accounts *after* there are posted transactions.
- Base language. The initial display language for the UI. This can be changed later.

## Express Configuration Wizard (cont.)

- To complete the initial settings, choose the browse button to define the posting periods
- You should define the posting periods for the *earliest fiscal year* that will be required in the new company for reporting

The screenshot shows the 'Express Configuration Wizard' window with the 'Company Details' step selected. The 'Create a New Company' section is active, showing fields for Company Name, Database Name, License, Local Settings, Chart of Accounts, Base Language, and Define Posting Periods. A 'Browse' button is highlighted next to 'Define Posting Periods'. A 'Posting Period' dialog box is open, showing fields for Period Code, Period Name, Sub-Periods, No. of Periods, Period Indicator, Period Status (set to 'Unlocked'), and Dates (Posting Date From, Due Date From, Document Date From, Start of Fiscal Year, Fiscal Year). The 'Continue' button is highlighted.

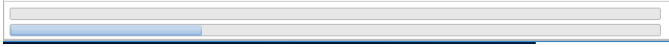
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- To complete the initial settings, choose the browse button to define the posting periods. This is a mandatory step.
- You should define the posting periods for the *earliest fiscal year* that will be required in the new company for reporting. After the company is created you can define posting periods for subsequent fiscal years, but you cannot define posting periods for an earlier year.
- For due dates, SAP recommends that you define a range that is broader than the posting date range of the particular period. This lets you accommodate payment terms that calculate a due date beyond the current system date.
- Due dates of posting periods can be changed later. For example, if the due date range does not allow a transaction with a certain payment term, this can be adjusted.
- You cannot create overlapping periods. After creating periods, you can adjust the date range and the beginning of the fiscal year according to your needs. The fiscal year does not have to be the same as the calendar year; however, the beginning of the fiscal year must be the first day of the month. In this case, you need to change the date range of the periods of that fiscal year. Do so by starting from the last period and working backwards, to avoid a situation whereby the periods overlap.

## Company Database - Completion

- After you define the posting period the wizard creates the database tables
- Progress is shown in the status bar



- The manager account is created and you need to supply the password

A screenshot of a 'Create Password' dialog box. The title bar says 'Create Password' with a close button. The text inside says: 'Create password for new company. Choose a new password that complies with your company's password policy. The password must contain: Minimum of 4 Characters in Length.' There is a 'Password Example:' label next to a text box containing 'abcd'. Below that are labels for 'New Password' and 'Confirm' next to empty text boxes. At the bottom are 'Update' and 'Cancel' buttons.

User "manager" is created by default. You need to supply manager password.

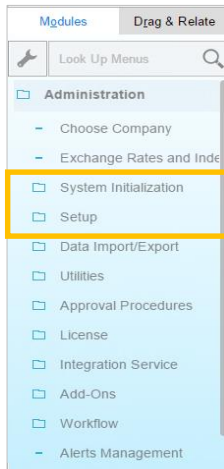
After you define the posting periods, the wizard creates the tables for the new company.

The "manager" user account is created by default. You supply a password for this user, and you use these credentials to login to the company for the first time.

# Using the Wizard to Configure a Company



## Configuring a New Company



- To prepare SAP Business One for use, you must create the company database then configure various settings
- Due to data dependencies, there is a suggested order for the configuration and setup for a new company
- Most of these settings are located under the menus:

***Administration > System Initialization***

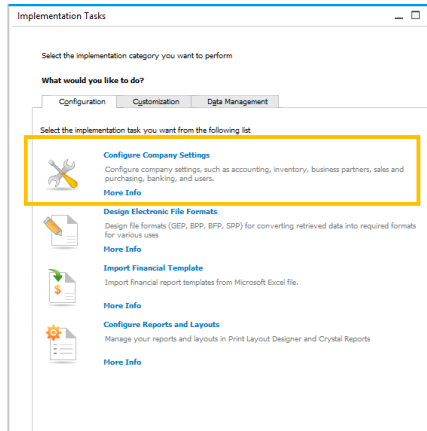
***Administration > Setup***

- To prepare SAP Business One for use at a company, you configure various settings, such as accounting, inventory, business partners, users, sales, and purchasing. Due to data dependencies, there is a suggested order for the configuration and setup for a new company. For example, you should configure the accounting settings first.
- The individual configuration screens are mostly located under the *Administration > System Initialization* and *Administration > Setup* menus.
- Instead of using the individual configuration screens it is often easier to use the *Express Configuration Wizard*.

## Configuring a New or Existing Company

### **Administration > System Initialization > Implementation Center > Implementation Tasks – Configure Company Settings**

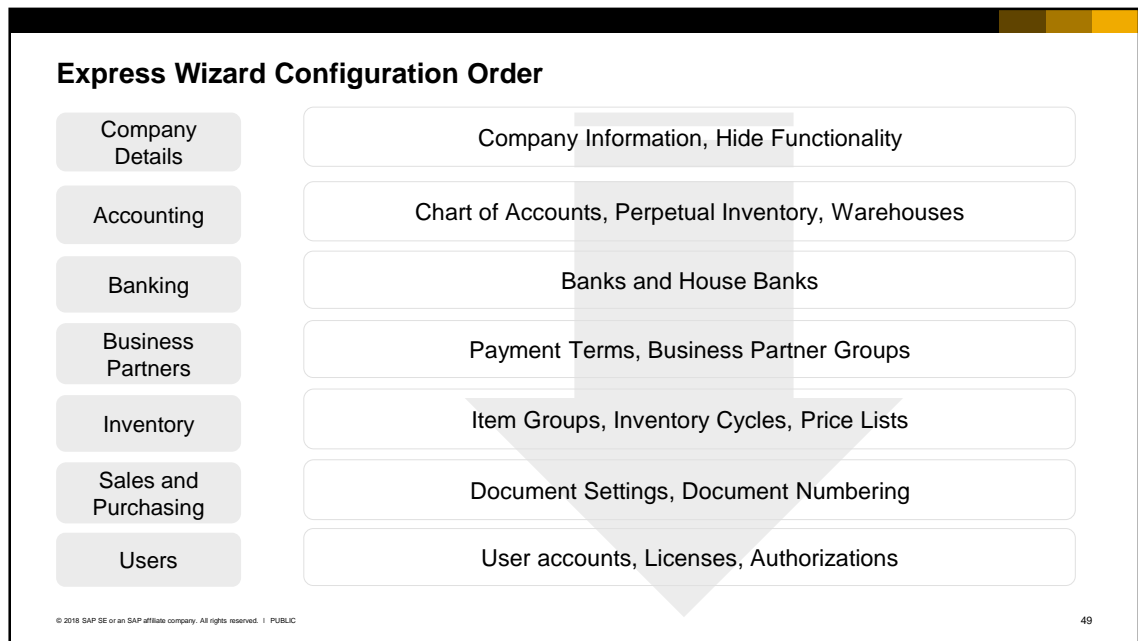
- To access the wizard to configure a company, open it from the Implementation Center



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- You can use the wizard to make configuration changes in the new company as well as in an *existing* company. To access the wizard, open the Implementation Center and choose *Configure Company Settings*.
- To use the tasks in the implementation center, the general authorization *Administration > System Initialization> Implementation Tasks > Implementation Tasks* is required.



- The wizard guides you through the configuration process steps for configuring the company setup for each area:
  - Company Details
  - Accounting
  - Banking
  - Business Partners
  - Inventory (Stock)
  - Sales and Purchasing
  - Users.

## Benefits of Using the Wizard for Configuration

- For ease of use, the configuration screens for each area are grouped together in recommended order
- Wizard highlights irreversible settings in advance with a red exclamation mark
- After a transaction is posted these settings are grayed out and cannot be changed in the wizard

The image displays two screenshots of the SAP Express Configuration Wizard. The left screenshot is titled 'Sales & Purchasing - Defining Document Settings and Decimal Places'. It shows a sidebar with steps 1 through 7, where 'Sales & Purchasing' is selected. The main area contains 'Document Settings' with checkboxes for 'Permit More than One Document Type per Series' and 'Manage Freight in Documents'. Below this is a section for 'Decimal Places (0-6)' for various fields like Amounts, Prices, Rates, Quantities, Percent, Units, and Decimals in Query. A note at the bottom states: 'Note: Settings marked with (!) can be changed only before the first transaction (journal entry or inventory transaction) is executed or before a G/L account or master data is defined.' The right screenshot is titled 'Accounting - Defining the Inventory System'. It shows the same sidebar with 'Accounting' selected. The main area includes instructions on selecting the default valuation method (Moving Average or FIFO) and checkboxes for 'Use Perpetual Inventory', 'Manage Item Cost per Warehouse', 'Use Purchase Accounts Posting System', and 'Allow Stock Release Without Item Cost'. It also has a section for 'Specify the warehouses you use and other warehouse-related settings' with dropdowns for 'Default Warehouse' and 'Warehouse'. A similar note about irreversible settings is present at the bottom.

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- The benefit of using the wizard is that configuration screens are grouped together in recommended order for each module or area – accounting, banking, business partners, inventory (stock), sales and purchasing, and users. An example is shown here of the Accounting configuration screens. There are several screens for accounting.
- The wizard also highlights in advance any settings that cannot be changed after transactions have been posted for the company. These settings have a red exclamation mark (!).
- When a setting becomes irreversible it is grayed out in the wizard and cannot be changed.



## Summary of Configuration Screens used in Wizard

Area	Equivalent Configuration Screens
Accounting	Administration > System Initialization > Company Details Financials > Chart of Accounts Administration > Setup > Financials Administration > Setup > Financials > Tax
Banking	Administration > Setup > Banking
Business Partners	Administration > System Initialization > General Settings – BP tab Administration > Setup > Business Partners
Inventory	Administration > Setup > Inventory Inventory > Price Lists
Sales and Purchasing	Administration > System Initialization > Document Settings Administration > System Initialization > General Settings - Display tab. Administration > System Initialization > Document Numbering Administration > Setup > Purchasing > Landed Costs, Administration > Setup > General > Reference Field Links Administration > Setup > Opportunities
Users	Administration > Setup Administration > License Administration > System Initialization > Authorizations Human Resources

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The slide shows a summary of the wizard steps and the equivalent company configuration screens.

## Configuration Report

- On completion of wizard for a new company, a baseline configuration report is created

The screenshot displays two SAP interfaces. On the left, the 'Configuration Management' table lists configurations. An orange arrow points from the first row to the report on the right.

#	Name	Date	Time	User	Created By
1	Wizard Execution 2016-03-06-16	03.06.16	17:38	manager	Express Configuration Wizard

On the right, the 'Configuration Wizard Report' for 'Light and Music' shows the following settings:

Property	Value
Chart of Accounts Template	GB_Disk
Local Currency	British Pound
System Currency	British Pound
Default Account Currency	All Currencies
Display Credit Balance with Negative Sign	Checked
Use Segmentation Accounts	Unchecked
Use Negative Amount for Reverse Transaction	Checked
Permit More Than One Document Type per Series	Unchecked
Multi-Language Support	Unchecked
Use Continuous Stocks	Checked
Item Group Valuation Method	Moving Average
Manage Item Cost per Warehouse	Checked
Allow Stock Release Without Item Cost	Unchecked
Default Bank Country	
Default Bank	
Default Account No.	
Default Branch	

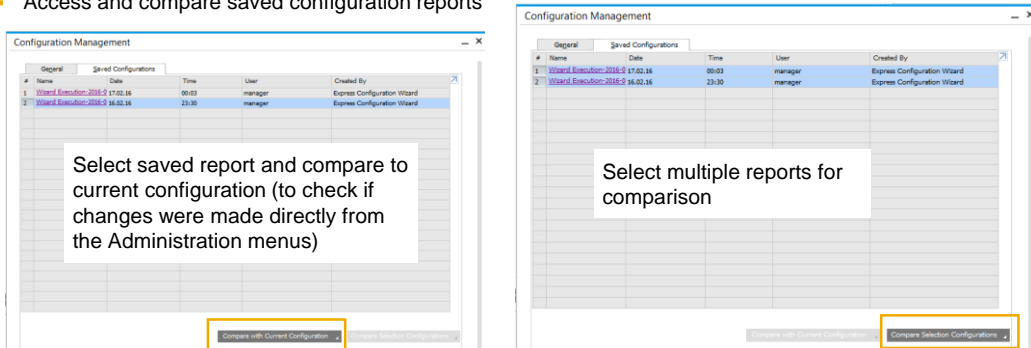
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When you run the wizard for a new company, a baseline configuration report is created. This can be handed to the customer as documentation. Each possible setting is shown with the configured or default value.

## Configuration Report

### Administration > System Initialization > Implementation Center > Configuration Management

- Configuration report is saved each time the wizard is run, providing an audit trail
- Access and compare saved configuration reports



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- Another advantage of using the wizard for configuration is that a report is saved each time the wizard is run, providing an audit trail of changes made.
- You can access the saved configuration reports at any time by choosing *Configuration Management* from the Implementation Center menu:
  - You can select a saved report and compare it to the current configuration. Since configuration changes made outside the wizard are not tracked, you can run this comparison to check if configuration changes have been made directly from the Administration menus, and not using the Express Wizard.
  - You can also select multiple reports and compare them. This allows you to see changes made at different stages of the implementation or over time.
  - You also have the ability to save a snapshot of the current configuration at any time, from the *General* tab of the Configuration Management screen.

## Summary



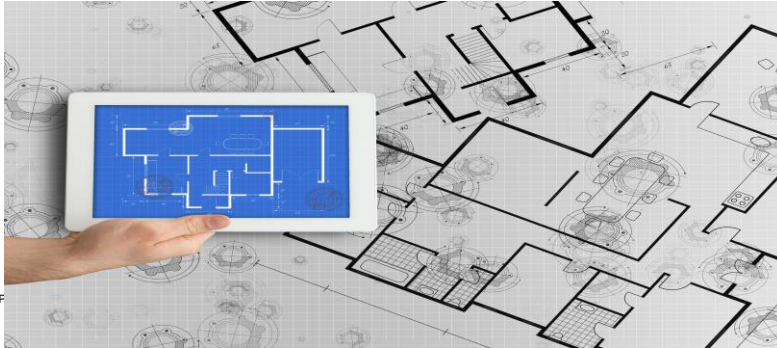
Key points from this topic:

- You have two options for creating a new company - the Express Configuration Wizard option reduces the time needed create a new company by following an easy to use wizard. This makes it possible for a partner to adopt a uniform approach to configuration.
- The wizard groups related configuration screens which may not appear under the same administration menus, and importantly the wizard alerts you in advance to irreversible settings.
- You can also use the Express Configuration Wizard to configure an existing company. After you run the wizard for the first time, the system saves a baseline configuration report. Each time you use the wizard, a new report is created and you can compare and audit configuration changes.
- The site user password is required to create a new company. The site use password is set during installation and maintained in the System Landscape Directory.
- You can run the newly-installed SAP Business One product version for 31 days without a license and create company databases using the trial version.

- These are the key points from this topic:
  - You have two options for creating a new company – choose *New* or choose *New Using Wizard*. The latter option saves time and removes the need to navigate the individual configuration screens. This makes it possible for a partner organization to adopt a uniform approach to configuration. The wizard guides you through the correct order for configuration.
  - The Wizard brings together the configuration settings found under the *Administration > System Initialization* and *Administration > Setup* menus, plus other menus relevant for Accounting, Banking, Business Partners, Inventory, Sales and Purchasing, and Users. The wizard automatically groups related configuration screens.
  - Importantly, the wizard alerts you to irreversible settings, which are marked with a red exclamation mark.
  - You can also run the Express Configuration Wizard to configure an existing company.
  - After you run the wizard for the first time, the system saves a baseline configuration report. Each time you use the wizard to make additional configuration changes, a new report is created and you can compare the changes in the reports using the Configuration Management function.
  - The site user password is set during installation and required to create a new company. The site user password is managed in the System Landscape Directory. You can run the newly-installed SAP Business One product version for 31 days without a license and create company databases using the trial version.

# Implementation Tools: Key and Irreversible Settings

SAP Business One Version 9.3



- In this topic, you will learn about the key system settings for a new company, including default and irreversible settings.

## Objectives



### Objectives:

- Describe the default local settings for a new company database
- Explain key settings in the Company Details, General Settings and Document Settings windows
- List the system settings that become irreversible after the first transaction has been posted

**Note:** This course highlights a few of the key settings and is intended as an overall introduction to configuration settings. Be sure to take time using the demo database to research each of the settings to see how they affect processing.

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- At the end of this topic, you will be able to:
  - Describe the default local settings for a new company database
  - Explain key settings in the Company Details, General Settings and Document Settings windows
  - List the system settings that become irreversible after the first transaction has been posted

**Note:** This course highlights just a few of the key settings in the Company Details, General Settings and Document Settings, and is intended as an overall introduction to configuration settings. Be sure to take time using the demo database to research all of the settings on these windows to see how they affect document processing and functionality in SAP Business One.

## Business Example



- You need to configure a new company database to meet a set of customer requirements
- Changes will be made in the Company Details, the General Settings and the Document Settings.

- Needs to post certain documents in advance and be able to change sales orders after they are issued
- Sales staff need to know when a customer's credit limit is exceeded
- System should check availability before order is posted



The accountant:

- Has a set of rules for defining the accounts used in journal entries.
- Wants to depreciate purchased assets



- Needs to approve purchasing documents over a set amount
- Manages freight charges at the document level



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- You need to configure the new company database to meet the customer requirements.
- The changes will be made in the Company Details, the General Settings and the Document Settings.
- To make the right choices, you need to know the effect of a setting and which settings are irreversible.

## Default Settings for Localization

Creating a New Company

☐ Trial Version

Company Name

Database Name

☒ Copy User-Defined Fields and Tables

☒ Copy User-Defined Objects

License

Local Settings

Chart of Accounts

Base Language

Define Posting Periods



Company Details

General Accounting Data Basic Initialization

Chart of Accounts Template

Local Currency

System Currency

Default Account Currency

☒ Display Credit Balance with Negative Sign

☐ Use Segmentation Accounts

☒ Allow Negative Amounts for Reversal Transaction Posting

☐ Permit More than One Document Type per Series

☐ Multi-Language Support

☒ Use Perpetual Inventory

Item Groups Valuation Method

☒ Manage Item Cost per Warehouse

☐ Use Purchase Accounts Posting System

☐ Allow Stock Release Without Item Cost

Manage Serial and Batch Cost By

☐ Items Group Valuation Method

☐ Serial/Batch Valuation Method

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- When you create a new company, you initially enter the name of the company and select a localization. Based on the localization, many default settings are applied in the *Company Details*.
- For example:
  - The templates for the chart of accounts are populated according to the localization. You usually have the option to select a predefined chart of accounts or a user-defined chart of accounts which contains only the top drawers. It is often faster to use a predefined charts of accounts and adapt it to the company's needs, rather than creating a chart of accounts from scratch.
  - The local and system currencies are based on the selected chart of accounts. Journal entries are made in the system currency and the system currency is used as the reporting currency. The local currency is used for reporting to a local tax authority.
  - Several default settings (checkboxes) are applied based on the localization, including:
    - *Display Credit Balance with Negative Sign*. This setting affects the display of credit amounts. It also influences how you enter the opening balances for credit amounts - as positive or negative numbers.
    - *Use Perpetual Inventory*. This setting, if selected, causes inventory transactions to also post to the accounting system.
    - *Permit More than One Document Type per Series*. This setting will be checked if required for the localization.
    - *Manage Item Cost per Warehouse*. If selected, the system calculates inventory pricing for each individual warehouse. If not selected, inventory pricing is combined for all warehouses.
    - *Use Purchase Accounts Posting System*. If selected this activates purchase accounting.
- The default settings represent common business practices used in the localization.
- Depending on the chosen localization there may be additional settings on the Company Details.



## Settings - Company Details



## Company Details

### Administration > System Initialization > Company Details

- Company Details contains company-wide initialization settings for a new company
- Can also be accessed from Express Configuration Wizard

The image displays three screenshots of the SAP 'Company Details' window, illustrating the different tabs available for configuration:

- General Tab:** Contains fields for company identification and address. Fields include: Local Language, Foreign Language, Company Name (e.g., 'ABC Computers UK'), Address (e.g., 'Clockhouse Place, Redditch, B97 4BH'), Street / PO Box, Street No., Block, Building/Floor/Room, City (e.g., 'Redditch'), Zip Code (e.g., 'B97 4BH'), Country (e.g., 'United Kingdom'), State, Internet Address (e.g., 'www.abc.co.uk'), Printing Header, and Printing Manager.
- Accounting Data Tab:** Contains tax-related information. Fields include: Tax Office (e.g., '237999/390'), Federal Tax ID 1 (e.g., 'GB123456789'), Federal Tax ID 2, Accounts Office Ref. (AO Ref.), Additional ID (e.g., '563488327'), Unique Taxpayer Ref. (UTR), Employer's Reference, Company Tax Rate (e.g., '0.00'), Exemption Number, Tax Deduction Number, Tax Official, and a checkbox for 'Apply Exchange Rate on Deferred Tax Determination'.
- Basic Initialization Tab:** Contains global configuration settings. Fields include: Chart of Accounts Template (e.g., 'GB\_CoA'), Local Currency (e.g., 'British Pound'), System Currency (e.g., 'British Pound'), Default Account Currency (e.g., 'All Currencies'), checkboxes for 'Display Credit Balance with Negative Sign', 'Use Segmentation Accounts', 'Allow Negative Amounts for Reversal Transaction Posting', and 'Permit More Than One Document Type per Series', a checkbox for 'Multi-Language Support', a checkbox for 'Use Parallel Inventory', 'Item Groups Valuation Method' (e.g., 'Moving Average'), 'Manage Item Cost per Warehouse', 'Use Purchase Accounts Posting System', 'Allow Stock Release Without Item Cost', 'Manage Serial and Batch Cost By' (e.g., 'Item Group Valuation Method'), 'Serial Batch Valuation Method', and a checkbox for 'Enable Separate Net and Gross Price Mode'.

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On the Company Details window you enter general information for the company, accounting information for tax, and basic initialization settings that apply to the entire company.

- On the accounting data tab you can define holidays. Holidays are used to calculate the resolution time in the service module and to calculate due dates in purchasing and sales documents. You can change holidays at any time.
- The basic initialization tab covers the global configuration settings. Note that some settings become irreversible after postings are made to the general ledger.
- Some settings are grayed out if they are not applicable for the localization. For example, for the UK localization does not use segmentation accounts.

You can access the Company Details using the path in the slide, and the window is also accessible from the Express Configuration Wizard.

## Irreversible Settings - Company Details

Irreversible settings cannot be changed after the first transaction has been posted and include:

- Chart of accounts template
- Local currency
- System currency

The screenshot shows the 'Company Details' window in SAP, specifically the 'Accounting Data' tab. The window is divided into three sections: 'General', 'Accounting Data', and 'Basic Initialization'. The 'Accounting Data' section is active and contains the following settings:

- Chart of Accounts Template: GB\_CoA
- Local Currency: British Pound
- System Currency: British Pound
- Default Account Currency: All Currencies
- ☐ Display Credit Balance with Negative Sign
- ☐ Use Segmentation Accounts
- ☒ Allow Negative Amounts for Reversal Transaction Posting
- ☐ Permit More than One Document Type per Series
- ☒ Multi-Language Support

A wavy line is drawn across the middle of the window, separating the 'Accounting Data' section from the 'Basic Initialization' section. The 'Basic Initialization' section contains the following settings:

- Ordering Party: House Bank
- Default Bank Country: United Kingdom
- Default Bank: Barclays Bank (House Bank 1)
- Default Account No.: 12345678
- Default Branch: 201030
- ☐ Install Bank Statement Processing
- ☐ Enable Intrastat
- ☒ Enable Fixed Assets
- Calculate Depreciation By: Month
- ☐ Enable Multiple Branches
- ☒ Mask Credit Card Number
- ☒ Enable Advanced G/L Account Determination
- ☐ Allow Selection of Any Account Type for Revenue Accounts
- ☒ Enable Project Management

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The following settings in the Company Details *cannot be reversed* after the first transaction is posted and should be carefully planned with the customer:

- Chart of Accounts Template. The chart of accounts template can be changed before postings are made, but not after any postings.
- Local currency. The local currency is the currency in which the company reports to the local tax authorities and cannot be changed after postings are made.
- System currency. The system currency is the currency in which the company reports to the local tax authorities and cannot be changed after postings are made. Every journal entry is translated automatically into the system currency according to the daily rate. If you do not have any reporting requirements in another currency, set the system currency to the local currency. Note: The default account currency is the default currency for new G/L accounts and can be changed.

## Irreversible Settings - Company Details (cont.)

Irreversible settings that cannot be changed after the first transaction has been posted:

- Display Credit Balance with Negative Sign
- Use Segmentation Accounts
- Permit More than One Document Type per Series (selected localizations)
- Use Perpetual Inventory
  - Manage Item Cost per Warehouse
  - Use Purchase Accounts Posting System
- Enable Separate Net and Gross Price Mode (selected localizations)

The screenshot shows the 'Company Details' window with the 'Accounting Data' tab selected. The 'Chart of Accounts Template' is 'GB\_CoA'. The 'Local Currency' is 'British Pound'. The 'System Currency' is 'British Pound'. The 'Default Account Currency' is 'All Currencies'. The 'Display Credit Balance with Negative Sign' checkbox is checked. The 'Use Segmentation Accounts' checkbox is checked. The 'Allow Negative Amounts for Reversal Transaction Posting' checkbox is checked. The 'Permit More than One Document Type per Series' checkbox is checked. The 'Multi-Language Support' checkbox is checked. The 'Ordering Party' is 'House Bank'. The 'Default Bank Country' is 'United Kingdom'. The 'Default Bank' is 'Barclays Bank(House Bank 1)'. The 'Default Account No.' is '12345678'. The 'Default Branch' is '201030'. The 'Install Bank Statement Processing' checkbox is unchecked. The 'Enable Intrastat' checkbox is unchecked. The 'Enable Fixed Assets' checkbox is checked. The 'Calculate Depreciation By' is set to 'Month'. The 'Enable Multiple Branches' checkbox is unchecked. The 'Mask Credit Card Number' checkbox is checked. The 'Enable Advanced G/L Account Determination' checkbox is checked. The 'Allow Selection of Any Account Type for Revenue Accounts' checkbox is unchecked. The 'Enable Project Management' checkbox is checked.

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Other settings in the Company Details that *cannot be reversed* include:

- Display Credit Balance with Negative Sign. This setting influences whether credit amounts are displayed with a minus sign or not. If you enable this checkbox you will need to enter the credit opening balances of business partners and G/L accounts with a negative sign.
- Use Segmentation Accounts. Segmentation is used in some localizations to segment account codes by departments, divisions, or other categories.
- Permit More than One Document Type per Series. If allowed by the localization, this setting allows the customer to use the same document numbering series for more than one type of document, for example, invoices and credit memos.
- Enable Separate Net and Gross Price Mode is for selected localizations and becomes irreversible after the first transaction is posted.
- Use Perpetual Inventory. This is explained in the logistics courses.
- There are further checkboxes if perpetual inventory is enabled:
  - Manage Item Cost per Warehouse. This option allows a company to maintain different item costs for each item and warehouse. This checkbox is irreversible after the first inventory transaction is posted.
  - Use Purchase Accounts Posting System. Purchase accounting is a legal requirement in some localizations and so it will be automatically checked. When purchasing documents are issued, the expense is recorded in a separate expense account. This checkbox becomes irreversible after the first journal entry is posted.
  - Note: The Allow Stock Release Without Item Cost checkbox *is* reversible. This setting allows a company to include items in documents even when item cost has not been determined.

## Irreversible Settings - Company Details (cont.)

Irreversible settings that cannot be changed after the first transaction has been posted:

- Install bank statement processing
- Enable Intrastat
- Enable fixed assets. Note: fixed assets cannot be reversed, even *before* transactions are posted
- Mask credit card number
- Enable project management

Note: The setting *Enable Advanced G/L Account Determination* is reversible.

Company Details

General Accounting Data Basic Initialization

Chart of Accounts Template GB\_CoA

Local Currency British Pound

System Currency British Pound

Default Account Currency All Currencies

☒ Display Credit Balance with Negative Sign

☐ Use Segmentation Accounts

☒ Allow Negative Amounts for Reversal Transaction Posting

☐ Permit More than One Document Type per Series

☒ Multi-Language Support

Ordering Party

House Bank

Default Bank Country United Kingdom

Default Bank Barclays Bank(House Bank 1)

Default Account No. 12345678

Default Branch 201030

☐ Install Bank Statement Processing

☐ Enable Intrastat

☒ Enable Fixed Assets

Calculate Depreciation By Month

☐ Enable Multiple Branches

☒ Mask Credit Card Number

☒ Enable Advanced G/L Account Determination

☐ Allow Selection of Any Account Type for Revenue Accounts

☒ Enable Project Management

Other settings in the Company Details that become irreversible are:

- Enable Fixed Assets. If you enable fixed assets you cannot reverse this setting, even *before* any transactions have been posted.
- Install Bank Statement Processing. You can activate it at any time, but once it is activated and transactions have been processed, bank statement processing cannot be deactivated.
- Enable Intrastat. Once enabled this setting is irreversible.
- Mask Credit Card Number. This checkbox may be checked by the localization. Only the last 4 digits of a credit card is exposed. If checked, this cannot be unchecked.
- Enable Project Management checkbox becomes irreversible after projects are defined.

**Note:** The setting *Enable Advanced G/L Account Determination* is reversible.

## Summary – Company Details

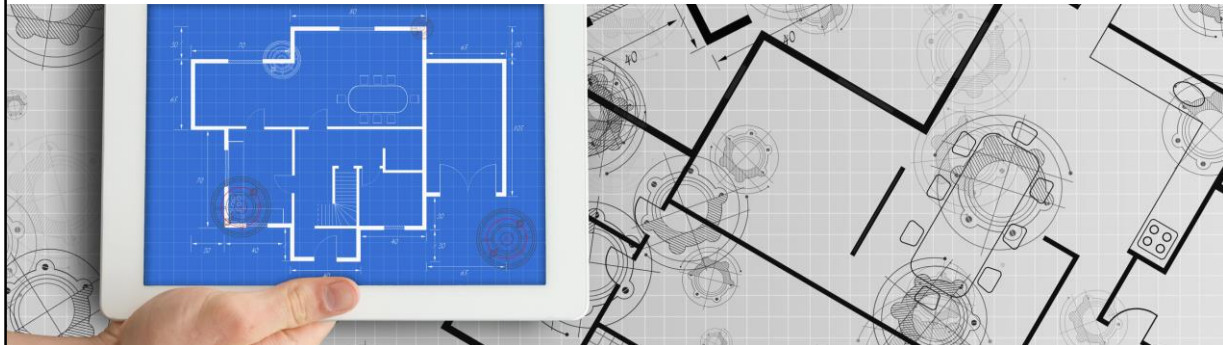
Settings to address the business scenario:

Customer requirement	Configuration Screen	Setting	Comments
The accountant has a set of rules for defining the accounts used in journal entries.	Company Details	Enable Advanced G/L Account Determination	Reversible
The accountant wants to depreciate purchased assets.	Company Details	Enable fixed assets	Irreversible

Settings in the Company Details to address the customer requirements from the business scenario:

- The Enable Advanced G/L Account Determination checkbox results in additional functions being added to the G/L account determination window, that allow you to set up criteria for account determination. You can change this.
- The fixed assets checkbox activates fixed assets functionality and documents in SAP Business One. This setting is immediately irreversible even when no documents have been posted.

## Settings – General Settings



# General Settings

## Administration > System Initialization > General Settings

General Settings

BP Budget Services Display Font & Bkgd Path Inventory Resources Cash Flow Cockpit Cost Accounting Pricing Hide Functions

Customer Activity Restrictions

☐ Credit Limit ☐ A/R Invoice ☐ Set Commission by ☐ Enable Approval Process

☐ Commitment Limit ☐ Delivery ☐ Sales Employees ☐ Enable Approval Process in DI

☐ Consider Del... ☐ Sales Order ☐ Items ☐ Enable Updating the Document Generated/Updated by Approval Process

Default Payment... ☐ Use Shipped... ☐ Apply IBAN V... ☐ Enable Data C... Manage Data

Blanket Agreements

- General Settings cover defaults and initialization for business partners, budget, inventory, cash flow and cost accounting, pricing and user display
- These settings are also accessible from the Express Configuration Wizard

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- In addition to the company-wide settings, *General Settings* cover a wide range of defaults and initialization parameters for different areas of SAP Business One including business partners, budget, cost accounting, pricing and inventory, as well as user display and services.
- Unlike the Company Details settings, general settings can be changed.
- Note that some localizations may have additional tabs in the General Settings.



## General Settings – Business Partners

General Settings

BP Budget Services Display Font & Bkdg Path Inventory Resources Cash Flow Cockpit Cost Accounting Pricing

**Customer Activity Restrictions**

☐ Credit Limit ☐ A/R Invoice

☐ Commitment Limit ☐ Delivery

☐ Consider Deliveries Balance ☐ Sales Order

☐ Pick List

Default Payment Method for Customer

Default Payment Method for Vendor

Submit Credit Vouchers Automatically

Default Dunning Term for Customer

☐ Use Shipped Goods Account for Customer

☒ Display Inactive Business Partners in Reports

☒ Display Inactive Business Partners in Marketing Documents

☐ Apply IBAN Validation to Bank Accounts

☐ Enable Data Ownership

Manage Data Ownership By

**Blanket Agreements**

☐ Allow Multiple Blanket Agreements for Same Period

☐ Enable Updating Unit Price/Planned Quantity/Planned Amount in B

**Set Commission by**

☐ Sales Employees

☐ Items

☐ Customers

**Approval Process**

☐ Enable Approval Process

☐ Enable Approval Process in DI

☐ Enable Updating the Document Generated/Updated by Approval Process

☐ Enable Updating the Document Draft in Pending/Approved Status

**Payment Terms Preferences**

Default Payment Term for Customer

Default Payment Term for Vendor

☐ Apply Changes in BP Fields to New Business Partners Only

Settings on BP tab activate the following functionality:

- Credit limit restrictions
- Approval processes
- Data ownership authorizations

You can also define default payment methods, payment terms and dunning terms

The BP tab is important for an implementation consultant because here you can:

- Switch on credit and commitment limit restrictions for customers and specify the documents which will be monitored.
- Activate approval processes for marketing documents. See the course topic Approval Processes for more information.
- Enable data ownership authorizations to apply to documents and forms. See the course topic Data Ownership Authorizations for more details. The ability to activate approval processes and data ownership on this tab gives you the flexibility to create approval templates and data ownership rules in advance and then switch them on when you are ready, using this tab.

On this tab you can also set defaults to apply to business partners. These defaults will be used for new master data. For information on these customer defaults, see the Customers course in the SAP Business One Logistics program.

## General Settings – Financial and Accounting



- Budget tab: initialize budget functionality
- Cash Flow tab: define global settings for use in cash flow reporting
- Cost Accounting tab: enable and initialize cost accounting functionality

- If a company wants to manage a budget in SAP Business One, you need to select the checkbox on the Budget tab and select the type of budget restriction for documents that deviate from the budget.
- On the Cash Flow tab you define global settings for use in cash flow reporting.
- On the Cost Accounting tab you enable and initialize cost accounting functionality.

See the Financials course for more information in these areas.

## General Settings – User Services

**General Settings**

BP Budget **Services** Display Font & Bkgd Path Inventory Resources Cash Flow Cockpit Cost Accounting Pricing Hide Functions

**At the Beginning of Each Session**

- ☐ Perform Data Check
- ☐ Open Exchange Rates Table
- ☐ Display Recurring Postings on Execution
- ☐ Display Recurring Transactions on Execution
- ☐ Send Alert for Activities Scheduled for Today
- ☒ Display Inbox When New Message Arrives
- ☐ Open Window for Credit Voucher Ref. Update
- ☐ Open Postdated Checks Window
- ☒ Display Worklist When New Task Arrives

Update Messages (Min.)  
Screen Locking Time (Min.)  
Open Postdated Credit Vouchers Window

**Internet Definitions**

☐ Use Proxy Server for Web Connection

☒ Enable Transaction Notification  
☐ Enable Live Collaboration  
Integration Framework Connection Timeout (Seconds) 30

**Default E-Mail Method**

☒ SAP Business One Mailer  
☐ Outlook E-Mail

☐ Enable Company Specific Mailer Configuration  
SMTP Server  
SMTP Port

**Alternative Keyboard Usage**

☐ Use Numeric Keypad ENTER Key as TAB Key  
☐ Use Numeric Keypad Period Key as Separator or  
☐ Enable Document Operations by Mouse Only (5

Settings on the Services tab determine windows that are automatically opened when a user logs on.

You can also set defaults for e-mail and enable instant messaging (Live Collaboration).

**Note:** Many settings on this tab can be overwritten at the user account level.

Settings on the Services tab determine which windows are automatically opened when a user logs on, such as:

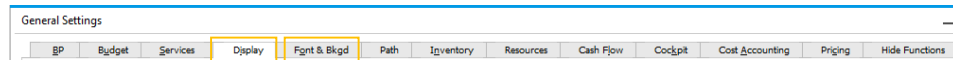
- The Exchange Rates and Indexes window to set exchange rates for the day
- The Confirmation of Recurring Postings and/or Recurring Transactions windows
- Postdated credit vouchers without a reference, and/or postdated checks
- The Messages/Alert Overview window whenever the user receives a new message

Also on this tab you can set:

- Update Messages (the frequency the system checks for new alerts). The default is 5 minutes.
- The screen locking time (the default is 30 minutes). If Windows screen locking is activated, this is not needed.
- Alternative keyboard usage
- The default e-mail service for users (SAP Business One mailer, or Microsoft Outlook). Note that Microsoft Outlook needs the add-on installed. You can also define the SMTP mail server settings for this company – this is useful if there are multiple company databases on the server.
- Enable Transaction Notification. This should be checked to support the use of stored procedures in the database.
- Enable Live Collaboration. You can enable the use of SAP Business One instant messaging for the company.

**Note:** Many of the settings on this tab can be overwritten in the user account, and a user can change these settings for themselves. So the settings here should be regarded as mainly default settings.

## General Settings – User Display Settings



Settings on the Display and Font & Bkgd tabs are used as defaults when a new user account is created:

- Display tab: Define default settings for the display language, length and weight units, date and time, number of rows, decimal places, etc.
- Font & Bkgd tab: Define the display font, font size and optional background image for user sessions.

**Note:** Many of these settings can be overwritten by User Defaults or in the user account.

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Settings on these tabs are used as defaults when a new user account is created. **Note:** Many of the settings on these tables can be overwritten by User Defaults and at the individual user account level. On the *Display* tab are settings that control the appearance of the user interface, as well as time and date formats:

- UI language
- Background color
- Standard units for various length and weights for items. SAP Business One proposes these length and weight units automatically when you define a new item.
- Time format –12-hour or 24-hour
- Date format. The sequence here does not affect how you must enter dates in forms.
- Date separator. The character between the day and month, and month and year.
- Manage Company Time. This checkbox is only used when the SAP Business One server is in one time zone and all users are in a different time zone.
- The maximum number of rows that will be displayed in any *List of* window.
- The default UI template for customizing user forms. See the topic UI Configuration Templates for more information.
- SAP Business One suggestions for the user as they type in the names of various fields such as item numbers, item descriptions, business partner codes, and business partner names.
- The number of rows for display in *Choose From List* windows.
- The number of decimal places displayed for amounts, prices, exchange rates, quantities, percentages, units, and calculated values in queries. Note: For all of the decimal settings, except for calculated values in queries, the following applies:
  - If no journal entry has been posted, you can change the number of decimal places.
  - After a journal entry has been posted, you can only increase the number of decimal places, up to 6 digits. This change is irreversible.

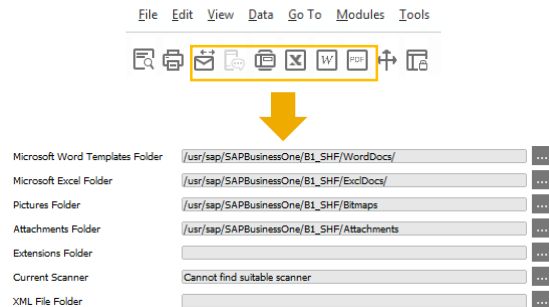
On the *Font & Bkgd* tab, you can set font, font size and background image for the UI. A preview option is available.

## General Settings – Path Tab

Define paths to shared folders required by the system to support user activities:

- Microsoft Word templates - export to Word
- Microsoft Excel - export to Excel
- Pictures - stored images
- Attachments – attached files, export as PDF, e-mail documents
- Extensions - secure images
- Scanner address – automatically detected
- XML file folder - when a program generates an XML file

Icons that use the shared folders



Note: Users need to have write permissions to these folders.

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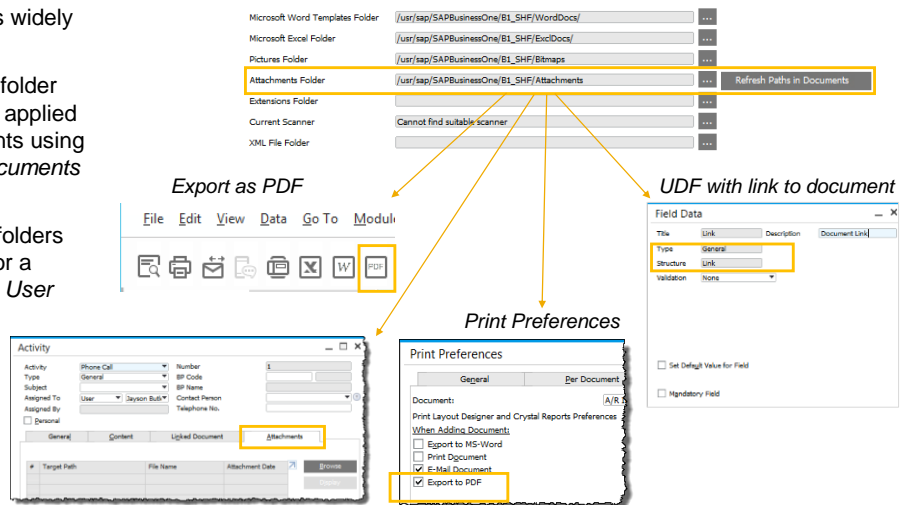
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- On the *Path* tab you must define the paths to shared folders that the system will use to support various user activities. The folders must be accessible by users (users need write permissions to the folders):
  - When a user exports a document to a Microsoft Word file, a template is required. Templates are provided in the WordDocs folder of the SAP Business One installation.
  - Similarly, the ExcelDocs folder is required for exporting to Microsoft Excel. This folder is also provided in the SAP Business One installation.
  - The Pictures folder is used for stored images. If you do not specify a path for the Pictures folder, users cannot perform certain actions, such as adding images to master data records, printing documents with company logos, and so on.
  - The Attachments folder is used for several purposes, including obviously to attach files to documents, and also when exporting documents as a PDF, and e-mailing documents to a business partner.
  - The Extensions folder is used for the retrieval of stored secured images, include official stamps, which, due to legal requirements, can only be saved as \*.dll files and not as picture formats.
  - If a document scanner is connected to the system, it is automatically detected and the scanner location is stored in this path, allowing scanned documents to be integrated with relevant screens. For example, when you enter an item, you can scan an image directly from the images tab for a master record.
  - The XML File folder is used by the system when a program such as an add-on generates XML files.

## Attachments Folder Use

- Attachments folder is widely used
- Path to attachments folder can be changed and applied to existing attachments using *Refresh Paths in Documents* button
- You can create sub-folders for use by one user or a group of users using *User Defaults*

*Attachments to document or master data*



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The Attachments folder is used widely:

- For a document exported by a user as a PDF. The file is saved in the attachments folder.
- When a document is sent in an email. For example in *Print Preferences* you can designate that a document will be automatically emailed when it is added. The document is sent as an email attachment.
- When a user adds an attachment to a document, activity, business partner or other form that has an *Attachments* tab. The file must exist in the attachments folder.
- When a user-defined field (UDF) is added with type General and structure Link that will hold a link to a file. The file is copied into the attachments folder.
- If a company decides in the future to change the path to this folder, the new path can be applied to attachments in existing documents by pressing the *Refresh Paths in Documents* button located to the right of the Attachments path.
- Instead of designating one central attachments folder for all users, you can create sub-folders and designate a folder per user or group of users. This is done in the *User Defaults* window. See the companion course Users and User Defaults for more information.

## General Settings – Hide Functions Tab

General Settings

BP Budget Services Display Fight & Bkgd Path Inventory Resources Cash Flow Cockpit Cost Accounting Pricing Hide Functions

If your company does not use one or more of the following functions, you can hide them by selecting the respective option(s):

- ☐ Budget
- ☐ Payment Wizard
- ☐ Dunning Wizard
- ☐ Cost Accounting
- ☐ Serial Numbers and Batches
- ☐ Production
- ☐ MRP
- ☐ Units of Measure

Use the Hide Functions tab to easily remove unwanted functionality from the user interface, including:

- Budget tab in General Settings, plus the menu entries for budgets under the Financials module
- Payment Wizard menu and payment methods under the Banking module
- Dunning wizard menu under the Sales A/R module
- Cost accounting tab in General Settings plus menu under the Financials module
- References to serial and batch numbers under the Inventory module
- Production and resource menus under the Inventory module
- MRP module
- Units of measure references

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- The Hide Functions tab is not used to define settings but is actually a way to easily hide unwanted functionality from the user interface.
- The functionality is still available, but it is hidden from the user.
- The areas of functionality you can hide include:
  - Budget tab in the General Settings, plus the menu entries for budgets under the Financials module
  - Payment Wizard menu and payment methods under the Banking module
  - Dunning wizard menu under the Sales A/R module
  - Cost accounting tab in the General Settings plus menu under the Financials module
  - References to serial and batch numbers under the Inventory module
  - Production and resource menus under the Inventory module
  - MRP module
  - Units of measure references
- Note that some functions cannot be hidden after documents have been posted. For example you cannot hide serial and batch numbers if items already exist in the database that are managed with serial or batch numbers.

## Hide Functions Tab - Effect

General Settings

BP Budget Services Display Font & Bkgd Path Inventory Resources Cash Flow Cockpit Cost Accounting Pricing Hide Functions

If your company does not use one or more of the following functions, you can hide them by selecting the respective option(s):

☐ Budget

☒ Payment Wizard

☐ Dunning Wizard

☐ Cost Accounting

☐ Serial Numbers and Batches

☒ Production

☒ MRP

☐ Units of Measure

Banking

- ☐ Incoming Payments
- ☐ Deposits
- ☐ Outgoing Payments
- Payment Wizard
- ☐ Bank Statements and Extr
- Check Number Confirmati
- Document Printing
- Payment Orders
- ☐ Banking Reports

Inventory

Resources

Production

MRP

Service

Effect of hiding Payment Wizard, Production and MRP functions:

- On main menu
- In various forms and windows

Banking

- ☐ Incoming Payments
- ☐ Deposits
- ☐ Outgoing Payments
- ☐ Bank Statements and Extr
- Check Number Confirmati
- Document Printing
- ☐ Banking Reports

Inventory

Service

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- Let's look at an example of hide functions.
- Assume a company does not use the production and MRP functions. They also do not want to run the Payment Wizard. We can easily remove these functions from the system.
- Not only are the menus removed from the main menu, but in addition references to the function are removed from various windows and forms throughout the system. For example, the MRP Planning and Production tabs are removed from item master data.



## Other General Settings tabs

General Settings

BP Budget Services Display Fgnt & Bkgd Path **Inventory** Resources Cash Flow Cockpit Cost Accounting Pricing

Items Planning Reporting

Serial Numbers and Batches

Management Method On Every Transaction

Unique Serial Numbers by None

Display Batch Quantities By

☒ Document Row UoM ☐ Inventory UoM

☐ Auto. Create Customer Equipment Card

Basic Setting for Batch Status Released

☐ Block Multiple Receipts for Same Batch with Serial/Batch Valuation Method

Default Warehouse General Warehouse

Set G/L Accounts By Warehouse

☒ Auto. Add All Warehouses to New and Existing Items

☒ Withholding Tax

☒ Auto. Add All UoM Group Definitions to New and Existing Items

☒ Auto. Add All Package Definitions to New and Existing Items

Display Inactive Items In

☒ Reports

☒ Marketing Documents

Settings on the Inventory, Resources, Cockpit, and Pricing tabs are explained in the Logistics courses in this curriculum.

## Summary – General Settings

Settings to address the business scenario:

Customer requirement	Configuration Screen	Setting	Comments
Management approval is needed for purchasing documents that meet predefined criteria.	General Settings	BP tab – Enable approval process	Also define approval stages and templates
If a customer's credit limit is exceeded by over 500, the sales employee should report it to a manager.	General Settings	BP tab – Customer Activity Restrictions	Also define payment terms for customers

- Settings in the General Settings to address the customer requirements from the business scenario:
  - Enable approval process on the BP tab.
  - Customer credit checking is also enabled on the BP tab.

## Settings – Document Settings



## Document Settings - General

The screenshot displays the 'Document Settings - General' window in SAP. The 'General' tab is active, showing a list of settings for document processing. Key settings include:
 

- ☒ Calculate Gross Profit: Base Price Origin, Default Gross Profit % for Service Documents, and Calculate % Gross Profit at: Profit/Sales Price.
- ☒ Document Remarks Include: Base Document Number, BP Reference Number, and For a Sales BOM in Documents, Display: Price and Total for Parent Item Only.
- ☒ Response to Release / Receipt of Inventory Outside Defined Range: Without Warning, Warning Only, or Block Posting.
- ☒ Block Negative Inventory By: By Currency or By Document.
- ☒ Rounding Method: By Currency or By Document.
- ☒ Exchange Rate Base Date (A/P Documents): Posting Date or No Split.
- ☒ Display Rounding Remark: Use Warehouse Address, Manage Freight in Documents, Block documents with earlier Posting Date, Allow Future Posting Date, and Use Document Exchange Rate When Copying to Target Document.
- ☐ Manage Inventory by Warehouse.

### Administration > System Initialization > Document Settings

- Key settings for processing documents
- Settings on the *General* tab apply to all document types
- Most settings can be changed at any time – *Manage Freight in Documents* becomes irreversible after a document is posted

Key settings that apply to all document types are made on the *General* tab of the *Document Settings*. These settings affect the way documents are processed:

- **Gross Profit:** Define whether to calculate gross profit percentage from the base price or the sales price.
- **Document Remarks Include:** Select whether the remarks on marketing documents include the base document number, or the customer or vendor reference number.
- **Response to Release/Receipt of Inventory Outside Defined Range:** Define the system response when the inventory level of an item falls below the minimum quantity as the result of a sales or inventory document.
- **Block Negative Inventory:** Select to block documents that would cause the level of inventory to fall below zero. If you deselect the checkbox, the document will be added even if there is no inventory.
- **Rounding Method:** Select whether the amounts and prices that appear in marketing documents should be rounded by currency or by document.
- **Exchange Rate Base Date:** Choose the date on which the system calculates the exchange rate for A/P documents.

Other key settings are:

- **Manage Freight in Documents:** Select to add a Freight field in all sales and purchasing documents. This lets you calculate additional costs connected to a document.
- **Block Documents with Earlier Posting Date and Allow Future Posting Date** checkboxes either block or allow documents by checking the posting date in the document
- **Display Cancelled and Cancellation Marketing Documents in Reports:** Select to include cancelled and cancellation documents in reports.
- **Enable Advanced Available to Promise:** Select to enable the advanced ATP function (SAP HANA only)

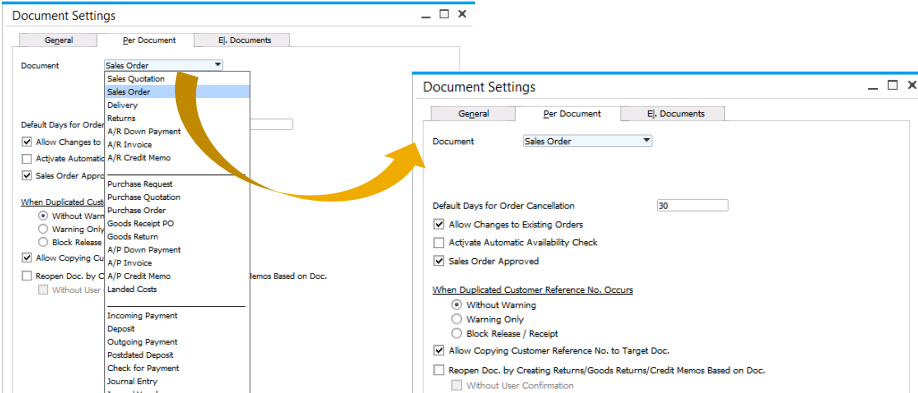
**Note:** Most of these settings are reversible and can be changed at any time. The exception is *Manage*

*Freight in Documents.* Once you have selected this checkbox you cannot reverse it after a document has been posted.

## Document Settings – Per Document

### Administration > System Initialization > Document Settings

- Per document settings apply to specific document type, e.g., sales orders



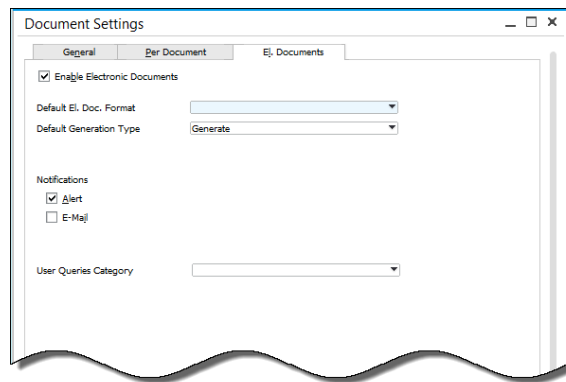
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- On the *Per Document* tab you can view and change settings for processing individual document types.
- For example, for sales orders you can enable automatic checks on the available quantities of items.
- Many of these settings are automatically set according to best practices but you should check them to make sure they match to the customer's business process.
- Document settings are covered in more details in the logistics courses.

## Document Settings – Electronic Documents

### Administration > System Initialization > Document Settings



- On the *Electronic Documents* tab you can enable functionality for creating electronic documents
- This functionality is available in most localizations but not all
- In addition to enabling the functionality, you need install the EFM add-on and map the marketing documents to XML format
- When generated, electronic documents are stored in the XML folder specified in Path settings
- Electronic transmittal is done using the integration framework of SAP Business One and you need to activate the relevant scenario package

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- On this tab you can enable the functionality for creating electronic versions of marketing documents.
- The functionality is available for most localizations but not all.
- You need to first define the mapping of the marketing document fields to XML format using the Electronic File Manager (EFM) add-on. You can upload a format definition from the EFM as a default format in this window.
- The electronic documents can be generated automatically when the document is added and are stored in the XML File Folder specified in the *General Settings* on the *Path* tab.
- The generated document is transmitted from the XML file folder by the integration framework of SAP Business One. A scenario package is available in the integration framework for electronic transmittal, and you must activate the scenario package for the relevant database.

## Summary – Document Settings

Settings to address the business scenario:

Customer requirement	Configuration Screen	Setting	Comments
The company wants to manage freight costs at the document level.	Document Settings – General tab	Manage Freight in Documents	Irreversible after document posted with freight
The sales department needs to post certain documents in advance, with a posting date in the next posting period.	Document Settings – General tab	Allow Future Posting Date	
The sales department needs the ability to make changes to sales orders after they have been posted.	Document Settings – Per Document	Allow Changes to Existing Orders	
The system should check the available quantities of items included in a sales order before the order is posted.	Document Settings – Per Document (Sales Order)	Activate automatic availability check	Alternate: Enable Advanced Available to Promise for SAP HANA

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Settings in the Document Settings to address the customer requirements from the business scenario:

- Manage Freight in Documents checkbox becomes irreversible after a document is posted with freight included.
- Allow Future Posting Date checkbox allows the user to set the posting and document dates to a future date. A warning is given to the user.
- Allow Changes to Existing Orders checkbox enables the user to change the selected document after it has been added to the system.
- Activate Automatic Availability checkbox for the sales order document will check the stock level of items included in a sales order before it is added, and will suggest options to the user if the available quantity is less than the quantity in the sales order. Note: for SAP HANA there is an alternate checkbox on the General tab of the Document Settings: Enable Advanced Available to Promise. If you select this checkbox the Activate Automatic Availability checkbox on the Per Document tab is deselected.



## Summary



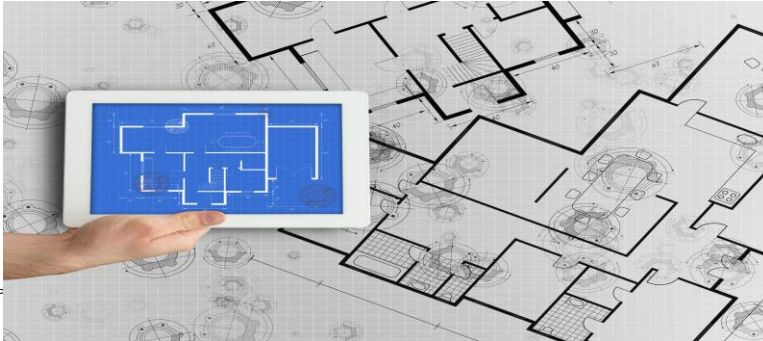
Key points from this topic:

- When you create a new company you select a localization. Many default settings are based on the selected localization
- Key settings for a new company are found in the Company Details, General Settings and Document Settings screens
- Some settings become irreversible after the first posting to the general ledger, including:
  - Chart of accounts template
  - Local and system currency
  - Display credit balance with negative sign
  - Use segmentation accounts (some localizations)
  - Permit more than one document type per series (some localizations)
  - Use perpetual inventory
  - Manage item cost per warehouse
  - Use purchase accounts posting system

- Here are some key points to take away from this session.
  - When you create a new company you select a localization. Many default settings are based on the selected localization.
  - Key settings for a new company are found in the Company Details, General Settings and Document Settings screens
  - Some settings become irreversible after the first posting to the general ledger. A few of these are shown on the slide.

# Implementation Tools: Opening Balances

SAP Business One Version 9.3



- In this course you will learn how to enter opening balances for a new customer implementation.

## Objectives



### Objectives:

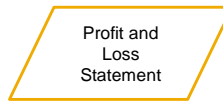
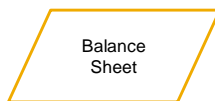
- Describe the process for migrating legacy balances for business partners, inventory, and G/L accounts into a new SAP Business One system
- Explain the best practices and tools for entering opening balances

- In this topic, you will learn the process for migrating legacy balances for business partners, inventory, and G/L accounts into a new SAP Business One system prior to going live.
- You will also learn best practices and tools for entering opening balances from the legacy system.

## Business Scenario

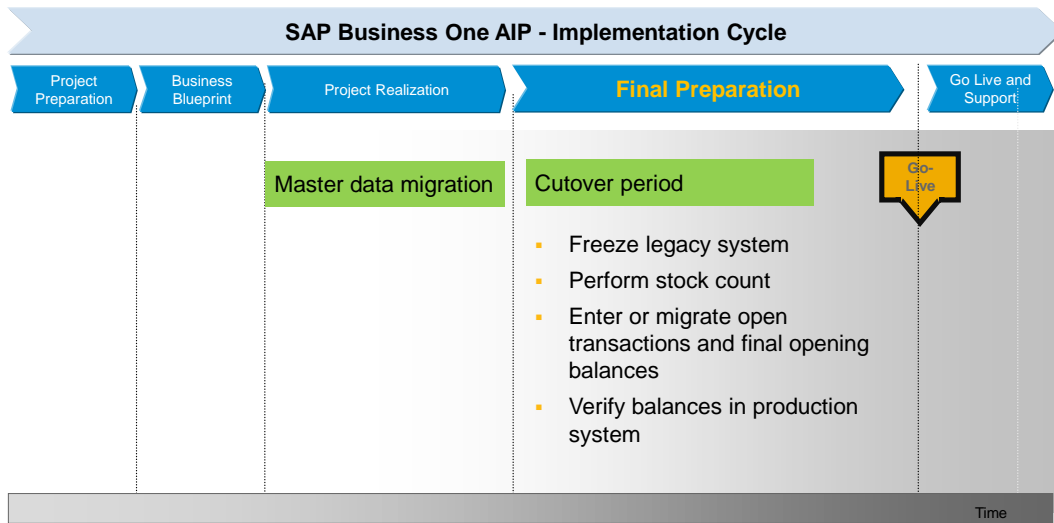


- The customer will go live in two days. Once the legacy system is closed down, you need to balance the accounts from the legacy system with the account balances in SAP Business One
- To accomplish this, you need to enter the balances for G/L accounts and business partners, and enter item quantities and costs, so that the financial reports match



- Just before go-live, you have a short timeframe where you must enter the G/L account balances from the legacy system, including the balances for business partner accounts. You also need to enter the item quantities and costs. At the end of this effort, the financial reports in the new SAP Business One system match the legacy reports.

## Cutover Period in the Implementation Cycle



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- The period immediately before go-live is called cutover. This period can be as short as a few hours, or can last a few days, such as over a weekend.
- During the cutover period the major activities are to:
  - Freeze the legacy system so no new transactions are entered. In the frozen legacy system, reconcile business partner accounts and try to close out documents to minimize the quantity of open transactions.
  - Perform a stock count.
  - Enter or migrate open transactions and final opening balances into the new SAP Business One system.
  - At go-live, financial information in the SAP Business One system must match the legacy system balance sheet accounts.

Things to consider include:

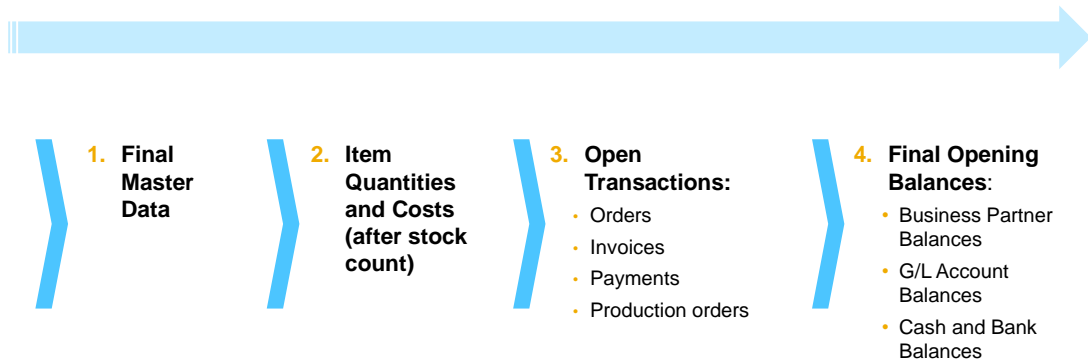
- Will the new SAP Business One system run in parallel with the legacy system for a period of time?
- Can the go-live take place at the start of the customer's fiscal year or will it happen during the fiscal year?
- Can open transactions in the legacy systems be closed before the cutover?

# Data Migration During Cutover



During cutover, it is recommended to migrate final transactions and opening balances in a certain order, to avoid duplicate postings.

## Data Migration Order for Opening Balances



**Reference:** *AIP Data Migration Guide*

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In general you should follow this order for transferring the final data from the legacy system:

1. Final master data (that was added by the customer after the initial master data migration)
  2. Item quantities and costs (to match the legacy system values at the point of cutover)
  3. Open transactions from the legacy system, such as purchase and sales orders and invoices, partial payments and production orders
  4. Final account balances for business partners and G/L accounts including cash and bank accounts
- In conjunction with this training you should refer to the Data Migration Guide from the AIP methodology for a detailed step-by-step guide to opening balances.

## Final Master Data Migration

### 1. Final Master Data



Migrate any new master data created in the legacy system after the main migration ends:

- Business Partner Groups and Master Records
- Item Groups and Master Records
- Bills of Material
- Resources for Production
- Price Lists
- Catalogue Numbers
- Employee Master Data
- Service Contracts
- Service Templates
- Customer Equipment Card
- Knowledgebase Solutions

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- Master data is usually migrated in the Project Realization phase of the implementation project; however, there may be a need to migrate new master data created in the legacy system after the main migration ends.
- Final master data may cover not just last minute business partner and item master records, but also bills of material, resources for production, price lists, catalogue numbers, employee records and service information such as existing contracts, templates, equipment cards and a solution knowledgebase.
- The customer should be encouraged to clean up the legacy data before migrating it to the new system. This might include:
  - Removing duplicate master data
  - Removing old, inactive business partners or products
  - Consolidating price lists or introducing new price lists
  - Using a new numbering scheme for customer and vendor codes, product numbers, or chart of account numbers.



## Item Quantities and Costs

### 2. Item Quantities and Costs



- Item quantities and costs are entered from the customer's stock count
- Migrating item quantities must be carefully planned since there could be open transactions on the legacy system which impact inventory when they are migrated
- If perpetual inventory in use, inventory G/L account will be updated with inventory valuation when quantities are migrated

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- Item quantities and costs must be entered into SAP Business One to reflect the legacy system. The customer should freeze operations on the legacy system, and perform a stock count first, so that item quantities are accurate.
- Migrating item quantities must be carefully planned since there may be open transactions on the legacy system which may affect inventory levels once they are carried over to the new system. For example, open deliveries which would release inventory.
- The item cost is used for calculation of inventory valuation. If the system uses perpetual inventory, the inventory G/L account will be updated when the item quantities are migrated.

## Open Transactions

### 3. Open Transactions



#### Classify open transactions into:

Documents that do not affect inventory or accounting:

- Sales Quotations
- Sales Orders not linked to deliveries
- Purchase Quotations
- Purchase Orders not linked to goods receipts
- Production orders

Documents that do not affect inventory but do affect accounting

- A/R invoices\*
- A/P invoices\*
- Payments, including down payments, partial payments

Documents that will affect inventory

- Deliveries\*\*
- Returns\*\*
- Credit notes\*\*

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- Open transactions are those that are currently in process on the legacy system.
- You should classify open transactions into:
  - Open documents that do not impact accounting or inventory, such as sales quotations, sales orders not linked to deliveries, purchase quotations, purchase orders not linked to goods receipts, and production orders. These are easily imported using the Data Transfer Workbench (DTW) tool.
  - Open documents that do not affect inventory but do affect accounting balances are A/R and A/P invoices and Payments. Care must be taken when you import these documents since the invoices can affect inventory if there is no preceding delivery or goods receipt imported. **\*Caution:** SAP recommends that these A/R and A/P invoices are imported as *service type* invoices instead of item type documents to avoid the possibility of inventory updates.
  - Open documents that do affect inventory, such as deliveries, returns, and credit notes. **\*\*Caution:** SAP recommends that these transactions are *not* migrated, since this can lead to an imbalance between stock quantities and valuation. Instead the customer should try to invoice or close these documents on the legacy system. If it is not possible, the customer should retain these documents and process them on the legacy system until they are closed.
- Before you import transactional data, you must clarify with the customer if legacy documents should be entered with the original number. If the customer needs the original legacy numbers, use manual document numbers when importing the documents.

## Final Opening Balances

### 4. Final Opening Balances:

- Business Partner Balances
- G/L Account Balances
- Cash and Bank Balances



- If item quantities and costs were imported in step 2, and perpetual inventory is used, the inventory G/L account is already correct and should be excluded in this step
- If all open invoices and payments were imported in step 3, the A/R and A/P control accounts should be already correct and should be excluded in this step
- Before transferring balances for bank accounts, customer should reconcile bank transactions in the accounts:
  - If account can be fully reconciled, transfer the balance amount
  - If account is not fully reconciled, need to post unreconciled transactions individually

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- Lastly, enter the final opening balances for business partners and G/L accounts including bank accounts.
- **Important:**
  - If the item quantities and costs have been imported in step 2, and perpetual inventory is used, the inventory G/L account is already correct, and should be excluded to avoid duplicate updates.
  - If all open A/R and A/P documents have been imported in step 3, together with all partial payments, down payments, or payments in advance not based on invoice, the final balances for business partners should already be correct. In this case do not enter the balances for the A/R and A/P control accounts to avoid duplicate updates.
  - Before transferring the G/L accounts for bank accounts, the customer should attempt to reconcile the transactions in the bank accounts. If the account can be fully reconciled, you can transfer the balance. If there are unreconciled transactions in the account, you need to post these transactions individually in SAP Business One.

## Tools for Importing Opening Balances

Multiple tools are available for importing final opening balances and open transactions:

Type of Opening Balance	Opening Balance Transaction	Data Transfer Workbench	Import from Excel utility*	Manual Documents
Inventory	✓	✓ (Goods receipt)	✓	Goods Receipt
G/L Accounts	✓	✓ (Journal entry)	✓	Journal Entry
Business Partner	✓	✓ (Invoice, payment)	✓	Invoice, Payment, etc.
Open Documents		✓ (Order)		Sales and purchase orders, etc.

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There is no single approach to import opening balances. Multiple tools are available in SAP Business One for importing final opening balances:

- Opening balance transaction is an easy to use tool built into the client and can be used to enter inventory quantities and valuation, G/L account balances and business partner account balances.
- Data Transfer Workbench (DTW) is a tool for import of bulk documents and can be used to import goods receipts, journal entries, open transactions such as sales and purchase orders, and open transactions that affect accounting, such as A/R and A/P invoices. An advantage of this approach is that you have a document in SAP Business One as the source. DTW requires a knowledge of the database table structure.
- The Import from Excel utility is an in-built tool for import of master data. It processes data from a Microsoft Excel spreadsheet. \*It can also be used to populate the opening balances transaction window for inventory, G/L accounts and business partner accounts.
- Lastly, if data loads are low, you can manually enter the documents.

**Note:** In this course the focus is on the opening balances transactions. For more information on DTW see the related course Using Data Transfer Workbench in this training. For more information on the Import from Excel utility see the related course Import from Excel in this training.

## Effects of Marketing Documents

- When you import or manually create marketing documents, postings are made to inventory and to various accounts in the general ledger

	Inventory	BP balance	Revenue	Inventory accounts
Sales Order	●			
Delivery	●			●
A/R Invoice		●	●	
A/R Invoice (with no preceding documents)	●	●	●	●

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When you import or create marketing documents such as sales and purchase orders, and A/R and A/P invoices, be aware of the impact on inventory and general ledger accounts. As an example:

- An imported sales order will commit stock from inventory
- An imported delivery for the sales order will affect the in stock quantity and will make postings to inventory-related accounts in the general ledger, including the valuation of inventory if continuous stock is in use
- An imported A/R invoice for the delivery will post to the business partner account, as well as revenue and tax-related accounts
- If you decide to import only the A/R invoice with no preceding documents, the A/R invoice will make the postings and stock changes that would have been made by the preceding documents.

If you are loading the transactions as part of the opening balances for a new company, you must make sure that the documents you import are not “double counted” in inventory.

When you import or create invoices you need to avoid “double entry” of the control accounts when you enter the opening balances.

If you decide to import the A/R invoices as service-type invoices instead of item-type invoices, you will avoid the stock postings, but there will still be postings to the business partner and revenue accounts.

## Reconciliation Reports

### Legacy System

- Inventory quantities and values
- Business partner balances
- G/L Account balances
- Open orders

### SAP Business One

- Inventory Audit Report
- Aging Reports
- Balance Sheet / Profit & Loss
- Open Items List

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- Regardless of how you perform the migration of items, G/L accounts and business partner balances, you need to reconcile the accounts between SAP Business One and the legacy system. Print and retain a hard copy of all reconciliation reports from SAP Business One and the legacy system to prove the migration correctness:
  - To reconcile inventory quantities and values, run the *Stock Audit Report*. Match the item quantities in SAP Business One with the quantities in the legacy system.
  - To reconcile business partner balances, run the *Customer Receivables* and *Vendor Liabilities Aging* reports with a posting date range until the start of the current fiscal year. Make sure the business partner opening balances in SAP Business One align with the legacy system.
  - To reconcile G/L account balances, run the *Balance Sheet* as per the first day of the current fiscal year.
  - If you migrated other open items such as sales orders and purchase orders, run the *Open Items List* report in SAP Business One and compare with the corresponding open items in the legacy system.

# Inventory Opening Balances



- In this section you will learn the tools for importing inventory quantities and costs as opening balances.

## Inventory Opening Balance Transaction

**Inventory > Inventory Transactions > Inventory Opening Balance**

- The transaction allows you to enter in stock quantity and unit price for each item, by:
  - Selecting item codes and entering the quantity and cost for each item, or
  - Importing rows into the grid using the *Import from Excel* utility
- You can select the price source as:
  - Item cost
  - Selected price list
  - Last evaluated price
- If perpetual inventory in use, the transaction posts to the inventory account

#	Item No.	Item Description	Whse	Bin Location	In Warehouse	Opening Balance	Unit Price	Total	Account Code
1	1000098	High-speed wireless	01			10	GBP 24.99	GBP 249.90	334000
2	1000099	HDMI cable 20	01			15	GBP 1.25	GBP 18.75	
3	D000090	Robot speaker	01			1	GBP 0.00	GBP 0.00	
4	D000091	Bluetooth speaker	01			1	GBP 0.00	GBP 0.00	
5	D000092	Robot dog	01			1	GBP 0.00	GBP 0.00	
								GBP 268.65	

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The opening balances transaction allows you to enter the in stock quantity and the unit price for each item, from a single screen.

The transaction works in two ways:

- You can select items to populate the rows in the window, and then enter the quantity and cost on each row, or
- You can choose *Import Items* to populate the entire row grid from a spreadsheet (using the *Import from Excel* utility). See the related *Import from Excel* course for more details.

The unit price might represent the cost of manufacturing the item, or cost of purchasing the item. For a new implementation this price is taken from the legacy system. The *Price Source* dropdown list lets you select the source:

- Item Cost: the price will be taken from the item master data
- By Price List: if you have already set up a price list for the item, the price will be taken from the selected price list
- Last Evaluated Price: This is only relevant if a warehouse valuation report was previously generated in SAP Business One

You also have the option to enter the item cost directly on the item row.

**Tip:** If you are using moving average valuation, you can create a price list with the average prices from the legacy system and choose this price list in the opening balances transaction.

