SAP Business One How-to Guide





PUBLIC

How to Develop Your Own Dashboards for SAP Business One

Release Family 8.8

Applicable Release:

SAP Business One 8.8, Patch Level 12

All Countries English June 2011



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Dashboards

This document describes how to create dashboards for SAP Business One using SAP Crystal Dashboard Design 2008, formerly known as Xcelsius Engage 2008. This is document is relevant for SAP Business One 8.8, patch level 12 (PL12) and higher. For more information on the components and software required to create dashboards, see <u>Software Prerequisites</u>.

Dashboards are a visualization element of the cockpit that is delivered as part of SAP Business One. Dashboards present transactional data from the SAP Business One database in easy-to-understand visualizations that use graphical elements such as bar charts or pie charts.

SAP delivers predefined dashboards for financials, sales, and service. Partners and customers can use these dashboards as delivered. In addition, you can change SAP-defined dashboards, use an SAP-defined dashboard as a template, or create dashboards from scratch.

1 Recommendation

Before you change SAP-defined dashboards or begin to design and develop your own dashboards, review the following documents and resources:

- Xcelsius 2008 User Guide
- Xcelsius 2008 Installation Guide

These two documents are available at <u>http://help.sap.com</u>. Under *What's New*, click *Update: SAP BusinessObjects Solution Portfolio Knowledge Center*. At the top of the window, from the first dropdown list showing *all products* as the selection criterion, select *Xcelsius*.

- SAP Business One UI Design Guidelines for Dashboards by following the link at <u>http://service.sap.com/smb/sbo/innovations</u>
- Crystal Reports, Dashboard and Presentation Design (Xcelsius) and Interactive Analysis forum on SAP Developer Network at http://forums.sdn.sap.com/category.jspa?categoryID=54
- Xcelsius 2008 video tutorials at <u>http://www.youtube.com/Xcelsius2008</u>
- Xcelsius 2008 General Best Practices Guide at <u>http://www.sdn.sap.com/irj/scn/go/portal/prtroot/docs/library/uuid/a084a11c-6564-2b10-79ac-cc1eb3f017ac</u>

| Term | Description |
|-------------------|--|
| component | Chart, map, art, and other visualization element of SAP Crystal Dashboard Design |
| dashboard | A type of widget that displays data in a cockpit |
| dashboard package | Zip file that contains one or more folders and an info.xml file that provides information about the package and dashboards. The info.xml file also includes all dashboard queries. |
| folder | Container in a dashboard package that holds a dashboard definition file (Adobe Flash file [SWF]) and an HTML file |
| query | Predefined SQL query against data tables in an SAP Business One company database |

Glossary



| Term | Description |
|---------------|---|
| visualization | Set of components in SAP Crystal Dashboard Design that display data in a dashboard |
| widget | Reusable element of a graphical user interface that displays an information arrangement and provides standardized data manipulation |

See also:

For information about cockpits in SAP Business One, see the online help for SAP Business One. For information about using dashboards and maintaining dashboards, see *Working with Dashboards in the Integration Component* in the documentation area of SAP Business One Customer Portal at <u>http://service.sap.com/smb/sbocustomer/documentation</u>.



Getting Ready to Create Dashboards

SAP Business One 8.8, PL12 and higher include predefined dashboards in the area of finance, sales, and services, which partners and customers can modify or use as templates. In addition to these dashboards, you can create industry- and company-specific dashboards to meet your needs.

