User Guide

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SAP Business One analytics 1.2 PL05 powered by SAP HANA
SAP Business One 9.3 PL00 and Later, 10.0 PL00 and Later
Document Version: 1.25 – 2020-07-20

Working with SAP Business One analytics powered by SAP HANA

All Countries

Typographic Conventions

Type Style	Description
Example	Words or characters quoted from the screen. These include field names, screen titles, pushbuttons labels, menu names, menu paths, and menu options. Textual cross-references to other documents.
Example	Emphasized words or expressions.
EXAMPLE	Technical names of system objects. These include report names, program names, transaction codes, table names, and key concepts of a programming language when they are surrounded by body text, for example, SELECT and INCLUDE.
`Example`	Output on the screen. This includes file and directory names and their paths, messages, names of variables and parameters, source text, and names of installation, upgrade and database tools.
`Example`	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
`<Example>`	Variable user entry. Angle brackets indicate that you replace these words and characters with appropriate entries to make entries in the system.
EXAMPLE	Keys on the keyboard, for example, F2 or ENTER.

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Document History

Version	Date	Change
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1.21	2016-05-27	Guide updated for SAP Business One analytics 1.2 PL1 powered by SAP HANA. Changes mainly focus on changing the name of Interactive Analysis 2.0 to Excel Report and Interactive Analysis. For more information, see Excel Report and Interactive Analysis.
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1 Introduction

This document describes the SAP Business One analytics powered by SAP HANA application from the perspective of a user of SAP Business One.

As more customers require Business Intelligence (BI), SAP introduced High-Performance Analytical Appliance (HANA) technology to SAP Business One. SAP HANA technology relies on main memory for computer data storage, providing faster and more predictable performance than database management systems that employ a disk storage mechanism.

The SAP Business One analytics solution is powered by SAP HANA technology. Without affecting your current SAP Business One system, SAP provides a solution that replicates data from the SAP Business One OLTP database (Microsoft SQL Server) to the SAP HANA OLAP database. After you install the application, initialize the company databases on the SAP HANA database server, and enable the analytics in the SAP Business One client, you can use the following embedded analytical features powered by SAP HANA within the SAP Business One client:

- Enterprise Search

  Enterprise search provides new ways to find information to support operations and decision making.

- SAP HANA Model Management

  You can import and deploy customized SAP HANA models, and select their languages.

- Real-Time Dashboards

  Dashboards present an easy-to-understand visualization, such as a bar or pie chart, of transactional data from the SAP Business One database. Depending on the dashboard, data is presented either as a time-specific static snapshot or as a refreshable visualization.

- Excel Report and Interactive Analysis

  You can use predefined semantic layers to analyze transactional data in Microsoft Excel. The semantic layers can also serve as a data source for dashboards and Crystal reports.

  You can also use the SAP Business One Analytics Logon tool to create pivot tables without installing the SAP Business One client.

- SAP Crystal Reports

  You can generate sales and financial reports with the SAP Crystal Reports software on the SAP HANA database.

  Note

  For more information about installing the application and initializing and maintaining company databases on an SAP HANA database server, see the *SAP Business One analytics powered by SAP HANA Administrator's Guide*.

You can also access your analytics content from the Analytics Portal and see it in a Web browser. For more information, see Analytics Portal.

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2 Enabling the Analytics Powered by SAP HANA

Before you can use the analytical features in the SAP Business One client application, you must first enable the analytics in the client application.

Prerequisites

- You have initialized the company databases on the SAP HANA database server. For more information, see the *SAP Business One analytics powered by SAP HANA Administrator's Guide*.
- You are the SAP Business One system administrator. Alternatively, the system administrator has granted you the necessary SAP Business One authorizations.

  Note

  To grant the necessary authorizations, from the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *Authorizations* → *General Authorizations* → *General* → *SAP HANA Database Client Enablement*.

Procedure

1. Start SAP Business One.
2. To log on, enter your SAP Business One user ID and password.

   Note

   To enable analytics powered by SAP HANA, you must log on to SAP Business One as a system administrator or an authorized user.
3. From the SAP Business One *Main Menu*, choose *Administration* → *System Initialization* → *General Settings*.
4. On the *Services* tab of the *General Settings* window, select the *Enable Analytics Powered by SAP HANA* checkbox.

Result

After enabling the analytical features powered by SAP HANA, you can do the following in SAP Business One:

- Perform enterprise searches based on the SAP HANA database using the SAP Business One search function.
- Access dashboards based on the SAP HANA database. Dashboards based on the original SAP Business One database are no longer available.
- Generate predefined and customized Crystal reports based on the SAP HANA database. Crystal reports based on the original SAP Business One database are still available.

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- Perform Excel report and interactive analysis using the new menu command *Excel Report and Interactive Analysis* in the SAP Business One client menu, and launch the Excel report and interactive analysis designer using the new menu entry *Excel Report and Interactive Analysis Designer* in the SAP Business One client menu bar *Tools*.
- Import and deploy customized SAP HANA models.

You can disable the analytical features powered by SAP HANA by deselecting the *Enable Analytics Powered by SAP HANA* checkbox in the *General Settings* window.

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3 Enterprise Search

Enterprise search enables you to search fields (such as *Description*, *Amount*, *Remark*, and so on) of the business objects in SAP Business One that have been replicated to the SAP HANA database server.

Enterprise search supports the following business object types and business objects:

- Master Data
  - Business Partner
  - Employee Master Data
  - Chart of Accounts
  - Item
  - Fixed Assets
  - Bin Location
  - Resource
  - Contact
- Analytic Content, including Crystal reports based on the original SAP Business One and SAP HANA databases, and dashboards based on the SAP HANA database
- A/R Transaction
  - A/R Credit Memo
  - Sales A/R Down Payment Invoice
  - Sales A/R Down Payment Request
  - Sales A/R Invoice
  - Sales A/R Reserve Invoice
  - Sales Delivery
  - Sales Order
  - Sales Quotation
  - Sales Return
- A/P Transaction
  - A/P Credit Memo
  - A/P Invoice
  - A/P Reserve Invoice
  - Goods Receipt PO
  - Goods Return
  - Purchase Order
  - Purchase Quotation
- Inventory
  - Inventory Goods Issue
  - Inventory Goods Receipt
  - Inventory Transfer

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- Service
  - Activity
  - Knowledge Base
  - Service Call
- Sales Opportunity
  - Opportunity
- Production
  - Bill of Materials
  - Issue for Production
  - Production Order
  - Receipt from Production
- Banking
  - Incoming Payment
  - Outgoing Payment
- User Defined Object

3.1 Using Enterprise Search

This section introduces how to perform a search from scratch.

For information about advanced searches, see Using the Advanced Options of Enterprise Search.

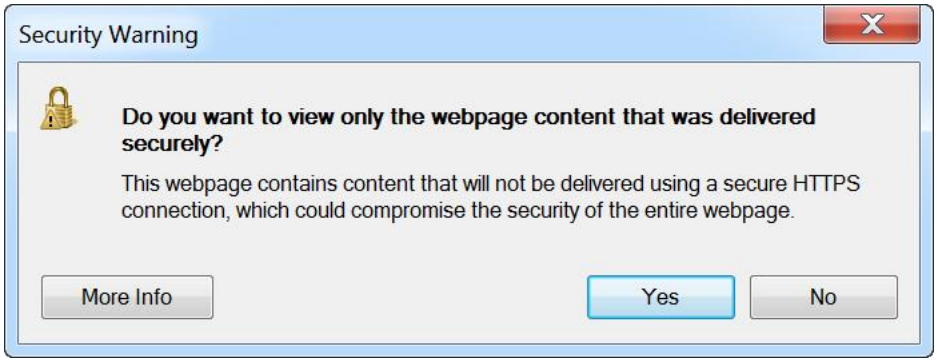
For information about creating and using search templates, see Working with Search Templates.

For information about search customization, see Working with Search Customization.

For more information about blocking the security alert, see Troubleshooting.

Note

When you are using Microsoft Windows Internet Explorer 8 for enterprise search, a security warning may appear. Choose the *Yes* button to continue.



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Prerequisite

User has authorizations for the business objects and documents in SAP Business One.

