# Operations Bridge Reporter

Software Version: 10.22
Windows® and Linux operating systems

## OBR Content Designer Guide

Document Release Date: December 2017
Software Release Date: December 2017

Hewlett Packard Enterprise

# Legal Notices

## Warranty

The only warranties for Seattle SpinCo, Inc and its subsidiaries (“Seattle”) products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Seattle shall not be liable for technical or editorial errors or omissions contained herein. The information contained herein is subject to change without notice.

## Restricted Rights Legend

Confidential computer software. Except as specifically indicated, valid license from Seattle required for possession, use or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

## Copyright Notice

© 2015 - 2017 EntIT Software LLC, a Micro Focus company

## Trademark Notices

Adobe™ is a trademark of Adobe Systems Incorporated.

Microsoft® and Windows® are U.S. registered trademarks of Microsoft Corporation.

UNIX® is a registered trademark of The Open Group.

This product includes an interface of the 'zlib' general purpose compression library, which is Copyright © 1995-2002 Jean-loup Gailly and Mark Adler.

# Documentation Updates

To check for recent updates or to verify that you are using the most recent edition of a document, go to: https://softwaresupport.hpe.com/.

This site requires that you register for an HPE Passport and to sign in. To register for an HPE Passport ID, click **Register** on the HPE Software Support site or click **Create an Account** on the HPE Passport login page.

You will also receive updated or new editions if you subscribe to the appropriate product support service. Contact your HPE sales representative for details.

# Support

Visit the HPE Software Support site at: https://softwaresupport.hpe.com/.

Most of the support areas require that you register as an HPE Passport user and to sign in. Many also require a support contract. To register for an HPE Passport ID, click **Register** on the HPE Support site or click **Create an Account** on the HPE Passport login page.

To find more information about access levels, go to: https://softwaresupport.hpe.com/web/softwaresupport/access-levels.

**HPE Software Solutions Now** accesses the HPE SW Solution and Integration Portal website. This site enables you to explore HPE Product Solutions to meet your business needs, includes a full list of Integrations between HPE Products, as well as a listing of ITIL Processes. The URL for this website is https://softwaresupport.hpe.com/km/KM01702731.

# Contents


Introduction to Content Development ..... 6
Content Designer Overview ..... 8
Installing and Deploying the Content Designer ..... 8
Downloading Content Development Environment (CDE) ..... 8
Installing and Deploying Content Designer on OBR System ..... 9
Installation Prerequisites ..... 9
Installing on Windows ..... 11
Installing on Linux ..... 13
Installing and Deploying Content Designer on a Non-OBR System ..... 14
Installation Prerequisites ..... 15
Installing On Windows ..... 16
Getting Started ..... 19
Log on to Content Designer ..... 19
Content Designer Home Page ..... 20
Home Page Options ..... 20
Settings ..... 20
Creating Content Pack Using Content Workspace ..... 22
Before You Begin ..... 23
Generating Content on an OBR System ..... 25
Operations Agent as a Datasource ..... 25
Before you begin ..... 25
CSV File as Datasource ..... 36
Database as a Datasource ..... 43
Generating Content on a Non-OBR System ..... 54
Operations Agent as a Datasource ..... 54
CSV File as Datasource ..... 62
Database as a Datasource ..... 69
Deploying Content Packs ..... 79
Deploying Domain and ETL Content Packs ..... 79
Generating and Exporting Application Content Pack ..... 80
Next Steps ..... 81

Creating Application Content Pack for a Linux System ....81
Exporting the Universe to CMC Repository ....82
Creating Web Intelligence Reports ....90
Viewing Reports on SAP BusinessObjects BI Launch Pad ....92
Generating Reports from BI Launch Pad ....93
Edit Content ....96
Modifying Existing Content Packs ....96
Edit content ....97
Re-build content pack ....98
Re-build Multiple Content Packs ....98
Frequently Asked Questions (FAQs) ....100
References ....102
Send documentation feedback ....105

# Introduction to Content Development

Operations Bridge Reporter (OBR) Content Development Environment (CDE) is a platform, which enables a content developer to create content packs that can be deployed on OBR platform. Content packs are datamarts that are deployed on OBR platform; content packs are broadly categorized as ETL, domain and application components.

The Content Development Environment (CDE) consists of a set of utilities for developing content. These utilities use XML files authored by the content pack developer or XML files auto-generated by OBR Content Designer to generate the installable Content Pack component packages.