Software Prerequisites

To enable the creation of dashboards, the SAP Business One key user or administrator must ensure that the following software has been installed with the appropriate configuration and settings.

| What | Purpose | For More Information |
|---|---|--|
| SAP Business One 8.8 PL 12 and higher | Provides company database for queries; storage of dashboard definitions. Supports integration component, cockpits, and dashboards. By default, one company database is specified during installation. To use dashboards in another company, you must configure this company in the integration component. | "Add a New Company Database" in <i>B1i Service Package Xcelsius</i> . To access this document, choose <i>Start</i> \rightarrow <i>All Programs</i> \rightarrow <i>Integration solution for SAP</i> <i>Business One</i> \rightarrow <i>Integration</i> <i>framework</i> , and then choose <i>Scenarios</i> \rightarrow <i>Scenario Package</i> <i>Control</i> \rightarrow <i>Report</i> . Within the <i>Selection Criteria</i> area, in the <i>Report</i> dropdown list, select <i>Scenario List</i> , and in the <i>Status</i> dropdown list, select <i>All</i> . Choose the <i>Report</i> button, and then select the <i>Docu</i> button after the <i>sap</i> . <i>Xcelsius</i> scenario to view the documentation. |
| Integration component | Provides services to deploy dashboard packages, available in the SAP Business company database. Provides services to process queries, retrieve data from SAP Business One using queries, and returning data to map to spreadsheet cells. Supports the viewing of dashboards at runtime. | For the latest information, see SAP Note <u>1477984</u> . <i>Administrator's Guide for SAP</i> <i>Business One 8.8</i> in the documentation area of SAP Business One Customer Portal at <u>http://service.sap.com/smb/sboc</u> <u>ustomer/documentation</u> <i>B1i Service Package Xcelsius</i> (To access this document, see the path in the row above.) |
| Cockpit and dashboard settings at the company level in SAP Business One | Enable development, testing, and use of dashboards. | Working with Dashboards in the Integration Component in the documentation area of SAP Business One Customer Portal at <u>http://service.sap.com/smb/sboc</u> <u>ustomer/documentation</u> |



| What | Purpose | For More Information |
|--|---|--|
| SAP Crystal Dashboard Design 2008, departmental edition or personal edition (formerly Xcelsius Engage 2008), including Data Manager Note Adobe Flash Player with Active X is installed when you install SAP Crystal Dashboard Design. Recommendation Because SAP dashboards use multiple connections (on average 10 live XML data connections and 2 fscommand data connections), we recommend you install the departmental edition. The personal edition allows only 2 live data connections to external sources, which makes it more difficult to work with SAP dashboards. | Provides functionality to develop visualizations (dashboards) using charts. Enables you to manage and configure connectivity options with Data Manager (see <u>Connectivity Options for</u> <u>Dashboards</u>). Runs the SWF file format in which a visualization is saved. SWF is the vector-based graphics format designed to run in Adobe Flash Player. | Xcelsius 2008 Installation Guide at http://help.sap.com. Under What's New, click Update: SAP BusinessObjects Solution Portfolio Knowledge Center. At the top of the window, from the first dropdown list showing all products as the selection criterion, select Xcelsius. |
| Microsoft Excel 2003 or 2007 | Supports spreadsheet that holds results of data query. | Xcelsius 2008 User Guide at http://help.sap.com. Under What's New, click Update: SAP BusinessObjects Solution Portfolio Knowledge Center. At the top of the window, from the first dropdown list showing all products as the selection criterion, select Xcelsius. |

Connectivity Options for Dashboards

Data Manager in SAP Crystal Dashboard Design provides a central location where you can manage and configure the following external connectivity options:

- Flash variables
- SAP Crystal Reports data consumer
- XML data connection
- Web service connection



Dashboards in SAP Business One use only XML data connections. An XML data connection connects to an external source through HTTP or HTTPS. When added to a dashboard, a connection can send live data to an external source to request specific information.

SAP-defined dashboards use an average of 10 live XML data connections and 2 $\tt fscommand$ data connections.

To access the Data Manager, from the SAP Crystal Dashboard Design main menu choose $Data \rightarrow Connections$. Alternatively, you can click an XLF file, which opens SAP Crystal Dashboard Design.