When you post this transaction it updates the in stock quantity of each item (this is reflected in the item master data). If you are working with perpetual inventory, it also posts a journal entry to record the value of inventory.



## Inventory Opening Balance Transaction (Cont.)

**Inventory → Inventory Transactions → Inventory Opening Balance**

- If item is managed by batch or serial number, right-mouse click item row to enter applicable batch or serial information
- If you select a bin location enabled warehouse for an item you can enter the bin location for the item

Inventory Opening Balance

Posting Date: 01.01.18  
Document Date: 01.01.18  
Price Source: By Price List  
Price List: Discount Purchase Price

Find: Item No. Warehouse

#	Item No.	Item Description	Whse	Bin Location	In Warehouse
1	1000098	High-speed wireless	01		
2	1000099	HDMI cable 20	01		
3	D000090	Robot speaker	01		
4	D000091	Bluetooth speaker	01		
5	D000092	Robot dog	01		
6	D000093	Rechargeable battery	01		

Remarks:   
Journal Remark:   
Add Cancel

Serial and Batch Selection

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Inventory Opening Balance

Posting Date: 01.01.18  
Document Date: 01.01.18  
Price Source: By Price List  
Price List: Discount Purchase Price

Find: Item No. Warehouse

#	Item No.	Item Description	Whse	Bin Location	In Warehouse
1	1000098	High-speed wireless	01		
2	1000099	HDMI cable 20	01		
3	D000090	Robot speaker	01		
4	D000091	Bluetooth speaker	01		
5	D000092	Robot dog	01		
6	D000093	Rechargeable battery	05		

Remarks:   
Journal Remark:   
Add Cancel

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- If the item is set to be managed with batch or serial numbers, you can right-mouse click the item row and select serial or batch from the context menu to enter the applicable serial numbers or batch information.
- If you select a bin location enabled warehouse, the Bin Location column becomes editable allowing you to enter the bin location holding the item.

## Considerations for Perpetual Inventory

- If perpetual inventory is in use, you need to consider the valuation method so that the valuation matches the legacy system
- Make sure this account balance is not entered again when entering G/L balances

Item Quantity and Cost	Standard Cost: Unit Cost	Moving Average: Unit Cost	FIFO: Unit Cost
5 @ 100	100	100	100
5 @ 200	100	150	200
<b>Value of items in inventory account</b>	<b>1000</b>	<b>1500</b>	<b>1500</b>



Note: the batch/serial number valuation is similar to FIFO

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- If perpetual inventory is in use in the legacy system, you need to consider each of the valuation methods so that the valuation correctly matches the legacy system. Also make sure the inventory account balance is not entered again when entering G/L balances.
- Here is a simple example of how the valuation method can affect the unit price. In the example, 5 items were purchased at a cost of 100, and another 5 items purchased at a cost of 200.
  - With standard cost valuation the item cost is fixed so you can use the cost from the legacy system.
  - With moving average the item cost for an item will be recalculated each time based on the quantity, therefore you need to calculate the average unit cost from the legacy system.
  - With FIFO valuation you should enter the item cost multiple times with different quantities using the cost price from each layer in the legacy system.
- Note that the batch/serial number valuation method is similar to FIFO, in that the unit cost is kept at the level of the batch or individual serial number.

## Journal Entry

If perpetual inventory in use, journal entry updates the default inventory account defined in the G/L account determination

[illegible]

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If perpetual inventory is in use, the journal entry updates the default inventory account defined in the G/L account determination, and credits an offsetting account that you specify in the right-hand column of the grid row. SAP recommends you create an opening balances G/L account (usually in the equity drawer) and use this offsetting account to ensure there is no effect on other general ledger accounts. The offsetting account can be selected on each item row.

# Opening Balances for G/L Accounts



- In this section you will learn tools and best practices for entering final G/L account opening balances.

## G/L Account Opening Balances - Introduction

Account Name	Debit	Credit
<b>Assets:</b>		
Cash	150.000	
Inventory	90.000	
Receivables (A/R)	79.000	
Equipment	51.000	
<b>Liabilities:</b>		
Loans		28.000
Employees		125.000
Payables (A/P)		17.000
<b>Equity:</b>		
Equity		200.000
<b>TOTAL:</b>	<b>370.000</b>	<b>370.000</b>

- If go-live is at start of fiscal year, conduct period-end closing on the legacy system and transfer only balance sheet accounts
- If go-live is during fiscal year, transfer profit & loss accounts in addition to balance sheet accounts
- If you have already imported A/R and A/P invoices, do not enter control account balances
- If you have already imported item costs, do not enter inventory account balances (for perpetual inventory)

- If the go-live occurs at the *start* of a fiscal year, conduct period-end closing on the legacy system, then transfer the G/L account balances from the balance sheet drawers.
- If the go-live occurs *during* the fiscal year, you need to transfer the balance sheet accounts and the profit and loss accounts in addition. The customer should run the P&L report for each period since the start of the financial year. This will allow you to enter the balances for each period in SAP Business One.
- If you have already imported open A/R and A/P invoices, do not enter balances for these control accounts.
- If you have already imported item costs, do not enter inventory account balances again (for perpetual inventory).
- For more information, refer to the *Data Migration Guide* in the AIP materials.

**Administration → System Initialization → Opening Balances → G/L Accounts Opening Balance**

To use the transaction:

- Select drawers from chart of accounts
- Select opening balance account
- Enter balance in account row
- To spread balances over a fiscal year, post balances for each period
- If *Display Credit Balance with Negative Sign* checkbox is enabled, enter a minus sign for credit balances.

G/L Accounts Opening Balance

Opening Balance Account: 390020 Opening Balances Offset

Date: Ref. 1 Ref. 2 Remarks

G/L Accounts Opening Balance

Date	Code	Name	Balance (LC)	Balance (PC)	OB (PC)	Balance (SC)	OB (SC)
01.01.16	300010	Uncalled Share Capital					
01.01.16	301000	Capitalized Formation Expense					
01.01.16	301010	Capitalized Business Expense	JP 120,000.00				GBP 120,000.00
01.01.16	301500	Accumulated Deprec. - Capital					
01.01.16	302010	Patents and Royalties	JP 50,000.00				GBP 50,000.00
01.01.16	302020	Licenses					
01.01.16	302510	Accumulated Depreciation - Intangible					
01.01.16	302520	Accumulated Depreciation - Intangible					
01.01.16	303000	Goodwill	GBP 5,500.00				GBP 5,500.00
01.01.16	303500	Amortization - Goodwill					
01.01.16	310000	Prepaid Land					
01.01.16	310020	Buildings	JP 560,000.00				
01.01.16	310520	Accumulated Depreciation - Buildings					
01.01.16	311000	Plant and Machinery	JP 146,900.00				
01.01.16	311510	Accumulated Depreciation - Plant and Machinery					
01.01.16	312000	Office Equipment					
01.01.16	312010	Furniture & Fixtures					
01.01.16	312020	IT Equipment					
01.01.16	312030	Capitalized Software					

G/L Accounts Opening Balance

Opening Balance Account: 390020 Opening Balances Offset

Date: Ref. 1 Ref. 2 Remarks

G/L Accounts Opening Balance

Date	Code	Name	Balance (LC)	Balance (PC)	OB (PC)	Balance (SC)	OB (SC)
01.01.16	200000	Bank Loans due < 1 year					
01.01.16	200020	Other Loans due < 1 year					
01.01.16	200030	VAT Expense - Advance Tax	JP -55,000.00				GBP -55,000.00
01.01.16	200040	Advance Corporate Payments					
01.01.16	200050	Disbursements Received					
01.01.16	200060	Trade Creditors (Sundry)	GBP -1,200.00				JP -66,400.00
01.01.16	200070	Trade Creditors (Sundry)					
01.01.16	200080	Trade Debtors - credit balance					
01.01.16	200090	VAT Payable (credit Tax)					
01.01.16	200100	VAT Payable/Receivable to/from					
01.01.16	200110	Netted Insurance Premiums	JP -13,000.00				
01.01.16	200120	Tax Credits Receivable from					
01.01.16	200130	ATM Fee Payable	JP -50,000.00				
01.01.16	200140	SCS Indemnity payable					
01.01.16	200150	Student Loans Payable					
01.01.16	200160	Other creditors due < 1 year					
01.01.16	200170	Corporation Tax due < 1 year					
01.01.16	200180	Salaries & Wages Payable					
01.01.16	200190	Employment Sundry Payables					

Option to import rows from spreadsheet into grid area

Import From Excel

- The G/L accounts opening balance transaction in SAP Business One allows you to enter the opening balance for each G/L account on a row in a single screen. You can use and follow the trial balance from the legacy system.
- When you open the transaction the window is populated with the accounts from the drawers that you select.
- You *must* first select an opening balance account. This acts as the offsetting or balancing account for the posted journal entries, and should end up with a zero value after all the G/L balances have been entered from the legacy system.
- Although a separate journal entry is posted for each account row, the posting date is the same. Therefore you need to decide whether to enter the balances spread over a fiscal year, for example, you can divide the balances by posting period, and post for each period with the posting date set to the end of the month. You can enter several balances with different dates for the same account.
- When entering opening balances, you must enter the minus sign for credit balances if the *Display Credit Balance with Negative Sign* checkbox is set in *Company Details*.
- The *Import from Excel* button provides a way to populate the grid area (rows) of this transaction from a spreadsheet. See the related course Import from Excel for more details.

## Result – G/L Accounts Opening Balance Transaction

Separate journal entry posted for each G/L account row:

Journal Entry

Series	Number	Posting Date	Due Date	Doc. Date	Remarks	<input type="checkbox"/> Fixed Exchange Rate
Primary	2366	01.01.16	01.01.16	01.01.16	G/L Accounts Opening Balance	
Origin	Origin No.	Trans. No.	Template Type	Template	Indicator	Project
OB	2366	2388				
Trans. Code	Ref. 1	Ref. 2	Ref. 3			

Blanket Agreement

☐ EJJ Report

☐ Automatic VAT

☐ Manage Deferred Tax

☐ Manage WTax

Expand Editing Mode

#	G/L Acct/BP ...	G/L Acct/BP Name	Debit	Credit	VAT Code	VAT Number	Tax Amount	Gross Value	Base Amount
1	101010	Capitalised Business Exp	BP 120,000.00						
2	390020	Opening Balances Offs		BP 120,000.00					
			BP 120,000.00	BP 120,000.00					

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- The transaction posts a separate journal entry for each account row.
- The *Origin* of the opening balance journal entry is 'OB' which helps you to identify these journal entries for reporting.

# Opening Balances for Business Partners



- In this section you will learn about tools for entering business partner opening balances.



## Business Partner Opening Balances

**Administration → System Initialization → Opening Balances → Business Partners Opening Balance**

Due Date	Code	Name	Control Acct	Balance (LC)	OB (LC)	Balance (FC)	OB (FC)	Balance (SC)	OB (SC)
31.01.16	C11110	DG Logistics	140000	GBP 3,475.00				GBP 3,475.0	
02.02.16	C11130	AB Electronics	140000	GBP 525.00				GBP 525.0	
16.02.16	P23100	AV Signs	140000	GBP 7,826.50				GBP 7,826.5	
31.01.16	S43101	HW Supplies	203000	GBP -1,250.00					
14.02.16	S43193	Machine Rentals Inc	203000	GBP -366.00					

- Alternative to importing invoices and payments
- Window is populated with selected business partners
- Select a clearing account and enter the balance for each business partner on a row, with the correct due date for aging. Make sure the relevant posing periods are open
- If the business partner account contains multiple transactions you can rerun the transaction
- If *Display Credit Balance with Negative Sign* checkbox is enabled, enter a minus sign for credit balances.

- The business partners opening balance transaction is an easy to use tool, and an alternative to importing invoice documents and payments using DTW.
- When you open the transaction the window is populated with the selected business partners. You first need to select an opening balances clearing account which is used in the journal entry as the offsetting account.
- If possible use the aging report from the legacy system. You enter the legacy account balance on a row for each business partner, with the correct due date for aging. To support aging in the new system, you should specify the accurate due date for each transaction. Note: make sure that the posting periods in SAP Business One are open so that postings can be made with the original due dates.
- The default *control account* from the master data is selected on the row, but you can select a different control account if necessary from the list of defined control accounts.
- If the business partner account contains multiple transactions with different due dates, you can enter each transaction separately by rerunning the opening balance transaction. You should also enter a row for any business partner prepayment or down payment.
- If you are starting in the middle of the financial year and you want to see beginning balances from the start of the year in SAP Business One, you must enter the opening balances for each business partner as of the last day of the *previous year*, and then enter a *delta balance* for each business partner for each successive posting period.
- There is an option to import data into the grid of the transaction using the Import from Excel utility.
- Note:** If the *Display Credit Balance with Negative Sign* checkbox is enabled in the *Company Details* setup screen, enter a minus sign for credit balances.

## Result – Business Partners Opening Balance Transaction

- Journal entry posted for each row. The business partner balance in the account is updated.
- The journal entry can subsequently be selected for matching payments and also appears in the aging report.

The image displays three SAP screenshots illustrating the process of posting opening balances for business partners.

**Business Partners Opening Balance:** This screenshot shows a table with columns for Date, Ref. 1, Ref. 2, Remarks, Due Date, Code, Name, Control Acct, Balance (LC), OB (LC), Balance (FC), OB (FC), and Balance (SC). Rows are listed for various business partners like DG Logistics, AB Electronics, AV Signs, HW Supplies, and Machine Rentals Inc. with their respective opening balances.

**Account Balance - F23100, AV Signs:** This screenshot shows the account balance for F23100, AV Signs. It includes a table with columns for Posting Date, Origin, Origin No., Offset Account, Details, C/D (LC), Balance Due (LC), and C/D (FC). A journal entry is highlighted with an origin of 'OB' (Opening Balance) and a balance of GBP 7,826.50.

**Customer Receivables Aging:** This screenshot shows the aging report for AV Signs. It includes a table with columns for Customer Code, Customer Name, Type, Doc. No., Initial No., Posting Date, Due Date, and BP Ref. No. A row is highlighted with a due date of 16.01.16, indicating that the due date is reflected in the aging report.

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- When the opening balances are posted a journal entry is created for each row and the business partner account is updated. The origin code of the journal entry is OB, which helps you to identify these opening balances journal entries. The journal entry can subsequently be selected for matching payments.
- If the system currency differs from the local currency, the balances are converted automatically. The data is displayed in the Balance (SC) column. If accounts were defined as foreign currency accounts in the chart of accounts, the *OB (FC)* field is enabled for input.
- The journal entry also appears in the aging report with the due date entered on the row.

## Summary



Key points from this topic:

- The goal of opening balances is to match the financial reports of the legacy system and the SAP Business One system.
- SAP recommends that you migrate opening balances in a certain order:
  - Final master data
  - Item quantities and costs
  - Open transactions
  - Final balances for business partners, items, and G/L accounts (including bank transactions)
- During cutover, the legacy system is frozen and stock is counted. Open transactions should be closed if possible. Business partner and bank accounts should be reconciled.
- To import opening balances you can use the opening balances transactions for items, business partners and G/L accounts. There is also an option to import the rows from a spreadsheet using the Import from Excel utility. Each balance results in a journal entry with origin OB, so they can be traced.
- You can use the Data Transfer Workbench (DTW) to import open documents such as sales and purchase orders, invoices and payments. The result is a document in the new system.
- For more details on entering opening balances, see the *Data Migration Guide* in the AIP materials.

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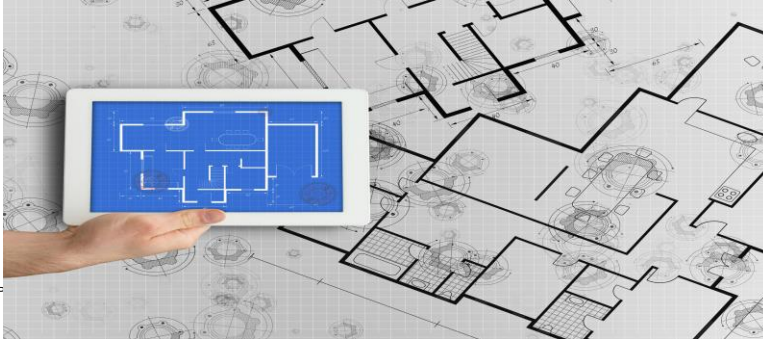
Here are some key points to take away from this topic.

- The goal of entering opening balances is to match the balance sheet and the Profit & Loss reports of the legacy system and the new SAP Business One system.
- SAP recommends that you migrate final opening balances in a certain order:
  - Final master data
  - Item quantities and costs, based on an inventory stock take
  - Open transactions such as sales and purchase orders, A/R and A/P invoices, production orders, bills of materials, etc.
  - Final balances for business partners, items, and G/L accounts.
- The cutover period is a crucial time when the legacy system is frozen, stock is counted, and final balances are entered for inventory, business partners and G/L accounts. In the legacy system, the client should close as many open existing transactions as possible, and business partner accounts should be reconciled so that only open invoice balances and prepayments that are not based on an invoice need to be transferred. Item quantities and costs must be entered before open transactions that release inventory can be imported.
- There are multiple options to enter opening balances, and you should discuss the options with the customer.
- You can use the Opening Balances transactions for inventory, business partners, and G/L accounts. There is an option to import the rows from a spreadsheet using the Import from Excel Utility. Each balance results in a journal entry with the origin OB, so they can be easily traced in the new system.
- You can use the Data Transfer Workbench to import open documents such as sales and purchase orders, invoices and payments, if it is preferable to have a document as a source in the new system.
- For more details on a structured approach to entering opening balances, refer to the *Data Migration Guide* from the AIP methodology.

# Implementation Tools:

## Quick Copy

SAP Business One Version 9.3



- In this topic, we will look at how to select and copy database records between SAP Business One company databases.

## Objectives

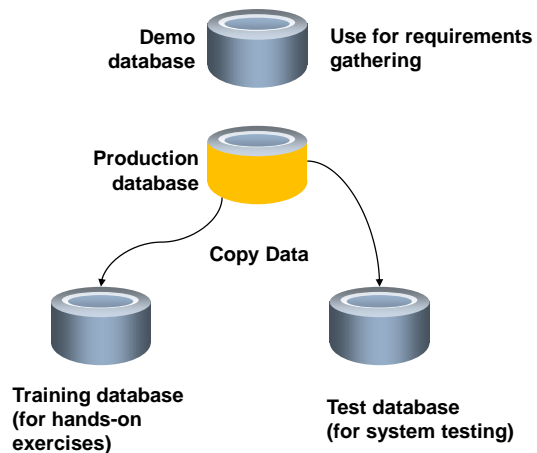


- At the end of this topic, you will be able to select and copy records between SAP Business One company databases using the Quick Copy tool

This topic covers the use of the Quick Copy tool during an implementation project. On completing this topic, you will be able to select and copy records between SAP Business One company databases.

## Business Scenario

- During an implementation project you will typically use and create multiple company databases
- You will need separate database for testing and training purposes
- Quick Copy allows you to quickly copy subsets of data to other databases (individual records or categories of data)



Quick Copy is a very useful tool during an implementation project. During the implementation project you will typically create multiple company databases. For example:

- A new production database that you will configure for the customer
- A copy of the production database for testing
- A copy of the production database for training

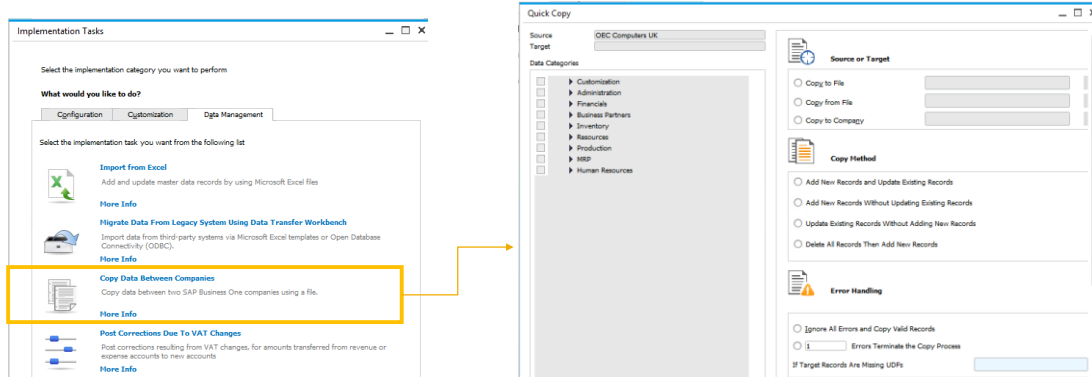
The Quick Copy tool enables you to quickly copy subsets of data from the production database to other databases. You can select individual records or entire categories of data.

For example, you might want to copy master data records and configuration settings from the production database to a test database. Or you can copy recent customizations you make on the production system to another database for testing and validation.

Note that Quick Copy is not a full database copy. You still need to maintain full database backups for recovery purposes.

## Implementation Center

**Administration > System Initialization > Implementation Center > Implementation Tasks > Data Management tab**



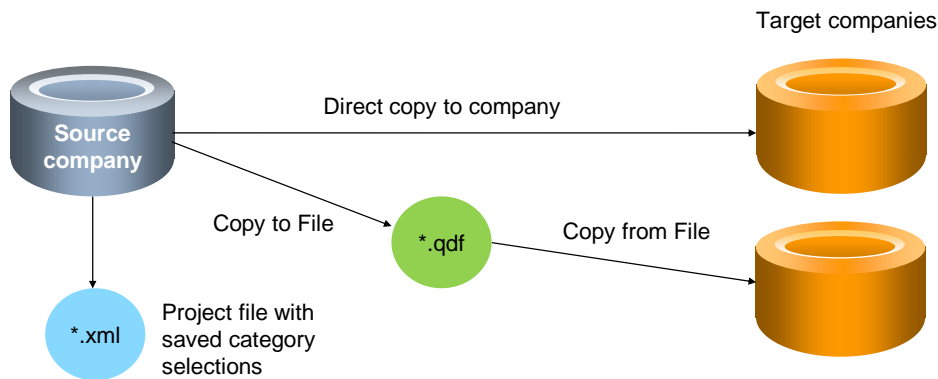
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Quick Copy is one of the tools provided in the Implementation Center in SAP Business One. To launch Quick Copy, choose *Copy Data Between Companies*.

## Quick Copy Overview

- Direct copy from source to target database (same version required)
- Indirect copy (using an intermediate file)



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Quick Copy allows you to:

- Copy directly between company databases. The database version of the target company should match that of the source company.
- Copy indirectly via an intermediate file. If you choose indirect copy, Quick Copy saves the selected records in a file with the extension .qdf. You then login to the target company and run the import using Quick Copy.

The company database that you are currently using is the source.

For direct copy, you will be prompted to select the target company on the database server and provide the login credentials.

For indirect copy, you will create the qdf file on the source, then login to the target company to import the qdf file.

You can optionally save an xml project file containing your data category selections and copy options. You can use this project file the next time you use Quick Copy, saving you from having to make the selections again.



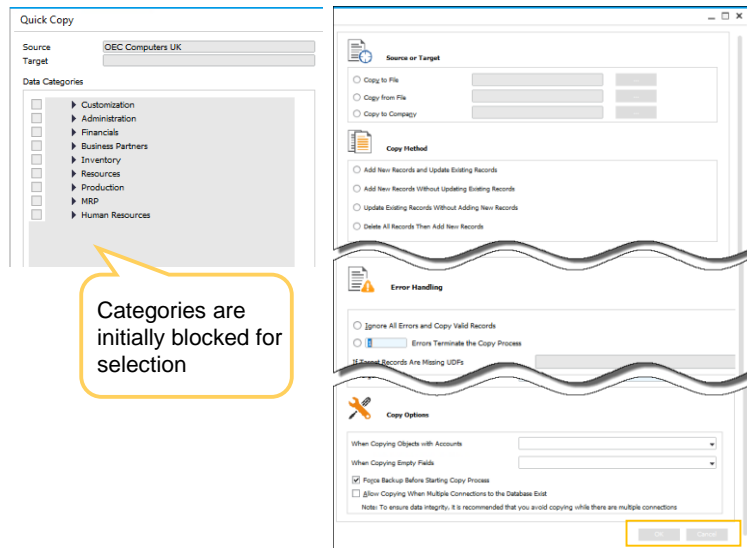
# Copy Options



## Quick Copy Window

Quick Copy window has two sections:

- Data categories are shown on the left
- Options for the copy are shown on the right
- Data categories are blocked from selection until you select all the required options and choose OK (the OK button is not active until the required options are set)



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When you open the Quick Copy window you can see that the categories of data are shown on the left-hand side of the screen. The categories are initially blocked for selection until you select or set options on the right-hand side of the window.

After you make selections on the right side of the window, the OK button becomes active. Choose the OK button, and the data categories will open up for selection.

## Options for Quick Copy

Source or Target	Select: <ul style="list-style-type: none"> <li>■ <b>Copy to File</b> to copy records to an intermediate file (*.qdf)</li> <li>■ <b>Copy from File</b> to import records to a target company from a qdf file</li> <li>■ <b>Copy to Company</b> to copy directly</li> </ul>
Copy Method	Defines how the import will insert or update records in the target database. Not applicable for Copy to File.
Error Handling	Defines how the system will handle errors encountered during either the copy or import process
Copy Options	Defines various options for the import. Not applicable for Copy to File.

The screenshot shows the 'Quick Copy' dialog box with the following sections:

- Source or Target:** Three radio buttons: 'Copy to File', 'Copy from File', and 'Copy to Company'. Each has a corresponding text field for file path or company name.
- Copy Method:** Four radio buttons: 'Add New Records and Update Existing Records', 'Add New Records Without Updating Existing Records', 'Update Existing Records Without Adding New Records', and 'Delete All Records Then Add New Records'.
- Error Handling:** Two radio buttons: 'Ignore All Errors and Copy Valid Records' and 'Errors Terminate the Copy Process'. Below is a text field for 'If Error Records Are Missing UDFs'.
- Copy Options:** Two dropdown menus: 'When Copying Objects with Accounts' and 'When Copying Empty Fields'. Below are two checkboxes: 'Perform Backup Before Starting Copy Process' (checked) and 'Allow Copying When Multiple Connections to the Database Exist' (unchecked). A note at the bottom states: 'Note: To ensure data integrity, it is recommended that you avoid copying while there are multiple connections'.

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There are four sections with options:

- Select the copy function and browse to choose the qdf file or the target company database.
- Select the copy method (this applies only for Copy from File or Copy to Company)
- Set options for handling errors.
- Select the copy options (for import to the target company).

Once you have made these settings, and choose the OK button, the data categories on the left-hand side of the screen will open up for selection.

## Copy Methods



Copy Method

- ☒ Add New Records and Update Existing Records
- ☐ Add New Records Without Updating Existing Records
- ☐ Update Existing Records Without Adding New Records
- ☐ Delete All Records Then Add New Records

Add new records and update existing records that have a matching key

And new records only but do not update records with a matching key

Only update existing records with a matching key

Erase all records for the categories before adding new records

The copy method works as follows:

- Add new records and update existing records that have a matching key
- Add new records but not update records with matching keys
- Only update existing records with matching keys without adding new records
- Erase all existing records for the categories in the target database before adding new records

## Understanding Copy Methods

The effect of each copy method on the target database is shown here:

The source database T1 has four records (keys 1, 2, 3 and 4). The target database T2 has three records with matching keys 1, 2 and 3.

Copy Method	Copy from Table 1 (T1) to Table 2 (T2)							
Add New Records and Update Existing Records	Before Copy				After Copy			
	T1		T2		T1		T2	
	Business Key	Content	Business Key	Content	Business Key	Content	Business Key	Content
	1	A	1	C	1	A	1	A
Add New Records Without Updating Existing Records	Before Copy				After Copy			
	T1		T2		T1		T2	
	Business Key	Content	Business Key	Content	Business Key	Content	Business Key	Content
	1	A	1	F	1	A	1	A
Update Existing Records Without Adding New Records	Before Copy				After Copy			
	T1		T2		T1		T2	
	Business Key	Content	Business Key	Content	Business Key	Content	Business Key	Content
	1	A	1	F	1	A	1	A
Delete All Records Then Add New Records	Before Copy				After Copy			
	T1		T2		T1		T2	
	Business Key	Content	Business Key	Content	Business Key	Content	Business Key	Content
	1	A	1	F	1	A	1	A

This slide shows the effect of each of the copy methods on the target company database:

- **Add New Records and Update Existing Records:** In the example, a new record is added to the target database T2 with key 4. The records with matching keys 1, 2 and 3 will be updated with the values from the source database T1. Notice that the content for record keys 1, 2 and 3 has changed.
- **Add New Records Without Updating Existing Records:** In the example, a new record is added to the target database T2 with key 4. However, unlike the first method shown above, in this case the records with keys 1, 2 and 3 are not updated.
- **Update Existing Records Without Adding New Records:** This method does not add any new records so record key 4 is not inserted in the target database. The records with matching keys 1, 2 and 3 will be updated with the values from the source database T1.
- **Delete All Records Then Add New Records:** This option deletes data for a matching key, then adds new records.

## Error Handling



Error Handling

☐ Ignore All Errors and Copy Valid Records

☐  Errors Terminate the Copy Process

If Target Records Are Missing UDFs

Error handling choices govern Quick Copy response while importing records:

- Ignore errors and continue copying valid records
- Terminate the copy process after a specified number of errors
- If the records contain UDFs, but the target system does not, you can elect to skip the records, or, copy them and ignore the missing UDFs

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The error handling choices govern the Quick Copy response to an error while importing the records. You can choose to:

- Skip the affected record and continue copying valid records, or
- Stop the copy process when the number of errors reaches a specified limit

If the objects to be copied contain user-defined fields (UDFs), and the target system does not contain the UDFs, you can elect to skip the records, or to copy the records and ignore the missing UDFs:

- If you select the Copy Records and Ignore Missing UDFs option, the application copies records even when user-defined fields in the source company are missing from the target company.
- If you select Do Not Copy Records with Missing UDFs, and for example, the master data in the source company contains a UDF that is not present in the target company, the copy operation will fail.

For example, the BP table in the source company contains a user-defined field, whose definition has not been copied to the target company. If this field is not selected, when you try to copy BP records to the target company, the copy operation fails.

## Copy Options



### Copy Options

When Copying Objects with Accounts

When Copying Empty Fields

☒ Force Backup Before Starting Copy Process

☐ Allow Copying When Multiple Connections to the Database Exist

Note: To ensure data integrity, it is recommended that you avoid copying while there are multiple connections

Use Accounts in Source
Use Default Accounts in Target

Do Not Overwrite Target Fields and Keep Original Values
Overwrite Target Fields with Empty Values

- If objects to be copied contain accounts, you can choose to copy the accounts to the target, or assign default accounts from the target
- If the objects contain empty fields, you can choose to skip copying the field and leave the original value in the target, or overwrite the target field with empty values
- Option to force backup before the import starts
- Option to copy to target even when there are active connections

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Many database records contain assigned accounts. The copy option for accounts can be chosen to:

- Use Accounts in Source – If the source accounts also exist in the target, then the application copies the account assignments from the object in the source to the object in the target. However, if the source accounts do not exist in the target, then the application encounters an error during the copy process.
- Use Default Accounts in Target – The application assigns the default accounts in the target to the object, and does not copy the source assignments. Note: If default accounts are not configured in the target company, and you select this option, then the account fields of the object in the target are empty after the copy process.

The copy option for empty fields only affects updates:

- Do Not Overwrite Target Fields and Keep Original Values – If a field in the source is empty, then the application skips copying this field. The application keeps the original value of the corresponding field in the target, which remains the same before and after the copy process.
- Overwrite Target Fields with Empty Values – If a field in the source is empty, then the application overwrites the target field with empty values.

You also have the option to:

- Enforce a backup before the import starts. If you select the *Enforce Backup Before Starting Copy Process* checkbox, the import will not proceed if the target database has not been backed up within two hours.
- Allow the import of data to the target company database, even when there are user connections to it.

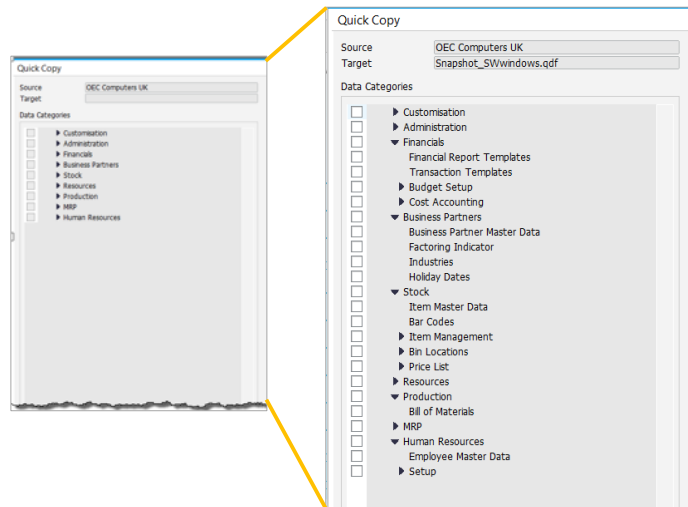
# Categories and Dependencies





## Category Structure

- Categories are shown in a tree structure that when expanded follows the SAP Business One menu structure

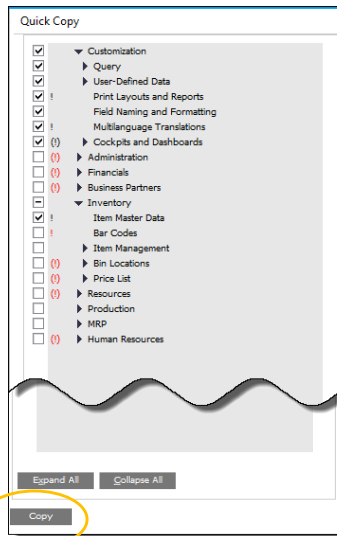


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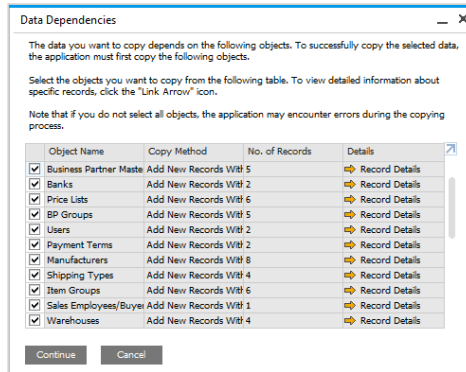
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You select data from a category tree structure that when expanded follows the SAP Business One menu structure. Note that the structure does not change from company to company. The categories cover customizations (including queries and reports), administration and configuration settings, financial settings, business partner master data, inventory (including item master data and price lists), resource and production master data, and human resource master data.

## Selecting Data for the Copy



- Select the categories required for copy
- The system shows data dependencies and you can choose to continue with the copy process, or adjust the selected categories



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You can select one or more categories at the top level of the category tree or at a lower level. Choose the copy button to initiate the copy process.

The system first checks data dependencies and will show dependent objects that will be automatically copied together with the data you selected.

You can choose to continue with the copy process or cancel and adjust your selected categories.

**Note:** If the target database already contains records that reference G/L accounts, for example, business partner and item master data, journal entries posted by transactions, then you will not be able to import the chart of accounts from the source database

## Viewing and Selecting Records to be Copied

- Before you run the copy you can view all records for a category
- You can deselect individual records from the copy process

Quick Copy

<input checked="" type="checkbox"/>	Customization	<input checked="" type="checkbox"/>	A00003	J.B. Officeprint 1186	Items	J.B. Printers	Fedex EM	Yes
<input checked="" type="checkbox"/>	Query	<input checked="" type="checkbox"/>	A00004	Rainbow ColorJet 5	Items	Rainbow Printers	Fedex EM	Yes
<input checked="" type="checkbox"/>	User-Defined Data	<input checked="" type="checkbox"/>	A00005	Rainbow ColorJet 7.1	Items	Rainbow Printers	Fedex EM	Yes
<input checked="" type="checkbox"/>	Print Layouts and Reports	<input checked="" type="checkbox"/>	A00006	Rainbow 1200 Laser	Items	Rainbow Printers	Fedex EM	Yes
<input checked="" type="checkbox"/>	Field Naming and Formatting	<input checked="" type="checkbox"/>	B10000	Printer Label	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Multilingual Translations	<input checked="" type="checkbox"/>	C00001	Motherboard P4 Tur	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Cockpits and Dashboards	<input checked="" type="checkbox"/>	C00002	Motherboard P4 Tur	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Administration	<input checked="" type="checkbox"/>	C00003	Quadcore P4 2.4 Gh	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Financials	<input checked="" type="checkbox"/>	C00004	Tower Case with Po	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Business Partners	<input checked="" type="checkbox"/>	C00005	WLAN Card	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Inventory	<input checked="" type="checkbox"/>	C00006	Network Card10/100	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Item Master Data	<input checked="" type="checkbox"/>	C00007	Hard Disk Seagate 4	Items	Storage	Fedex EM	Yes
<input checked="" type="checkbox"/>	Bar Codes	<input checked="" type="checkbox"/>	C00008	Monitor 19" TFT	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Item Management	<input checked="" type="checkbox"/>	C00009	Keyboard Comfort L	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Bin Locations	<input checked="" type="checkbox"/>	C00010	Mouse USB	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Price List	<input checked="" type="checkbox"/>	C00011	Memory DDR RAM 5	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Resources	<input checked="" type="checkbox"/>	C00012	Cabinet for external	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	Production	<input checked="" type="checkbox"/>	C00013	1 TB disk for externa	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>	MRP	<input checked="" type="checkbox"/>	C00014	Laptop case	Items	Accessories	Fedex EM	Yes
<input checked="" type="checkbox"/>	Human Resources	<input checked="" type="checkbox"/>	D00001	Portable Hard Disk 1	Items	Storage	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	D00002	Portable Hard Disk 2	Items	Storage	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	E00001	Second hand Tablett	Items	PCs	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00001	DVD+R Disc 10-Pack	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00002	DVD+R Disc 50-Pack	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00003	USB Flashdrive 4GB	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00004	USB Flashdrive 8GB	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00005	J.B. Laptop Batteries	Items	Items	Fedex EM	Yes
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	I00006	J.B. Laptop Batteries	Items	Items	Fedex EM	Yes

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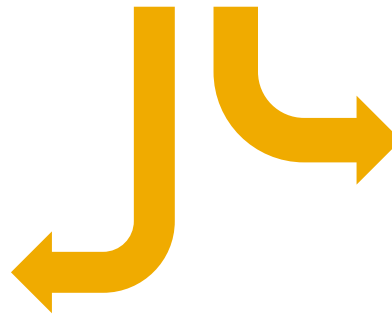
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- To see the eligible records that you can copy, select the row for the object at the lowest level in a category. The list of records is shown on the right.
- You can individually deselect records that are not required for copy.

## Dependent Categories



Inventory > Item Master Data



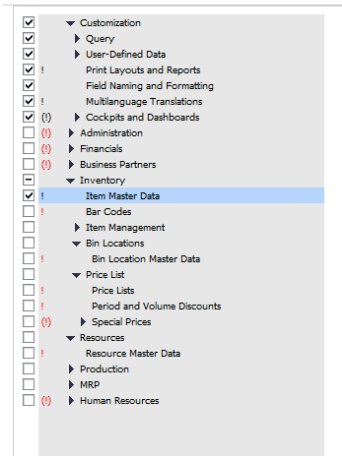
☐ Business Partner Master Data  
BP Groups

☐ Item Groups  
Price Lists  
Customs Groups  
Manufacturers  
etc.

When you select a category, there might be data dependencies on other categories. For example, the item master data category has dependencies on business partner master data (vendors or resellers) as well as item groups and price lists.

## Dependent Categories (Cont.)

### Quick Copy



- When you select an object or category, possible dependencies on other categories are marked
- Marked dependencies are derived from the database structure and are provided as a warning

! Selected category is dependent up on other categories

! Other categories are dependent on this category

(!) Other categories are dependent on a category deeper in the structure

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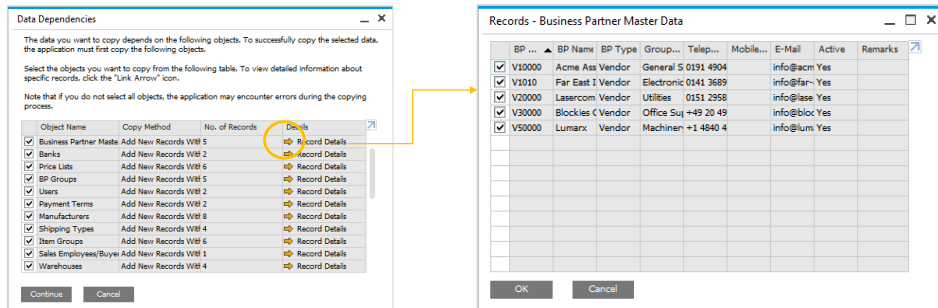
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The Quick Copy tool indicates possible dependencies on other categories. These dependencies are derived from the database table structure, and not from the actual data records to be copied, and are therefore provided as warning for you to check if records in the marked category should also be copied. In the example shown, the item master data category is selected:

- A black exclamation mark '!' indicates that the item master data category is possibly dependent on other data categories.
- A red exclamation mark '!' indicates for an unselected category that the selected item master data category is possibly dependent on this category. In the example, the categories Bar Codes, Bin Location Master Data, and Price Lists are possibly dependent on the item master data category. Again this information is derived from the database table structure and may not represent the actual data.
- When you see a category marked with red parentheses '(!)', this indicates that the possible dependencies are deeper in the category structure. You can expand the category to see the dependent objects within its structure. In the example the Administration, Financials and Business Partners categories possibly have dependencies on the selected category, at a deeper level within the category.

## Viewing Dependent Records

- During the copy process, the system displays actual dependent objects dynamically derived from the data records to be copied
- Dependent objects are automatically selected for copy with the other data
- Links are provided to view dependent records
- If you deselect a dependent object, copy may fail



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During the copy process, the system displays the real dependent objects, dynamically derived from the data records to be copied. These dependent objects are automatically selected for copy with the other data.

Links are provided to view the dependent records, enabling you to decide whether to include them in the copy.

Be aware that if you deselect a dependent object, the copy may fail.

## Copy Log

- Log shows number of records copied, number of records filed, number of records not copies, and a link to drill down to records

**Quick Copy Log Category Details**

Data Category	Object Name	Number of Records Copied	Number of Records Failed	Number of Records Not Copied	Details
Administration	Payment Terms	2	0	0	Result Details
Administration	Sales Employees/Buyers	1	0	0	Result Details
Administration	Units of Measurement	7	0	0	Result Details
Administration	Units of Measurement Groups	3	0	0	Result Details
Administration	User Groups	1	0	0	Result Details
Administration	Users	2	0	0	Result Details
Administration	Warehouse Sublevel Codes	2	3	0	Result Details
Administration	Warehouses	4	0	0	Result Details
Business Partners	Business Partner Master Data	5	0	0	Result Details
Customization	Form-Style Cockpits	4	0	0	Result Details
Customization	Print Layouts and Reports	1	0	0	Result Details
Customization	Queries	8	0	0	Result Details
Customization	Query Authorization Groups	16	0	16	Result Details
Customization	Query Categories	3	1	3	Result Details
Customization	User-Defined Fields	8	0	0	Result Details
Customization	User-Defined Objects	2	0	0	Result Details
Customization	User-Defined Tables	5	0	0	Result Details
Inventory	Bar Codes	4	0	0	Result Details
Inventory	Bin Location Master Data	0	3	0	Result Details
Inventory	Item Master Data	70	0	0	Result Details
Inventory	Price Lists	6	0	0	Result Details

**Quick Copy Log Instance Details - Warehouse Sublevel Codes**

Record Key/Insta...	Result	Description	Help
S 3 L1	Copying failed	Warehouse sublevel is inactive: activate	
S 3 L2	Copying failed	Warehouse sublevel is inactive: activate	
S 1 A1	Copied successful		
S 1 A3	Copied successful		
S 2 S1	Copying failed	Warehouse sublevel is inactive: activate	

**Quick Copy Log Instance Details - Bin Location Master Data**

Record Key/Insta...	Result	Description	Help
05-A1-S1-L1	Copying failed	You cannot add or update the bin locat	
05-A1-S1-L2	Copying failed	You cannot add or update the bin locat	
05-A3-S1-L1	Copying failed	You cannot add or update the bin locat	
You cannot add or update the bin location; one or more warehouse sublevels are inactive			

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The copy process may take a long time if you are doing a direct copy and there are many records. For this reason it may be better to copy to an intermediate file so that you can perform the import at any time.

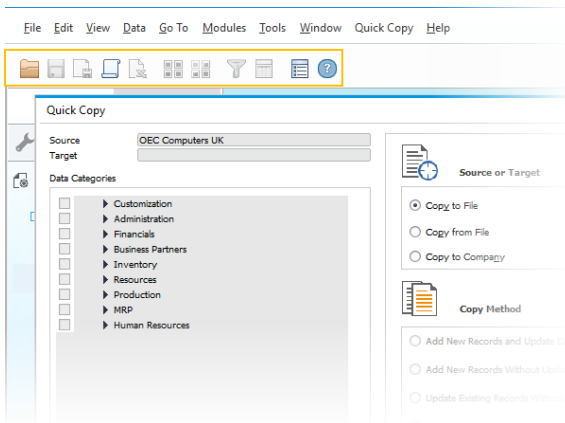
After the copy, the system provides a full log record of the number of records copied, the number of records that failed, and the number of records not copied, together with a link to the records.

Note: if you chose the option to stop after 1 error, you will only see records copies up to the point of failure.

In the example, shown, we can see the number of records copied for the selected Customization and Item Master Data categories, plus the dependent data categories. And we can drill-down to see the codes of the copied records.

Since the report shows an error on Bin Location master data, we can drill down to see the reason why this failed.

## Quick Copy Window (cont.)



- Icon bar displays when Quick Copy window open
- Contains icons to view and display project files and log files
- Toggle dependencies on and off
- Access the copy options in the right-side of the window
- View online help

When the Quick Copy window is open you see a new icon bar in the client application.

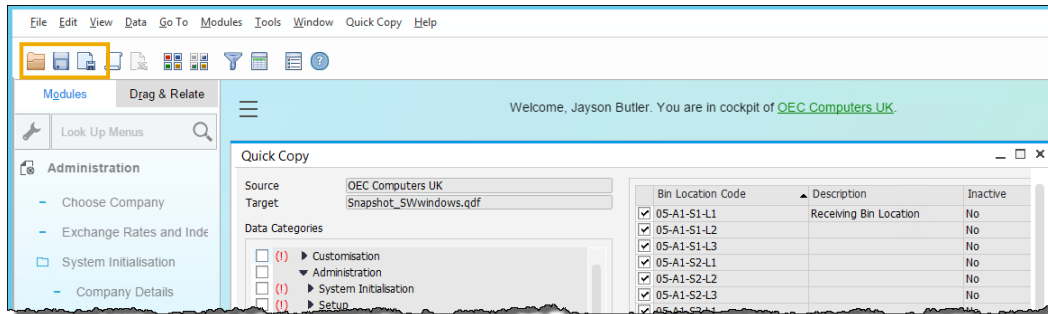
The icons enable you to:

- Open a previously saved project XML file
- Save a new project file
- Toggle on and off the display of dependent categories
- Show the copy options in the right-side of the window. These options become hidden when the copy process has run, so you can use this icon to view them again.
- View the online help for Quick Copy



## Saving a Project File

- Option to save settings and selected categories in a project file (XML)
- To reuse the project file, choose the toolbar icon



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The XML project file contains the saved data categories and the selected copy options (copy methods, error handling, etc.). This file can be reused and can save time if you repeatedly need to export the same types of data.

The system will prompt you to create a project file if you close the Quick Copy window, or you can choose the save icon from the icon toolbar.

You can also create and save a project file when you import on the target company.

## Summary



Here are some key points:

- Quick Copy allows you to selectively copy data records from one company database to another
- Quick Copy is useful during an implementation project for copying customizations and configuration information, and master data, to a test or training system or to a different company entity
- You can copy directly, or copy to an intermediate file:
  - For direct copy, both companies must have the same product version
  - The intermediate file has the extension qdf
- You can select one or more categories for copy. Note: Categories are not selectable until you complete all the required copy options on the right-side of the window.
- To see eligible records for copy, select the object row in the category hierarchy. You can deselect individual records.
- When you select a category for export, Quick Copy automatically marks dependent objects. During the copy process the dependent objects are also selected for copying.
- You can optionally save the selected categories and settings in an xml file, for repeat use.

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Here are some key points to take away from this session.

- Quick Copy allows you to selectively copy data records from one company database to another.
- The tool is useful during an implementation project for copying customizations and configuration information, or master data, to a test or training system, or to a different entity for the same company.
- You can copy directly, or copy to an intermediate file:
  - For direct copy, both companies must have the same product version
  - The intermediate file has the extension qdf
- You can select one or more categories for copy. **Note:** Categories are not selectable until you complete all the required copy options on the right-side of the window.
- To see eligible records for copy, select the object row in the category hierarchy. You can deselect individual records.
- When you select a category for copy, the Quick Copy tool automatically marks dependent objects. During the copy process the dependent objects are also selected for copying.
- You can optionally save an XML project file containing your selected data categories and copy options. This can save time if you repeatedly need to export the same types of data.

# System Setup and Administration: Users and User Groups

SAP Business One Version 9.3



- This topic covers user accounts, default settings for users, and user groups.

## Objectives



### Objectives:

- Define and manage accounts and default settings for users of SAP Business One
- Designate a user as a super user or a mobile user
- Explain the concept of a user group and how they work
- Manage user passwords and define a company-wide password policy

- On completion of this topic, you will be able to define and manage accounts and default settings for users of SAP Business One.
- You will also be able to designate a user as a super user or a mobile user.
- You will be able to explain the concept of a user group and how these groups work.
- Lastly, you will be able to manage passwords for users, including the definition of a company-wide password policy.

## Business Example



DG Industries has 15 users in the sales department. Each of these users works with the same forms and menus, and needs the same form settings for documents, the same UI look-and-feel, and similar requirements for print settings

The company wants to enforce a strong password policy, requiring users to select a password of a set minimum length.

### Solution:

- Define a common set of user defaults and assign to each user account
- Define common form settings for one user and copy to the other user accounts (or to a user group)
- Define a common set of UI changes and assign to each user account (or to a user group)
- Define a custom password policy for the company.



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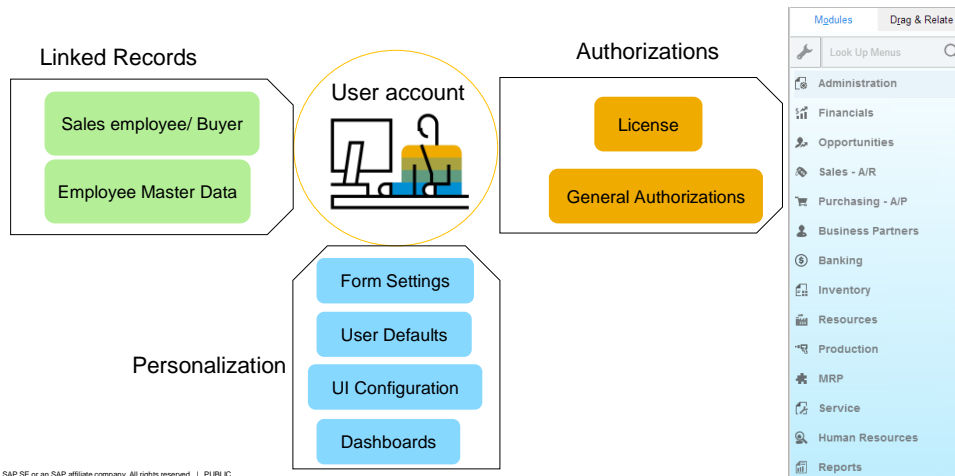
- DG Industries has 15 users in the sales department who need to access SAP Business One. These users work with the same forms and menus.
- When processing sales documents, the users need to have the same form settings for documents, the same UI look-and-feel, and similar requirements for print settings.
- The company wants to enforce a strong password policy, requiring users to select a password of a set minimum length.
- **Solution:**
  - Define a set of common defaults for display and print settings and assign to each user account as User Defaults
  - Set up one user account with the required form settings, then copy the form settings to the other user accounts (or to a user group)
  - Define a common set of UI configuration changes in a UI Template, then assign to each of the user accounts (or to a user group)
  - Define a custom password policy in SAP Business One.
- **Note:** *User Groups* can speed up the assignment of common settings, including general authorizations, to multiple users. User groups will be discussed in this course.

# User Accounts



## User Accounts

Each user needs an account. In addition, a user cannot access any functionality until they have been assigned both the correct license and general authorizations.



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To work with SAP Business One, a user needs an account. The user account contains the userid, password and other details.

Even with an account, a user cannot access any functionality until they have been assigned both the correct license and general authorizations:

- The license allows legal use of the software
- General Authorizations permit access to functions and menus in SAP Business One according to the user's license type and can be further refined by role

The user's account is associated with personalization options such as form settings, user defaults, UI configuration templates, and cockpit dashboards.

The user account can be optionally linked to an employee master data record for HR purposes and for another type of authorization – data ownership.

The user account can be linked to a designated sales employee or buyer which is entered into marketing documents.

## User Account Setup

**Administration → Setup → General → Users**

- To create a user account, enter the details in the *Users – Setup* window
- The *User Code* must be unique and is case sensitive
- After you have saved the window you cannot change the user code
- To enable single sign-on (SSO), enter the Microsoft Windows domain and user account

**Note:**

- You have the option to generate a user account using information from the employee master data.
- You can also access this setup screen from the *Express Configuration Wizard*

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To create a user account, choose the path shown in the slide and enter the user details. The user code must be unique, up to 8 characters, and is case sensitive. Once saved, the user code cannot be changed.

To enable the user to login with single sign-on (SSO), enter the Windows domain and account name. You must also enable single sign-on functionality in the System Landscape Directory (SLD). As a result, users can access SAP Business One without entering their user code and password. If you want to use the single sign-on function for SAP Business One, version for SAP HANA, you must choose domain user authentication and specify the domain name and user during the installation of the SAP Business One server components.

**Note:**

- If you create employee master data first, you have the option to generate the user account when you create the master data
- You can access the user setup window from the Express Configuration Wizard. See the related course in the Implementation Tools curriculum.



## Account for Super User

- Select the *Superuser* checkbox to designate a super user
- A super user has by default authorization to every function in the system - you cannot edit general authorizations for a super user
- This account must be assigned a **Professional license**
- Non super users have no authorization to any function by default and you need to set general authorizations for each user

The screenshot shows the 'Users - Setup' window with the 'General' tab active. The 'Superuser' checkbox is checked and highlighted with an orange circle. The user details include User Code 'sophie', User Name 'Sophie Klogg', and E-Mail 'sophie.k.klogg@oec.co.uk'. The 'General' tab contains various fields for user configuration, including 'Bind with Microsoft Windows Account', 'Employee', 'E-Mail', 'Mobile Phone', 'Mobile Device ID', 'Fax', 'Branch', 'Department', 'Groups', 'Password', and 'Change Password at Next Logon' (checked). The 'Services' and 'Display' tabs are also visible.

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- If you check the *Superuser* checkbox in the user account, the user becomes a super user. A super user has by default *full authorization* to every function in SAP Business One and must be assigned a *professional* license. You cannot edit the authorizations for a super user account.
- If you *do not check* the Superuser checkbox, the user by default has *no authorizations* to any system functionality. *General Authorizations* must be set for each user to every function that the user will work with. You can assign a limited license to this user or a professional license.
- A super user can create new user accounts, reset the passwords of other users, and assign licenses and authorizations for other users. During the implementation project the super users will be nominated and should receive training in all system and administration functionality.

## Account for Mobile User

The screenshot shows the 'Users - Setup' window with the following details:

- Mobile User:** Checked (circled in orange)
- User Code:** hunter
- User Name:** Hunter O'Rear
- Mobile Phone:** 01234567890
- Mobile Device ID:** 1122334455667788
- Branch:** Main
- Department:** HR
- Groups:** (empty)
- Password:** (masked with asterisks)
- Options:**
  - ☐ Password Never Expires
  - ☒ Change Password at Next Logon
  - ☐ Locked
  - ☐ Enable Setting Integration Packages

- Select the *Mobile User* checkbox to enable access using the mobile apps for IOS and Android
- Enter mobile phone number and device ID
- Install the integration framework of SAP Business One and activate the sap.B1Mobile scenario
- Assign a B1i license to the mobile user in addition to the contracted license



- To enable a user to access SAP Business One using the mobile apps for IOS and Android, select the *Mobile User* checkbox. The mobile phone number is mandatory in the user account as the user must enter this number when they logon from the phone. If the device has no phone number, for example, an iPad, choose a fictitious mobile phone number.
- You must also enter the ID of the user's mobile device, which is a unique MAC address. To find the device ID, launch the SAP Business One mobile app on the device. In the Logon page, tap Settings. The device ID appears in the Device ID field, in the Logon Settings section.
- The mobile apps use the Web services of the integration framework to connect to the database. Therefore you must install the integration framework of SAP Business One. This is free and distributed with the SAP Business One installation software. You also need to activate the mobile scenario sap.B1Mobile within the integration framework.
- The integration framework uses the B1i user to connect to SAP Business One, for example for authentication when using the mobile solution. You need to assign a B1i license to the user. This license is free but must be assigned in addition to the contracted license.
- Consult the relevant user guides on IOS and Android for more information on using the mobile apps.

## Employee Master Data and User Account

- Employee master data is used to define organizational hierarchies, teams, department and branches
- Employee record and user account can be linked, for ease of maintaining user records



The diagram illustrates the relationship between the 'Users - Setup' window and the 'Employee Master Data' window. In the 'Users - Setup' window, the 'User Name' field is set to 'George Profit'. In the 'Employee Master Data' window, the 'First Name' is 'George' and the 'Last Name' is 'Profit'. A yellow arrow points from the 'George Profit' entry in the 'Users - Setup' window to the 'Employee Master Data' window, indicating the link between the two records.

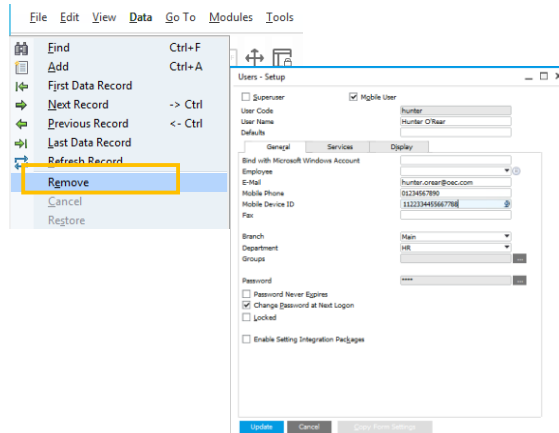
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- Employee master data is used to define organizational hierarchies, teams, department and branches. These relationships are used for data ownership authorizations.
- The employee record and the user account can be linked using the *User Code* in the employee record and the *Employee* name in the user account. This can make it easier to maintain and update user records.
- Many fields are common between the employee master data and the user account. When you add an employee master data record, the system will prompt you to automatically create a user account if one does not exist. Various fields from the employee record are copied over to the user account and the two records are linked.
- If a user account already exists, you can have common fields copied from the master data to the user account.
- When the records are linked, if you enter additional data in the user account, the system will copy the data over to the employee record, and vice versa.

## Removing an Account

- To delete a user account, open the user account and choose *Data > Remove*
- Remember to remove the license assignment prior to deleting the account
- The system will not let you create a new account later with the same user code



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- Over time it may be necessary to remove user accounts. To do this, select the user account then open the *Data* menu and choose *Remove*.
- Remember to remove the license assignment prior to removing the account to avoid misallocation or orphaning of licenses.
- Note that the system will not let you create a new account later with the same user code (the record is still kept in the database).

## Predefined Users

#	User Name	Department	Branch	User Code
1	AlertSvc	General	Main	AlertSvc
2	B1i	General	Main	B1i
3	Jayson Butler	General	Main	manager
4	Support	General	Main	Support
5	Workflow	General	Main	Workflow

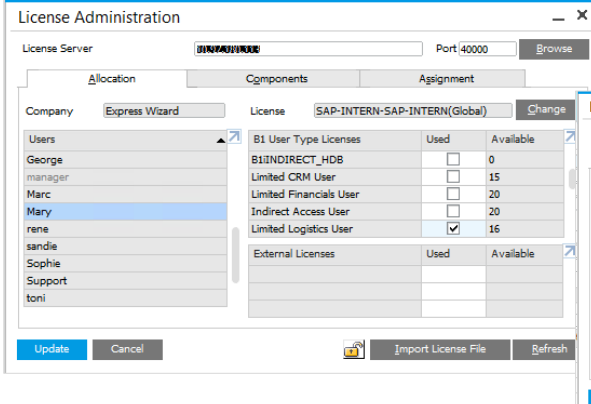
- At installation time, predefined user accounts are created and reserved:
  - Manager
  - B1i
  - Workflow
  - AlertSvc
  - Support

When SAP Business One is installed, some predefined user accounts are created and reserved:

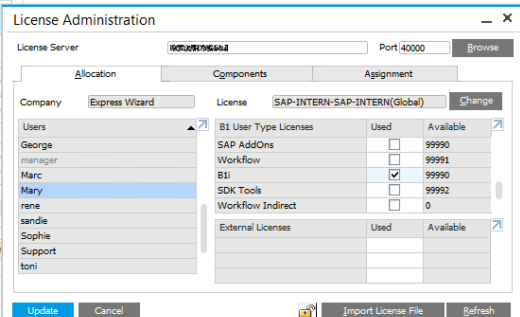
- The manager user is created when the company is first created.
- The B1i user is created when the integration framework of SAP Business One is selected for installation. This is the technical user account used internally by the integration framework to connect to SAP Business One.
- The Workflow user is created when the Workflow service is installed. The Workflow service allows companies to design and execute standard business processes consisting of tasks and business logic. The Workflow user is used to connect from the service to the company database.
- The AlertSvc user is automatically created at installation time. This internal technical user ensures that the alert service sends alert notifications to a user even if the user is not logged in to SAP Business One. See the related topic on *Alerts* for more details.
- The Support user is available when Remote Support Platform (RSP) is activated on the customer's server. It provides a way for a support consultant to log in and access a company's system to perform maintenance and support, without the need for a license.

## Assigning a License

**Administration → License → License Administration**



- Each user must be allocated a license
- Mobile users must in addition be assigned B1i license



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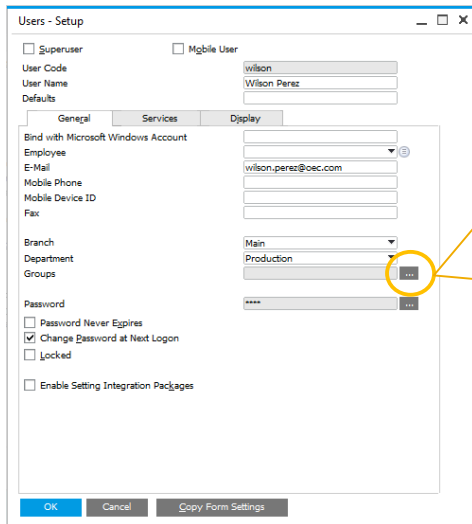
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- Each user must be allocated a license to use the system. To assign a license, select the user code then select the type of license from the available, purchased licenses. Each time a license is assigned to a user the number of available licenses is reduced.
- Mobile users also must be assigned a B1i license which is free, and which allows the use of the integration framework for mobile web apps.
- Notice that you can import the license file from this screen. The license file is sent to you by SAP and contains the licenses you have purchased for the customer.
- For more information on licensing, see the license guide.

# User Groups



## User Groups



Users - Setup

☐ Superuser ☐ Mobile User

User Code  
User Name Wilson Perez  
Defaults

General Services Display

Bind with Microsoft Windows Account  
Employee  
E-Mail wilson.perez@oec.com  
Mobile Phone  
Mobile Device ID  
Fax

Branch Main  
Department Production  
Groups

Password  
☐ Password Never Expires  
☒ Change Password at Next Logon  
☐ Locked  
☐ Enable Setting Integration Packages

OK Cancel Copy Form Settings

- In the user account, you can optionally assign the user to a *user group*
- User group is list of users with similar characteristics
- User groups operate on the concept that users with the same role require similar settings

In the user account you can optionally assign the user to a user group. Essentially a user group is a list of users who share common requirements, for example, form settings or general authorizations. The idea is to assign common settings at the group level instead of to each individual user.

User groups operate on the concept that employees in a company can be grouped according to their roles or functions they work with (for example, sales people, accountants, and managers). Generally, users with the same role require similar:

- General authorizations
- Alert notifications
- Form settings
- UI look-and-feel settings



## Creating User Groups

Administration → Setup → General → User Groups

Choose *Create Group* button

The screenshot shows the 'User Groups' window with the 'Create Group' button highlighted. The window includes fields for Name, Description, Group Type, Active From, and Active To. Below these are tabs for Group Type and Users. The Group Type tab is active, showing a list of group types: Authorization, Alerts, Form Settings, UI Configuration Templates, Cross All Types, and Authorization. The Users tab is also visible, showing a list of users with columns for User Code, User Name, Department, and Position.

Choose *Group Type* and add users by name

The screenshot shows the 'User Groups' window with the 'Group Type' dropdown menu open. The menu lists the following options: Authorization, Alerts, Form Settings, UI Configuration Templates, Cross All Types, and Authorization. The 'Add' button is highlighted. A yellow callout box points to the dropdown menu with the text: 'Before creating a user group you should identify users with similar roles and responsibilities so you choose the correct type:'. The callout box contains a list of group types: Authorization, Alerts, Form Settings, UI Configuration Templates, and Cross All Types.

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To create a new user group, open the menu shown in the slide and choose the *Create Group* button (or press **Ctrl +A** to switch to add mode).

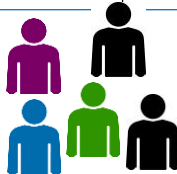
A user group can be of type Authorization, Alerts, Form Settings, UI Configuration Templates, or Cross All Types. Before you create a user group you should identify users with similar roles and requirements so you can create a group with the correct type:

- **Authorization.** For users who share the same general authorization requirements. For more information on authorization user groups, see the related course *General Authorizations*.
- **Alerts.** For users who need the same alert notifications. For more information on alerts, see the related course *Alerts*.
- **Form settings.** For users with common forms settings per document. Form settings for one user can quickly be copied to the users in a user group.
- **UI configuration templates.** For users with common UI look-and-feel requirements. For more information on UI configuration templates user groups, see the related course *UI Configuration Templates*.
- **Cross All Types.** For users who share common settings in more than one of the other group types. You then add users to the group by selecting from the list of users. You can optionally set a valid date range for the new group. For example, you can predefine a set of authorizations for a group and activate them at a later date.

## How User Group Types Work

User groups appear in related configuration windows according to the type:

Group Type	Window			
	General Authorizations	Alerts Management	Copy Form Settings	UI Configuration Template
Authorization	X			
Alerts		X		
Form Settings			X	
UI Configuration Templates				X
Cross All Types	X	X	X	X



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User groups appear in related configuration windows according to the type:

- Authorization groups appear in the General Authorizations window, allowing you to assign authorizations simultaneously to everyone in the user group.
- Alert groups appear in the Alerts Management window when you configure a new alert, allowing you to assign all the users in the group to receive alert notifications.
- Form settings groups appear in the Copy Form Settings window, allowing you to simultaneously copy form settings from a source user to all users in the group.
- UI Configuration templates groups appear in the UI Configuration Template setup window, allowing you to assign a UI template simultaneously to all the users in the group.
- Cross All Types groups appear in all four configuration windows. This allows you to assign the users in this group in any one of the configuration windows.

## Example: Form Settings User Group

To assign form settings with a user group:

- Create the user group with type Form Settings or Cross All Types and add the users
- Login as one of the users and set the form settings
- Choose the *Copy Form Settings* button from that user's account
- In the Copy Form Settings window, choose the Groups tab and select the predefined group

The image shows two SAP windows. The left window is 'Users - Setup' with the 'Display' tab selected. The 'Copy Form Settings' button at the bottom is circled in yellow. A yellow arrow points to the right window, 'Copy Form Settings', which has the 'Groups' tab selected. The 'Groups' tab shows a table with two predefined groups: 'Sales Form Settings' and 'Sales Group Overall'. The 'Sales Form Settings' group is selected, and its checkbox is checked. Below the table, the 'User Preferences', 'Message Preferences', and 'Tccltp Preview Preferences' checkboxes are all checked. The 'Copy' and 'Cancel' buttons are at the bottom.

#	Group Name	Description	
1	Sales Form Settings	Sales Form Settings	<input checked="" type="checkbox"/>
2	Sales Group Overall	Sales Group Overall	<input type="checkbox"/>

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To assign form settings with a user group:

- Create the user group with the type Form Settings or Cross All Types and add the users to the group
- Login as one of the users and set the form settings for the documents
- Choose the *Copy Form Settings* button from that user's account
- In the Copy Form Settings window, choose the Groups tab and select the predefined group. The group members will receive the same form settings.

To see how authorization user groups work, see the related course on *General Authorizations*.

To see how UI configuration templates user groups work, see the related course on *UI Configuration Templates*. To see how alerts user groups work, see the related course on *Alerts*.

# User Settings and Defaults



## User Settings (General Settings)

General Settings

BP Budget **Services** Display Font & Bkgd Path

At the Beginning of Each Session

☐ Perform Data Check

☐ Open Exchange Rates Table

☐ Display Recurring Postings on Execution

☐ Display Recurring Transactions on

☐ Send Alert for Activities Schedule

☒ Display Inbox When New Messag

☐ Open Window for Credit Vouch

☐ Open Postdated Checks Window

☒ Display Worklist When New Task

Update Messages (Min.)

Screen Locking Time (Min.)

Open Postdated Credit Vouchers Win

Alternative Keyboard Usage

☐ Use Numeric Keypad ENTER Key

☐ Use Numeric Keypad DOT Key

☐ Enable Document Operation

Internet Definitions

☐ Use Proxy Server

BP Budget Services **Display** Font & Bkgd Path Inventory Resource

Language English (United States)

Skin Style Fiori

Color Classic

Default Length UoM Metre

Default Weight UoM Gramme

Time Format 24h

Date Format DD/MM/YY

Date Separator -

Decimal Places (0..6)

Amounts 2

Prices 2

Rates 4

Quantities 3

Percent 2

Units 3

Decimals in Quan

Decimal Separato

Thousands Sep.

Font Tahome

Font Size 10

Background - Without -

Preview

AaBbYyZz - abcd

Image Display Centralized

Exchange Rate P

☐ Direct

☒ Indirect

☐ Enable sideb

☒ Search Prefere

☐ Enable Case

Default UI Template

Choose from List Preferences

☒ Enable SAP Business One Suggest

No. of Rows in Choose From List Unlimited

BP Budget Services **Font & Bkgd** Path Inventory Resources

- You can define default settings for login sessions, display, and font and background on the Services, Display, and Font & Bkgd tabs of the General Settings

In the General Settings you can define the default settings that will be applied to user accounts. These settings include actions at the start of each login session, display language, date and time formats, and fonts and backgrounds.

## User Settings (User Defaults)

Administration → Setup → General → User Defaults

- User Defaults** include display, date and time format, language and font, and print settings
- Defaults are assigned to users with similar requirements in these areas
- Note:** Print settings are selected *per document* and override similar per document settings in the *Print Preferences* window

- In the User Defaults screen, you can define a set of default settings and assign them to user accounts. You assign a code to the set of defaults, and then select the code in the user account.
- An example might be to set up common defaults for users who work in the same local department, or who work with the same warehouse.
- The settings include date and time formats, the display color, language and font, plus accounts used for cash and checking, default warehouse, and so on.
- On the Print tab you can define print actions on a *per document basis*. These include the number of copies and remarks for printing, as well as actions that are taken automatically when adding a document, such as an email or export to PDF. In the slide example, the options to automatically export and e-mail a sales quotation as a PDF are selected for that document. Note that similar per document settings can be made in the *Print Preferences* → *Per Document* window. These user defaults settings take priority over the setting in print preferences.

## User Settings (User Defaults) Cont.

User defaults also cover credit card settings . . .

. . . and the path to an attachments folder for the users

The 'User Defaults' window is shown with the 'Credit Cards' tab selected. It contains a table with columns: #, Credit Card, G/L Account, and Account Name. The data is as follows:

#	Credit Card	G/L Account	Account Name
1	American Expre	140120	American Express Settlement
2	Master Card		
3	Visa		

**Note:** The path to the parent attachment folder is defined in the General Settings. In the User Defaults window you can assign a sub-folder as the attachments folder

The 'User Defaults' window is shown with the 'Path' tab selected. The 'Attachments Folder' field is highlighted. A 'Browse For Folder' dialog is open, showing a tree view with folders: Attachments, Purchasing, Sales, and Warehouse. The 'Sales' folder is selected.

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User defaults also cover credit card G/L accounts, and allow you to set up separate attachment folders for different group of users.

The attachments folder is used when a user:

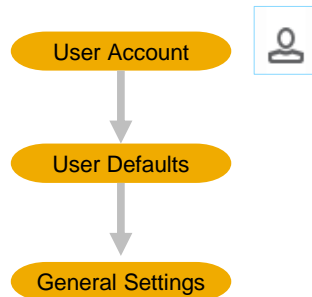
- Exports a document as a PDF
- Attaches a document to an email
- Adds an attachment to a document, activity, business partner or other form that has an *Attachments* tab.

The path to the company-wide attachments folder must first be defined in the General Settings (Path tab). Then you can define sub-folders of the main attachments folder and assign the path to the sub-folder for a set of users.

You should determine an appropriate schedule for backing up the attachments folders. You can schedule backup of the attachments folders using the Remote Support Platform (RSP) tool.

## User Defaults (User Account)

The image shows two overlapping screenshots of the 'Users - Setup' dialog box. The left screenshot shows the 'Services' tab, which includes options like 'Perform Data Check', 'Open Exchange Rates Table', and 'Display Recurring Postings on Escalation'. The right screenshot shows the 'Display' tab, which includes settings for 'Skin Style', 'Color', 'Language', 'Font', 'Font Size', and 'Background'. Both screenshots show the 'User Code' as 'Bill' and 'User Name' as 'Bill Levine'.