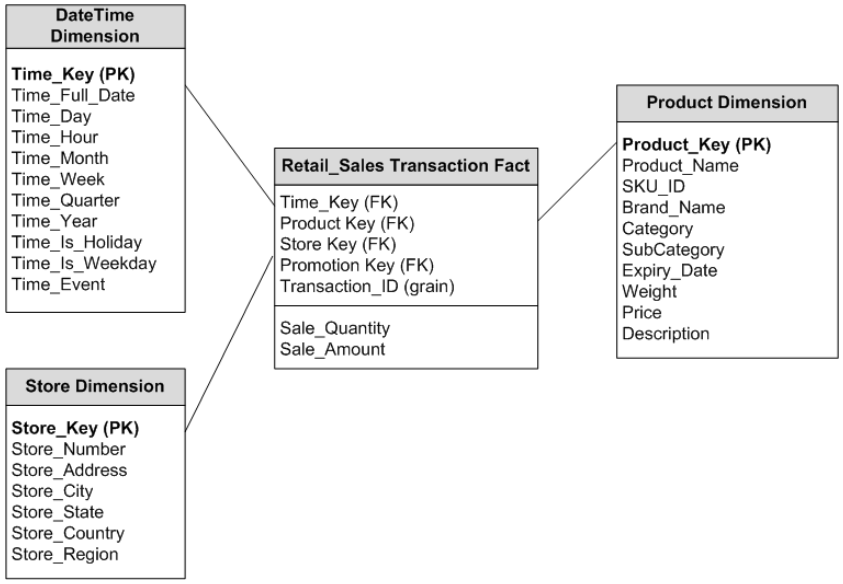
Content can be developed in either of the following ways:

- **Content Designer** - An interactive user interface to generate content quickly.

  OBR Content Designer uses a **simplified method** of creating a content pack and allows you to create Domain, ETL and Application components at the same time. The simplified method supports CSV files, generic database, and Operations Agent as the datasources for content creation.

  The **simplified method** can be used by a content developer to develop end-to-end (Domain, ETL, and Application) content pack for a new domain. The following conditions have to be satisfied for creating content:

  - When a content has fact tables that are associated with one or more dimensions (star schema) and the dimensions are not further normalized (dimensions without a parent table).



  - When all the facts are to be reconciled against host (when Operations Agent is the datasource).
  - When the generated reports do not require any roll up or drill down of data.
- **Command-based CDE** - a command–based utility for expert users to create content.

  For more information, see *Operations Bridge Reporter Content Development Guide*.

# Content Designer Overview

OBR Content Designer uses the simplified method of creating a content pack and allows you to create, deploy, and install Domain, ETL, and Application components from the following datasources:

- CSV files
- Generic database
- Operations Agent

OBR Content Designer can be used in following scenarios:

**With OBR:**

- OBR on Windows Operating System
- OBR on Linux Operating System

**Without OBR:**

- Standalone (Non-OBR) on Windows Operating System

# Installing and Deploying the Content Designer

This section helps you with the steps to install and deploy the Content Designer.

# Downloading Content Development Environment (CDE)

Follow these steps to download Content Designer:

1. Log on to the following location using your HPE Passport credentials:

   ITOM Marketplace

   To register for an new ID, click **Sign up**.

2. Scroll down the **OBR Content Development Environment** page. Under **Releases**, click the latest version to expand.

   > **Note:** Content packs created using the CDE Version 10.20.004 can be deployed on OBR 10.20 or later versions only.

3. Click and download the following `.zip` file for Windows or the `.tar` for Linux:
   - `OBRCDE-10.20.004-Win5.2_64.zip`
   - `OBRCDE-10.20.004-Linux2.6_64.tar`

# Installing and Deploying Content Designer on OBR System

This section provides information about deploying the downloaded OBR Content Development Environment files on a Windows or Linux system as per your requirement.

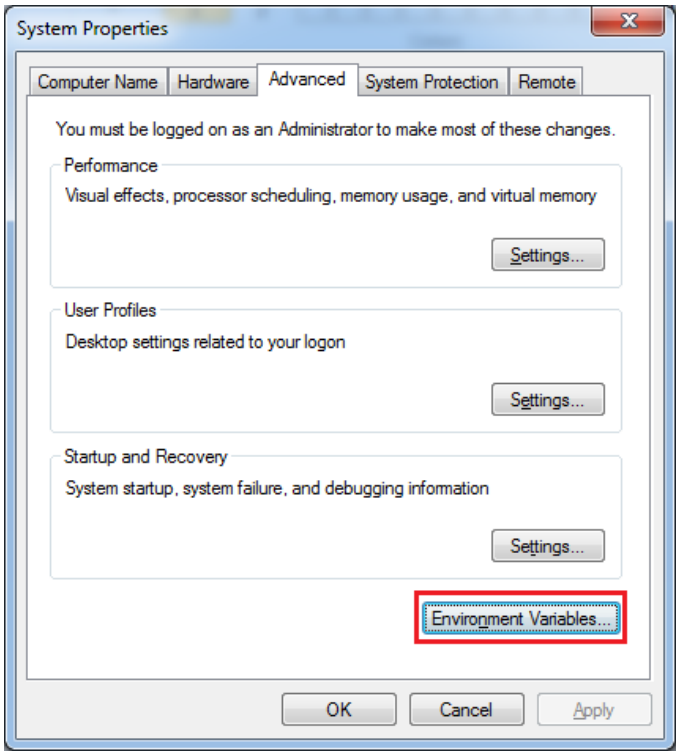
## Installation Prerequisites

Perform the following before you start installing and deploying OBR Content Designer on a Windows system:

- Ensure that SAP BusinessObjects 4.x or SAP BusinessObjects ClientTools (`BusinessObjectsXI-4.1-Clienttools.zip`) is installed on a Windows system where you want to deploy OBR Content Designer.