For information about configuring XML data connections, see:

- Building and Testing the Visualization
- "To configure XML Data connections" in online help for SAP Crystal Dashboard Design

See also:

For additional documentation about operations, choose $Start \rightarrow All Programs \rightarrow Integration solution$ for SAP Business One \rightarrow Integration framework, and then choose Help \rightarrow Ref 04 – Operations.

For information about dashboard services in the integration component, see B1i Service Package Xcelsius. To access this document, choose $Start \rightarrow All Programs \rightarrow Integration solution for SAP$ Business One \rightarrow Integration framework, and then choose Scenarios \rightarrow Scenario Package Control \rightarrow Report. Within the Selection Criteria area, in the Report dropdown list, select Scenario List, and in the Status dropdown list, select All. Choose the Report button, and then select the Docu button after the sap. Xcelsius scenario to view the documentation.



Developing and Publishing Dashboards for SAP Business One

Prerequisites

Before you start creating or modifying dashboards for SAP Business One:

- Review the documents listed in the recommendation note in <u>Dashboards</u>.
- Ensure that your software landscape meets the requirements in <u>Getting Ready to Create</u> <u>Dashboards</u>.

If you are modifying an SAP-defined dashboard or using an SAP-defined dashboard as a template, export the dashboard package from SAP Business One. For information about exporting dashboard packages, see *Working with Dashboards in the Integration Component* in the documentation area of SAP Business One Customer Portal at <u>http://service.sap.com/smb/sbocustomer/documentation</u>.



For SAP-defined dashboards, SAP does not provide the source code (XLF file generated by SAP Crystal Dashboard Design) in the dashboard package. The source code file is available in the SAP Business One software download area at http://service.sap.com/sbo-swcenter.

In the software download area, from the navigation tree on the left, choose SAP Business One Products \rightarrow Archive for Support Packages and Patches \rightarrow SAP Business One \rightarrow SAP Business One 8.8 \rightarrow Comprised Software Component Versions \rightarrow B1 8.8 Integration Component \rightarrow # OS independent. The file, named Sample Code for SAP Crystal Dashboard - SAP B1 8.8, contains the sample code of the three SAP-defined dashboards.

Procedures

To create or modify a dashboard and make it available to users, you need to:

- 1. Create or modify queries in SAP Business One.
- 2. Build and test the visualization in SAP Crystal Dashboard Design.
- 3. <u>Manually create the dashboard package</u>.
- 4. Import the dashboard package into your production SAP Business One environment (see *Working with Dashboards in the Integration Component*).

Creating and Modifying Queries

Charts in dashboards display transactional data retrieved by queries from an SAP Business One company database. To define and update queries in SAP Business One to run against the company database, use the same tools that you use when creating queries for SAP Business One reports: Query Generator, Query Wizard, and Query Manager.

Recommendations

- Create a separate query category for each dashboard with the following naming convention: <PackageID>_<DashboardID>.
- Use indexes to access the database.
- Use as few SQL statements as possible.
- Use one function call with stored procedures instead of multiple single calls.

SQL query statements are stored in the SAP Business One company database. If the identifier does not start with bli_, the SQL statement is stored in the OUQR table in the SAP Business One company database.



See also:

For information about creating queries, see the online help for SAP Business One.

For more information about queries in the integration component, see *B1i Service Package Xcelsius*. To access this document, choose *Start* \rightarrow *All Programs* \rightarrow *Integration solution for SAP Business One* \rightarrow *Integration framework*, and then choose *Scenarios* \rightarrow *Scenario Package Control* \rightarrow *Report*. Within the *Selection Criteria* area, in the *Report* dropdown list, select *Scenario List*, and in the *Status dropdown* list, select *All*. Choose the *Report* button, and then select the *Docu* button after the *sap. Xcelsius* scenario to view the documentation.

Building and Testing the Visualization

Prerequisites

You have created queries in SAP Business One.

You have reviewed the relevant documentation for SAP Crystal Dashboard Design. For a list of documents, see the recommendation note in <u>Dashboards</u>.