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Some of the default settings for users can be changed by the user for their own account.

Users can open their account using the My Personal Settings icon.

Not all settings are available in the user account, but when they are, these settings override the same settings defined in the user defaults or in the General Settings. Thus the narrowest settings take precedence over the wider settings.

A user can change settings in the General, Services and Display tabs of their account. One important setting that a user can control is the ability to use the enter key on a numeric key pad as a tab key so that the user can move between fields in a document for faster data entry. Note that this setting only applies to a keyboard that has a numeric key pad.



# Password Administration



## Password Policy

**Administration → Setup → General → Security → Password Administration**

- Password policy applies to all users and dictates the strength of password and how often it needs to be changed. The security level selected in this screen is applied to the system
- Low, medium, high and custom policy options
- Password example shown to user as template for creating a new password

**Default policy**

**Custom policy (example)**

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- Password administration is typically done by the super user.
- A default password policy is supplied to enforce password compliance. The default policy is available under the password administration function. Only super users have access to this function.
- The password policy applies to all users and dictates the required strength of the user password, the composition of characters, and how often it needs to be changed.
- You can select low, medium, high or enter custom settings for the password policy. The security level that is selected in this screen is applied to the system.
- The default password policy is low and only requires a 4 character minimum password length and the password never expires. The high password policy requires an 8 character minimum password length and forces a password change ever 30 days. You can set your own custom policy.
- Whichever policy is chosen, you can choose a password example that is shown to users when they create passwords and this acts as a template for the required password criteria.
- If single-sign on is in use throughout the company, the user still has the option to login using their SAP Business One credentials, so the password policy should be maintained.

## Setting a User's Password

Administration → Setup → General → Users

Users - Setup

☐ Superuser ☐ Mobile User

User Code: bill  
 User Name: Bill Levine  
 Defaults: sales

General Services Display

Bind with Microsoft Windows Account

Employee: Levine, Bill  
 E-Mail: bill.levine@opec.co.uk  
 Mobile Phone:  
 Mobile Device ID:  
 Fax:

Branch: Main  
 Department: Sales  
 Groups: Sales

Password: \*\*\*\*

☐ Password Never Expires  
☒ Change Password at Next Logon  
☐ Locked

☐ Enable Setting Integration Packages

Update Cancel Copy From Settings

- Password can be set by super user when account created
- Alternately user can create password at first logon (*Change Password at Next Logon* checkbox)
- Password must adhere to current password policy

Change Password

Your password has expired.  
 Choose a new password that complies with your company's password policy  
 The password must contain:  
 Minimum of 4 Characters in Length.

Password Example: abcd

Old Password:  
 New Password:  
 Confirm:

Update Cancel

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- The initial password for a user can be set by the super user when the account is first created, by selecting the ellipsis button to the right of the password field.
- Alternately, the super user can leave the password empty and select the checkbox option for the user to create a password when they first log on. In this case the user receives a prompt to create a password in accordance to the password policy. The user leaves the old password field empty, and simply enters and confirms the new password.

## Changing Own Password

**Administration → Setup → General → Security → Change Password**

Change Password

Choose a new password that complies with your company's password policy  
The password must contain:  
Minimum of 4 Characters in Length.

Password Example: abcd

Old Password: \*\*\*\*

New Password:

Confirm:

Update Cancel

- Users can change own password at any time using the change password function
- Change password function available to all users regardless of license or authorizations
- User must adhere to password policy
- All passwords are encrypted

- Users can change their password at any time by choosing the change password function. This function is available to all users, regardless of license or authorizations. The new password must adhere to the password policy.
- Note that in SAP Business One, all passwords are encrypted.

## Locked User Account

Users - Setup

☐ Superuser ☐ Mobile User

User Code: new00

User Name: New User

Defaults:

General Services Display

Bind with Microsoft Windows Account: ☐

Employee:

E-Mail:

Mobile Phone:

Mobile Device ID:

Fax:

Branch: Main

Department: General

Groups:

Password:

☐ Password Never Expires

☐ Change Password at Next Logon

☒ Locked

☐ Enable Setting Integration Packages

- Super user can lock and unlock user account
- User account can be locked to prevent access or temporarily disable an account
- Account will be automatically locked after a specified number of unsuccessful login attempts (as defined in the password policy)

- A user account can be locked to prevent access to SAP Business One or to temporarily disable an account. The super user can lock an account manually, and the account will be automatically locked after a specified number of unsuccessful login attempts by the user, if this is defined in the password policy. The default low password policy does not lock a user account.
- Only a super user can unlock a user account.

## Access Log

### Tools > Access Log

- Records each user logon, logoff, and password change
- Double-click row to see detailed log

Access Log

Date From  To

To view the access details of a user, double-click the relevant table row.

User Code	User Name	Superuser	Locked	Latest Logon	Latest Access Status	Latest Logoff	Last Password Change	No. of Failed Access Attempts
manager	Jayson Butler	Yes	No	01.11.17 14:54:41	Succeeded	01.11.17 14:54:43	23.07.17 20:56:24	0
maria	Maria Bridl	No	No		N/A		26.06.09	0
mary	Mary Haske	No	No		N/A		26.06.09	0
merlina	Merlina Francis	No	No		N/A		26.06.09	0
michael	Michael Spear	No	No	16.11.17 02:06:05	Succeeded		16.11.17 01:13:01	0
newvc	New User	No	No	16.11.17 01:53:57	Succeeded	16.11.17 02:04:34	16.11.17 01:53:34	0
sam	Sam Seidel	No	No	01.11.17 20:58:26	Succeeded	02.11.17 22:38:53	01.11.17 20:05:32	0
sophie	Sophie Klogg	Yes	No		N/A		25.04.07	0
sp	Starter Pack User	No	No		N/A		29.08.16 18:33:29 by me	0
timothy	Timothy Stevens	No	No		N/A		26.06.09	0

Access Log Details for michael

User Code	Client IP	Client Name	Date and Time	Reason	Reason Description	Windows User	Windows Session	Process
			16.11.17 02:06:05			21		SAP Busin
			16.11.17 01:13:01			21		SAP Busin

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- An audit log is maintained that records each user logon, logoff, and password change.
- This is especially useful for monitoring password changes and failed login attempts.
- To view the log, choose the *Tools* menu then choose *Access Log*.
- You can double-click a row to see details for a user. The client IP address is included in the details, allowing the administrator to track the source of an attempted login.

## Summary



- All users need an account and license. There are two types of user account:
  - A super user has by default *full* authorization to every function and needs a Professional license
  - Normal users have *no* authorization to any function and need general authorizations to each function, plus a license.
- Several predefined user accounts exist in a new company database and are reserved
- A user group is a list of users who share common requirements, for example, form settings, UI look-and-feel, general authorizations. User groups enable you to assign common settings at the group level instead of to each individual user
- You can define overall settings for users in the General Settings
- You can define User Defaults which can be assigned to a group or subset of users
- You can also define some settings in the user account itself, which override General Settings and User Defaults
- The password administration function allows a super user to set the strength of the password on a company-wide basis. Super users can lock an account to prevent access.
- The access log provides an audit trail of user logons and password changes

Here are some key points to take away from this session.

- All users need an account and license. There are two types of user account. If you check the Superuser checkbox when you create a user account, the user will have full authorization to every function in SAP Business One and this cannot be changed. This user needs a Professional license. If you do not check the Superuser checkbox, the user by default has *no authorizations* to any function and you need to grant general authorizations to each user plus a suitable license.
- Several predefined user accounts exist in a new company database and are reserved.
- A user group is a list of users who share common requirements, for example, form settings, UI look-and-feel, general authorizations. User groups enable you to assign common settings at the group level instead of to each individual user.
- You can define overall settings for users in the General Settings on the Services, Display and Font & Bkgd tabs.
- You can also define a set of *User Defaults* including printing options, credit cards, and an attachments folder, and assign these defaults to users with common requirements, roles and/or locations.
- There is also the option to define many of these settings at the user account level. Settings made at the user account level override settings in the user defaults or in the General Settings.
- The password administration function allows a super user to set the strength of the password using a password policy. There are three prebuilt password policies (low, medium and high) plus the ability to define a policy to your own requirement. Super users can change the password for a user account, or lock an account to prevent access.
- All users can change their own password. The new password must comply with the password policy and an example of the required password is shown to the user.
- The access log provides an audit trail of user logons and password changes

# System Setup and Administration: General Authorizations

SAP Business One Version 9.3



- Welcome to the General Authorizations topic.



## Objectives



### Objectives:

- Describe the process for manually assigning general authorizations to a user
- Define authorization user groups to efficiently assign a set of authorizations to multiple users
- Explain the difference between *authorizations* and *effective authorizations*
- Copy general authorizations from one user to other users

- On completion of this topic, you will be able to describe the process for manually assigning general authorizations to a user so that they can access functions and menus in SAP Business One.
- You will also learn how to define and use authorization user groups to efficiently assign a set of authorizations to multiple users.
- You will be able to explain the difference between authorizations and effective authorizations.
- Lastly you will learn some timesaving tips to copy a set of general authorizations from one user to other users.

## Business Example



DG Industries has 15 users in the sales department. These users need authorization to the **Sales – A/R menus** and other sales-related functions in SAP Business One.

In addition the sales manager needs access to sales reports and sales analysis dashboards.

**Option 1:** Set the required general authorizations for one sales user, then copy these authorizations to other sales users, including the sales manager. Then manually adjust the authorizations for the sales manager.

**Option 2:** Create a user group (type authorization). Set the required authorizations and assign all sales users to this group, including the sales manager. Manually adjust the authorizations for the sales manager.



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- DG Industries has 15 users in the sales department. These users need authorization to the Sales – A/R menus and functions in SAP Business One.
- The sales manager needs in addition access to sales reports and sales analysis dashboards. This is a very simple example of an authorization requirement; in real life the requirements would be much more complex.
- There are several ways to implement these authorizations in an optimized way:
  - **Option 1:** Set up one user with the required authorizations, then copy the set of authorizations to the other sales users including the manager. Manually fine tune the authorizations for the sales manager to add the additional authorizations needed for the role.
  - **Option 2:** Create a new authorization user group based on the default sales authorization group. Assign all users to this group including the manager, then manually fine tune the authorizations for the sales manager.
- In this course you will see how the two options work.

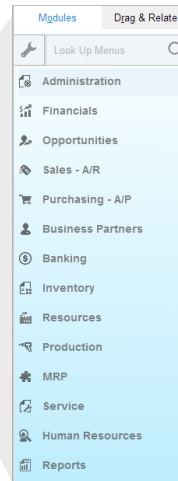
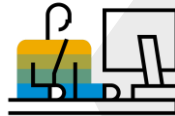
# Introduction to General Authorizations



## Accessing System Functionality

Each user who is not a super user needs to be assigned *both* a license and general authorization to menus and functions required for their role:

- **License** determines which functions the user is legally contracted to work with
- **General authorizations** permit the user to access the menu functions and objects required by the user's job role, within the scope of the assigned license type



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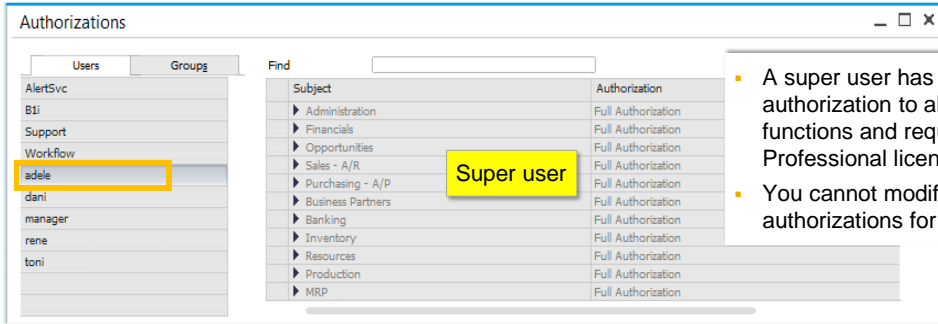
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- When a user account is created for a normal user (not a super user), the user can logon to SAP Business One but cannot access any functionality.
- The user requires both a license and general authorizations to the menus and functions they need to work with:
  - The type of license assigned to a user determines which functions and documents the user is legally contracted to use. If the user tries to access a function that is outside the scope of the license, the user will get an error generated from the license server.
  - The general authorizations granted to a user permit the user to access or update the SAP Business One functions and objects within the scope of the assigned license type. These authorizations allow a company to limit access to menus and functions based on the requirements of a user's job role. If the user does not have authorization to a menu, the user will get an authorization error when he or she tries to access the menu.
- Note that assigning a general authorization to a user for a function that is not permitted by the assigned license type will not grant the user permission to access that function.

## Authorizations for Super Users

**Administration → System Initialization → Authorizations → General Authorizations**

- Authorizations window shows list of authorizations granted to a selected user
- Authorizations are listed by subject area and generally match the main menu



The screenshot shows the 'Authorizations' window in SAP. On the left, under the 'Users' tab, a list of users is displayed: AlertSvc, Bti, Support, Workflow, **adele**, dani, manager, rene, and toni. The user 'adele' is highlighted with a yellow box. On the right, a table lists subject areas and their corresponding authorization levels. A yellow box labeled 'Super user' points to the 'Sales - A/R' row, which shows 'Full Authorization'.

Subject	Authorization
Administration	Full Authorization
Financials	Full Authorization
Opportunities	Full Authorization
Sales - A/R	Full Authorization
Purchasing - A/P	Full Authorization
Business Partners	Full Authorization
Banking	Full Authorization
Inventory	Full Authorization
Resources	Full Authorization
Production	Full Authorization
MRP	Full Authorization

- A super user has full authorization to all menus and functions and requires a Professional license
- You cannot modify the authorizations for a super user

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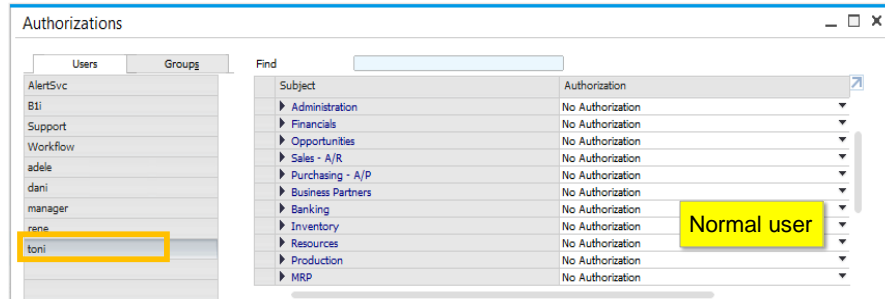
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- The general authorizations window shows the list of authorizations granted to a selected user. The user account is selected in the left part of the window under the *Users* tab.
- Authorizations are listed by subject area and are expandable and generally match the main menu.
- A user defined as super user has full authorization to all SAP Business One menus and functions and you cannot modify the authorizations for this user since the selection is grayed out. In the example, the selected user is a super user and has full authorization to all menus and functions. For this reason a super user must be assigned a Professional license.

## Authorizations for Regular Users

### Administration → System Initialization → Authorizations → General Authorizations

- A newly created normal user initially has *no authorizations* to menus and functions
- Authorizations must be set for the user so they can perform their job
- Authorizations should be granted in accordance with the license purchased for the user

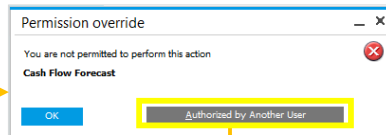
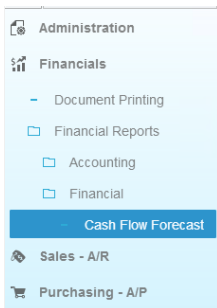


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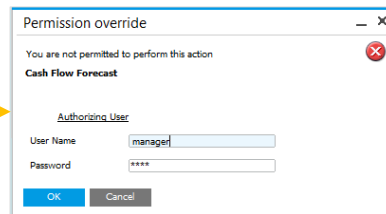
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- By default, all newly created users who are not super users have **no authorizations** to any SAP Business One menus or functions. General Authorizations must be set for each user so they can perform their job. In the example, the selected user is a normal user and initially has no authorization to menus and functions.
- Note: authorizations should be granted in accordance with the license purchased for the user. The license comparison chart is available for download from the PartnerEdge portal and shows the access rights for each license type.

## Temporary Authorization



- If user does not have authorization to a function a popup message will appear
- A super user can temporarily allow one time access



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- Users are not allowed to access a form, report or document for which they have no authorization.
- In the example, a CRM user wants to view the cash flow forecast. However they do not have authorization to access this function. When they try to access the menu item a popup message appears notifying the user that they do not have authorization. A super user can temporarily allow the user one time access to the function.
- If the user needs permanent access to the function then the general authorization should be assigned.

# Setting Authorizations Manually



Option 1 of the business scenario manually assigns authorizations to one sample user then copies the authorizations to other users.



## Setting Authorizations Manually

**Administration → System Initialization → Authorizations → General Authorizations**

1. Select the user account
2. For each subject area, select *Full Authorization* or *Read-Only* from the dropdown list
3. Only super users or authorized users can set authorizations for users
4. For a full explanation of each authorization, refer to the how-to guide

The screenshot shows the 'Authorizations' window in SAP. The 'Users' tab is active, and the user 'toni' is selected. The 'Subject' list on the left includes 'Sales - A/R', which is highlighted. The 'Authorization' column for 'Sales - A/R' is set to 'Read-Only'. The 'Effective Authorization' column shows 'No Authorization'. The window also includes a 'Find' field, a 'Copy Authorizations' button, and a table for 'Max. Discount' settings.

Subject	Authorization	Effective Authorization
General	Various Authorizations	Various Authorizations
Customization Tools	No Authorization	No Authorization
Administration	No Authorization	No Authorization
Financials	No Authorization	No Authorization
Opportunities	No Authorization	No Authorization
Sales - A/R	Read-Only	No Authorization
Purchasing - A/P	No Authorization	No Authorization
Business Partners	No Authorization	No Authorization
Banking	No Authorization	No Authorization
Inventory	No Authorization	No Authorization
Resources	No Authorization	No Authorization
Production	No Authorization	No Authorization
MRP	No Authorization	No Authorization
Service	No Authorization	No Authorization
Human Resources	No Authorization	No Authorization
Project Management	No Authorization	No Authorization
Reports	No Authorization	No Authorization

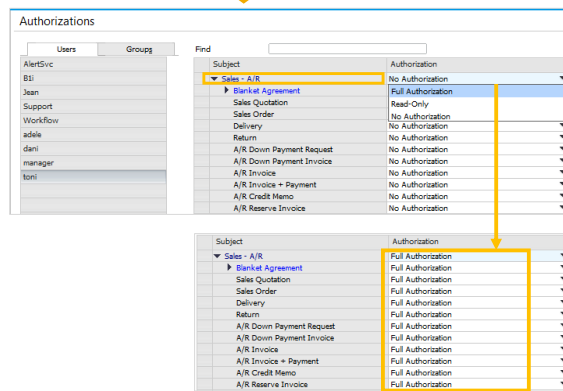
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- To set an authorization manually, open the authorizations window and on the Users tab select the user. Then open the dropdown list for each menu or function and select *Full Authorization* or *Read-Only*.
  - If you select Full Authorization then the user is able to display and modify data for that function. For example, if this authorization is selected for the Sales Quotation function, a user would be able to view, create and update sales quotations.
  - If you select Read-Only then the user can view, but not change any data.
- Only super users or authorized users can set authorizations for users.
- For a full explanation of each general authorization, refer to the how-to guide *How to Define Authorizations*.

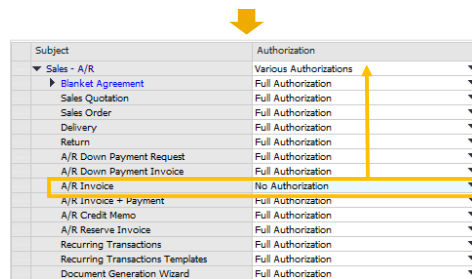
## Setting Authorizations Manually (cont.)

When you set an authorization to the top node for a subject, the same authorization trickles down to all sub-level menus



Users	Group	Find	Subject	Authorization
AlertSvc			▼ Sales - A/R	No Authorization
BI			▶ Blanket Agreement	Full Authorization
Jeap			Sales Quotation	Read-Only
Support			Sales Order	No Authorization
Workflow			Delivery	No Authorization
adale			Return	No Authorization
dani			A/R Down Payment Request	No Authorization
manager			A/R Down Payment Invoice	No Authorization
loni			A/R Invoice	No Authorization
			A/R Invoice + Payment	No Authorization
			A/R Credit Memo	No Authorization
			A/R Reserve Invoice	No Authorization

If you assign or change the authorization at a sub-level, the top level node will change to *Various Authorizations*



Subject	Authorization
▼ Sales - A/R	Various Authorizations
▶ Blanket Agreement	Full Authorization
Sales Quotation	Full Authorization
Sales Order	Full Authorization
Delivery	Full Authorization
Return	Full Authorization
A/R Down Payment Request	Full Authorization
A/R Down Payment Invoice	Full Authorization
A/R Invoice	No Authorization
A/R Invoice + Payment	Full Authorization
A/R Credit Memo	Full Authorization
A/R Reserve Invoice	Full Authorization
Recurring Transactions	Full Authorization
Recurring Transactions Templates	Full Authorization
Document Generation Wizard	Full Authorization

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- When you assign an authorization for a module, such as *Sales – A/R*, the same authorization trickles down to all the sub-menus within the module.
- If you assign or change an authorization at a lower level of the module, the top level authorization will change to *Various Authorizations* to indicate there are authorizations set lower down in the tree.

## Setting Authorizations Manually (cont.)

The screenshot shows the SAP 'Authorizations' window. On the left, a list of users is displayed, with 'Kelly' selected. The main area shows a table of authorization objects and their current status. Below this, a configuration dialog is open, allowing the user to set specific permissions for the selected user.

Subject	Authorization	Eff...
Financials	Full Authorization	Full Au
Opportunities	Full Authorization	Full Au
Sales - A/R	Various Authorizations	VarAut
Purchasing - A/P	Various Authorizations	VarAut
Business Partners	Various Authorizations	VarAut
Banking	Various Authorizations	VarAut
Inventory	Full Authorization	Full Au
Resources	No Authorization	No Au
Production	Full Authorization	Full Au
MRP	Full Authorization	Full Au
Service	Full Authorization	Full Au
Human Resources	Full Authorization	Full Au
Project Management	No Authorization	No Au
Reports	Full Authorization	Full Au
Cockpit & Widget	No Authorization	No Au
Analytics	No Authorization	No Au
Excel Report and Interactive Analysis Designer	No Authorization	No Au
Excel Reports	No Authorization	No Au
Semantic Layer	No Authorization	No Au
Pervasive Analytics Designer	No Authorization	No Au
Content	No Authorization	No Au
Fiori-Style Cockpit Management	No Authorization	No Au
User Authorization	No Authorization	No Au

Max. Discount - Sales	15.00	Expand	Collapse
Max. Discount - Purchase	0.00		
Max. Discount - General	0.00		
<input type="checkbox"/> Max. Cash Amount for Incoming Payments			

Buttons: Update, Cancel, Apply Auth. to Back End, Full Authorization, Read Only, No Authorization

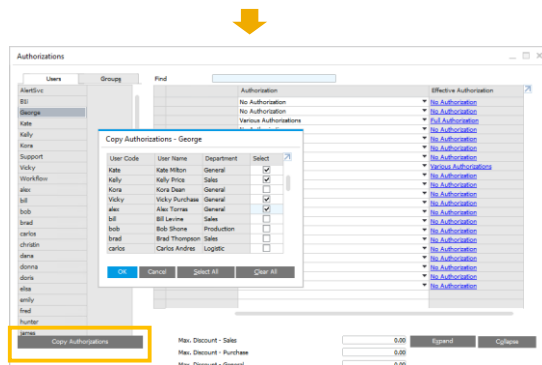
For each user you can:

- Limit the discount they can offer on sales, purchasing and/or other windows
- Set the maximum cash amount on incoming payments

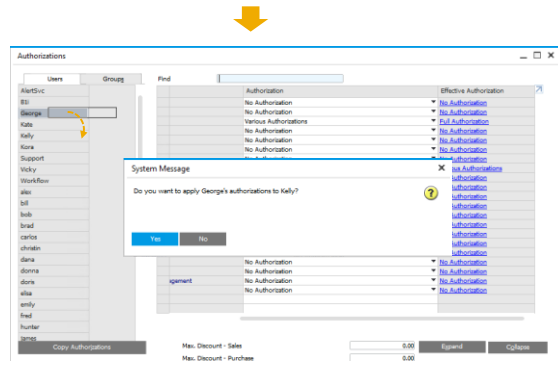
- In the authorizations window you can also set the maximum discount a user can offer in sales, purchasing or other forms such as business partner master data and payment terms. If the discount percentage is zero, the user will not be allowed to enter a discount at all. In the example shown here the user is allowed to enter discounts up to 15% in sales documents.
- You can also permit the amount of cash a user is allowed to enter in an incoming payment (Payment Means window, Cash tab). When you select the checkbox you will be able to enter the cash amount.

## Copy Authorizations

To copy a set of authorizations to *multiple* users, select the source user, then choose the *Copy Authorizations* button, then select the target users



You can also copy authorizations to a single user using drag and drop



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- To save time, you can copy the authorizations from one user to other users.
- In the authorizations window, select the user then choose the *Copy Authorizations* button. A list of users will appear and you can select multiple target users for the copy.
- You can also copy the authorizations from a selected user to another user by holding your mouse over the source user name until a black rectangle appears, then dragging and dropping the rectangle over the target user. The system asks you to confirm you want to copy the authorizations.

# Authorization User Groups



Option 2 of the business scenario assigns authorizations to users at the authorization user group level.

## Timesaver – Authorization User Groups

**Administration > Setup > General > User Groups**

User Groups

Name: Sales  
Description: Sales  
Group Type: Authorization  
Active From: To:  
Cockpit Template:

Group Type: Authorization

Group Name:

1. Finance
2. Sales
3. Purchase
4. Inventory

Users:

#	User Code	User Name	Department	Branch	From
1	Kora	Kora Dean	General	Main	
2	Vicky	Vicky Purchas	General	Main	
3	bill	Bill Levine	Sales	Main	
4					

OK Cancel Create Group

- Authorization user groups are predefined sets of authorizations that can be assigned to multiple users
- The system provides four default authorization user groups – finance, sales, purchasing and inventory – which contain the authorizations generally required for these roles
- You can use these default user groups out-of-the-box, edit them, copy them to new user groups, or create new user groups from scratch

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- Setting authorizations on a per user basis can be time consuming. If a company has several users who perform the same role, or work with the same set of functions, it is more efficient to use an *authorization user group*.
- Authorization user groups are predefined sets of authorizations that can be assigned to multiple users.
- In a new system there are four default groups defined by SAP which contain the authorizations generally required for finance, sales, purchasing and inventory-related roles.
- You can use these default user groups out-of-the-box, edit them, copy them to create new groups, or create your own user groups from scratch.

## Creating a New Authorization User Group

**Administration > Setup > General > User Groups**

Choose *Create Group* button

The screenshot shows the 'User Groups' SAP screen. The 'Create Group' button at the bottom is highlighted with a yellow box. The 'Group Type' dropdown is set to 'Authorization'.

Select Group Type as *Authorization* or *Cross All Types*

The screenshot shows the 'User Groups' SAP screen with the 'Group Type' dropdown menu open. The 'Authorization' option is highlighted in yellow. Other options visible include 'Alerts', 'Form Settings', 'List Configuration Templates', and 'Cross All Types'.

Options:

- Set active date range for group
- Select a cockpit template (SAP HANA only)
- Set active date range per user

The screenshot shows the 'User Groups' SAP screen. The 'Active From' field is set to '01.01.18' and the 'Cockpit Template' dropdown is set to 'Sales'. Both fields are highlighted with yellow boxes.

**Note:** User Groups can also be created for other types of use. For information on these groups see the *Users and User Defaults* course.

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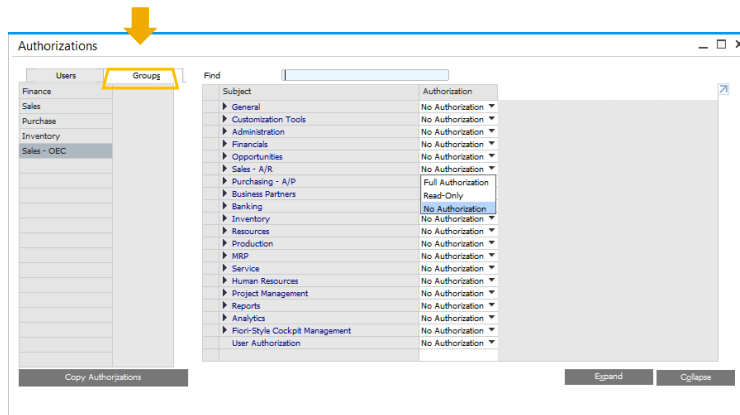
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- To create a new authorization group, choose the *Create Group* button and enter a name and description.
- Select the Group Type as *Authorization* or *Cross All Types*.
- You have the option to set an active date when you create a new group. This allows you to predefine the authorizations then roll them out at a later date. You can also set an active date range for each individual user you add to the group.
- For SAP HANA you can associate a predefined, published cockpit template which will be assigned to all the group members. SAP provides Sales, Finance, Purchase and Inventory templates out-of-the-box, but you can also add your own cockpit templates. For information on cockpit templates, see the *Getting Started* topic in the Overview program.

**Note:** User Groups can also be created for other types of use (for example, alerts and form settings). For more information on these groups see the *Users and User Groups* course in this program.

## Setting Authorizations at the Group Level

- User groups of type Authorization and Cross All Types are visible in the authorizations window (Groups tab)
- Set the authorizations for the group as you would for a user



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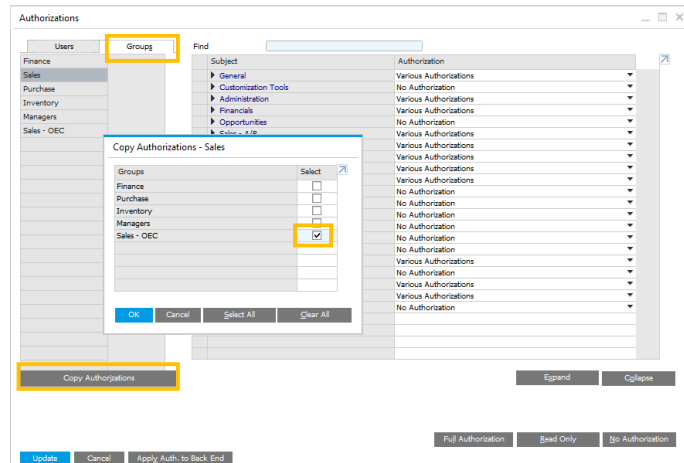
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- User groups of type Authorization and Cross All Types are visible in the authorizations window.
- To set authorizations for a user group, select the *Groups* tab in the authorizations window, then select the predefined group. You can then set the authorizations as you would manually for a user.
- The authorizations will instantly apply to all users in the group.



## Copying Authorizations to a New Authorization Group

- Instead of setting the authorizations manually for a new group, you can copy authorizations from one of the predefined groups
- Then you can manually adjust for the company's unique requirements



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- Instead of setting the authorizations manually for a new user group, you can copy the authorizations from one of the predefined user groups provided out-of-the-box (Sales, Purchase, Finance and Inventory). This gives you a good starting point for setting authorizations. For example, if you create a new group for sales managers, you can select the default sales user group as the basis.
- To do this, select the *Copy Authorizations* button. Then select the target user group.
- You can then adjust the authorizations in the new group, as required.

## Assigning Group Authorizations to a User Account

- You can also assign a user to a group from the user account
- In the user account select the ellipsis button for the *Groups* field, and select a group from the list
- When you assign a user to a group, the user is added to the group list and instantly receives the general authorizations set for the group

**Note:** If you change an authorization in a group *after* you have assigned users to the group, those users will all receive the changed authorization.

From the user account:

The screenshot shows the 'Users - Setup' dialog box with the 'Groups' field highlighted. An arrow points from the text 'From the user account:' to the ellipsis button next to the 'Groups' field. Another arrow points from the 'Groups' field to the 'User Groups' list in the 'User Groups' dialog box. The 'User Groups' list shows a table with columns '#', 'Select', and 'Group Name'. The table contains the following data:

#	Select	Group Name
1	<input type="checkbox"/>	Finance
2	<input type="checkbox"/>	Sales
3	<input type="checkbox"/>	Purchase
4	<input type="checkbox"/>	Inventory
5	<input type="checkbox"/>	Managers
6	<input checked="" type="checkbox"/>	Sales - OEC

The 'Sales - OEC' group is selected. The 'User Groups' dialog box also shows a 'Group Type' dropdown set to 'Authorization' and a 'Main' dropdown set to 'Main'.

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- In addition to assigning users to a group by adding them in the group, you can assign a user to a group from the user account. In the user account select the ellipsis button to the right of the *Groups* field, and select a group from the list shown.
- When you assign a user to a group, the user is added to the group list and instantly receives the general authorizations set for the group.
- **Note:** If you change an authorization in a group *after* you have assigned users to the group, those users will all receive the changed authorization.
- You can select more than one group if applicable for the user's role and if the user has the appropriate license. You can also manually change the authorizations for a user even if they belong to a user group.

# Managing Authorizations



## Reviewing Set Authorizations

To review authorizations for a user or a user group, select the user or user group name then choose the export to Excel icon



### Export User Group Authorizations

Functional Areas	Finance	Sales	Purchase	Inv
Sales - A/R	Various Authorization	Various Authorization	Various Authorization	Various Authorization
Blanket Agreement	No Authorization	No Authorization	No Authorization	No
Blanket Agreement Status	No Authorization	No Authorization	No Authorization	No
Sales Quotation	No Authorization	Full Authorization	No Authorization	No
Sales Order	Read-Only	Full Authorization	No Authorization	Read-Only
Delivery	Read-Only	Read-Only	No Authorization	Full
Return Request	No Authorization	No Authorization	No Authorization	No
A/R Down Payment Request	Read-Only	Read-Only	No Authorization	Full
A/R Down Payment Invoice	Full Authorization	Full Authorization	No Authorization	No
A/R Invoice	Full Authorization	Read-Only	No Authorization	No
A/R Invoice + Payment	No Authorization	No Authorization	No Authorization	No
A/R Credit Memo	Full Authorization	Read-Only	No Authorization	No
A/R Reserve Invoice	No Authorization	No Authorization	No Authorization	No
Recurring Transactions	No Authorization	No Authorization	No Authorization	No
Recurring Transactions Templates	No Authorization	No Authorization	No Authorization	No
Document Generation Wizard	No Authorization	No Authorization	No Authorization	No
Available-to-Promise Check	No Authorization	No Authorization	No Authorization	No
Delivery Schedule Management	No Authorization	No Authorization	No Authorization	No
Fixed Qty/Date	No Authorization	No Authorization	No Authorization	No
Document Draft	Full Authorization	Full Authorization	Full Authorization	Full Authorization

### Export Individual User Authorizations

Functional Areas	Gerome	Kate	Kelly	Vicky
Sales - A/R	No Authorization	Various Authorization	Various Authorization	Full Authorization
Blanket Agreement	No Authorization	No Authorization	No Authorization	Full Authorization
Blanket Agreement Status	No Authorization	No Authorization	No Authorization	Full Authorization
Sales Quotation	No Authorization	Full Authorization	Full Authorization	Full Authorization
Sales Order	No Authorization	Full Authorization	Full Authorization	Full Authorization
Delivery	No Authorization	Full Authorization	Full Authorization	Full Authorization
Return Request	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Down Payment Request	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Down Payment Invoice	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Invoice	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Invoice + Payment	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Credit Memo	No Authorization	Full Authorization	Full Authorization	Full Authorization
A/R Reserve Invoice	No Authorization	Full Authorization	Full Authorization	Full Authorization
Recurring Transactions	No Authorization	No Authorization	No Authorization	Full Authorization
Recurring Transactions Templates	No Authorization	No Authorization	No Authorization	Full Authorization
Document Generation Wizard	No Authorization	Full Authorization	Full Authorization	Full Authorization
Available-to-Promise Check	No Authorization	No Authorization	No Authorization	Full Authorization
Delivery Schedule Management	No Authorization	No Authorization	No Authorization	Full Authorization
Fixed Qty/Date	No Authorization	No Authorization	No Authorization	Full Authorization
Document Draft	No Authorization	Full Authorization	Full Authorization	Full Authorization

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- From the authorizations window you can export the set authorizations for a user or user group to Microsoft Excel.
- To export the authorizations for one or more individual users, select the Users tab in the authorizations window then choose the *Excel* icon on the icon bar, and select one or more users.
- To export the authorizations for one or more user groups, select the Groups tab in the general authorizations window then choose the *Excel* icon and select the groups.
- Tip:** During an implementation project, a report or spreadsheet of the assigned authorizations should be saved with the project documentation.

## Effective Authorizations for a User

*Effective Authorizations* column shows the combined authorizations granted to a user – both manually and from an authorization user group.

The screenshot shows the SAP 'Authorizations' window with the 'Users' tab selected. The user 'toni' is selected in the 'Users' list. The main table displays authorizations for the selected user. The 'Effective Authorization' column is highlighted with a yellow border, showing the combined result of manual and group authorizations.

Subject	Authorization	Effective Authorization
▼ Sales - A/R	No Authorization	Various Authorizations
▶ Blanket Agreement	No Authorization	No Authorization
Sales Quotation	No Authorization	Full Authorization
Sales Order	No Authorization	Full Authorization
Delivery	No Authorization	Read-Only
Return	No Authorization	Read-Only
A/R Down Payment Request	No Authorization	Full Authorization
A/R Down Payment Invoice	No Authorization	Full Authorization
A/R Invoice	No Authorization	Read-Only
A/R Invoice + Payment	No Authorization	No Authorization
A/R Credit Memo	No Authorization	Read-Only
A/R Reserve Invoice	No Authorization	No Authorization
Recurring Transactions	No Authorization	No Authorization

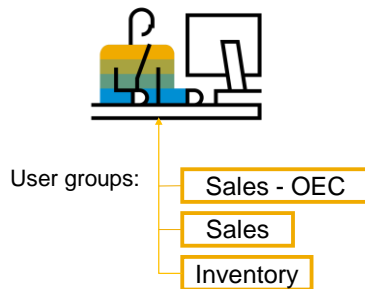
**Authorizations granted to user manually**      **Combined authorizations granted to user**

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- An additional column is available in the authorizations window. This column only shows when you select a user on the *Users* tab.
- To view this column, click the arrow in the top-right part of the matrix, or adjust the column widths manually to bring the additional column into view.
- The *Effective Authorization* column shows the combined authorizations granted to a user – from an authorization user group and from any manual authorizations. In case of conflicting authorizations, the *highest* (most generous) authorization will prevail.
- In the example, the selected user has not been granted any authorizations directly; however the user has effective authorizations from an authorization user group.

## Multiple Authorization Groups



- If user account is assigned to multiple authorization groups the user could potentially receive conflicting permissions for a specific function (Read-Only, No Authorization and/or Full Authorization)

Result:

- The system will grant the most generous authorization

- The system does not prevent a user from being assigned to more than one authorization group. In the user account you can see the authorization groups assigned to a user.
- If a user is assigned to multiple authorization groups then potentially there could be conflicting authorizations for a specific function.
- For example, the user could potentially receive all three permissions to the Sales – A/R menu (Read-Only, No Authorization and/or Full Authorization).
- In this case the system will grant the *highest* (most generous authorization) and this will appear as the effective authorization.

## Change Log

### Tools > Change Log...

Authorizations

Users Group Find

Finance Subject Authorization  
Sales General Various Authorizations  
Purchase Authorization Tools No Authorization  
Inventory  
Sales - DEC  
Managers

Change Log...

#	Instance	Object Code	Updated	Updated by	Created	Created By
1	1	5	25.04.07	Jayson Butler	25.04.07	Jayson Butler
2	2	5	23.07.17	Jayson Butler	24.11.17	Jayson Butler

OK Cancel Show Differences

- Changes to authorizations for a user or user group are tracked in change log
- Each row is a snapshot of what was changed
- Differences window consolidates two selected rows

Differences

#	Date	Changed Field	Previous Value	New Value	User Name
2	23.07.17	Max. Discount	0.00	100.00	
2	23.07.17	At first logon change password	Do not change password		
2	23.07.17	Max. Sales Discount	0.00	100.00	
2	23.07.17	Max. Purchase Discount	0.00	100.00	
2	23.07.17	Administration	Various Authorizations	Full Authorization	
2	23.07.17	Document Settings	No Authorization	Full Authorization	
2	23.07.17	System Initialization	No Authorization	Full Authorization	
2	23.07.17	Setup	No Authorization	Full Authorization	
2	23.07.17	Exchange Rates	No Authorization	Full Authorization	
2	23.07.17	Utilities	No Authorization	Full Authorization	
2	23.07.17	Data Import	No Authorization	Full Authorization	
2	23.07.17	Company Details	No Authorization	Full Authorization	
2	23.07.17	General Settings	No Authorization	Full Authorization	
2	23.07.17	Special Prices for	No Authorization	Full Authorization	
2	23.07.17	Document Number	No Authorization	Full Authorization	
2	23.07.17	Financials	No Authorization	Full Authorization	

OK Cancel

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- Changes to authorizations for a user or user group are tracked in the *Change Log*. This provides an audit trail.
- The *Change Log* is available from the Tools menu when the authorizations window is open and when a user or user group is selected in this window.
- Each row in the change log represents a snapshot of what was changed, and you can see the full details by double-clicking the row.
- You can also select two rows and show the differences. The differences window shows a consolidation of the two selected rows, including the change date, the changed field, the previous value and the new value, as well as the name of the person changing the authorization.

## Additional Authorization Creator

**Administration → System Initialization → Authorizations → General Authorizations → Additional Authorization Creator**

- In this window, developers can add new authorizations to the authorization table to control access to new menus and forms
- Use *System Information* to find the form ID:

Users	Group	Find	Subject	Authorization	Effective Authorization
AlertSvc			General	Full Authorization	Full Authorization
allen			Customization Tools	Full Authorization	Full Authorization
Bill			Administration	Full Authorization	Full Authorization
bill			Financials	Full Authorization	Full Authorization
bob			Opportunities	Full Authorization	Full Authorization
brad			Sales - A/R	Various Authorizations	Various Authorizations
carlos			Purchasing - A/P	Various Authorizations	Various Authorizations
christen			Business Partners	Various Authorizations	Various Authorizations
dana			Banking	Full Authorization	Full Authorization
donna			Inventory	Full Authorization	Full Authorization
doris			Resources	No Authorization	No Authorization
emily			Production	Full Authorization	Full Authorization
elisa			MRP	Full Authorization	Full Authorization
fred			Service	Full Authorization	Full Authorization
George			Human Resources	Full Authorization	Full Authorization
hunter			Project Management	No Authorization	No Authorization
james			Reports	Full Authorization	Full Authorization
john			Cockpit & Widget	No Authorization	No Authorization
juan			Analytics	No Authorization	No Authorization
julia			Group Policy Cockpit Management	No Authorization	No Authorization
Kate			User Authorization	No Authorization	No Authorization
			Company Cars	No Authorization	No Authorization

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- In the *Additional Authorization Creator* window, developers can add user authorizations to the authorizations table. A user authorization controls access to a new menu item or user form. You can set the possible authorizations as Full/None or Full/Read/None.
- You enter an Authorization Id and Name, and the FormID. To find the form ID, open the form and choose *View > System information* on the Top Menu. The form ID shows in the status bar when you hover over the form.
- The new authorization appears in the authorizations window, under the subject area User Authorization.

For more information on user-defined tables and user-defined objects, see the *User-Defined Tables* topic in this course.



# Authorizations for Reports



## Sales and Purchasing Reports

Option to authorize or restrict access to all sales and purchasing reports, to the Open Items List, or to individual document types in the Open Items List

The screenshot shows the 'Authorizations' dialog box in SAP. The 'Users' tab is selected, and a list of users is shown on the left. The 'Subject' list on the right is expanded to show 'Reports' and 'Sales and Purchasing'. The 'Authorization' column shows 'Full Authorization' for most items, and the 'Effective Authorization' column shows 'Full Authorization' for all items. The 'Copy Authorizations' button is highlighted. Below the list, there are input fields for 'Max. Discount - Sales', 'Max. Discount - Purchases', and 'Max. Discount - General', all set to '100.00'. There is also a checkbox for 'Mgt. Cash Amount for Incoming Payments' and buttons for 'Full Authorization', 'Read Only', and 'No Authorization'.

Subject	Authorization	Effective Authorization
Reports	Full Authorization	Full Authorization
Sales and Purchasing	Full Authorization	Full Authorization
Open Items List	Full Authorization	Full Authorization
Sales Quotations	Full Authorization	Full Authorization
Sales Orders	Full Authorization	Full Authorization
Deliveries	Full Authorization	Full Authorization
Return Requests	Full Authorization	Full Authorization
Returns	Full Authorization	Full Authorization
A/R Down Payments - Unpaid	Full Authorization	Full Authorization
A/R Down Payments - Not Yet Fully	Full Authorization	Full Authorization
A/R Invoices	Full Authorization	Full Authorization
A/R Credit Memos	No Authorization	No Authorization
A/R Reserve Invoices - Unpaid	Full Authorization	Full Authorization
A/R Reserve Invoices - Not Yet Delivered	Full Authorization	Full Authorization
Purchase Quotations	No Authorization	No Authorization
Purchase Requests	No Authorization	No Authorization
Purchase Orders	Full Authorization	Full Authorization
Goods Receipt POs	Full Authorization	Full Authorization
Goods Return Requests	No Authorization	No Authorization
Goods Return	Full Authorization	Full Authorization
A/P Down Payments - Unpaid	Full Authorization	Full Authorization

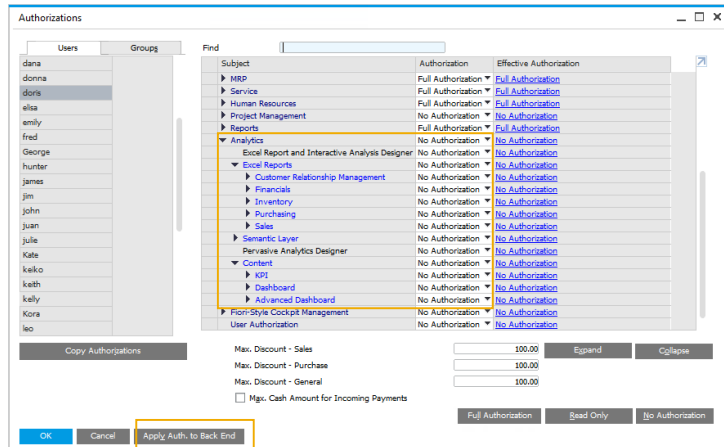
Sales and purchasing reports contain sensitive information and a company might want to restrict access to these reports.

In the Reports subject area you can restrict access to all sales and purchasing reports, or to the Open Items list report, or to individual document types in the Open Items list . If you select No Authorization, the user cannot open these reports.

## Analytics Reports

Ability to authorize or restrict access to

- Excel Report and Interactive Designer
- Interactive analysis reports
- Semantic layer views
- KPIs, cockpits and dashboards



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You can authorize or restrict access to SAP HANA analytical reports, including the ability to:

- Launch the Excel Report and Interactive Analysis Designer tool
- View a specific Excel interactive analysis report (by functional area or at the specific report level)
- View the semantic layer
- Access information in KPIs, cockpits and dashboards

**Note:** In the authorizations window you can see a button *Apply Auth. To Back End*.

This button is only relevant for companies that use Microsoft SQL Server for production and SAP HANA for analytics (B1A). Authorizations are required for users to access the semantic layer (these authorizations are listed under the Analytics subject area). After the authorizations are updated, they are saved to the SAP Business One production database, but they also must be synchronized with the underlying SAP HANA analytics server. For consistency, SAP recommends that the SAP HANA analytics server is stopped when making these changes, then after the changes are saved, to restart the analytics server and use this button to synchronize the changes. In the current release, the synchronization is not automatic and must be manually done by the administrator pressing this button.

## Summary 1 of 2



Key points from this topic:

- Each user who is not a super user needs to be assigned *both* a license and general authorization to menus and functions required for their role:
  - A super user has by default *full authorization* to every function and needs a Professional license
  - Regular users have *no authorization* to any function and you need to grant general authorizations to each user according to the license
- The authorizations window shows the list of general authorizations in the same general order as SAP Business One menus and functions
- Authorizations are also required to run reports, and for analytics
- To set an authorization manually, select the user then open the dropdown list for each menu or function and select *Full Authorization* or *Read-Only*.
  - If you select Full Authorization the user can display and modify data for that function. For example, view, create and update sales quotations
  - If you select Read-Only the user can view, but not change any data
- To save time, you can copy the authorizations from one user to other users
- Changes to authorizations are recorded in the Change Log, for audit purposes

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- Here are some key points to take away from this session.
  - Each user who is not a super user needs to be assigned *both* a license and general authorization to menus and functions required for their role
  - A super user has by default full authorization to every function in SAP Business One. Super users need a Professional license.
  - A regular user by default has *no authorizations* to any function and you need to grant general authorizations to each user according to the license purchased for the user.
  - The authorizations window shows the list of general authorizations in the same general order as SAP Business One menus and functions. Authorizations are also required for access to reports and analytics.
  - To set an authorization manually, select the user and open the dropdown list for each menu or function and select full or read-only authorization:
    - If you select Full Authorization the user can display and modify data for that function. For example, a user would be able to view, create and update sales quotations
    - If you select Read-Only then the user can view, but not change any data
  - You can also copy authorizations from one user to multiple users, or to a single user by dragging and dropping.
  - Note that any change to authorizations is recorded in the Change Log, for audit purposes.

## Summary 2 of 2



Key points from this topic:

- If a company has several users who perform the same role, or work with the same set of functions, it is more efficient to use an *authorization user group*
- Authorization user groups are predefined sets of authorizations that can be assigned to multiple users. In a new system there are four default groups which contain the authorizations generally required for finance, sales, purchasing and inventory-related roles
- User groups appear in the authorizations window and you can set the authorizations as you would manually for a user
- When you create a new group, you can copy authorizations from another user group
- The *Effective Authorization* column shows the combined authorizations granted to a user – from an authorization user group and from any manual authorizations
- If multiple, conflicting authorizations are granted to a user, the highest (most generous) authorization will apply
- You can export assigned authorizations to Microsoft Excel to review, or for project documentation

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- Here are some key points to take away from this session.
  - Manually setting authorizations for each user is time consuming. If a company has several users who perform the same role, or work with the same set of functions, it is more efficient to use an *authorization user group*
  - Authorization user groups are predefined sets of authorizations that can be assigned to multiple users. In a new system there are four default groups which contain the authorizations generally required for finance, sales, purchasing and inventory-related roles
  - These user groups appear in the authorizations window and you can set the authorizations as you would manually for a single user
  - When you create a new group, you can copy authorizations from another user group
  - The *Effective Authorization* column shows the combined authorizations granted to a user – from an authorization user group and from any manual authorizations.
  - If multiple, conflicting authorizations are granted to a user from a combination of manual assignment and user group, the highest (most generous) authorization will apply
  - You can export assigned authorizations to Microsoft Excel to review, or for project documentation

# System Setup and Administration: Data Ownership Authorizations

SAP Business One Version 9.3



- In this topic you will learn about data ownership authorizations which are used to protect access to individual marketing documents stored in the company database.

## Objectives



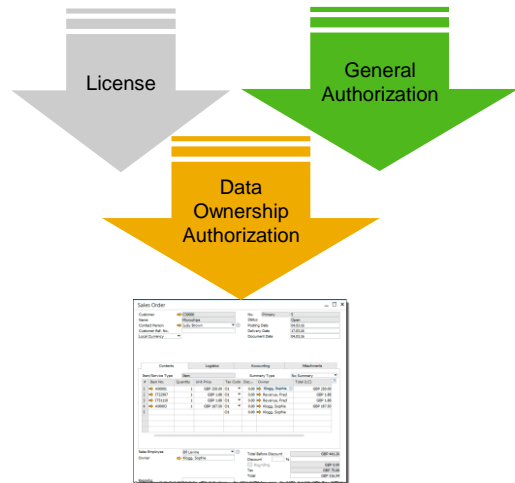
### Objectives:

- Describe the purpose of data ownership authorizations
- Explain how the different data ownership methods work and how the owner of a document is assigned according to each method
- Permit user access to marketing documents and business partner master data using data ownership relationships

- On completion of this topic, you will be able to:
  - Describe the purpose of data ownership authorizations
  - Explain how the different data ownership methods work and how the owner of a document is assigned according to each method
  - Permit user access to marketing documents and business partner master data using data ownership relationships

## Data Ownership Concept

- General authorizations and license permit a user to access objects and documents, including documents created by other users
- Many companies want to restrict access on a more granular, need-to-know basis
- When data ownership is enabled, access to other users' documents is restricted and access must be granted using data ownership authorizations:
  - Data ownership authorizations are granted through a user's relationship with the **owner** of a document
  - Relationships are defined using **employee master data**
- If a document has no owner, any user can access it
- Super users are *not restricted* by data ownership and can access all documents regardless of owner



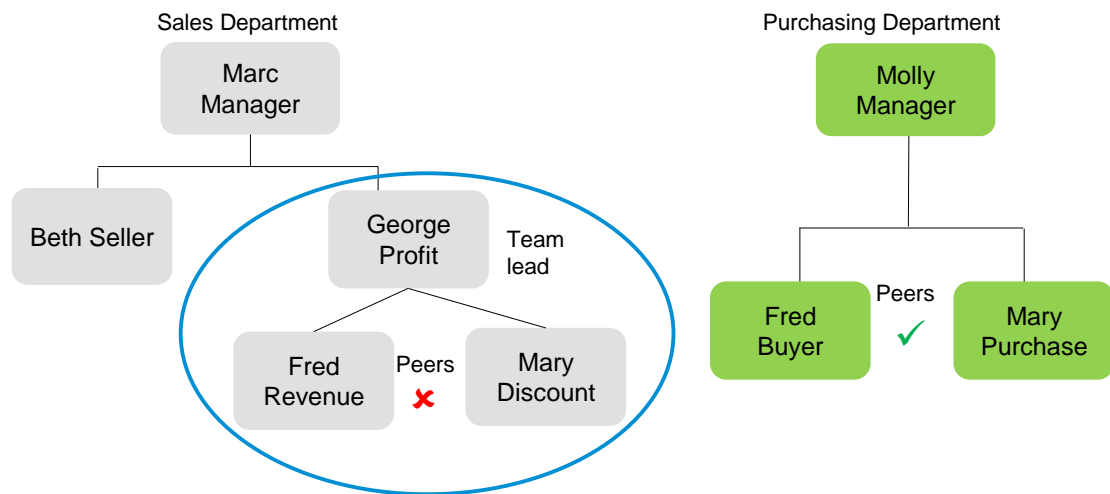
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- General authorizations and a license permit a user to access objects and all documents for the object.
- All created marketing documents are stored in the SAP Business One database, meaning that any user with the appropriate general authorization and license can access documents created by other users.
- This is not always desirable. Many companies want to restrict access on a more granular, need-to-know basis.
- Data ownership is not enabled in the system by default. But when you enable data ownership, access to other users' documents is restricted. Access to a document must be granted using data ownership authorizations:
  - Data ownership authorizations are different to general authorizations. Data ownership authorizations are granted through a user's relationship with the *owner* of a document, and these relationships are defined using employee master data. Therefore owners and users who need access must have an employee record
  - If a document has *no owner* then data ownership rules are ignored and any user can access the document.
- Note that super users are *not restricted* by data ownership. Super users can access all documents regardless of owner.



## Data Ownership Requirements Can Be Varied



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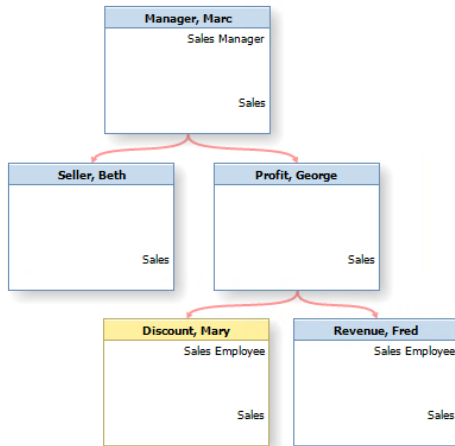
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- Who should be able to view and even update documents created by another user? These requirements will vary from company to company, and data ownership provides a flexible mechanism to address these requirements, based on employee relationships. Let's look at two very different examples from within the same company:
  - A sales department requires that sales opportunities, quotations and sales orders should not be visible outside the sales department. In addition there is a need to restrict access *within* the sales department. In the slide example, Fred Revenue and Mary Discount are peers but they each want exclusive control over their own customers. Documents belonging to their customers or leads should not be accessible to peers. Only the manager of the sales team, George Profit, needs visibility to documents owned by Fred and Mary.
  - In the same company, the purchasing department is very small and unlike the sales department, the purchasing documents and business partner information are shared within the team in order to support vendors and manage vendor negotiations. However, purchasing documents should not be visible to users outside the purchasing team.



## Employee Master Data

### Human Resources > Employee Master Data



In the employee record you can designate an employee's manager, department, branch and set as a member of a team

Team	Team Role
Sales team 1	Member

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- Employee master data is at the heart of data ownership authorizations. To be assigned as the owner of a document or master data record, a user must have an employee record. All users who need permission to access other user's documents need an employee record also.
- You can use employee master data to model the organization of a company. In the master data, you can specify information about an employee, including the employee's manager, department, branch, and membership of any teams within the organization. Note that the peer relationship is assumed if two or more employees have the same manager.
- In the sample master data for the sales manager George Profit we can see the name of his manager, his department, and any teams that he belongs to.

# Data Ownership Management Methods



In this section we discuss the data ownership management methods available in SAP Business One.

## Data Ownership Management Methods

The owner of a document is assigned when the document is created and depends on which method the company has chosen for data ownership:

- Business partner only
- Document only
- Business partner and document
- Branch\*

Only one method can be selected for the company



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- The owner of a document is assigned when the document is created, and depends on the data ownership method that a company has chosen.
- There are three methods to consider – business partner only, document only, or a combination of both. Only one method can be selected for the company.
- We will look at these methods in more detail.
- **\*Note:** if the multiple branches functionality is enabled in the Company Details screen, there is a fourth option to manage data ownership by *branch*. With this option, a user is not given authorizations to specific documents; instead, authorization to access documents or business partner data is determined by the user's branch assignment. The branch method is not covered in this course.

## Owner Assignment – Business Partner Only Method

Owner is assigned from **master data owner** (business partner master data contains an *owner* field)  
This method also restricts access to the master data

- Owner is set by user who creates or updates master data
- This owner will be assigned in all documents for the business partner
- This method additionally restricts access to business partner master data in choose from lists, reports and while browsing records
- If no owner is selected in the master data, data ownership rules are not enforced for the business partner (option to enforce selection of owner in master data)

The image contains two screenshots from the SAP system. The left screenshot is the 'Business Partner Master Data' form. It shows various fields for a business partner, including 'Code', 'Name', 'Foreign Name', 'Group', 'Currency', 'Federal Tax ID', and 'Owner'. The 'Owner' field is highlighted with a yellow box and contains the value 'Klogg, Sophie'. The right screenshot is a 'Sales Order' form. It shows fields for 'Customer', 'Name', 'Contact Person', 'Customer Ref. No.', 'BP Currency', and 'Document owner'. The 'Document owner' field is highlighted with a yellow box and contains the value 'Klogg, Sophie'. An arrow points from the 'Owner' field in the first screenshot to the 'Document owner' field in the second screenshot, indicating that the owner is automatically assigned to the document.

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- If the **business partner only** method is selected for a company, the business partner master data contains an *owner* field. The owner is set by the user who creates or updates the master data record. This owner will be then automatically assigned in *all documents* created for the business partner. Thus the documents inherit the owner from the master data.
- Users can only access the business partner master data and documents for that business partner if they have a defined relationship with the *owner of the business partner master data*. This method additionally restricts access to business partner master data when a user browses through records, or runs reports, or in choose from lists. The system will skip records if the user is not authorized by relationship with the business partner owner.
- If *no owner* is selected in the master data, data ownership rules are *not enforced*, and any user can access the master data and documents for the business partner.
- There is an option to enforce the selection of an owner when a user creates the business partner record. The default setting is *not* to enforce an owner, which provides some flexibility if a company wants to apply data ownership to customers but not to vendors. In this case an owner can be selected in customer records but left empty in vendor records.
- Note:** The system will block removal of an employee record if the employee is set as the owner in business partner master data.

## Owner Assignment – Document Only Method

Owner is assigned in each document when it is created, according to a set of rules

Note: Business partner master data is not restricted.

Owner field in each document is assigned when document is created as follows:

If...	And	Result	Example: customer is Microchips
Document creator does not have an employee record		No owner is assigned	<div>Sales Employee <input type="text" value="Bill Levine"/></div> <div>Owner <input type="text"/></div>
Document creator has an employee record	A sales employee or buyer exists in business partner master data with a linked employee record	Owner is the sales employee or buyer from master data	<div>Sales Employee <input type="text" value="Bill Levine"/></div> <div>Owner <input type="text" value="Levine, Bill"/></div>
	No sales employee or buyer exists in business partner master data	Owner is the creator of the document	<div>Sales Employee <input type="text" value="Bill Levine"/></div> <div>Owner <input type="text" value="Butler, Jayson"/></div>
	A sales employee or buyer exists in business partner master data but does not have an employee record		

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If the **document only** method is selected, the owner is assigned in each document, when the document is created, according to a set of rules. With this method, business partner information cannot be restricted and the business partner master data has *no owner* field.

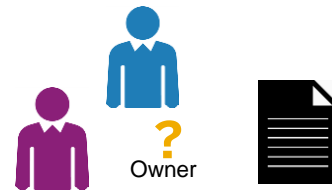
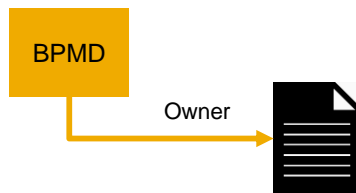
Instead the owner field in each document is assigned by the system according to a series of rules:

- If the creator of the document does *not* have an *employee record*, an owner is *not assigned* by the system. If it has no owner, a document is *not protected* by data ownership. However, the owner can be manually selected by the document creator.
- If the creator has an *employee record*, and a *sales employee or buyer* is recorded in the business partner master data, and the sales employee or buyer has an employee record that is linked to their user account, the system assigns the sales employee or buyer as the owner of the document.
- If the creator has an *employee record*, and no *sales employee or buyer* is recorded in the business partner master data, then the system assigns the creator as the owner of the document.
- If the creator has an *employee record*, and a *sales employee or buyer* is recorded in the master data, but the sales employee or buyer does not have an *employee record*, then the system assigns the document creator as the owner in the document.

## Owner Assignment – Business Partner and Document Method

Owner assignment depends on whether there is an **owner for the master data**

- If the business partner *has an owner* in the master data, data ownership works according to the **business partner only** method
- The owner name from the master data will be automatically assigned to *all documents* for the business partner.
- If the business partner *does not have an owner* in the master data, data ownership works according to the **document only** method
- The owner name in a document will be assigned according to the rules for the **document only** strategy



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- The third method **business partner and document** is really a hybrid of the other two methods. The business partner master data has an owner field and this method allows a company to restrict access to both documents and business partner master data.
  - When a business partner has an owner in the master data, data ownership works according to the **business partner only** method. The owner name from the master data will be automatically assigned to *all documents* for the business partner. Permissions to documents and master data are granted based on a user's relationship with the master data owner.
  - When the business partner has *no owner* in the master data, the owner in a document is assigned according to the rules for the **document only** method. Permissions to documents are granted based on a user's relationship with the document owner (see previous slide). Be aware that this is different to the business partner only method, in which data ownership does not apply at all if the business partner has no owner.



## Owner and Sales Employee/Buyer Fields

- Sales Employee or Buyer is assigned to document from business partner master data
- If document only method is used, sales employee or buyer will be assigned as document owner if sales employee/buyer has an employee record linked to their user account

The image displays three SAP screenshots illustrating the assignment of a sales employee or buyer to a document:

- Business Partner Master Data:** Shows the 'Contact Persons' tab for customer 'C30000'. The 'Sales Employee' field is set to 'Bill Levine'.
- Sales Order:** Shows the 'Sales Order' header with 'Customer Name' as 'Microchips' and 'Contact Person' as 'Judy Brown'. The 'Sales Employee' field is also set to 'Bill Levine'.
- Users - Setup:** Shows the 'Users - Setup' window for user 'Bill Levine'. The 'Employee' field is set to 'Levine, Bill', which is linked to the 'Sales Employee' field in the other two screenshots.

Arrows indicate the flow of data from the Business Partner Master Data to the Sales Order and then to the Users - Setup window.

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- In addition to the owner field, a sales or purchasing document has a sales employee or buyer field. The sales employee or buyer for a sales or purchasing document is always assigned from the business partner master data. Note that the names of the sales employees and buyers are maintained in the Sales Employees/Buyers setup window.
- If the **document only** method is used, a sales employee or buyer will be assigned as document owner if the sales employee or buyer has an employee record linked to their user account.

## Choosing a Data Ownership Method

If...	And....	Best fit
Exclusive owner can be designated for a business partner	Other users who work with the business partner have a defined relationship with the owner	By business partner
Exclusive owner cannot be designated for a business partner		By document
Mix of both		By business partner and by document



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- The data ownership method for a company might be influenced by how the company works with its business partners. For example:
  - If there is a person who has sole responsibility for a business partner then that person can be designated the exclusive owner of the business partner in the master data. If all other users who need access to the business partner and documents have one of the defined relationships to the owner, then the **business partner only** method can be chosen. Obviously the selection of the business partner owner is important to making this method work.
  - If there is no single owner for a business partner because multiple users manage the business partner relationship, making it hard to specify an owner, then the **document only method** can be chosen. The business partner will not have an owner. A document owner will be assigned according to the rules and any user who needs access to documents for the business partner must have one of the defined relationships with the document owner.
  - If the company has a mix of the above scenarios, the **business partner and document** method can be chosen. If some business partners have an exclusive owner, but some business partners do not, then this is an optimal method.

## Enabling Data Ownership in the System

### Administration > System Initialization > General Settings (BP tab)

The screenshot shows a configuration window with a yellow border. At the top, there is a checked checkbox labeled 'Enable Data Ownership'. Below this, the text 'Manage Data Ownership By' is followed by a dropdown menu. The dropdown menu is open, showing three options: 'Document Only', 'Business Partner Only' (which is highlighted), and 'Business Partner and Document'. At the bottom of the window, there is another checked checkbox labeled 'Allow BP Without an Owner'.

- Enable and select data ownership method
- Method can be instantly changed at any time from this window
- Additional checkbox for Business Partner only method - *Allow BP Without an Owner*:
  - If checked (default), the system will allow master data with no owner
  - If unchecked, the system will force the user to select an owner in master data

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- Data ownership authorization is enabled in the *General Settings* on the BP tab. Once you enable data ownership, access restrictions are immediately enforced. Normal users have *no access* to other users' documents until they are given permissions.
- When you enable data ownership you select the method:
  - Document only
  - Business partner only
  - Business partner and document
- Note that the method can be instantly changed at any time from this window. If you do change the method, you may need to set the permissions for the new method.
- When the *Business Partner Only* method is selected, a further checkbox appears that allows business partners without an owner. If you uncheck this checkbox, the system will force the user to select an owner when they create new master data records for customers and vendors. If a business partner has no owner, data ownership rules will not apply to the business partner or to documents for the business partner.
- If you have enabled multiple branches in the Company Details screen, you will see a fourth option for managing data ownership – Branch. This should not be confused with the branch relationship in data ownership. If multiple branches is enabled and you select data ownership by branch, then user access to marketing documents, business partners, and reports is authorized through branch assignment. For example, a user is only able to access a business partner if both the user and the business partner are assigned to the correct branch. The branch data ownership method is not covered in this course.

# Setting Data Ownership Permissions



- The next part of this topic looks at the process for setting data ownership permissions.

## Data Ownership Permissions - Concept

**Administration → System Initialization → Authorizations → Data Ownership → Data Ownership Authorizations**

- Data ownership authorizations window shows, for a selected employee, a matrix of predefined relationships: Peer, Manager, Subordinate, etc.
- You can assign *Full* or *Read Only* permissions. The default is None (no access)
- In the example, the user Marc Manager will be assigned full permission to A/R invoice documents owned by his subordinates
- If user receives overlapping authorizations, the most generous takes precedence

Employees	Document	Peer	Manager	Subordinate	Department	Branch	Team	Company
George Profit								
Marc Manager	A/R Invoice	None	None	None ▼	None	None	None	None
Beth Seller				Full				
Fred Revenue				Read Only				
Mary Discount				None				

Note that the *Document* column varies according to the data ownership method.

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- The data ownership authorizations window shows a list of all users who have employee records together with a matrix of predefined relationships. Note that the *Document* column varies according to the data ownership method.
- To assign an authorization, select the employee then select an authorization for the relationship that the employee has with the document owner/business partner owner. Possible authorizations are: full (read and update), read only, or none. The default is no access (none).
- Once set, the authorization applies to *all* documents in the future that meet the relationship.
- In the example the user Marc Manager is about to be granted full access to A/R invoice documents owned by his subordinates. Marc will have access to all future A/R invoices created by people who report to him.
- It is possible to assign authorizations that overlap. For example, Marc could also be assigned Read Only access to A/R invoices for the Department relationship. Since Marc's subordinates can also be in the same department, this might mean that Marc has both full access and read only access to the same documents. In this case the most generous authorization takes precedence, for example, full instead of read-only, or read only instead of none.

## Set Data Ownership Permissions - *Business Partner Only*

- If the business partner only method is in use, the **Document** column shows only two entries – business partner and purchase request document
- Authorizations are assigned to each user on the business partner row, by selecting their relationship to the *owner of the master data*
- Purchase request document is not associated with a business partner, so you must set permission based on user's relationship to owner of this document

Employees	Document	Peer	Manager	Subordinate	Department	Branch	Team	Company
George Profit	Business Partner	None ▼	None ▼	Full ▼	Read Only ▼	None ▼	None ▼	None ▼
Marc Manager	Purchase Request	None ▼	None ▼	Full ▼	None ▼	None ▼	None ▼	None ▼
Beth Seller								
Fred Revenue								
Mary Discount								

George Profit has:

- **Full access** to documents and master data for business partners owned by subordinates
- **Read only access** to documents and master data for business partners owned by people in the same department
- **Full access** to purchase requests owned by subordinates

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- If the method is **business partner only**, the *Document* column shows only two entries – business partner and purchase request. The purchase request document is included because it is the only document not associated with a business partner, therefore you must set authorizations specifically for this document type.
- On the business partner row, you assign permissions for each user according to their *relationship* with the *owner of the business partner master data*:
  - If *read only* authorization is granted for a relationship, and *if* the user has the required relationship to the owner, then the user can view the business partner master data in choose from lists, can view all documents for the business partner, and can view the business partner data and documents in various reports, for example, the Open Items List or Aging Reports.
  - If *full* authorization is granted, the user can in addition create and edit documents for the business partner, and update the master data.
  - Once a user is authorized, the user now has access to all business partner records and all documents where they have a relationship to the business partner owner.
- On the purchase request row, you assign permissions to each user by selecting their *relationship* to the *owner of the purchase request document*.
- In the example, George Profit is a sales manager and has:
  - Full access to documents and master data for business partners owned by the employees who report to him (subordinates)
  - Read only access to documents and master data for business partners owned by an employee in the same department
  - No access to documents and master data owned by his manager, his peers, branch or team
  - Full access to purchase request documents owned by subordinates, but no access to purchase requests owned by other employees.

## Set Data Ownership Permissions - *Document Only*

- If the document only method is in use, the **Document** column shows a full list of marketing documents
- Authorizations are assigned to each user *for each document type* by selecting their relationship to *the owner of the document*
- This method can permit access to one document type but not to another, even if both have the same owner

Employees	Document	Peer	Manager	Subordinate	Department	Branch	Team	Company
George Profit	Sales Order	None ▼	None ▼	Full ▼	Read Only ▼	None ▼	None ▼	None ▼
Marc Manager	A/R Invoice	None ▼	None	Full	Read Only	None	None	None
Beth Seller	A/R Credit Memo	None ▼	None	None	None	None	None	None
Fred Revenue	A/P Invoice	None ▼	None	None	None	None	None	None
Mary Discount								
...	...							

George Profit has:

- **Full access** to sales orders and A/R invoices owned by employees who report to him
- **Read only access** to sales orders and A/R invoices owned by people in the same department

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- If the **document only** method is chosen, the *Document* column shows a full list of marketing document types. You assign authorizations to *each* selected user for *each* document type by selecting Full or Read Only or None (default) according to the user's *relationship* to the *owner* of the document. You make these selections for each document type.
- Being able to set permissions at the document type level enables a company to permit access to one document type but not to another. For example, you can permit access to sales orders but not to A/R invoices, even if both documents have the same owner.
- In the example, George Profit is a sales manager and has:
  - Full access to sales orders and A/R invoices owned by all employees who report to him (subordinates)
  - Read only access to sales orders and A/R invoices owned by any employees in the same department
  - No access to sales orders or A/R invoices owned by his peers, his manager, his branch or team.
- The full list of document types is not shown in this example.