The *General Authorizations* and *Data Ownership Authorizations* settings in SAP Business One apply to the enterprise search. When you perform a search, the application displays search results containing only the fields of business objects for which you have authorization and documents for which you have permission.

Example

In SAP Business One, the user setting in *Administration* → *System Initialization* → *Authorizations* → *General Authorizations* → *Purchasing - A/P* → *Purchase Order* is *No Authorization*. When the user performs an enterprise search, purchase orders are not shown in the search results.

Example

In SAP Business One, the setting in *Administration* → *System Initialization* → *Authorizations* → *Data Ownership Authorizations* → *A/P Invoice* → *Peer* is *None*. When a user performs an enterprise search, the A/P Invoices whose owners share the same manager as the user are not shown in the search results.

For more information about user authorizations in SAP Business One, see *Authorizations* in the online help for SAP Business One.

Procedure

1. Start SAP Business One.

   To log on, enter your SAP Business One user ID and password.
2. Click the (*Search*) icon on the left side of the *Search* box, and select the *Search Data* radio button.

   A list of all business object types in SAP Business One appears under *Search Data*. By default, all object types are selected.
3. [Optional] Deselect the business object types that you do not want to search against.
4. In the *Search* box, enter your search query and choose the *Search* button.

   ### Example

   Enterprise search uses the following syntax:

   - Space – the application searches for results that contain all the terms in the search query.

     For example, if you enter **`DVD VCD`**, the search results are the records containing both DVD and VCD.
   - OR operator – the application searches for results that contain either of the terms in the search query.

     For example, if you enter **`DVD OR VCD`**, the search results are the records containing either DVD or VCD.
   - Exclude terms (-) – the application searches for results that contain all the terms in the search query but excludes results with terms preceded by a minus sign.

     For example, if you enter **`DVD - VCD`**, the search results are the records containing DVD but without VCD.
   - Phrase search ("") – the application searches for results that contain the exact terms in the search query in the exact order.

     For example, if you enter **`"DVD-VCD"`**, the search results are the records containing DVD-VCD.

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Result

The search results are displayed in the *Search Result* window. The search query is shown above the search results.

The *Search Result* window can contain 10, 20, or 40 results on each page. You can change this setting by clicking the number you want in the upper-right corner of the window. To navigate to a specific page, click the page number in the lower-right corner.

Each result contains a business object type hyperlink. You can click the hyperlink to show only the results of that object type. The selected object type is displayed as a tab at the top of the search results. You can close the tab to restore to the original search results.

Each search result is linked to the related object in the SAP Business One client. You can place your mouse cursor over a search result to view some information of the object, or click the business object name to view the complete window.

In each search result, you can choose the *Find Related* button to see the business objects related to this search result, and can go on and on.

3.2 Using the Advanced Options of Enterprise Search

The *Search Result* window provides advanced search options to help you further narrow down your search.

Procedure

1. Perform a search as described in Using Enterprise Search.
2. In the upper-left corner of the *Search Result* window, choose the icon.

   A filters pane appears to the left of the search results. The filters, grouped by business object types, and their fields and values, are displayed in a tree view format.

   Note

   In the tree, when a field has more than 10 values, the icon appears beside the field name. You can filter the value list by clicking the icon, typing a text string (all or part of a value) in the text box, and clicking the icon on the right.

   After the value list is filtered, you can see a text box next to the field name that displays the filter text. You can close the text box to restore the original value list.
3. In the layout pane, do the following:
   1. Select a specific business object type, for example, A/P invoices.
   2. Specify one or more filters. For example, deselect a field or value to exclude it from the search results, or define a particular date range.
   3. To sort your search results in ascending or descending order, click the up or down arrow beside one or more fields.

      Note

      The sorting is based on the Unicode collation algorithm.

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> **Note**
>
> If you have created search templates, you can also select a template and search by predefined criteria. For more information, see Creating Search Templates and Using Search Templates.

Result

The application refreshes the right pane to show only the matching results. Each filter is displayed as a tab at the top of the search results; each field for which you have defined a sorting rule is also displayed as a tab under the filters. You can close a tab to disable the filter or sorting rule and restore the original search results.

By hovering your mouse (or any other pointer) over filters, you can review the filtering rules, such as `Includes <data>`, `Excludes <data>`, and `Range <From … To…>`.

> **Note**
>
> If you set several filters, the search rule is 'AND', which means the result will match all the values maintained in the advanced search options.

If you have defined more than one sorting rule, the sorting rule tabs are displayed in the order they were defined. You can adjust sorting priorities by dragging the sorting rule tabs and changing their order. Additionally, you can click the up or down arrow on each tab to change the sorting order of the values.

The enterprise search automatically saves previously performed search queries. Each saved query records the search terms only. The application does not save the object types you specified beside the *Search* box and the advanced search options that you selected in the *Search Results* window.

To view the search history, click the button on the right side of the *Search* box. A dropdown list displays a maximum of 10 search queries that you have performed. You can click a query to perform the search again.

3.3 Working with Search Templates

You can save the search criteria you specified as a template for later use. The search criteria saved in a template include the following aspects:

- Keywords
- Filters
- Sorting rules
- The number of records to display on each result page

3.3.1 Creating Search Templates

Procedure

1. Specify search criteria and perform a search.
2. In the *Search Result* window, in the top right corner, click the template sign ☆.

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3. In the *Search Template* window, enter a template name and choose the *Save* button.

Result

The star sign in the upper right corner of the *Search Result* window turns yellow (). If you perform a search using this template later and change any search criterion, the template sign reverts to its original color. You must click the star sign to save the changes or save the template as a new one.

In the *Search Template* window, the *Remove* button becomes available.

3.3.2 Using Search Templates

The following procedure describes how to use search templates from scratch. Nevertheless, in the layout pane of the *Search Result* window, you can always select a different template. For more information, see Using the Advanced Options of Enterprise Search.

Prerequisites

To use the *Search by Template* button, you must have created search templates.

Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

   The *Search by Template* button appears next to the *Search* button.
2. [Optional] Enter keywords in the search box.

   These keywords override those in the template for the current search. Note, however, that to save the new keywords into the template, you must save the template again.
3. Choose the *Search by Template* button.
4. From the dropdown list, select a template.

Result

The application displays search results according to the criteria defined in the template. The search is recorded in the search history as `[T] <Template Name>` or `<Keywords> + [T] <Template Name>`.

If you change any criterion, such as the keywords, to retain the changes in the template you must save the template again. Alternatively, you can choose to save the template as a new one. For more information, see Creating Search Templates.

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3.3.3 Managing Search Templates

Use the *Search Template Manager* window to rename or delete search templates in batches.

Alternatively, use the *Search Template* window to delete the search template or save the template as a new name. For more information about the *Search Template* window, see Creating Search Templates.

Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

   The settings button appears next to the *Search by Template* button.
2. Choose the settings button.
3. From the dropdown list, choose *Search Template Manager*.
4. In the *Search Template Manager* window, hover your mouse over the template that you want to rename or delete, click the triangle button and make your changes. To rename the template, you can click the template and enter the new name.
5. To save the changes, choose the *Apply* button.

3.4 Working with Search Customization

Superusers can customize an enterprise search using the *Search Customization* option.

- For user-defined objects, superusers need to add relevant UDOs to categories to make them searchable, and then customize their user-defined fields (UDFs), so that the customized UDOs will be searchable, and the customized UDFs will be visible or searchable or filterable in an enterprise search.
- For system objects, superusers can customize their fields, so that the customized fields will be visible or searchable or filterable in an enterprise search.

3.4.1 Customizing UODs and UDFs in Enterprise Search

Prerequisites

You have defined a user-defined object (UDO) with user-defined fields (UDFs) in the database. For more information, see *User-Defined Objects* and *User-Defined Fields* in the online help documentation.

Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

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The *Settings* button appears next to the *Search by Template* button.

2. Choose the settings button, and choose *Search Customization*.

   The *Search Customization* window appears. Its left side lists all the business objects in the database categorized by searchable and unsearchable, and its right side lists all the fields of the selected object and the fields are categorized by whether or not they are in the search scope.