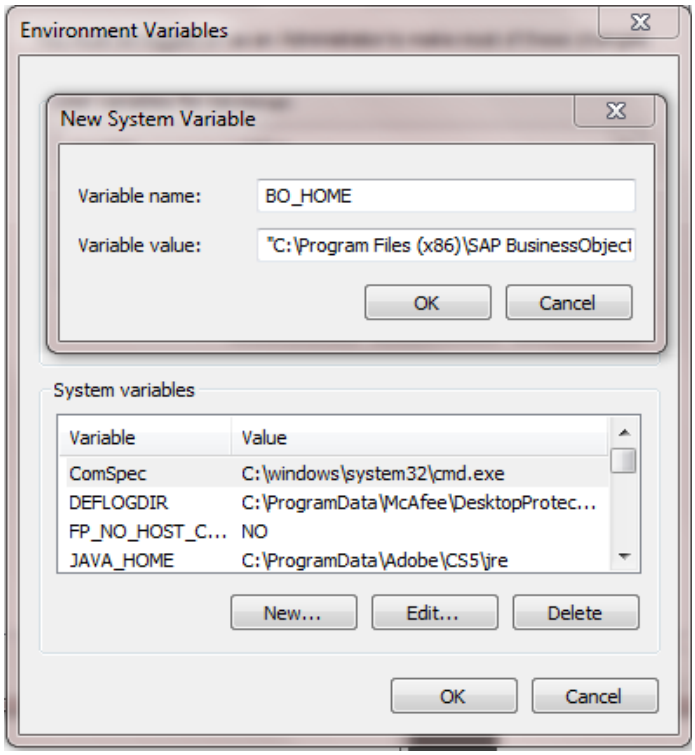
  You can download `BusinessObjectsXI-4.1-Clienttools.zip` from OBR media (OBR bits) folder.

- Set the BusinessObjects environment variable (`BO_HOME`):
  a. On your Windows system, go to **Control Panel**> **System and Security** > **System**.
  b. Click **Advanced system settings**.
  c. Click **Advanced** tab, and then click **Environment Variables**.




d. Click **New** in System Variables.

   The New System Variable dialog box is displayed.




e. In the **Variable Name** box, type `BO_HOME`.

f. Specify the BO ClientTools path in the **Variable value** in double quotes (" ").

```
"<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP
BusinessObjects Enterprise XI 4.0"
```

g. Click **OK**.

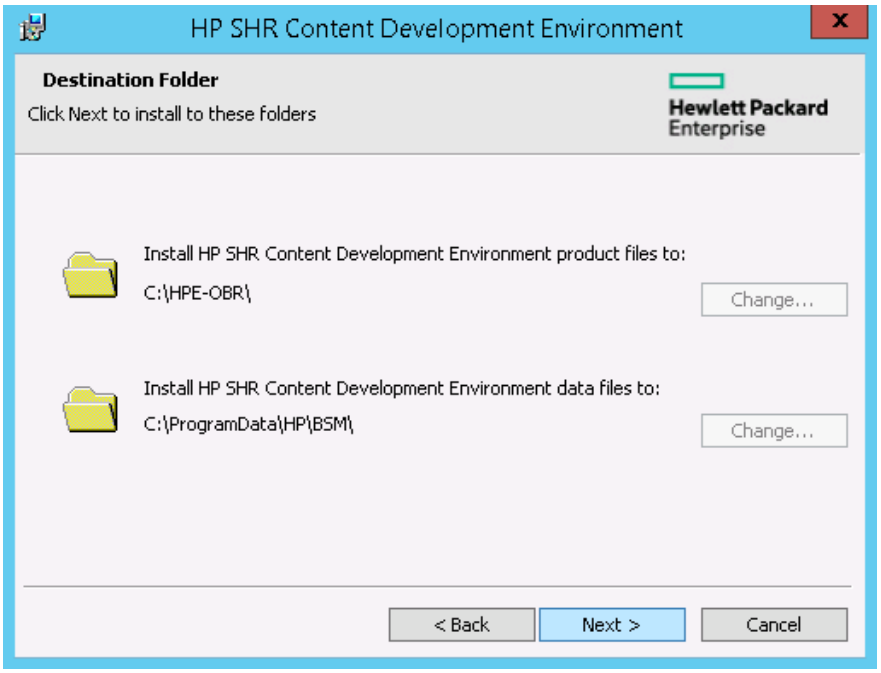
# Installing on Windows

To instal the Content Designer on your system, follow these steps:

1. Copy the downloaded `OBRCDE-10.20.004-Win5.2_64.zip` file to the system where you want to deploy OBR Content Designer.
2. Extract the contents of the `.zip` file to view the `HPSHRCDE-10.20.004-Win5.2_64.msi` file.
3. Double-click the `HPSHRCDE-10.20.004-Win5.2_64.msi` file and follow the instructions on the installation wizard.
4. Select *<OBR_Installation_Folder>* to place the `CDE.exe`.