## Set Ownership Permissions - *Business Partner and Document*

- If the combined method is in use, the **Document** column shows a row for the business partner and a row for each marketing document including the purchase request
- Authorizations are assigned to each user on the business partner row and on each document row
- If the master data has an owner the authorizations on the business partner row apply. If there is no owner in the master data then the document type authorizations apply

Employees	Document	Peer	Manager	Subordinate	Department	Branch	Team	Company
George Profit	Business Partner	None ▼	None ▼	Read Only ▼	None ▼	None ▼	None ▼	None ▼
Marc Manager	Sales Order	None ▼	None	Full	Read Only	None	None	None
Beth Seller	A/R Invoice	None	None	Full	Read Only	None	None	None
Fred Revenue	A/R Credit Memo	None	None	None	None	None	None	None

- If business partner master data has an owner, George Profit has **Read Only access** to all documents and master data for business partners owned by a subordinate
- If business partner master data has no owner, George Profit has **Full access** to Sales Orders and A/R Invoices owned by a subordinate and **Read Only access** to documents owned by others in the same department

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- If the combined **business partner and document** method is chosen, the Document column shows a business partner row plus a row for each marketing document type, including the Purchase Request document:
  - On the business partner row, assign authorization to a user by selecting Full or Read Only or None (default) according to their *relationship* to the *owner of the master data*. If the business partner master data has an owner, the authorizations assigned on this row apply.
  - On the document rows, you assign authorization to a user by selecting Full or Read Only or None (default) according to the user's *relationship* to the *owner of the document*. If the business partner master data does *not* have an owner, the authorizations assigned on these rows apply.
- In this example the user George Profit has different authorizations depending if the master data contains an owner:
  - If there is an owner in the master data, George Profit has read only access to both documents and master data for business partners owned by subordinates
  - If there is no owner in the master data, George profit has full access to sales orders and A/R invoices owned by subordinates, and read only access to sales orders and A/R invoices owned by other people in the same department.



## Data Ownership at the Company Level

- If a selection of full or read only is made in the *Company* column, this effectively grants the user access to all documents regardless of owner, thus canceling out data ownership authorizations
- An example of when this authorization might be used is for the company auditor who might need read access to documents and who has no defined relationship to the owners.

Employees	Document	Peer	Manager	Subordinate	Department	Branch	Team	Company
George Profit	Business Partner	None	None	None	None	None	None	Read Only
Amy Auditor	Sales Order	None	None	None	None	None	None	Read Only
Beth Seller	A/R Invoice	None	None	None	None	None	None	Read Only
Fred Revenue	A/R Credit Memo	None	None	None	None	None	None	Read Only
Mary Discount	A/P Invoice	None	None	Amy Auditor has <b>Read only access</b> to all documents and business partners, regardless of owner				Read Only
...	...							

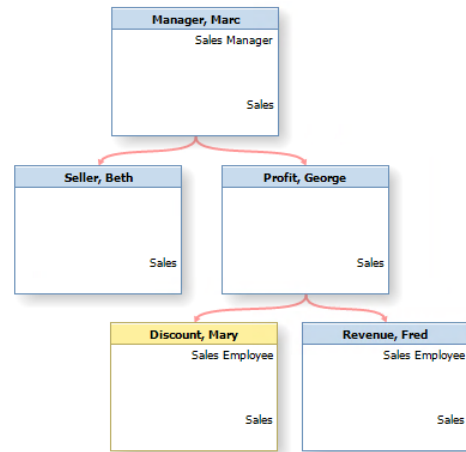
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- If a selection of full or read only is made in the *Company* column for a user, this effectively grants the user full or read-only access to all documents regardless of owner, thus canceling out data ownership authorizations.
- An example of when this authorization might be used is for the company auditor who might need to access documents but does not have a defined relationship to the owners. You can simply grant this access to this one employee.
- The company relationship is available for all three methods.

## Summary – Data Ownership Permissions

- Once data ownership is enabled, a document that has an owner can *only* be accessed by the owner, a super user, or other users authorized by relationship to the owner
- For the **business partner only method**, the owner is assigned in the master data and inherited by documents. There is an option to force selection of an owner in the master data
- For the **document only method**, the owner is assigned in each individual document according to a set of rules
- To permit access to a document, select read-only or full access for each user for a relationship to the owner
- Relationships are: peer, manager, subordinate, department, branch, team. Authorization at the company level gives a user access to all business partners and documents (Business Partner only method) or all documents of a selected type (Document only method)
- All users need an employee master record



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- Once data ownership is enabled, a document *that has an owner* can only be accessed by the owner, a super user, or other users authorized by relationship to the owner
- For the **business partner only** method, the owner is assigned in the business partner master data and is inherited by all documents created for the business partner. There is an option to force the user to select an owner in the master data. Once permission is given by way of relationship to the business partner owner, a user can access all documents for that business partner. The exception is the purchase request document which has no business partner and therefore permissions must be granted to this document type.
- For the **document only** method, the owner is assigned to each individual document when it is created, according to a set of rules, and the owner can be different in documents for the same business partner.
- To permit access to a document, select read-only or full access for each user according to their relationship with the owner. The possible relationships are peer, manager, subordinate, department, branch and team. The company relationship gives a user read or full access to all business partners and documents (Business Partner only method) or to all documents for a selected document type (Document only method).
- Relationships are defined using employee master data, therefore all users, including owners and users who need access, must have an employee master record.

# Sharing Options



- This section of the topic looks at options for overriding certain documents and reports from data ownership rules.

## Data Ownership on Reports

- Data ownership affects content of reports, Drag&Relate, and browsing through documents
- The system will skip documents for which the employee has no data ownership relationship authorization

The image shows two SAP screenshots. The left screenshot is the 'Open Items List' window, displaying a table of open items. Documents 15 through 19 are highlighted with a yellow box, and a callout indicates they are 'skipped in report'. The right screenshot is the 'Purchase Order' window, showing the 'List of Business Partners' selection screen. A callout indicates that 'Business partners not shown in choose from list'.

Doc. No.	Customer C...	Customer Name	Customer Ref...	Due Date	Cancelatio...	Amount	Net
15	C20000	Microchips		17.03.16	16.04.16	GBP 295.08	GBP
16	C20000	Maxi-Teq		08.03.16	07.04.16	3BP 1,142.21	GBP
17	C23900	Parameter Technology		10.03.16	09.04.16	GBP 352.50	GBP
18	C40000	Earthshaker Corporation		17.03.16	16.04.16	GBP 2.21	GI
19	C11130	AB Electronics		11.03.16	10.04.16	GBP 235.00	GBP

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- The authorization permissions affect reports, Drag& Relate, and browsing through existing documents. While browsing, if the user encounters a document that is restricted by authorization, the system skips it or shows it as read only, depending on whether authorization was selected as none or read only.
- If a user does not have permission to a document, the document records will be skipped in the report or when the user browses through documents. For example, a user who runs the *Open Items List* report will only see the following documents in the report:
  - Documents that they own
  - Documents to which they have been granted data ownership permissions, or
  - Documents that have no owner
  - The system will skip other documents.
- If the business partner only method is in use, and a user does not have permission to the business partner owner, the business partner will not show in choose from lists.

## Header and Row Owners

The screenshot shows a SAP Sales Quotation form. At the top, the header information includes Customer (C23900), Name (Parameter Technology), Contact Person (Daniel Brown), and Currency (GBP). Below this, the 'Contents' tab is active, displaying a table of items. The table has columns for Item No., Item Description, Quantity, Unit Price, Disc., Tax Code, Total (LC), Owner, and C. The 'Owner' column shows 'Spear, Michael' for items 1-3 and 'Levine, Bill' for items 4-6. A yellow callout box labeled 'Row owner' points to the 'Owner' column in the table. Below the table, the 'Sales Employee' field is set to 'Brad Thompson', and the 'Owner' field is set to 'Spear, Michael'. A yellow callout box labeled 'Header owner' points to the 'Owner' field. At the bottom right, the 'Total' field shows 'GBP 1,980.00'.

#	Item No.	Item Description	Quantity	Unit Price	Disc.	Tax Code	Total (LC)	Owner	C.
1	A00001	J.B. Officeprint 14	1	GBP 300.00	0.00	O1	GBP 300.00	Spear, Michael	Manual
2	A00002	J.B. Officeprint 11	1	GBP 150.00	0.00	O1	GBP 150.00	Spear, Michael	Manual
3	A00003	J.B. Officeprint 11	1	GBP 225.00	0.00	O1	GBP 225.00	Spear, Michael	Manual
4	A00004	Rainbow ColorJet	1	GBP 375.00	0.00	O1	GBP 375.00	Levine, Bill	Manual
5	A00005	Rainbow ColorJet	1	GBP 300.00	0.00	O1	GBP 300.00	Levine, Bill	Manual
6	A00006	Rainbow 1200 Lat	1	GBP 300.00	0.00	O1	GBP 300.00	Levine, Bill	Manual

- Marketing documents can potentially have a row owner that is different to a header owner
- The row owner field is not initially visible but can be made visible using forms settings
- The default owner for all documents is *Header and Row Owner*, which permits users to access a document if they have a relationship with *either* the header owner *or* the row owner.

Marketing documents can potentially have a header owner and a different row owner (the owner field appears in both the header and row of a document). The row owner field in a marketing document is not initially visible in the document row but can be made visible using form settings.

Normally the row owner defaults to the header owner, but it can happen that the owner of a row is different to the header owner. This could happen, for example as shown in the slide, if Michael Spear left the company and Bill Levine updated his document.

When you set data ownership authorizations for a document, the default owner is the owner of both the header and rows (*Header and Row Owner*). This permits a user to access a document if they have a relationship with *either* the header owner *or* the row owner. In the example here, any user can access this document if they are permitted and if they have a relationship with either Michael or Bill.

If a company wants to restrict the access relationship to just the header owner, they can do this using sharing options

## Data Ownership Sharing Options

**Administration → System Initialization → Authorizations → Data Ownership → Data Ownership Sharing Options**

Sharing options let you refine data ownership rules, temporarily or permanently for a document, report or form:

- You can enforce data ownership for document by relationship to the header and row owner, the header owner, or bypass data ownership for the document
- You can enforce data ownership for a form by relationship to the document header owner, or you can completely bypass data ownership for documents in report

Documents	
A/P Invoice	No Restriction
A/R Invoice	Header and Row Owner
	Header Owner
Delivery	
Opportunity	

Windows	
Open Items List	No Restriction
	Header Owner
Customer Receivables Aging	
Opportunities Forecast	
...	

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Data ownership sharing options allow you to refine data ownership rules, temporarily or permanently, for a specific, named document type, report, or form.

The *Documents* tab shows a list of all marketing documents. Here you can override the data ownership rules set for a document in the Data Ownership Authorizations window:

- If you select *Header Owner* for a document type, instead of Header and Row Owner, this enforces data ownership by relationship to only the header owner. Users must have a defined relationship with the header owner, and are not permitted to access the document based on a relationship with only the row owner.
- If you select *No Restriction* for a document, this bypasses data ownership rules for all instances of the document type. An example might be to temporarily allow access to all A/R invoices to troubleshoot a problem.

The *Windows* tab is initially blank but you can select any form or report from the dropdown list and select either No Restriction or Header Owner:

- If you choose Header Owner, data ownership rules are enforced for the form or report with respect to the owner of the document header.
- If you choose *No Restriction*, all users will be able to view all records in the form or report, with no skipping of records. Data ownership is effectively bypassed for the form or report. An example might be to allow users to view all documents in the Open Items report or to view all business partners in the Aging Reports or Payment Wizard. The user does not need data ownership authorization to the business partners or documents. **Note:** Users have *read only* access to the business partners and documents.
- If a form or report is *not selected* in this tab, then data ownership rules will apply.
- Note that the dropdown list shows all forms in the system, many of which are not relevant for data ownership. You can type in the full or partial name of a form at the top of the dropdown list to quickly navigate through the list. Or you can open the form and use *System Information* to show the form number in the status bar.

## Sharing Options – Header and Row Owners Example

- A business reason for selecting *Header Owner* might be a sales opportunity that is handled at different stages by different users
- Each stage is a row in the sales opportunity and a different owner can be selected at the row level

Document	Owner
Delivery	Header and Row Owner
Goods Receipt ID	Header and Row Owner
Opportunity	Header Owner
Purchase Order	Header and Row Owner
Purchase Quotation	Header and Row Owner
Purchase Request	Header and Row Owner
Returns	Header and Row Owner
Sales Order	Header and Row Owner
Sales Quotation	Header and Row Owner

#	Start Date	Closing Date	Sales E...	Stage	%	Potential Amount	Owner
1	28.03.16	28.03.16	Bill Levine	Lead	6.00	12,000.00	Levine, Bill
2	29.03.16	29.03.16	Bill Levine	Quotation	60.00	12,000.00	Levine, Bill

Assume header owner is in **team A**, and row owner is in **team B**. Data ownership is granted to user from **team B** based on team relationship:

- If *Header Owner* is selected for sales opportunity, user in **team B** will have no access to sales opportunity because they have no relationship to the header owner
- If *Header and Row Owner* is selected, user can access sales opportunity through team relationship to row owner. However the user can view but not update the document header

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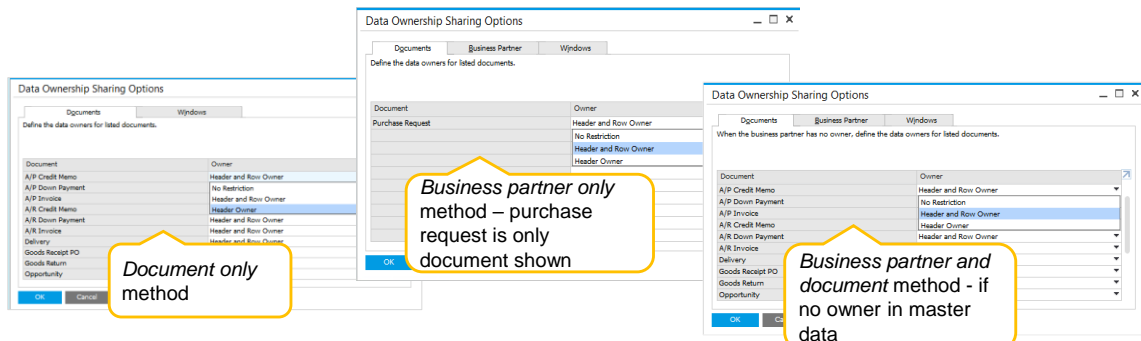
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- A business example for selecting *Header Owner* as the document owner might be a sales opportunity that is handled at different stages by different users. A company might want to limit which users have access to an opportunity that is being worked on by a team. The company can achieve this by setting a different owner for the header and the stage rows.
- Assume the header owner (Marc Manager) works in team A. The owner for the stage row works in team B.
- If data ownership access is granted to a user in team B based on the *team* relationship:
  - If the owner is selected as *Header Owner*, the user from team B will have no access to the sales opportunity because the user is in a different team to the header owner
  - If the owner is selected as *Header and Row Owner*, the user has access to the sales opportunity through the team relationship with the row owner. If the user's relationship is only with the row owner, the user can *view but not update* the document header, even if they have full permission.

## Sharing Options – Documents Tab

**Administration → System Initialization → Authorizations → Data Ownership → Data Ownership Sharing Options (Documents tab)**

- Document only method – shows full list of marketing documents
- Business Partner only method – shows only purchase request
- Business partner and document method – marketing documents are relevant only when there is no owner in the business partner master data



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The data ownership sharing options has different tabs depending on the data ownership method in use:

- If the **document only** method is in use, the *Documents* tab shows the list of marketing documents and you can bypass data ownership rules for any document by selecting *No Restriction* for the document. You can optionally select *Header Owner* to restrict access only to users with a relationship to the document header owner
- If the **business partner only** method is in use, the *Documents* tab will only show the purchase request document, since this document does not have a business partner owner. The actions on this document are the same as for the document only method
- If the **business partner and document** method is in use, the *Documents* tab is *only* relevant if the business partner does not have an owner in the master data.



## Sharing Options – Business Partner Tab

**Administration → System Initialization → Authorizations → Data Ownership → Data Ownership Sharing Options (Business Partner tab)**

The screenshot shows the 'Data Ownership Sharing Options' window with the 'Business Partner' tab selected. The window title is 'Data Ownership Sharing Options'. Below the title bar, there are three tabs: 'Documents', 'Business Partner' (selected), and 'Windows'. A description states: 'Define the data owners for listed documents, which are affected by the owner of the business partner that is used in the documents.' The main area is divided into two columns: 'Document' and 'Owner'. The 'Document' column has a tree view with 'Business Partner' expanded, showing a list of document types including A/P Credit Memo, A/P Down Payment, A/P Invoice, A/R Correction Invoice, A/R Credit Memo, A/R Down Payment, A/R Invoice, Activities, Blanket Agreement, Delivery, Drafts, Equipment Card, Goods Receipt PO, Goods Return, Incoming Payment, Inventory Transfer, Inventory Transfer Request, Opportunity, Outgoing Payments, Payment Draft, Purchase Order, Purchase Quotation, Returns, and Sales Order. The 'Owner' column has a dropdown menu with three options: 'Business Partner Owner' (selected), 'No Restriction', and 'Business Partner Owner'. At the bottom left, there is an 'Update' button.

- *Business Partner* tab only available for **business partner only** and **business partner and document** methods
- Settings apply only when the business partner master data has an owner:
  - *Business Partner Owner* (default) enforces data ownership rules by business partner for all documents
  - *No Restriction* bypasses data ownership rules for all documents
- If business partner does *not* have an owner, settings on the *Documents* tab apply instead

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- The *Business Partner* tab of the data ownership sharing window is only available for **business partner only** and **business partner and document** methods.
- This tab is not available for the document only method.
- The settings made on this tab apply *only* when the business partner master data has an owner:
  - The default setting in the owner column is business partner owner, meaning that the documents are subject to data ownership
  - The other setting is *No Restriction* which allows the bypass of data ownership rules. This might be useful to keep the system running without data ownership checks if an incorrect owner was selected in the master data that results in users being blocked.
- The full list of documents can be viewed by expanding the node for the business partner.
- Note that if the **business partner and document** method is in use and there is *no owner* for a business partner, the settings on the *Documents* tab will apply instead of the settings on this tab.

## Summary 1 of 2



Key points from this topic:

- General authorizations and a license permit a user to access objects and all documents for the object. This is not always desirable. Many companies want to restrict access on a more granular, need-to-know basis.
- Data ownership is not enabled in the system by default. Once you enable data ownership, access to other users' documents is restricted and must be granted using data ownership authorizations.
- Data ownership authorizations are different to general authorizations. Data ownership authorizations are based on a user's relationship with the *owner* of a document.
- Employee master data defines the relationship between owners and users who need to access documents. Employee master data enables you to define an organizational structure with reporting lines, teams, branches and departments.
- If a document has *no owner* then data ownership rules are ignored and any user can access the document.
- Super users are *not restricted* by data ownership and can access all documents regardless of owner.

Here are some key points to take away from this session.

- General authorizations and a license permit a user to access objects and all documents for the object. This is not always desirable. Many companies want to restrict access on a more granular, need-to-know basis. An example might be a sales or purchasing department where all users have the same general authorizations and license, but where documents should not be visible to all users in the department.
- Data ownership is not enabled in the system by default. But when you enable data ownership, access to other users' documents is restricted. Access to a document must be granted using data ownership authorizations.
- Data ownership authorizations are different to general authorizations. Data ownership authorizations are based on a user's relationship with the *owner* of a document.
- Employee master data defines the relationship between owners and users who need to access documents. Employee master data enables you to define an organizational structure with reporting lines, teams, branches and departments.
- If a document has *no owner* then data ownership rules are ignored and any user can access the document.
- Super users are *not restricted* by data ownership and can access all documents regardless of owner.

## Summary 2 of 2



Key points from this topic:

- There are three data ownership methods which control how the owner is assigned in a document:
  - **Business partner only:** applies to documents and business partner master data. The owner of the master data is assigned as the document owner.
  - **Document only:** applies to documents. The owner of the document is assigned according to a set of rules.
  - **Business partner and document:** is a hybrid. If there is an owner in the master data, the rules for the business partner only method are used. If there is no owner the rules for the document only method are used.
- Data ownership permissions are: None, Read-Only or Full. None is the default so all permissions must be explicitly defined for each user in the Data Ownership Authorizations window.
- Data ownership relationships with the owner can be: peer, team, manager, subordinate, branch, department or company.
- If data ownership is set at the company level for a document or business partner, the user will have read-only or full access (as assigned) to all documents and/or all business partners. An example is to give an auditor read access to all documents.
- You can bypass data ownership for a document type, or for specified forms and reports, using the sharing options window.

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Here are some key points to take away from this session.

- There are three data ownership methods which control how the owner is assigned in a document:
  - **Business partner only:** applies to documents and business partner master data and access is based on a user's relationship with the owner of the master data.
  - **Document only:** protects documents and access is based on a user's relationship with the owner of the document.
  - **Business partner and document:** is a hybrid. If there is an owner in the master data, the rules for the *business partner only* method are used. If there is no owner the rules for the document only method are used.
- Data ownership permissions are: None, Read-Only or Full. None is the default so all permissions must be explicitly defined for each user in the Data Ownership Authorizations window.
- Data ownership relationships with the owner can be: peer, team, manager, subordinate, branch, department or company.
- If data ownership is set for a user at the **company level** for a document or business partner, the user will have read-only or full access (as assigned) to all documents and/or all business partners. An example is to give an auditor read access to all documents.
- You can bypass data ownership for a document type, or for specified forms and reports, using the sharing options window.

# System Setup and Administration: Document and Master Data Numbering

SAP Business One Version 9.3



- This topic will show you how to set up customized numbering for document series and master data records.

## Objectives



### Objectives:

- Create and assign ranges of document numbers to users
- Change menu names for documents in the main menu
- Create and assign automatic numbering series for business partner, item and resource master data

- On completion of this topic, you will be able to:
  - Create and assign ranges of document numbers to users
  - Change menu name for functions in the main menu
  - Create and assign automatic numbering series for business partner, item and resource master data

## Business Scenario



The sales staff at DG Industries work in separate market areas. The sales documents need to be numbered differently so they can be tracked to each area.

Additionally, the customers in each market area should be numbered accordingly.



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- The sales staff at DG Industries are divided into three separate market areas, each with a different set of customers.
- The sales documents produced by each area should be numbered differently so they can be tracked to each area.
- Additionally, the customers for each area are coded differently.
- **Solution:** You can define multiple document numbering series, and customer master data numbering series, and assign these series to specific users.

# Document Numbers



- In the first part of this topic, we will cover document numbering.

## Document Numbering

### Administration > System Initialization > Document Numbering

- Each company has its own numbering method and rules
- The document numbering function provides the flexibility to define unique numbering schemes for a company's master data records as well as for individual documents and transactions
- Document numbering is defined in a *series* for each document type and the series tracks the next number to be allocated in the series
- Note: Some localizations have legal regulations for document numbers

Document	Default Series	First No.	Next No.	Last No.	Change Menu Names
Business Partners - Customer	Manual				
Business Partners - Vendor	Manual				
Items	Manual				
Resources	Manual				
A/R Invoices	Primary	1	1306		
A/R Credit Memos	Primary	1	32		
Deliveries	Primary	1	1345		
Return Request	Primary	1	1		
Returns	Primary	1	18		
Sales Orders	Primary	1	1235		
A/P Invoices	Primary	1	727		
A/P Credit Memos	Primary	1	11		
Goods Receipt PO	Primary	1	736		
Goods Return Request	Primary	1	1		
Goods Return	Primary	1	9		
Purchase Orders	Primary	1	746		
Sales Quotations	Hardware	1	1232	9999	
Incoming Payments	Primary	1	1115		
Deposits	Primary	1	7		
Journal Entries	Primary	1	6538		
Outgoing Payments	Primary	1	517		
Goods Receipt	Primary	1	145		
Goods Issue	Primary	1	2		
Inventory Transfer Request	Primary	1	1		
Inventory Transfers	Primary	1	2		

Numbering series per document type

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- Each company has its own numbering method and rules. The document numbering function provides the flexibility to define unique numbering schemes for both master data records (customers, vendors, items and resources) as well as for individual documents and transactions.
- Document numbering is defined in a *series* for each document type.
- The document numbering series tracks the next document number to be allocated for each document type. The system will automatically allocate numbers incrementally from the first number and will record the next number to be allocated for each document type.
- Note that some localizations have legal regulations regarding document numbers.



## Document Numbering Series

- A new company database has a predefined numbering series for each document – the *Primary* series
- In the default series, document numbers start at 1
- Multiple users can share the same series, or you can define additional numbering series for different users so they can work with different numbering ranges

Document Numbering - Setup

Document	Default Series	First No.	Next No.	Last No.
Business Partners - Customer	Manual			
Business Partners - Vendor	Manual			
Items	Manual			
Resources	Manual			
A/R Invoices	Primary	1	1	
A/R Credit Memos	Primary	1	1	
Deliveries	Primary	1	1	
Returns	Primary	1	1	
Sales Orders	Primary	1	6	
A/P Invoices	Primary	1	2	
A/P Credit Memos	Primary	1	1	
Goods Receipt PO	Primary	1	1	
Goods Return	Primary	1	1	

OK Cancel

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- A new company database has a predefined series of numbers for each document type, starting at 1. This is called the *Primary* series.
- The series has no ending number therefore the numbering is uncapped. You can use these series right out-of-the-box if the company wants to start document numbers at 1.
- Multiple users can share the same series.
- Alternately you can define additional numbering series for different users so they can work with different ranges of numbers.

## Editing the Primary Series

- You can change the starting number in the primary series (before any documents have been posted)
- Double-click the row for the document type to open the series setup window
- Enter a new starting number and optionally a final number for the series

The image shows three SAP windows illustrating how to edit the primary series for A/R Invoices.

**Document Numbering - Setup**

Document	Default Series	First No.	Next No.	Last No.
Business Partners - Customer	Manual			
Business Partners - Vendor	Manual			
Items	Manual			
Resources	Manual			
A/R Invoices	Primary	1	1	1
A/R Credit Memos	Primary	1	1	1
Deliveries	Primary			
Returns	Primary			
Sales Orders	Primary			
A/P Invoices	Primary			
A/P Credit Memos	Primary			
Goods Receipt PO	Primary			
Goods Return	Primary			

**Series - A/R Invoices - Setup**

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Cancellation	Lock
1	Primary	495	495					1	Default	<input type="checkbox"/>	<input type="checkbox"/>

**A/R Invoice**

Customer: [Field]  
 Name: [Field]  
 Contact Person: [Field]  
 Customer Ref. No.: [Field]  
 Local Currency: [Field]

No. Status: Primary  
 Posting Date: 07.03.16  
 Due Date: 07.03.16  
 Document Date: 07.03.16

Display Series Linked to Selected Period(s) Indicator: All Periods

Buttons: Update, Cancel, Set as Default

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- In a new SAP Business One system, you can change the starting number in the default Primary series for any document type. You must do this before a document has been posted. One reason for doing this is so that document numbers follow incrementally on from the legacy system numbers.
- To change the default numbering series, *double-click the row* for the selected document type to open the series setup window.
- In the Primary series row you can enter a new starting number for the series, and optionally a final number for the series.
- If you change the default series the change will be instantaneous and when documents are created they will start with the new number.

## Creating a New Document Numbering Series

Document Numbering - Setup

Document	Default Series	First No.	Next No.	Last No.
Returns	Primary	1	1	
Sales Orders	Primary	1	1	1
A/P Invoices	Primary	1	2	1
A/P Credit Memos	Primary	1	1	1
Goods Receipt PO	Primary	1	1	1
Goods Return	Primary	1	1	1
Purchase Orders	Primary	1	1	1
Sales Quotations	Primary	1	1	1
Incoming Payments	Primary	1	1	1
Deposits	Primary	1	1	1
Journal Entries	Primary	1	1	1
Outgoing Payments	Primary	1	1	1
Goods Receipt	Primary	1	1	1

- To create a new series, open the series setup window then choose *Add Row* from the context menu
- Enter the starting number for the series
- You must also enter the final number in the previous series
- Document numbers cannot overlap between series for the same document type

Series - Sales Quotations - Setup

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Lock
1	Primary	1	1					1	Default	<input type="checkbox"/>

Copy  
Copy Table  
Maximize/Restore Grid  
Add Row

Display Series Linked to Selected Period(s) Indicator

All Periods

Series - Sales Quotations - Setup

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Lock
1	Primary	1	1	99				1	Default	<input type="checkbox"/>
2	LOC1	100	100	1999	LOC1-			1	Default	<input type="checkbox"/>
3	LOC2	2000	2000	2999	LOC2-			2	Default	<input type="checkbox"/>
4	LOC3	3000	3000	3999	LOC3-			3	Default	<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator

All Periods

Update Cancel Set as Default

- If only one series is required within the company, you can use the default *Primary* series for all users.
- However you have the option to create additional series for a document type, and allocate different series to different users. This is useful if you want each user to work with a defined range of document numbers.
- To create a new series, open the series setup window then *right-mouse click* on the *Primary* series row and choose the option to add a new row from the context menu.
- Enter a name for the series, together with the starting number and optional last number. The system populates the *Next No.* field automatically.
- **Note:** when you create a new series, you must enter the final number in the previous series (including the *Primary* series). This is to avoid overlapping numbers between series. If legally acceptable in the localization, the system allows gaps in the numbering between series.
- The example shows three new series for sales quotations. Each series will be used in a separate area of the business. Each new series starts with the next consecutive number after the previous series, to ensure there are no gaps in the document numbers.
- If the localization permits a document numbering series containing more than one document type, you will be able to set this up in this window provided the *Permit More than One Document Type per Series* checkbox is ticked in the *Company Details*. This setting is irreversible.
- Note: when you save the new numbering series the system requires you to also update the main document numbering window.
- To create and maintain document series, you need the general authorization *Administration > Document Numbering*.

## Creating a New Document Numbering Series (cont.)

- You can enter a prefix and/or suffix for any series, including the primary series
- Prefix or suffix is *not part of actual document number* and only appears when printing
- Series can be locked to remove from allocation

The image shows two SAP screenshots. The left screenshot is the 'Series - Sales Quotations - Setup' dialog box. It contains a table with columns: #, Name, First No., Next No., Last No., Prefix, Suffix, Remarks, Group, Period Ind., and Lock. Three series are listed: LOC1 (Primary, 100-999, Prefix 'LOC1-', Group 1, Default), LOC2 (2000-2999, Prefix 'LOC2-', Group 2, Default), and LOC3 (3000-3999, Prefix 'LOC3-', Group 3, Default). The right screenshot is the 'Sales Quotation' form. It shows the 'No.' field with 'LOC1' and '100' selected. Below it, the 'Document Number' field shows 'LOC1-100'. The right side of the form shows 'Posting Date' and 'Valid Until' as '07.03.16'. The bottom right shows the 'Delivery Address' as 'AB Parts Ltd'.

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Lock
1	Primary	1	1	99				1	Default	<input type="checkbox"/>
2	LOC1	100	100	999	LOC1-			1	Default	<input type="checkbox"/>
3	LOC2	2000	2000	2999	LOC2-			2	Default	<input type="checkbox"/>
4	LOC3	3000	3000	3999	LOC3-			3	Default	<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator: All Periods

Buttons: Update, Cancel, Set as Default

**Sales Quotation**

Customer: [Field]  
 Name: [Field]  
 Contact Person: [Field]  
 Customer Ref. No.: [Field]  
 Local Currency: [Field]

No.: LOC1  
 Status: [Field]  
 Posting Date: 07.03.16  
 Valid Until: 07.03.16  
 Document Date: 07.03.16

**Original SALES QUOTATION**

Document Number: LOC1-100  
 Document Date: 07.03.16  
 Page: 1/1

Customer No.: C00234  
 VAT Number - Business Partner: [Field]

Your Reference: [Field]  
 Your Contact: [Field]  
 \*No Sales Employee: [Field]

Delivery Address: AB Parts Ltd

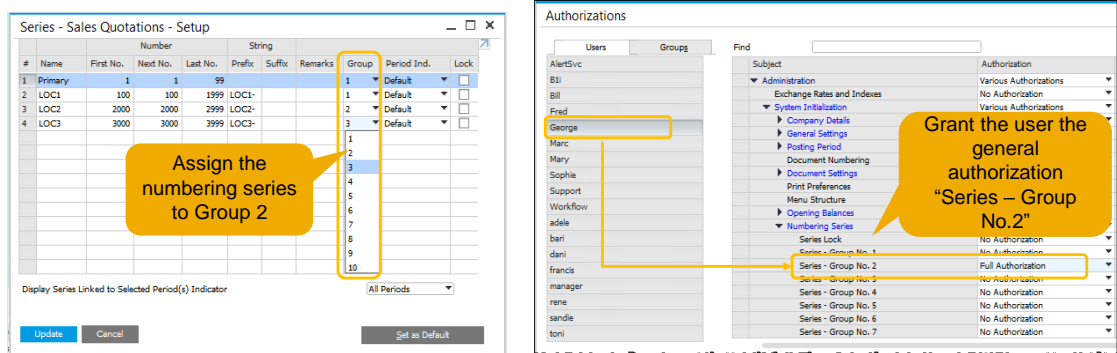
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- You can enter a prefix or suffix (or both) for any series, including the primary series.
- The prefix or suffix is not part of the actual number that is assigned to the document, but will appear when the document is printed.
- You can also enter remarks on the row pertaining to the series.
- The *Lock* checkbox allows you to remove a series from allocation. No further documents can be created with the numbers in that series. To continue operations, ensure that another series is set as the default.

## Authorizing Users to Document Numbering Series

- When a new user account is created, user has **no access** to any numbering series, even the default series
- User needs authorization to the series group
- Select a *Group* in the series setup window then grant the authorization to the series group (in the Authorizations window)
- Once the user is authorized they can create documents



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- When a new user account is created, that user has *no access* to any document numbering series, even to the default series. This means that the user cannot open the initial window for any document type, until they have general authorization to the numbering series group.
- Each numbering series can be assigned to a *group* in the series setup window. You can select a group number between 1 and 10. There can be more than one numbering series with the same series group.
- You can then authorize users to one or more numbering series groups according to their document numbering needs. There are two ways to authorize a user:
  - Assign the user to an authorization user group that has the authorization to the group associated with the numbering series. **Note:** An authorization user group is not the same as a numbering series group.
  - Manually assign the user Full authorization to a numbering series group in the Authorizations window.
- The general authorization is called *Numbering Series* and there are 10 authorizations which map to the groups in the series setup window.
- In the slide example, the primary numbering series is assigned to group 1 and the new LOC2 numbering series is assigned to group 2.
- In the general authorizations window the user George is given full authorization to series group 2. This means that George can create documents in the LOC2 series.
- For more information on general authorizations and authorization groups, see the companion course *General Authorizations*.

## Period Indicators and Numbering Series

- *Period indicator* column aligns series directly to a posting period
- As a result, only document numbers for a series with same period indicator as current posting period can be posted
- Period indicator can be used to align a numbering series to a fiscal period and enable document numbering to restart at 1 for each new fiscal year
- *Default* period indicator is assumed if you do not select a period indicator, and is also the default for a new numbering series

The image shows two SAP configuration screens. The left screen, 'Posting Period', has a 'Period Indicator' dropdown menu with 'Default', '2016', and '2017' options. The '2017' option is highlighted with a yellow box. The right screen, 'Series - A/R Invoices - Setup', shows a table of numbering series. The 'Period Ind.' column in this table also has a yellow box around the 'Default' value for the first series. A yellow arrow points from the '2017' selection in the first screen to the 'Default' selection in the second screen.

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Cancellation	Lock
1	Primary	495	495	1000				1	Default	<input type="checkbox"/>	<input type="checkbox"/>
2	S2016	1	1				-2016	2	2016	<input type="checkbox"/>	<input type="checkbox"/>
3	S2017	1	1				-2017	2	2017	<input type="checkbox"/>	<input type="checkbox"/>
4	Cancel	9000	9000	10000				1	Default	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Sales 1	10001	10001	20000				2	Default	<input type="checkbox"/>	<input type="checkbox"/>
6	Sales 2	20001	20001					3	Default	<input type="checkbox"/>	<input type="checkbox"/>

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- The *Period indicator* column on the series row aligns the series directly to a financial posting period, for example, FY2016, FY2017. As a result, documents can be posted with numbers from the series only if the period indicator matches the current posting period.
- An example might be to use a new numbering series at the start of a new financial year. If you use a different period indicator for each new posting period, you can define a new numbering series and set the first document number to 1 for each new fiscal year.
- Period indicators are optional. When you define a new posting period the *Default* period indicator is assumed if you do not select a specific period indicator. This is also the default period indicator for a new numbering series.
- Note: If you create a new period indicator and want to use this for the existing posting periods, you must do this before any document postings.

## Cancellation Series

- If a document can be cancelled by a user, cancellation checkbox appears on series row
- To designate a series as a cancellation series, select the *Cancellation* checkbox
- When user cancels a document, original document is cancelled and a new cancellation document is issued from the cancellation series

The image displays three SAP windows illustrating the cancellation series functionality:

- Series - A/P Invoices - Setup:** A table showing series configuration. The 'Cancellation' checkbox is checked for the 'Cancel' series.
 

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Cancellation
1	Cancel	10000	10000	9999			Cancellation series	1	Default	<input checked="" type="checkbox"/>
- A/P Invoice - Cancellation:** A window showing the cancellation details for a document. The 'No.' is 'Cancel' and the 'Status' is 'Closed'.
 

No.	Cancel	10000
Status	Closed	
Posting Date	09.03.16	
Due Date	08.04.16	
Document Date	09.03.16	
- A/P Invoice:** A window showing the original invoice details. The 'No.' is 'Primary' and the 'Status' is 'Canceled'.
 

No.	Primary	4
Status	Canceled	
Posting Date	09.03.16	
Due Date	08.04.16	
Document Date	09.03.16	

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- If a document has the ability to be cancelled by the user, you will see a cancellation checkbox on the series row. If you select this checkbox you can dedicate the series to cancellation documents. When the user cancels a document, the document is closed with its original number, and a new document is issued with the cancellation number from the series. The cancellation series is only used when the system creates a cancellation document.
- This allows the document numbering in the current series to continue incrementally.
- By default, cancellation documents take numbers from the cancellation series with the lowest numeric range, even if you have specified a non-cancellation series as the default series.
- Therefore, in order to manage your documents more easily, we recommend that you add cancellation documents to cancellation series only.

## Defaults Series for a User

- If you have multiple series, you can assign a series as a default for the user
- In series setup window, select a series and choose *Set as Default*. Default series automatically selected for new document

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Lock
1	Primary	1	1	99				1	▼ Default	<input type="checkbox"/>
2	SQ_S1	100	101	999	LOC1			1	▼ Default	<input type="checkbox"/>
3	SQ_S2	300	300	499	LOC2			2	▼ Default	<input type="checkbox"/>
4	SQ_S3	500	500	699	LOC3			3	▼ Default	<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator: All Periods ▼

Update Cancel Set as Default

Set as default for:

- ☐ Current user
- ☐ All users
- ☒ Certain users

- If a user is authorized to multiple series, you can set one series as the default for the user.
- To assign a default series, in the series setup window select the series row and choose the *Set as Default* button. You can assign the series as default for the current user, for all users, and for selected users by name. When the user creates a document, the default series is automatically selected for the new document and the next number from the default series is allocated to the document.



## Working with Multiple Series

- If a user is authorized to multiple series, the dropdown list in the document will show all series the user is authorized to
- The default series set for the user is automatically selected first
- A cancellation series does not show in the dropdown list
- If period indicators are used, a numbering series will only show when the period indicator matches the period indicator in the current posting period

The image contains two screenshots from SAP. The left screenshot shows the 'Series - A/R Invoices - Setup' table. The right screenshot shows the 'A/R Invoice' document creation screen.

**Series - A/R Invoices - Setup Table:**

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	Period Ind.	Cancellation	Lock
1	Primary	1	1	1000				1	Default		
2	S2016	1	1					2	2016		
	S2017	1	1					2	2017		
	Cancel	9000	9000	10000				1	Default	<input checked="" type="checkbox"/>	
	Sales 1	10001	10001	20000				2	Default		
	Sales 2	20001	20001					3	Default		

**A/R Invoice Document Creation:**

The top screenshot shows the 'A/R Invoice' screen with 'Sales 1' selected in the 'No.' dropdown. A callout points to 'Sales 1' with the text: "Default series for user automatically selected".

The bottom screenshot shows the 'A/R Invoice' screen with the 'No.' dropdown open, displaying a list of series: 'Sales 1', 'Primary', 'S2016', 'S2017', 'Cancel', and 'Manual'. A callout points to this list with the text: "All series that user is authorized to are selectable in dropdown list".

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- If a user is authorized to multiple numbering series for a document the dropdown list in the document will show *all* the series the user is authorized to. The default series for the user is automatically selected first.
- In the example the user has authorization to groups 1 and 2. The series Sales 1 has been set a default for the user so this series initially shows when the user creates a document. The user can open the dropdown list to see all series to which they have authorization, and select a different series.
- A cancellation series never appears in the dropdown list.
- If period indicators are used in a series, the series will not show in the dropdown list until the system date is within a posting period with the same period indicator. In the example, the current period does not have the same period indicator, therefore the series S2016 and S2017 do not appear in the dropdown list.

## Manual Document Numbering

Sales Quotation

Customer: [ ] No. SQ\_51 101  
 Name: [ ] Status Primary Open  
 Contact Person: [ ] Posting SQ\_51 08.03.16  
 Customer Ref. No.: [ ] Valid Until SQ\_52 08.03.16  
 Local Currency: [ ] Document C1\_01 08.03.16

**Manual**

- Authorized users can enter a manual document number by selecting *Manual* from the dropdown list

Sales Quotation

Customer: [ ] No. Manual 1080  
 Name: [ ] Status Open  
 Contact Person: [ ] Posting Date 08.03.16  
 Customer Ref. No.: [ ] Valid Until 08.03.16  
 Local Currency: [ ] Document Date 08.03.16

- The document number is entered by the user
- System will skip this number in future when it allocates from a predefined series

Sales Quotation

Customer: C11130 No. Manual 1080  
 Name: AB Electronics Status Open - Printed  
 Contact Person: [ ] Posting Date 08.03.16  
 Customer Ref. No.: [ ] Valid Until 08.04.16  
 Local Currency: [ ] Document Date 08.03.16

- Manual documents always have the status "Open – Printed"

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- Authorized users and super users can enter a manual document number. This is useful if you are entering legacy documents during an implementation and the customer needs to use the exact numbers from the legacy system. The general authorization is *Document Manual Numbering*.
- Select the *Manual* series from the dropdown list and enter a number in the document
- If a legacy document already has the same number, the system will skip this number in future when it allocates from the series.
- Note: When they are added, manual documents automatically have the status "Open – Printed".

Option to change main menu name and document title for any sales, purchasing or inventory document, for example:



- New name is entered on document row in numbering setup window

**Document Numbering - Setup**

Document	Default Series	First No.	Next No.	Last No.	Change Menu Names
Business Partners - Customer	Manual				
Business Partners - Vendor	Manual				
Items	Manual				
Resources	Manual				
A/R Invoices	Primary	495	495		
A/R Credit Memos	Primary	1	1		
Deliveries	Primary	1	1		
Returns	Primary	1	1		
Sales Orders	Primary	1	8		
A/P Invoices	Primary	1	2		
A/P Credit Memos	Primary	1	1		
Goods Receipt PO	Primary	1	1		
Goods Return	Primary	1	1		

**Administration**

- Financials
- Sales - A/R
  - Sales Order
  - Delivery
  - Return
  - A/R Down Payment Request
  - A/R Down Payment Invoice
  - Sales Invoices
  - Credit Invoices
  - Document Printing
- Sales Reports

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- By scrolling to the right of the document numbering setup window you will see the a column where you can change the name of a sales, purchasing or inventory document name in the main menu. This might be required if the customer uses unique terminology to describe these documents.
- To specify a new name, enter it in the row for the document in the numbering setup window.
- You can change document names even if documents have already been entered in the system. The new name appears in the SAP Business One *Main Menu* and in the title bar of documents of this type.
- Note: this change affects all users.

# Master Data Numbering



- In this part of the topic you will see how to set up numbering ranges for master data.

## Master Data Numbering

**Document Numbering - Setup**

Document	Default Series	First No.	Next No.	Last No.
Business Partners - Customer	Manual			
Business Partners - Vendor	Manual			
Items	Manual			
Resources	Manual			
A/R Invoices	Primary	1	1	
A/R Credit Memos	Primary	1	1	
Deliveries	Primary	1	1	
Returns	Primary	1	1	
Sales Orders				
A/P Invoices				
A/P Credit Memos				
Goods Receipt PO				
Goods Return				

OK Cancel

**Series - Items - Setup**

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	No. of Digits	Lock
1	Manual									<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator All Periods

☐ Display Confirmation Message when Adding Item for Non-Manual Series

**Item Master Data**

Item No. Manual 12345

Description Manual

Foreign Name

Item Type Items

Item Group Items

UoM Group Manual

Price List Price List 01

Bar Code  Unit Price

General Purchasing Data Sales Data Inventory Data Planning Data

☐ Do Not Apply Discount Groups

Manufacturer - No Manufacturer -

Additional Identifier

Shipping Type

Serial and Batch Numbers

Manage Item by None

- In a new system, there is a default *manual* series for master data: customer and vendor master data, item and resource master data
- Manual series is default for all users and allows user to enter a code when creating new master data

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- In a new company the system provides a manual series for master data: customer and vendor master data, item master data, and resource master data for production.
- Double-click the series row to open the setup window. This manual series is grayed out and cannot be edited or deleted, although it can be locked. The manual series is default for all users and the user manually enters a code when they create new master data.
- Note that if fixed assets functionality is enabled, it will use the numbering series for item master data.

## Creating an Automatic Master Data Numbering Series

- Defining a new series for master data is similar to defining a document numbering series
- Enter the starting number for the code. This number will be allocated as the master data code, and the next number by 1
- You can optionally a prefix and/or suffix. Prefix and suffix will be added to generated code to create multi-part numbers. Prefix and suffix are not incremented
- You must specify No. of Digits

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	No. of Digits	Lock
1	Manual									<input type="checkbox"/>
2	Computer	1	1		C-	-01		1	4	<input type="checkbox"/>
3	Office	1	1		20-	-O		1	5	<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator  
☐ Display Confirmation Message when Adding Item for Non-Manual Series

OK Cancel Set as Default

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- You can define automatic numbering ranges for master data. These series function similarly to the document numbering series, and they track and allocate numbers when new master data is created.
- Defining a new series for master data is very similar to defining a numbering series for documents.
- To define a new series, enter the first number for the series. This will be allocated by the system as the code (key) for new master data records. The system then increments the next number for the series by 1.
- You can optionally enter a suffix and/or a prefix for each series. Unlike the prefix or suffix for a document number, the master data prefix or suffix will be added to the master data code that is generated when the master data is created. This gives you the ability to create multi-part numbers such as 01-0001-01. Note that only the main part of the number is incremented, not the prefix or suffix which in this example would remain as 01.
- For a master data series you must specify the number of digits for the code. If you set the starting number to 1, and the number of digits is 4, leading zeroes will be added to the code so that it is allocated as 0001.

## Creating an Automatic Master Data Numbering Series (Cont.)

- You can set authorizations for users based on the Group selected for the series
- You can also set a series as default for users
- Checkbox to display message when master data created using non-manual series
- Master data series cannot be aligned to a period indicator

**Series - Items - Setup**

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	No. of Digits	Lock
1	Manual							1	4	<input type="checkbox"/>
2	Computer	1	1		C-	-01		1	4	<input type="checkbox"/>
3	Office	1	1		20-	-O		1	5	<input type="checkbox"/>

Display Series Linked to Selected Period(s) Indicator ☒ All Periods

☐ Display Confirmation Message when Adding Item for Non-Manual Series

OK Cancel Set as Default

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- You can set authorizations for users based on the selected Group in the series setup window. This is identical to document numbering series.
- And you can set a master data series as a default for one or more users.
- There is an optional checkbox to display a message when master data is created using a series that is not the manual series.
- **Note:** you cannot align a master data numbering series with a period indicator.

## Creating an Automatic Master Data Numbering Series (cont.)

- Because the prefix and/or suffix is part of the code, different series can have overlapping numbers
- Only the main part of the number is incremented, not the prefix or suffix

Series - Items - Setup

#	Name	First No.	Next No.	Last No.	Prefix	Suffix	Remarks	Group	No. of Digits	Lock
1	Manual									
2	Computer	1	1		C-	-01		1	4	
3	Office	1	1		20-	-O		1	5	

Display Series Linked to Selected Period(s) Indicator: All Periods

☐ Display Confirmation Message when Adding Item for Non-Manual Series

OK Cancel Get as Default

Item Master Data

Item No. Computer C-0001-01  
Description Tablet excel  
Foreign Name  
Item Type Items  
Item Group Items  
UoM Group Manual  
Price List Price List 01 Bar Unit

General Purchasing Data Item Master Data

☐ Do Not Apply Discount Groups  
Manufacturer  
Additional Identifier  
Shipping Type  
Serial and Batch Numbers  
Manage Item by

Item Master Data

Item No. Office 20-0001-O  
Description Headphones  
Foreign Name  
Item Type Items  
Item Group Items  
UoM Group Manual  
Price List Price List 01 Bar Co Unit Co

General Purchasing Data Sales Data Inventory Data Planning

☐ Do Not Apply Discount Groups  
Manufacturer - No Manufacturer -  
Additional Identifier  
Shipping Type  
Serial and Batch Numbers  
Manage Item by None

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- Because in master data the prefix and/or suffix is part of the code, different series can have overlapping numbers.
- In the slide example, each series has the same range of numbers but because we have also defined a prefix for each series, the actual codes generated are unique.
- The generated code will always contain the exact number of digits specified and leading zeroes will be added in front. For example, if a series starts at 1, and the number of digits is 3, the code allocated in the master data is 001. If the number of digits is 6, the generated code will be 000001. Note: The number of digits for a series cannot be changed after a master data record has been created.
- Care should be taken since the number of digits can be a limiting factor for the size of the series. In the example shown, in the series Computer there can be 9999 possible items since the number of digits is defined as 4.



Administration > Utilities > Check Document Numbering

- Report shows list of missing or duplicate document or master data numbers

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## Summary



Key points from this topic:

- Document numbering allows authorized users to establish ranges of numbers that will be automatically assigned in documents and master data
- You can create a numbering series for each document type, and for business partner, item and resource master data
- Users must be authorized to use a numbering series. To do this, first assign the numbering series to a *series group*, then authorize users to the series group using the general authorization
- If users are authorized to multiple numbering series you can set one as default
- Document numbers do *not* include the prefix or suffix, therefore numbers cannot overlap between series. Master data numbers *do* include the prefix or suffix, therefore numbers can overlap between series
- In master data series you must specify the number of digits for the code. The code will be padded with leading zeros until the number of digits is reached
- In the document numbering setup window you can change the name of a sales, purchasing or inventory document name in the main menu

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- Here are some key points to take from this topic:
  - The document numbering function allows authorized users to establish ranges of numbers that will be automatically assigned in documents and master data
  - You can create a numbering series for each document type, and for business partner, item and resource master data
  - Users must be authorized to use a numbering series. To do this, first assign the numbering series to a series group, then authorize users to the series group using the general authorization
  - If users are authorized to multiple numbering series you should set one as default to prevent a user from selecting the wrong series in the series dropdown list in a document.
  - Document numbering series can have a prefix and/or suffix. The allocated document number does *not* include the prefix or suffix, therefore numbers cannot overlap between series. Master data numbering series also include the prefix or suffix, and the allocated number does include the prefix and/or suffix, therefore master data numbers can overlap between series.
  - Document numbers can restart each year if a period indicator is used in the series definition.
  - In master data series you must specify the number of digits for the allocated code. The code will be padded with leading zeros until the number of digits is reached.
  - In the document numbering setup window you can change the name of a sales, purchasing or inventory document name in the main menu. This might be required if the customer uses unique terminology to describe these documents.

# System Setup and Administration: UI Configuration Templates



- In this topic you will see how to simplify the predefined forms in SAP Business One.

## Objectives



At the end of this topic, you will be able to:

- Edit and simplify the layout of standard documents and forms
- Assign the edited documents and forms to multiple users by means of a UI configuration template
- Explain how to manage multiple UI configuration templates
- Describe how the *UI Elements* tab in the form settings window works

- After completing this topic, you will be able to:
  - Edit the layout of standard SAP Business One documents and forms
  - Assign the edited documents and forms to users in a UI Configuration template
  - Explain how to manage multiple UI configuration templates
  - Describe how the UI Elements tab in the form settings window works

## Business Example



To improve the efficiency of service calls, customer support staff need to quickly scan key information in documents and master data.

They need a simplified version of the standard forms, with fields that are not relevant removed, fields that are service-related on the same tab, and user-defined fields easily accessible.

This requirement can be easily implemented using a UI configuration template that contains the set of simplified forms.

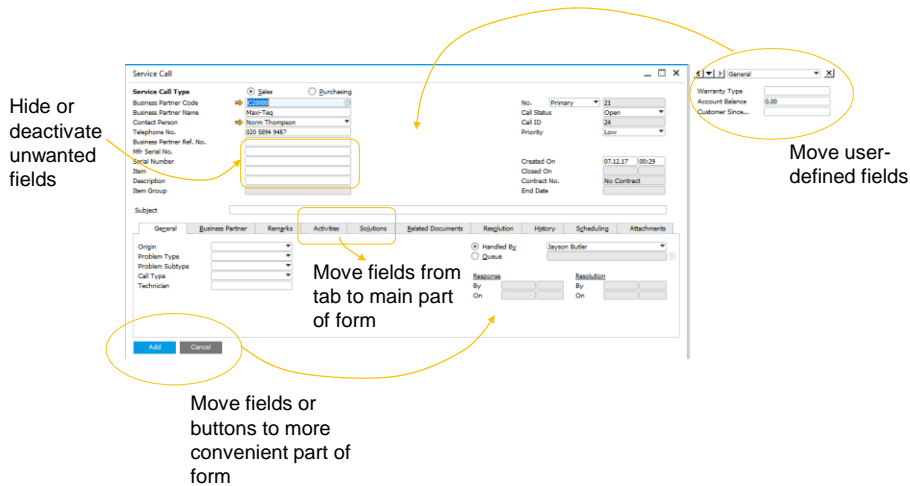


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- Service is paramount to OEC Computers. To improve the efficiency of service calls, customer support staff must be able to quickly scan key information in documents and master data. They need a simplified version of the standard forms, with fields that are service-related consolidated together on the same tab, with unused fields removed from the form, and with user-defined fields easily accessible. Users need a user interface that is streamlined and easy to work with.
- Standard forms can be easily simplified to meet the needs of a group of users. These edited forms are grouped into UI configuration templates which can be assigned to end users according to their role.

## Simplifying Forms



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Instead of working with the standard forms, you can make them fit your requirements by hiding or deactivating unused fields, moving fields or buttons to a more convenient part of the form, moving fields from another tab onto the main tab for ease of access, and moving user-defined fields from the side window.

# UI Configuration Templates



- The first part of this topic explains the purpose of a UI configuration template.

## Authorizations for UI Changes

To edit a form for personal use, user needs general authorization:

- *General ▶ Edit Form UI*

To modify forms for other users, user needs general authorization:

- *Administration ▶ Utilities ▶ UI Configuration Template*

Requirement	Menu Path	Authorization
Edit a form for personal use	<i>Tools &gt; Edit Form UI</i>	<i>General ▶ Edit Form UI</i>
Edit forms for others in a UI template	<i>Administration &gt; Utilities &gt; UI Configuration Template</i>	<i>Administration ▶ Utilities ▶ UI Configuration Template</i>

- Authorized users can edit and modify forms for personal use using the *Edit Form UI* tool. The tools menu will become active when the user opens an eligible form. The authorization required for editing a form is found under the *General* subject area in the general authorizations window.
- Authorized users are able to modify forms for other users by creating a UI configuration template. The required general authorization is found under the *Administration > Utilities* subject area in the general authorizations.



## UI Configuration Template

**Administration > Utilities > UI Configuration Template**

- UI configuration template is a collection of forms edited for needs of end users
- To create a new template, open the UI Configuration Template window and select *Data > Add*

UI Configuration Template

Name: Service Forms

Description: Service Forms

Forms Assigned Users Assigned Groups

Forms

1

List of edited forms for a group of users

Edit Form UI Copy To

OK Cancel

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- A UI configuration template is a collection of forms that have been simplified and/or modified to meet the common needs of a set of end users. In SAP Business One all forms and documents can be modified.
- To create a UI configuration template, choose the menu path shown in the slide, then choose *Data > Add* from the menu bar.

## Adding Forms

The screenshot shows the 'UI Configuration Template' window. On the left, a table lists 'UI Template' with '1 Service Forms' selected. On the right, there are input fields for 'Name' (Service Forms) and 'Description' (Service Forms). Below these are three tabs: 'Forms' (selected), 'Assigned Users', and 'Assigned Groups'. The 'Forms' tab displays a list of forms with a dropdown menu open, showing options like 'Service Call', 'Service Contract', 'Equipment Card', etc. A blue callout bubble with the text 'Select forms to go into template' points to the dropdown menu. At the bottom left are 'Update' and 'Cancel' buttons.

- Individual forms are selected from dropdown list and then edited to meet user requirements
- Additional UI templates can be created for different sets of users

Note: Some edit functionality overlaps with form settings. Users can still make further changes to their own forms using form settings

- The individual forms are selected from a dropdown list on the *Forms* tab, and then individually edited.
- Additional UI templates can be created for different sets of end users.
- Note: Some of the edit functionality, such as hiding fields, can also be achieved using form settings. Users can still make further changes to a form for personal use using form settings.

## Edit UI Mode

The image shows two SAP screenshots. The left screenshot is the 'UI Configuration Template' with a list of forms. The 'Service Forms' form is selected, and the 'Edit Form UI' button is highlighted with a yellow box. The right screenshot is the 'Service Call - UI Edit Mode' dialog. It has a black title bar and contains various fields for editing a service call. The 'Business Partner Ref. No.' field is highlighted with a yellow box. The dialog includes tabs for General, Business Partner, Remarks, Activities, Solutions, Related Documents, Resolution, History, Scheduling, and Attachments. The 'General' tab is active, showing fields for Origin, Problem Type, Problem Subtype, Call Type, and Technician. The 'Resolution' tab is also visible, showing fields for Response and Resolution. The 'Handled By' field is set to 'Jayson Butler'.

- Select a form and choose the *Edit Form UI* button
- In edit mode the form has a distinctive black title area
- Clicked field is highlighted for editing

To edit a form, select the row for the form in the template then choose the *Edit Form UI* button. Note that this button does not become active until you select a form.

When you press the Edit Form UI button you enter edit mode. The form has a distinctive black title area. The title of the form changes to include the text “UI Edit Mode”.

Now you are ready to make design changes!

When you click on a field it is immediately highlighted and you can perform an action on the field such as hiding it or moving it.

## Assigning Users to the UI Template

The top screenshot shows the 'UI Configuration Template' window with the 'Assigned Users' tab selected. It displays a list of users with checkboxes for assignment. The bottom screenshot shows the same window with the 'Assigned Groups' tab selected, displaying a list of user groups with checkboxes for assignment.

- Users can be assigned to the UI template individually or by user group
- After the assignment, the modified forms will automatically open instead of the standard forms when the assigned user next logs in

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- After the set of forms has been edited, the UI configuration template is assigned to users:
  - Individually by name on the Assigned Users tab
  - As a user group on the Assigned Groups tab. The user group must be of type UI Configuration Templates or Cross All Types. See the companion course *Users and User Groups* for more information on user groups.
- These modified forms will automatically open instead of the standard forms when the assigned user next logs in.

# Making the Changes



- In this section we show you how to edit and simplify forms.

## Hide and Disable Fields

The image displays two overlapping screenshots of the 'Business Partner Master Data - UI Edit Mode' form. The top screenshot shows a context menu with 'Hide' and 'Disable' options over the 'Mobile Phone' field. The bottom screenshot shows the 'Mobile Phone' field disabled (grayed out) after the 'Disable' action was taken.

In *UI Edit* mode, select a field or multiple fields, and open the context menu to see edit options:

- Hide: removes the field and description from the form
- Disable: an editable field becomes gray and cannot be changed by the user

- In edit mode, you can select a single field or multiple fields, and open the context menu by right-mouse clicking.
- If the field is editable, the context menu will allow you to hide or disable the selected field or fields. When you hide a field a space is left in the form. When you disable a field it becomes gray and cannot be changed by the user.
- If the field is inactive, (displayed in gray), the context menu will only allow you to hide the field.
- In the example the business partner master data form is shown, however, the same editing rules apply to all eligible forms.

## Using Drag and Drop

- Make use of white space in the form by moving fields to a more convenient position
- To move a field, select field and drag to new position
- Can move field from a tab to form header, or from one tab to a different tab

- You can make use of the white space in a form to move fields to a more convenient position.
- You can move fields by selecting the fields and dragging and dropping them into position.
- You can move a field from a tab onto the main header of the form.
- You can also move a field from one tab to a different tab by parking it temporarily in the header area before you switch to the target tab.

## Aligning Fields

To align moved fields to existing fields, select the fields then choose *Align* from the context menu

Fields aligned left

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- After you have moved fields, you can align them to existing fields by choosing *Align* from the context menu.
- To align fields with an existing field, select the existing field in addition to the moved fields, then choose left or right.
- To close up any spaces, select an existing field in addition to the moved fields, then choose top or bottom.



## Moving User-Defined Fields

The figure consists of four sequential screenshots of the SAP Sales Quotation - UI Edit Mode interface, illustrating the process of moving a user-defined field (UDF) from a side window to the main form area.

- Screenshot 1:** The side window (left) shows a list of UDFs. A black border appears around the selected field, indicating it is ready to be moved.
- Screenshot 2:** The selected field is being dragged from the side window to the main form area.
- Screenshot 3:** The field is positioned on the main form area, ready to be released.
- Screenshot 4:** The field is successfully moved to the main form area.

To move a user-defined field (UDF) from the side window to the main form area:

- Select and hold your mouse on the field until a black border appears (1)
- Drag the black rectangle to the main area (2)
- Move into position and release (3)

- A key advantage of editing a form is to move user-defined fields from the side window to the main header of the form or to a tab within the form. This is especially useful for UDFs added to marketing documents. Since you edit each document type separately, you can move user-defined fields relevant only for that document type without the need to use UDF categories in the side window.
- Only one UDF field can be moved at a time. To move a UDF:
  - Select the field, not the label, and hold with your mouse until a black border appears (see screenshot 1).
  - Drag the field to the main form (see screenshot 2).
  - Position the UDF on the main form (see screenshot 3).

## Save and Restore Default

Business Partner Master Data - UI Edit Mode

Code

Name

Foreign Name

Group  Orders

Currency  Opportunities

Federal Tax ID

Owner

General Payment Terms Payment Run

Mobile Phone

Fax

E-Mail

Web Site

Shipping Type

Password

Factoring Indicator

BP Project

Industry

Business Partner Type  Company

Contact Person

ID No. 2

Unified Federal Tax ID

Company Reg. No. (CRN)

Remarks

BP Channel Code

Territory

Save

Restore Default

After you have made the editing changes, click anywhere in the form white space and open the context menu to:

- **Save:** commits the changes
- **Restore Default:** backs out all changes and restores fields to the original out-of-box format

- After you have made the changes, you need to save them. Click anywhere in the form white space and open the context menu. Choose **Save** to commit the changes. If you close the UI Edit window without saving you will lose the changes.
- The *Restore Default* option on the context menu acts as an “undo” button. So if you have hidden a field, it will be restored on the form *in the original position*.
- Be aware that the action of restoring defaults changes *all* fields in the form back to the original out-of-box format. Even if you have saved and closed the UI template, when you restore the form it will be set back to the original settings. Tip: If you decide to change an already heavily-modified document that is in use by several users, first make a copy of the UI template. This gives you the ability to restore the document, if necessary, from the copy, instead of having to restore it to the original settings.

## Adding Tabs

Select *Add Tab* from the white space context menu to add a new tab to a form

The image displays two screenshots of the 'Service Contract - UI Edit Mode' window. The left screenshot shows a context menu with options: Save, Add Tab, Remove Tab, and Rename Tab. The 'Add Tab' option is highlighted. The right screenshot shows the 'Add Tab' dialog box with the 'Tab Name' field containing 'Service Notes'. An arrow points from the 'Add Tab' option in the context menu to the dialog box, and another arrow points from the dialog box to the 'Service Notes' tab in the form's tab bar.

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- If the form or document contains tabs, you can add a new tab. Select the option from the context menu. You can move existing fields to the new tab, including user-defined fields.

## Form Settings in UI Edit Mode

- When you open form settings in UI Edit Mode, *UI Elements* tab lists every header field, and every field on each tab
- You can hide and disable fields by deselecting Visible and Active checkboxes (equivalent to context menu hide and disable)

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UI Elements	Visible	Active	Default
▼ Header			
Find	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cancel	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Item No.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Description	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Stock Item	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Price List	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Unit Price	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Item Group	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Foreign Name	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bar Code	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Item Type	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
UoM Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▼ Purchasing Data			
Length	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Preferred Supplier	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

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- In UI Edit Mode, when you open the form settings window you will see an additional tab called *UI Elements*. This tab shows every field shown on the header and each tab of the document, and you can hide and disable fields from this window using the Visible and Active columns. This is equivalent to hiding and disabling fields using the context menu.
- Note that the *UI Elements* tab only appears when form settings is opened from a form in *UI Edit Mode*. End users never see the *UI Elements* tab.

## Hiding a Tab using Form Settings

- Option to hide tab by making the tab entry invisible in the UI Elements

UI Elements	Visible	Active	Default
▶ Header	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Purchasing Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Sales Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Remarks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Properties	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ Stock Data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ Planning Data	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▶ General	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Attachments	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▶ Production Data	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- You can also hide an entire tab by making the tab entry invisible in the *UI Elements* tab.
- In the example, we want to hide the *Planning Data* and *Properties* tabs from the item master data since they are not used in the company. In the form settings we deselect the relevant checkboxes for the Planning Data and Properties tabs. As a result the tabs no longer appear in the item master data form.
- The *Header* and *General* tabs in master data forms are grayed out in the form settings and cannot be hidden. In marketing documents the *Contents* tab cannot be hidden.

## Summary

	UI Edit Mode	UI Elements tab	Form Settings
Move a field (drag and drop)	✓		
Move a field to another tab	✓		
Move a user-defined field to main form	✓		
Align and compact fields	✓		
Hide a field	✓	✓	✓
Disable a field	✓	✓	✓
Add a tab	✓		
Hide a tab		✓	

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- The slide shows a comparison of the edit actions that can be done using UI Edit Mode, the form settings window using the *UI Elements* tab, and the standard form settings window.
- Note that the standard form settings window is only available for certain forms, such as marketing documents.

# Managing UI Configuration Templates



- The next part of this topic looks at how you can manage UI configuration templates.

## Copying Edited Forms to Other UI Templates

The screenshot shows the 'UI Configuration Template' dialog box. On the left, there is a table with two columns: 'UI Template' and 'Assigned Users'. The table contains two rows: '1 Sales group 1' and '2 Sales group 2'. The main area of the dialog has a 'Name' field with the value 'Sales group 1' and a 'Description' field with the value 'Speedy forms for sales group 1'. Below these fields are two tabs: 'Forms' and 'Assigned Users'. The 'Forms' tab is active, showing a list of forms. The list has two columns: 'Forms' and 'Assigned Users'. The 'Forms' column contains a list of forms: '1 Business Partner Master Data', '2 Delivery', '3 Return', '4 Chart of Accounts', '5 Sales Order', '6 Sales Quotation', '7 Item Master Data', and '8'. The 'Assigned Users' column is empty. At the bottom of the dialog, there are two buttons: 'OK' and 'Cancel'. The 'Copy To' button is highlighted with a yellow box.

Multiple UI configuration templates can be created and assigned to different sets of users

To save time, you can copy edited forms from one UI template to another UI template. Select one or more forms and choose *Copy To* button

- Often there is a need to create multiple UI configuration templates and assign to different sets of users.
- Once you have made the changes to a form in one UI configuration template, you can copy the changes to another UI configuration template.
- To do this, select the rows for the forms you want to copy, choose the *Copy To* button, and select the target UI template.



## Default UI Template

The screenshot shows the 'General Settings' dialog box with the 'Display' tab selected. The 'Default UI Template' dropdown menu is open, showing 'Sales group 1' and 'Sales group 2' as available options. The 'Choose from List Preferences' section is also visible, with 'Enable SAP Business One Suggest' checked.

- Option to designate a default UI configuration template in *General Settings*
- Default template will apply to all new users and to existing users who are not assigned to any other UI template
- If a user is later assigned to a different UI template, the new UI template will take precedence over the default UI template
- Example: A new UI template **Sales group 2** is created. What will happen when this is set as a default template?



Already assigned  
to **Sales group 1**  
UI template



Not assigned to  
any UI template

Result:

Still assigned to sales group 1  
template

Assigned to sales group 2  
template

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- Instead of assigning a UI template to every user, you can designate a default UI template on the *Display* tab of the *General Settings*.
- The default template forms will be automatically applied to all *new* users created after the default template was set, and will also apply to *existing* users who are not currently assigned to a UI template.
- If a new user is later assigned to a UI template that is not the default template, the assigned template forms will take precedence over the default UI template.
- Let us examine how designating a default UI template affects existing users who may or may not have already been assigned to a UI template.
- In this example, we have an existing UI template **Sales group 1**. We create a new UI template **Sales group 2** and set this as a default.
  - User A, who was previously assigned by name to the **Sales group 1** template, is not affected by the default template. User A will still see the forms from the **Sales group 1** template.
  - User B, who was not assigned to any template, is affected and will now see the forms from the **Sales group 2** template.

# User Perspective



## Form Settings



- User can show and hide fields using form settings
- If the form is assigned to the user in a UI configuration template, the name of the template appears in the form settings window
- The user can still make changes using form settings

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Any user can show and hide fields in a marketing document form using the form settings icon (if they have the authorization *General > Document Settings*).

If the user presses the form settings icon for a form that they are assigned to in a UI configuration template, the name of the UI template appears in the form settings window. The user can still make changes to the form.

## Multiple UI Templates

If user is assigned to multiple UI templates with overlapping forms:

- First assigned template considered highest priority
- User has option to apply a different UI template in form settings



Form Settings - Sales Order

Select UI Template: Sales group 1

Table Format

General

Sales Employee: -No Sales Employee-

Commission %: 0.00

Discount %: 0.00

G/L Account:

Distr. Rule:

COGS Account:

COGS Distr. Rule:

Project:

Warehouse: 01 General Warehouse

Delivery Date:

Price List: Price List 01

OK Cancel Restore Default

- The system allows you to assign multiple UI templates to a user. Since the templates could contain overlapping forms, how does the system know which one to use?
- The first template assigned to a user is considered the highest priority.
- The user has the option to choose a different UI template from a dropdown list in the form settings window, and switch to the forms in that template by choosing the *Apply* button.

## Summary



Key points from this topic:

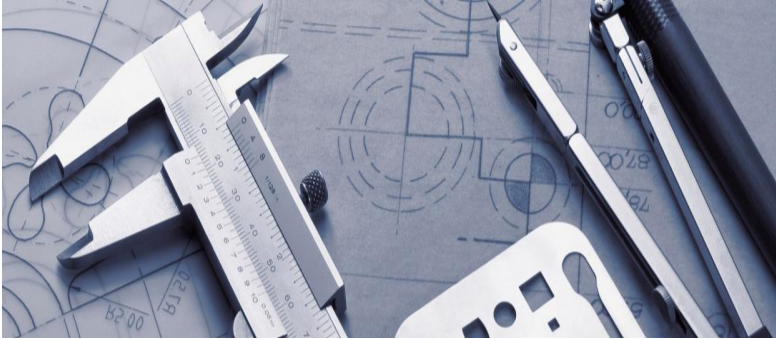
- Simplifying frequently used forms and documents can increase user productivity and reduce errors when processing forms
- A UI configuration template is a collection of forms that have been simplified and/or modified to meet the needs of end users
- You can create different UI templates for different sets of users
- All forms and documents in the system can be modified
- Changes include: rearranging fields using drag and drop, moving fields to a new tab, hiding and disabling fields, aligning fields, adding and removing tabs, moving user-defined fields from the side window
- You can assign users to the UI template individually or from a user group
- In the General Settings you can set a default UI template for all new users

These are the key points from this topic:

- Simplifying frequently used forms and documents can increase user productivity and reduce errors when processing forms
- A UI configuration template is a set of forms that have been simplified and/or modified to meet the needs of end users
- You can create different UI templates for different sets of users
- All forms and documents in the system can be modified
- Changes include rearranging fields using drag and drop, moving fields to a new tab, hiding and disabling fields, aligning fields, adding and removing tabs, moving user-defined fields from the side window
- You can assign users to the UI template individually by name, or from a user group.
- In the General Settings you can set a default UI template to apply to all new users

# Customization Tools: Queries

SAP Business One Version 9.3



- This topic introduces you to the tools that SAP Business One provides for creating SQL queries.

## Objectives



### Objectives:

- Create SQL queries using the query tools provided in SAP Business One
- Identify database field and table names in a form or document using System Information
- Save, manage, execute and control access to saved queries

- In this topic, you will learn to create SQL queries using the query tools provided in SAP Business One.
- You will learn how to identify database field and table names in a form or document using System Information.
- You will also see how to save, manage, execute and control access to saved queries.
- Note that the query examples provided in this course are written for SAP Business One version for SAP HANA.

## Business Scenario



Queries give you the ability to quickly display data from SAP Business One company database tables. You can use queries to:

- Produce ad hoc reports (User Queries)
- Create user-defined alerts and approval processes
- Populate the contents of a field, including user-defined fields. The query is added to the field as user-defined values (UDVs)
- Show dynamic information for analytics in dashboards and KPIs
- Validate the values imported into a table or field during data migration

**You are not allowed to use the query tools to insert, update or delete standard table fields.**

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- Queries enable you to quickly display and format data from an SAP Business One company database. You can use queries in several ways, for example:
  - To produce ad hoc reports that can be run over and over again. These are known as User Queries.
  - Create user-defined alerts and approval processes in SAP Business One. The query can check for conditions that are not covered by predefined alerts or standard approval procedures.
  - Populate the contents of a field, including user-defined fields. The query is added to the field as user-defined values (formatted searches) and can populate the field value from the query results.
  - To show dynamic information for analytics in dashboards and KPIs
  - To validate the values imported into a table or field during data migration.
- You should understand that the query tools are not designed to produce complex, fully formatted reports or print layouts; you should use Crystal Reports for these purposes. And you are not allowed to use the query tools to insert, update or delete standard table fields.