3. To make UDOs searchable and perform other UDO-related settings, on the left side of the *Search Customization* window, perform the following:
   - To make a UDO searchable, from the *Unsearchable Objects* section, drag the UDO to the category under which you want to display the relevant search results.
   - To make a UDO unsearchable, drag it to the *Unsearchable Objects* section. Alternatively, right-click the UDO, and choose *Remove From Category*.
   - To change the UDO display name, in the relevant category, right-click the UDO and choose *Rename*.
   - To create a new category, choose *New Category*.
   - To search for an object, enter all or part of the object name in the search box.

4. After you make a UDO searchable, its fields that are not in the search scope appear as a list, and its fields that are in the search scope appear as a table. The fields that belong to the *Main Tables* category will appear directly in the *Search Result* window when you perform an enterprise search, and the fields that belong to the *Line Tables* category will appear when you place your mouse cursor over a search result in the *Search Result* window.

   To customize the fields of the UDO and perform other UDF-related settings, select the UDO, and on the right side of the *Search Customization* window, perform the following:
   - To include the field in the search scope, from the *Fields Not in Search Scope* section, drag the field to the *Fields in Search Scope* section.
   - To exclude the field from the search scope, from the *Fields in Search Scope* section, drag the field to the *Fields Not in Search Scope* section. Alternatively, hover your mouse over the UDF, click the triangle button, and choose *Remove From Searchable Fields*.
   - To change the UDF display name, hover your mouse over the field description, click the triangle button, and choose *Rename*. Alternatively, click the field description and enter the new name.
   - To make the UDF visible in the *Search Result* window, select the *Visible* checkbox.
   - To make the UDF searchable as a search criterion in enterprise search, select the *Searchable* checkbox.
   - To make the UDF filterable as a filter in the layout pane of the *Search Result* window, in the *Filterable* column, select either of the following:
     - To display the UDF values as filter options in the layout pane of the search results, select *By Option*.
     - To display the UDF values as ranges in the layout pane of the search results, select *By Range*.
   - To make the UDF unfilterable, in the *Filterable* column, select *Disabled*.
   - To change the display order of the UDF's search result, drag the UDF up or down. The higher the UDF is in the *Search Customization* window, the higher its search result will be displayed in the *Search Result* window.

5. To save the changes, choose the *Apply* button.

Result

When you perform an enterprise search, the *Search Result* window will display data of the UDOs and UDFs that were customized in the *Search Customization* window.

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Note

If you do not have authorization for a certain object, when you search data using enterprise search, that object will not appear in the *Search Result* window.

3.4.2 Customizing System Objects in Enterprise Search

All system objects are searchable by default and you cannot modify them; however, you can customize their fields.

Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

   The *Settings* button appears next to the *Search by Template* button.
2. Choose the *Settings* button, and choose *Search Customization*.

   The *Search Customization* window appears. Its left side lists all the business objects in the database categorized by searchable and unsearchable, and its right side lists all the fields of the selected object and the fields are categorized by whether or not they are in the search scope.

   By default, all system objects are searchable and all UDOs are unsearchable.
3. [Optional] To search for an object, in the search box on the left side of the *Search Customization* window, enter all or part of the object name.
4. On the left side of the *Search Customization* window, select the object whose fields you want to customize.

   Its fields that are not in the search scope appear as a list, and its fields that are in the search scope appear as a table. The fields that belong to the *Main Tables* category will appear directly in the *Search Result* window when you perform an enterprise search, and the fields that belong to the *Line Tables* category will appear when you place your mouse cursor over a search result in the *Search Result* window.
5. To customize the fields of the system object and perform other field-related settings, on the right side of the *Search Customization* window, perform the following:
   - To include the field in the search scope, from the *Fields Not in Search Scope* section, drag the field to the *Fields in Search Scope* section.
   - To exclude the field from the search scope, from the *Fields in Search Scope* section, drag the field to the *Fields Not in Search Scope* section. Alternatively, hover your mouse over the field, click the triangle button, and choose *Remove From Searchable Fields*.
   - To change the field display name, hover your mouse over the field description, click the triangle button, and choose *Rename*. Alternatively, click the field description and enter the new name.
   - To make the field visible in the *Search Result* window, select the *Visible* checkbox.
   - To make the field searchable as a search criterion in enterprise search, select the *Searchable* checkbox.
   - To make the field filterable as a filter in the layout pane of the *Search Result* window, in the *Filterable* column, select either of the following:
     - To display the field values as filter options in the layout pane of the search results, select *By Option*.
     - To display the field values as ranges in the layout pane of the search results, select *By Range*.

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- To make the field unfilterable, in the *Filterable* column, select *Disabled*.
- To change the display order of the field's search result, drag the field up or down. The higher the field is in the *Search Customization* window, the higher its search result will be displayed in the *Search Result* window.

6. To save the changes, choose the *Apply* button.

Result

When you perform an enterprise search, the *Search Result* window will display data of the fields of the system objects that were customized in the *Search Customization* window.

> **Note**
>
> you do not have authorization for a certain object, when you search data using enterprise search, that object will not appear in the *Search Result* window.

3.4.3 Exporting Search Customization

After customization, we recommend that you export the configuration for backup purposes.

Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

   The *Settings* button appears next to the *Search by Template* button.
2. Choose the *Settings* button, and choose *Export Search Customization*.
3. In the *Export Search Customization* window, choose the *Continue* button.
4. Save the configuration file, and in the *Export Search Customization* window, choose the *Done* button.

3.4.4 Importing Search Customization

You can import search customization to overwrite your current UDO and UDF configuration.

> **Recommendation**
>
> You should import the UDO and UDF configuration that was exported from the same company. If the UDOs and UDFs in your current company cannot match those in the search customization that you want to import, the import will fail.

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Procedure

1. In the SAP Business One client application, on the left side of the *Search* box, click the icon and select the *Search Data* radio button.

   The *Settings* button appears next to the *Search by Template* button.
2. Choose the *Settings* button, and choose *Import Search Customization*.
3. [Optional] If you have not exported your current configuration, in the *Import Search Customization* window, choose the *Export* button and export your current configuration first.
4. In the *Import Search Customization* window, choose the *Continue* button.
5. Choose the configuration file that you want to import.
6. After the upload, select the way you would like to proceed when there are errors during deployment, and choose the *Continue* button.
7. After the deployment, in the *Import Search Customization* window, choose the *Done* button.

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4 Managing SAP HANA Models

SAP HANA models contain attribute views, analytic views, calculation views, and procedures. Enabling certain views in the *SAP HANA Model Management* window means you can choose the corresponding semantic layers in the SAP Business One *Main Menu* to create pivot tables in Microsoft Excel.

In the SAP Business One analytics solution powered by SAP HANA, besides the predefined model package, you can import and deploy customized SAP HANA models designed with the SAP HANA studio, using the *SAP HANA Model Management* window.

For more information about SAP HANA models, see *SAP HANA Modeling Guide* on the SAP Help Portal at http://help.sap.com/hana_appliance.

4.1 Creating Customized SAP HANA Model Packages

You use the SAP HANA studio to customize and export models.

Procedure

1. In the SAP HANA studio, select your customized model. Then in the toolbar, choose *File* → *Export*.
2. In the *Export* window, choose *SAP HANA Content* → *Developer Model*.
3. Save the model to a defined folder.
4. In the defined folder, open the views and procedures one by one with a text editor software program. Make the following changes:
   - Replace the schema name with **`%PLACEHOLDER%`**.
   - Replace the package name with **`%placeholder%`**.

     Note

     The input is case sensitive.
5. In the defined folder, create an XML file named *Info.xml*.

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6. Use the following sample to complete the content of the XML file.

```
<?xml version="1.0" encoding="utf-8" ?>
- <HANAModelPackageForB1 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" defaultLanguage="English">
    <Name>Sample package</Name>
    <Author>Partner XYZ</Author>
    <ModelVersion>1.0</ModelVersion>
  - <HANAVersions>
      <Version>1.0.26</Version>
    </HANAVersions>
  - <B1Versions>
      <Version>8.82.070</Version>
    </B1Versions>
  - <B1AVersions>
      <Version>1.0.3</Version>
    </B1AVersions>
    <Description>This is a sample package for HANA model for B1</Description>
  - <Metadata>
      <CreatedAt>2011-10-22 14:32:22.341</CreatedAt>
      <ChangedAt>2012-06-21 17:33:50.258</ChangedAt>
      <ChangedBy>SYSTEM</ChangedBy>
    </Metadata>
  - <ModelList>
      <!-- Please model dependency is managed in sequence!!! -->
      <!-- In this sample, AnalyticView AN_MY_INVOICE is depended on below two AttributeViews -->
      <Model name="DIM_MYBP" type="AttributeView" />
      <Model name="DIM_MYDATE" type="AttributeView" />
      <!-- 'menu' is only available as option for AnalyticView and CalculationView -->
      <Model name="AN_MY_INVOICE" type="AnalyticView" menu="My Invoice AnalyticView" />
      <Model name="CA_MY_INVOICE" type="CalculationView" menu="My Invoice CalculationView" />
      <Model name="PROC_ITEMGROUPS" type="Procedure" />
    </ModelList>
  </HANAModelPackageForB1>
```

7. Change the defined folder name to *model* and compress it as a ZIP file.

Note

The folder name is case sensitive.