5. From OBR installation directory, double-click the `CDE.exe` file.

   The contents of the `CDE.exe` file are extracted to the `CDE` folder.




   **Caution:** Ensure that the selected path does not contain spaces.

6. Open the command prompt, go to `<CDE_Folder>\bin` folder,

   where *<CDE_Folder>* is the path where you have extracted `CDE.exe`.

7. Go to `%CDE_HOME%\cdeConsole` folder.

8. Run the `deploy.bat` command.

   The following message appears on successful deployment:

   *HPE Operations Bridge Reporter Content Designer Deployment complete*

9. Run the `start.bat` command.

   The following message appears if the server starts successfully:

   *Content Designer has been started successfully.*

   If the message exits and the command prompt appears, go to `%CDE_HOME%\cdeConsole\logs` and check the `server.log` and `server_err.log` files for any errors.

   **Note:** Do not close the CDE console after running the `start.bat` command; this will shut down the Content Designer. Close the console only after completing your content

> development process using the Content Designer.

OBR Content Designer is now deployed successfully. Go to "Getting Started" on page 19 for creating content.

# Installing on Linux

To install and deploy the Content Designer on a Linux system, follow these steps:

1. Copy the downloaded `OBRCDE-10.20.004-Linux2.6_64.tar` file to the system where you want to deploy OBR Content Designer.
2. Run the following command to extract the contents of the .tar file.

   ```
   untar OBRCDE-10.20.004-Linux2.6_64.tar
   ```

   The `HPSHRCDE-10.20.004-Linux2.6_64.rpm` file is extracted.
3. Copy the `HPSHRCDE-10.20.004-Linux2.6_64.rpm` file to the `$PMDB_HOME/..` directory.
4. Run the `rpm -Uvh HPSHRCDE-10.20.004-Linux2.6_64.rpm` command to extract the contents of the `.rpm` file.

   The `CDE.zip` file is copied to the `$PMDB_HOME/..` directory.

   > **Note:**
   > **If you already have CDE previous versions on your system**, perform the following:
   >
   > a. Run the following command to check if CDE is installed on your system:
   >
   > ```
   > rpm -qa | grep HPSHRCDE
   > ```
   >
   > The existing CDE file name will be displayed. Example: `HPSHRCDE-10.01.000-1.x86_64`
   >
   > b. Uninstall CDE using the following command:
   >
   > ```
   > rpm –ev <existing_rpm_name>
   > ```
   >
   > Example `rpm –ev HPSHRCDE-10.01.000-1.x86_64`
   >
   > c. Run the following command to install the latest CDE:
   >
   > ```
   > rpm -Uvh HPSHRCDE-10.20.004-Linux2.6_64.rpm
   > ```
5. Go to OBR installation directory: `$PMDB_HOME/..` directory.
6. Unzip the `CDE.zip` file.

The contents of the `CDE.zip` file are extracted to the `CDE` directory.

7. Go to `<CDE_Directory>/bin` directory,

   where *<CDE_Directory>* is the path where you have extracted `CDE.zip`.

8. Change the permission of the .sh files using the `chmod a+x *.sh` command.
9. Run the `source ./setenv.sh` command.
10. Go to *$CDE_HOME*`/cdeConsole` directory and change the permission of the `.sh` files using the `chmod a+x *.sh` command.
11. Run the `./deploy.sh` command.

    The following message appears on successful deployment:

    ```
    HPE Operations Bridge Reporter Content Designer Deployment complete
    ```

12. Run the `./start.sh` command.

    > **Note:** Do not close the CDE console after running the `start.bat` command; this will shut down the Content Designer. Close the console only after completing your content development process using the Content Designer.
    >
    > If the command line exits and the command prompt appears, go to `$CDE_HOME/cdeConsole/logs` and check the `server.log` and `server_err.log` files for any errors.

OBR Content Designer is now deployed successfully. Go to "Getting Started" on page 19 for creating content.

> **Tip:** You can view the Content Designer logs in the `{CDE_HOME}\cdeConsole\logs` folder. Other content development logs are available in the `{CDE_HOME}\cde.log` folder.

# Installing and Deploying Content Designer on a Non-OBR System

This section provides information about deploying the downloaded OBR Content Development Environment files on a Windows or Linux system as per your requirement.