## System Information



- In order to run queries you need to know the names of the SAP Business One tables and fields. This information is displayed when you enable *System Information*.

## Objects and Tables

The screenshot shows the 'Business Partner Master Data' form for a vendor named Sarah Karl. The form is divided into several tabs: General, Contact Persons, Addresses, Payment Terms, Payment Run, Accounting, Properties, Remarks, and Attachments. The 'General' tab is active, showing fields for Name, Code, Foreign Name, Group, Currency, and Federal Tax ID. The 'Addresses' tab is also visible, showing fields for Contact ID, First Name, Title, Middle Name, Position, Last Name, Address, Telephone 1, Telephone 2, Mobile Phone, Fax, E-Mail, E-Mail Group, Pager, Remarks 1, Remarks 2, Password, Country of Birth, and Date of Birth. The 'Accounting' tab shows fields for Account Balance, Goods Receipt POs, and Purchase Orders. The 'Properties' tab shows fields for Local Currency, Block Sending Marketing Content, and Active. The 'Remarks' and 'Attachments' tabs are also visible. The form includes buttons for 'Set as Default', 'OK', 'Cancel', and 'You Can Also'.

- An object can span multiple tables in the database
- For example, the business partner master data object is held in several database tables including:
  - OCRD
  - OCPR
  - CRD1
  - OSLP

An object can span multiple tables in the SAP Business One database. For example, the business partner master data object is held in multiple tables in the database, including the header table OCRD. There are related child tables, such as OCPR, CRD1, OSLP, etc. These child tables hold the data that you see on the various tabs of the business partner record.

In SAP Business One table names are 4 characters long.

## System Information

View > System Information (Ctrl+Shift+I)

The screenshot shows the SAP Business Partner Master Data form. The 'System Information' menu item is selected in the top-left navigation pane. A mouse cursor is hovering over the 'Name' field in the 'General' tab. The status bar at the bottom of the window displays the field's details: 'BP Name (100 Characters)' and 'SMD Technologies [Form=134 Item=7 Pane=0 Variable=1] OCRD,CardName'.

- System Information shows the table and field names for a form that you are viewing
- To see the table and field name, enable *System Information* from the View menu (or press **Ctrl +Shift +I**)
- When you move your mouse over a field, the information shows in the status bar
- Example: If you hover over the Name field in the Business Partner Master Data, you see that the table is OCRD and field name CardName

To develop a SQL query you need to know the database table and field name for selection.

When you open an object in SAP Business One, you can find out the table name for a field by enabling System Information from the View menu. You can also use the keyboard shortcut Ctrl + Shift + I.

Then, when you hold your mouse over a field in the object, the relevant table information for the field is shown in the status bar at the bottom of the window.

You now have the table name and field name to enter in your SQL query.

Other information about the field is displayed, such as the maximum length of the field.

The business partner master data object is shown in the slide. If you hover over the Name field you will see that the table is OCRD and the field name is CardName.

## Documents and Objects

- Sales and purchasing documents are also represented as objects
- Each document type (sales order, sales delivery, A/R invoice, purchase order, A/P invoice, and so on) has the *same* structure and is based on several objects including:
  - *Documents* object (the header parts)
  - *Document\_Lines* object (the matrix or row part)
- A document, such as the sales order document shown here, spans multiple tables, for example:
  - ORDR
  - CRD1

The screenshot displays a SAP Sales Order window. The top section is the 'Header' area, which includes fields for Customer (C2390), Name (Parameter Technology), Contact Person (Daryl Brown), Customer Ref. No., and Currency (GBP). It also shows the No. (0000000000), Primary (YES), Status (Open), Posting Date (30.11.15), Delivery Date (07.12.15), and Document Date (30.11.15). Below the header is a tabbed interface with 'Contents', 'Logistics', 'Accounting', and 'Attachments'. The 'Contents' tab is active, showing a table of line items. The table has columns for Item No., Item Description, Quantity, Unit Price, Disc., Tax., and Total (L+C). The line items are as follows:

Item No.	Item Description	Quantity	Unit Price	Disc.	Tax.	Total (L+C)
1	LP4029ACA Leifon 4029 Printer AC Adapter	12	GBP 10.00	0.00	0%	GBP 120.00
2	LP4029ACACD Leifon 4029 Printer AC Power Cord	12	GBP 10.00	0.00	0%	GBP 120.00
3	LP4029D Leifon 4029 500 sheet paper drawer	12	GBP 30.00	0.00	0%	GBP 360.00
4	LP4029HC Memory Chip	20	GBP 37.50	0.00	0%	GBP 750.00
5	LP4029H Leifon 4029 Printer Head	10	GBP 18.00	0.00	0%	GBP 180.00
6	LP4029PS Leifon 4029 Printer Power Supply	24	GBP 18.00	0.00	0%	GBP 432.00
7	LP4029SB Leifon 4029 Printer System Board	8	GBP 90.00	0.00	0%	GBP 720.00
8				0.00	0%	

Below the table is another 'Header' section for 'Sales Employee' (Brad Thompson) and 'Owner' (Manager, Marc). It also shows 'Total Before Discount' (GBP 2,652.00), 'Discount' (2%), 'Freight' (GBP 0.00), 'Rounding' (GBP 0.00), 'Tax' (GBP 488.76), and 'Total' (GBP 3,140.76). At the bottom, there are buttons for 'Add', 'Cancel', and 'Data Print'.

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Sales and purchasing documents, such as orders, quotations, and invoices, all have the same structure and are based on two main objects:

- The *Documents* object for the header parts of the document
- The *Document\_Lines* object for the matrix or row section of the document

A document type, such as a sales order, spans multiple tables. The tables will be different for each document type, so that the set of tables for a purchase order is different from the set of tables for a sales order. For example, the sales order uses the database table ORDR for the header and the table CRD1 for the rows.

## System Information - Item and Column Numbers

System information also shows:

- The item number for a header field
- The item, column and row number for a row-based field
- Item and column number for a field is same across similar document types
- Since all marketing documents have the same item and column number for a field, you can write queries that work across different document types by referencing the item and column numbers

**Sales Order**

Customer: C60000  
 Name: SG Electronics  
 Contact Person: Eric Alexander  
 Customer Ref. No.:  
 BP Currency: USD 1.3300

Customer/Vendor Code (15 Characters)  
 [Form=139 Item=4 Pane=0 Variable=1 ORDR,CardCode]

**Contents** | Logistics | Accounting | Attachments

#	Item No.	Item Description	Quantity	No. of Packages	Unit Price	Disc...	Tax ...	Total
1	Z00001	Tablet PC 64GB Black	4	4	GBP 1,050.00	0.00	O1	
2	Z00002	Tablet PC 64GB White	6	6	GBP 1,050.00	0.00	O1	
3	100005	J.B. Laptop Batteries X1	100	100	GBP 24.00	0.00	O1	
4	100006	J.B. Laptop Batteries X2	100	100	GBP 33.00	0.00	O1	
5								

Item No.  
 [Form=139 Item=38 Pane=1 Column=1 Row=1 Variable=11 RDRI,ItemCode]

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- The system information also shows, in addition to the table and field name, the *item number* for a header field, and the *item, column and row number* for a row-based field.
- For example, in a sales order, the item number for the *CardCode* field is 4. The column number for the *CardCode* field is not displayed, since this is a header field in table ORDR and the column number for all header fields is 0.
- If you open other marketing documents, you will see that the *CardCode* field is always 4.
- Why is this important? The item number for a field is common across all document types that have the same structure, such as sales and purchasing documents. In these documents, the item numbers are the same, but the table names are different. Using the item number instead of the field name allows you to write queries that can work across multiple document types, by referencing the same item number.
- In the lower screenshot on the slide, you can see that the *ItemCode* field in the sales order document matrix has item number 38 and column number 1. The row number 1 denotes the first row in the document (that is, row numbers start at 1).
- You will notice that the item and column number for a row field is the same across similar document types, for example, the *ItemCode* has item number 38 and column number 1 in all sales and purchasing documents.

## System Information - Calculated Fields

**Sales Order**

Customer: C00000  
 Name: SG Electronics  
 Contact Person: Eric Alexander  
 Customer Ref. No.:  
 BP Currency: USD 1.1300

No.: 1226  
 Status: Open  
 Posting Date: 31.10.17  
 Delivery Date: 31.10.17  
 Document Date: 31.10.17

Item No.	Item Description	Quantity	No. of Packages	Unit Price	Disc.	Tax	Total (Doc)	COGS Line o...	UoM Code
1	200001 Tablet PC 64GB Black	4	4	GBP 1,050.00	0.00	C1	USD 5,596.00		Manual
2	200002 Tablet PC 64GB White	6	6	GBP 1,650.00	0.00	C1	USD 8,379.00		Manual
3	300005 J.B. Laptop Batteries X1	100	100	GBP 24.00	0.00	C1	USD 2,152.00		Each
4	300006 J.B. Laptop Batteries X2	100	100	GBP 33.00	0.00	C1	USD 4,389.00		Each

Sales Employee: Jim Boonick  
 Owner:

Remarks:

Add Cancel

Total Before Discount: USD 21,546.00  
 Discount: %  
 Freight: USD 0.00  
 Tax: USD 4,309.20  
 Total: USD 25,855.20

(40 Characters)  
 USD 25,855.20 [Form=139 Item=29 Pane=0 Variable=93]

- Table and field names are not displayed in System Information for fields that include the currency symbol in the document display (for example, totals and tax)
- To use these fields in a query:
  - Use the item number
  - See the Database Tables Reference

- You will find that the table and field name is not displayed for some fields, including the unit price and calculated fields such as totals and taxes. These fields are shown in the document concatenated with the currency symbol, whereas in the database the amount is stored without the currency symbol.
- You can still use these fields in a query. You can use the item number to refer to the field, or you can get the database field name from the Database Tables Reference.

## Database Tables Reference

Contents Search

- Returns - Installments
- Returns - Items in Package
- Returns - Resource Costs
- Returns - Row Structure
- Returns - Rows
- Returns - S&B properties
- Returns - Tax Amount per Document
- Returns - Tax Extension
- Returns - Withholding Tax
- Returns Rows - Distributed Expenses
- REFDB**
- Sales Order - Assembly - Rows
- Sales Order - Bin Allocation Data
- Sales Order - Document Reference Information
- Sales Order - Export Process
- Sales Order - Freight
- Sales Order - Freight - Rows
- Sales Order - Import Process
- Sales Order - Installments
- Sales Order - Items in Package
- Sales Order - Resource Costs
- Sales Order - Row Structure
- Sales Order - Rows
- Sales Order - S&B properties
- Sales Order - Tax Amount per Document
- Sales Order - Tax Extension
- Sales Order - Withholding Tax
- Sales Order Rows - Distributed Expenses
- Sales Quotation
- Sales Quotation - Bin Allocation Data
- Sales Quotation - Document Reference Information
- Sales Quotation - Order Item
- Sales Quotation - Export Process
- Sales Quotation - Freight
- Sales Quotation - Freight - Rows
- Sales Quotation - Import Process
- Sales Quotation - Installments
- Sales Quotation - Items in Package
- Sales Quotation - Resource Costs
- Sales Quotation - Row Structure
- Sales Quotation - Rows

SAP Business One SDK 9.2 - Database Tables Reference

Table Name: ORDR

Table Description: Sales Order

Field	Description	Type	Size	Related	Default Value	Constraints
DocEntry	Internal Number	Int	11	-	-	-
DocNam	Document Number	Int	11	-	-	-
DocType	Document Type	VarChar	1	-	I	I Item
CANCELED	Canceled	VarChar	1	-	N	Y Yes
Handwritten	Manual Numbering	VarChar	1	-	N	Y Yes
Printed	Printed	VarChar	1	-	N	Y Yes
DocStatus	Document Status	VarChar	1	-	O	O Open
InvStms	Warehouse Status	VarChar	1	-	O	C Closed
Transferred	Year Transfer	VarChar	1	-	N	Y Yes
DocCur	Document	nVarChar	3	OCRN	-	N No
DocRate	Document Rate	Num	19 6	-	-	-
DocTotal	Document Total	Num	19 6	-	-	-
DocTotalFC	Document Total (FC)	Num	19 6	-	-	-
PaidToDate	Paid to Date	Num	19 6	-	-	-
PaidFC	Paid (FC)	Num	19 6	-	-	-
GrossProfit	Gross Profit	Num	19 6	-	-	-
GrossProfitFC	Gross Profit (FC)	Num	19 6	-	-	-
Ref1	Reference 1	nVarChar	11	-	-	-
Ref2	Reference 2	nVarChar	11	-	-	-
Comments	Remarks	nVarChar	254	-	-	-
DocMemo	Journal Remarks	nVarChar	80	-	-	-

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- Access REFDB file from the SAP Business One SDK > Help folder or from the DTW help menu
- Shows:
  - Maximum length of a field
  - Type
  - Default value (if any)
  - Constraints (permitted values)

You can find the *Database Tables Reference* file REFDB in the SAP Business One SDK > Help folder, or, if you have installed the installed Data Transfer Workbench you can open it from the Help menu.

In addition to the field names for an object, the reference file provides:

- The description
- The type of field (for example, Int, VarChar, Numeric, Text, etc.).
- The maximum length of a field
- If the field is a foreign key there is a link to the related table
- A default value if one exists
- Constraints on the field values

## Query Tools

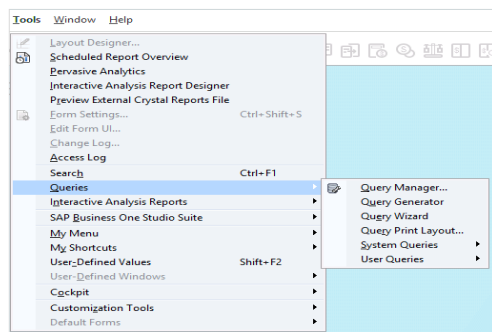


- SAP provides two query tools assist you in developing the query syntax.



## Query Tools

Tools for creating user queries are located under the **Tools > Queries** menu



- Query Generator
- Query Wizard

- Tools for creating and managing user queries are located under the *Tools* menu in the top menu bar of the client application.
- SAP Business One provides two tools, the *Query Generator* and the *Query Wizard* to assist you in creating queries using the structured query language (SQL). SQL is a standardized set of commands for accessing and formatting data in relational databases. Both tools produce the same results in the end, and it is mainly a matter of your own preference as to which tool you use.

# Query Wizard

## Multi-step wizard

**Query Wizard**

**Select Fields & Sort Orders**  
Select the fields which will be displayed as column titles, create subtotals, rename fields and more. You can also define computation fields at this stage.

Table	Field	Heading	Sort Order	Sort Type	Group (Y/N)	Comp.
Purchase Order	DocNum	PO Number	Ascending			
Purchase Order	CardCode	Supplier	Ascending			
Purchase Order	CardName	Supplier Name	Ascending			
Purchase Order	DocTotal	Amount	Ascending			

**Query Wizard completed**  
All required information for the query has been entered. Review the SQL statement below and choose "Finish" to execute.

**Step 3 of 5**

Summary:  
SELECT T0."DocNum" AS "PO Number", T0."CardCode" AS "Supplier",  
T0."CardName" AS "Supplier Name", T0."DocTotal" AS "Amount" FROM  
"UK09"."OPOR" T0

**Choose Finish to show and run the query**

**Query Preview**

SELECT T0."DocNum" AS "PO Number", T0."CardCode" AS "Supplier", T0."CardName" AS "Supplier Name",  
T0."DocTotal" AS "Amount" FROM "UK09"."OPOR" T0

#	PO Number	Supplier	Supplier Name	Amount
1	1	V10000	Acme Associates	10,543.50
2	2	V1010	Far East Imports	17,666.22
3	3	V50000	Lumax	10,202.50
4	4	V60000	CTI Computers	7,743.80
5	5	V23000	Anthony Smith	4,479.69
6	6	V20000	Lasercom	2,949.86
7	7	V10000	Acme Associates	21,087.00
8	8	V30000	Blockies Corporation	1,339.50
9	9	V60000	CTI Computers	2,700.00
10	10	V70000	SMD Technologies	3,436.88
11	11	V1010	Far East Imports	1,142.79
12	12	V1010	Far East Imports	821.52
13	13	V20000	Lasercom	2,788.41
14	14	V30000	Blockies Corporation	1,774.25
15	15	V23000	Anthony Smith	23,500.00
16	16	V70000	SMD Technologies	235.00
17	17	V50000	Lumax	2,906.30

**Step 5 of 5**

Buttons: Execute, Cancel, Reverse Table, Copy Data, Save, Open

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- As its name suggests, the Query Wizard guides you step-by-step through the process of creating a query without you having to write SQL commands and syntax. You should use this tool if you do not have much experience with SQL. The query wizard is a multi-step wizard.
- To run a query from the query wizard, in the final step choose the Finish button.
- The generated query and the results of the query appear in the query preview window.

## Query Example with Query Wizard

To generate the query using the wizard:

- Press **Tab** to view and select the table name
- In the next step press **Tab** on each row to select a field from the list
- In the final step of the wizard the query is generated



Generated query:

```
SELECT T0."DocNum" AS "Document Number",
T0."CardCode" AS "Customer/Vendor Code",
T0."CardName" AS "Customer/Vendor Name",
T0."DocTotal" AS "Document Total"
FROM "OPOR" T0
```

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- In the first step of the wizard you press **Tab** to view the list of database tables and select the required table (related tables are shown and can be selected).
- Then in the next step you press **Tab** to view and select the fields. All fields from the table are shown and you can enter partial names in the **Find** field. Double-click a field to select it for the query. Select each field on a separate row in the wizard step.
- The system generates the SQL statements in the background so you do not require precise SQL syntax knowledge. However, because this is done by a wizard it takes several steps to produce the query.
- You will find the Query Wizard easier to use if you do not have much familiarity with SAP Business One tables and how they are related to each other. When you select a table, the Query Wizard will show you all tables that are related to your chosen table, allowing you to select data from multiple tables. If you select multiple tables for your query, the wizard will take care of the table joins.
- The generated query syntax is shown in the slide.

## Query Generator

Single-step interface for building query

The screenshot shows the SAP Query Generator interface. On the left, a list of fields is available for selection, including CardCode, CardName, Address, NumAttCard, VatPercent, VatSum, DiscPrcnt, DiscSum, DocCur, DocRate, DocTotal, DocTotalFC, PaidToDate, PaidFC, and GrossProfit. The 'Execute' button is highlighted with a yellow callout box containing the text 'Choose Execute to run the query'. On the right, the 'Query Preview' window displays the generated SQL query and a table of results.

**Query Preview**

```
SELECT T0."DocNum" as "PO Number", T0."CardCode" as "Supplier", T0."CardName" as "Supplier Name", T0."DocTotal" as "Amount" FROM OPRK T0
```

#	PO Number	Supplier	Supplier Name	Amount
1	V10000	Acme Associates	10,543.50	
2	V1010	Far East Imports	17,666.22	
3	V50000	Lumax	10,202.50	
4	V60000	CTI Computers	7,743.80	
5	V20000	Anthony Smith	4,479.69	
6	V20000	Lasercom	2,049.86	
7	V10000	Acme Associates	21,687.60	
8	V30000	Blockes Corporation	1,339.50	
9	V60000	CTI Computers	2,700.00	
10	V70000	SMD Technologies	3,436.88	
11	V1010	Far East Imports	1,142.79	
12	V1010	Far East Imports	821.52	
13	V20000	Lasercom	2,788.41	
14	V30000	Blockes Corporation	1,774.25	
15	V20000	Anthony Smith	23,560.00	
16	V70000	SMD Technologies	235.00	
17	V50000	Lumax	2,606.30	

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- The second tool, the Query Generator, allows you to create the SQL in a single screen. If you have some basic SQL knowledge, you will find the Query Generator much faster than the Query Wizard.
- You select the tables and then the fields, and the query is shown in the right-hand side of the window.
- To run the assembled query in the query generator, choose the Execute button.
- The query results appear in the query preview window.

## Query Example with Query Generator

To generate the query using the query generator:

- Enter the table name, or press Tab to see the list of tables
- Double-click to select each field from the displayed list – the elements of the query are built and shown on the right



Query Generator

Name	Description
<b>DocCur</b>	<b>Document Currency</b>
DocData	Posting Date
DocDelvry	Document Delivery
DocDueDate	Due Date
DocManClad	Document Was Closed Manu
DocNum	Document Number
DocRate	Document Rate
DocStatus	Document Status
DocSubType	VAT Code for Tax Invoice R
DocTime	Generation Time
DocTotal	Document Total
DocTotalFC	Document Total in FC
DocTotalSy	Document Total in SC
DocType	Document Type
DpmAmnt	Down Payment Amount LC
DpmAmntFC	Down Payment Amount FC
DpmAmntSC	Down Payment Amount SC
DpmAppl	Down Payment Applied LC

Execute Close

Select

T0."DocNum", T0."CardCode",  
T0."CardName", T0."DocTotal"

From

OPOR T0

Where

T0."DocStatus" = 'O'

Sort By

T0."DocDate"

Group By

Conditions

```
SELECT T0."DocNum", T0."CardCode", T0."CardName",  
T0."DocTotal" FROM OPOR T0 WHERE T0."DocStatus"  
='O' ORDER BY T0."DocDate"
```

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- To generate the query, enter the table name in the text box in the top-left of the window, or press *Tab* in this box to see the complete list of tables.
- Press *Tab* again to see a list of all fields in the table. Double-click to select each field from the displayed list. The elements of the query are built and shown on the right-hand side of the tool window.
- Like the Query Wizard, the Query Generator will automatically supply the inner join when you select more than one table for a query. Although it does not show you the list of tables related to your chosen table, fields that are keys to related tables are shown in **bold**. You can drag and drop the bolded field to the table selection column and the Query Generator will open the related table, allowing you to select fields from that table.

## Query Preview Window

The Query Preview window displays the query syntax and the results

The SQL syntax generated by the in-built query tools depends on the underlying database, either SQL Server database or SAP HANA. However, the results will be the same.

In the Query Preview you have an option to edit the query, or write your own query from scratch

Query Preview

SELECT T1."ItemCode", T1."OnHand", T1."IsCommitted", T1."OnOrder", T1."CardCode", T1."BuyUnitMsr", T0."FirmName" FROM OMRC TO INNER JOIN OITM T1 ON T0."FirmCode" = T1."FirmCode" WHERE T1."PrchseItem" = 'Y'

#	Item No.	In Stock	Qty Ordered by Customers	Qty Ordered from Vendors	Preferred Vendor	Purchasing UoM	Manufacturer Name
1	B10000	500.000	0.000	0.000	V50000	Carton	LeMon
2	C00010	914.000	2.000	0.000	V20000	Pack	PCM
3	C00011	201.000	1.040.000	0.000	V10000	Pack	A+ Electronics
4	100001	20.000	2.640.000	300.000	V10000	Case	PCM
5	100002	90.156.000	60.000	0.000	V10000	Case	PCM
6	200001	0.000	40.000	0.000			AccentInc
7	200002	16.000	6.000	0.000			AccentInc
8	200008	1.807.000	60.000	0.000	V10000	Pallet	LeMon
9	200011	62.000	480.000	0.000	V10000	Pack	PCM
10	100013	1.100.000	96.000	2.300.000		Case	OEC Computers
11	LM4529	225.000	6.000	76.000	V10000	Eac	LeMon
12	LM4529ACCA	471.000	92.000	0.000	V10000	Pack	LeMon
13	LM4529APCD	1.041.000	99.000	7.000	V10000	Eac	LeMon
14	A00001	2.458.000	60.000	0.000	V30000	Pallet	OEC Computers
15	R00002	1.769.000	8.000	240.000		Pallet	OEC Computers
16	A00001	438.000	0.000	0.000	V10000		J.B.
17	A00002	494.000	25.000	0.000	V1010		J.B.
18	A00003	645.000	20.000	0.000	V20000		J.B.
19	A00004	560.000	0.000	0.000	V10000	Unit	Rainbow
20	A00005	702.000	6.000	0.000	V1010		Rainbow
21	A00006	70.000	0.000	0.000	V20000		Rainbow
22	C00001	821.000	25.000	0.000	V1010		A+ Electronics
23	C00002	717.000	3.000	0.000	V20000		A+ Electronics

Execute Cancel Reverse Table Copy Data Save Save As Open

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The Query Preview window displays the query syntax and the results

The SQL syntax generated by the in-built query tools depends on the underlying database, either SQL Server database or SAP HANA. However, the results will be the same.

From the query preview window you have the option to edit the built query. Click the “pencil” icon to edit the query syntax. In edit mode you can write and run your own query from scratch.

The query preview window also allows you to save queries for reuse. This will be discussed later in this course.

## Query Syntax



- The two query tools assist you in developing the query, but you also need some basic understanding of the elements that make up the SQL query syntax.

## Basic Elements of a Query

### Select statement

- Select (fields or calculation)
- Conditions (Where) (optional)
- Sort (Order by) (optional)
- Group by (optional)

```
SELECT T0."DocNum", T0."CardCode", T0."CardName", T0."DocTotal"  
FROM OPOR T0
```

```
WHERE T0."DocStatus" = 'O'
```

```
ORDER BY T0."DocDate"
```

**Note:** SQL is not case sensitive, therefore commands do not have to be upper case

All examples shown in this course are for SAP HANA



#	Document Number	Customer/Supplier No.	Customer/Supplier Name	Document Total
4	427	V20000	Lasercom	211.02
3	425	V10000	Acme Associates	234.30
1	423	S110050	Cables Inc	264.38
2	424	V1010	Far East Imports	2,635.88
Ctrl + double click to add total of rows				3,345.58

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A query, or the underlying SQL statement, contains one or more of the basic elements listed on the slide:

- Selection of fields. You can also specify calculation fields that display the result of an addition, subtraction, multiplication, or division of two fields.
- Conditions for selection (where clause)
- Sort order (order by clause)
- Grouping and summarizing (group by clause)

The sample query shown in the top right part of the screen will show information for open purchase orders that have been added in the last week. The query selects data from the purchase order table OPOR. The results of the query, a simple snapshot from the database, is shown. The total of the rows is not shown, but you can add this to the report by holding the Ctrl key and clicking twice with your mouse.

Note that SQL is not case sensitive, therefore the commands do not have to be upper case. For table names and field names that contain lower case letters, in SAP HANA syntax you are required to add double quotation marks around the field names.

All query examples shown in this course are for SAP HANA. For a list of differences in SQL syntax for SAP HANA, see the document **Best Practices of SQL in the SAP HANA Database**



## Query Elements – Where Clause

- Conditions (Where) (optional)
  - Fixed conditions
  - Calculations and functions
  - Variables
- AND / OR operators can be used to link multiple conditions

```
SELECT T0."DocNum", T0."CardCode", T0."CardName", T0."DocTotal"  
FROM OPOR T0
```

```
WHERE T0."DocStatus" = 'O' and T0."DocDate" >  
ADD_DAYS(Current_Date, -7)
```

```
ORDER BY T0."DocDate"
```

**Note:** To find out the possible values for a field such as *DocStatus*, you can:

- Run a query on the table and select the field name. In the results you will see possible values that are already stored in the database, or
- See the *Database Tables Reference* for a list of the allowed values (constraints).

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- The optional **Where** clause lets you filter only records that meet specified criteria. Although the query tools will help you assemble the basic elements of the query, you will need some knowledge of SQL syntax to complete the Where clause.
- In the Where clause you can include:
  - Fixed conditions as comparisons. For example, in our sample query, only purchase orders that are open (*DocStatus* 'O') will be displayed.
  - Calculations and functions. In the sample query, we have added a calculation to include only purchase orders that were posted in the last 7 days. We match the posting date value (*DocDate*) to the current date – 7. The function `ADD_DAYS` is used to calculate the current date minus 7.
  - Variables. Variables are specified as [%0], [%1], [%2], etc. When you include a variable, the user will be prompted to enter a value as a parameter when the query runs.
- AND and OR operators can be used to link multiple conditions. In the sample query we use the AND operator since both criteria must be met.

**Note:** The sample query shown uses the *DocStatus* field as criteria. In the database this field has a fixed list of permitted values (constraints). To find out the possible values for a field such as *DocStatus*, you have two options:

- Run a query on the table and select the field name. In the results you will see the possible values that are already stored in the database.
- See the Database Tables Reference for a list of the allowed values (constraints).

## Query Elements – Where Clause (cont.)

- Variables for parameters [%0] [%1] etc.

```
SELECT T0."DocNum", T0."CardCode", T0."CardName", T0."DocTotal"
FROM OPOR T0
```

```
WHERE T0."DocStatus" = 'O' and T0."DocDate" > [%0]
```

```
ORDER BY T0."DocDate"
```

Query - Selection Criteria

Posting Date: 01.01.16

Greater than

OK Cancel

#	Document Number	Document Type	Document Status	Customer/Supplier No.	Customer/Supplier Name
1	418	I	O	S110010	Sound Systems
2	420	I	O	V20000	Lasercom
3	421	I	O	V1010	Far East Imports
4	422	I	O	V20000	Lasercom
5	423	I	O	S110050	Cables Inc
6	424	I	O	V1010	Far East Imports
7	425	I	O	V10000	Acme Associates
8	426	I	O	V1010	Far East Imports
9	427	I	O	V20000	Lasercom

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- Variables give the user the flexibility to change the parameters when they run the query.
- Variables are simply defined in square brackets with %0 as the first variable, %1 the second variable, and so on.
- In the example, the posting date *DocDate* is used as a filter but we have added a variable condition. When the user runs the query they are prompted to enter the posting date. The date entered by the user is used in the Where clause and compared with the posting date from the purchase order. Only record where the posting data is greater than the parameter date will be included in the query results.

## Query Elements - Sort

- Sort (Order by) (optional)
  - ASC / DESC

```
SELECT T0."DocNum", T0."CardCode", T0."CardName", T0."DocTotal"  
FROM OPOR T0
```

```
WHERE T0."DocStatus" ='O' and T0."DocDate" >  
ADD_DAYS(Current_Date, -7)
```

```
ORDER BY T0."DocDate" ASC
```

- You can optionally sort the query results by adding the **Order By** clause to the query.
- The results will be sorted by default in ascending sequence (ASC) using the specified field. In this example the rows of results (purchase orders) will be sorted by posting date (*DocDate*).
- You can sort by descending sequence by adding the keyword DESC
- You can sort by multiple fields, and these fields can be either part of the select clause or other fields in any of the tables of the query.

## Query Elements - Group By Clause

Original query

```
SELECT T0."DocNum", T0."CardCode",
T0."CardName", T0."DocTotal" FROM OPOR
T0

WHERE T0."DocStatus" = 'O' and
T0."DocDate" > ADD_DAYS(Current_Date, -7)

ORDER BY T0."DocDate"
```

Query with addition of Group By clause

```
SELECT Count (T0."DocNum") as "Total # of POs", T0."CardCode",
T0."CardName", SUM(T0."DocTotal") as "Total Amount" FROM
OPOR T0

WHERE T0."DocStatus" = 'O' and T0."DocDate"
>ADD_DAYS(Current_Date, -7)

GROUP BY T0."CardCode", T0."CardName"
```

The results are consolidated by vendor (*CardCode*), with one row for each vendor with the count and the total amount of all open purchase orders

#	Total # of POs	Customer/Vendor Code	Customer/Vendor Name	Total Amount
1	1	S110010	Sound Systems	39.66
2	2	V20000	Lasercom	5,878.28
3	1	V1010	Far East Imports	68,532.75

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- The optional **Group By** clause allows you to display the query results grouped or summarized by a specified field, for example, by business partner. In our example, the original query has been rewritten to use the Group By element and is shown beside the original query on the slide.
- The grouped results are collected into sets using the Group By field or fields as the common value.
- *Group by* is usually used in conjunction with a mathematical function such as *Count* or *Sum*. In the sample query the Count function counts the number of POs and the SUM function calculates the document total from each PO.
- The selected fields are consolidated according to the fields specified in the Group by clause, so in the sample query the results are consolidated by vendor (*CardCode*), and the query shows one consolidated row for each vendor with the count and the total amount of all open purchase orders for the vendor.
- Notice that we need to supply the *column headings* for the fields that are counted and summed, since the column headings for these fields are not in the database.
- When using the Group by clause, fields that you use in the Select statement must also appear in either the Group By clause or the aggregate function (Count or SUM). For this reason, we have specified the *CardName* field in the Group by clause.


## Table Aliases and Joins

- When you use more than one table in a query, you normally need to create joins between the tables
- The query tools automatically supply joins for you
- An alias is added (T0, T1, etc.) to identify each table

```
SELECT T0."DocNum", T0."CardCode", T0."CardName", T0."DocTotal",
T1."Balance", T1."ListNum"

FROM OPOR T0 INNER JOIN OCRD T1 ON T0."CardCode" =
T1."CardCode"

WHERE T0."DocStatus" = 'O'
```



#	Document Number	Customer/Vendor Code	Customer/Vendor Name	Document Total	Account Balance	Price List No.
1	268	V70000	SMD Technologies	2,056.25	-53,793.60	2
2	387	V10000	Acme Associates	527.18	-162,413.86	1
3	388	V20000	Lasercom	108.52	-63,401.87	2
4	389	V30000	Blockies Corporation	3,388.70	-63,168.74	2
5	390	V30000	Blockies Corporation	705.00	-63,168.74	2
6	391	V60000	CTI Computers	281.25	-47,558.85	3
7	393	V10000	Acme Associates	1,197.27	-162,413.86	1
8	394	V23000	Anthony Smith	2,728.35	-89,553.81	1
9	396	V20000	Lasercom	487.14	-63,401.87	2
10	398	V70000	SMD Technologies	1,057.50	-53,793.60	2

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- When you specify more than one table in your query, you normally need to create joins between each table. The Query Wizard and Query Generator tools make this easy for you by automatically supplying the inner join when you select more than one table for a query. For example, if you select the purchase orders table (OPOR) and also select the business partners master data table (OCRD), the query tools will link these tables using the business partner code which is common to both tables.
- The query tools automatically add an alias for each table, for example, T0, T1, etc. If the query references more than one table this helps you to identify the relevant table for a field.
- When you select a table, the Query Wizard will show you all tables that are related to your chosen table. In the Query Generator, fields that are keys to related tables are shown in **bold**. You can drag and drop the bolded field to the table selection column and the Query Generator will open the related table, allowing you to select fields from that table.

## Report Column Headings

When a query runs, headings for report columns are taken from the database column names:

#	PO Number	Supplier	Supplier Name	Amount
1	420	V20000	Lasercom	5,426.10
2	421	V1010	Far East Imports	68,532.75
3	418	S110010	Sound Systems	39.66
4	422	V20000	Lasercom	452.18

To change the default column heading in the **Query Wizard**, type the desired text in the Heading column

**Query Wizard**

**Select Fields & Sort Orders**  
Select the fields which will be displayed as columns. You can also define computation fields at this step.

Table	Field	Heading	Sort Order
1 Purchase On	DocNum	PO Number	
2 Purchase On	CardCode	Supplier	
3 Purchase On	CardName	Customer/Vendor Name	
4 Purchase On	DocTotal	Document Total	
5 Purchase On			

**Query wizard**

To change the default column heading in the **Query Generator**, use the "as" keyword in the query with the new heading text in double quotes

**Query generator**

Select  
T0."DocNum" as "PO Number",  
T0."CardCode" as "Supplier",  
T0."CardName" as "Supplier Name",

From  
OPOR T0

Where

Sort By

- When a query runs, headings for the report columns are taken from the database column names. To change a column heading in the query report:
  - In the Query Wizard, simply type in the desired text in the Heading column of the wizard screen.
  - In the Query Generator, use the "as" keyword followed by the new heading text in double quotes. Enter this text directly in the Select box.

## Query Syntax – Active Window

- Queries that will be used in approval processes and with user-defined values need to reference fields in the *active window* that the user is working on
- To refer to a field in the active window, include a \$ sign and square brackets around the table and field name

Example:

Select T0."Balance" FROM OCRD T0

INNER JOIN ORDR T1 ON T0."CardCode" = T1."CardCode"

WHERE (\$[ORDR."CardCode"] = T0."CardCode")

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- In many situations, the query needs to reference fields in the *active window*. In the example, the active window is identified by a blue line on the top of the form or document.
- This is true for queries used in approval procedures and with user-defined values. In these two situations the query runs while a document is being processed by the user in the active window.
- If a query needs to refer to a field in the active window instead of from the database, you must include a \$ sign and place square brackets around the table and field name to indicate the field is in the active window.
- In the example shown, you have added a query as user-defined values to a field in the sales order. The query will fetch the customer's account balance from the master data record and show the balance in a user-defined field in the sales order. The sales order is the *active window* because the user is working on it, therefore the reference to *CardCode* includes the special syntax. The query matches the *CardCode* from the active window to the *CardCode* in the master data.
- The master data record in this example is not in the active window. Fields that are accessed from the database, such as the balance field from the master data record, do not need the \$ sign.
- For more information on queries and approval processes, see the *Approval Processes* course. For more information on queries and user-defined values, see the *User-Defined Values* course.

## Syntax for Reference to Active Window

Item and  
Column  
Number

Table and  
Field Name

- For referencing fields in the active window, you can use either the table and field name, or the item and column number syntax

[... Item= ## Column= ## .... Table Name, Field Name]

Status Bar

### Table and Field Name Example:

This query can be used in an approval template for approval of **purchase orders**

In SAP HANA SQL, if there is no FROM clause in the statement, use FROM DUMMY.

```
SELECT 'true' from DUMMY
WHERE
${OPOR.DocType} = 'S' and
${OPOR.DocTotal} > 500
```

- When you reference a field in the active window, you can use either the table and field name syntax *or* the item and column number syntax.
- In the slide is an example of a query used in an approval process. If you use the **table and field name** syntax for the active window, the query includes the table name so can only be used with a *single document type*. In this case the query can only be run to approve purchase orders since the OPOR table is explicitly included in the query.

**Note:** Queries used in approval processes always need to select a true result. In SAP HANA SQL, if there is no FROM clause in the statement, use FROM DUMMY.



## Syntax for Reference to Active Window

Item and  
Column  
Number

Table and  
Field Name

[... Item= ## Column= ## .... Table Name, Field Name]

- If you use the item and column syntax, the field is returned as a string and you need to specify an alternate format after the column number:

```
[$ Item Number. Column Number.0]
.Number]
.Currency]
.Date]
```

### Item and Column Number Example:

This query can be used in an approval template for approval of **multiple sales and/or purchasing documents**

In SAP HANA SQL, if there is no FROM clause in the statement, use FROM DUMMY.

```
SELECT 'true' from DUMMY
WHERE
[$[3.0.0] = 'S' and
[$[29.0.number] > 500
```

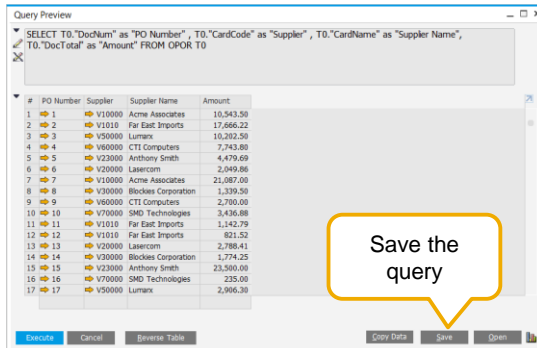
- If you instead use the item number and column syntax, the query can be used with *multiple document types of a similar structure*. For example, this query can be used in an approval process where multiple sales and purchasing marketing documents are selected in the approval template.
- The system uniquely identifies each field of a document using the field's index and column number.
- When you reference a *header field* using the item and column syntax, set the column number as 0.
- The field is fetched as a string, so if you need a different format you need to specify the format after the column number:
  - 0 - which is the default string format
  - Number – which returns the result as a numeric that you can use in calculation or comparison operators. In the slide example, the result is compared to 500. Since the *DocTotal* field holds both the amount and the currency symbol, specifying numeric here will extract the amount.
  - Currency – which returns the currency symbol from a field that holds both the amount and the currency symbol, such as the *DocTotal*.
  - Date – which should only be used if the field is a date field. The date is returned in a format for use in calculation or comparison operators.

## Saving and Managing Queries

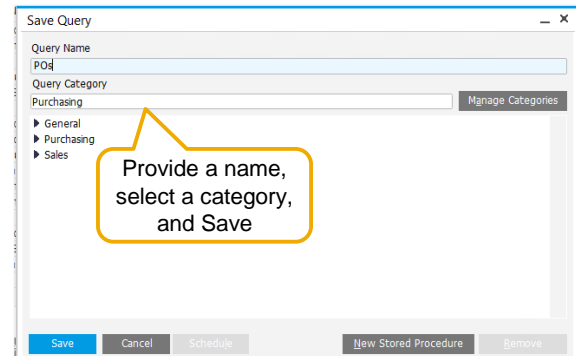


- After you create a query you may want to save it for reuse.

## Saving a Query



- Query can be saved from the query preview window
- Saved queries can be run from: **Tools > User Queries > Category > Query Name**

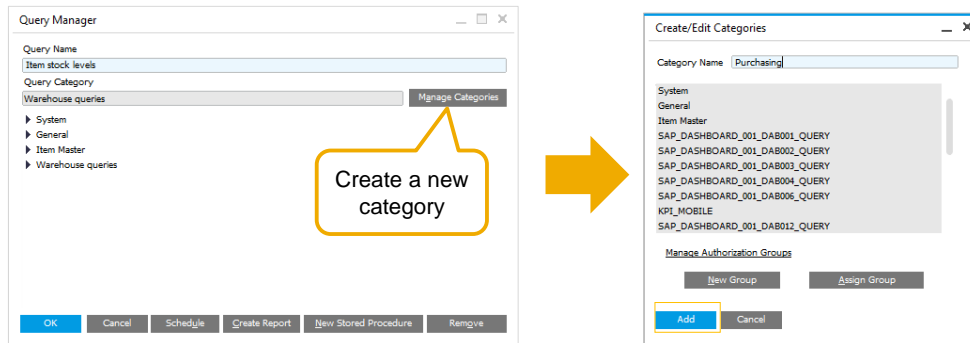


- You can save a query from the query preview window. When you save a query you must select a category. The General category is provided for you, but if you plan on adding many user queries you should create additional categories to manage the queries.
- Queries that you save are located as *User Queries*. To run a saved user query, choose the *Tools* menu in SAP Business One, and then select the category and the query name.

## Query Manager

### Tools > Queries > Query Manager

- Save and organize queries by category
- Remove queries

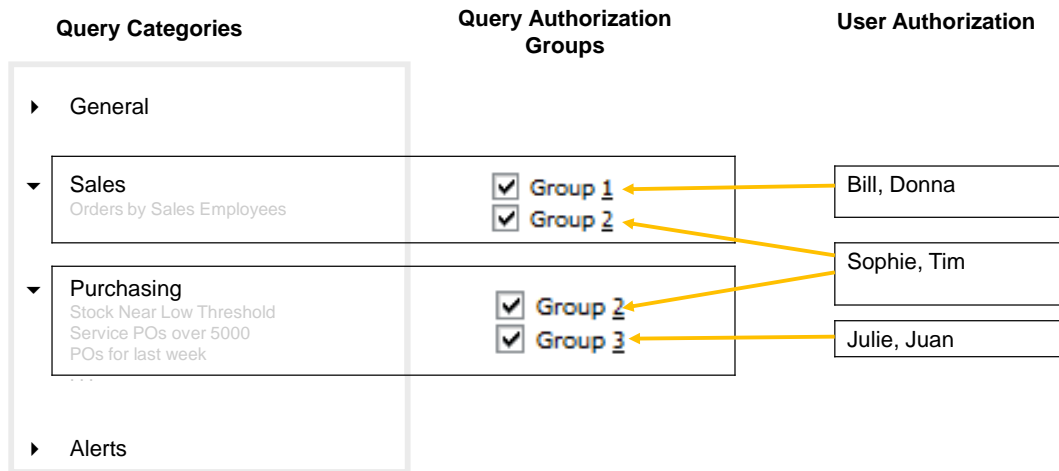


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- As the name implies, the *Query Manager* allows you to manage user queries that you save.
- You can save and organize queries by category. You can also delete queries.
- The System category is for SAP supplied queries. The General category is provided for you to save user queries, and you can create additional categories.
- To create a new category, choose the Manage Categories button. Then choose Add to add the new category and save your query. In the example here we will create a new category called Purchasing.

## Query Authorization Groups



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- When you create a new category, you must assign it to at least one query authorization group, or you will not be able to save the new category.
- Only users given access to a query authorization group can run the queries saved for the category. This provides a way to control which users can access and run the saved user query.

Let us look at the example provided here:

- You can see that query authorization groups 1 and 2 are assigned to the query category *Sales*. Query authorization groups 2 and 3 are assigned to the category *Purchasing*.
- Users Bill and Donna are assigned to query authorization group 1.
- Users Sophie and Tim are assigned to query authorization group 2.
- Julie and Juan are assigned to query authorization group 3.
- So, Bill and Donna can run all queries saved in the Sales category through its association with query authorization group 1. Sophie and Tim can run all queries saved in *both* the Sales and Purchasing categories because both categories are associated with query authorization group 2. And Julie and Juan can run all queries saved in the Purchasing category which is associated with query authorization group 3.

## User Authorization to Query Category

- In the *General Authorizations* window, assign each user to the category's group - the authorization is: *Reports > Query Generator > Saved Queries – Group No. 1-15*

The screenshot shows the 'Authorizations' window in SAP. The 'Users' tab is active, displaying a list of users on the left and a table of authorizations on the right. The user 'bob' is highlighted in the list. In the authorization table, the 'Subject' column is expanded to show the 'Query Generator' category, which includes 15 predefined 'Saved Queries - Group No. 1' through 'Group No. 15', and a 'User queries for Alerts' group. The 'Authorization' column for these groups shows 'Read-Only' for groups 1 and 2, and 'No Authorization' for groups 3 through 15. The 'User queries for Alerts' group has 'Full Authorization'.

Users	Group	Find	Subject	Authorization
AlertSvc				
alex				
Bill				
bill				
bob				
brad				
carlos				
christin				
dana				
donna				
doris				
elisa				
emily				
fred				
George				
hunter				
james				
jim				
john				
juan				
julle				

- There are 15 predefined query authorization groups
- You can add your own authorization groups using Query Manager
- Since authorization is granted at the category level, the user bob can run any query that is saved in a category that is associated with one of the selected authorization groups

A user is granted authorization to a query authorization group in the General Authorizations window. You can find this authorization under *Reports > Query Generator*. You can see 15 query authorizations - *Saved Queries – Group No 1 -15*. These are provided for you out-of-box. You can create additional query authorization groups in the Query Manager.

In the slide example, the user bob is granted permission to query authorization groups 1 and 2 at read only. The same user is also granted full authorization to the group called “User queries for Alerts”, which is a new authorization group that has been added to the list.

Since authorization is granted at the category level, the user bob can run any query that is saved in a category that is associated with one of these selected authorization groups.

If you want you secure access to saved user queries you need to carefully plan query categories and query authorization groups.

Be aware that query authorization groups are *not* the same as the authorization user groups used to assign general authorizations to multiple users. To learn more about general authorizations, see the related course *General Authorizations and User Groups*. You can also assign the authorization simultaneously to multiple users from a *User Group*.

## Other Query Authorizations

General authorizations are also required to:

- Create new queries (Query Generator)
- Create and edit query categories
- Use the Query Wizard tool
- Run the Query Manager
- Schedule running of a saved user query

Subject	Authorization	Effective Authorization
Human Resources	No Authorization	No Authorization
Project Management	No Authorization	No Authorization
Reports	Various Authorizations	Various Authorizations
Sales and Purchasing	No Authorization	No Authorization
Query Generator	Various Authorizations	Various Authorizations
New Queries	No Authorization	No Authorization
Create/Edit Categories	No Authorization	No Authorization
Saved Queries - Group No. 1	No Authorization	No Authorization
Saved Queries - Group No. 2	Full Authorization	Full Authorization
Saved Queries - Group No. 3	No Authorization	No Authorization
Saved Queries - Group No. 4	No Authorization	No Authorization
Saved Queries - Group No. 5	No Authorization	No Authorization
Saved Queries - Group No. 6	No Authorization	No Authorization
Saved Queries - Group No. 7	No Authorization	No Authorization
Saved Queries - Group No. 8	No Authorization	No Authorization
Saved Queries - Group No. 9	No Authorization	No Authorization
Saved Queries - Group No. 10	No Authorization	No Authorization
Saved Queries - Group No. 11	No Authorization	No Authorization
Saved Queries - Group No. 12	No Authorization	No Authorization
Saved Queries - Group No. 13	No Authorization	No Authorization
Saved Queries - Group No. 14	No Authorization	No Authorization
Saved Queries - Group No. 15	No Authorization	No Authorization
Saved Queries - Group No. 16	No Authorization	No Authorization
Saved Queries - Group No. 17	No Authorization	No Authorization
Saved Queries - Group No. 18	No Authorization	No Authorization
Saved Queries - Group No. 19	No Authorization	No Authorization
Saved Queries - Group No. 20	No Authorization	No Authorization
Execute Non-select SQL Statement	No Authorization	No Authorization
Modify SQL Statement	No Authorization	No Authorization
Query Wizard	No Authorization	No Authorization
Query Manager	No Authorization	No Authorization
Report Scheduling	No Authorization	No Authorization
Cockpit & Widget	No Authorization	No Authorization
Analytics	No Authorization	No Authorization
Piori-Style Cockpit Management	No Authorization	No Authorization
User Authorization	No Authorization	No Authorization

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New users, unless they are super users, have no authorization to create new user queries or query categories. This is designed to protect information in the database. The required authorizations are:

- New Queries: create new queries using the Query Generator
- Create/Edit Categories: create and edit categories in the Query Manager
- Query Wizard: use the query tool
- Query Manager: use Query Manager to manage saved queries
- Report Scheduling: schedule a saved query as a report

Note: To view dashboards and interactive views in SAP HANA, authorizations must be set for the Analytics subject area.

## Key Points



Key points from this topic:

- SQL queries can be used for ad hoc reports, with user alerts and approval procedures, and to validate migrated data in tables
- *View* → *System Information* can help you to identify table and field names, or item and column numbers, for use in queries
- There are two tools to help you create SQL queries – the Query Wizard and the Query Generator
- You can save queries as user queries and organize them by category
- Users need authorization to run saved user queries. First select a query authorization group for the category, then assign a user to the category's query authorization group in the general authorizations window
- Special syntax is used for queries that run while a document is being processed in the active window.

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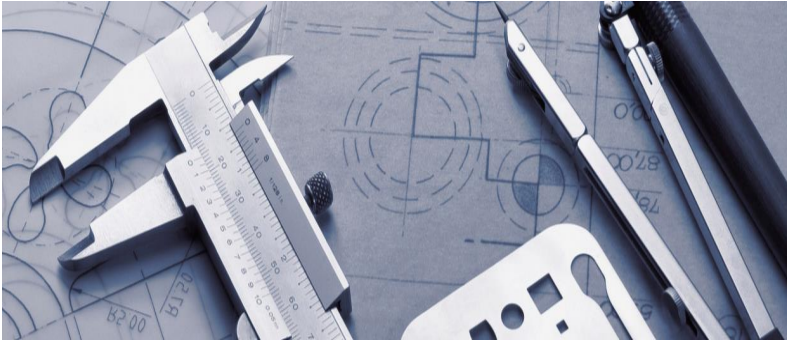
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- Here are some key points to take away from this session. Please take a minute to review these key points:
  - SQL queries can be used to produce ad hoc reports, as the first step to design a more complicated report, with user alerts and approval procedures, and during the implementation project to validate migrated data imported into tables.
  - System information can help identify table and field names, or item and column numbers. Use the *View > System information* command to enable the system information display.
  - Two tools exist to help you create SQL queries – the Query Wizard and the Query Generator. Try both tools to see which you prefer.
  - You can save queries as user queries and organize them by category. The query Manager allows you to organize and manage saved user queries.
  - Users need authorization to run saved user queries. First you select a query authorization group for the category in which the query was saved, then assign a user to the category's query authorization group in the general authorizations window.
  - Special syntax is used for queries that run while a document is being processed in the active window. This applies mainly to queries used in approval processes.



# Customization Tools: Alerts

SAP Business One Version 9.3



- This topic introduces the alerts feature of SAP Business One.

## Topic Objective

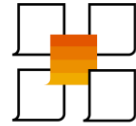


### Objectives:

- Describe the business situations covered by predefined alerts
- Set up and run the two types of alerts in SAP Business One:
  - Pre-defined alerts
  - User-defined alerts

- In this topic, we cover the alert mechanism provided in the SAP Business One application.
- You will be able to describe the business situations covered by predefined alerts, and set up and run the two types of alerts – pre-defined alerts and user-defined alerts.

## Alerts: Business Scenario



- The purchasing manager wants to be notified automatically as soon as an inventory item falls below the minimum stock quantity. On receiving the notification, the manager can decide whether to reorder stock.

**Solution:** Use the predefined alert *Minimum Stock Deviation*.

**Optional solution:** Create a user alert to send the manager a report of low inventory items and schedule the report to run daily or weekly.



- Let us look at a business example for an alert. In the example shown here, the purchasing manager wants to be notified automatically as soon as an inventory item falls below a the minimum stock quantity. On receiving the notification, the manager can decide whether to reorder stock.
- This example is a fairly simple requirement and can easily be set up using a predefined alert in the system.
- SAP Business One can also support more complex requirements with the addition of user queries. A creative use of alerts is as a task list or work order for a person. For example, if the purchasing manager in this scenario does not need to know immediately about the low stock, then you can create a user alert based on a query to provide a list of low-inventory items on a scheduled basis, such as once a day or once a week.

## Alerts

### *Administration > Alerts Management*

- Alerts notify users instantly when a specific business event or condition occurs
- Alerts do not prevent the event from occurring. The alert notifies you that the event has happened.
- Internal, email, text and fax mechanisms are supported
- To receive an alert, user must have a user account; however the user can receive notifications even if not logged in



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- The alert mechanism in SAP Business One informs one or more users instantly when a certain event or condition occurs.
- It is important to realize that alerts do not prevent the event from occurring. The alert notifies you after the event has happened.
- Four types of notification mechanisms are supported: internal, email, text and fax. Internal notifications appear in the SAP Business One client.
- To receive an alert, a user must have a user account in SAP Business One. However, the user does not have to be logged into SAP Business One to receive email, text and fax notifications.

## Setting Up Alerts

### *Administration > Alerts Management*

To set up alerts, a user needs the general authorization *Alerts Management*



#### Predefined Alerts

- Predefined with SAP Business One
- Only need to activate and configure the alert
- Instant notification to recipient

#### User-defined Alerts

- Write your own using a query
- The alert will trigger when the query runs and if there are any results from the query
- Query can be scheduled

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To set up alerts, you need the general authorization to *Alerts Management*.

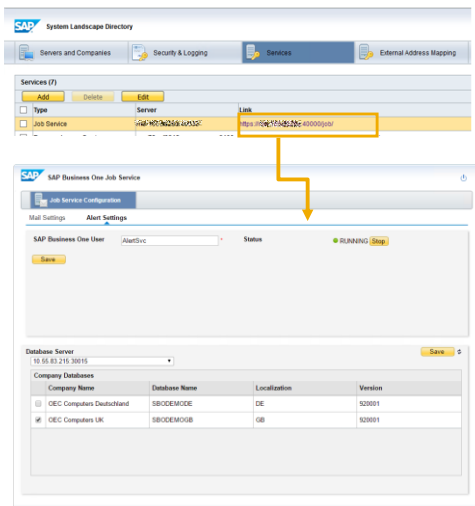
There are two ways to set up an alert:

- You can use one of the predefined alerts supplied with SAP Business One. In this case you simply need to configure and activate the alert. The alert will provide instant notification to users when an event occurs.
- Or, you can create your own alert based on a query. In this case the alert will trigger when the query runs and will provide the results of a query to the users. The query can be scheduled to run at a specific time and frequency.

## Alert Service

- Alert service is managed in Job Service area of the System Landscape Directory (SLD)  
<https://<server>:<port>/ControlCenter/>
- Alert Settings are accessed from link in the Job Service. In the Alert Settings, the alert service is selectable by database
- Alert service **must be** RUNNING at all times for alerts to work
- The *AlertSvc* user is a predefined technical user and is used to connect to the company database to execute alerts

**Note:** In a SAP HANA environment the alert service is dependent on the Service Layer. Service Layer must be installed in same landscape and bound with the database server



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- The alert mechanism runs as a service and is managed in the Job Service area of the System Landscape Directory (SLD). The SLD is installed with the server components during the SAP Business One installation. To access the System Landscape Directory, use the path shown in the slide, then login to the SLD using the site user credentials and select the link for Job Service.
- The settings for alerts are accessed from the link provided in the Job Service.
  - In the Alert Settings, the alert service is selectable by company database
  - The alert service *must be running* at all times in order for alerts to work
  - The *AlertSvc* user is a predefined user in SAP Business One and is automatically defined in the alert settings and functions as a technical user for connecting to the company database in order to execute alerts.
- Note:** in a SAP HANA environment, the alert service additionally requires the Service Layer to be installed in the landscape and bound with the database server. For more details about the alert server and service layer requirement, see the **SAP Business One Administrator's Guide**, version for SAP HANA.

## Predefined Alerts



## Predefined Alerts

- A fixed number of predefined alerts cover common business situations
- To see the list of predefined alerts, choose *Administration > Alerts Management*, then type \* in the *Name* field, and choose *Find*

### Administration > Alerts Management

Alerts Management

Name: [ ] Priority: Normal

Active Query: [ ]

#	To	Int.	Branch	E-Mail	Department	SMS	Fax
1	AlertSvc	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
2	Alex Torras	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
3	BTI	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
4	Bill Levine	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
5	Bob Shone	<input type="checkbox"/>	Main	<input type="checkbox"/>	Production	<input type="checkbox"/>	<input type="checkbox"/>
6	Brad Thomps	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
7	Carlos Andre	<input type="checkbox"/>	Main	<input type="checkbox"/>	Logistic	<input type="checkbox"/>	<input type="checkbox"/>
8	Christine Rob	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
9	Dana Willy	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
10	Donna Brovir	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
11	Doris Labour	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
12	Elsa Messina	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
13	Emily Irvin	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
14	Fred Buyer	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
15	George Keen	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
16	Hunter O'Rea	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
17	James Chan	<input type="checkbox"/>	Main	<input type="checkbox"/>	Purchase	<input type="checkbox"/>	<input type="checkbox"/>
18	Jayson Butler	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
19	Jim Boswick	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>

Frequency: Every [ ]

Find: [ ] Keep Visible: ☐

Find Cancel

List of Define Alerts

#	Name	Priority	Active
1	Deviation from % of Gross Profit	Normal	No
2	Deviation from Budget	Normal	No
3	Deviation from Commitment Limit	Normal	No
4	Deviation from Credit Limit	Normal	No
5	Deviation from Discount (in %)	Normal	No
6	Minimum Stock Deviation	Normal	No
7	MRP Recommendation Due	Normal	No

Choose Cancel

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- A fixed number of predefined alerts are provided for you. These cover common business situations where alerts are typically used.
- To see the list of predefined alerts, open the *Alerts Management* window, then type \* in the *Name* field, and choose *Find*. You will see the list of alerts, and whether any of them are active.



## Predefined Alerts

- Predefined alerts for sales documents:

- **Deviation from % of Gross Profit**
- **Deviation from Commitment Limit**
- **Deviation from Credit Limit**
- **Deviation from Discount (in %)**
- Deviation from Budget
- Minimum Stock Deviation
- MRP Recommendation Due



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- The deviation from gross profit, deviation from commitment and credit limits, and discount alerts can be applied to sales documents.
- The gross profit deviation is checked at the document level. The commitment and credit limit are checked against the document total. The discount limit is also checked against the document total.

## Predefined Alerts

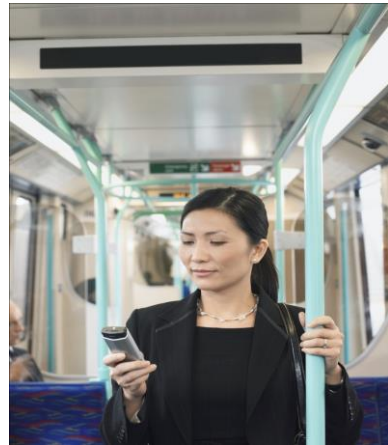
- Predefined alerts for purchasing documents, payments and journal entries:
  - Deviation from % of Gross Profit
  - Deviation from Commitment Limit
  - Deviation from Credit Limit
  - Deviation from Discount (in %)
  - **Deviation from Budget**
  - Minimum Stock Deviation
  - MRP Recommendation Due



- The predefined alert for budget deviation can be applied to purchasing documents, payments, and journal entries. This alert is independent of the budget warning set in the *General Settings*.

## Predefined Alerts

- Predefined alerts for inventory:
  - Deviation from % of Gross Profit
  - Deviation from Commitment Limit
  - Deviation from Credit Limit
  - Deviation from Discount (in %)
  - Deviation from Budget
  - **Minimum Stock Deviation**
  - **MRP Recommendation Due**



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- The minimum stock deviation alert applies when a release document is added that takes the stock level below the minimum defined in the item master data. This alert is not issued if inventory blocking is enabled in the Document Settings.
- The MRP alert provides a reminder if you have not released MRP recommendations into documents in time to fulfill the inventory demands. The alert is issued if the current system date is the recommendation release date.

## Configuring a Predefined Alert

- Choose alert from list
- Set priority (default is normal)
- Select each recipient and one or more notification methods *internal, email, text and fax*
- Activate the alert ☒

Alerts Management

Name:  Priority:

☒ Active

Users **Groups**

#	To	Int.	Branch	E-Mail	Department	SMS	Fax
1	AlertSvc	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
2	Alex Torres	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
3	Bill	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
4	Bill Levine	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
5	Bob Shone	<input type="checkbox"/>	Main	<input type="checkbox"/>	Production	<input type="checkbox"/>	<input type="checkbox"/>
6	Brad Thomas	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
7	Carlos Andre	<input checked="" type="checkbox"/>	Main	<input type="checkbox"/>	Logistic	<input type="checkbox"/>	<input type="checkbox"/>
8	Christine Rob	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
9	Dana Willy	<input checked="" type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
10	Donna Brown	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
11	Doris Labour	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
12	Elsa Messina	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
13	Emily Irwin	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
14	Fred Buyer	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
15	George Keen	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
16	Hunter O'Ra	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
17	James Chan	<input type="checkbox"/>	Main	<input type="checkbox"/>	Purchase	<input type="checkbox"/>	<input type="checkbox"/>
18	Jayson Butler	<input type="checkbox"/>	Main	<input checked="" type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
19	Jim Boswick	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
20	John Petersen	<input type="checkbox"/>	Main	<input type="checkbox"/>	Logistic	<input type="checkbox"/>	<input type="checkbox"/>

Instead of selecting individual users you have the option to select a predefined user group

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- To use a predefined alert, double-click to select the alert from the predefined list.
- You can optionally assign a priority to an alert (default is normal priority). When the message is received in the recipient's messages/alerts window or Microsoft Outlook window, high priority messages are flagged in red.
- Then select each recipient and one or more preferred notification methods. You can choose an internal message, email, text, and fax. Instead of selecting each user individually you can switch to the Groups tab, and select a predefined *user group* (group type must be Alerts or Cross All Types). For more information on user groups, see the *Users and User Defaults* course.
- In addition, select the notification checkbox for the predefined user called *AlertSvc*. This will ensure the alert is sent to a recipient even if the recipient is not logged into the SAP Business One client.
- The email and fax mechanisms require the integration of these services with SAP Business One. The SMS mechanism requires the SAP Business One integration framework with the mobile scenario activated. The email addresses and phone numbers must be set up in the user account.
- Finally, you must activate the alert for it to take effect, using the checkbox. You can also use this checkbox to deactivate an alert at any time.

## Predefined Alert Conditions

**Alerts Management**

Name:  Priority:

☒ Active

**Users** **Groups**

#	To	Int.	Branch	E-Mail	Department	SMS	Fax
1	AlertSvc	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
2	Alex Torras	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
3	BTI	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
4	Bill Levine	<input checked="" type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	Bob Shone	<input type="checkbox"/>	Main	<input type="checkbox"/>	Production	<input type="checkbox"/>	<input type="checkbox"/>
6	Brad Thomps	<input checked="" type="checkbox"/>	Main	<input checked="" type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
7	Carlos Andre	<input type="checkbox"/>	Main	<input type="checkbox"/>	Logistic	<input type="checkbox"/>	<input type="checkbox"/>
8	Christine Rob	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
9	Dana Willy	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
10	Donna Brovi	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
11	Doris Labour	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
12	Elsa Messina	<input type="checkbox"/>	Main	<input type="checkbox"/>	Accounting	<input type="checkbox"/>	<input type="checkbox"/>
13	Emily Irvin	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
14	Fred Buyer	<input type="checkbox"/>	Main	<input type="checkbox"/>	Service	<input type="checkbox"/>	<input type="checkbox"/>
15	George Keen	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
16	Hunter O'Rea	<input type="checkbox"/>	Main	<input type="checkbox"/>	HR	<input type="checkbox"/>	<input type="checkbox"/>
17	James Chan	<input type="checkbox"/>	Main	<input type="checkbox"/>	Purchase	<input type="checkbox"/>	<input type="checkbox"/>
18	Jayson Butler	<input type="checkbox"/>	Main	<input type="checkbox"/>	General	<input type="checkbox"/>	<input type="checkbox"/>
19	Jim Boswick	<input type="checkbox"/>	Main	<input type="checkbox"/>	Sales	<input type="checkbox"/>	<input type="checkbox"/>
20	John Peterson	<input type="checkbox"/>	Main	<input type="checkbox"/>	Logistic	<input type="checkbox"/>	<input type="checkbox"/>

**Conditions** **Documents**

Profit Percentage:

**Conditions** **Documents**

Name:

- ☒ Sales Quotations
- ☒ Sales Orders
- ☐ Deliveries
- ☐ Returns
- ☐ A/R Invoices
- ☐ A/R Credit Memos
- ☐ A/R Down Payment

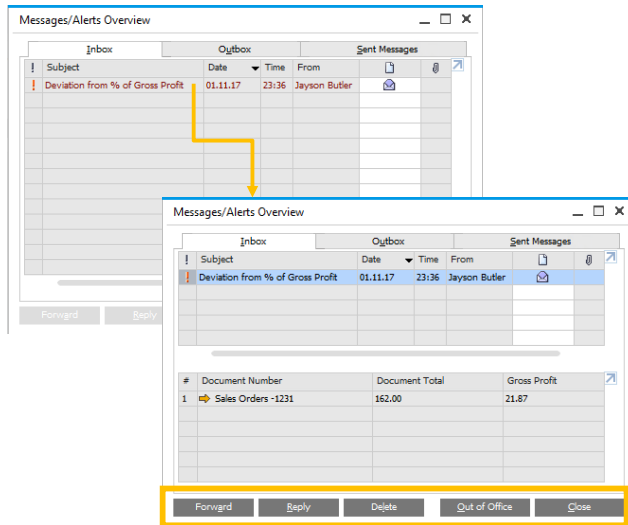
- You can set conditions for the alert (exception is the minimum stock deviation alert)
- The condition varies according to the alert
- You can also select which documents are covered by the alert

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- For the predefined alerts, with the exception of minimum stock deviation, you can select conditions for the alert situation.
- The conditions are different for each predefined alert. For example, the condition for the gross profit deviation is the profit percentage, and the condition for the budget deviation is the amount.
- For the predefined alerts, with the exception of minimum stock deviation, you can also select the documents for the alert situation.
- The available documents depend on the chosen alert. The alert will trigger immediately after the document is added to the system.

## Alert Notifications



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- Internal alerts appear in the *Messages/Alerts Overview* popup window
- This window can also be opened from the cockpit widget
- Select the alert to access the document details
- Options to Forward, Reply or Delete the alert
- Option to set out-of-office and forward alert to email, SMS or fax

- Internal alerts appear in the *Messages/Alerts* popup window in the SAP Business One client, and you can also access this window from the cockpit widget.
- Select the alert row to access the document details.
- The recipient of the alert has options to:
  - Forward the alert to another user
  - Send a reply to the user who caused the alert
  - Delete the alert row from the popup window
  - Set an out-of-office and optionally forward the alert to your email, SMS or fax

## User Settings for Alerts

In General Settings and User – Setup:

- Send Alert for Activities Scheduled for Today
- Display Inbox When New Message Arrives
- Update Messages (interval)

Users - Setup

☐ Superuser ☐ Mobile User

User Code:

User Name:

Defaults:

General Services Display

At the Beginning of Each Session

☐ Perform Data Check

☐ Open Exchange Rates Table

☐ Display Recurring Postings on Execution

☐ Display Recurring Transactions on Execution

☒ Send Alert for Activities Scheduled for Today

☒ Display Inbox When New Message Arrives

☐ Open Window for Credit Voucher Ref. Update

☐ Open Postdated Checks Window

☒ Display Worklist When New Task Arrives

Update Messages (Min.):

Screen Locking Time (Min.):

Open Postdated Credit Vouchers Window:

Alternative Keyboard Usage

☐ Use Numeric Keypad Enter Key as Tab Key

☐ Use Numeric Keypad Period Key as Separator on Display Tab

☐ Enable Document Operations by Mouse Only (Such as Add, Update, OK)

Buttons: Add, Cancel, Copy Form Settings

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In the setup for a user, there are settings that affect alerts.

- **Send Alert for Activities Scheduled for Today.** If set, when the user logs on they will receive an alert listing all activities scheduled for today. This is not a predefined alert, but if checked the activities will appear in the *Messages/Alerts window*, and the user can process activities directly from the alert message.
- **Display Inbox When New Message Arrives.** This is set by default for a new user and automatically opens the *Messages/Alerts window* whenever a new alert is generated for the user.
- **Update Messages (Min.).** This defines in minutes how often the system checks for updates to the alert inbox. The default value for a new user is 5 minutes. If you set this value to 0 the user will receive the alert notification immediately.

If not defined in the user setup screen, the settings are taken from the General Settings: Service tab.

## User-Defined Alerts



If the predefined alerts do not meet business requirements, you can add user alerts.



## Use Cases for User-Defined Alerts

User alerts are based on a saved user query and the query can check for multiple or unique business conditions

The alert can provide worklists to a user on a daily, weekly or monthly basis, for example:

- Purchase orders over a specific limit issued for the day or week
- Overdue sales quotations

Another use is to check the consistency and quality of master data or documents, for example:

- Missing fields in new business partner master data, such as tax id, credit limit, contact person, or sales employee
- Sales orders with missing or incorrect tax codes



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User alerts are based on a saved user query and the query can check for multiple or unique business conditions.

As such, they can provide worklists to a user on a daily, weekly or monthly basis, for example:

- Purchase orders over a specific limit issues for the day or week
- Overdue sales quotations

Another use for alerts based on queries is to check the consistency and quality of new master data or documents, for example:

- Missing fields in new business partner master data, such as tax id, credit limit, contact person, or sales employee
- Sales orders with missing or incorrect tax codes

Before you create a user alert, check to see if there is a system report that produces similar results, as you can copy the query as the basis for your alert query. Choose *Tools > Queries > System Queries*.

## User-defined Alerts

To add a user alert:

- Use the provided query tools to create and save the query
- In Alerts Management window, switch to *Add* mode
- Provide a name for the alert
- Open the saved user query
- Select recipients, notification mechanisms and priority, in the same way as for a predefined alert
- Set the frequency for running the query: minutes, hours, days, weeks or months

#	To	Branch	Department	Int.	E-Mail	SMS	Fax
12	Doris Labour	Main	Service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Ella Messina	Main	Accounting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	Emily Irvin	Main	HR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15	Fred Buyer	Main	Purchase	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16	George Keeng	Main	General	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17	Hunter O'Rear	Main	HR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18	James Chan	Main	Purchase	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19	Jayson Butler	Main	General	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20	Jim Boswick	Main	Sales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21	John Peterson	Main	Logistic	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

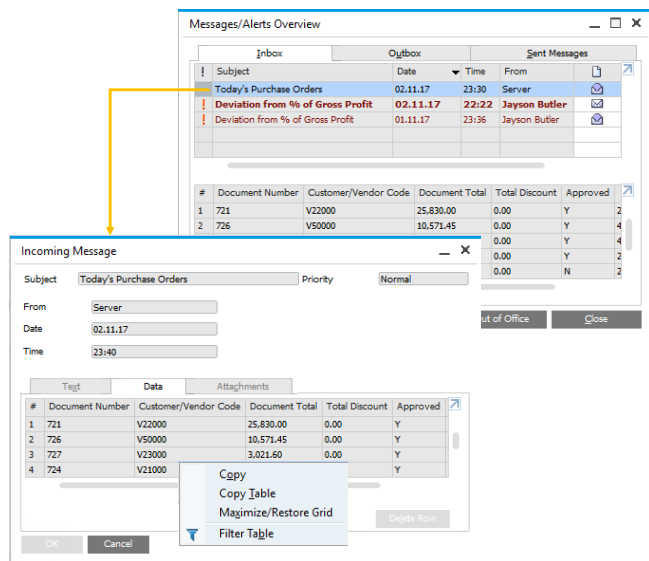
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- You can use the provided query tools Query Wizard and Query Generator to create and save the query. Using the query you can check multiple conditions or unique conditions specific to a business. For example, you can send the budget manager a daily list of purchase invoices created today.
- To create a new alert, switch to *Add* mode in the *Alerts Management* window (choose Ctrl + A).
- Provide a name for the new alert. Then select the saved user query. See the **Queries** topic for information on creating and saving queries.
- In the *Alerts Management* window, select the recipients and the notification mechanisms, as well as the notification priority, in the same way as for predefined alerts.
- You need to set the frequency for running the query (in minutes, hours, days, weeks or months). Unlike a predefined alert, a user-defined alert is *not triggered* when a document is added to the system. A user-defined alert is triggered when the query runs *and if* there are results from the query. If there are no results from the query, a notification is not sent.
- If the frequency is days, weeks, or months you can additionally set a time of day.