4.2 Importing and Deploying SAP HANA Models

After you have initialized company databases in the Administration Console, the predefined model package is automatically deployed, and all the menu entries in *Excel Report and Interactive Analysis* are automatically enabled.

Caution

In the *SAP HANA Model Management* window, after choosing the *Deploy* button or choosing the *Remove* option, you must not perform any action until your operation completes successfully (the *Status* field displays *Deployed*, or the model package is removed successfully) or an error message appears. Otherwise, your data may be corrupted.

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Prerequisites

You have created an SAP HANA model package ZIP file. For more information, see Creating Customized SAP HANA Model Packages.

Procedure

1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *SAP HANA Model Management*.

   The *SAP HANA Model Management* window opens and displays the predefined model package provided by SAP Business One analytics powered by SAP HANA.

   Note

   You cannot remove the predefined model package.

2. In the *SAP HANA Model Management* window, choose the *Import* button.
3. In the *Open* window, navigate to the ZIP file you want to import and choose the *Open* button.

   Note

   The ZIP file must contain a file named *Info.xml*.

   Note

   You cannot import an SAP HANA model package file if the model has the same name as a previously imported model.

   The *Status* field of the customized model package displays *Imported*.

4. Select the model package and the views that you want to enable. Then choose the *Deploy* button.

   The *Status* field of the customized model package changes to *Deployed*.

   Note

   In any of the following situations, the status of the deployed models reverts to *Imported*, and you need to deploy the models once again:

   - SAP Business One analytics powered by SAP HANA is reinstalled
   - SAP Business One companies are re-initialized in SAP Business One analytics powered by SAP HANA
   - SAP Business One company databases are upgraded

Result

- Customized SAP HANA models are imported and deployed.
- New menu entries appear in the SAP Business One *Main Menu*, under *Excel Report and Interactive Analysis*.

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4.3 Selecting Different Languages for SAP HANA Models

You can select different languages for all SAP HANA models provided by SAP Business One during company database initialization, update, or re-initialization.

For each company database, you can select one language to deploy each model package. Any function, such as pervasive analytics, that employs the semantic layer content can benefit from this language change.

Procedure

To select the model language during company database initialization, update, or re-initialization, see the *Initializing and Updating Company Databases* section in the *Administrator's Guide of SAP Business One analytics powered by SAP HANA*.

To select the model language during redeployment, follow the procedure below:

> **Note**
>
> You cannot redeploy the predefined SAP HANA model package.

1. From the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *SAP HANA Model Management*.

   The *SAP HANA Model Management* window opens and displays the predefined model package provided by SAP Business One.
2. Select the predefined model package, and choose the *Deploy* button. The *Model Language* window appears.
3. Select the display language for the package contents and choose the *OK* button.

   The model package is redeployed.

Result

The selected language appears in the *Language* column of the *SAP HANA Model Management* window. For customized model packages, this column displays *Model Language*.

The descriptions of the following are displayed in your selected language:

- View
- Column
- Hierarchy
- Parameter

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5 Real-Time Dashboards

Real-time dashboards enable you to view SAP Business One company data from the SAP HANA database in predefined and easy-to-understand visualizations. SAP Business One analytics powered by SAP HANA provides the following predefined dashboards:

- Delivery Analysis
- Inventory Status
- Payment Collection
- Purchase Quotations
- Sales Analysis
- Sales Employee Performance
- Service Call

5.1 Viewing Dashboards

You can view predefined dashboards for which you have the necessary authorizations.

For more information about working with dashboards in the cockpit, see *Working with Crystal Dashboards* in the online help documentation.

Prerequisites

Your system administrator or key user has done the following:

- Enabled the use of the cockpit and dashboards in SAP Business One
- Assigned the correct user authorization for dashboards

Procedure

1. From the SAP Business One navigation panel on the left side of the window, under *My Cockpit*, select the cockpit you want to use.

   The cockpit appears.
2. In the navigation panel, choose *Widget Gallery* → *General Widgets*.
3. Click *Dashboards* and drag it into the open cockpit area.

   A dashboard window appears with a message about how to add a dashboard.
4. To add a dashboard to your cockpit, in the top right *Dashboards* widget window bar, choose (*Tools*).
5. From the dropdown list, select *Settings*.

   The *Select Dashboard* window appears, listing in alphabetic order the active dashboards that you have permission to view.

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6. To add one or more dashboards to the cockpit, select the corresponding checkboxes.
7. If you select only one dashboard, that dashboard is the default dashboard. If you select two or more dashboards, to specify the dashboard that you want to appear by default whenever you log on to the cockpit, highlight the dashboard and select *Set as Default*. The default dashboard appears in bold font.
8. To confirm your choices, choose the *OK* button.

   The default dashboard appears. If you have selected multiple dashboards, use the and icons to navigate through the dashboards.

5.2 Delivery Analysis Dashboard

Note

This dashboard considers only the sales orders that are fully copied to deliveries or A/R invoices, i.e., the sales orders are closed.

The *Delivery Analysis* dashboard enables supervisors to identify whether the company delivers goods to customers on time. This dashboard shows sales orders with on-time delivery and delayed delivery, in addition to the average number of delay days. This dashboard also lists sales orders for which the delivery exceeds the user-defined delay days.

The *Delivery Analysis* dashboard contains the sections in the following table.

You can find the definitions used in the dashboard as follows:

- Actual delivery date: *Delivery Date* of the delivery or *Posting Date* of the A/R invoice
- Scheduled delivery date: the latest date taken from the following fields:
  - *Delivery Date* of the sales order
  - *Del. Date* in the item rows of the sales order
- Delay days: number of days between the scheduled delivery date and the actual delivery date

Chart	Type and Display	Behavior	KPI
Monthly Sales Orders	Bar chart showing the number of monthly sales orders with on-time delivery and delayed delivery, respectively, in the past 6 months.	You can place your mouse cursor over a bar to view the exact number of sales orders.	Number of sales orders for which the delivery is on time or delayed. · *On Time Sales Orders*: sales orders with actual delivery date before or equal to the scheduled delivery date · *Delayed Sales Orders*: sales orders with actual delivery date after the scheduled delivery date
Average Delay Days for Delayed Orders	Line chart showing the trend of average delay days (for delayed orders	You can place your mouse cursor over a dot to view the average number of delay days in that month.	The average *Delay Days* for each month is calculated as:

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Chart	Type and Display	Behavior	KPI
	only) in the past 6 months.		Sum of actual delay days / total number of delayed sales orders The month for which a sales order is calculated is based on its posting date.
Sales Orders Delayed More Than <user-defined number> Days	A table listing sales orders for which the delivery is delayed for more than *<user-defined number>* days. By default, sales orders delayed by more than 2 days are shown. The table is sorted by *Delay Days* in descending order.	You can change the number of days as follows: 1. From the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Dashboard Parameters*. 2. In the *Dashboard Parameters – Setup* window, press CTRL + F to switch to *Find* mode. 3. In the *Code* field, enter **DPD** and choose *Find*. 4. In the *Value* column, change the value of *Allowed Delay Days*. To view details of a sales order, click the sales order number in the table. Use the page buttons in the lower-right corner to navigate through the pages.	· *Sales Order*: document number of the sales order · *BP Name*: BP name of the customer · *Scheduled Delivery Date*: the latest date taken from the following fields: o *Delivery Date* of the sales order o *Del. Date* in the item rows of the sales order · *Actual Delay Days*: number of days between the scheduled delivery date and the actual delivery date · *Amount*: amount of the sales order, given in the currency displayed above the table

5.3 Inventory Status Dashboard

The *Inventory Status* dashboard helps department managers in operations, manufacturing, financials, or sales to manage inventory in the following four categories, based on the trend of inventory value and turnover rate:

- *Potential Insufficient Inventory*
- *Potential Excessive Inventory*
- *Higher Inventory & Faster Moving*
- *Lower Inventory & Slower Moving*

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The inventory depletion trends and values in this dashboard help managers to determine whether a promotion is needed to decrease excessive inventory, or whether purchases are needed to avoid inventory shortage.