# Installation Prerequisites

Perform the following before you start installing and deploying OBR Content Designer on a non-OBR system:

- Ensure that SAP BusinessObjects 4.x or SAP BusinessObjects ClientTools (`BusinessObjectsXI-4.1-Clienttools.zip`) is installed on a Windows system where you want to deploy OBR Content Designer.

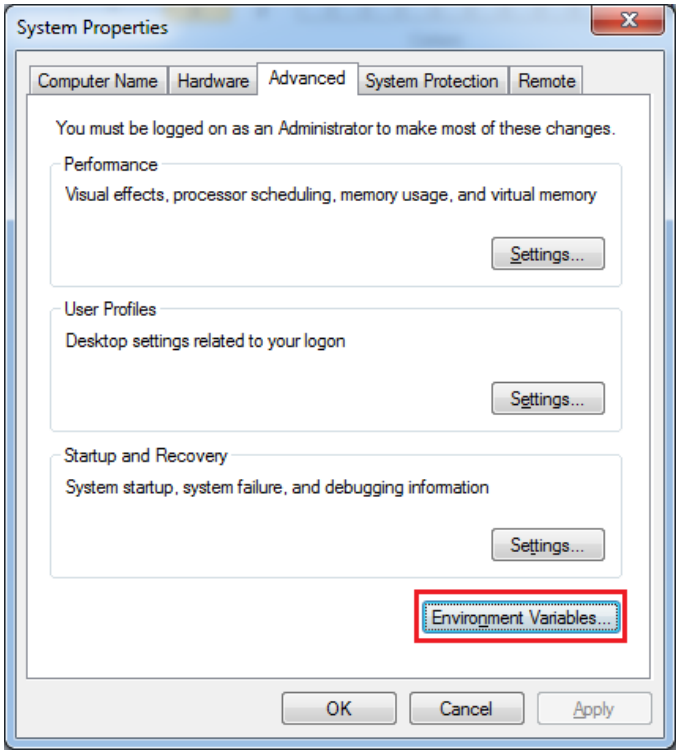
  You can download `BusinessObjectsXI-4.1-Clienttools.zip` from OBR media (OBR bits) folder.

- Set the BusinessObjects environment variable (`BO_HOME`):

  a. On your Windows system, go to **Control Panel**> **System and Security** > **System**.

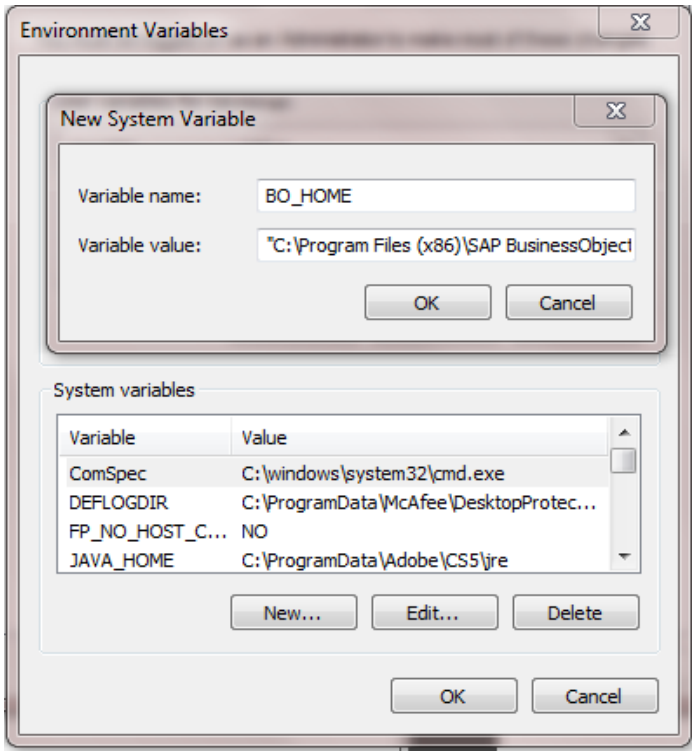
  b. Click **Advanced system settings**.

  c. Click **Advanced** tab, and then click **Environment Variables**.




  d. Click **New**.

  The New User Variable dialog box is displayed.




e. In the **Variable Name** box, type `BO_HOME`.

f. Specify the BO ClientTools path in the **Variable value** in double quotes (" ").

```
"<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP
BusinessObjects Enterprise XI 4.0"
```

g. Click **OK**.

# Installing On Windows

To install and deploy the Content Designer on your Windows system, follow these steps:

1. Copy the downloaded `OBRCDE-10.20.004-Win5.2_64.zip` file to the system where you want to deploy OBR Content Designer.
2. Extract the contents of the .zip file to view the `HPSHRCDE-10.20.004-Win5.2_64.msi` file.
3. Double-click the `HPSHRCDE-10.20.004-Win5.2_64.msi` file and follow the instructions on the installation wizard.