If you want to modify an SAP-defined dashboard or use an SAP-defined dashboard as a template, you need the XLF file, which is not provided in the dashboard package. For more information, see the note in <u>Developing and Publishing Dashboards for SAP</u> <u>Business One</u>.

Procedure

- 1. To create a visualization using SAP Crystal Dashboard Design, you have to add spreadsheet data to support your visualization. There are three ways to do this:
 - o Import a spreadsheet from Microsoft Excel.
 - Copy and paste cells from a Microsoft Excel file or an SAP Crystal Dashboard Design embedded spreadsheet.
 - o Manually enter information into the embedded spreadsheet.

You can add, modify, and delete data in the embedded spreadsheet. If you have linked cells to components, the components automatically update when you change the data in linked cells.

- 2. Select the data sources linked to the components. In this step, you assign one or more cells from your embedded spreadsheet to one or more SAP Crystal Dashboard Design components.
- 3. Make the data connection to B1i with Data Manager by specifying the runtime URL, which is a relative URL. Map the following parameters to B1i: send query category, query name, and query parameters.

1 Recommendation

To use the preview functionality during the design of a dashboard, you have to use the absolute URL. To simplify the switch between design time and runtime, specify both the absolute URL and the relative URL in two separate cells.

a. Absolute URL – used for design time:

cprotocol>://<ipaddress>:<port>/BliXcellerator/exec/ipo/vP.001sap 0004.in_HCSX/com.sap.bli.vplatform.runtime/INB_HT_CALL_SYNC_XPT/I NB_HT_CALL_SYNC_XPT.ipo/proc?bpm.pltype=xml&bpm.encoding=utf-8

Example

http://10.58.0.190:8080/BliXcellerator/exec/ipo/vP.001sap000 4.in_HCSX/com.sap.bli.vplatform.runtime/INB_HT_CALL_SYNC_XPT



/INB_HT_CALL_SYNC_XPT.ipo/proc?bpm.pltype=xml&bpm.encoding=u tf-8

- b. Relative URL used for runtime: proc
- 4. To enable a dashboard to detect the current SAP Business One language and display user interface strings in that language, do the following:
 - a. Add a GetLanguage data connection: Proc?action=GetLanguage.
 - b. Use the Microsoft Excel lookup function to replace UI strings at runtime.

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| XML Data | XML Data URL: | proc?action=GetLar | nguage | | | | |
| GetEmpoyeeList XML Data | MIME Type: | text/xml | | | | | |
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5. To enable a user to access master data or documents in SAP Business One from a dashboard, add a link button in a dashboard using an Adobe Flash fscommand.

fscommand has the following structure: fscommand("command", "parameters")

To configure an fscommand connection, do the following:

- a. In the Name field, specify a name for the connection.
- b. In the *Command* field, specify a command or click the *Cell Selector* button and choose a command in the spreadsheet.
- c. In the *Parameter* field, enter a parameter value for the command or click the *Cell Selector* button and choose a command in the spreadsheet.

SAP Crystal Dashboard Design calls a Visual Basic script, which calls a Java script. The Java script invokes the SAP Business One link button. For more information about these two scripts, see step 3 in <u>Modifying the default.html File</u>.

For more information about fscommand, see the Adobe Flash support at <u>http://www.adobe.com/support/flash/action_scripts/actionscript_dictionary/actionary/ac</u>



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- 6. To make sure your visualization functions according to your specifications, test your visualization as many times as you need.
 - a. To preview the visualization in SAP Crystal Dashboard Design, do one of the following:
 - Toggle between the design view and preview by choosing *File* → *Preview* or the *Preview* button.
 - View the visualization in your default Web browser by choosing File → Export → Preview.

A dialog box form appears in which you identify the company that you want to connect to and against which to run queries.

b. To identify the company, specify a username and a password for the company. The Username must be in the form of <language\company user\company database>; for example, en-US\manager\OEC Computers.