The *Inventory Status* dashboard consists of two sections:

- *Company Overview*

  A bar chart providing an overview of the company inventory status.
- *Category Details* (Chart View & Table View)

  A scatter chart or a table displaying the detailed information for warehouse items in the selected category.

All the amounts in the dashboard are given in the local currency, which is displayed in the upper-right corner of the window.

5.3.1 Inventory Status: Company Overview

The *Company Overview* section covers 2 KPIs:

- Inventory amount of each warehouse item
- Turnover rate of each warehouse item

  The turnover rate is calculated as follows:

  Turnover rate = 360 / (last day - first day) / ((cumulative quantity of last day + cumulative quantity of first day) / 2 / (sum of negative quantity of the period))

The dashboard compares items' inventory amount and turnover rate on the trend of the KPIs. A bar chart is presented showing the inventory amount of warehouse items in four categories:

- *Potential Insufficient Inventory* - Total value of items that are going to be in short supply due to decreased inventory value and/or increased turnover rate.

  Note

  The dashboard compares the inventory value and turnover rate between the current posting period and the last posing period to determine whether they are increased or decreased.
- *Potential Excessive Inventory* - Total value of items that are going to be overstocked due to increased inventory value and/or decreased turnover rate.
- *Higher Inventory & Faster Moving* - Total value of items whose inventory value and turnover rate were increased or unchanged.
- *Lower Inventory & Slower Moving* - Total value of items whose inventory value and turnover rate were decreased.

Working with this chart typically involves the following operations:

- To switch the analysis from all item groups in all warehouses, which is the default, to a certain item group and/or in a certain warehouse, select the desired item group and/or warehouse in the *Analyzed by* dropdown list below the chart title.
- To view the total inventory amount for all items in a category, place your mouse cursor over the bar for the category, without clicking it. The inventory amount for that category is shown in a small text box.
- To display the details for items in a category, click the bar for the category. This switches the view to the *Category Details* section.

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5.3.2 Inventory Status: Category Details

The *Category Details* section covers the same KPIs as the *Company Overview* section. The chart view presents a scatter chart showing the amount and turnover rate for individual warehouse items in the selected category. The table view lists more detailed item information in a tabular format.

Working with this section typically involves the following operations:

- To go to the *Company Overview* section, click *Back to Overview* in the upper-left corner.
- To switch between the chart view and table view, click the *Table View* or *Chart View* icon to the right of the category title.
- In the chart view, you can use the range sliders for the X and Y axes to filter the items displayed on the scatter chart.
- In the chart view, you can place your mouse cursor over a dot to view the item name and its inventory amount and turnover rate. More detailed information for the selected item is displayed on the right side of the window.
- In the table view, you can export the current tables as an Excel file by choosing the *Export to Excel* button.

5.4 Payment Collection Dashboard

The *Payment Collection* dashboard helps financial analysts or managers to monitor the payment collection of a company's sales orders. This dashboard shows paid and unpaid sales orders on a monthly basis, and the average number of days passed from the sales order posting date to the payment date. This dashboard also lists sales orders that are paid more than a user-defined number of days after the posting date.

The *Payment Collection* dashboard contains the sections in the following table.

Chart	Type and Display	Behavior	KPI
Sales Orders Payment Status	Bar chart showing the summed document total of monthly sales orders that are paid and unpaid, respectively, in the past 6 months.	You can place your mouse cursor over a bar to view the amount of paid or unpaid sales orders.	Summed document total of paid and unpaid sales orders. · *Amount Paid*: summed document total of sales orders for which the payment has been collected · *Amount Unpaid*: summed document total of sales orders that were not paid or not fully paid
Average Order-to-Payment Days	Line chart showing the trend of average order-to-payment days in the past 6 months.	You can place your mouse cursor over a dot to view the average number of order-to-payment days in that month.	The *Average Order-to-Payment Days* for each month is calculated as: Sum of order-to-payment days / total number of sales orders · *Order-to-Payment Days*: number of days passed from the sales order

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Chart	Type and Display	Behavior	KPI
			posting date to the closing date of all invoices The month to which a sales order is calculated is based on its posting date.
Sales Orders Paid More Than <user-defined number> Days After Posting Date	A table listing sales orders for which the payments were collected more than *<user-defined number>* days after the posting date. By default, sales orders paid more than 0 days after posting date are shown. The table is sorted by sales order document number in ascending order by default.	You can change the number of days as follows: 1. From the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Dashboard Parameters*. 2. In the *Dashboard Parameters – Setup* window, press CTRL + F to switch to *Find* mode. 3. In the *Code* field, enter **PCA** and choose *Find*. 4. In the Value column, change the value of *Allowed Delay Days*. To view details of a sales order, click the sales order number in the table. Use the page buttons in the lower-right corner to navigate through the pages.	· *Sales Order*: document number of the sales order · *BP Name*: BP name of the customer · *Sales Order Posting Date*: posting date of the sales order · *Order-to-Payment Days*: number of days passed from the sales order posting date to the closing date of all invoices · *Amount*: amount of the sales order, given in the currency displayed above the table

5.5 Purchase Quotations Dashboard

You can use the *Purchase Quotations* dashboard to monitor open purchase quotations. Using the filter, you can view open purchase quotations by selected vendor, item, buyer, and valid date. You can use this dashboard to view how vendors respond to your quotations. For quotations with responses, you can compare quotations and close quotations.

The *Purchase Quotations* dashboard presents a pie chart displaying open purchase quotations for a certain time period. Working with this chart typically involves the following operations:

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Viewing Quotation Status

- *Responded* – If a quotation has a full response from the required vendor (with all items quoted with quantity and unit price), then this quotation is defined as *Responded*.
- *Partial/No Response* – If a quotation does not have a full response from the vendor (with one or more items not quoted), then this quotation is defined as *Partial/No Response*.
- *Overdue* – Quotations with a *Valid Until* date that is earlier than the current system date.

To view detailed information, click a segment of the pie chart. The *Purchase Quotations Details* window appears, displaying a list of relevant purchase quotations and containing the following information: group number, document number, supplier name, supplier telephone number, reference number, and valid date information.

You can also click a row in the table to open the corresponding SAP Business One purchase quotation document.

Filtering Data by Valid Date

This dashboard enables you to filter open purchase quotations by expiration date. To do so, in the *"Valid Until" No Later Than* field, choose a date. The chart presents all purchase quotations that expire before the specified date.

> **Note**
>
> If you specify a date earlier than the current system date, all displayed purchase quotations are overdue quotations.

Viewing Data of Selected Vendors/Items/Buyers

By default, this dashboard displays data for all open purchase quotations (including overdue purchase quotations). You can use the filter to view data for selected vendors/vendor groups, items/item groups, and buyers. To do so, proceed as follows:

1. From the *Choose Scope* dropdown list, select to view data by *Vendor*, *Item*, or *Buyer*.
2. If you select *Vendor* or *Item* in the previous step, from the *Choose Group* dropdown list, select a group. The dashboard displays open purchase quotations for the specified vendor/item group.
3. If you want to view data for a specific vendor/item/buyer, from the *Choose* or *Choose Buyer* dropdown list, select a vendor/item/buyer.

   The dashboard displays open purchase quotations for the selected vendor/item/buyer only.

5.6 Sales Analysis Dashboard

> **Note**
>
> The status of this dashboard is *Inactive* by default. For more information about activating dashboards, see *Activating or Deactivating a Dashboard* in the online help documentation.

The *Sales Analysis* dashboard enables sales managers to understand the sales performance and status of a company's most important customers and employees.