   The `CDE.exe` file is placed in the folder you select.

> **Caution:** Ensure that the installation path you select does not contain any spaces.

4. Double-click the `CDE.exe` file and select the path to extract contents of the`CDE.exe` file.

   The content of the `CDE.exe` file are extracted to the folder you have selected.

5. Open the command prompt, go to `<CDE_Folder>\bin` folder,

   where `<CDE_Folder>` is the path where you have extracted `CDE.exe`.

6. Set BusinessObjects environment variable:

   a. Go to **Control Panel** > **System and Security** > **System**.

   b. Click **Advanced system settings**.

      The *System Properties* dialog box appears.

   c. Click **Advanced** tab > **Environment Variables**.

   d. Click **New** and specify the **Variable name** as `BO_HOME`.

   e. Specify the **Variable value** as the path where BusinessObjects ClientTools is installed on your system.

   f. Click **OK**.

7. Run the `setenv.bat` command and specify the following while prompted:

   - `CDE_HOME` - the path where you have extracted `CDE.exe`
   - `JRE_HOME` - the path where JAVA is installed on your system

     > **Caution:** Ensure that your JRE_HOME path does not contain spaces.

8. Go to `%CDE_HOME%\cdeConsole` folder.

9. Run the `deploy.bat` command.

   The following message appears on successful deployment:

   *HPE Operations Bridge Reporter Content Designer Deployment complete*

10. Run the `start.bat` command.

    The following message appears if the server starts successfully:

    *Content Designer has been started successfully.*

    > **Note:** Do not close the CDE console after running the `start.bat` command; this will shut down the Content Designer. Close the console only after completing your content development process using the Content Designer.

OBR Content Designer is now deployed successfully. Go to "Getting Started" on the next page for creating content.

> **Tip:** You can view the Content Designer logs in the `{CDE_HOME}\cdeConsole\logs` folder.

# Getting Started

The OBR Content Designer consists of the following:

- "Content Designer Home Page" on the next page
- "Creating Content Pack Using Content Workspace" on page 22
- "Settings" on the next page

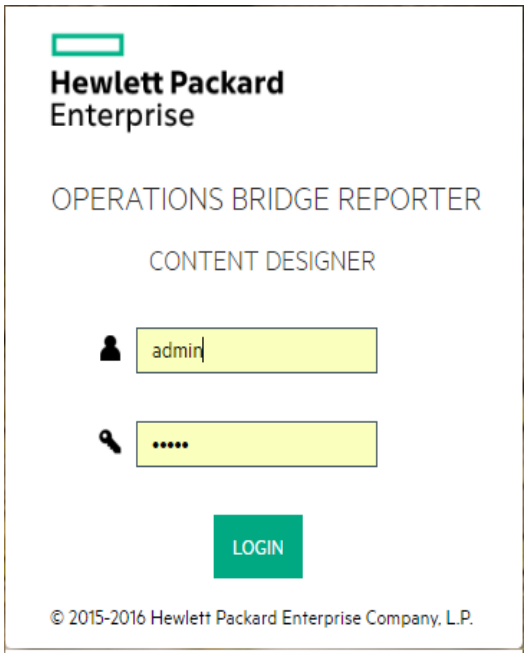
# Log on to Content Designer

1. Open Google Chrome or Mozilla Firefox browser.
2. Launch the OBR Content Designer using the following URL:

   `http://<FQDN>:3000/`

   where <*FQDN*> is the hostname of the system where OBR Content Designer is deployed.

   The OBR Content Designer log in screen appears.




3. Type **admin** as username and **admin** as password.

4. Click **LOGIN**.

   The Content Designer Home Page appears.

# Content Designer Home Page

The Home page provides navigation to the features of OBR Content Designer. The Home page contains links to create new content and to access CDE help and to download report templates for easy content development.

## Home Page Options

The following table lists the home page options:

| Option/Link | Description |
|---|---|
| **Content Workspace** | The Content Workspace link takes you to the workspace to create your content from the various data sources. |
| **Settings** | This link directs you the Settings page to specify your preferences for OBR server, Vertica database, and SAP Business Objects server. |
| | **User**- Displays the details of the user logged on to Content Designer at present. |
| | **Help**- Displays the OBR Content Designer online help. |