## Accessing the Query Results

- User alerts pop up in the *Messages/Alerts Overview* window
- To see the query results, double-click the alert row
- You can also copy the results to Microsoft Excel by choosing *Copy Table* from the context menu



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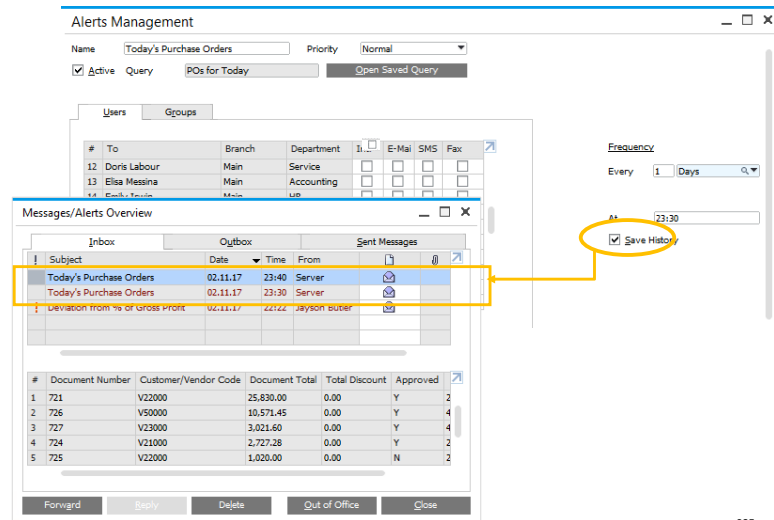
User alerts display in the user's *Messages / Alerts Overview* window. The query results will show directly in this window, or you can double-click the alert row to see the results in a new window.

You can copy the results to Microsoft Excel if desired, by selecting *Copy Table* from the window's context menu.

## User-defined Alerts – Save History Checkbox

The *Save History* checkbox controls the display of alerts in the *Messages/Alerts Overview* window

- If checked, a new alert is added on a separate row each time query triggers alert
- If not checked, new alert overwrites previous alert on same row and shows in bold



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- For user alerts, there is a *Save History* checkbox in the setup window. This checkbox controls how user alerts are displayed to the user in the *Messages/Alerts* window.
- If you select the *Save History* checkbox, a new alert message is added on a separate row each time the query runs and triggers an alert. This can quickly fill up the alerts window if the frequency of the alert is set to minutes. This is shown in the sample screenshot.
- If you do not check *Save History* checkbox, each new alert will overwrite the previous alert on the same row in the *Messages / Alerts Overview* window, so you will only see one row for the alert. The alert will change to bold to inform the user that a new alert has occurred.

## Writing Queries for User-defined Alerts

- When you develop queries for alerts, you may need to match the query to the frequency you select
- Example: For a report of new orders that runs daily, the query should only select documents added on that day

Query	Frequency	Results
<pre>SELECT T0."DocNum", T0."CardCode", T0."CardName"  FROM OPOR T0  WHERE T0."DocTotal" &gt; 5000 and (T0."DocDate" = CURRENT_DATE)</pre>	Once a day at 23:30 hours	List of Purchase Orders > 5000 posted on the current day

*Query shows HANA SQL syntax*

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- When you develop queries for alerts, you may need to consider matching the query to the frequency you select for running the query.
- For example, if you want a report of new orders added for today, the query should only select documents added on the current day. Otherwise the report will include all documents in the database that meet the query criteria.
- In such a case, the document posting date is compared to the current date.

## Troubleshooting User Alerts

- Check the query to make sure it produces results
- Make sure the alert service is running in the System Landscape Directory
- Make sure the Service Layer is active for SAP HANA
- Run a query on table OALT to see the overall configuration of active alerts

Query Preview

SELECT \* from OALT

#	Name	Type	Priority	Active Alert	No. of ...	Parameters	Parameters	Document...	Docu...	Query	Frequ...	Frequ...	D...	Execution Hour	Est...	E...	Next Date	Next H...
1	MSP Recommendation Due	S	1	N	1	Release Within (da	4		(05400000	H	1	1	8:00					
2	Deviation from Budget	S	1	N	1	Deviation Amount	8		00000000	H	1	1	8:00					
3	Deviation from Discount (in %)	S	1	N	1	Discount %	8		00000000	H	1	1	8:00					
4	Deviation from % of Gross Profit	S	2	Y	1	Profit Percentage	25.00		00000000	H	1	1	8:00					
5	Deviation from Commitment Limit	S	1	N	1	Maximum Deviator	5		00000000	H	1	1	8:00					
6	Deviation from Credit Limit	S	1	N	1	Maximum Deviator	5		00000000	H	1	1	8:00					
7	Minimum Stock Deviation	S	1	N					0	H	1	1	8:00					
8	Today's Purchase Orders	U	1	Y						333	S	10	6	17:30			02.11.17	21:58

If the alert does not trigger:

- Run the query independently to make sure it produces results
- Make sure the SAP Business One alert service is running in the System Landscape Directory and the correct database is selected in the alert settings
- For SAP HANA environments, make sure the Service Layer is active on the SAP HANA server. To check the Service Layer, use the url <https://<server>:50000>. If the service layer is installed you will see a link to documentation.
- Run a query on the OALT table to see all the configured alerts on your system, including predefined alerts.

## Key Points



Key points from this topic:

- There are two ways to use alerts: configure one of the predefined alerts or define a user alert based on a query
- All predefined alerts (with the exception of Minimum Stock Deviation) are triggered after an applicable document is added, so do not prevent documents being added to the system. In contrast, an approval process will prevent a document being added until it is approved.
- Alerts can be sent internally, by e-mail, text and fax.
- The alert job service must run all the time so that alerts can be triggered. For SAP HANA, there is a dependency on the Service Layer being installed and bound to the database server.
- User-defined alerts are based on saved user queries. User alerts provide a way to create routine task lists for users, or to check the consistency of data.
- User-defined alerts are triggered when the base query is run. You must set the frequency for running the query. An alert triggers only if the query produces results. The query results appear in the alert window.

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### ■ Please take a minute to review these key points:

- There are two ways to use alerts: configure one of the predefined alerts or define a user alert based on a query.
- All predefined alerts (with the exception of the *Minimum Stock Deviation* alert) have conditions and are triggered when an applicable document is added to the system. So alerts do not prevent documents being added to the system. In contrast, an approval process will prevent a document being added until it is approved.
- Alerts can be sent internally to a user in SAP Business One, or can be sent by e-mail, text and/or fax.
- The alert job service must run all the time so that alerts can be triggered. For SAP HANA, there is a dependency on the Service Layer being installed and bound to the database server.
- User-defined alerts are based on saved user queries. User alerts provide a way to create routine task lists for users, or to check the consistency of data.
- User-defined alerts are triggered when the base query is run, so you must set the frequency. An alert triggers only if the query runs produces results. The query results appear with the alert in the Alerts/Messages window.

# Customization Tools: Approval Processes

SAP Business One Version 9.3



- This topic covers the setup and use of approval procedures.



## Objectives



### Objective:

- Describe the business process flow when an approval process is used
- Set up an approval process in SAP Business One
- Explain the status of a document during an approval process and how updates to documents pending approval are managed
- Discuss the special requirements for writing a query for an approval procedure

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- After completing this topic, you will be able to:
  - Describe the business process flow when an approval process is used
  - Set up a new approval process in SAP Business One
  - Explain the status of a document during an approval process and how updates to documents pending approval are managed
  - Discuss the special requirements for writing a query for an approval procedure.

## Business Scenario



- In order to control costs, the company now requires all internal purchases and expenses over a certain limit to be approved by a manager before they can be processed.
- **Solution:** Define an approval procedure. If the value of the document exceeds the limit, the approval procedure will automatically block the document until it is approved or changed.

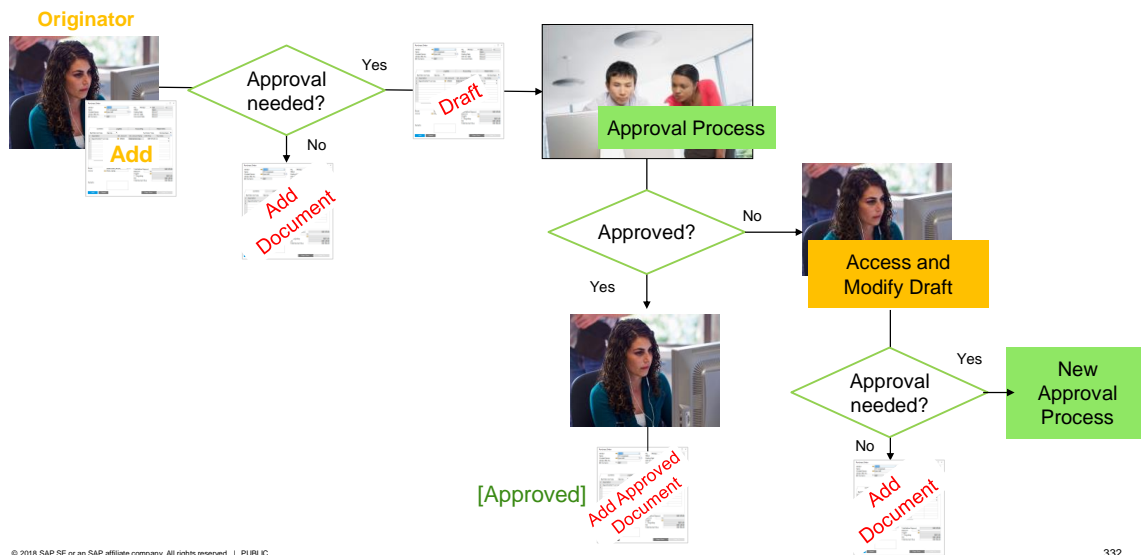


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- An approval process can be set up for sales, purchasing and inventory documents. In the business scenario shown here, there is a requirement to approve internal purchases and expenses over a certain limit. The purchase requests or purchase orders for these expenses should be approved by the a manager before they can be added.
- Approval processes can be established for a wide range of documents in SAP Business One. You can use an approval procedure whenever the work procedure requires an approval *before* a user can generate certain documents, for example, purchase requests or purchase orders.
- If the value of the document exceeds the limit, the approval procedure will block the document until it is approved.
- Approval procedures can also be used in the sales process, in outgoing payment processing, in inventory receipt and transfers, and in stock counting.

## Basic Approval Workflow



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- In the approval process, a user who is subject to an approval procedure is known as the *originator*. When the originator adds a document that meets predefined approval conditions, the originator is notified and the document is saved as a draft. The document has the status *Draft [Pending]*.
- The originator will not see this draft document when browsing through records, but can access it from the *Document Drafts report*.
- The draft document must be approved before it can be generated as a document. An internal request is sent to the pre-defined approvers. This request appears in the *Messages/Alerts Overview* popup window and the approver can drill-down to view the draft document. If the mobile application is integrated, approvals can be done from a mobile phone.
  - If the approver *rejects* the document, an internal message goes back to the originator with a link to the rejected document. The originator can modify the document, and if the approval condition is no longer met, the document can be added to the system as a normal document. If the approval condition is still met, another approval procedure will start.
  - If the document is *approved* at the first approval stage, an approval request is sent to the next approval stage (if applicable). If the document is *approved* at the final approval stage, an internal message goes back to the originator with a link to the draft document. The originator can now add the document.
- After a document has been approved, it has the status *Approved* in the title.

## Setting Up an Approval Process



- In this section you will see how to set up an approval process.

## Activation

### General Settings

- Approval process functionality is enabled in the General Settings
- Once enabled, you cannot disable the functionality if there are active approval templates
- Checkbox to enable approval process for DI API
- Additional checkboxes permit updating generated documents and/or documents still awaiting approval

The screenshot shows the 'General Settings' window in SAP, with the 'BP' (Business Partner) tab selected. The 'Approval Process' section is highlighted with a red circle. It contains the following settings:

- ☒ Enable Approval Process
- ☐ Enable Approval Process in DI
- ☐ Enable Updating the Document Generated/Updated by Approval Process
- ☐ Enable Updating the Document Draft in Pending/Approved Status

Other visible settings include:

- Customer Activity Restrictions:**
  - ☒ Credit Limit
  - ☐ Commitment Limit
  - ☐ Consider Deliveries Balance
- Set Commission by:**
  - ☒ Sales Employees
  - ☐ Items
  - ☐ Customers
- Payment Terms Preferences:**
  - Default Payment Method for Customer: Incoming BT
  - Default Payment Method for Vendor: Outgoing BT
  - Submit Credit Vouchers: Automatically
  - Default Dunning Term for Customer: Standard
  - Default Payment Term for Customer: 2P10Net30
  - Default Payment Term for Vendor: Net30
  - ☐ Apply Changes in BP Fields to New Business Partners Only
- ☐ Use Shipped Goods Account for Customer
- ☒ Display Inactive Business Partners in Reports
- ☒ Display Inactive Business Partners in Marketing Documents

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You first need to first activate approval process functionality in the system. In the *General Settings*, choose the *BP* tab and select the *Enable Approval Process* checkbox.

Note that this is a system-wide setting - once you have created and activated any approval templates, you cannot disable the approval functionality from here but you can deactivate the individual approval templates.

In this window you can also optionally enable approval process functionality for the DI API. This is of most interest to providers of add-ons. The DI API provides methods to trigger an approval process and save the draft document. You can also use the DI API to approve draft documents.

Two further checkboxes permit updating documents that have been generated by an approval process, and/or documents that are still in an approval process and waiting for an approval. These will be covered later in this course.

## Approval Templates and Stages

To set up an approval process you define approval stages and approval templates:

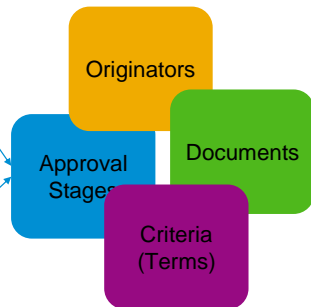
- Approval stage is a list of named approvers who can approve a document at the *same* level
- Approval template combines the originators, the documents, the criteria for approval, and one or more approval levels
- The stages are separate from the approval template and you can reuse approval stages in other templates
- You can define multiple approval templates for different sets of users and/or documents, and with different criteria.

### Approval Stages

First level  
approvers

Second  
level  
approvers

### Approval Template



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To set up an approval process you define approval stages and approval templates:

- Approval stage is a list of named approvers who can approve a document at the *same* level
- Approval template combines the originators, the documents that require approval, the criteria for approval, and one or more approval levels

The approval stages are separate from the approval template and you can reuse approval stages in other templates.

The approval template allows you to model an entire approval process. You can define multiple approval templates for different sets of users or documents, and with different criteria. Only the document types selected in the approval template will trigger an approval process, and only when added by an originator.

## Approval Process Authorizations

Users	Group	Find	Subject	Authorization	Effective Authorization
AlertSvc			Company Details	No Authorization	No Authorization
BTI			General Settings	No Authorization	No Authorization
George			Posting Period	No Authorization	No Authorization
Kate			Document Numbering	No Authorization	No Authorization
Kora			Document Settings	No Authorization	No Authorization
Support			Print Preferences	No Authorization	No Authorization
Vicky			Menu Alias for Searching	No Authorization	No Authorization
Workflow			Menu Structure	No Authorization	No Authorization
ales			Opening Balances	No Authorization	No Authorization
bill			Numbering Series	No Authorization	No Authorization
bob			E-Mail Settings	No Authorization	No Authorization
brad			Implementation Tasks	No Authorization	No Authorization
carlos			Tooltip Preview	No Authorization	No Authorization
christin			Setup	No Authorization	No Authorization
dana			Data Import/Export	No Authorization	No Authorization
donna			Letters	No Authorization	No Authorization
doris			Approval Process	No Authorization	No Authorization
elise			Approval Stages	No Authorization	No Authorization
emily			Approval Templates	No Authorization	No Authorization
fred			Approval Status Report	No Authorization	No Authorization
hunter			Approval Decision Report	No Authorization	No Authorization
james			Workflow	No Authorization	No Authorization
jim			Alerts Management	No Authorization	No Authorization
			BI OnDemand Integration Configuration	No Authorization	No Authorization

Max. Discount - Sales: 0.00 Expand Collapse

Max. Discount - Purchase: 0.00

Max. Discount - General: 0.00

☐ Mgt. Cash Amount for Incoming Payments

Full Authorization Read Only No Authorization

OK Cancel Apply Auth. to Back End

Permission to define approval process stages and templates is set by General Authorizations

To set up an approval process, you need the general authorizations as shown here under the subject Approval Process:

- Approval stages - to define and maintain approval stages
- Approval Templates - to define and maintain approval templates
- Approval Status Report - to view pending approval requests
- Approval Decision report - to view and approve pending approval requests

## Setup – Approval Stages

### **Administration > System Initialization > Approval Process > Approval Stages**

- All approvers must first be defined as users in SAP Business One
- Include more than one user in a stage to allow for staff absences. Specify a minimum number of approvals for the stage
- Stages can be combined in any order to create a multi-stage approval procedure. When you combine stages, make sure the same user is not in multiple stages

If you define more than one approver for a stage, you can set the minimum number of required approvals or required rejections before the approval process moves to the next stage

#	Authorizer	Department
1	Fred Buyer	Purchase
2	Marina Francis	Purchase

#	Authorizer	Department
1	Donna Brown	Accounting
2	Tom Brady	Accounting

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Before you create an approval template you should define the approval stages.

All approvers must first be defined as users in SAP Business One.

It is a good practice to include more than one user in a stage to allow for staff absences and holidays. You can specify a minimum number of approvals required from the pool of approvers.

The approval stage is saved in the system and can later be combined with other approval stages to create a multi-stage approval procedure. When you combine stages, make sure the same user is not defined in multiple stages.

In the slide example, we have defined two approval stages. In the first stage there are two purchasing users who can approve a purchasing document, but we only need an approval from one of them. Similarly in the second stage there are again two approvers but approval is required from only one of them.

The two stages are independent but we can combine them in the correct order in the approval template.



## Setup - Approval Templates

Administration > System Initialization > Approval Process > Approval Templates

### Originators tab

- Specify the users who are subject to approval when they create certain documents
- Only users specified here are subject to approval process
- User cannot modify approval template if selected as an originator in the template
- The approval process also applies to an originator who runs the Document Generation Wizard

User	Department
1 Jayson Butler	General
2 Keiko Matsui	Purchase
3 Vicky Purchase	General
4 Kate Milton	General
5 George Kaeng	General
6	

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- On the *Originators* tab, select the users who are subject to approval when they create documents. All originators must be first defined as users in SAP Business One.
- Only users specified here are subject to an approval process. A user who is not specified as an originator can add or update a document with no approval.
- Note that the system prevents a user from modifying an approval template if they are selected as an originator in the template. This does not apply to super users.
- Note:** The approval process also applies when an originator generates documents by batch using the document generation wizard. One approval request is sent for each document that needs approval; in other words, each document follows its own approval process.

## Setup - Approval Templates

### Documents tab

- Select the documents that require approval (when created by the originators)
- The approval will apply to every instance of the document if it meets the approval terms:
  - Sales and purchasing document types can be selected in one template; however you will need to create separate approval templates if the terms or approvers are different
  - Cannot combine marketing documents with inventory or payment document types in same template

Approval Templates - Setup

Name: PO over 500

Description: Purchase orders over 500

☒ Active

☒ Active When Updating Documents Not Generated by Approval Process

Originator Documents Stages Terms

Documents

Sales - A/S	Purchasing - A/P
<input type="checkbox"/> Sales Quotation	<input checked="" type="checkbox"/> Purchase Quotation
<input type="checkbox"/> Sales Order	<input checked="" type="checkbox"/> Purchase Order
<input type="checkbox"/> Delivery	<input type="checkbox"/> Goods Receipt PO
<input type="checkbox"/> Returns Request	<input type="checkbox"/> Goods Returns Request
<input type="checkbox"/> Returns	<input type="checkbox"/> Goods Returns
<input type="checkbox"/> A/R Down Payment	<input type="checkbox"/> A/P Down Payment
<input type="checkbox"/> A/R Invoice	<input type="checkbox"/> A/P Invoice
<input type="checkbox"/> A/R Credit Memo	<input type="checkbox"/> A/P Credit Memo
<input type="checkbox"/> Inventory	<input type="checkbox"/> Internal Requisition
<input type="checkbox"/> Goods Receipt	<input type="checkbox"/> Purchase Request
<input type="checkbox"/> Goods Issue	<input type="checkbox"/> Payment
<input type="checkbox"/> Inventory Transfer Request	<input type="checkbox"/> Outgoing Payment
<input type="checkbox"/> Inventory Transfer	<input type="checkbox"/> Inventory Counting Transactions
<input type="checkbox"/> Inventory Opening Balance	<input type="checkbox"/> Inventory Counting
<input type="checkbox"/> Blanket Agreement	<input type="checkbox"/> Inventory Posting
<input type="checkbox"/> Sales Blanket Agreements	
<input type="checkbox"/> Purchase Blanket Agreements	

Update Cancel

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- In the *Documents* tab, you select the document types that require approval when added by an originator. The approval process will apply to every instance of the document type selected here, when created by a user specified on the *Originators* tab.
- Both sales and purchasing document types can be selected in one template; however, if the conditions on the terms tab or the approvers will be different you should create separate approval templates.
- The system will not allow you to combine sales and purchasing document types with inventory or payment document types in the same template. You will need to create separate templates.

## Setup - Approval Templates

### Stages tab

- Include the predefined approval stages
- The sequence of the stages in the template is the order for a multi-level approval process
- You can rearrange the sequence using the arrows

The screenshot shows the 'Approval Templates - Setup' dialog box with the 'Stages' tab selected. The dialog has fields for 'Name' (PO over 500) and 'Description' (Purchase orders over 500). There are checkboxes for 'Active' and 'Active When Updating Documents Not Generated by Approval Process'. Below these are tabs for 'Originator', 'Documents', 'Stages', and 'Terms'. The 'Stages' tab contains a table with columns '#', 'Stage Name', and 'Stage Description'. The table has three rows: 1. Purchasing, 2. Purchasing Final, and 3. (empty). To the right of the table are up and down arrows for reordering. At the bottom are 'Update' and 'Cancel' buttons.

#	Stage Name	Stage Description
1	Purchasing	
2	Purchasing Final	
3		

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- In the *Stages* tab, you include one or more of the predefined stages.
- The sequence that the stages are listed in the template becomes the order for a multi-level approval process.
- You can rearrange the sequence using the up and down arrows.

## Approval Templates – Terms Tab

Approval criteria:

- Always (no terms)
- Predefined terms (vary according to selected document types)
- User queries

**Note:** Predefined terms operate only on the header level of a document, not on the row level. For example: discount and total appear on each row as well as on the document header, but the approval template only considers the header fields

Approval Templates - Setup

Name: PO over 500

Description: Purchase orders over 500

☒ Active

☒ Active When Updating Documents Not Generated by Approval Process

Originator Documents Stages **Terms**

Launch Approval Process:

☐ Always

☒ When the Following Applies

Choose	Term	Ratio	Value
<input type="checkbox"/>	Deviation from Commitment	Undefined Type	
<input type="checkbox"/>	Gross Profit %	Undefined Type	
<input type="checkbox"/>	Discount %	Undefined Type	
<input type="checkbox"/>	Deviation from Budget	Undefined Type	
<input checked="" type="checkbox"/>	Total Document	Greater or Equal	500

Terms Based on User Queries

#	Query Name	Ratio	Value
1		Less Than	
		Less or Equal	
		Equal	
		Does not Equal	
		In Range	
		Not in Range	
		Undefined Type	

Total Selected Terms: 1

Update Cancel

In the *Terms* tab, you set the criteria for the approval:

- The default is *Always*. The selected document types will *always* go for approval when created by the originator.
- You can choose a predefined term. The predefined terms available in the template vary according the document types selected, but they cover common situations, such as a discount or total that exceeds a set value. In this example, we have specified the condition that the document total is over 500.
- You can choose to add your own conditions using a user query. This allows you to model more complex approval conditions.

Note that the predefined terms for discount and total operate only on the header level of the document, not at the row level.

## Using Predefined Terms

- Select an operator (greater than, less than, equal, etc.) and enter value
- Select range (In range, Not in range) and enter range from low to high, separate by hyphen

	Predefined Term	Ratio	Value
<input checked="" type="checkbox"/>	Total	Greater than Less than	500
<input checked="" type="checkbox"/>	Quantity	Greater than Less than Equal Does not equal In range Not in range ...	5-200

- Multiple predefined terms evaluated using “or” logic
- Approval process will apply if just one of the predefined terms is met.

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- When using a predefined term, you can select an operator such as “greater than” or “equal”, and enter a value for comparison.
- You can also select “In range” or “Not in range” as the ratio, and enter two values for the range, from low to high, separated by a hyphen.
- You can select more than one predefined term. In this case an approval process will be triggered if just *one* of the predefined terms is met. In the example shown here, that means if the total amount of the document is greater than 500, *or* the quantity is between 5 and 200.

- The *Active* checkbox is set by default:

- [illegible]

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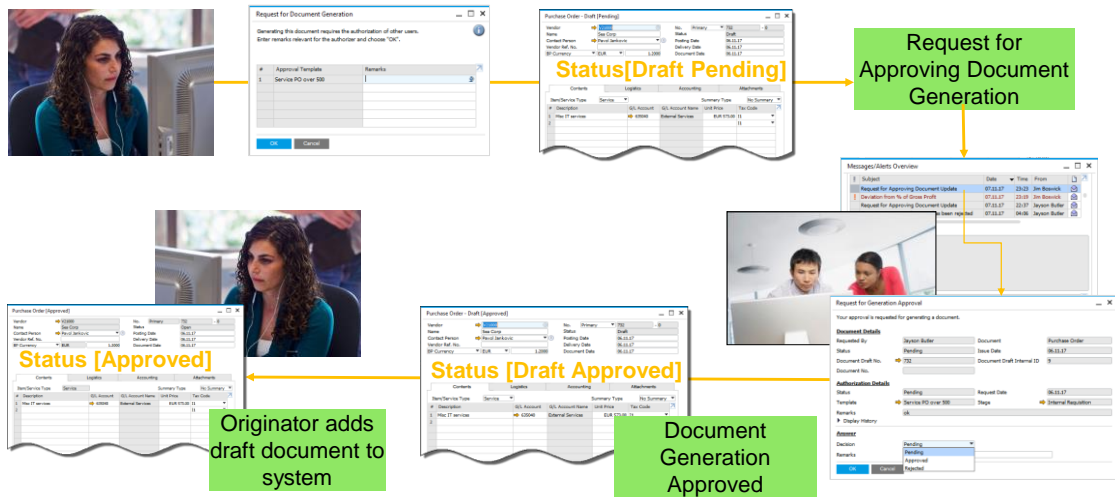
The *The Active when Updating Documents Not Generated by Approval Process* checkbox is also checked by default. This covers the condition whereby an originator *updates* a document that was not originally generated upon approval. This could be because it was created by another user not specified as an originator, or because it did not meet the approval criteria when the originator first added it. If you set this checkbox an approval process will be triggered *if* the update causes the document to meet the approval criteria. For example: the originator creates and saves a sales quotation normally, with no discount. Later the originator updates the sales quotation to add discount and this requires an approval.

## Managing the Approval Process



- This section covers the flow and status of a document during an approval process.

## Document Status During Approval Process



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- The originator receives a popup window when they add a document that triggers an approval process. In this window the originator can optionally enter remarks for the approvers.
- The document is saved with status [Draft Pending] and a request for approval is sent to each of the approvers.
- The approvers are notified in the Messages/Alerts Overview popup window. From this window they can open the approval request, drill-down to view the draft document, and either approve or reject the document.
- If the document is approved the status becomes [Draft Approved] until the originator adds the document, when the status becomes [Approved].
- If the document is rejected the status is [Draft Rejected]. The originator can access and update the draft.





## Canceling an Approval Process

The screenshot illustrates the process of canceling an approval process in SAP. On the left, the 'Approval Status Report' window displays a table with columns: Document Type, Document No., Originator, Template, Status, Remarks, and Draft Key. A right-click context menu is open over the first row, showing options: Copy, Copy Table, Maximize/Restore Grid, **Cancel**, and What's This?. A yellow arrow points from the 'Cancel' option to the 'Sales Quotation - Draft (Canceled)' window on the right.

The 'Sales Quotation - Draft (Canceled)' window shows the following details:

- Customer:** Star Company
- Name:** Star Company
- Contact Person:** Martina Basalykova
- Customer Ref. No.:**
- BP Currency:** EUR
- No.:** 1227
- Status:** Draft
- Posting Date:** 07.11.17
- Valid Until:** 07.12.17
- Document Date:** 07.11.17

The 'Contents' tab is active, showing a table with columns: Item/Service Type, Item No., Quantity, Unit Price, Disc., Tax Code, Total (Doc), and No Summary. The table contains one row:

Item/Service Type	Item No.	Quantity	Unit Price	Disc.	Tax Code	Total (Doc)	No Summary
A00003	1	1	GBP 225.00	0.00 E1	EUR 254.25	Main	

At the bottom, the 'Sales Employee' is 'Sales Manager' and the 'Owner' is empty. The 'Total Before Discount' is EUR 254.25, and the 'Discount' is 15 %.

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If, for example, a document error is noticed after the document was sent for approval, the approval process can be cancelled.

The Approval Status Report permits an originator (or an approver) to request a cancellation of a current approval process. Select the row for the document and right-click then choose **Cancel** from the context menu. You can also cancel the approval process by choosing the *Data > Cancel* menu.

After this, the document cannot be added to the system and cannot be updated.

## Summary of Document Statuses

Document Status	Comment
Draft [Pending]	<ul style="list-style-type: none"><li>Document is in approval process</li></ul>
Draft [Approved]	<ul style="list-style-type: none"><li>Document was approved but has not yet been saved by originator</li></ul>
Draft [Rejected]	<ul style="list-style-type: none"><li>Document was rejected by approvers. It can be updated by the originator. If it still meets approval criteria another approval process will be launched.</li></ul>
Draft [Canceled]	<ul style="list-style-type: none"><li>Document in approval process was canceled by originator or approver. The draft cannot be added or updated.</li></ul>
[Approved]	<ul style="list-style-type: none"><li>Document was approved and saved by originator. It cannot be updated by originator unless checkbox set in General Settings</li></ul>
Draft for Document Update [Pending]	<ul style="list-style-type: none"><li>Originator updates a document that was not previously approved, and now meets criteria for an approval process</li></ul>
Draft for Document Update [Approved]	<ul style="list-style-type: none"><li>Draft for Document Update was approved and can be added.</li></ul>

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This slide shows a summary of the document statuses that can be set during an approval process.

## Document Numbering and Draft Keys

- A draft document number is assigned to a document when it is saved as a draft, pending approval
- Since the originator can continue to work on other documents, the actual document number can change when the document is finally added to the system after approval

Document Draft

Document	Document No.	Posting Date	BP Code	Total	Remarks
Purchase Request	1	13.02.13		GBP 4,112.50	
Purchase Request	1	13.02.13		GBP 8,577.50	
Purchase Orders	728	03.11.17	V20000	GBP 872.72	
Purchase Orders	728	03.11.17	V60000	GBP 804.00	
Purchase Orders	731	04.11.17	V21000	GBP 576.60	
Purchase Orders	732	06.11.17	V21000	GBP 573.00	
Sales Quotations	1218	05.11.17	C23900	GBP 114.31	
Sales Quotations	1219	05.11.17	C23900	GBP 254.02	
Sales Quotations	1219	06.11.17	C25000	GBP 12.60	
Sales Quotations	1220	06.11.17	C42000	GBP 19.92	

Purchase Order - Draft [Approved]

Vendor: Sea Corp  
 Name: Sea Corp  
 Contact Person: Peter Jankovic  
 Vendor Ref. No.:  
 BP Currency: EUR  
 No. Primary: 731  
 Status: Draft  
 Posting Date: 04.11.17  
 Delivery Date: 04.11.17  
 Document Date: 04.11.17

**Draft number 731**

Item/Service Type	Item	Quantity	Unit Price	Summ. Type	No Summ. Type	Disc.	Tax Code	Total (Doc)
1	000002 Portable Hand Dis	5	GBP 52.00	0.00	11			EUR
2	000001 Second hand Tail	4	GBP 37.50	0.00	11			EUR
3	000001 DVD+R Disc 20-P	1	GBP 68.00	0.00	11			EUR
4				0.00	11			

Purchase Order [Approved]

Vendor: Sea Corp  
 Name: Sea Corp  
 Contact Person: Peter Jankovic  
 Vendor Ref. No.:  
 BP Currency: EUR  
 No. Primary: 733  
 Status: Open  
 Posting Date: 04.11.17  
 Delivery Date: 04.11.17  
 Document Date: 04.11.17

**Actual number 733**

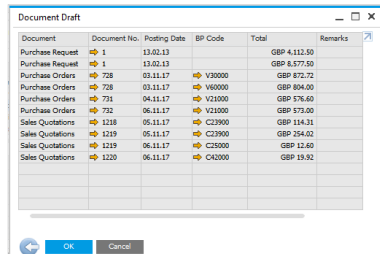
Item/Service Type	Item	Quantity	Unit Price	Summ. Type	No Summ. Type	Disc.	Tax Code	Total (Doc)
1	000002 Portable Hand Dis	5	GBP 52.00	0.00	11			EUR
2	000001 Second hand Tail	4	GBP 37.50	0.00	11			EUR
3	000001 DVD+R Disc 20-P	1	GBP 68.00	0.00	11			EUR
4				0.00	11			

When a draft document is saved pending approval, it is assigned a document number. This is simply a draft document number and the actual document number is assigned only when the draft is approved and saved by the originator.

Since there can be a time lag before the document is approved, and the originator can work on other documents, the actual document number will often differ from the draft document number. For example, a sales order is assigned draft key 731 and sent for approval. The originator then creates sales orders 731 and 732 which do not require approval. When the first sales order is approved and the originator saves it, it will be assigned the next available number in series, for example, 733.

## Document Updates During Approval Process

- A document in the approval process can be accessed from the Document Drafts Report



Document	Document No.	Posting Date	BP Code	Total	Remarks
Purchase Request	1	13.02.13		GBP 4,112.50	
Purchase Request	1	13.02.13		GBP 8,577.50	
Purchase Orders	728	03.11.17	V30000	GBP 872.72	
Purchase Orders	728	03.11.17	V60000	GBP 894.00	
Purchase Orders	731	04.11.17	V21000	GBP 576.60	
Purchase Orders	732	06.11.17	V21000	GBP 573.00	
Sales Quotations	1218	05.11.17	C23900	GBP 114.31	
Sales Quotations	1219	05.11.17	C23900	GBP 594.02	
Sales Quotations	1219	06.11.17	C25000	GBP 12.60	
Sales Quotations	1220	06.11.17	C40200	GBP 19.92	

- Safeguards are in place to prevent an originator from updating a document with [Draft Pending], [Draft Approved] or [Approved] status
- Checkboxes in the General Settings control updates to documents with these statuses:
  - Updating an [Approved] document is only possible if the checkbox *Enable Updating the Document Generated/Updated by Approval Process* checkbox is set
  - Updating a [Draft Pending] or [Draft Approved] document is only possible if the checkbox *Enable Updating the Document Draft in Pending/Approved Status* checkbox is set

### General Settings

#### Approval Process

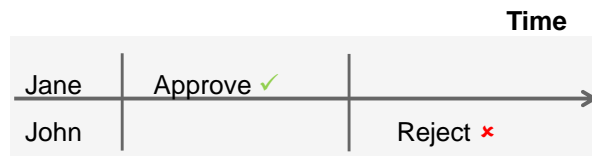
- ☒ Enable Approval Process
  - ☐ Enable Approval Process in DI
  - ☐ Enable Updating the Document Generated/Updated by Approval Process
  - ☐ Enable Updating the Document Draft in Pending/Approved Status

- A document that is pending approval has the status *Draft [Pending]*. An originator can make changes to this draft document, even when it is pending approval, if the checkbox 'Enable Updating the Document Draft in Pending/Approved Status' is set in the General Settings. If the updated document still meets the approval criteria a new approval process will be started and the current approval process will be cancelled. If the updated document no longer meets the approval criteria (for example changing the discount % from 15 – 13%) the document can be added as a normal document, without the status [Approved].
- A document that has been approved by an approval process has the status *Draft [Approved]*. When the originator adds this document to the system, the status will change to *[Approved]*. An originator can update this approved document if the checkbox 'Enable Updating the Document Generated/Updated by Approval Process' is set in the General Settings. If the updated document still meets the approval criteria a new approval process will be started.

**Note:** If the checkboxes are NOT set, the originator can change certain fields in the draft document, including: Document remarks, Journal entry remarks, Opening and Closing remarks (in right-click menu), attachments and UI elements.

## Multiple Approvers in a Stage

Example: minimum number of approvers is 1



**Result:** Since only one approval is required for the stage, the rejection is ignored and the document is approved and can be added to the system

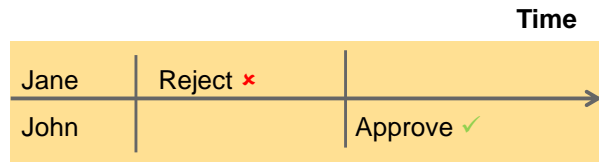
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- When you specify multiple approvers at the same stage, they have equal authorization level.
- You need to consider the effect of multiple approvers at the same stage.
- In this example, the minimum required number of approvers is 1.
- One of the approvers approves the document. Later on, another approver rejects the same document.
- But this rejection has no effect if it happens *after* the first approval. Since only one approval is required, the document is approved and can be added to the system.

## Multiple Approvers in a Stage (Cont.)

Example: minimum number of approvers is 1



**Result:** document held pending until another approver responds

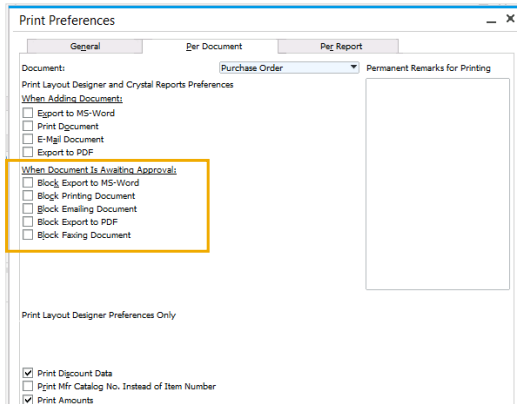
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- In the second scenario, one of the approvers rejects the document. The document is held as *pending* until the other approvers respond.
- If all the approvers reject the document, the originator is alerted that the document has been rejected.
- But if another approver approves the document, and the minimum number of required approvers is reached, then the document is approved and the originator can add the document to the system.

## Print Preferences

- Print preferences can be set on a per document basis for a document that is in the approval process
- Can prevent document being exported, printed or faxed



- When a document is in an approval process, you can prevent it from being exported, printed, emailed or faxed. These preferences are set on a per document basis in the Print Preferences window (Per Document tab).
- The user will get an error message when they attempt to perform a function if the checkbox is set.
- Note that the checkboxes are not checked by default.



## Using Queries in Approval Processes



- You can define your own approval criteria using saved user queries.

## Using Queries as Terms

### Terms Tab:

- Saved user queries can be added to approval templates
- Queries can be used instead of, or together with predefined terms
- Allows you to develop customized approval scenarios

### Example:

We want an approval process for item type purchase orders over 500 AND service type purchase orders over 250.

Approval Templates - Setup

Name: Service PO over 250

Description: Item PO >500 and service PO > 2

☒ Active

☒ Active When Updating Documents Not Generated by Approval Process

Originator Documents Stages Terms

Launch Approval Process:

☐ Always

☒ When the Following Applies

Choose	Term	Ratio	Value
<input type="checkbox"/>	Deviation from Credit Limit	Undefined Type	
<input type="checkbox"/>	Deviation from Commitment	Undefined Type	
<input type="checkbox"/>	Gross Profit %	Undefined Type	
<input type="checkbox"/>	Discount %	Undefined Type	
<input checked="" type="checkbox"/>	Deviation from Budget	Greater Than	GBP 500.00

Terms Based on User Queries

#	Query Name
1	Service and Item POs
2	

Total Selected Terms: 3

Add Cancel

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- You can add saved user queries to the terms for an approval process. The queries are added at the bottom of the approval templates form and can be used instead of the predefined terms, or together with predefined terms. This allows you to develop customized approval scenarios with much more granular conditions.
- For example, if we want an approval process to apply to item type purchase orders over 500 and to service type purchase orders over 250, we can write a query to check for both conditions. The predefined terms do not apply at this level of granularity as they do not distinguish between the type of document.

## Combining Predefined Terms and Queries

### Terms Tab

- When predefined terms are combined with a query, the approval process will start if just one of the conditions is met – evaluated using OR logic

In the example, an approval process will start if

- Document puts budget over 500

Or

- If document meets the conditions of the query

Approval Templates - Setup

Name: Service PO over 250

Description: Item PO >500 and service PO > 2

☒ Active

☒ Active When Updating Documents Not Generated by Approval Process

Originator Documents Stages Terms

Launch Approval Process:

☐ Always

☒ When the Following Applies

Choose	Term	Ratio	Value
<input type="checkbox"/>	Deviation from Credit Limit	Undefined Type	
<input type="checkbox"/>	Deviation from Commitment	Undefined Type	
<input type="checkbox"/>	Gross Profit %	Undefined Type	
<input type="checkbox"/>	Revenue %	Undefined Type	
<input checked="" type="checkbox"/>	Deviation from Budget	Greater Than	USD 500.00

Terms Based on User Queries

#	Query Name
1	Service and Item POs
2	

Total Selected Terms: 3

Add Cancel

- When predefined terms are combined with a query in an approval template, the approval process will start if just one of the conditions is met. In other words, the conditions are evaluated using OR logic.
- For example, if we combine the predefined term “Deviation from Budget” with the query previously mentioned for item and service type purchase orders, then the approval process will trigger if the document puts the budget over 500 or if one of the query conditions is met.

## Query Syntax for Approval Procedures

A query used in an approval process has special requirements:

- It references the current document in active window
- To refer to a field in the active window, you must include a \$ sign in front of the field with square brackets
- Query must use SELECT DISTINCT 'True'
- Query cannot reference row level fields

Active Window

The screenshot shows a SAP Purchase Order (PO) document. At the top, there's a header with fields like Vendor (4410000), Name (SAP), Location (SAP), Status (Open), and a table of items. The items table has columns for Item, Description, Quantity, and Price. Below the items table, there's a section for 'Totals' with fields like Total Before Discount, Discount, Freight, Tax, and Total Payment Due. The document is titled 'Purchase Order' and has a status of 'Open'.

**Example:** Approval for purchase orders with:

- Service type AND total > 250 OR
- Item type AND total > 500

**SELECT distinct 'true'** from OPOR T0 where  
**(\$[OPOR."DocType"] = 'S' and CAST(\$[OPOR."DocTotal"] as DECIMAL) > 250)**  
 OR  
**(\$[OPOR."DocType"] = 'I' and CAST(\$[OPOR."DocTotal"] as DECIMAL) > 500)**

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- When you write a query to be used in an approval process, the query must reference the current document in the *active* window. The active window is the one the originator is working in as the document has not yet been saved to the database.
- To refer to a field in the active window, you must include a \$ sign in front of the field and surround the field with square brackets.
- The query can also refer to fields from records in the database, for example, to select a field from the current document's business partner master data. In this case the \$ sign is not needed for these fields as they are picked up from the database.
- The query must also use the SELECT DISTINCT 'TRUE' clause, so that the result is a TRUE statement if there are results from the query. A TRUE statement will trigger an approval process; a FALSE statement will not.
- The query can only reference fields in the document header, not at the row level. Row level fields require a stored procedure in the database.
- In the query shown here there are two conditions, and a \$ sign is used with the DocType and DocTotal fields in the active purchase order document. The sample query is shown for SAP HANA syntax.

## Queries for Multiple Document Types

If multiple document types are selected in the approval template, the query must be able to work with the multiple similar document types

Use the item number and column syntax instead of the table and field name syntax:

**[\$Item.Column.0]  
[\$Item.Column.Number]  
[\$Item.Column.Currency]  
[\$Item.Column.Date]**

In this syntax a second \$ sign is added before the item number. The column number is always 0 since the query can only reference header fields

The screenshot shows the 'Approval Templates - Setup' window. The 'Documents' tab is active. It lists various document types under three main categories: Sales - A/S, Purchasing - A/P, and Inventory. In the 'Sales - A/S' section, 'Sales Quotation', 'Sales Order', and 'A/R Invoice' are checked. In the 'Purchasing - A/P' section, 'Purchase Quotation', 'Purchase Order', 'Goods Receipt PO', 'Goods Returns Request', 'A/P Down Payment', 'A/P Invoice', and 'A/P Credit Memo' are checked. Other categories like 'Inventory', 'Blanket Agreement', and 'Internal Requisition' are not selected. The 'Add' and 'Cancel' buttons are at the bottom.

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If you use a query in an approval template with multiple document types selected, then the query must be able to work with the multiple document types (for example, all sales and purchase documents).

- If you use the *table and field name* syntax, the query includes the table name so can only be used with a *single document type*.
- If you use the *item number and column* syntax, the query does not include the table name and can be used with *multiple document types of a similar structure*, for example, all sales and purchasing documents.
- To use the item number syntax, add a second \$ sign in front of the item number, within the brackets, to indicate that the item syntax is used. The column number is *always* 0 in approval procedure queries, since the query can only refer to fields in the header of a document.
- When using the item number and column syntax, the field is fetched as a string so if you need the result in a different format you need to specify the format after the column number. The formats are:
  - 0 - which is the default string format
  - Number – which returns the result as a numeric that you can use in calculation or comparison operators.
  - Currency – which returns the currency symbol from a field that holds both the amount and the currency symbol, such as the *DocTotal*.
  - Date – which should only be used if the field is a date field. The date is returned in a format for use in calculation or comparison operators.

## Active Window Query Examples

Item and Column Number

Table and Field Name

↓

**View > System information**

Ctrl +Shift+I

[... Item= ## Column= ## .... Table Name, Field Name]
Row=1
5
Status Bar

**Table and field syntax**

`$(Table Name. Field Name)`

```
SELECT distinct 'true' FROM OPOR TO
WHERE
$(OPOR."DocType") = 'S' and
CAST($(OPOR."DocTotal") as DECIMAL) >
250
```

**Item number and column syntax**

`$$ Item Number. Column Number.0]`

```
SELECT distinct 'true' FROM DUMMY
WHERE
$$3.0.0] = 'S' and
$$29.0.number] > 250
```

.Number]

.Currency]

.Date]

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- When you reference a field in the active window, you can use either the *table and field name* or the *item and column number* syntax. To see the item and column number, and the table and field name, for a field in a document or form, use System Information.
- In the example on the left, the query can only be run on a purchase order in the active window since the purchase order table name OPOR is included in the query.
- The query on the right can be used in an approval template where multiple marketing documents are selected. The query works because the document type field is always item number 3 and the document total is always item number 29 in all marketing documents. The column number is always 0 for header fields. In the slide example, the result is compared to 250. Since the *DocTotal* field in the active window includes the currency symbol, specifying *.number* after the column number will extract just the amount for the comparison operation.
- For more information on System Information and the query syntax, see the **Queries** topic in this unit.

## Testing a Query for Approval Procedures

### Active window

Purchase Order

Vendor: V00000  
 Name: Lasercom  
 Contact Person: Jimmy Miller  
 Vendor Ref. No.:  
 Local Currency:

No.: 720  
 Status: Open  
 Posting Date: 04.11.17  
 Delivery Date: 04.11.17  
 Document Date: 04.11.17

#	Description	Service	G/L Account	G/L Account Name	Unit Price	Tax Code
1	Mac		625050	Entertainment - dome	GBP 350.00	I1
2						I1

Buyer: James Chan (Buyer)  
 Owner: Chan, James

Total Before Discount: GBP 350.00  
 Discount: %  
 Freight: GBP 70.00  
 Rounding: GBP 420.00  
 Tax: GBP 420.00  
 Total Payment Due: GBP 420.00

Remarks:

OK Cancel Copy From Copy To

**Tools > Queries > User Queries > Category Name > Query**

Alert POs over 500

```

SELECT distinct 'true' from OPOR T0 where
(T = 'S' and CAST('720.000000' as DECIMAL) > 250)
OR
(T = 'I' and CAST('720.000000' as DECIMAL) > 500)
  
```

#	'true'
1	true

Execute Cancel

To test query, keep document in the active window and run the query from the Tools menu

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- It is a good practice to test a new query before you include it in the approval template.
- To test a query that refers to the active window, create a document that meets the approval conditions. Keep this document in the *active window* and run the query from the *Tools* menu. The query should return a true result.

## Key Points



Key points from this topic:

- Approval processes can be established for sales, purchasing, inventory and payment documents.
- To set up an approval process, enable the functionality, then define approval stages and approval templates. All originators and approvers must be SAP Business One users.
- To create a multi-level approval procedure, combine multiple predefined stages in the approval template.
- In the approval template, you can select one or more predefined conditions, and/or select a saved user query.
- Safeguards are in place to prevent documents from being updated after approval or while pending approval. Checkboxes are available to permit these actions. You can also trigger approval processing when an originator updates a document that was added without need for approval.
- An approval process can be cancelled by the originator or approver.
- Queries used in approval procedures reference the current document in the active window and must select a true response. To use the same query with multiple document types of the same structure, use the index and column syntax.

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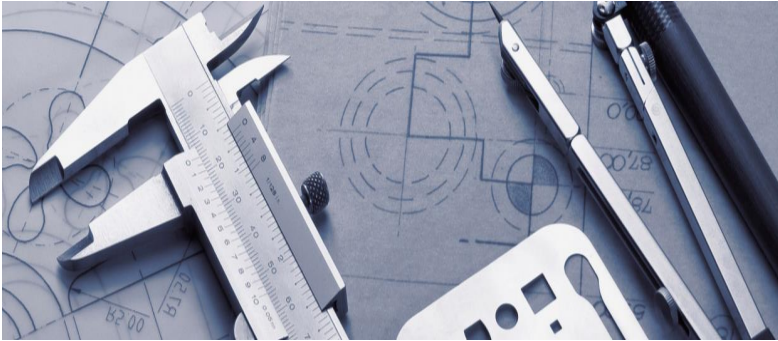
361

- Please take a minute to review these key points:
  - Approval processes can be established for various sales, purchasing, inventory and payment documents
  - To set up an approval process, first enable the functionality in the General Settings, then define approval stages and approval templates. All originators and approvers must be SAP Business One users
  - To create a multi-level approval procedure, combine multiple predefined stages in the approval template.
  - In the approval template you can set conditions for an approval process:
    - If you choose “always”, an approval will be launched for every document type selected in the template.
    - You can select a predefined condition, and/or add your own user query containing the conditions.
  - Safeguards are in place to prevent documents from being updated after approval or while pending approval. There are checkboxes in the General Settings to permit these updates. In the approval template there is a checkbox to trigger an approval process when an originator updates a document that did not go through an approval process originally
  - An approval process can be cancelled by an originator or approver
  - When you write a query for an approval template, you reference the current document in the active window (it has not yet been saved to the database) and the query must select a true response. To reference fields in the active window, include a \$ sign in front of the square brackets. If the query needs to work with multiple document types with the same structure, use the item and column number syntax and include an additional \$ sign within the square brackets.



# Customization Tools: User-Defined Fields

SAP Business One Version 9.3



- Welcome to the topic on User-Defined Fields.

## Objectives



### Objectives:

- Add user fields to objects in the SAP Business One database
- Define fields with different types and structure, including mandatory fields
- Set validation rules, default values, and lists of values for data entry

- On completion of this topic, you will be able to add your own fields to objects in the SAP Business One database. You will be able to defined fields with different types and structure, including mandatory fields, and set validation rules, default values, and lists of values to assist users in data entry.

## Business Scenario



- There is a need to track a status level for each customer – gold, silver, and bronze.
- The salesperson needs to record the customer's preferred delivery instructions when processing a sales order.

**Solution:** These requirements can be implemented with user-defined fields.



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- Additional fields are often added to master data and documents to implement a customer's business process. Here are two business requirements that can be implemented with user-defined fields.
  - There is a need to track a status level for each customer – gold, silver, and bronze. You can add a user-defined field to the customer master data to hold and track the status value.
  - Additionally, the salesperson needs to record the customer's preferred delivery instructions when processing a sales order. You can add a user-defined field to the sales order document, and record the delivery instructions in this field.

## Adding User-Defined Fields

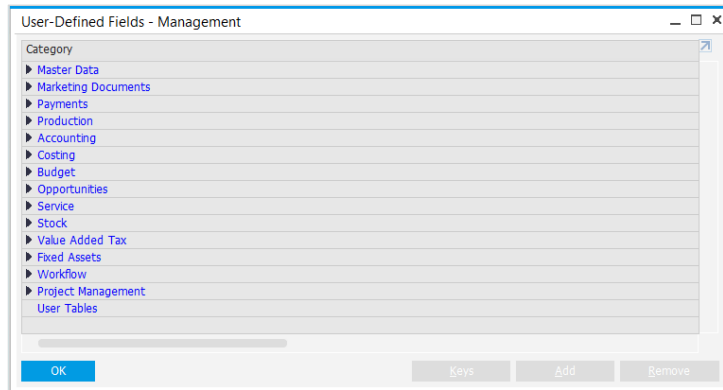


- In the first part of this topic, we cover how to add user-defined fields.

## User-Defined Fields

**Tools → Customization Tools → User-Defined Fields – Management**

- New fields can be added to most business objects, including master data and marketing documents
- General authorization required: *Customization Tools > User-Defined Fields – Management*



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- You can add new fields to most business objects, including business partner and item master data, and marketing documents. These fields are stored in the database and table of the business object.
- Only authorized users can add user-defined fields. The general authorization is *Customization Tools > User-Defined Fields – Management*.

## Marketing Document Row and Header Fields

- Fields can be added to both header (title) and rows of marketing documents
- New field is added to *all* logistics document types

Header (Title)

Row

Category	Title	Description	Type	Dflt	Mand.	Index	Linked Table
Marketing Documents							
▼ Title							
	Terms	Payment Terms	Alphanumeric (10)				
	Promo	Promo Code	Alphanumeric (10)				
	Acctbld	Account Balance	Amount				
	Web	Web link	Link				
	Since	Customer since	Date				
▼ Rows							
	Size	Size	Alphanumeric (2)				
Document Freight Charges							
WTax Info							
Installments							
Package Content							
Assembly Rows							
► Payments							
► Production							
► Accounting							
► Costing							
► Budget							
► Opportunities							

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- You can add fields to both the header area and to the rows of marketing documents.
- When you add a user-defined field to the marketing documents object, the new field is added to *all* logistics document types, including all sales and purchasing document types, and some inventory documents such as Goods Receipt and Goods Issue.

## User-Defined Fields – Header Level

- UDFs added at the header level initially appear in a separate window
- To open this window, use the **View** menu and select **User-Defined Fields**, or press **Ctrl+Shift+U**

The image shows two SAP windows. The main window is titled 'Sales Order' and contains various fields for customer information, dates, and a table for items. The 'Contents' tab is active, showing a table with columns for Item No., Quantity, Unit Price, Discount, Tax, and Total. Below the table are fields for Sales Employee, Owner, and Remarks. The 'User-Defined Fields' window is open to the right, showing a 'General' tab with fields for Customer since, Delivery Instructions, and Delivery Time Preference. A blue arrow points from the 'View' menu in the main window to the 'User-Defined Fields' window. Below the arrow, a blue button labeled 'View' is shown, followed by a checked checkbox labeled 'User-Defined Fields' and the text 'Ctrl+Shift+U'.

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- When you add user-defined fields (UDFs) at the *header level*, the new fields appear in a *separate* window positioned by default to the right of the existing document window.
- This window is not visible immediately. To open this window, choose **View > User-Defined Fields** from the top menu bar, or use the key sequence **Ctrl+Shift+U**. You can reposition this window to the left or bottom of the existing window.
- If the user-defined fields are not used in a marketing document, the new window can remain closed.

## Moving User-Defined Fields – Header Level

- Authorized users can use the *Tools > Edit Form UI* function to drag UDFs to the main form area, dispensing with the side window
- General authorization required – *General > Edit Form UI*
- Authorized users can make this change for their own use or for other users through a *UI Configuration template*

The screenshot displays the 'Sales Order - UI Edit Mode' window. A yellow box highlights the 'General' tab on the right side of the window. A blue arrow points from the 'Delivery Instructions' field in the side window to the main form area, indicating the process of moving user-defined fields (UDFs) to the main form area.

Tools

Edit Form UI ...

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- Authorized users can use the *Tools > Edit Form UI* function to drag relevant user-defined fields from the side window to the main form area, thus dispensing with the side window.
- Authorized users can make this change just for their own use or for other users by creating a *UI Configuration template*. In the UI configuration template, select the form that has the UDFs added, then drag the fields into position. The template can then be assigned to users. For more information on UI configuration templates, see the *UI Configuration Templates* course in the System Setup and Administration unit.



## Settings for User-Defined Fields

- If you decide to keep UDFs in the side window, you can manage them using the settings window
- The settings window is different from the standard form settings window. To open the settings window:
  - **Ctrl+Shift+B**
  - *Tools → Customization Tools → Settings*

The screenshot shows the SAP Sales Order form with the 'Settings - Fields - Setup...' dialog box open. The dialog box contains a table with the following data:

Field	Visible	Active	Order	Category
Payment Terms	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3	General
Promo Code	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4	General
Account Balance	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5	General
Web link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	6	General
Customer since	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1	General
Delivery instructions	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2	General

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- If you decide to keep user-defined fields in the side window, you can manage them using the settings window. The settings window is different to the standard form settings window, but works in a similar way. To open the settings window for user-defined fields, press **Ctrl+Shift+B**, or choose *Tools > Customization Tools > Settings*. The menu only shows active when you select a form with user-defined fields.
- The user can make the user-defined fields visible or invisible, and active or inactive, in the user-defined fields side window. For example, you can make all the fields relevant for a sales order invisible in a purchase order.
- There is also the option to define new categories to group related fields and only display the fields for a category.

## Copying UDF Values in Marketing Documents

- When you generate a document from a base document using *Copy To/ Copy From*, the value entered in a user-defined field is transferred to target document
- This also applies to the *Document Generation Wizard*
- If multiple base documents are copied, with different values in a UDF, value is *not* copied

The screenshot displays two SAP documents: a Sales Order (No. 375) and a Delivery (No. 384). Both documents are for 'Parameter Technology' and have a 'Status' of 'Open'. The 'Promo Code' is 'JPQ224' and the 'Payment Terms' are 'Net30'. A yellow arrow points from the 'Promo Code' field in the Sales Order to the 'Promo Code' field in the Delivery, indicating the transfer of the value. A text box overlay states: 'Value entered into user-defined field is transferred to target document using Copy To/Copy From'.

Item	Item No.	Item Description	Quantity	No. of Packages	Unit Price	Disc. %	VA...
1	AN0003	J.B. Officexpnt 1	1	1	GBP 225.00	6.00	01
2					6.00	01	

Sales Employee: Brad Thompson  
Owner: Manager, Marc

Total Before Discount: GBP 225.00  
Discount: GBP 13.50  
Total: GBP 211.50

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- When using the *Copy To/ Copy From* function to generate a new document from a base document, the value of a user-defined field is transferred to the target document. This also applies to documents generated through the *Document Generation Wizard*.
- If multiple base documents are copied to a target document, and the user-defined field has different values in these base documents, the field value is *not* copied.

### User-Defined Fields – Row Level

- UDFs added at the row level are visible and active by default
- Use standard form settings to position on row

Form Settings - Sales Order

Select UI Template Apply

Table Format Row Format Document

Find

Column	Visible	Active
#	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Type	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Item No.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
BP Catalog No.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Item Description	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Color Preference 1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Color Preference 2	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Bar Code	<input type="checkbox"/>	<input type="checkbox"/>
Mr No.	<input type="checkbox"/>	<input type="checkbox"/>
Serial No.	<input type="checkbox"/>	<input type="checkbox"/>
Factor 1	<input type="checkbox"/>	<input type="checkbox"/>
Factor 2	<input type="checkbox"/>	<input type="checkbox"/>
Factor 3	<input type="checkbox"/>	<input type="checkbox"/>

[illegible]

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- When you add a field at the *row* level, the system adds this field as an additional column in the row. The field is visible and active by default.
- You can change these settings or move the field to a new position on the row using standard form settings.

## Properties and Structure of User-Defined Fields



## Properties of User-Defined Fields

The screenshot shows the SAP Query Generator window. On the left, a list of tables includes ORDR and RDR1. The main area displays a table with columns 'Name' and 'Description'. The table lists various fields, including 'U\_Color\_pref1' and 'U\_Color\_pref2', which are highlighted in blue. On the right, the 'Select' field contains the text 'T1."U\_Color\_pref1", T1."U\_Color\_pref2"'. Below this, the 'From' field contains 'ORDR TO INNER JOIN RDR1 T1 ON T0."DocEntry" = T1."DocEntry"', and the 'Where', 'Sort By', and 'Group By' fields are empty.

Name	Description
ISDistrbFC	Intrastat Distrib. Amount (FK)
ISDistrbSC	Intrastat Distrib. Amount (SK)
IsByPrdct	Item Is By-Product
ItemType	Item Type
PriceEdit	Price Was Edited by User
PrintLnNum	Parent Line Number
LinePoPrss	Line PO Process
FreeChrgBP	Free of Charge (BP)
TaxRelev	Tax Relevant Row
LegalText	Legal Text
ThirdParty	Third Party
LicTradNum	Federal Tax ID
InvQtyOnly	Change Qty (Inv. UoM) On
UnencReasn	Reason for Unencumbered I
ShipFromCo	Ship-From Code
ShipFromDe	Ship-From Description
U_Color_pref1	Color Preference 1
U_Color_pref2	Color Preference 2

- UDFs are added to the object's table and have prefix "U\_"
- UDFs retained during upgrade, and can be copied to a new company
- New field is added to *all* document instances, including records already saved in the database
- UDFs function as normal fields and can be used in queries and reports
- Can import data into user-defined fields using Data Transfer Workbench.

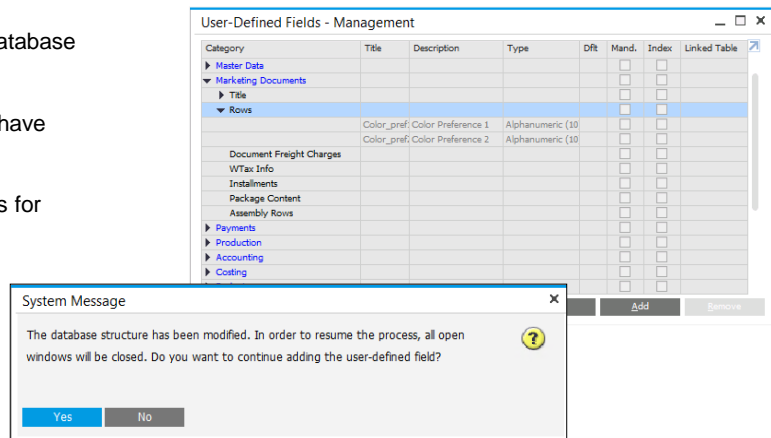
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- User-defined fields are added to the respective database table for the object. They can be quickly identified in the table, since they have the prefix "U\_". In the slide example you can see two new fields added to the order row table RDR1.
- User-defined fields are retained during an upgrade to a new release. When you create a new company, you have the option to copy user-defined fields from the current company to the new company.
- An important point about user-defined fields is that when you add a new field to an object, the new field is added to *all* instances of the object, including records already saved in the database.
- UDFs function as normal fields and can therefore be used in queries and reports.
- You can also import data into user-defined fields using the Data Transfer Workbench. In the DTW template, simply add these fields at the end of the spreadsheet. Enter the name of the field in the header row and enter the value as you would for a standard field.

## Properties of User-Defined Fields (Cont.)

- When you add a new field, the database structure is updated
- If other users are logged in, you have option to:
  - Wait for users to log off
  - Force close open documents for connected users



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- It is important to remember that, when you add a user-defined field, the database structure is updated. Therefore you should only add new fields when no other users are logged in.
- If you try to add a new field, the system will warn you if there are logged in users. You have the option to:
  - Try Again – you can notify the users close their work and wait until they have logged out of the system
  - Ignore - the system will force close all open documents for all connected users

## Type and Structure

- You can select a *Type* and optionally a *Structure* for each user-defined field
- The Structure is dependent on the Type and influences the format of the field

Note: you cannot change the type and structure after you have added the field to the database. If you choose the wrong type or structure, remove the field and start again.

The screenshot shows a 'Field Data' dialog box with the following fields and options:

- Title: Color\_pref1
- Description: Color Preference 1
- Type: Alphanumeric (dropdown)
- Length: 10 (text input)
- Structure: Regular (dropdown)
- Validation: None (dropdown)
- ☐ Set Default Value for Field
- ☐ Mandatory Field
- Buttons: Add, Cancel

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- When you create a user-defined field you can select a *Type* and optionally a *Structure* for each user-defined field.
- The Structure is dependent on the Type and influences the format of the field.
- Be aware that you cannot change the type and structure after you have added the field to the database. If you mistakenly choose the wrong type or structure, you can remove the field and start again.

## Type and Structure

Type	Structure	Maximum Length
Alphanumeric	<ul style="list-style-type: none"> <li>Regular</li> <li>Address</li> <li>Telephone No.</li> <li>Text</li> </ul>	254   2GB (header) / 255KB row
Numeric	-	
Date/Time	<ul style="list-style-type: none"> <li>Date</li> <li>Hour</li> </ul>	
Units and Totals	<ul style="list-style-type: none"> <li>Rate</li> <li>Amount</li> <li>Price</li> <li>Quantity</li> <li>Percents</li> <li>Measure</li> </ul>	
General	<ul style="list-style-type: none"> <li>Link</li> <li>Image</li> </ul>	

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- Fields with Alphanumeric type can have one of the structures shown here. A Regular structure can hold up to a maximum of 254 characters. A Text structure can accommodate 2 GB of text in header fields and 255 KB of text in row fields.



## Type and Structure

Type	Structure	Maximum Length
Alphanumeric	<ul style="list-style-type: none"><li>▪ Regular</li><li>▪ Address</li><li>▪ Telephone No.</li><li>▪ Text</li></ul>	254 2GB (header) / 255KB row
Numeric	-	
Date/Time	<ul style="list-style-type: none"><li>▪ Date</li><li>▪ Hour</li></ul>	
Units and Totals	<ul style="list-style-type: none"><li>▪ Rate</li><li>▪ Amount</li><li>▪ Price</li><li>▪ Quantity</li><li>▪ Percents</li><li>▪ Measure</li></ul>	
General	<ul style="list-style-type: none"><li>▪ Link</li><li>▪ Image</li></ul>	

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- Fields with Numeric type can only hold integers, therefore there is no structure.

## Type and Structure

Type	Structure	Maximum Length
Alphanumeric	<ul style="list-style-type: none"><li>▪ Regular</li><li>▪ Address</li><li>▪ Telephone No.</li><li>▪ Text</li></ul>	254 2GB (header) / 255KB row
Numeric	-	
Date/Time	<ul style="list-style-type: none"><li>▪ Date</li><li>▪ Hour</li></ul>	
Units and Totals	<ul style="list-style-type: none"><li>▪ Rate</li><li>▪ Amount</li><li>▪ Price</li><li>▪ Quantity</li><li>▪ Percents</li><li>▪ Measure</li></ul>	
General	<ul style="list-style-type: none"><li>▪ Link</li><li>▪ Image</li></ul>	

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- Fields selected with the Date/Time type can have Date or Hour as the structure.
- These fields behave in exactly the same way as other date and time fields in the system; for example, the calendar icon is available in a field with the date structure.

## Type and Structure

Type	Structure	Maximum Length
Alphanumeric	<ul style="list-style-type: none"><li>▪ Regular</li><li>▪ Address</li><li>▪ Telephone No.</li><li>▪ Text</li></ul>	254 2GB (header) / 255KB row
Numeric	-	
Date/Time	<ul style="list-style-type: none"><li>▪ Date</li><li>▪ Hour</li></ul>	
Units and Totals	<ul style="list-style-type: none"><li>▪ Rate</li><li>▪ Amount</li><li>▪ Price</li><li>▪ Quantity</li><li>▪ Percents</li><li>▪ Measure</li></ul>	
General	<ul style="list-style-type: none"><li>▪ Link</li><li>▪ Image</li></ul>	

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- To enter fractions as well as integer numbers in the new field, use the Units and Totals type and select one of the structures shown here.
- Decimal places will display in the new field according to the initialization settings on the Display tab of the *General Settings*.

## Type and Structure

Type	Structure	Maximum Length
Alphanumeric	<ul style="list-style-type: none"> <li>Regular</li> <li>Address</li> <li>Telephone No.</li> <li>Text</li> </ul>	254 2GB (header) / 255KB row
Numeric	-	
Date/Time	<ul style="list-style-type: none"> <li>Date</li> <li>Hour</li> </ul>	
Units and Totals	<ul style="list-style-type: none"> <li>Rate</li> <li>Amount</li> <li>Price</li> <li>Quantity</li> <li>Percents</li> <li>Measure</li> </ul>	
General	<ul style="list-style-type: none"> <li>Link</li> <li>Image</li> </ul>	Need to define path to Attachments or Pictures folder in <i>General Settings</i> (Path tab).

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- If you select the General type, the new field can hold links or graphics.
  - Fields with the Link structure can link to a file or to a web address. You must first define the default path to the Attachments folder. This is done in the General Settings. This default path is opened when the user double-clicks the new field. The user can either select a file from the default folder, or enter a web address in place of the file name.
  - Fields with the Image structure can accommodate pictures. You must first define the default path to the Pictures folder, in the General Settings. If this default path is not defined, an error will occur when the image field is used. When the user double-clicks the image field, the default folder opens, enabling them to select an image file. The user can then change to a different folder to locate the image.
- The user can, at any time, change an image or web address by pressing the Ctrl key and double-clicking the image or web address.

## Validation Options

- Option to define validation rules for entering data in user-defined field:

Linked to Entities

Valid Values

Advanced

The screenshot shows the 'Field Data' dialog box with the following fields and options:

- Title: Color\_pref1
- Description: Color Preference 1
- Type: General
- Structure: Link
- Validation: A dropdown menu with options: None, None, Linked to Entities, Valid Values, and Advanced. The 'None' option is currently selected.
- ☐ Set Default Value for Field
- ☐ Mandatory Field
- Buttons: Add, Cancel

- In addition to the type and structure for a user-defined field, you have the option of specifying validation options.

## Validation Options

### Option

**Linked to Entities** Link user-defined field in a form to a system object, a user-defined table, or a user-defined object

The screenshot shows two SAP dialog boxes. The 'User-Defined Fields - Management' dialog on the left has a table with columns: Category, Title, Description, Type, DFR, Mand., Index, and Linked Table. A row is highlighted with 'Sales\_Rece Sales Receipt' in the Title column and 'Numeric (11)' in the Type column. An arrow points from this row to the 'Field Data' dialog on the right. The 'Field Data' dialog has a 'Validation' section with three radio buttons: 'Link to System Object' (selected), 'Set Linked Table', and 'Link to UDO'. Below these is a dropdown menu showing 'A/R Invoices' selected. A list of system objects is displayed on the right, including 'OACT - Accounts', 'OCRD - Business Partners', 'OITM - Items', 'OINV - A/R Invoices', 'ORIN - A/R Credit Memos', 'ODLN - Deliveries', 'ORDN - Returns', 'ORDR - Sales Orders', 'OPCH - A/P Invoices', 'ORPC - A/P Credit Memos', 'ORDI - Goods Receipt PO', 'ORPD - Goods Return', 'OROR - Purchase Orders', 'ORQT - Sales Quotations', 'ORCT - Incoming Payments', 'OJDT - Journal Entries', 'OVPM - Outgoing Payments', 'OIGN - Goods Receipt', 'OIGE - Goods Issue', and 'OWHS - Warehouses'.

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- The option **Linked to Entities** allows you to set up a direct link between a user-defined field in a form and a system object, a user-defined table, or a user-defined object. In the example we have linked a user-defined field in the service contract form with the A/R invoice object.
- The link is actually established by the user who creates the form. In the user-defined field the user will be shown all the instances of the chosen object and can select one to create the direct link. For example, when creating a service contract for customer C40000 the user can select the invoice paid by this customer for the service item. After the link is established the user can open the A/R invoice directly from the user-defined field.
- Be aware that the user must select the correct instance, since the system shows all rows stored in the database for the chosen object.

## Validation Options

### Option

**Valid Values** Define a list of possible values for a user-defined field

User selects value from predefined list

User cannot update or add values to list

Field Data

Title: Points Description: Points

Type: Alphanumeric Length: 16

Structure: Regular

Validation: Valid Values

#	Value	Description
1	S	Silver
2	G	Gold
3	P	Platinum

☒ Set Default Value for Field  
S

☐ Mandatory Field

Add Cancel

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- If valid values is chosen, you can define a list of possible values for the user-defined field. This definition is made when you add the user-defined field.
- In the example, you can see that there are three possible values for the field - silver, gold and platinum.
- This list is available in the document as a dropdown list, allowing the user to select one of the values.
- The user cannot update the values in the list. The list values can only be updated by the authorized user from the *User-Defined Fields – Management* window.