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The dashboard KPIs are based on the standard functions of SAP Business One. The application makes the following assumptions for sales processes:

- The sales quota is maintained in the budget of the sales revenue account by month.
- The sales process starts with opportunity creation and ends with invoice creation. Only the invoiced amount is revenue realized. Canceling an invoice or creating a credit memo impacts the revenue of the month in which the cancellation or credit is posted.
- If an opportunity is lost, the sales employee changes the opportunity status to *Lost*.

5.6.1 Sales Analysis: Dashboard Structure and Behavior

The *Sales Analysis* dashboard has the following sections:

- The upper part provides an overview of sales performance.
- The lower part displays detailed information about the top five customers or sales employees.

All amounts in the dashboard are shown in the local currency, which is displayed under the title bar on the right side. In the lower part of the dashboard, you can use the dropdown list to switch the analysis from *Customers*, which is the default, to *Sales Employees*. By default, details about the top customer or top employee are displayed on the right side of the lower part. To display the details for another customer or employee, click the bar for the customer or employee for which you want to view detailed information.

5.6.2 Sales Analysis: Company Overview

The upper general sales performance part covers four KPIs: sales amount by month, last year's sales amount by month, sales quota, and sales opportunity win rate.

Chart	Type and Display	KPI
Fiscal Year Analysis	Bar chart showing revenue for the current year and the previous year (*Sales Amount* and *Last Year's Sales Amount*); line for *Quota*. For the current year and last year, the sales amount is shown for all months.	The sales amount calculation is based on invoice amount and grouped by posting calendar month. The calculation logic is the same as for the *Sales Analysis* report. Invoice-related documents and localization A/R documents that impact the revenue account are also considered. Quota uses the budget definition of revenue account, which is the first budget scenario defined for one fiscal year. Make sure the revenue account has an account type of *Sales* and is on the credit side.
Opportunity Win Rate	Line chart showing the ratio of won opportunities to the total of closed opportunities for the period. Two lines are shown: one line for the previous year, one line for the current year to date.	The chart compares the current year's win rate to the previous year's rate by month. For each displayed month, the win rate equals the number of won opportunities in this month divided by the total number of closed opportunities in this month. Closed opportunities include opportunities with status *Won* or *Lost*. Closing date refers to opportunity *Closing Date*.

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5.6.3 Sales Analysis: Customer and Employee Details

Chart	Type and Display	Behavior	KPI
Top 5 Customers *Top 5 Sales Employees*	Clustered bar chart (one for sales amount and one for gross profit) for each of the top 5 customers or employees	To display the KPIs on the right side of the chart for a different customer or employee, click the *Sales Amount* bar for the desired customer or sales employee.	Year-to-date sales amount and gross profit of top 5 customers or top 5 employees are displayed as a clustered bar chart.
Item Ranking *Customer Ranking*	Table with top 5 items (for *Customers* selection) and top 5 customers (for *Sales Employees* selection) sorted by sales amount.	To display the KPIs for a different customer or employee, in the *Top 5 Customers* or *Top 5 Sales Employees* chart, click the sales amount bar for the desired customer or sales employee. You can click an item in the table to display the *Item Master Data* window.	· For selected customer: Top 5 items by each item's sales amount for the current fiscal year. *Revenue*: current fiscal year revenue of the item *%*: percentage this item contributes to the customer's total sales amount *Quantity*: number or quantity of the item sold to the customer (by inventory unit of measure) · For selected sales employee: Top 5 customers by customer's sales amount for the current fiscal year. *Revenue*: current fiscal year revenue of the customer *%*: percentage this customer contributes to total sales for this sales employee *Profit*: current fiscal year gross profit for customer related to this sales employee
Opportunities Status	Pie Chart	None	Depending on the selection in the dropdown list (*Customers* or *Sales Employees*), the number of won and lost opportunities for the fiscal year to date and the number of open opportunities, for the selected customer or selected sales employee.

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5.7 Sales Employee Performance Dashboard

The *Sales Employee Performance* dashboard helps sales managers to review the performance of each sales employee, including his or her sales target, year-to-date sales amount, ongoing sales opportunities, and contribution to the overall sales revenue.

The *Sales Employee Performance* dashboard contains the sections shown in the following table. All amounts in the dashboard are shown in the local currency, which is displayed in the upper-right corner.

Chart	Type and Display	Behavior	KPI
Sales Employees List	List displaying the names of all sales employees, sorted by each employee's year-to-date contribution (%) in descending order. When a sales employee is selected, his or her year-to-date contribution (%) is shown beside the employee name.	You can click a name to display the KPIs on the right side of the window for that employee. By default, *All Sales Employees* is selected.	· Names of sales employees · YTD Contribution (%) is calculated by: (each employee's year-to-date sales amount) / (all employees' year-to-date sales amount) * 100% The sales amount data comes from the *Sales Analysis* report.
Monthly Sales by <sales employee>	The upper bar chart shows the monthly sales target, actual sales amount (in the past) or potential sales amount (in the future) in the current or previous year for selected employee or all employees. The lower bar chart shows the yearly sales target, the yearly actual or forecasted sales amount in the current or previous year for the selected employee or all employees.	To display the potential sales amount in the future, select *Weighted Potential*. To display last year's data, select *Last Year*. To display the data for a different employee, click the employee name on the left side. You can place your mouse cursor over a bar to view more KPIs.	The upper bar chart has 3 KPIs: · *Target*: sales target for that month. The amount is set in the *Dashboard Parameters – Setup* window. See Setting Monthly Sales Target for details. · *Actual*: actual sales amount for that month. Data comes from the *Sales Analysis* report. · *Weighted Potential*: weighted amount of open opportunities in that month. Data comes from the *Weighted Open Amt* field of the *Opportunity Statistics* report. The lower bar chart has 2 KPIs: · *Projected Year Sales* is calculated by: (actual year-to-date sales amount) + (weighted amount of open sales opportunities) · *Year Target*: total sales target amount of the current or previous year. You can set the monthly sales target as described in Setting Monthly Sales Target.

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5.7.1 Setting Monthly Sales Target

To set a monthly sales target amount for each employee, do the following:

1. From the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Dashboard Parameters*.
2. In the *Dashboard Parameters – Setup* window, press CTRL + F to switch to *Find* mode.
3. In the *Code* field, enter **SEPT** and choose *Find*.
4. In the table, enter the monthly sales target amount for each employee.

5.8 Service Call Dashboard

The *Service Call* dashboard enables service managers to identify current and potential problems with service call responsiveness. This dashboard presents key performance indicators that provide different views of service calls being handled by your employees. It shows the overall service call status by number of new service calls for the current date, backlog trends, and call status. For each service queue, the dashboard shows the service call workload and status by employee.

5.8.1 Service Call: Dashboard Structure and Behavior

The *Service Call* dashboard has the following sections:

- The upper part provides a company overview.
- The lower part displays detailed information about a selected service queue.

By default, the data is refreshed every 60 minutes. When you select a different service queue name from the dropdown list in the lower part of the dashboard, the application refreshes the data in the lower part for the selected service queue. The service queue names displayed in the company overview section and in the dropdown list are taken from the description field of the queue setup. Only active service queues are shown. The names in the *Details* of dropdown list are displayed in the same order as in the *Queues - Setup* window.

5.8.2 Service Call: Company Overview

The company overview covers KPIs that inform the service manager about new service calls for the current day, any calls due today or overdue calls, and the trend of service calls for a specific time period.

Chart	Type and Display	Behavior	KPI
Incoming Calls Today	Pie chart with total number of today's new service calls by active service queue	None	Service call with *Created On* date equal to current date

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Chart	Type and Display	Behavior	KPI
Calls to Close: <n>	Pie chart with in-process service calls of active service queues, grouped by category of due date	None	· *Overdue*: service call with *Resolution By* date before the current date · *Due by Today*: service call with *Resolution By* date equal to the current date · *Others*: service call with *Resolution By* date after the current date and service call with no *Resolution By* date
Backlog of <time period selection>	Line chart with a line for each service queue showing the trend of the service call backlog for the selected time period	The user selects a time period from *Backlog of* dropdown list. *Last 7 Days* is the default. The number of backlog calls for each active service queue is refreshed, the lines are repositioned, and the X axis changes as follows: · *Last 7 Days*: dates of last 7 days including today · *Last 4 Weeks*: last 4 calendar weeks including the current week · *Last 6 Months*: last 6 calendar months including the current month	The backlog of calls is the number of in-process service calls at the end of each day. For example, if a user selects *Last 4 Weeks* or *Last 6 Months*, the backlog is the in-process service calls for the last day of each time period.