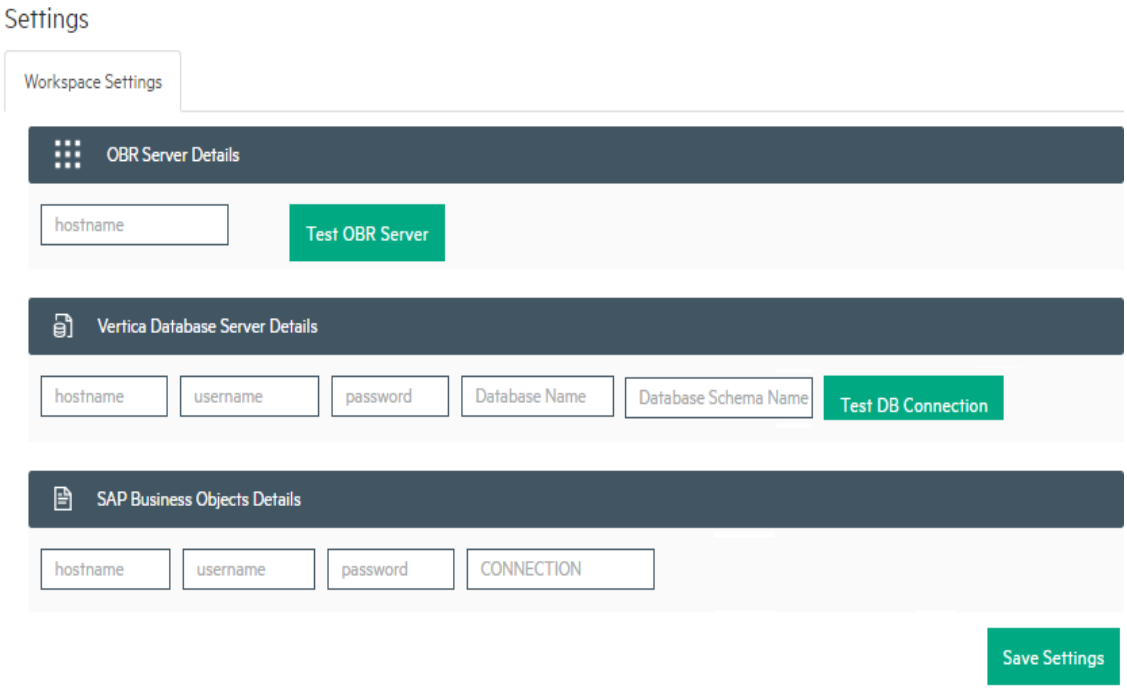
# Settings

> **Note:** You must configure settings before you start creating content on the Content Workspace.

To configure the settings, follow these steps:

1. On the Content Designer home page, click **Settings**.

   The Settings page is displayed.




2. Under **OBR Server Details**, perform the following:

   a. Type the OBR server **host name**.

   b. Click **Test OBR Server** to check if OBR system is running.

      The *OBR Server is running.* message is displayed.

      If the *OBR server is down.* message is displayed, check the OBR server details you have entered and try again.

3. Under **Vertica Database Server Details**, perform the following:

   a. Type the OBR database **host name**.

      > **Note:** On your Windows system, go to `C:\...drivers\etc` folder (Example: `C:\Windows\System32\drivers\etc`), open the `hosts` file and type your database host name.

   b. Type the database **username** and **password**.

   c. Type OBR Vertica **Database Name** and **Database Schema Name**.

> **Note:** If OBR 10.22 Patch is not installed and OBR Content Designer 10.01 is deployed on your system, ensure that the Database Schema Name specified is `Public`. If OBR 10.22 Patch is deployed, you must specify database schema name as `obr`.

d. Click **Test DB Connection** to check if OBR database is available.

The *Connection Successful.* message is displayed.

If the *Connection Failed* message is displayed, check the OBR database details you have entered and try again.

If the connection fails, view the log file at `{CDE_HOME}\cdeConsole\logs\server_err.log`.

4. Under **SAP Business Objects Details**, type the following SAP BusinessObjects information:
   a. Type the SAP BusinessObjects **host name**.
   b. Type the SAP BusinessObjects **username** and **password**.
   c. Type the **Connection** name.

> **Note:** Ensure that the Connection name is `OBR_CONNECTION`.

5. Click **Save Settings**.

Wait till the following message is displayed:

The *Save Successful* message is displayed. You can now start creating content packs.

If the *Save Unsuccessful* message is displayed, check the settings and try again.

# Creating Content Pack Using Content Workspace

> **Note:** Before creating content, you must configure settings on the "Settings" on page 20.

The Content Workspace provides options to create content from the following datasources:

- Operations Agent as a Datasource
- CSV File as Datasource
- Database as a Datasource

Content Workspace consists of the following features:

| Icon | Name | Description |
|---|---|---|
| | Create New Content | Start creating a content pack by selecting the datasource and specifying content attributes. |
| | Edit Content | Modify a content pack created by the Content Designer using an XML editor. |
| | Build Content | Re-build one or more modified content packs. |

# Before You Begin

> **Note:**
> - Identify the data source containing metrics that are suitable to be fed into the domain data model. For more information on designing the data model, see *Operations Bridge Reporter Content Development Guide*.
> - Ensure table names are unique across your content development in OBR.