## Validation Options

### Option

#### Advanced

Define validation rules for values entered in UDF

User can only enter values that meet the rule

Field Data

Title: Color Description: Color

Type: Alphanumeric

Structure: Text

Validation: Advanced

Rule: Starts With

Value:

☐ Set Default Value for Field

☐ Mandatory Field

Add Cancel

Equal To  
Not Equal To  
Less Than  
Less Than or Equal To  
Greater Than  
Greater Than or Equal To  
Between  
Not Between

Field Data

Title: Bonus Description: Employee bonus

Type: Units and Totals

Structure: Percents

Validation: Advanced

Rule: Between

From: 1

To: 10

☐ Set Default Value for Field

☐ Mandatory Field

Add Cancel

- If the Advanced option is selected the system lets you set some simple validation rules for when the user enters data in the user-defined field.
- The validation rules apply to all UDF types with the exception of General type.
- The validation controls vary according to the type and structure of the user-defined fields. For example, for alphanumeric type the rules can check which characters the user can enter in the field, and how many characters. For units and totals the rules can check that the amount entered falls in a certain range.
- Other rules allow you to validate that the value entered is equal to, less than, or greater than a value entered when you add the user-defined field.



## User-Defined Field with User-Defined Values Added

### Tools > User-Defined Values

- Using user-defined values, you can link a query to a user-defined field
- Query can automatically populate the field value based on query result
- Query can be set to run manually by the user or automatically triggered when another field is entered, for instance, the customer code

Example:

```
SELECT T0."Balance" FROM OCRD T0
WHERE T0."CardCode" = $[$4.0.0]
```

The screenshots show the SAP Sales Order interface. The top screenshot shows the 'General' tab with the 'Account Balance' field set to 0.00. The bottom screenshot shows the same interface with the 'Account Balance' field updated to 34,574.11. A blue arrow points from the 'Customer' field (C40000) in the bottom screenshot to the 'Account Balance' field, indicating the query execution. The 'Customer' field is highlighted with a blue arrow in the top screenshot.

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- A flexible way of using a user-defined field is to link a query to the field using user-defined values.
- The query can automatically populate the field value based on the result of the query.
- In the example shown, a query is added to a user-defined field in the header of a sales order. The query fetches the customer's account balance from the business partner master data table OCRD. The query runs automatically when the user selects the customer code when they first create the sales order.
- User-defined values functionality is covered in the companion course **User-Defined Values**.

## Default and Mandatory Fields

- Default value can be set for any user-defined field
- Default value will appear in all new instances of the object
- Option to set user-defined field as mandatory. If field is mandatory, user will not be able to add record without entering field value
- To set field as mandatory, you initially need to supply a default value, but you can remove the default value after you add the user-defined field to the database

**Field Data**

Title:  Description:

Type:

Structure:

Validation:

#	Value	Description
1	08:10	8am-10am
2	10:12	10am-12pm
3	12:14	12pm-2pm

☒ Set Default Value for Field

☒ Mandatory Field

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- You can optionally set a default value for any user-defined field.
- In the example, we have selected a default time from the list of valid values.
- The default value set for a field will appear in all new instances of the object.
- You can optionally set the user-defined field as mandatory. The user will not be able to add a new record without entering data into the mandatory field.
- When you set a user-defined field as mandatory, you need to initially supply a default value, to maintain the integrity of the database. After you have added the user-defined field you can remove the default value.
- If you update a user-defined field to make it mandatory, and the field already has a default value, the system will prompt you to choose if the default value should be inserted into all existing instances of the object, or whether to only insert the default value into new instances.

## User-Defined Fields: Key Points



Key points from this topic:

- You can add user-defined fields (UDFs) to most objects
- User-defined fields are added to the object's table in the database, and have prefix "U\_"
- Fields can be added to marketing documents at the header (title) and row level
- User-defined fields at the header level appear initially in a separate side window. Use the *View* menu to open this side window.
- You can move the fields from the side window to the main area of the document using the *Edit Form UI* function and assign to users in a UI configuration template
- A value entered into a user-defined field is transferred to a target document using *Copy To/Copy From*
- UDFs can have various types and structures. The choice of structure affects the type of data you can enter in the field. You can add a list of valid values to a UDF, link it to a system object, define rules for data entry, set a default value, or make it mandatory.

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- Here are some points to take away regarding user-defined fields and tables:
  - You can add user-defined fields to most objects.
  - User-defined fields are added to the table for the selected object in the database, and have prefix "U\_".
  - For marketing documents, you can add fields to the header (title) area or to the rows.
  - User-defined fields added at the header level of a marketing document initially appear in a separate window to the side. You can use the *View* menu to open this window.
  - You can move user-defined fields from the side window to the main area of the document using the *Edit Form UI* function. You can then make the edited document available to users in a UI Configuration template.
  - A value entered into a user-defined fields is transferred to a target document using the *Copy to/Copy from* function.
  - User-defined fields can have various types and structures, such as alphanumeric and regular. The choice of structure affects the maximum field length and the type of data you can enter in the field.
  - You can optionally add a list of valid values to a UDF, link it to a system object, define rules for validating data entry in the field, set a default value, or make it mandatory. You can also link the user-defined field to a user-defined table or user-defined object.

# Customization Tools: User-Defined Values

SAP Business One Version 9.3



- Welcome to the topic on User-Defined Values.

## Objectives



### Objectives:

- Add user-defined values to fields in forms and documents to assist and expedite data entry by end users:
  - Add a list of values as user-defined values
  - Use a query as user-defined values

- On completion of this topic, you will be able to add user-defined values to fields in forms and documents to assist and expedite data entry by end users. You will learn how to add a list of values as user-defined values, and how to use a query as user-defined values.

## Business Scenario



- The company wants to have the delivery date automatically calculated in sales orders, so that the salesperson does not have to manually enter the date. In the business process, the delivery date is not significant since orders are dispatched immediately.
- The salesperson needs the ability to instantly view a customer's account balance when processing a new sales order over the phone.

**Solution:** These requirements can be implemented using user-defined values.



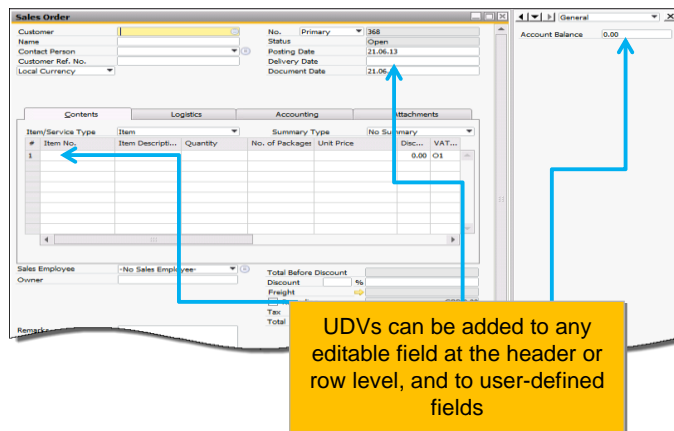
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- Here are two examples of requirements that can be met by adding user-defined values to form fields:
  - In the first example, the company wants to have the delivery date, which is a mandatory field, automatically calculated in sales orders, so that the salesperson does not have to manually enter the date. In the business process the delivery date is not used, since sales orders are dispatched immediately for delivery.
  - In the second example, the salesperson needs the ability to instantly view a customer's up-to-date account balance when processing a new sales order over the phone. With user-defined values, the salesperson does not have to manually drill-down to the master data.

## User-Defined Values

- User-defined values (UDVs) can be added to any editable field in a document or form
- UDVs added at the row level apply to each row
- UDVs can be in the form of:
  - List of values
  - User query



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- You can add user-defined values to any editable header field in a document or form, and to row level fields. You can also add UDVs to user-defined fields.
- If added at the row level, user-defined values apply to each row.
- User-defined values can be added to a field as:
  - **List of values.** The user chooses from a list of predefined values for the field.
  - **User query.** When the query runs, the query results are stored in the field. In the example, a query has been added to the delivery date field. The query will calculate a valid date for the delivery. Using a query is the most flexible option as the query can be set up to run manually or automatically.

## Indicator for User-Defined Values

### *View → Pickers Display → User-Defined Values*

- Magnifying glass icon indicates that user-defined values have been added to field
- Toggle on and off from *View → Pickers Display → User-Defined Values*

The screenshot displays the SAP Sales Order form. The 'General' tab is active. The 'Delivery Date' field is highlighted with a yellow background and a magnifying glass icon. The 'Source' field is also highlighted with a magnifying glass icon. The 'Posting Date' field is set to 03.07.13. The 'Document Date' field is set to 03.07.13. The 'Account Balance' field is set to 0.00. The 'Delivery Vehicle' field is empty. The 'Source' field is empty. The 'Contents' tab is selected, showing a table with columns: Item No., Item Description, Quantity, No. of Packages, Unit Price, Disc..., and VAT... The table contains one row with Item No. 1, Item Description, and Quantity.

#	Item No.	Item Description	Quantity	No. of Packages	Unit Price	Disc...	VAT...
1						0.00	O1

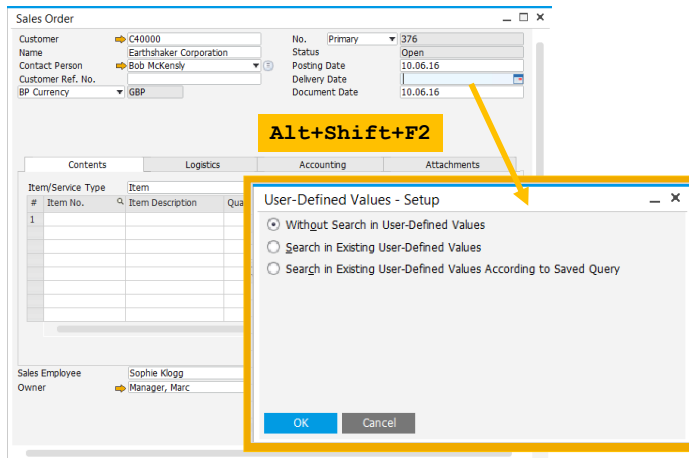
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- A magnifying glass icon indicates that user-defined values have been added to the field.
- Users can toggle the display of this icon on and off, using the menu *View > Pickers Display > User-Defined Values*.
- In the example, we can see that user-defined values have been added to the Delivery Date field, and to a user-defined field called Source.



## Adding User-Defined Values



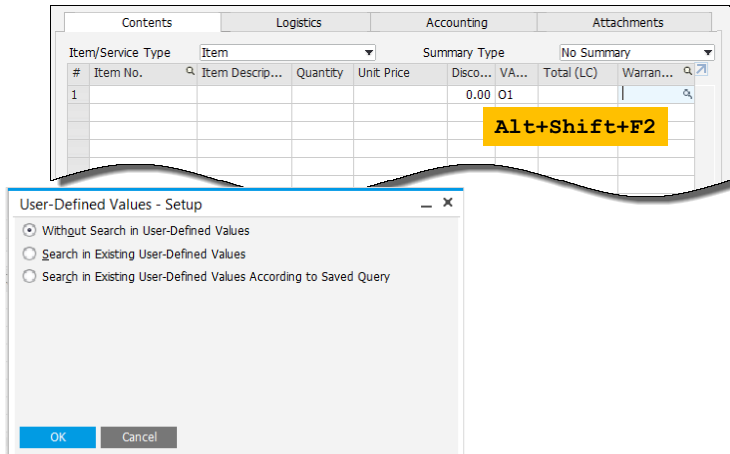
- To add user-defined values to a field, select the field in the document or form and:
  - Press **Alt+Shift+F2**, or
  - Choose **Tools > Customization Tools > User-Defined Values - Setup**
- General authorization required – “User-Defined Values – Setup”

- To add user-defined values to a field, select the field in the document or form and press the key combination **Alt+Shift+F2**, or choose the menu path *Tools > Customization Tools > User-Defined Values - Setup*.
- The setup screen for user-defined values will open.
- Only authorized users can add UDV's. The authorization is located in the *General Authorizations* window by navigating to *Customization Tools > User-Defined Values – Setup*.

## Removing User-Defined Values

To remove user-defined values from field:

- Select the field and press **Alt+Shift+F2**
- In the setup window, choose *Without Search in User-Defined Values*



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- In the setup window for user-defined values, use the option *Without Search in User-Defined Values* to remove user-defined values from the field.
- There are no restrictions on removing user-defined values from a field. After you remove the user-defined values, documents saved in the system retain the values entered in the fields.

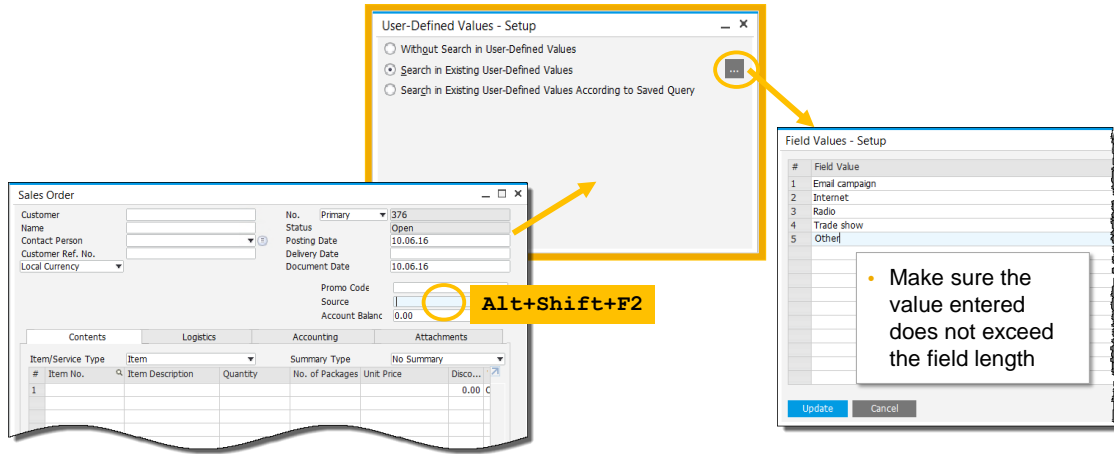
## List of Values



- You can add a list of values to a field using user-defined values.

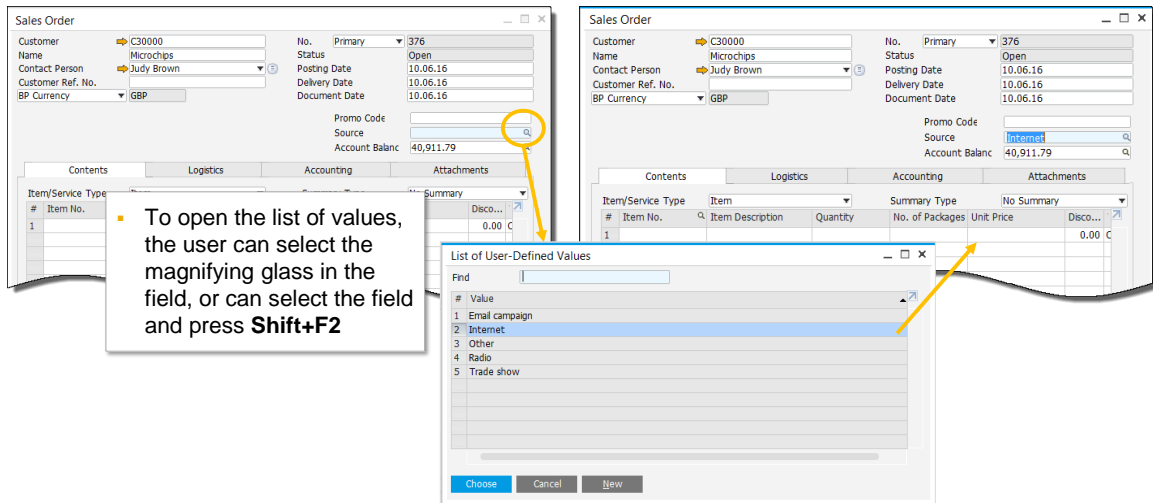
## Adding a List of Values

Choose the option *Search in Existing User-Defined Values*



- To add a list of values to a field, choose the option *Search in existing user-defined values*. Select the browse icon in the setup screen, and enter the values for the list.
- When defining the values, make sure that the value does not exceed the field length as defined in the database. In this example, a list of values has been added to a user-defined field called Source. If the length of the field Source is 15 characters, and you enter a value with 16 characters, the last character will be truncated.

## Adding a List of Values (cont.)



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- To open the list of values when processing a form, the user can select the magnifying glass indicator or press **Shift+F2** in the field. The user then selects a value from the list. Furthermore, the user can add new values to the list by choosing the *New* button.
- This example shows a list of values added to a user-defined field. Note that a list of values can also be defined when you initially create a user-defined field using the *User-Defined Fields – Management* window. The difference is that the user cannot add new values to the list. The list can only be maintained from the *User-Defined Fields – Management* window.

## Marketing Documents and UDV's

- User-defined values are not inherited by other document types, therefore you need to add them to each document type as required
- The *value* entered into a field with user-defined values is transferred to target document using Copy To/Copy From

The screenshot shows the SAP Sales Order form. The 'General' tab is active. The 'Customer' field is set to 'C30000', 'Name' is 'Microchips', 'Contact Person' is 'Judy Brown', and 'BP Currency' is 'GBP'. The 'No.' is '369', 'Status' is 'Open', 'Posting Date' is '03.07.13', 'Delivery Date' is '10.07.13', and 'Document Date' is '03.07.13'. The 'Account Balance' is '0.00'. The 'Delivery Vehicle' field is highlighted with a blue circle, and the 'Email' field is also highlighted. A callout box points to the 'Email' field with the text: 'Value entered in field using UDV's is transferred to target document using Copy to/Copy From'.

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- Note that, when you add user-defined values to a specific marketing document type, such as a sales order, other similar document types such as deliveries and invoices are unaffected. In other words, user-defined values behave differently to user-defined fields and are not inherited by other document types. Therefore you need to add user-defined values to each specific document type as required.
- However, the value entered in a field with user-defined values is transferred to a target document using the Copy To/ Copy From function.

## Attaching a User Query



- You can attach a query to a field using user-defined values.

## Adding a Query to a Field

Choose the option *Search in Existing User-Defined Values According to Saved Query*

The image shows two overlapping SAP windows. The top window is titled 'User-Defined Values - Setup'. It contains three radio button options: 'Without Search in User-Defined Values', 'Search in Existing User-Defined Values', and 'Search in Existing User-Defined Values According to Saved Query'. The third option is selected. Below the options is a text input field and an 'Open Saved Query' button. At the bottom are 'Update' and 'Cancel' buttons. The bottom window is titled 'Sales Order'. It contains various fields for customer information, order details, and a table at the bottom. The 'Delivery Date' field is highlighted with a yellow box. The table has columns for Item/Service Type, Item, Item Description, Quantity, Unit Price, and Discount.

Item/Service Type	Item	Item Description	Quantity	Unit Price	Discount
					0.00

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- The option *Search in existing user-defined values according to saved query* lets you attach a query to the field.
- This option is very powerful, since the field is populated with the results of the query.
- The query can set a value in the field, or store the results of a calculation in the field, or fetch another field value from the database to go in the field.
- The query can also use a variable to prompt the user for a parameter, and use the parameter to calculate the results.



## Adding a Query to a Field (cont.)

Choose the option *Search in Existing User-Defined Values According to Saved Query*

Example:

```
SELECT ADD_DAYS($[ORDR."DocDate"], 7)
FROM DUMMY
```

When the query runs the result is populated in the field

No.	Primary	377
Status		Open
Posting Date		10.06.16
Delivery Date		17.06.16
Document Date		10.06.16

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- When you use a query, make sure the query result matches the field type in the document, and does not exceed the size of the field. For example, do not return an alphanumeric string result into a field that is defined as numeric.
- In the example shown here, a query is used to set the delivery date in a sales order. The query adds 7 days to the current date (DocDate) and stores the result as the delivery date. The query refers to the DocDate field in the current active document therefore it uses the \$ and square brackets.
- The query is written using SAP HANA syntax and requires the clause "FROM DUMMY" since there is no FROM clause in the query.
- For more information on creating queries using the query tools see the course *Queries*.

## Adding a Query to a Field (cont.)

You can decide how the query will be triggered to run:

- If you do not select *Auto Refresh When Field Changes*, the user must select the magnifying glass icon or select the fields and press Shift+F2
- If you select *Auto Refresh When Field Changes*, the query will run automatically with no user involvement

No.	Primary	377
Status		Open
Posting Date		10.06.16
Delivery Date		
Document Date		10.06.16

User-Defined Values - Setup

☐ Without Search in User-Defined Values

☐ Search in Existing User-Defined Values

☒ Search in Existing User-Defined Values According to Saved Query

Calculate delivery date Open Saved Query

☐ Auto Refresh When Field Changes

User-Defined Values - Setup

☐ Without Search in User-Defined Values

☐ Search in Existing User-Defined Values

☒ Search in Existing User-Defined Values According to Saved Query

Calculate delivery date Open Saved Query

☒ Auto Refresh When Field Changes

☐ Refresh Regularly

☒ Display Saved User-Defined Values

Update Cancel

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- When you select the option to use a query as user-defined values, you can decide if you want the query to automatically run without user involvement.
- The *Auto Refresh When Field Changes* checkbox determines if the query runs automatically.
- If you do not select this checkbox, the query is not automatic and only runs when the user clicks the magnifying glass or presses **Shift+F2** in the field.

## Auto Refresh

User-Defined Values - Setup

☐ Without Search in User-Defined Values  
☐ Search in Existing User-Defined Values  
☒ Search in Existing User-Defined Values According to Saved Query

Calculate delivery date Open Saved Query

☒ Auto Refresh When Field Changes

Certification Number  
 Checker  
 Closing Option  
 Confirmed  
 Contact Person  
 Contract Code Identification  
 Control Account  
 Control Digit  
 Copy Number  
 Corrected Invoice  
 Create Online Quotation  
 Creation Date  
 Creatn Time - Incl. Secs  
 Customer/Supplier Name  
 Customer/Supplier No.  
 Date of Update  
 Deferred Tax  
 Department  
 Deposit Number

Select dependent field

- To have the query run automatically you select a depended field
- When the depended field is selected or changed, the query runs
- In marketing documents, the customer or vendor code is often selected as the dependent field

- If you select the *Auto Refresh When Field Changes* checkbox, you are prompted to select a dependent field. The query runs automatically when the dependent field changes in value or the user enters a value in the dependent field.
- In marketing documents, the customer or vendor code is often selected as the dependent field.

## Auto Refresh – Refresh Frequency

### ☒ Auto Refresh When Field Changes

User-Defined Values - Setup

☐ Without Search in User-Defined Values  
☐ Search in Existing User-Defined Values  
☒ Search in Existing User-Defined Values According to Saved Query

Calculate delivery date    Open Saved Query

☒ Auto Refresh When Field Changes

Customer/Supplier Name

☒ Refresh Regularly  
☐ Display Saved User-Defined Values

OK    Cancel

- **Display Saved User-Defined Values (default)** – query runs once then retains the result in the field
- **Refresh Regularly** – query runs each time the dependent field changes or is selected in a document

User-Defined Values - Setup

☐ Without Search in User-Defined Values  
☐ Search in Existing User-Defined Values  
☒ Search in Existing User-Defined Values According to Saved Query

Calculate delivery date    Open Saved Query

☒ Auto Refresh When Field Changes

Customer/Supplier Name

☒ Refresh Regularly  
☐ Display Saved User-Defined Values

Update    Cancel

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- When you choose *Auto Refresh When Field Changes*, two further options appear. These options determine if the query runs only once, or if the query runs whenever the dependent field changes.
  - The default option is *Display Saved User-Defined Values* and is recommended since it maintains the initial result of the query. The query runs once when the dependent field changes, and will not run again even if the dependent field changes. An example is a query added to the Delivery Date in a document. The query calculates a delivery date based on the system date. You only want the query to run once. If the query ran multiple times, the delivery date might be incorrectly updated.
  - If you choose *Refresh Regularly*, the query will run each time the dependent field changes or is selected in a document. You should use this option with caution since it can result in the field value changing when not expected. When the query runs, the document status will change to Update mode, and you must save the changes if you want to record the new query results. An example of using *Refresh Regularly* is a query that shows the up-to-date account balance of a business partner. You want the query to run whenever you browse or open the document so you can always see the latest balance. However, you will still be prompted to update the document if you want to save the query results.

## Auto Refresh - Example

- Query is added to user-defined field Account Balance
- Customer code is set as the dependent field
- Auto Refresh is selected with Refresh Regularly

### Result:

- Query will run when user selects a business partner code in a new sales order
- Query will also run if user browses through old documents

The image displays two screenshots of the SAP Sales Order (VA03) interface, illustrating the auto-refresh functionality. The top screenshot shows the 'General' tab with the 'Account Balance' field set to 0.00. The bottom screenshot shows the same interface after a refresh, with the 'Account Balance' field updated to 34,574.11. Blue arrows indicate the transition between the two states, highlighting the change in the account balance.

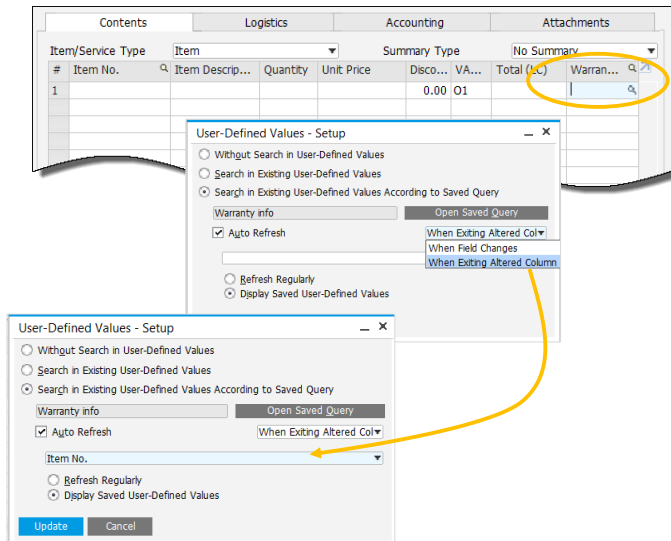
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- Here is an example to illustrate how the auto refresh function works.
- A query is added to a user-defined field in the sales order. The query access the customer's account balance from the business partner master data.
- The *Customer/Vendor Code* is selected as the dependent field. When the user selects the business partner code in a new sales order, this action triggers the query to run.
- This is typically the first action when a user processes a new marketing document. Therefore it is a common practice to use the *Customer/Vendor Code* as a dependent field to trigger the query to run.

## Auto Refresh on Row-level Fields

- For a query added to a header field, you can only select *another header field* as a dependent field
- For a query added to a row-level field, you can select *either* a header field or a row-level field as a dependent field:
  - Choose *When Field Changes* if you want to use a header field as the dependent field
  - Choose *When Exiting Altered Column* if you want to use another row field as the dependent field



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- For a query added to a header field in a document, you can only select another *header* field as the dependent field. This includes all fields in the document that are not in the row table.
- For a query added to a row-level field, you can select *either* a header or a row-level field as the dependent field. When you add user-defined values to a row field and choose Auto Refresh, you have two choices:
  - Select *When Field Changes* if you want to use a header field as the dependent field for a row-level query.
  - Select *When Exiting Altered Column* if you want to use another row-level field as the dependent field for a row-level query.
- In the example a query is added to a row field called Warranty and the item number is selected as the dependent field. The query will run when the item number is selected on the row.

## User-Defined Values: Key Points



Key points from this topic:

- User-defined values can assist users with data entry by using a list of values or a query to populate a field value
- You can add UDVs to editable header and row-level fields, and to user-defined fields. To add UDVs, select the field and press **Alt+Shift+F2**
- Magnifying glass indicator shows if UDVs exist for a field – *View > Pickers Display*
- User can open list of values or run query manually by selecting the indicator or pressing **Shift+F2** in the field
- To set a query to run automatically, use auto refresh and select a dependent field. Then select either:
  - *Refresh Regularly* – query will run each time the dependent field changes or is selected
  - *Display Saved User-Defined Values* – query runs once then retains the result in the field
- Queries should be written to reference the active window

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- Please take a minute to review these key points:
  - User-defined values (UDVs) can assist users with data entry by using a list of values or a query to populate a field value.
  - You can add UDVs to editable header and row level fields, and to any user-defined field. To add UDVs, select the field, then press **Alt+Shift+F2**.
  - A magnifying glass indicator shows if user-defined values exist for a field. You can enable this from the *View > Pickers Display* menu.
  - User-defined values can be set up as a list of values, or, more commonly, as a user query.
  - A user can open the list of values or run a query manually by selecting the magnifying glass indicator or pressing **Shift+F2** in the field.
  - If a query is used, the results of the query are saved in the target field. To set the query to run automatically with no user involvement, use the the auto refresh option and select a dependent field. Two further options are available for running the query:
    - If you select *Refresh Regularly*, the query will run each time the dependent field changes or is selected, or when browsing records. This could lead to inconsistent results, depending on the query, or could cause a performance degradation when browsing through records.
    - If you select *Display Saved User-Defined Values*, the query will run once and retain the result in the field. This option is recommended since it maintains the initial value of the field, but the choice of this option depends on the business need and the query.
  - Queries should be written to reference the active window, where needed.

# Customization Tools: User-Defined Tables

SAP Business One Version 9.3



- Welcome to the topic on User-Defined Tables.



## Objectives



### Objectives:

- Add a user-defined table (UDT) to the SAP Business One database and make it accessible in a document or form
- Create a user-defined object (UDO) from a user-defined table and make the object accessible from the main menu

- On completion of this topic, you will be able to:
  - Add a user-defined table (UDT) to the SAP Business One company database, and make the user-defined table accessible in a document or form.
  - Create a user-defined object (UDO) from a user-table and make the object accessible from the main menu.

## Business Scenario



- The company wants to assign a delivery driver to delivery documents. The delivery drivers can be maintained in a user-defined table which is accessed from the delivery document.
- The table can be maintained by users.



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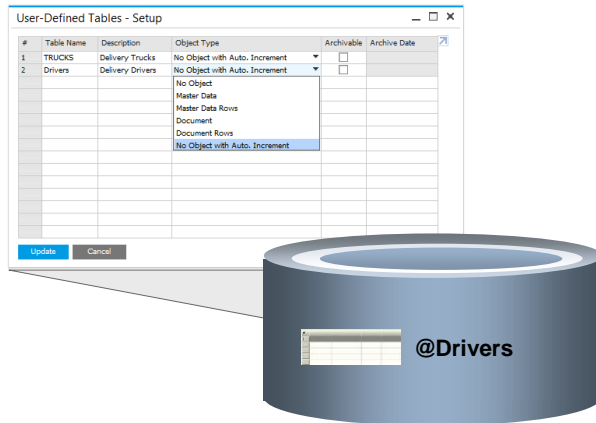
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- A company wants the ability to assign a delivery vehicle to delivery documents.
- The delivery fleet can be maintained as a user-defined table and made available to the delivery document.
- Users can manage the fleet entries in the table.

## User-Defined Tables

### Tools → Customization Tools → User-Defined Tables - Setup

- User-defined tables (UDTs) store related sets of data
- User tables have the prefix @
- Option to copy UDTs when creating new company



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- In addition to user-defined fields, you can add new tables to the database. User-defined tables (UDTs) give you the ability to store additional, related sets of data.
- The user-defined table becomes part of the company database. The system identifies user-defined tables by the '@' prefix so you can easily distinguish them from system tables.
- When you create a new company, you have the option to copy user-defined tables from the currently selected company to the new company.

## Object type for User-Defined Tables

### Tools → Customization Tools → User-Defined Tables - Setup

- To set up table, enter name and description, and select object type

#	Table Name	Description	Object Type	Archivable	Archive Date
1	TRUCKS	Delivery Trucks	No Object with Auto. Increment	<input type="checkbox"/>	
2	Drivers	Delivery Drivers	No Object with Auto. Increment	<input type="checkbox"/>	

Update Cancel

#### Object Type:

To link table to user-defined field (UDF) in a document or form, choose:

- No Object
- No Object with Auto. Increment

To link table to a user-defined object (UDO) choose:

- Master Data
- Master Data Rows
- Document
- Document Rows

- User-defined tables can be linked to a user-defined field (UDF) in a document or form. To do this you must choose the correct object type when you create the table.
- To link to a UDF choose *No Object* or *No Object with Auto Increment*.
- To link to a user-defined object (UDO) choose one of the other options:
  - Choose *Master Data* if the object will hold master data. You can also create child tables by selecting *Master Data Rows* as the object type.
  - Choose *Document* if the object will hold transactional data. You can also create child tables by selecting *Document Rows* as the object type.
- Note that you cannot change the Object Type after you have added the user table to the system.

## Information about User-Defined Tables

- Information about new tables is stored in OUTB table

Query Preview

SELECT \* FROM OUTB T0

#	Table Name	Description	Table number	Object Type	Used in Object	Log Table	Archivable	Archive Date
1	TRUCKS	Delivery Trucks		5			N	
2	DRIVERS	Delivery Drivers	1	5			N	
3	TR_MATRIX	Travel matrix	2	1	trmatrix		N	

- Information about each new table is stored in the OUTB system table. Information includes the object type.

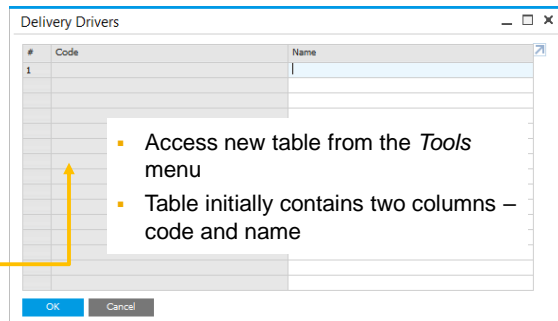
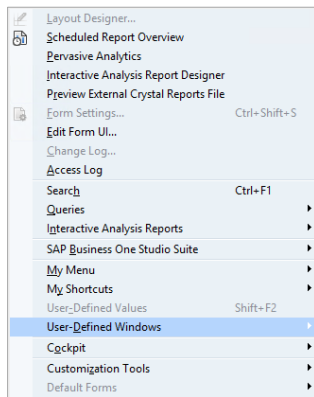
## Linking a User-Defined Table to a UDF



- To link table to user-defined field (UDF) in a document or form, you create the table with the object type *No Object*.

## Accessing a New Table

### **Tools → User-Defined Windows**



- You access a newly created user-defined table by selecting the table from the *Tools* menu.
- The table initially contains two columns, code and name.

## Entering Data in a New Table

- If object type *No Object*, Code field is editable
- If object type *No Object with Auto Increment*, Code field not editable and is auto incremented
- Code is primary key and Name must be unique in each row

The image shows two SAP screenshots. The top screenshot is the 'User-Defined Tables - Setup' window. It has a table with columns: #, Table Name, Description, Object Type, Archivable, and Archive Date. Row 1 is 'TRUCKS' with description 'Delivery Trucks' and object type 'No Object with Auto. Increment'. Row 2 is 'Drivers' with description 'Delivery Drivers' and object type 'No Object with Auto. Increment'. A dropdown menu is open for the 'Object Type' of the 'Drivers' table, showing options: 'No Object', 'Master Data', 'Master Data Rows', 'Document', 'Document Rows', and 'No Object with Auto. Increment'. The bottom screenshot is the 'Delivery Drivers' data entry window. It has two columns: 'Code' and 'Name'. The 'Code' column contains values 1 through 5, and the 'Name' column contains 'jim', 'jane', 'mike', 'todd', and 'lara'. A yellow box labeled 'Primary key' points to the 'Code' column, and another yellow box labeled 'Unique' points to the 'Name' column.

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- In our scenario, we want to use the table in a user-defined field in a delivery document. Therefore when we set up the table we could choose either *No Object* or *No Object with Auto Increment* as the object type.
  - If you choose *No Object* as the object type when you create the table, the Code column is editable and you can enter a unique value for each row.
  - If you choose *No Object with Auto Increment* as the object type, the Code column is not editable and the value will be auto incremented for each row of data you enter. We chose this option so the primary key is updated for us.
- The Code is the primary key and the Name must be unique for each row that you add to the table. In addition, you have the option to select any field or combination of fields from the user table as a new key. This option can speed up searches.



## Adding Columns to a UDT

**Tools → Customization Tools → User-Defined Fields - Management**

■ To add columns to table, select the table and choose **Add**

The screenshots show the 'User-Defined Fields - Management' window. The left window shows the 'Delivery Drivers' table selected in the 'User Tables' category. The right window shows the 'Delivery Drivers' table with four new columns added: Name, Shift, Available, and Location. The 'Add' button is highlighted in the bottom right corner.

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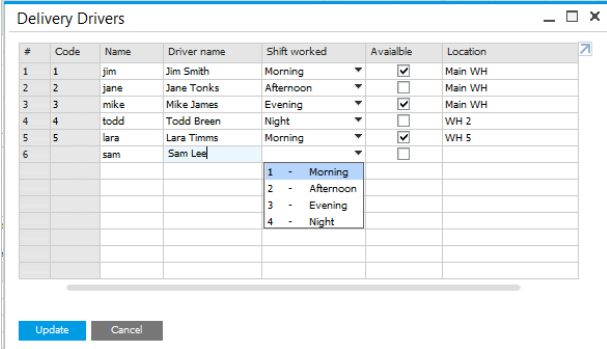
- To be useful, a user-defined table needs additional columns. Each column is added as a user-defined field.
- Select the name of the table in the user-defined fields management window. Then add a user-defined field for each column.
- In the example, we have added four additional columns – Name, Shift, Available, and Location to the Delivery Drivers table. In these fields we will record the name of the driver, the hours they work, if they are available for assignment, and their location. With this information, a user will be able to select the best driver for the delivery.
- For information about user-defined fields, see the related course *User-Defined Fields*.

## Viewing the Columns Added to a UDT

### **Tools** → **User-Defined Windows**

- To enter data in the additional columns, or add new rows to the table, open the table from the **Tools** menu
- If new columns are not visible in window, adjust width of columns

Additional Columns



#	Code	Name	Driver name	Shift worked	Available	Location
1	1	jim	Jim Smith	Morning	<input checked="" type="checkbox"/>	Main WH
2	2	jane	Jane Tonks	Afternoon	<input type="checkbox"/>	Main WH
3	3	mike	Mike James	Evening	<input checked="" type="checkbox"/>	Main WH
4	4	todd	Todd Breen	Night	<input type="checkbox"/>	WH 2
5	5	lara	Lara Timms	Morning	<input checked="" type="checkbox"/>	WH 5
6		sam	Sam Leel	1 - Morning	<input type="checkbox"/>	
				2 - Afternoon		
				3 - Evening		
				4 - Night		

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- After the additional columns have been added to the table, you can enter data or add new rows by choosing then menu **Tools > User-Defined Windows**. Choose and select the table. If the new columns are not visible in the window, you may need to adjust the width of the columns to bring the new fields into view.

## Queries

Query Generator

Name	Description
Code	Code
Name	Name
U_Name	Driver name
U_Shift	Shift worked
U_Available	Available
U_Location	Location

Select

From

"US09"."@DRIVERS" TO

Where

Sort By

Group by

Execute Close Conditions

- The user-defined table is not yet attached to a form or document, but can be used in queries
- Table name starts with @
- Columns are UDFs so start with U\_
- You can also import data into the table using the Data Transfer Workbench.

- At this point the user-defined table is not attached to any form or document so is not accessible to the user; however, you can use the table in queries, and you can import data into the table using the Data Transfer Workbench.

## Linking the Table to a UDF

**Tools → Customization Tools → User-Defined Fields - Management**

User-Defined Fields - Management

Category

Master Data

Marketing Documents

Title

Rows

Document Freight Charges

WTax: Info

Installments

Package Content

Assembly Rows

Title

Description

Type

Dft

Mand.

Index

Linked Table

Customer\_ Customer since

Deliver\_inst Delivery Instructions

Delivery\_in Delivery Time Preference

TruckTab Trucks Table

AccountBal Account Balance

ActBal2 actbal2

Warr Warranty Purch?

Alphanumeric (10)

Alphanumeric (50)

Hour

Alphanumeric (50)

Amount

Amount

Numeric (10)

2016

810

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TRUCKS

OK

Keys

Add

Remove

**Note:** You can link the same user-defined table to multiple user-defined fields.

- To make the table accessible to users, link it to a UDF in a document or form
- UDF must be *Alphanumeric* type

Field Data

Title: Drivers Description: Assigned driver

Type: Alphanumeric Length: 50

Structure: Regular

Validation: Linked to Entities

☐ Link to System Object

☒ Set Linked Table DRIVERS

☐ Link to UDO

☐ Set Default Value for Field

☐ Mandatory Field

Add Cancel

- To make a user table directly visible to users in a form or document, you link the table to a user-defined field in the document or form.
- Note that user tables can only be linked to UDFs with the Alphanumeric type and Regular structure.
- In the example, a user-defined field called Drivers is added to the title area of the marketing documents object. When you add the user-defined field choose the *Set Linked Table* validation option. Then select the user-defined table from the dropdown list.
- You can link the *same* user-defined table to multiple user-defined fields in different objects, at both the header and the row level. For example, you could link the trucks table to a user-defined field in the pick list document in addition to the delivery document.

## Using the UDT in a Document

- To view and access all columns, choose *Define New*

The screenshot shows the 'Delivery Drivers' dialog box in SAP. It contains a table with the following data:

#	Code	Name	Driver name	Shift worked	Available	Location
1	1	Jim	Jim Smith	Morning	<input checked="" type="checkbox"/>	Main WH
2	2	Jane	Jane Tonks	Afternoon	<input type="checkbox"/>	Main WH
3	3	Mike	Mike James	Evening	<input checked="" type="checkbox"/>	Main WH
4	4	Todd	Todd Breen	Night	<input type="checkbox"/>	WH 2
5	5	Lara	Lara Timms	Morning	<input checked="" type="checkbox"/>	WH 5
6					<input type="checkbox"/>	

Below the table are 'OK' and 'Cancel' buttons. A yellow arrow points from the 'Define New' button in the bottom right corner of the dialog box to the 'Define New' button in the 'Attachments' tab of the 'Delivery' dialog box in the background.

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- When you select the user-defined field, you can see the first two columns. Choose *Define New* to view and access all columns in the table.
- The user can edit and add rows to the table.

## Selecting the Value from the UDT

The screenshot shows two overlapping SAP Delivery document windows. The top window is in the 'Logistics' tab, showing a list of delivery instructions. The bottom window is in the 'Accounting' tab, showing the 'Assigned driver' field.

**Top Window (Logistics Tab):**

- Customer: C40000
- Name: Earthshaker Corporation
- Contact Person: Bob Wickens
- BP Currency: \$
- No.: 364
- Status: Open
- Posting Date: 06/12/2016
- Delivery Date: 06/12/2016
- Document Date: 06/12/2016
- Delivery Instructions: Evening only
- Assigned driver: (dropdown menu)

**Assigned driver dropdown menu:**

1	-	jim
2	-	jane
3	-	mike
4	-	todd
5	-	lara
Define New - Define New		

**Bottom Window (Accounting Tab):**

- No.: 364
- Status: Open
- Posting Date: 06/12/2016
- Delivery Date: 06/12/2016
- Document Date: 06/12/2016
- Delivery Instructions: Evening only
- Assigned driver: mike

An orange arrow points from the 'mike' option in the dropdown menu of the top window to the 'mike' value in the 'Assigned driver' field of the bottom window.

Value selected in user-defined table is stored in the user-defined field

- In this example, the customer has requested an evening delivery, therefore a driver is selected who is available in for an evening delivery. The Name from the user-defined table is now stored in the user-defined field in the document.

## Linking a UDT as a User-Defined Object



- To link a user table as a user-defined object (UDO) you create the table with the object type *Master Data* or *Document*.

## Adding Fields to User Table for UDO

**Tools → Customization Tools → User-Defined Fields - Management**

- User-defined object (UDO) consists of UDT and added UDFs
- These fields will hold the data for the new business object
- To add user-defined fields to user table, use the path shown here or you can use the DI API

Category	Title	Description	Type	Dflt
► Master Data				
► Marketing Documents				
► Payments				
► Production				
► Accounting				
► Costing				
► Budget				
► Opportunities				
► Service				
► Stock				
► Value Added Tax				
► Fixed Assets				
► Workflow				
► Project Management				
▼ User Tables				
▼ Company Cars				
	Make	Make	Alphanumeric (10)	
	Model	Model	Alphanumeric (10)	
	Reg	Registration	Alphanumeric (10)	
	Maint	Due for Maintenance	Date	
► Size and color matrix				

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- A user-defined object consists of a user-defined table and added user-defined fields. These fields will hold the data for the new business object.
- You can add user-defined fields using the SAP Business One application or via the DI API. In this example we have created a user table called **Company Cars**, as a master data object.
- We have added 4 user-defined fields.



## Registering the New Table as an Object

**Tools → Customization Tools → Objects Registration Wizard**

The screenshot shows a window titled 'User-Defined Object Registration' with a sub-header 'Defining Basic Settings'. It contains four input fields: 'Unique ID' with the value 'UD0001', 'Name' with 'Company Cars Master Data', 'Type' with a dropdown menu showing 'Master Data', and 'Table Name' with an empty field and a search icon. At the bottom are four buttons: 'Cancel', '< Back', 'Next >', and 'Finish'.

- Use the registration wizard to register user tables as user-defined objects
- The registration is per company
- Enter a unique ID and select the table
- Select the services for the object, such as:
  - Add
  - Update
  - Find
  - Delete
- Optionally select child table as rows

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- Once you have created the user table with the user-defined fields you need to register it as an object in SAP Business One using the *Objects Registration Wizard*. The registration is per company.
- Enter a unique ID and select the user-defined table name.
- As you progress through the wizard you will be prompted to select the services for the object, for example, Add, Update, Find, Delete. Add and Update are basic services and cannot be deselected.
- You can optionally select a child table, that will appear as rows in the master data or document object. Child tables are created by selecting the object type as Document Rows or Master Data Rows.

## Adding the Object to the Main Menu

- To add the object as a menu item, select the Menu Item checkbox, then select the module and position

The screenshot displays two SAP dialog boxes. The 'User-Defined Object Registration' dialog is in the background, showing the 'UI Settings' tab. It includes checkboxes for 'Default Form' (selected), 'Menu Item' (selected), and 'Overwrite Existing Form' (selected). The 'Menu Caption' is 'Company Cars Master', 'Menu UID' is 'UD0001', and 'Position' is empty. The 'Menu Selection Form' dialog is in the foreground, showing a tree view of SAP modules. 'Administration' is selected, and 'Excel Report and Interactive Analysis' is highlighted under the 'Reports' module. The 'Object Name' is 'UD0001'.



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
- You can add the object to the main menu by selecting the Menu Item checkbox in the wizard. You then select the module from the selection form, and the position within the module menu.


### Style of the New Table

**Modules** **Drag & Relate**

 Look Up Menus 

- Journal Voucher Report
- Fixed Assets
- Internal Reconciliations
- Budget Setup
- Cost Accounting
- Financial Reports
- Company Cars Master Data

 **Opportunities**

 Sales - AR

Company Cars Master Data			
Code	001	Name	Share 1
DocEntry	1	Make	Focus
Model	Ford	Registration	ABC 123
Due for Maintenance	30.06.16		

OK Cancel

## Header Line Style

[illegible]

Matrix Style

- You can select either Header Line Style or Matrix Style in the wizard. This affects how the table displays when the user access it. Examples are shown here.

## User-Defined Tables: Key Points



Key points from this topic:

- You can add user-defined tables (UDTs) to the database to hold additional, related sets of information
- User-defined tables have the prefix “@”
- To link a user-defined table to a user-defined field in a document or form:
  - Select Object Type as *No Object* or *No Object with Auto. Increment*
  - The table is initially created with two columns, code and name. Add user-defined fields as additional columns in the table
  - To make the table available in a document or form, link the table to a user-defined field in the document or form (choose the *Set Linked Table* option).
- To use a table as a user-defined object:
  - Select Object Type as *Master Data* or *Document*
  - Add user-defined fields as columns
  - Run the objects registration wizard to create the user-defined object, select the object services, select child tables for rows, and add the object to the main menu.

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- Here are some points to take away regarding user-defined tables:
  - You can add your own user-defined tables to the database. These tables can hold additional, related sets of information.
  - User-defined tables can be identified with the prefix “@”.
  - To be able to link a user-defined table to a user-defined field in a document or form, select the Object Type as *No Object* or *No Object with Auto. Increment*.
  - The table is initially created with two columns, code and name. User-defined fields can be added as additional columns in the table.
  - To make a UDT accessible to a user in a document or form, create a user-defined field in the document or form, then choose the *Set Linked Table* option to link the table to the UDF. Only UDTs with Object Type *No Object* or *No Object with Auto. Increment* can be linked to a UDF. End users can access the table through the UDF, and have the ability to add rows to the table, and enter data in the user-defined field columns.
  - To use a table as a user-defined object (UDO), select the Object Type as *Master Data* or *Document*.
  - Add user-defined fields to the table as columns.
  - Run the objects registration wizard to create the object, select the services for the object, select any child tables for rows in the object, and add the object to the main menu. Users can access and maintain the object from the menu, and browse through records.

# Customization Tools: Introduction to Analytics

SAP Business One Version 9.3



- Welcome to Introduction to Analytics.

## Objectives



### Objectives:

- List the mechanisms for displaying analytics in a user's cockpit
- Describe the semantic layer and calculation views in SAP HANA
- Explain how dimensions and measures are used in the analytical tools
- Create a pervasive dashboard with actions

This course is intended to provide implementation consultants with an introduction to SAP HANA analytics. Further, more in-depth training on analytics is provided in other courses from SAP.

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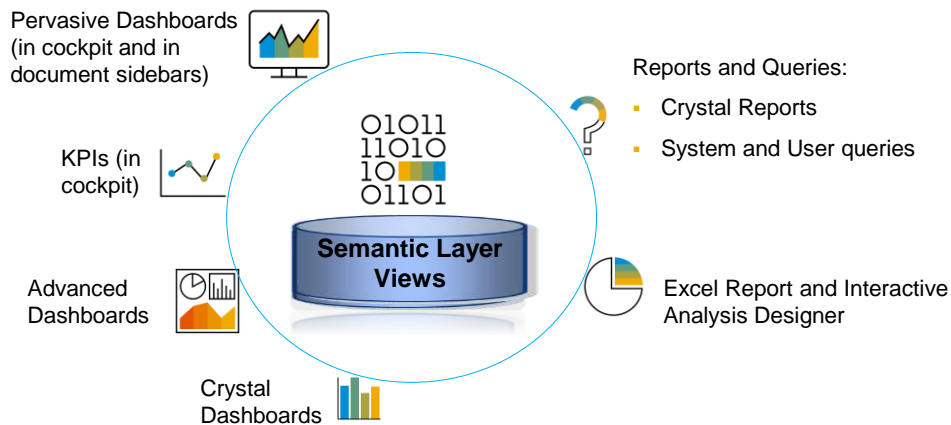
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On completion of this topic, you will be able to:

- List the mechanisms for displaying analytics in a user's cockpit
- Describe the semantic layer and calculation views in SAP HANA
- Explain how dimensions and measures are used in the analytical tools
- Create a pervasive dashboard with actions

Note that this course is only intended provide implementation consultants with an introduction to SAP HANA analytics. Further, more in-depth training on analytics is provided in other courses from SAP.

## Business Intelligence in SAP Business One



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The semantic layer in the SAP HANA database contains views (models) of operational data. Each view integrates fields from different source tables to model a comprehensive business scenario, for example, financial, logistics, sales, purchasing, and so on. The view insulates the user from the technical details of the underlying tables and the need for joins.

In SAP Business One, insight into key business metrics is extracted using queries on the views and provided to users in real-time through several mechanisms:

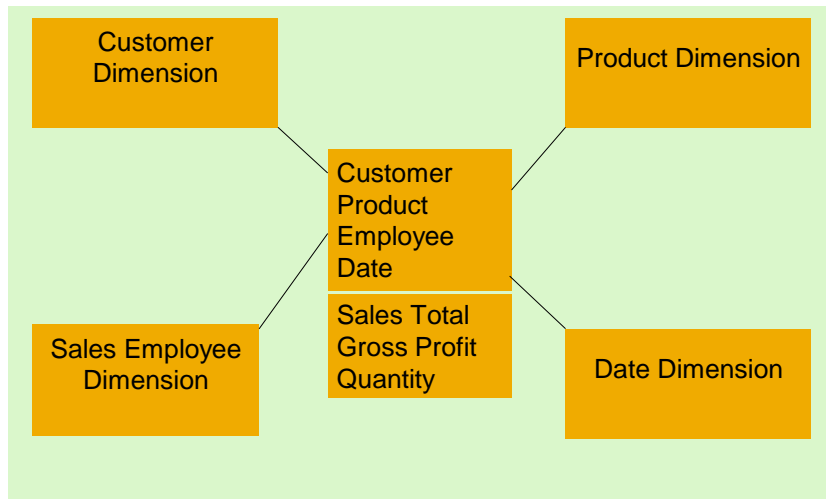
- Pervasive analytics dashboards in the user's cockpit or in the sidebar of marketing documents
- Key Performance Indicators(KPIs) in the user's cockpit
- Advanced dashboards in the user's cockpit
- Dashboards created with Crystal Reports Designer

SAP provides pre-built pervasive dashboards, KPIs and advanced dashboards, and partners can create additional pervasive dashboards, KPIs, advanced dashboards, and Crystal dashboards.

Additionally, end users can access the semantic views using the Excel Report and Interactive Analysis Designer add-in for Microsoft Excel to create reports and analyses.

Users can use the SAP Business One Query Generator as well as Crystal Reports to access the views using SQL queries.

## Example View: Dimensions and Measures



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A view pulls data from multiple tables and calculates results that are used for reporting and analysis. No actual data is held in the view, it is simply a model that structures the data for queries. When the query is run, the data is pulled from the physical tables.

Let us look at a hypothetical calculation view of a sales order transaction in SAP HANA. The view pulls together fields from many tables that are involved in the sales order, including, as you might expect, ORDR, RDR1, OSHP, OCRD, OCPR, OITM, ITM1, and so on.

The view pulls together two types of data: dimensions and measures:

- The dimensional data are the descriptive data such as the document number, business partner code, sales employee, product, date, and so on. This tells you who, when and what but does not give any quantifiable fields.
- The measurable data are the quantifiable fields that can be calculated, such as total amounts, gross profit, tax and quantities. Using a query, you can SUM these fields.

The customer dimension represents the customer attributes referenced in the sales order, such as document number and business partner code. The product dimension represents the item and the characteristics for that item. The date dimension represents various dates such as Document Date, Posting Date and Delivery Date. The sales employee dimension represents the sales employee code in the sales order. Using a query, you can GROUP and SUM document totals by different attributes, such as by business partner or by sales employee, or use the date dimension to aggregate data by time.

To see a full list of the views, reference the how-to guide *How to Work with Sematic Layers*.



## Cockpit Analytics



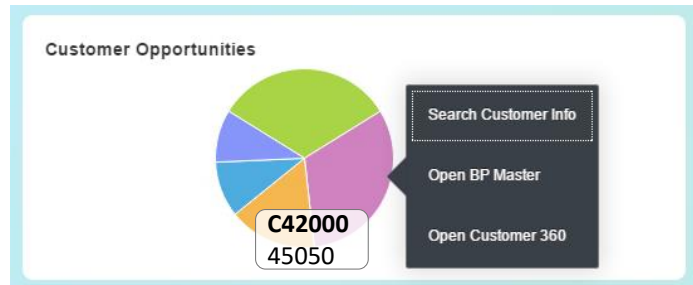
## Pervasive Dashboard

Pervasive dashboard is designed using queries on the calculation views

Here is an example of a pervasive dashboard for measuring opportunities

Users can:

- Mouse over a section to see a dimension and its associated measure
- Right-click to open a context menu with actions



A sample, pervasive dashboard is shown in the slide. The pervasive dashboard is built from a predefined query or calculation view and shows a dimension (business partner code) and a measure (total).

This particular dashboard measures customer opportunities. You can easily create a pervasive dashboard to meet a specific requirement and show the data visually in charts and graphs.

The data in the pervasive dashboard is read-only and is refreshed so that the data presented to the user is always up-to-date.

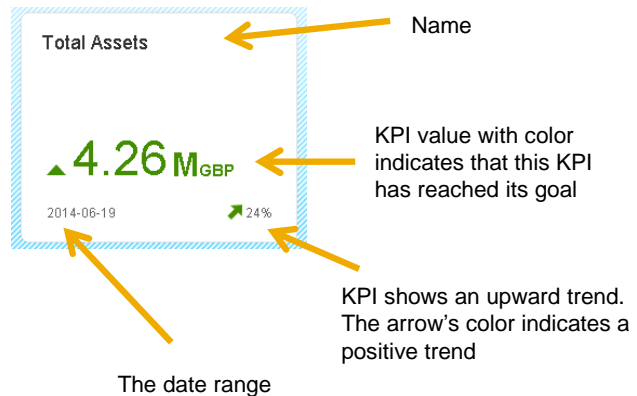
Once created, you can add the pervasive dashboard to a user's cockpit or to an advanced dashboard. Here, users can mouse over sections in the dashboard to see the dimension values (in this case customer numbers) and the associated measure (in this case the potential value in opportunities).

You can also add *actions* to allow the user to perform related tasks, such as opening a related document or master data record. In the example the user can launch 3 actions from the context menu.

Later in this course, you will see how to create this pervasive dashboard and actions.

## Key Performance Indicator (KPI)

- Key performance indicator widgets allow you to visually evaluate the status of your business.
- SAP provides prebuilt KPIs and you can also design your own.
- You can base your KPI on:
  - Calculation view
  - User-defined query
- Multiple KPI widgets can display in a user's cockpit or advanced dashboard



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Key performance indicators show a key metric that enables users to evaluate the status of their business at any time. A KPI is built based on a calculation view or a user-defined query that exists in the system. A KPI has a goal and an optional trend and tracks the progress towards the goal.

In the example, the metric is total assets, which is one of the predefined KPIs provided by SAP. The KPI value appears in the center. Colors can be used to show if the KPI is meeting its goal. In this KPI, the green color indicates that this KPI has reached its goal.

In the bottom right, you can see the KPI trend. This KPI shows an upward trend. Once again, you can choose colors to indicate whether the trend is good or bad.

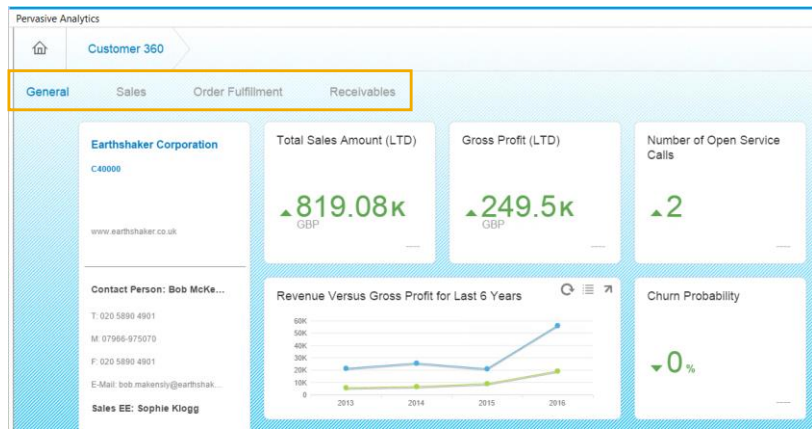
In the bottom left, you see the date range for the KPI.

You can display KPI widgets in the user's cockpit or inside an advanced dashboard.

SAP provides a large number of prebuilt KPIs but you can also design your own.

## Advanced Dashboard

- Supplementary, multi-page dashboard complements a pervasive dashboard or KPI
- Built by selecting pre-existing widgets:
  - Pervasive dashboards
  - KPIs
  - Count widgets
  - Business partner info
- Can be launched by user from pervasive dashboard or KPI



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You can create supplementary cockpits (called advanced dashboards) that allow a user to display data related to a pervasive dashboard or a KPI. The advanced dashboard can have multiple pages and provides quick access to multiple, related business analytics widgets.

The user launches an advanced dashboard from a *pervasive dashboard* or *KPI widget* in their cockpit.

In the example you can see the Customer 360 advanced dashboard, which is one of the predefined advanced dashboards from SAP. This dashboard has 4 pages. Note: the Customer 360 dashboard is hardcoded to be launched from an open business partner master data, and is NOT launched from a pervasive dashboard or KPI.

The advanced dashboard is built by selecting pre-existing widgets:

- Pervasive dashboards
- KPIs
- Count widgets, and
- Business partner address and contact information

The dashboards and KPIs in your advanced dashboard can contain actions. Additionally you can add filters to specific widgets to screen out unnecessary data.

## Crystal Reports Dashboards



- Dashboards created in Crystal Dashboard Designer support multiple panes and multiple data sources
- Can be based on SAP HANA view or other data sources

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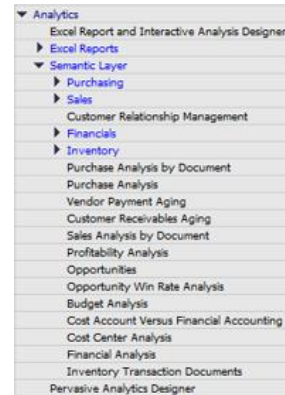
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Crystal Reports dashboards are created in the Crystal Dashboard Designer. Crystal dashboards support visual what-if analysis and multiple panes with multiple data sources. A separate Crystal Designer license is needed. You can use other data sources in addition to the SAP HANA views. The dashboards are created externally and need to be imported into SAP Business One.

## Authorizations for Viewing and Creating Dashboards

- To create dashboards or KPIs, you need authorization to:
  - The Pervasive Analytics Designer tool, and
  - The Semantic Layer or semantic layer view, plus
  - The base query for the dashboard or KPI
- End users also need authorization:
  - To view the content inside pervasive dashboards and KPIs, users must have authorization for the objects displayed.
  - If a user does not have access to the query category for the query or the view in the semantic layer behind the dashboard, they will not be able to see data.

*Administration > System  
Initialization > Authorizations  
> General Authorizations*



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Various authorizations are required to work with analytics. Generally the authorizations are found under the Analytics subject area in the authorizations window.

To create dashboards or KPIs, you need authorization to:

- The Pervasive Analytics Designer tool, and
- The Semantic Layer or semantic layer view

Additionally you need authorization to the base query for the dashboard or KPI. Authorization to queries are provided through categories in the Query Manager. For more information, see the Queries course in this training.

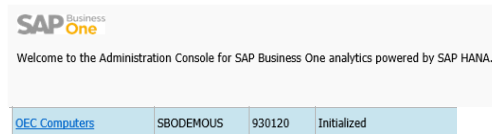
To view the content inside pervasive dashboards and KPIs, users must have authorization for the objects displayed. In addition, users need authorization to the query category or to the semantic layer view, or they will not see data in the dashboard or KPI.

## Initializing SAP HANA Analytics

To use the analytical features in SAP Business One, you need to deploy the SAP HANA views (models) in the company database:

- Open the SAP Business One Analytics Administration console using the URL
- Login with the B1SiteUser password
- Initialize the company database. The initialization will deploy the predefined SAP HANA models for Semantics Layers, allowing you to work with KPIs, Pervasive Dashboards, Interactive Analytics, Crystal Report and SAP Lumira.

URL <https://<Server>:40000/Enablement>



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To use the analytical features in SAP Business One, you need to initialize the company database in the SAP Business One Analytics Administration Console. This is normally done during the software installation, in the post-installation activities. For more details, see the SAP Business One Administrator's Guide, version for SAP HANA.

You can access the console using the URL shown. You will be prompted to provide the B1SiteUser password. In the console you can check whether the company is initialized for analytics.

The initialization will deploy the predefined SAP HANA models for Semantics Layers, allowing you to work with KPIs, Pervasive Dashboards, Interactive Analytics, Crystal Report and SAP Lumira. Note that 40000 is the default port number for all SAP Business One services.

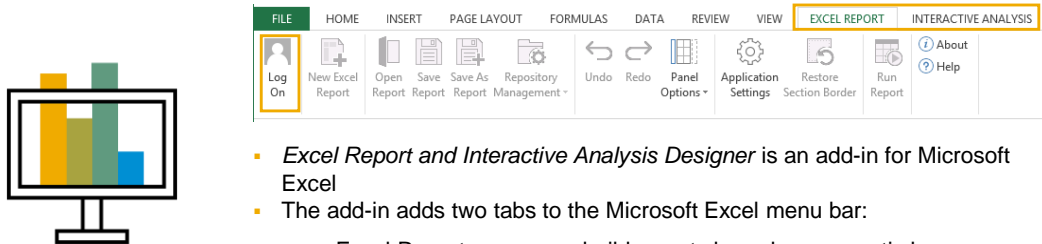
## Analytics Reports





## Excel Report and Interactive Analysis Designer Add-In

*Tools > Excel Report and Interactive Analysis Designer*



- *Excel Report and Interactive Analysis Designer* is an add-in for Microsoft Excel
- The add-in adds two tabs to the Microsoft Excel menu bar:
  - Excel Report: users can build reports based on semantic layers
  - Interactive Analysis: users can perform ad hoc pivot table analyses based on the semantic layers
- Users can launch Microsoft Excel from *Tools* menu in the client, or can use the Microsoft Windows Start menu
- Users need valid SAP Business One license and authorizations to the semantic layer

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Excel Report and Interactive Analysis Designer add-in allows users to access the semantic layer using a familiar tool - Microsoft Excel.

The add-in is automatically integrated into Microsoft Excel when you install the client component (see the Administrator's Guide for SAP HANA).

The add-in adds two tabs to the Microsoft Excel menu bar:

- On the Excel Report tab, users can create reports intuitively, and in real-time, using the semantic layer views
- On the Interactive Analysis tab, users can use pivot tables to do ad hoc analysis on the semantic layers.

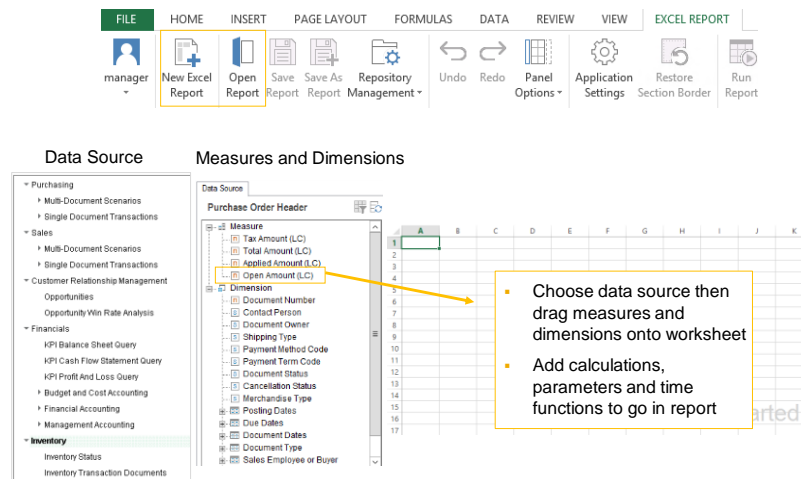
Users can launch Microsoft Excel from the SAP Business One client using the Tools menu, and thereby access the two tabs. Or they can use the Microsoft Windows Start menu. If they use the start menu, they will need to login to the company database and enter the address of the SAP HANA database server.

**Important:** All users need a valid SAP Business One license appropriate to the type of data they will access, and they need authorizations in SAP Business One to the semantic layer.

To see prerequisites for Microsoft Excel, reference the how to guide "How to Work with Excel Report and Interactive Analysis".

## Excel Report Tool

- On this tab the user can open pre-built reports and create new reports based on the semantic layer views
- Typically these reports are saved and run on a regular basis
- Repository management function to save reports for reuse



Steps for creating reports are documented in the how to guide “How to Work with Excel Report and Interactive Analysis”.

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On the Excel Report tab, users can build new reports and charts. They can also open and edit the existing, predefined analytical reports from SAP.

To open or create a report, first choose the data source. You can select from the deployed calculation views in the semantic layer. When you choose a view, the measures and dimensions are shown and you can select and drag measures and dimensions on to the worksheet. For the measure or dimension, it is important to designate the report section as a row group, a column group, or a field. You can also add calculations, parameters and time functions.

Using the repository management function, you can save the new report in one of the analytics categories. Reports can be rerun from the Tools > Excel Report and Interactive Analysis menu in the client.

Steps for creating reports are documented in the how to guide “How to Work with Excel Report and Interactive Analysis”.

## Interactive Analysis Tool

- Interactive analysis tab is used for *ad hoc exploration and analysis* on the semantic views
- The analysis is performed in using Microsoft Excel pivot tables and standard pivot table tools
- Save and manage pivot tables using Repository management

Steps for creating interactive analyses are documented in the how to guide “How to Work with Excel Report and Interactive Analysis”.

In contrast to the Excel tab, the Interactive Analysis tab is designed for ad hoc analyses on the semantic layers. Users can create new pivot tables or open existing pivot tables.

For a new pivot table the user selects one of the pre-defined semantic layers as a data source. The measures and dimensions for the selected view appear in the Pivot Table Fields for selection. You can then use the standard pivot table commands.

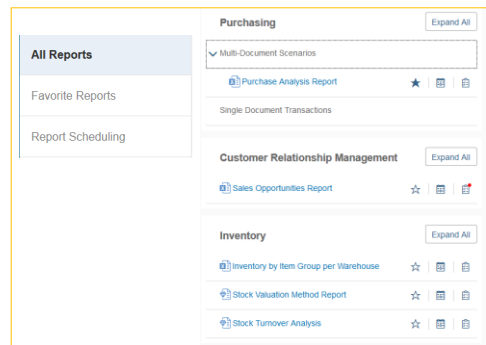
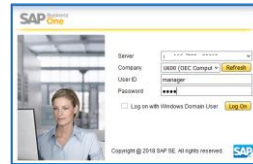
The measures you choose will appear in the values box and the attributes will appear as row labels. You can move an attribute field from the Row Label box to the Column Label box, and the data will automatically adjust to the new format. You can select fields to use a filter, either by dragging a field to the Report Filter box or by using the filter function of MS Excel pivot tables.

Steps for creating interactive analyses are documented in the how to guide “How to Work with Excel Report and Interactive Analysis”.

## Analytical Portal

URL <https://<Server>:40000/Portal>

- Publishes reports to users in a web browser
- Supported by modern web browsers
- User needs an account on SAP Business One
- Uses SAML to authenticate the user – user logs in with account credentials
- For each user, the portal shows only the reports they have authorization to run
- User can: run and export reports, set reports as favorites, schedule and distribute reports, download report output and view report running history



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The Analytical Portal publishes reports to users in real time through a web browser. Reports developed in Crystal Reports and in the Excel Report and Interactive Analysis Designer are available, as well as pre-defined analytical reports from SAP.

It is most useful for users on the move who do not have the SAP Business One client or Microsoft Excel on their device. All users still need a user account on SAP Business One.

Users can access the portal using modern web browsers such as Microsoft Edge, Google Chrome, Firefox and Safari. Microsoft Internet Explorer is not supported.

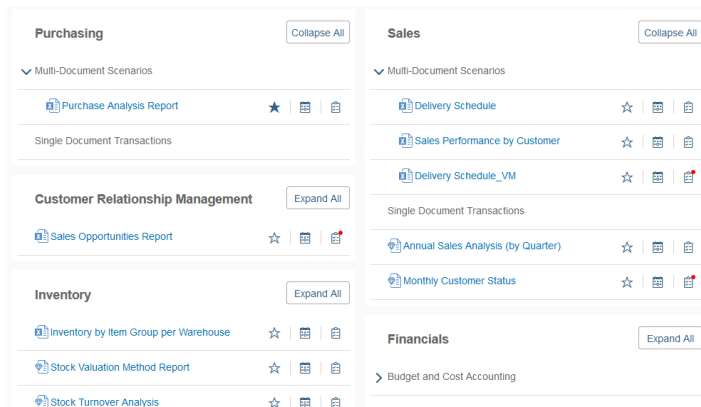
When a user accesses the portal using the URL shown in the slide, they are redirected using SAML to login to the company using their user account credentials. Users can use single sign-on (SSO) if that is set up.

From the portal a user can:

- Run a Crystal report or Excel report
- Export the report to PDF, HTML or Microsoft Excel
- Set reports as favorites so they display on a separate Favorites tab
- Schedule reports to run automatically
- Distribute reports via email
- Download report results to a local machine
- View the running history for reports that they have run

## Report Availability on the Analytical Portal

- Excel Report and Interactive Analysis reports are available after being saved in SAP Business One
- Crystal reports are available after being imported as \*.rpt files using the Report and Layout Manager



- Each user sees only reports for which they are authorized
- See the *General Authorization* topic for details on report authorizations

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New reports are made available in the portal as follows:

- Reports created in the Excel Report and Interactive Analysis designer are available in the portal after being saved to SAP Business One. Anyone with authorization for these reports can view them in the Analytic Portal.
- Reports created in Crystal Designer need to be imported into SAP Business One as \*.rpt files using the Report and Layout Manager. Then authorized users can view these reports in the Analytic Portal.

Each user only sees the reports for which they are authorized. The user must additionally have authorization to the objects and semantic views contained in the reports. See the *General Authorizations* topic for information on report authorizations.

## Authorizations for Imported Reports

Set Authorization button allows you to set the authorization when you import a new report

The screenshot shows two SAP windows. The 'Report and Layout Manager' window on the left displays details for the report 'My\_Credit\_Analysis' (ID: R000012). The 'Set Authorization' button is highlighted with a yellow box. An orange arrow points from this button to the 'Authorizations' window on the right. The 'Authorizations' window shows a list of users and their authorization levels for various subjects. The 'My\_Credit\_Analysis' subject is highlighted, showing 'No Authorization' for the user 'john'.

Users	Group	Find	Subject	Authorization
Alerting				
alex			Financial	Full Authorization
BI			Comparison	Full Authorization
bill			Budget Setup	Full Authorization
bob			My Reports	No Authorization
brad			My_Credit_Analysis	No Authorization
carlos			Opportunities	Full Authorization
christin			Sales - A/R	Various Authoriza
dana			Business Partners	Various Authoriza
donna			Banking	Various Authoriza
doris			Inventory	Full Authorization
elso			Resources	No Authorization
emily			Production	Full Authorization
fred			WSP	Full Authorization
George			Service	Full Authorization
hunter			Human Resources	Full Authorization
james			Project Management	No Authorization
jim			Reports	Full Authorization
john			Analytics	No Authorization
			Non-Style Cockpit Management	No Authorization
			User Authorization	No Authorization

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When you import a report using the Report and Layout Manager, you can set the authorization by choosing the *Set Authorization* button. This opens the Authorizations window where you can select the authorization for the report.