5.8.3 Service Call: Service Queue Details

The lower queue part covers the following queue-specific KPIs:

- Employees workload
- Service call turnover

To display a queue, select an option from the *Details* of dropdown list.

Chart	Type and Display	Behavior	KPI
Employee Workload	Bar chart displays the workload of employees. Each bar represents a service employee assigned to the service queue, and displays the	None	Number of in-process calls assigned to each member of the selected service queue. Each call is classified as *Overdue*, *Due by Today*, and *Others*. Unassigned service

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Chart	Type and Display	Behavior	KPI
	total number of service calls assigned to an employee. Color coding shows service calls that are overdue, due by today, and due in the future or those without a due date.		calls are combined in the *Not Assigned* bar. For information about the coding, see the *Calls to Close: <n>* row in Service Call: Company Overview.
Service Call Turnover of <time period selection>	Line chart with a line for new service calls and a line for closed service calls for the selected time period over a gray area representing call backlog as reference.	The user selects a time period from the *Service Call Turnover of <time period selection>*dropdown list. For information about the behavior in this chart, see the *Backlog of <time period selection>* row in Service Call: Company Overview.	New service calls and closed service calls jointly show service call turnover. A new service call is created during the displayed time period, regardless of status. A closed call is a service call that is closed during the displayed time period, regardless of when it was created. Create date refers to the *Created On* date of a service call. Close date refers to a service call's status of *Closed* and a *Closed On* date within the displayed time period.

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6 Excel Report and Interactive Analysis

Excel Report and Interactive Analysis in SAP Business One analytics powered by SAP HANA provides two types of analytical reports: Excel reports and pivot tables. You can create those reports with predefined semantic layers using the Excel report and interactive analysis designer. For more information about the Excel report and interactive analysis solution, for example, about creating Excel reports and pivot tables, look for the guide *How to Work with Excel Report and Interactive Analysis* on sappartneredge.com, or choose the *Help* button on the *EXCEL REPORT* or *INTERACTIVE ANALYSIS* tab of the designer.

In the SAP Business One *Main Menu*, the *Excel Report and Interactive Analysis* menu command provides the following:

- Predefined Excel reports. You can also find those reports in the *Repository Management* window on the *EXCEL REPORT* tab of the designer.
- Predefined semantic layers for pivot tables. You can also find those semantic layers in the *Select Data Source* window on the *INTERACTIVE ANALYSIS* tab of the designer.

You can also use the SAP Business One Analytics Logon tool to create pivot tables without having to install the SAP Business One client.

6.1 What is a Semantic Layer

Semantic layers are metadata packages for efficient query generation. A semantic layer is a set of data and metadata retrieved from the database which allows fast analysis of data. It can also be defined as the capability of manipulating and analyzing data from multiple perspectives.

A semantic layer consists of numeric facts called measures, which are categorized by dimensions. Measures are analytical elements that can be quantified and calculated. Dimensions are individual descriptive analytical elements that are not measurable.

For example, a company might want to analyze sales opportunities by sales employee, by territory, and by month or quarter. The number of sales opportunities is a measure, and all methods of analysis, including sales employee, territory, and month/quarter, are dimensions.

Semantic layers are used to create multiple views of transactional data for analytical purposes. In SAP Business One analytics powered by SAP HANA, you can use the predefined and customized semantic layers to create Excel reports and pivot tables. Semantic layers can also serve as data sources for dashboards and Crystal reports.

6.2 Predefined Excel Reports

You can also find those reports in the *Repository Management* window on the *EXCEL REPORT* tab of the Excel report and interactive analysis designer.

SAP Business One analytics powered by SAP HANA provides the following predefined Excel reports under the *Excel Report and Interactive Analysis* menu command:

- *Sales Performance by Customer*: displays the sales performance of each customer for each sales employee.

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- *Delivery Schedule*: displays the delivery schedule of each item for each business partner from each warehouse.
- *Purchase Analysis Report*: displays the purchasing information of each document for each business partner.
- *Inventory by Item Group per Warehouse*: displays the in-stock inventory quantity, cost price, and in-stock inventory value of items for each item group in each warehouse.
- *Sales Opportunities Report*: displays the information for each sales opportunity.
- *Cost Center - Budget Versus Actual*: compares the budget and actual amounts of each cost center in each dimension.
- *Financial Analysis - Transactions by Project*: displays every transaction for each project.

6.3 Predefined Semantic Layers for Pivot Tables

You can also find the semantic layers in the *Select Data Source* window on the *INTERACTIVE ANALYSIS* tab of the Excel report and interactive analysis designer.

> **Note**
>
> From the predefined semantic layers, you can retrieve information from year 1995 to 2045, by default. If necessary, you can also manually change this period in the SAP HANA studio. From the *Quick Launch* tab page, choose *Generate Time Data*, enter the period for which you want to generate data, and choose *Generate*.

SAP Business One analytics powered by SAP HANA provides the following predefined semantic layers under the *Excel Report and Interactive Analysis* menu command:

- Inventory Transaction Documents
- Budget Analysis
- Cost Accounting Versus Financial Accounting
- Cost Center Analysis
- Financial Analysis
- Purchase Analysis by Document
- Purchase Analysis
- Vendor Payment Aging
- Customer Receivables - Aging
- Sales Analysis by Document
- Profitability Analysis
- Opportunities
- Opportunity Win Rate Analysis
- Budget Analysis (Compatible)
- Cost Center Analysis (Compatible)
- Opportunity Analysis
- Sales Revenue Analysis (Compatible)
- Cost Accounting Versus Financial Accounting (Compatible)

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6.4 Creating Pivot Tables Using SAP Business One Analytics Logon

The SAP Business One Analytics Logon tool lets you use both predefined and customized SAP HANA models to create pivot tables in Microsoft Excel for analyzing data without having to install the SAP Business One client.

You need your SAP Business One user ID and password to use the tool.

For more information about managing SAP HANA models, see Managing SAP HANA Models.

> **Note**
>
> Only superusers with the required SAP Business One license types can use this tool. For more information about license types, see the *SAP Business One analytics powered by SAP HANA Administrator's Guide*.

Prerequisites

- Before installing the SAP Business One Analytics Logon tool, you have installed the following:
  - Microsoft .NET framework 2.0 or later
  - Microsoft Excel 2007 (32-bit) or later
  - SAP HANA Database Client (32-bit)

    For more information, see *SAP HANA Client Installation and Update Guide* at http://help.sap.com/hana_appliance.
- You have installed the SAP Business One Analytics Logon tool.

  You can access the *setup.exe* file through the following paths:
  - Product package: *...\Disk1\Tool\SAP Business One Analytics Logon*.
  - After the upgrade of SAP Business One analytics powered by SAP HANA, in the Linux operating system, you can access the tool under *<installation path>/B1ALogon*. The default path is: */opt/sap/SAPBusinessOne/B1ALogon*.

Procedure

1. Double-click the tool icon on the desktop.

   The *SAP Business One analytics powered by SAP HANA* window appears.
2. In the *Server* field, enter the SAP HANA server address, and choose the *Connect* button. The server address format must be **`hostname:port`** or **`IPaddress:port`**.
3. In the *Company* dropdown list, choose the initialized company database to which you want to connect.
4. In the *User ID* and *Password* fields, enter your SAP Business One user ID and password, and choose the *Authenticate* button.

   All the deployed SAP HANA models for this database appear in the *Cube* dropdown list. For more information about deploying SAP HANA models, see Importing and Deploying SAP HANA Models.
5. In the *Cube* dropdown list, select the model you want to use, and choose the *Create Pivot Table in Excel* button.

   A Microsoft Excel window appears containing the pivot table.

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For more information about using pivot tables, see the Microsoft Excel Help.

6.5 Turning on Trace and Log

Problems may arise when you use Excel Report and Interactive Analysis in Microsoft Excel. To analyze the cause of problems, you can turn on ODBO trace and log in Microsoft Excel to generate a log file, which provides details for the OLE DB and MDX API and the operation of the SAP HANA client layer.