Note

The language must be in the format xx-XX. Use one of the following language-country pairs: cs-CZ, da-DK, de-DE, el-GR, en-CY, en-GB, en-US, en-SG, es-AR, es-CO, es-ES, es-PA, fi-FI, fr-FR, he-IL, hu-HU, it-IT, ja-JP, ko-KR, nl-NL, no-NO, pl-PL, pt-BR, pt-PT, ru-RU, sk-SK, sr-YU, sv-SE, zh-CN, zh-TW).

Result

SAP Crystal Dashboard Design creates the XLF source file. The XLF file contains the visualization information and the associated embedded spreadsheet file.

After testing and before creating a dashboard package, replace the absolute URL with the relative URL.

You can now create the dashboard package.



Creating the Dashboard Package

Once you are satisfied with the results of your visualizations, they are ready to be published. To publish dashboards in SAP Business One, you manually create the dashboard package zip file that contains the following items:

- Dashboard folders that contain HTML files and Adobe Flash (SWF) files
- Info.xml file that contains nodes, descriptors, and attributes for the package, dashboards, and queries

Prerequisite

You have replaced the absolute URL with the relative URL.

Procedure

- 1. To create the SWF and HTML files that are needed for publication, do one of the following:
 - Export the visualization from SAP Crystal Dashboard Design as an HTML file. The Adobe Flash (SWF) file is generated automatically. To enable the visualization to run in SAP Business One, you have to edit the HTML file in a text editor such as Notepad. For more information, see <u>Modifying the default.html File</u>.
 - Export the visualization from SAP Crystal Dashboard Design as Adobe Flash (SWF) and then create the HTML file.



Recommendation

Use the first option.

- 2. Create or modify the HTML file.
- Manually create the folder structure, including the info.xml file.
 For information about the info.xml file, see <u>Example: Dashboard Folder and Dashboard Package</u>.
- 4. Create the zip file.

Result

The dashboard package zip file contains one or more dashboard folders and an info.xml file with nodes, descriptors, and attributes for the package, dashboards, and queries.

The resulting SWF file can be executed locally with the stand-alone Adobe Flash player, opened in a browser, used as part of a Web site, or imported into a number of different programs.

For more thorough user testing, import the dashboard package into a separate test system running SAP Business One with the integration component. After testing, export the package from the test to the productive SAP Business One company. For more information about importing and exporting dashboards, see *Working with Dashboards in the Integration Component* in the documentation area of SAP Business One Customer Portal at <u>http://service.sap.com/smb/sbocustomer/documentation</u>.

Modifying the default.html File

As described in the <u>Creating the Dashboard Package</u> section, you created the files that are needed for publication by exporting the visualization from SAP Crystal Dashboard Design as an HTML file. The Adobe Flash (SWF) file is generated automatically.

The following shows an excerpt of the ${\tt default.html}$ file.

```
<OBJECT classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"
codebase="http://fpdownload.adobe.com/pub/shockwave/cabs/flash/swflash
.cab#version=9,0,0,0"
WIDTH="620" HEIGHT="460" id="myMovieName">
<PARAM NAME="movie" VALUE="default.swf">
```



```
<PARAM NAME="quality" VALUE="high">
<PARAM NAME="bgcolor" VALUE="#FFFFF">
<PARAM NAME="play" VALUE="true">
<PARAM NAME="loop" VALUE="true">
<PARAM NAME=bgcolor VALUE="#FFFFF">
<EMBED src="default.swf" quality=high bgcolor=#FFFFFF WIDTH="620"
HEIGHT="460"
NAME="myMovieName" ALIGN="" TYPE="application/x-shockwave-flash"
play="true" loop="true"
PLUGINSPAGE="http://www.adobe.com/shockwave/download/index.cgi?P1_Prod
_Version=ShockwaveFlash">
</EMBED>
</OBJECT>
```

To enable the visualization to run in SAP Business One, you have to edit the default.html file in a text editor such as Notepad.