## Creating a Pervasive Dashboard



## Creating a Pervasive Dashboard



In this section, you will see the steps to create a pervasive dashboard with three actions to:

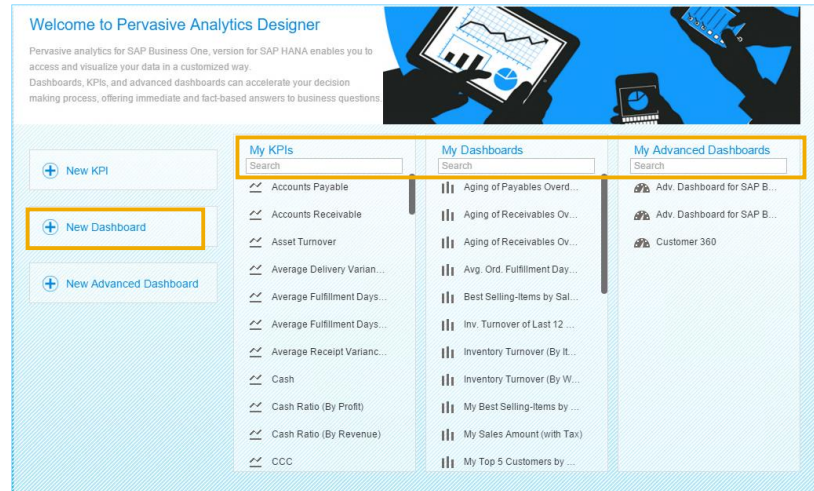
- Perform an enterprise search for customer information
- Open a business partner master
- Open the Customer 360 advanced dashboard



## Pervasive Analytics Designer



The Pervasive Analytics Designer is the common tool for creating pervasive dashboards, key performance indicators (KPIs) and advanced dashboards.



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The *Pervasive Analytics Designer* is the common tool for creating pervasive dashboards, key performance indicators, and advanced dashboards.

To access the tool, choose the icon in the icon toolbar in the SAP Business One client.

Note: authorizations are required both to the Pervasive Analytics Designer and to the view data.

To create a new pervasive dashboard, choose *New Dashboard*.

## Select the Data Source

The first step is to select the base data source.

You can open a list of available sources by choosing the *Select Base Data Source* icon.



When you click on a data source, the definition of the data source and its results appear.

Choose OK to select it.

#	Business Partner Name	Mail Country	Bill To or Pay To City	Bill To or Pay To Country	Company Reg. No.	Withholding Tax Code	Unified VAT Number	Residence Number Type	Business Partner Group Name	Business Partner Code	Industry Description
1	Maxi-Tec	GB	London	GB				1	Construction	C20000	
2	Parameter Technology	GB	Birmingham	GB				1	High Tech	C23900	
3	Parameter Technology	GB	Birmingham	GB				1	High Tech	C23900	
4	Earthshaker Corporation	GB	London	GB				1	Large Accounts	C40000	
5	Andreas Adamann	GB	Liverpool	GB				1	Customers	L10001	
6	Werner Richter	GB	Sheffield	GB				1	Customers	L10002	
7	Andreas Adamann	GB	Liverpool	GB				1	Customers	L10001	
8	Werner Richter	GB	Sheffield	GB				1	Customers	L10002	
9	Andreas Adamann	GB	Liverpool	GB				1	Customers	L10001	
10	Werner Richter	GB	Sheffield	GB				1	Customers	L10002	
11	Machine										

The first step to select the base data source.

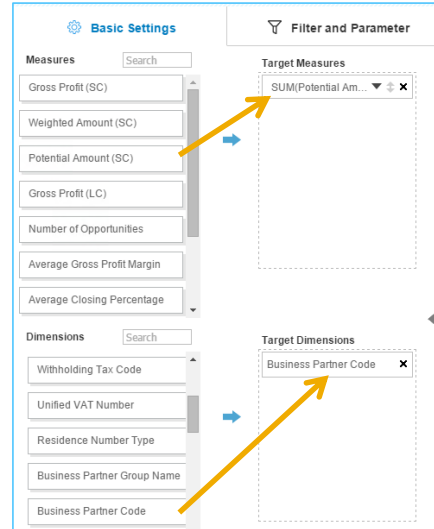
You can open a list of available data sources by choosing the *Select Base Data Source* icon.

Data sources for user-created pervasive dashboards can be user-defined queries or semantic layer calculation views.

When you choose a data source, the definition of the data source appears with its results.

## Choose Measures and Dimensions

- The measures and dimensions of the data source appear.
- Drag measures and dimensions to the target area for your dashboard.
- For measures, select a calculation method: Sum, Average, or Original.
- Sort the data of the measures: ascending or descending
- Drag dimensions up or down to change their display order.



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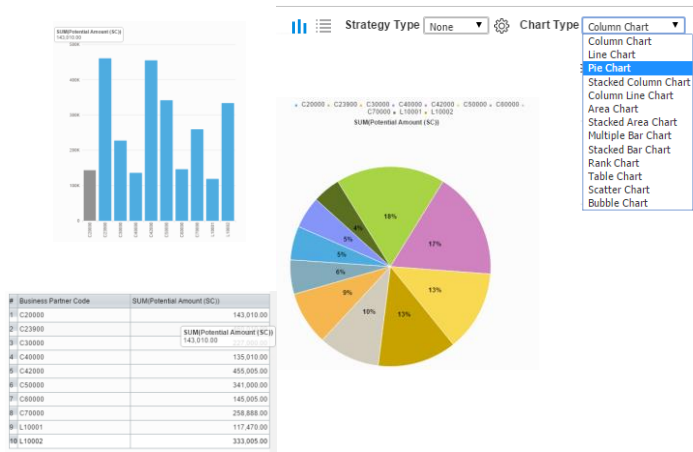
The measures and dimensions from the data source appear on the *Basic Settings* tab. We choose which measures and dimensions to use for the dashboard and drag them to the target area.

In our example, we drag the potential sales amount to the target measures area and drag the BP Code to the target dimensions area. For measures, we have the option to select a calculation method: Sum, Average, or Original. In our example, we will use Sum.

You can sort the data of the measure by ascending or descending. If you have multiple dimensions, you can drag the dimensions up or down to change their display order.

## Choose Chart Type

- The next step is to choose a chart type that will represent data well for this dashboard
- As you choose the measures and dimensions, a chart appears on the right of the *Basic Settings* tab.
- Use the dropdown to change the chart type for the best display for your data.



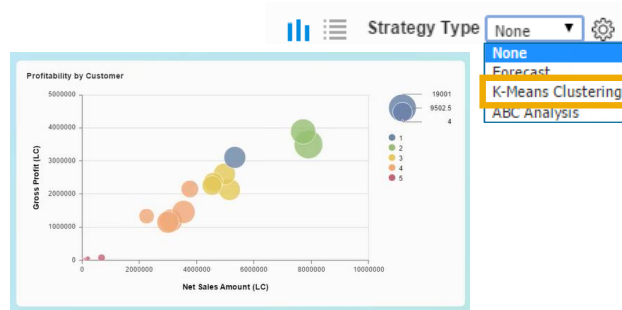
The next step on the *Basic Settings* tab is to choose a chart type that represent data well for this dashboard.

As you choose the measures and dimensions, a chart will appear on the right side of the *Basic Settings* tab.

You can use the dropdown to change the chart type. In our example we will use a pie chart.

## Strategy Type

- Strategy Types allow you to do further analysis on your chart.
- Examples of Strategy Types:
  - Forecasts (for date dimensions)
  - ABC Analysis
  - K-means Clustering
- Use the dropdown menu to add a Strategy Type



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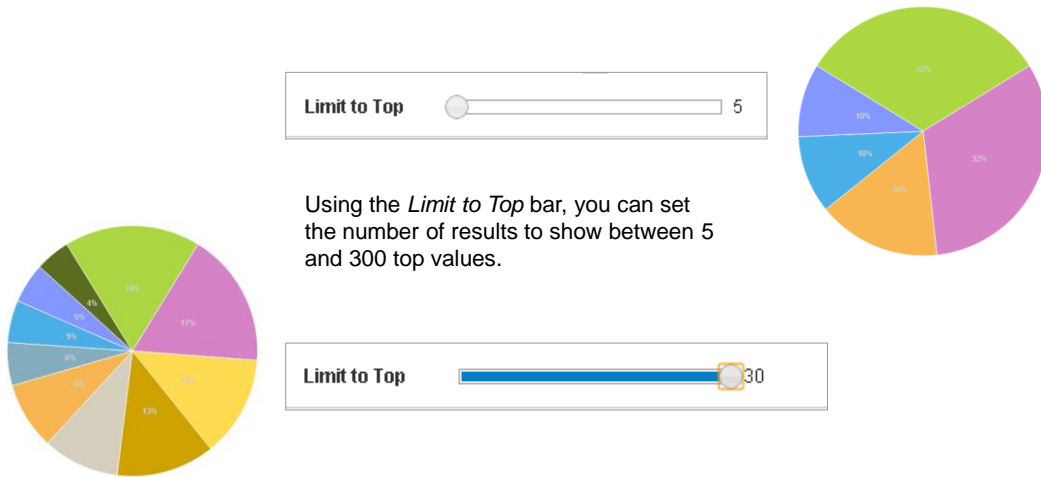
The *Strategy Type* option allows you to use an algorithm to do further analysis on your chart. We will not use this option in our example.

Examples of strategy types are:

- Forecast (only for charts with date dimensions)
- ABC Analysis
- K-means Clustering

Use the dropdown menu to choose a Strategy Type.

## Limit Results



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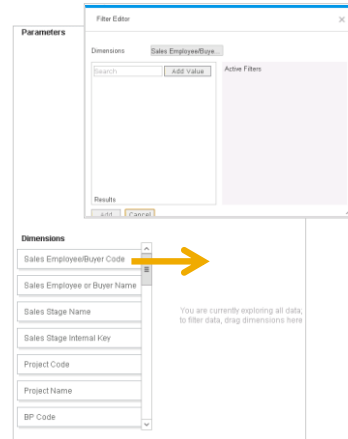
Another useful option on the *Basic Settings* tab is the ability to limit the number of results shown.

Using the *Limit to Top* bar, you can set the number of results to show between 5 and 300 top values.

In our examples, we will set the chart to display the top 5 business partners in terms of the number of opportunities.

## Filters and Parameters

- In our business example, we will not use any filters or parameters.
- However, if you wished to include them, you could do so on the *Filter and Parameter* tab.
- To set up a filter, drag a dimension to the filter area
- A window appears where you can select a filtering value or range.
- To set up a parameter, just drag a dimension over to the parameter area, then specify the default value.



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In our business example, we will not use any filters or parameters. However, if you wished to include them, you could do so on the *Filter and Parameter* tab.

To set up a filter, drag a dimension to the filter area. A window appears to edit the filter where you can select a filtering value or range.

To set up a parameter, just drag a dimension over to the parameter area, then specify the default value.

In the graphic, you can see what happens when the sales employee dimension is dragged into the filter area. The Filter Editor opens to allow you to specify filter values.

## Save the dashboard and assign to the cockpit

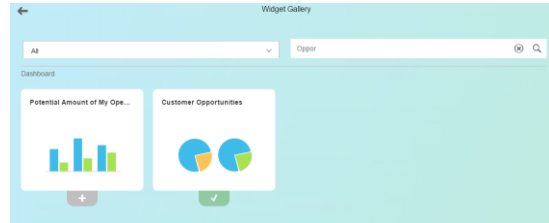


Save the dashboard



Save a copy of the dashboard  
(Save As)

Add the new dashboard to a cockpit



Save the dashboard by using the checkmark. The checkmark with an arrow is for **Save As**.

You can reopen an existing dashboard for editing by choosing it from the list of dashboards.

Once the dashboard is saved, it can be added to a user's cockpit.



## **Adding Actions to a Pervasive Dashboard**

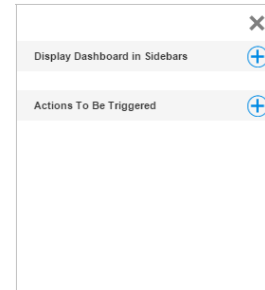


## Actions in Pervasive Dashboards

There are 3 possible actions you can add to a dashboard:

- Open a specific window in SAP Business One
- Trigger the enterprise search
- Open an advanced dashboard

The list of actions appears when the user right-clicks on the data in a pervasive dashboard



There are 3 possible actions you can add to a dashboard:

- Open a specific window in SAP Business One
- Trigger the enterprise search
- Open an advanced dashboard

The list of actions appears when the user right-clicks on the data in a pervasive dashboard.

## Action 1: Enterprise Search

To set up the action:

1. Choose the link for *Actions*.
2. Choose *Actions to be Triggered*.
3. Choose the radio button for triggering an Enterprise Search
4. Give the action a name that will appear in the context menu
5. Choose a dashboard dimension that will supply the value for the search

The screenshot shows the SAP dashboard configuration interface. At the top, there is a 'Strategy Type' dropdown set to 'Forecast' and a 'Chart Type' dropdown set to 'Pie Chart'. To the right of these is a link 'Action (0)'. Below this is a section 'Actions To Be Triggered' with a plus icon. The 'Edit Action (Dashboard)' window is open, showing three radio buttons: 'Open SAP Business One Window', 'Trigger Enterprise Search' (selected), and 'Open Advanced Dashboard'. The 'Action Name' field contains 'Search Customer Info'. The 'Dashboard Dimension' section shows a checkbox for 'Business Partner Code' which is checked. At the bottom of the window are 'OK' and 'Cancel' buttons.

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In our business example, we would like to add an action to launch an Enterprise Search to see all the data associated with a customer whose data appears in the dashboard.

To the right of the chart, there is a link for adding actions. Click on the link to open the *Action* window. Then choose *Actions to be Triggered* to open the *Edit Action (Dashboard)* window appears.

First we choose the radio button for triggering an Enterprise Search.

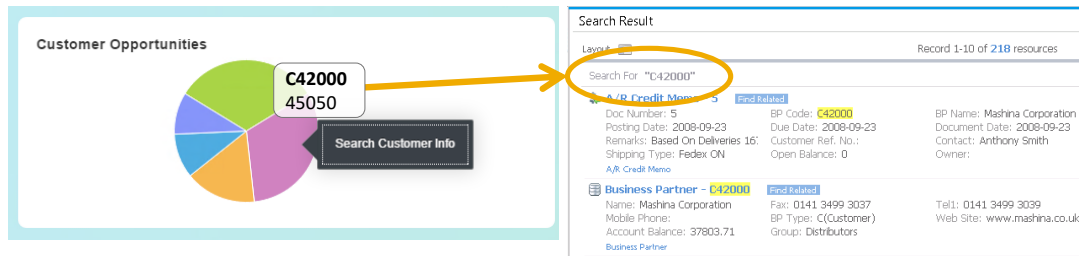
Then we give the action a name. This is the name a user will see for the action when it appears in the context menu of the dashboard.

Lastly we choose the dimension from our dashboard chart that will supply the value to be used in the search.

In our example, we have only one dimension, the customer dimension, in our chart, therefore we see only one dashboard dimension checkbox available.

## Launching the Search Action

- A user can right-click on the chart and launch the Enterprise Search from a list of actions
- The customer code associated with that chart section is then passed into the Enterprise Search



When a user views the dashboard in their new role-based cockpit, they can right-click on the chart in the dashboard and launch the Enterprise Search from a list of actions. The customer code associated with that pie chart section is then passed into the Enterprise Search.

## Action 2: Open a window

- Choose the *Action* link
- Choose *Actions to be Triggered to open the Edit Action (Dashboard) window*
- Choose the radio button: *Open SAP Business One window*
- Give the action a name
- Choose the window to open

The screenshot shows the 'Edit Action (Dashboard)' window. The 'Open SAP Business One Window' radio button is selected. The 'Action Name' is 'Open BP Master'. The 'Target SAP Business One Window' is 'Business Partner Master Data'. The 'Data Binding' section shows a binding between 'Business Partner Code' and 'BP Code'. The 'OK' and 'Cancel' buttons are at the bottom.

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In our example, we would also like to add an action to open a Business Partner Master window. We want to be able to right-click a section of the pie chart and open the business partner master for that customer.

Once again we open the *Edit Action (Dashboard)* window.

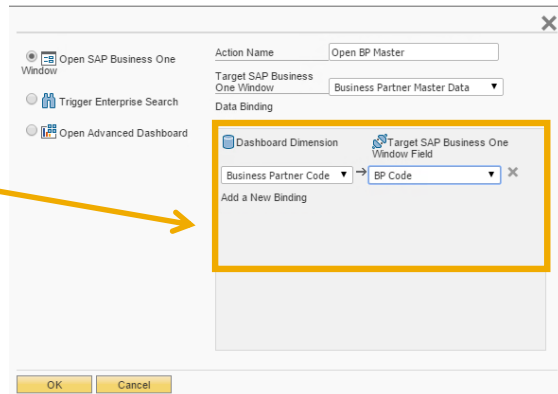
This time, we choose the radio button to open an SAP Business One window.

Then we give the action a name that will be used in the context menu.

Next we use the dropdown to choose the window we wish to open with the action. In our case we choose the *Business Partner Master Data* window.

## Data Binding for an Action

- Data binding allows us to specify which dimension's value to pass to the window.
- We pass the value from the customer dimension from the chart to the window.

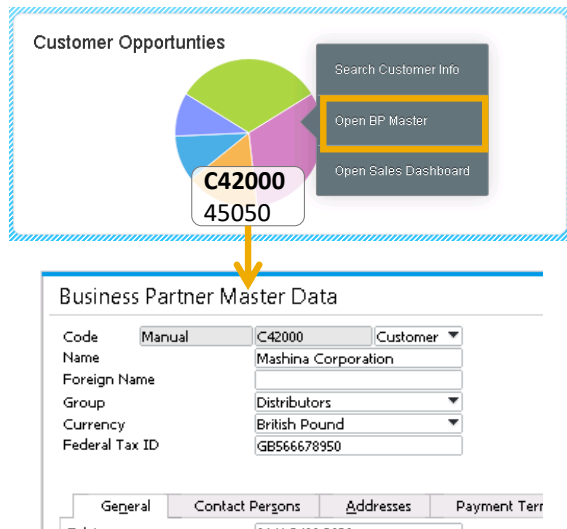


We need to set up data binding for the action. Data binding allows us to specify which dimension's value to pass to the window.

Because our dashboard displays the percentage of opportunities for each customer, the only dimension with values we can pass is the customer dimension. The main field in the Business Partner master is the Business Partner Code so we choose to pass that value from the chart to the window.

## Using the action in a cockpit

- When a user views the dashboard in the cockpit, the action appears in the context menu.
- When the window opens, it displays the master data for the customer chosen in the chart.



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When a user views the dashboard in their new role-based cockpit, the action to open the window will appear in a context menu when a user right-clicks on the graph section of the dashboard. When the window opens, it displays the master data for the customer chosen in the chart.

## Launching Documents

Setting up an action to launch document windows is the same as setting up an action for master data windows.

The difference is that there can be many documents for a business partner.

Open SAP Business One Window

Action Name: Open Sales Order

Target SAP Business One Window: Sales Order

Data Binding

Dashboard Dimension: Business Partner Code

Target SAP Business One Window Field: Customer/Vendor Code

Buttons: OK, Cancel

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Sales Quotation

Customer: C42000

Table: List of Sales Quotations

Item	Date	Customer	Remarks	Due...
1	25.01.06	Mahina Corporation		24.02.06
2	25.01.06	Mahina Corporation		25.02.06
3	25.01.06	Mahina Corporation		26.02.06
4	31.12.06	Mahina Corporation		11.03.06
5	24.01.06	Mahina Corporation		24.03.06
6	25.01.06	Mahina Corporation		27.11.06
7	25.01.06	Mahina Corporation		21.01.06
8	25.01.06	Mahina Corporation		14.02.06
9	25.01.06	Mahina Corporation		25.02.06
10	17.03.07	Mahina Corporation		16.04.07

Buttons: Find, Cancel, Open Remarks, Open To

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We saw how to open a window for master data but we can open a window for documents as well. Setting up an action to launch document windows is the same as setting up an action for master data windows. The difference between these objects is that there can be many documents associated with a particular business partner.

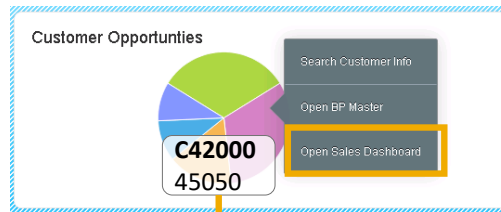
As you can see in the graphic on the right, we set up the data binding for the business partner field so that when we launch the action, the business partner value is passed to the sales quotation document window.

On the right we see the result of launching the action from a chart, the sales quotation window is opened along with the List of Sales Quotations for the business partner value.



### Action 3: Open an Advanced Dashboard

The sales manager wants his team to view a page with information for each customer whose data appears on that chart.



We can do that by adding an action to open an advanced dashboard.

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The sales manager wants his team to be able to open up and view a page with additional information for each customer whose data appears on that chart. We can do that by adding an action to open an advanced dashboard.

An advanced dashboard is basically another set of pages you can open that contain additional pervasive dashboards and key performance indicators. They are used to give additional insight behind results found in a dashboard. For example, when the a sales person spots a customer who has a lot of sales opportunities, she could choose to open an advanced dashboard with additional sales analysis on that customer that could give her a keener insight on sales patterns for that customer and on top selling items that she could promote to them.

The Customer 360 Advanced Dashboard is a predefined advanced dashboard. It contains 4 pages of analytics focused on a specific customer. The pages include general, sales, logistics and receivables information. It is also possible to design a custom advanced dashboard.

## Setting up an Advanced Dashboard action

1. Choose the radio button.
2. Give the action a name.
3. Specify which advanced dashboard to launch.
4. Set up data binding to pass the value to a filter used in the advanced dashboard.

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Setting up the action to launch an advanced dashboard is very similar to setting up other actions.

Once again we choose the appropriate radio button. Then we give the action an appropriate name.

We specify which advanced dashboard we wish to launch. Creating and editing the advanced dashboard is done elsewhere in the Pervasive Analytics Designer. In our example, we have already created an advanced dashboard called Sales.

Then we set up data binding to pass the dimensional value to a filter that is used in the dashboard. In this way, we can filter KPIs or pervasive dashboards in the advanced dashboard to show data related only the customer we are interested in.

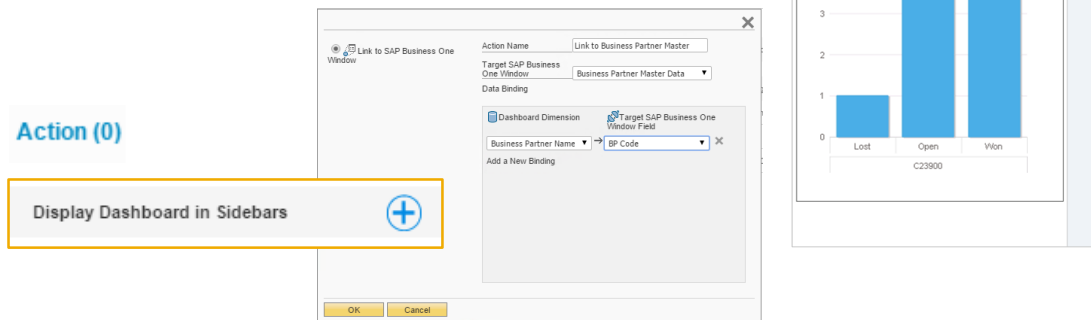
In our advanced dashboard, we have already set up a filter using the customer code field to narrow the data displayed in the elements of the advanced dashboard. In the data binding area, we choose the Business Partner Code dimension in our dashboard to pass the customer value into the Customer Filter.

## **Adding a Pervasive Dashboard to a Document Sidebar**



## Displaying the Dashboard in a Document Sidebar

- The Link to B1 Window action will not appear in a dashboard when it is used in a cockpit.
- The process for linking the dashboard to an object is similar to the other actions.



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Imagine that the sales manager wants to see a dashboard that shows opportunity status for business partners by using the sales opportunity analysis analytic view.

This can be done using an action to link the dashboard to the *Business Partner Master* window. The process for linking the dashboard to an object is similar to the other actions.

Once again you choose the link to open the area where you create and manage actions. Then choose the option to Display Dashboard in Sidebars. This will open a window where you define the action.

Unlike the other types of actions, this action will not appear in a context menu when the dashboard is used in a cockpit.

## Create the Dashboard

- For our dashboard:
- Data Source:  
Opportunity Win Rate Analysis  
Calculation View
- 1 Measure:
- Number of Opportunities  
(as a sum)
- 2 Dimensions:
  - BP Code
  - Opportunity Status
- Chart type: Column Chart

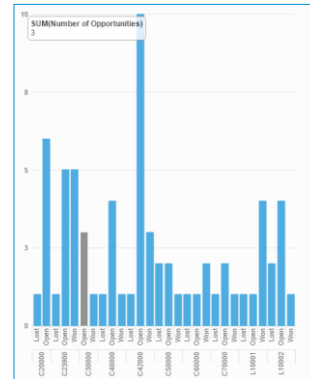
Target Measures

SUM(Number of O... ▼ ✕

Target Dimensions

Business Partner Code ✕

Opportunity Status ✕



You must have a dimension in common between the data source and target window.

We create the dashboard using the same process steps we used previously.

We choose the Opportunity Win Rate Analysis for the data source.

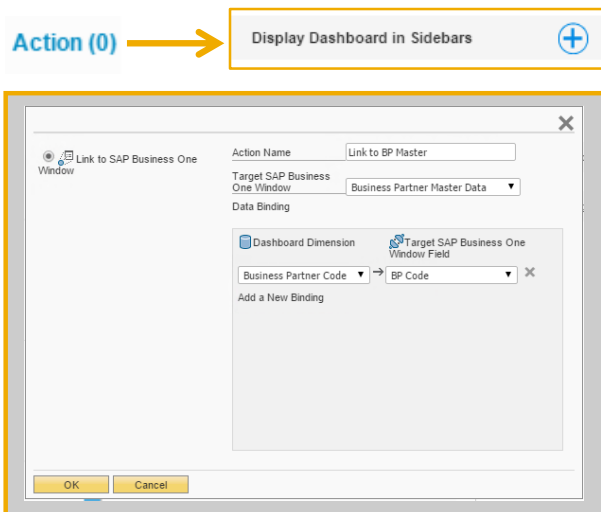
For the measure we choose the Number of Opportunities as a Sum, and we add 2 dimensions: the BPCode and the Opportunity Status.

We set the chart type to a Column Chart.

Now we are ready to add the action to embed analytics in the Business Partner Master. Note that you must have a dimension in common between the data source and the linked window.

## Create the Link

- Choose Option:  
*Display Dashboard in Sidebars*
- Process is similar to other actions
  - Radio button: *Link to SAP Business One Window*
  - Give name to action
  - Select window where dashboard should appear



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The next step is to add the action that creates the link.

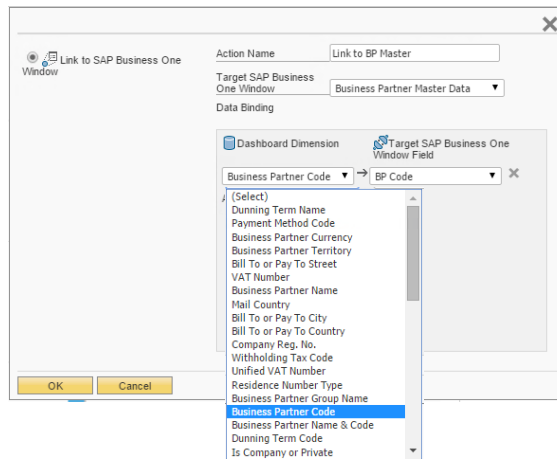
The only difference is that you choose Display Dashboard in Sidebar.

Otherwise, the process is very similar to creating the actions we created previously.

- Select the *Link to SAP B1 window* radio button.
- Give a name to the action.
- Select the window where you want the dashboard to appear. In our example, the target window is the Business Partner Master

## Data Binding

- Select the dimension that corresponds to a field in the target window.
- You can select more than one dimension/field for the window.
- For our example, we choose the BP Code from the data source to map to the BP code in the Business Partner Master window.



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Next, we need to enter information for data binding.

We select the dimension that corresponds to a field in our target Business One window.

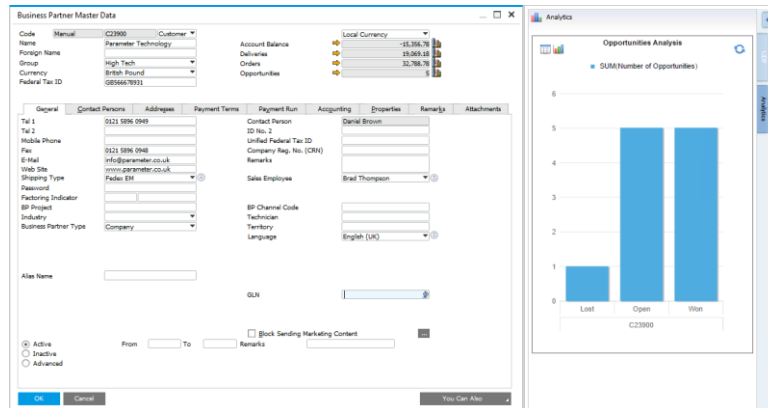
You can add additional data bindings to select more than one dimension and target field for the window.

For our example, we choose the BP code from a list of available dimensions from our data source that are listed in the dropdown in the data binding section. We map the BP code from our data source to the BP Code field in the *Business Partner Master* window.

## Viewing Embedded Analytics

When we open a customer record, we see a filtered version of the analysis showing the number of won, lost and open opportunities for that customer.

☒ Enable sidebar in windows to display recommendations and linked dashboards



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After saving the dashboard, we will be able to view the embedded analysis in the *Business Partner* master window.

When we open the *Business Partner* master for one of our customers, we will see a tab on the right of the window allowing us to open analytics.

For each customer record, we see a filtered version of the analysis that shows the number of won, lost and open opportunities for that particular customer.

To view embedded analytics, you must have selected the option in *General Settings* on the *Display* tab: *Enable sidebar in windows to display recommendations and linked dashboards*



## Summary



Here are some key points to take away from this topic:

- The semantic layer is an abstraction layer in the SAP HANA database that contains views (models) of operational data.
- Users can access and consume the views using:
  - Pervasive analytics dashboards
  - Key Performance Indicators (KPIs)
  - Advanced dashboards
  - Crystal dashboards
  - Excel Report and Interactive Analysis Designer
- Views include dimensions (descriptive data) and measures (quantifiable fields that can be calculated).
- The pervasive dashboard is built from a user-defined query or calculation view and shows a dimension (such as business partner code) and a measure (such as total or quantity).
- You can add actions to a pervasive dashboard to open an SAP Business One window, trigger an enterprise search, or open an advanced dashboard containing related analytics. Data binding is used to filter the data in the opened window, the enterprise search or the advanced dashboard.
- An advanced dashboard can contain pervasive dashboards, KPIs, count widgets, and business partner address and contact info
- The Analytical Portal enables users to access reports through a web browser.

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Here are some key points about this topic:

- The semantic layer is an abstraction layer in the SAP HANA database that contains views (models) of operational data.
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- The Analytical Portal enables users to access reports through a web browser.

# Support:

## Overview of Support Processes and Tools

SAP Business One Version 9.3



- This course covers the processes and tools for supporting customers.

## Objectives



### Objectives:

- Know your support responsibilities to SAP and to the customer
- Follow the required process for handling and submitting a support incident to SAP Support
- Describe the usage of the client-based tools and Remote Support Platform (RSP) for supporting customers

On completion of this course, you will be able to:

- Know your support responsibilities as a partner to SAP and to the customer
- Follow the required process for handling and submitting a support incident to SAP Support
- Describe the usage of the client-base tools and the Remote Support Platform (RSP) for supporting customers

Note that this course does not provide instruction on installing and configuring RSP. Partners can find installation and configuration information on PartnerEdge at:

<https://partneredge.sap.com/content/partnerexp/en/products/business-one/support/rsp.html>

# Agenda

## Partner Support Responsibilities

Remote Support Platform

Support Tools

Support Launchpad – Creating an Incident



The first part of this agenda covers your responsibilities and obligations as a support partner.

## SAP Business One Maintenance Policy

<http://sappartneredge.com > Products > SAP Business One > Support > Maintenance Services>

The [SAP Business One maintenance policy](#) outlines everything you need to know about SAP Business One maintenance, including examples and an overview of what is in and out of scope:

- What can be expected from SAP regarding maintenance services
- What SAP expects from SAP Business One partners as a prerequisite and obligation before requesting support services



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As a support partner or support consultant you must adhere to the SAP Business One Maintenance Policy. You can access the policy from the Support area of the PartnerEdge portal. Note: the maintenance policy may be updated periodically by SAP.

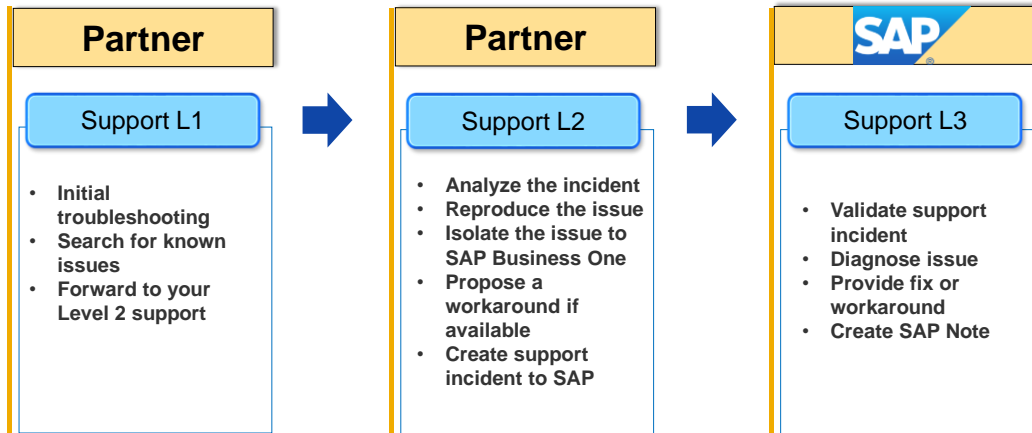
The maintenance policy outlines your obligations as a partner support organization including:

- what can be expected from SAP regarding maintenance services
- what SAP expects from SAP Business One partners as a prerequisite and obligation before requesting support services

Customers must pay for maintenance in order to receive support from SAP.

## SAP Business One Support Levels

Before logging an incident, check SAP Note 1167635 - [L1&2 Obligations for SAP Business One Partners](#)



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The maintenance policy documents the process for working with SAP Support, including the support levels:

- The partner is responsible for *Level 1* and *Level 2* support.
- SAP is only responsible for *Level 3* support.

After the customer reports an incident to you, you must perform the tasks as outlined in SAP Note **1167635** L1&2 Obligations for SAP Business One Partners. This process is designed to help you and ensure that you do not create an incident to report a problem that is already known and has a solution:

- Your initial troubleshooting should include searching all available SAP resources and documentation to check whether a solution already exists (**Level 1**)
- If you cannot find a known solution, document the research you have done and the steps that led to the issue, and forward the issue to your **Level 2** support. We recommend you set a priority for this incident now, according to the impact on the customer's business. This helps you schedule your support resources.
- In Level 2 support, analyze and reproduce the problem in your own environment, using the demo database and the *latest patch level*. If possible, provide a workaround to the customer. If necessary you must try to reproduce the problem using the customer database, and at the *latest patch level* of the *latest released version* of the software.
- Isolate the issue to a defect in the SAP Business One software by filtering out external factors such as third-party add-ons or other interfaces. Also ensure that no un-allowed modifications have been made to the customer's database (see SAP Note **896891**).

At Level 3 support, SAP will validate the incident, analyze, and reproduce the incident, and if necessary, with your help, will access the customer system or request the customer database to diagnose the problem. SAP will provide a fix or workaround to get the customer working again. SAP will document the problem and solution as an SAP Note to assist other partners.

## SAP Business One Incident Billing

### Background

- SAP partners are required to perform all Level 1 and Level 2 support for their customers.
- A partner's non-compliance with this will trigger SAP to claim "Payment for non-Standard and/or other Maintenance Services"

### Incident Billing

- SAP will bill partners for the Level 1 and 2 support that SAP handles on behalf of the partner.
- The partner will be billed on a quarterly basis, at their contracted rate.
- **5** incidents are free per quarter

### Documentation and Information

- [SAP Note 1167635](#)
- [Incident Billing for SAP Business One Overview](#)
- [FAQ – Incident Billing for VAR](#)

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If you do not conduct the Level 1 and Level 2 support tasks, then SAP Business One support will add note 1167635 to the respective incident to indicate a partner has not fulfilled the required Level 1 and 2 support duties.

A partner's non-compliance with this requirement will trigger SAP to claim "Payment for non-Standard and/or other Maintenance Services" (incident billing).

SAP will bill partners for the Level 1 and 2 support that SAP handles on behalf of the partner. These are incidents which contractually should be handled by the partner directly.

SAP Business One partners will be billed on a quarterly basis, at their contracted rate. Those with **5** or fewer calls per quarter will not receive a bill for that quarter (i.e. **5** incidents are given for free.)

For documentation on Incident Billing, check:

- SAP Note 1167635
- Documentation on Incident Billing
- FAQ

Press Ctrl+click to access the documentation links from the slide. Access to PartnerEdge is required.

## Preparing Your Customer For Support

**As a partner you must provide your **new customer** with the following:**

- Your support contact details
- An s-user account (for access to SAP Notes)
- A link to product documentation



**To ensure **ongoing support** for a customer with SAP, you must also:**

- Install and configure Remote Support Platform (RSP) and submit the System Status Report to SAP support
- Enter and maintain the customer system data using the Support Launchpad
- Ensure a working Internet connection at the customer's site for remote support
- When you create an incident, upload the System Status Report and the Health Check results from RSP to SAP

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As part of your support obligations you must provide your new customer with:

- Your support contact details (hotline number and support hours).
- An s-user account so that the customer can access SAP Notes.
- A link to product documentation on the help portal: <http://help.sap.com/businessone>

To ensure ongoing support for your customer, you must also:

- Install and setup the Remote Support Platform (RSP) software at the customer site, and run the System Status Report which gets transmitted to SAP support and is required for the customer to be eligible for SAP support. [SAP Note 1733065](#)
- Enter and maintain the customer's system data using the Support Launchpad.
- Ensure a working Internet connection at the customer's site for remote support.
- When you create an incident, upload the current System Status Report and the Health Check results from RSP to SAP.



## Agenda

Partner Support Responsibilities

**Remote Support Platform**

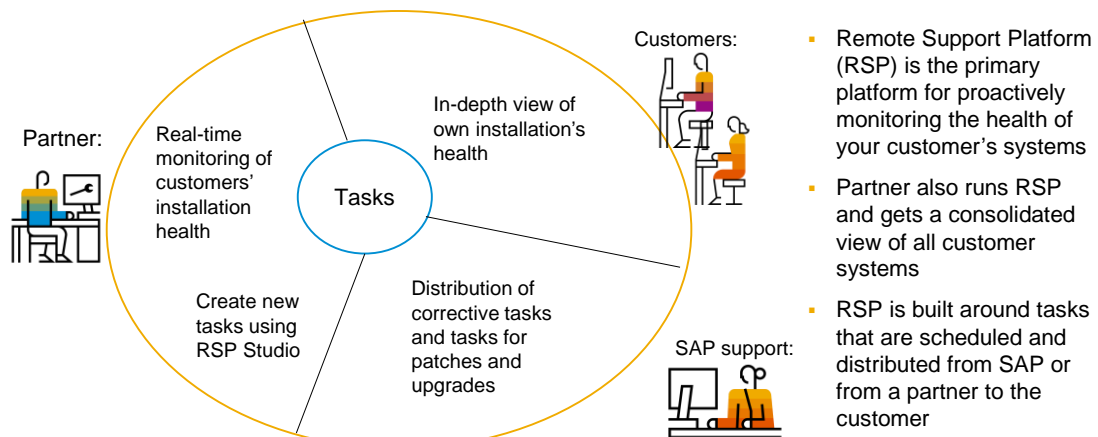
Support Tools

Support Launchpad – Creating an Incident



## Remote Support Platform

<https://partneredge.sap.com/en/products/business-one/support/rsp.html>



See SAP Note 1788954 for a full list of tasks

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As a partner you must install and activate Remote Support Platform (RSP) for each new customer installation, as outlined in the Maintenance Contract for SAP Business One.

Remote Support Platform (RSP) is the primary platform for monitoring the health of your customer's systems and is provided with the SAP Business One software installation files. RSP can be automatically installed with the SAP Business One Server, or can be installed independently. RSP is automatically updated with automatic software upgrades so that it is always up-to-date.

The partner gets a consolidated view of all customer systems. This allows the partner to proactively monitor all their customer systems.

RSP is built around the concept of tasks. The partner or SAP can distribute tasks to customers to fix potential problems before they occur, or during support to transfer a customer database. As a partner you must ensure that the customer has an internet-enabled data connection in place, which allows communication of tasks between the customer, the partner and SAP for all support services.

The tasks may execute scripts on the database. To help ensure smooth implementation and usage of RSP, SAP requires that your customers agree to share the following data:

- Installed hardware and software
- Business configuration and business scenarios
- Installed add-ons for SAP Business One and related information:
- Volume data of processed scenarios
- Additional data required for fast analysis and issue resolution

Any data that is transferred by a task is securely transmitted.

## System Status Report

- The System Status Report (SSR) provides a snapshot of the customer's system
- SAP recommends generating and uploading the System Status Report regularly, and before logging an incident

- Report can be used by partner to proactively diagnose and prevent system issues
- SAP can identify and predict issues and send out healing tasks to prevent these issues

The screenshot displays the 'SAP Business One System Status Report' interface. At the top, it identifies the system as 'Business One Demo, 920161 (Productive System)' and notes it was 'Created on 2017-03-31 13:39:27'. Below this, there are two main sections: 'System Information' and 'Scheduling'. The 'System Information' section lists details such as System number (00000000311910612), Installation number (0020190368), Hardware key, System type (Productive), Task started (2017-03-31 13:39:24), Task finished (2017-03-31 13:39:27), and Task result (Succeeded). The 'Scheduling' section shows the start date (2008-01-01 01:01:00), Frequency (Weekly), Last report upload (Start: 2017-03-27 13:44:36), Generated on (2017-03-31 13:39:27), Task GUID (0001200086), Task version (32), and RSP version (3.2.00.03). At the bottom, there is a table titled 'Overall System Status' with a 'Poor' status indicator. The table lists various components and their status: SAP Business One Software (Excellent), Database Information (Poor), Hardware And OS Information (Excellent), Business Information (Excellent), and Remote Support Platform (Poor).

Overall System Status	
SAP Business One Software	Excellent
Database Information	Poor
Hardware And OS Information	Excellent
Business Information	Excellent
Remote Support Platform	Poor

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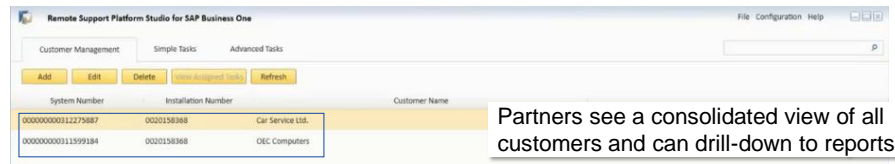
The System Status Report is one of the key tasks in RSP. The report provides a snapshot of the customer's system, hardware and database health. It enables the partner to proactively diagnose system bottlenecks and prevent system issues, for example, disk space shortage, or no database backup performed. The report can also be used by SAP to identify and predict potential issues, and send out healing tasks to prevent these issues occurring.

SAP recommends you configure RSP to run the report, and upload the results to the partners and SAP on a weekly basis.

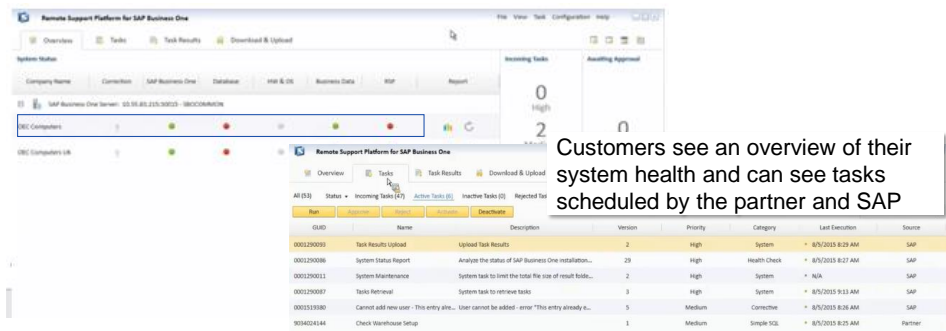
When you create an incident using the Support Launchpad, you should also run and upload the System Status Report, in order to avoid incident billing.

## Remote Support Platform Console

### Partner view (RSP Studio)



### Customer view (RSP agent)



Partners can see a consolidated view of all customers using the RSP Studio console. Once RSP is installed and configured at a customer site, the customer will appear in the console view automatically when the System Status Report is run.

Partners can drill-down to an overview of each customer, and to the actual system status report. Partners can also search for the results of a specific task, and create and schedule new tasks for customers, based on need. An example of a partner-created task might be to monitor an installed add-on.

SAP provides templates to help partners to create new tasks.

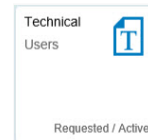
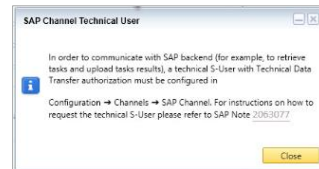
Customers can view their overall status in the RSP agent console. The customer can also view tasks sent by the partner or by SAP. Note that RSP can be configured to give the customer the option to approve the running of a task. Alternately, it can be configured to approve and run tasks automatically.

Partners are able to view the customer's console if they are authorized and have enabled remote console support.

For more information on RSP, including how to install and configure it, see the Remote Support landing page on PartnerEdge.

## Technical User in RSP

- For additional security, SAP uses a *technical s-user* for transferring data to customer RSP systems (for example, tasks and task results)
- The technical userid is similar to an s-user and you can request it in the Support Launchpad
- You must request a technical s-user for each customer site and obtain it before you install RSP at the customer site



For additional security, SAP uses a *technical s-user* for communicating with customer RSP systems. The technical userid is similar to an s-user and you can request it in the Support Launchpad.

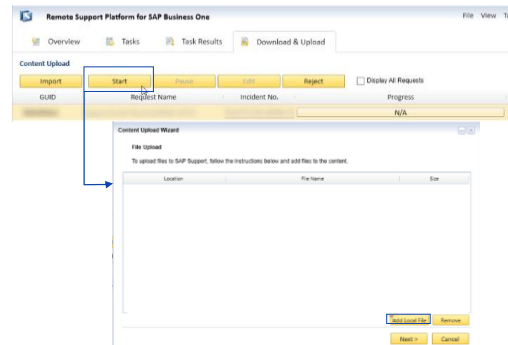
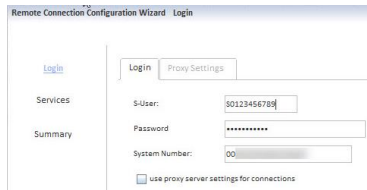
The technical user is only used for data transfer purposes. A technical user is required for each customer and you must request the technical user before you install RSP at the customer's site. In RSP you must activate the new user and supply the technical user credentials when you configure the SAP channel in RSP setup. The technical user is also required to download tasks from SAP, and upload task results to SAP.

Note: The partner who requests the technical s-user must have an s-user account with the authorization *Maintain SBO-Users*.

## RSP Usage in Support Process

During Level 3 support processing for an incident, SAP may require an online meeting with your customer, or may request transfer of the customer's database to SAP support

- Use remote connection wizard in RSP agent to schedule an online meeting with SAP support (GoToAssist tool is used)
- Upload a customer database to SAP support using Content Upload task



During Level 3 support processing for an incident, SAP may require an online meeting with your customer. On the RSP agent at the customer site you can use the remote connection wizard to schedule an online meeting with SAP support (the GoToAssist remote support tool is used by SAP). To make the request in the wizard, enter the customer s-user and system number (make sure you do not enter the technical user or partner s-user credentials).

During the support process it may be necessary to send the customer database to SAP support, and you will use RSP to do this. SAP will send a Content Upload Request task to the customer's RSP system. This request contains the system number and the incident ticket number. With this information you can securely use the Content Upload Wizard in the customer's RSP console to select and transmit the database. Alternately you can use the RSP agent of the partner test environment if the customer database has been uploaded previously.

## Agenda

Partner Support Responsibilities

Remote Support Platform

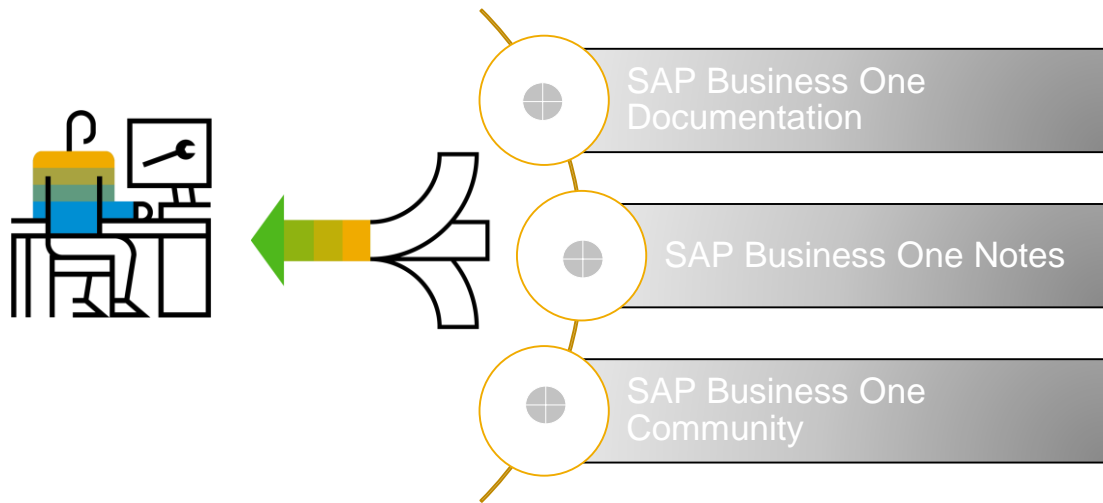
### Support Tools

Support Launchpad – Creating an Incident



The next part of this agenda introduces resources for finding solutions to customer-reported problems.

## Level 1 Support – Information Resources



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After the customer reports a problem, the partner should perform an extensive search of the information resources including:

- Documentation which includes the on-line help, how-to guides and other technical documentation: <http://help.sap.com/businessone>
- SAP Business One Notes which contain known issues and solutions.
- SAP Business One Community which allows you to post implementation-related questions and get answers from other partners: <https://www.sap.com/community.html>

The SAP Community is a public space where both partners and customers can post questions, and respond to questions posted by others, and receive points.

The Q&A area is especially useful if a partner has a consulting or implementation related question, for example, how to write a query syntax, how to set up the system in a certain way, etc. Very likely another partner will have the answer!

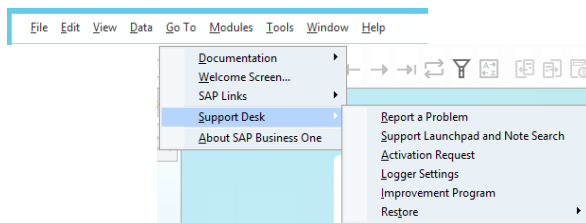
Note that SAP monitors the forum but does not actively answer questions.

The forum has in-built search capability to directly find posts using keywords, and also allows people to blog.



## Embedded Support Tools

### Help > Support Desk



Under the Help menu in the SAP Business One client, you and your customer can find several support tools:

- **Report a Problem:** allows customers to record and share a problem encountered in the client
- **Support Launchpad and Note Search:** provides a link to the Support Launchpad where customers can report incidents to you, research SAP Notes to solve problems on their own, and request licenses. The customer needs an s-user to access the Support Launchpad.
- **Logger Settings:** change logging level

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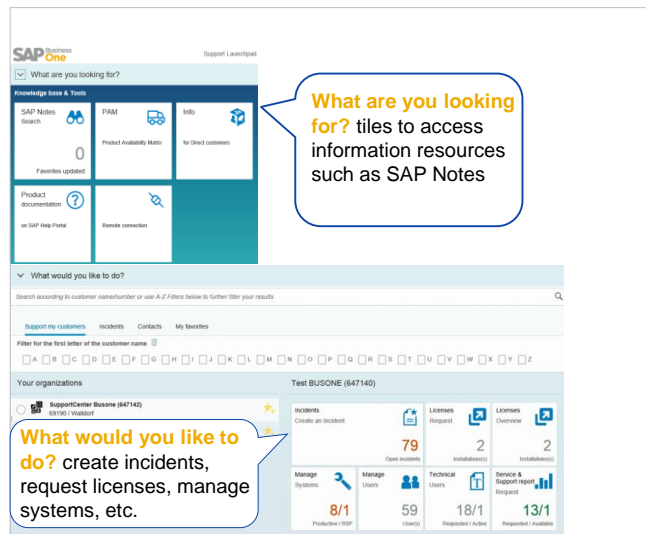
490

Under the Help menu in the SAP Business One client, you and your customer can find several support tools:

- The *Report a Problem* tool allows customers to record and share a problem encountered in the client.
- The *Support Launchpad and Note Search* is a link to the Support Launchpad where customers can report incidents to you, research SAP Notes to solve problems on their own, and request licenses. The customer needs an s-user to access the Support Launchpad.
- **Logger Settings:** Only partners, super users, and authorized regular users can access the *Logger Settings* window. The log files provide useful information for troubleshooting incidents and SAP Business One creates a new log file on every startup. Logging and tracing of events is done at the business object level and the system level. During support processing, you may be asked by SAP support to enable logging or change the verbosity of the logging level. Note: The information at the business level in the logger settings window is the information displayed to users in the System Messages Log at the bottom of the client screen.

For more information on logging, refer to the how-to guide *How to Work with Logging and Tracing in SAP Business One*.

## Support Launchpad for SAP Business One



**For partners:** Support Launchpad is main interface to all support tools and resources:

- Use this [direct link](#) or access the Support Launchpad from the support page on PartnerEdge
- Contains tools for managing and supporting customers

**For customers:** Support Launchpad allows access to SAP Notes and to create incidents from the client (*Help > Support Desk*)

Note: when a customer creates an incident using the Support Launchpad, it goes directly to the partner

For support partners, the Support Launchpad for SAP Business One is your overall interface for all support-related activities. It provides access to all the support resources using a single intuitive interface:

- What are you looking for?** Section contains tiles to access information resources such as SAP Notes
- What would you like to do?** Section contains tools for managing and supporting customers: create incidents, request licenses, manage systems and users, etc.

Partners can access the Support Launchpad using the link provided in the slide or from the Support page on the PartnerEdge portal.

For your customers, they can access the Support Launchpad from the client Help menu.

Note that customers only have access to a limited section of tiles, such as creating incidents and searching SAP Notes. You should decide if you prefer customers to use the Support Launchpad to create incidents, or if they should contact you by phone or some other way. When the customer creates an incident using the Support Launchpad, the incident is sent to the partner queue on Support Launchpad, and does NOT go to SAP.

## SAP Notes

- An SAP Note is a solution to a known problem
- To use SAP Notes, you can enter the note number (if known) or do a keyword search
- You can limit the search by a timeframe, version or application subcomponent
- Customers should be given an s-user to access SAP Notes

An SAP Note is basically a solution to a known problem, packaged for partners and customers. To use SAP Notes, you can enter the note number (if known) or do a keyword search. You can limit the search by a timeframe, version or application subcomponent. To select a subcomponent, deselect the checkbox for Application area and choose the + icon, then type SBO- in the search box. You can then select from the displayed list.

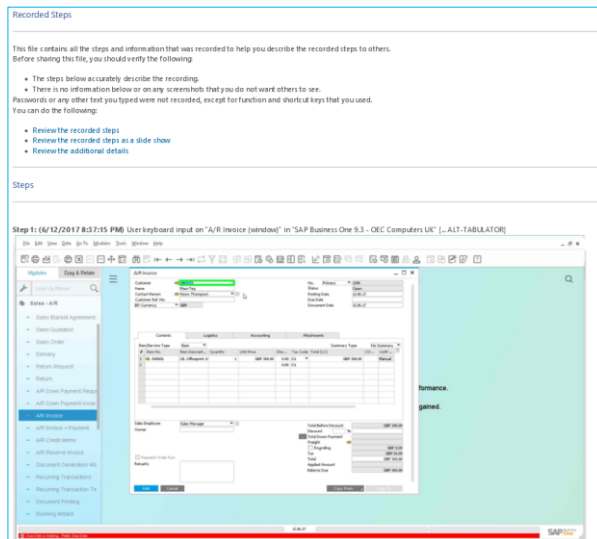
Select the note in the results to see the entire note.

Customers should be given an s-user to access SAP Notes.

## Incident Recording Tool

### ***Help > Support Desk > Report a Problem***

- Easy to use recording tool for partner and customer use during troubleshooting
- Records a series of screenshots for each step that the user performs
- Recording is stored on share drive and can be uploaded to partner using RSP



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The recording tool is a standalone application with no SAP Business One database or SAP Business One Service dependency. Therefore, it can record issues even when there is no network or client connectivity.

The tool is easy to use and can be used by customers. The recording is not a video but is a series of screenshots captured for each step that the user performs (it is an extension of the Microsoft Windows PSR recording tool).

The recording is saved to the share drive and can be sent to the partner using Remote Support Platform (RSP).

The tool can also be used outside the SAP Business One client.

## Support User

The image shows three SAP interface windows. The 'Users - Setup' window on the left has the 'Superuser' checkbox checked and 'Support' selected for User Code, User Name, and Employee. The 'Support User Login' window in the top right shows 'John Meyer - BI Con Inc.' as the Real Name, 'Consulting' as the Login Reason, and a message 'Customer needs a new report in the system' in the Login Detail field. The 'Support User Log' window at the bottom displays a table of login history.

#	Login Reason	Login Detail	Real Name	MAC Address	Machine Name	Session Start Time	Session End Time
1	Consulting	Customer needs a new report in the system	John Meyer	80-50-56-9C-1D-08	BIGSOPWSSC21	20150828 10:42:38	20150828 10:48:16
2	Other		Darius	80-50-56-9C-1D-08	BIGSOPWSSC21	20150828 13:21:58	
3	Setup Issue Analysis		Darius	80-50-56-9C-1D-08	BIGSOPWSSC21	20150904 08:35:03	20150904 08:43:53
4	Setup Issue Analysis		Darius Heyder	80-50-56-9C-1D-08	BIGSOPWSSC21	20150904 08:46:30	

- Predefined support user built into SAP Business One
- Use to login to a customer system to perform maintenance and support without needing an additional license
- **Restrictions:** The support user is only available if RSP is activated and an RSP system status report has been submitted within the last 7 days
- All use of the support user account is tracked and logged

To diagnose problems on the customer's system, you may need to access the customer's system. You can login with the predefined support user (Support). You can use this account to perform maintenance and support duties without the need for a software license.

There are some restrictions on the use of this account. The system will not let you login unless the Remote Support Platform (RSP) tool is activated and an RSP system status report has been submitted *within the last 7 days*. RSP is covered later in this course.

All use of the support user account is tracked and logged.

## Agenda

Partner Support Responsibilities

Remote Support Platform

Support Tools

**Support Launchpad – Creating an Incident**



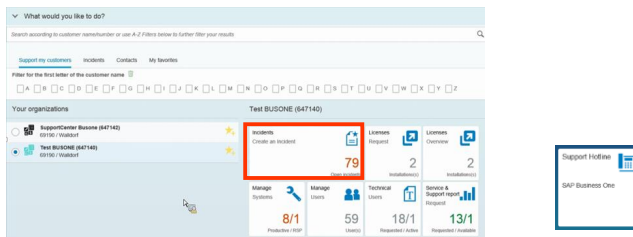
The next part of this agenda describes the Support Launchpad, which is your overall interface for all support-related activities.

## Contacting SAP Business One Support

<https://partneredge.sap.com/en/products/business-one/support/contact-support.html>

There are two ways to contact SAP support on behalf of your customer:

1. Select the customer and create a customer incident in the support launchpad for SAP Business One (preferred)
2. Dial the universal free-phone hotline number for your country from the SAP-B1-NOW country list (exceptional circumstances)



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After you have isolated the issue to an SAP Business One defect, there are two ways to contact SAP support on behalf of your customer:

1. Select the customer and create a customer incident in the Support Launchpad for SAP Business One. This is the preferred option.
2. Dial the universal free-phone number by selecting your country from the SAP-B1-NOW country list. Only use the support hotline to contact SAP Support in *exceptional circumstances*, such as if customer incidents cannot be created or accessed. Hotlines are available Monday to Friday, with partial coverage on Sundays from 07:30 – 16:30 CEST. A Duty Manager is available on weekends for *high-priority* incidents outside normal support hours.

Before creating an incident, please ensure you have met the following prerequisites:

1. Search through available documentation in
2. Adhere to Level 1 and Level 2 support obligations ([SAP Note 1167635](#))
3. Install RSP and upload the latest system status report for the customer ([SAP Note 1733065](#))
4. Include all relevant information in the incident

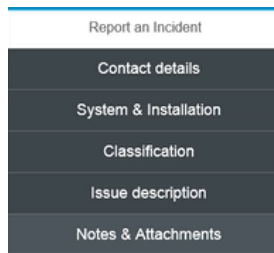
**Note:** If the customer creates a support incident using the Support Launchpad, it will be automatically forwarded to you for Level 1 and 2 support. It does not go to SAP. If the customer reports the problem directly to you by phone, you will create the support incident if you require Level 3 support from SAP. When communicating with SAP support, English is the preferred language, and a local language is provided only where available.

A product issue is dealt with by SAP Business One Product Support in accordance with the maintenance agreement if:

- There is an error in the software.
- An error in the software causes subsequent errors.
- Problems exist when implementing corrections (by implementing the SAP Business One Product Support correction instructions).
- Standard functions have incorrect documentation.

General consulting queries and how-to questions must NOT be reported as incidents.

## Incident Creation



When you create an incident you must complete each section of the form:

- Contact Details. Verify or update your contact details
- System and Installation. Select the customer's system (if the customer has more than one installation)
- Classification. Select the priority of the incident. You must assign a *priority* to the incident, based on the business impact of the issue to be reported. Also you must enter the SBO component (for example, SBO-MRP)
- Issue Description. Enter a short description, plus the expected and actual results. You *must* also enter any keywords used to search SAP Notes during Level 1 support
- Notes and Attachments. Add any screenshots and log files as necessary

Using Support Launchpad, you can create incidents for SAP. You can view and manage incidents using various filter criteria.

When you create an incident for SAP, be sure to complete all sections of the form:

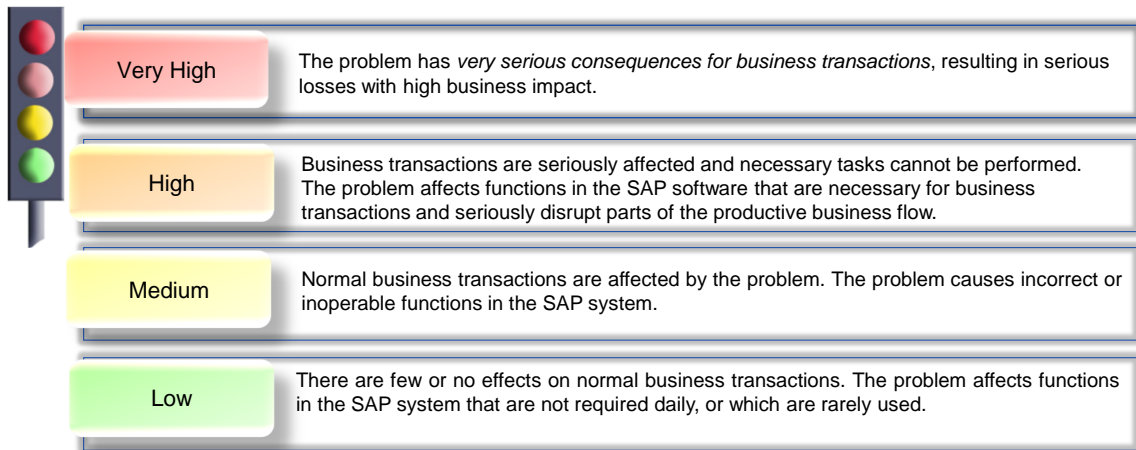
- Contact Details. Verify or update your contact details. Contact details entered in the master data for the logged in S-User are automatically detected and selected
- System and Installation. Select the customer's system (if the customer has more than one installation)
- Classification. Select the priority of the incident. You must assign a *priority* to the incident, based on the business impact of the issue to be reported. Also you must enter the SBO component (for example, SBO-MRP). Selection of the component ensures the incident is routed to the correct support department. You can enter the component manually, or enter **SBO-** to see the full list and make a selection.
- Issue Description. Enter a short description, plus the expected and actual results. You *must* also enter any keywords used to search SAP Notes during Level 1 support.
- Notes and Attachments. Add any screenshots and log files as necessary.

After you have sent the incident to SAP, you should check the incident regularly as SAP may request additional information from you.



## SAP Business One – Incident Priorities

SAP Note [795206](#) contains a full definition of the priorities and instructions for proceeding with a very high priority incident.



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Fundamentally, the priority of an incident reflects the impact that the issue has on the customer's business. To help you assign the correct priority, SAP provides these guidelines:

- Only use "Very High" priority if the problem has *very serious consequences* for business transactions, which could result in serious losses with high business impact. This is generally caused by the following circumstances:
  - Absolute loss of a system
  - Malfunctions of central SAP software functions in the end user's production system
  - Delays to a production startup or upgrade that is planned within the next three workdays
- Use "High" priority if business transactions are seriously affected and necessary tasks cannot be performed. The problem causes incorrect or inoperable functions in the SAP software that are necessary for business transactions and tasks. The problem incident requires immediate processing because the malfunction can seriously disrupt parts of the productive business flow.
- Use "Medium" priority if normal business transactions are affected. The problem causes incorrect or inoperable functions in the SAP system.
- Use "Low" priority if the problem causes few or no effects on normal business transactions. The problem affects functions in the SAP system that are not required daily, or which are rarely used.

SAP Note [795206](#) contains a full definition of the priorities and instructions for proceeding with a very high priority incident.

## Incident Priorities (Cont.)

How would you classify these incidents?

**\*Note:** if you select Very High as the priority, you must provide a detailed business impact

Users cannot print invoices created earlier

Users cannot add invoices to system

An invoice shows the wrong G/L account in the Journal Entry

The system will not allow a user to change bill to address in an invoice

Very High\*

High

Medium

Low

- Volume: How many documents or transactions are affected?
- Frequency: How often is the error occurring?
- Is there an event happening or about to happen that might affect the frequency?
- Value: What is the cost/value of the transactions/documents affected?
- Workaround: Is there one?

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When assessing the priority of a message, a partner can also consider the following factors to evaluate the business impact to the customer:

- Volume: How many documents or transactions are affected?
- Frequency: How often is the error occurring?
- Is there any event happening or about to happen that might affect the frequency, such as end-of-year processing or financial audits?
- Value: What is the cost/value of the transactions/documents affected?
- Workaround: Is there one?

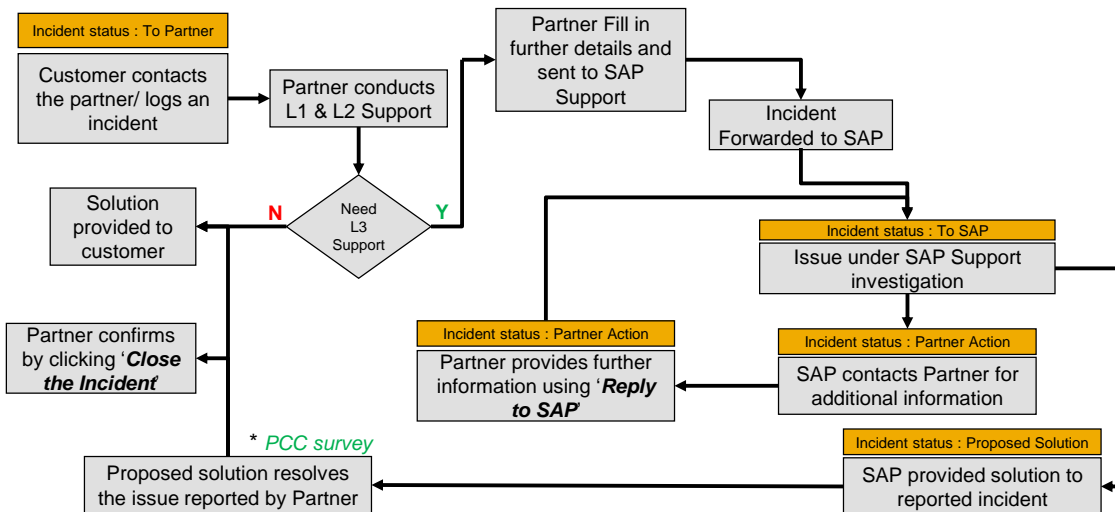
In the examples shown above:

- If the customer cannot add invoices this severely impacts business operations
- If the customer can add the invoices but not print them, then the impact on business operations is lower
- If the wrong account appears in an invoice, this is directly related to the G/L account determination and a correction can be made with manual journal entries. The problem only affects one document.
- If the system will not allow an update to an invoice, the problem only affects one document and the issue can be corrected by changing the master data, and the impact is restricted to one document

**Note:** If *Very High* is selected as the priority, you must enter the detailed business impact of the issue in the incident:

1. How does the issue affect the day to day business of the customer and what are the consequences for the customer?
2. How is the customer handling the situation currently?
3. How often is the process executed / how many transactions are affected?

## Incident Tracking Summary



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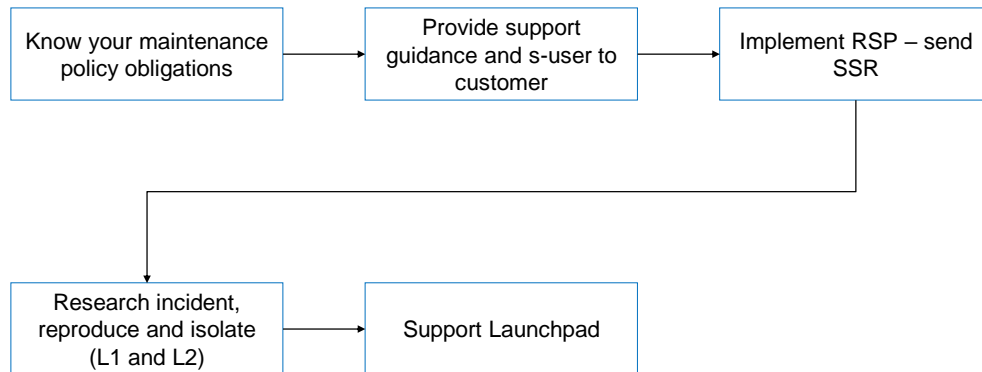
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The incident tracking process progresses from the customer to the partner to SAP support:

- The customer contacts the partner with complete details regarding the issue.
- The Partner does the initial analysis of the issue (Level 1). If the partner finds the solution (Level 2) the partner suggests the solution and the customer deploys the solution and confirms to the partner that the solution delivered has been successful. SAP support is not involved in this situation.
- If the issue cannot be solved through documentation or SAP Notes available and after conducting all the L1 and L2 tasks, the partner reports the issue to SAP Support using the Support Launchpad for SAP Business One. If the customer created an original incident this can be forwarded as long as the partner enters the analysis details, documentation search and approach to researching the issue. The incident status is "To SAP".
- SAP will further investigate the issue and if needed may contact the partner for additional information. The incident status will be "Partner Action."
- SAP generates a solution and/or creates an SAP Note for the problem. The solution to the issue is sent back to partner via the incident reported. The incident status will be "Proposed Solution."
- The Partner confirms that the issue is resolved by applying the solution provided by SAP and forwards the solution to the customer. The customer deploys the solution and confirms it with the partner.

When a support incident is 'CONFIRMED' by the partner, he/she is prompted to complete a short survey. Positive Call Closure (PCC) is a direct feedback channel to SAP, allowing customers to express their satisfaction/dis-satisfaction regarding a particular customer incident. The goal of this feedback is to improve SAP's process for handling incidents.

## Key Points



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Here are some key points to take away from this session:

- As a support consultant you need to know the SAP Business One Maintenance Policy and your obligations. Support level 1 and 2 is provided by the partner, and SAP only gets involved at level 3 when there is a software defect in SAP Business One. SAP is only responsible for Level 3 support after you have isolated the problem to the product itself. Incident billing may apply if you do not fulfil your Level 1 and Level 2 obligations before contacting SAP.
- A new customer should be given an S-user, access to SAP Notes, and contact information for your support department.
- It is an obligation to install and use Remote Support Platform (RSP) for customer installations as outlined in the Maintenance Contract for SAP Business One. Once RSP has been installed and activated, the first step is to send a system status report to SAP support.
- Before logging an incident with SAP support, you must research all available resources such as documentation and SAP notes to check whether a solution already exists. You must also reproduce the problem using the latest patch at both the customer's version and the latest available version.
- Support Launchpad for SAP Business One is your main interface for supporting customers. You can access documentation resources, SAP Notes, download software, maintain customer systems and licenses, and create incidents.
- When you create a support incident to SAP, you must select a priority. The priority reflects the impact that the problem has on the customer's business operations. For example, you should only use "Very High" priority if the problem has very serious consequences for business transactions, resulting in serious losses with high business impact.

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