Procedure

To turn on ODBO trace and log, do the following:

1. In Microsoft Excel, choose *Data* → *From Other Sources* → *From Data Connection Wizard*.
2. In the *Data Connection Wizard* window, select *Other / Advanced*, and choose the *Next* button.
3. On the *Provider* tab of the *Data Link Properties* window, select *SAP HANA MDX Provider*, and choose the *Next* button.
4. On the *Advanced* tab, select *Enable ODBO provider tracing*. Specify a location to store the log file and choose the *OK* button.

Result

The application generates and updates a log file in the specified location to assist with troubleshooting.

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7 Using SAP Crystal Reports

In SAP Business One analytics powered by SAP HANA, you can run predefined Crystal reports provided by SAP Business One analytics powered by SAP HANA, and customized Crystal reports for SAP HANA created with the SAP Crystal Reports software. These reports run on the SAP HANA database.

7.1 Predefined Crystal Reports

SAP Business One analytics powered by SAP HANA provides three reports predefined by the SAP Crystal Reports software. You can identify them by the suffix "*- HANA*" in the report name.

The following table lists the available Crystal reports for SAP HANA and where to locate them.

Report Name	Menu Path
Customer Open Document List - HANA	*Financials* → *Financial Reports* → *Accounting*
Inventory Turnover Analysis - HANA	*Inventory* → *Inventory Reports*
Monthly Customer Status Report - HANA	*Sales A/R* → *Sales Reports*

7.2 Customizing Multi-Database Crystal Reports for SAP HANA

You can customize multi-database Crystal reports for SAP HANA using the SAP Crystal Reports software.

For more information about creating Crystal reports, see the SAP Crystal Reports 2008 online help.

Prerequisites

You have installed SAP Crystal Reports 2008 SP03.

Procedure

The procedure is the same as creating multi-database Crystal reports for Microsoft SQL Server in the SAP Crystal Reports software, except for the following:

- When connecting to a data source, in the *Data Source Selection* window, select the *Enter Connection String* radio button. In the *Connection String* field, enter **`DRIVER={HDBODBC32};UID=<the user name of SAP Business One analytics powered by SAP HANA>;PWD=<the password of SAP Business One analytics powered by SAP HANA>;SERVERNODE=<the server IP address of SAP Business One analytics powered by SAP HANA>:<port of SAP Business One analytics powered by SAP HANA>;DATABASE=<company database name>`**

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Example

In the *Connection String* field, enter the following:
DRIVER={HDBODBC32};UID=SYSTEM;PWD=manager;SERVERNODE=10.59.38.193:30115;DATABASE=SYSTEM

- Specify the name of the parameter field as **<name>@MultiCompany**. The number of parameters is equal to the number of company databases that you can select when importing multi-database Crystal reports.

  For more information about importing multi-database Crystal reports, see Importing Multi-Database Crystal Reports for SAP HANA.

  Example

  Enter the name of the parameter field as **test@MultiCompany**.

- In subreports, retrieve data with commands using the linked parameter as the schema name.

7.3 Importing Multi-Database Crystal Reports for SAP HANA

You can import multi-database Crystal reports for SAP HANA into SAP Business One analytics powered by SAP HANA using the report and layout import wizard.

For more information about importing Crystal reports into SAP Business One, version for SAP HANA, see *How to Work with SAP Crystal Reports in SAP Business One* in sappartneredge.com at http://sappartneredge.com/B1/howtoguides. Customers can find the document in the documentation area of SAP Business One Customer Portal at http://service.sap.com/smb/sbocustomer/documentation.

Prerequisites

You have created a multi-database Crystal report for SAP HANA with the SAP Crystal Reports software. For more information about creating multi-database Crystal reports, see Customizing Multi-Database Crystal Reports for SAP HANA.

Procedure

The procedure is the same as importing multi-database Crystal reports for Microsoft SQL Server, except for the following:

- For SAP Crystal Reports *.rpt* files, in the *Select Data Source* window, for each data source connection, select a linked SAP HANA server and an initialized database.
- For SAP Business One package files, in the *Report and Layout Selection* window, in the *Data Source* column, click the *Default* link. In the *Select Data Source* window, select a linked SAP HANA server and an initialized database.

  Note

  You can change the data sources later in the *Report and Layout Manager* window by choosing the *Advanced* button.

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7.4 Running Crystal Reports

Prerequisites

After installing SAP Business One analytics powered by SAP HANA, you have installed SAP Crystal Reports 2008 SP05 Runtime.

Procedure

To run a Crystal report for SAP HANA, do one of the following:

- Run the report from the SAP Business One *Main Menu*
  1. In the SAP Business One *Main Menu*, choose *Modules* → *Reports*. Choose the report that you want to run.

     Note

     Predefined Crystal reports running on the SAP HANA database are marked with the icon and the suffix "*- HANA*" in the report name.
  2. If the report contains multiple data source connections, the *Log On to Data Source* window appears. Specify the user code and password for each database and choose the *OK* button.
  3. In the *Report Selection Criteria* window, enter the required information, if applicable.
  4. Choose the *OK* button.

     The report appears in SAP Crystal Reports viewer.
- Run the report from the *Report and Layout Manager* window

  Note

  Only superusers and authorized users can perform the following procedure.
  1. In the SAP Business One *Main Menu*, choose *Administration* → *Setup* → *General* → *Report and Layout Manager*.
  2. In the *Report and Layout Manager* window, select the report you want to run from the navigation pane on the left.

     Note

     Predefined Crystal reports running on the SAP HANA database are marked by the suffix "*- HANA*" in the report name.
  3. In the bottom of the main window area, choose the *Run Report* button.
  4. If the report contains multiple database connections, the *Log On to Data Source* window appears. Specify the user code and password for each database and choose the *OK* button.
  5. In the *Report Selection Criteria* window, enter the required information, if applicable.
  6. Choose the *OK* button.

     The report appears in SAP Crystal Reports viewer.

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8 Analytics Portal

You can access your analytics content from the Analytics Portal and see it in a Web browser. The URL of the Analytics Portal is: `https://<Host Server Address>;8443/IMCC`.

You can do the following in the Portal:

- Work with enterprise searches; for more information, see Enterprise Search.
- View the dashboards that you are authorized to access; for more information, see Real-Time Dashboards

Some functions are not available in the Portal, compared with the SAP Business One client application. The limitations include but are not limited to the items below:

- You cannot open corresponding SAP Business One windows for each business object (e.g. an item master data, an A/R invoice) in the search result. However, you can still hover your mouse over each business object to see the details.
- You cannot view search history in the Portal. However, in the SAP Business One client, you can view the search history from both the Portal and SAP Business One client.
- When applying a search template, you cannot change the search result by defining different keywords.
- You can search for a dashboard, but clicking the dashboard in the search result does not direct you to the Dashboard Center. Nevertheless, you can go to the Dashboard Center directly and select the dashboard you want to view from the list.

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9 Troubleshooting

Blocking Security Alerts

If you are using Microsoft Windows Internet Explorer, and have not installed an appropriate security certificate, a security alert may appear in the following scenario: Using Enterprise Search.

To install a security certificate, proceed as follows:

1. In the web browser, navigate to the following URL:

   `https://<Linux_IP_Address>:8443/IMCC`

2. Click the link *Continue to this website (not recommended).*
3. In the toolbar, choose *Safety* → *Security Report*.

   The *Certificate Invalid* window appears.
4. In the *Certificate Invalid* window, click the *View certificates* link.

   The *Certificate* window appears.
5. On the *General* tab of the *Certificate* window, choose the *Install Certificate...* button.

   The *Certificate Import Wizard* welcome window appears.
6. In the welcome window, choose the *Next* button, and in the *Certificate Store* window, select the radio button *Place all certificates in the following store*.
7. In the *Certificate Store* window, choose the *Browse* button. In the *Select Certificate Store* window, select the certificate store *Trusted Root Certification Authorities*, and choose the *OK* button.
8. In the *Certificate Store* window, choose the *Next* button, and in the *Certificate Import Wizard* complete window, choose the *Finish* button.

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9. In the *Security Warning* window, choose the *Yes* button.

   A message appears indicating that the security certificate was imported successfully.

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