- For <PARAM NAME="movie", modify VALUE by adding a package name (p), dashboard name (d), and Adobe Flash file name (f), as shown in the following example.
 Example: VALUE="proc?p=SAP_DASHBOARD_001&d=DAB003&f=default.swf">
- 2. For <EMBED, modify src by adding the same information as in step 1, as shown in the following example.

```
Example: <EMBED src="proc?p=SAP_DASHBOARD_001&d=DAB003&f=default.swf"
```

- 3. To support different browsers for the fscommand (see step 5 in <u>Building and Testing the</u> <u>Visualization</u>), you create and add two scripts: a Java script and a Visual Basic script. You can add the scripts anywhere in the default.html file.
 - a. Java Script: Change the command to the name you defined in SAP Crystal Dashboard Design. In the following example, bllink_OCRD is the fscommand defined in SAP Crystal Dashboard Design; OCRD is the name of the object you want to link with; args is the primary key passed from fscommand.

```
<SCRIPT LANGUAGE="javascript">
function myMovieName_DoFSCommand(command,args)
{
    if (command == "bllink_OCRD")
    {
        window.external.bllink("OCRD", args);
    }
    else if (command == "bllink_OITM")
    {
        window.external.bllink("OITM", args);
    }
    }
    </SCRIPT>
b. Visual Basic script:
```

```
<SCRIPT LANGUAGE="VBScript">
Sub myMovieName_FSCommand(ByVal command, ByVal args)
call myMovieName_DoFSCommand(command, args)
end sub
</SCRIPT>
```



Result

You can now create the dashboard folder and package.



The example below is an excerpt of the default.html file. For both codebase and PLUGINSPAGE, http is removed at the beginning of the parameter. This enables the dashboard to be deployed in both HTTP and HTTPS environments without modification.

```
<OBJECT classid="clsid:D27CDB6E-AE6D-11cf-96B8-444553540000"</pre>
codebase="//fpdownload.adobe.com/pub/shockwave/cabs/flash/swflash.cab#
version=9,0,0,0"
WIDTH="620" HEIGHT="460" id="myMovieName">
<PARAM NAME="movie"
VALUE="proc?p=SAP_DASHBOARD_001&d=DAB003&f=default.swf">
<PARAM NAME="quality" VALUE="high">
<PARAM NAME="bgcolor" VALUE="#FFFFFF">
<PARAM NAME="play" VALUE="true">
<PARAM NAME="loop" VALUE="true">
<PARAM NAME=bgcolor VALUE="#FFFFFF">
<EMBED src="proc?p=SAP_DASHBOARD_001&d=DAB003&f=default.swf"</pre>
quality=high bgcolor=#FFFFFF WIDTH="620" HEIGHT="460"
NAME="myMovieName" ALIGN="" TYPE="application/x-shockwave-flash"
play="true" loop="true"
PLUGINSPAGE="//www.adobe.com/shockwave/download/index.cgi?P1_Prod_Vers
ion=ShockwaveFlash">
</EMBED>
</OBJECT>
```

See also:

For more information about scripts that make HTML pages interactive, see http://www.w3.org/TR/REC-html40/interact/scripts.html#h-18.2.1.

Dashboard Folder and Dashboard Package

A dashboard folder, shown below, contains an HMTL file and a SWF file. A dashboard folder must contain a default.html file, which displays the dashboard to users.

| 🔚 package.zip - WinRAR | | | | | |
|--|-----------|------------------|---|--|--|
| File Commands Tools | Favorites | Options | ŀ | | |
| Add Extract To | Test | View | | | |
| 💽 📄 package.zip\DAB002 - ZIP archive | | | | | |
| Name 🔂 | | Size | | | |
| Content of the second s | | 1,426 777,453 | | | |

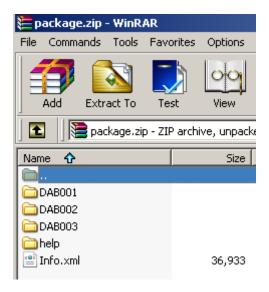


A dashboard package, shown below, is a zip file that contains one or more dashboard folders and a configuration file (the info.xml file).



Recommendation

Export the SAP-defined dashboard package and use the SAP-defined default.html and info.xml files as templates for your own dashboards.



Example: info.xml Structure

```
<?xml version="1.0" encoding="utf-8" ?>
<Package>
  <Code>SAP_DASHBOARD_001</Code>
  <Name>SAP Dashboard Package 1</Name>
  <Description>SAP Dashboard Package 1</Description>
  <Author>SAP</Author>
  <Version>1.0</Version>
<DashboardGroup>
<Dashboard code="DAB001" name="Service Call" note="The Service Call Status</pre>
    Dashboard">
    <Query category="SAP_DASHBOARD_001_DAB001_QUERY" name="Queues" />
    <Query category="SAP_DASHBOARD_001_DAB001_QUERY"
    name="IncomingCallsToday" />
  </Dashboard>
<Dashboard code="DAB002" name="Customer Aging" note="SAP Customer Aging"</pre>
    status="I">
    <Query category="SAP_DASHBOARD_001_DAB002_QUERY" name="MainCurrency"</pre>
    />
    <Query category="SAP_DASHBOARD_001_DAB002_QUERY" name="AgeTotalToday"
    />
    <Query category="SAP_DASHBOARD_001_DAB002_QUERY"</pre>
    name="FutureRemitToday" />
    <Query category="SAP_DASHBOARD_001_DAB002_QUERY" name="BPRevenueMonth"</pre>
    />
  </Dashboard>
</DashboardGroup>
```



```
<UserQueryGroup>
<Query category="SAP_DASHBOARD_001_DAB001_QUERY" name="Queues">SELECT
QueueID,Descript FROM OQUE WHERE Inactive='N' ORDER BY
Descript</Query>
<Query category="SAP_DASHBOARD_001_DAB001_QUERY"
name="IncomingCallsToday">SELECT . . . .</Query>
<Query category="SAP_DASHBOARD_001_DAB002_QUERY"
name="MainCurrency">SELECT MainCurncy FROM OADM</Query>
<Query category="SAP_DASHBOARD_001_DAB002_QUERY"
name="MainCurrency">SELECT MainCurncy FROM OADM</Query>
<Query category="SAP_DASHBOARD_001_DAB002_QUERY" name="AgeTotalToday">
SELECT . . . .</Query>
</UserQueryGroup>
</Package>
```

| The info.xr | ml file contains | the following | information: |
|-------------|------------------|---------------|--------------|
|-------------|------------------|---------------|--------------|

| Node | Description | Validation |
|---|---|---|
| <package></package> | Top node | |
| <code> <name> <description> <author> <version></version></author></description></name></code> | Descriptors of a dashboard package | Code: Cannot start with SAP Must be a valid file name. Cannot contain the following characters: V : * ? \ " < > . Must be 32 characters or less. Name must be 100 characters or less. Version must be 13 characters or less. |
| <dashboard group=""></dashboard> | Group node | |
| <dashboard></dashboard> | Attributes of a dashboard code name note status | code Is the folder name for a dashboard in the package. Must be a valid file name. Cannot contain the following characters: V : * ? \ " < > . Must be 32 characters or less. name must be 100 characters or less. status can have one of two values: A for active I for inactive |
| <userquerygroup></userquerygroup> | Query strings | Every query used by a dashboard must be defined in the <userquerygroup> node with a <query> subnode.</query></userquerygroup> |



| Node | Description | Validation |
|-------------------------|--|--|
| <query> subnode</query> | Query used by the dashboard Attributes of a query: category name SELECT statement | The pair of attributes for a query, category and name, identify the <query>. The combination of these two attributes must be unique for the info.xml.</query> |



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