Before you launch the Content Designer, ensure you perform the following:

1. Using command prompt, log on to the location where you have deployed OBR Content Designer.

   **On Windows**

   a. Open the command prompt and go to `<CDE_Folder>\bin` folder,

      where `<CDE_Folder>` is the path where you have extracted `CDE.exe`.

   b. Run the `setenv.bat` command.

   c. Go to `%CDE_HOME%\cdeConsole` folder.

   d. Run the `start.bat` command.

The following message appears if Content Designer starts:

*Content Designer has been started successfully*

**On Linux**

a. Open command prompt and go to **<***CDE_Folder***>**`/bin` directory,

where *<CDE_Folder>* is the path where you have extracted `CDE.zip`.

b. Run the `source ./setenv.sh` command.

c. Go to `<CDE_Folder>/cdeConsole` directory.

d. Run the `./start.sh` command.

The following message appears if Content Designer starts:

*Content Designer has been started successfully*

# Generating Content on an OBR System

This section guides you with the steps for creation of Content on a OBR installed system.

## Operations Agent as a Datasource

### Before you begin

Consider the following for creating content pack using Operations Agent as a datasource:

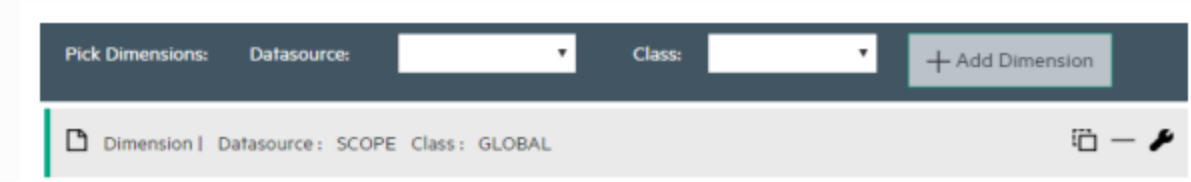
- You must have RTSM and Operations Agent datasource for building content.

  RTSM is a source of the topology information for OBR. The topology information includes all Configuration Items (CIs) as modeled and discovered in RTSM. Node resource information is directly obtained from Operations Agent.

- Ensure that the topology source is RTSM when Operations Agent is the datasource for creating content.
- For each of the unique datasource and class combinations, one fact and one dimension must be selected.

  **Example**:

  In **Pick Dimension** in the content Designer, if you select Scope/CPU, Scope/Global combination,



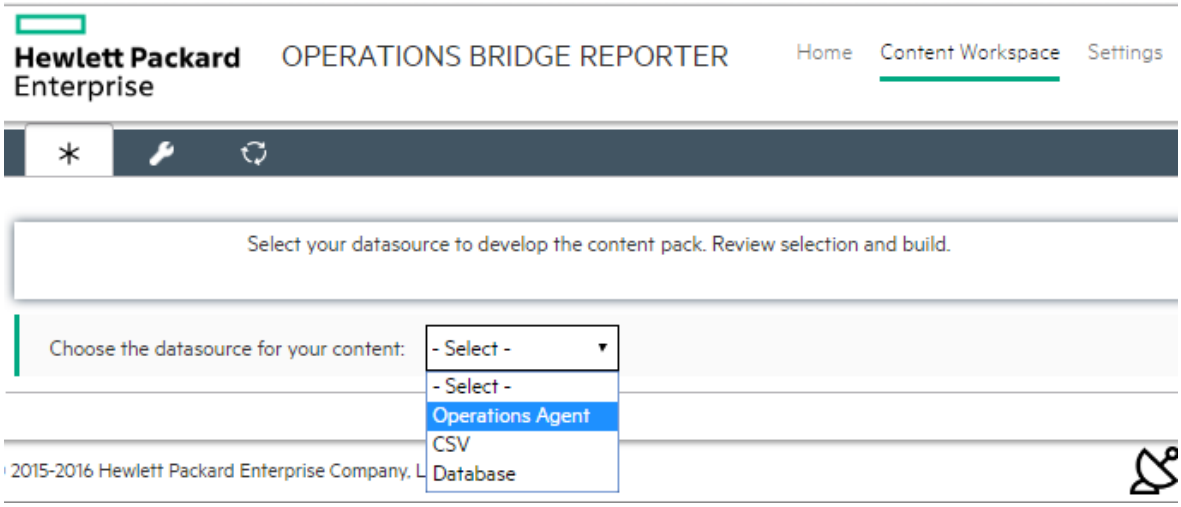

  in **Pick Fact**, select Scope/CPU, Scope/Global for fact.

This creates one fact table of Rate_Global/Rate_CPU and one local dimension table of K_Global/K_CPU in model xml.

- For Operations Agent as the datasource, the fact data is reconciled to host by default. Hence, it is mandatory to select a view and map `nt/unix` as citype in **Pick the RTSM Views for collection**.
- The fact table of datasource/class combination you select, is linked to `K_CI_system` automatically. You will not find any local dimension table for this particular fact selection. Select this (Datasource/class) as associated dimension class for every fact, so that every fact gets reconciled against hostname.

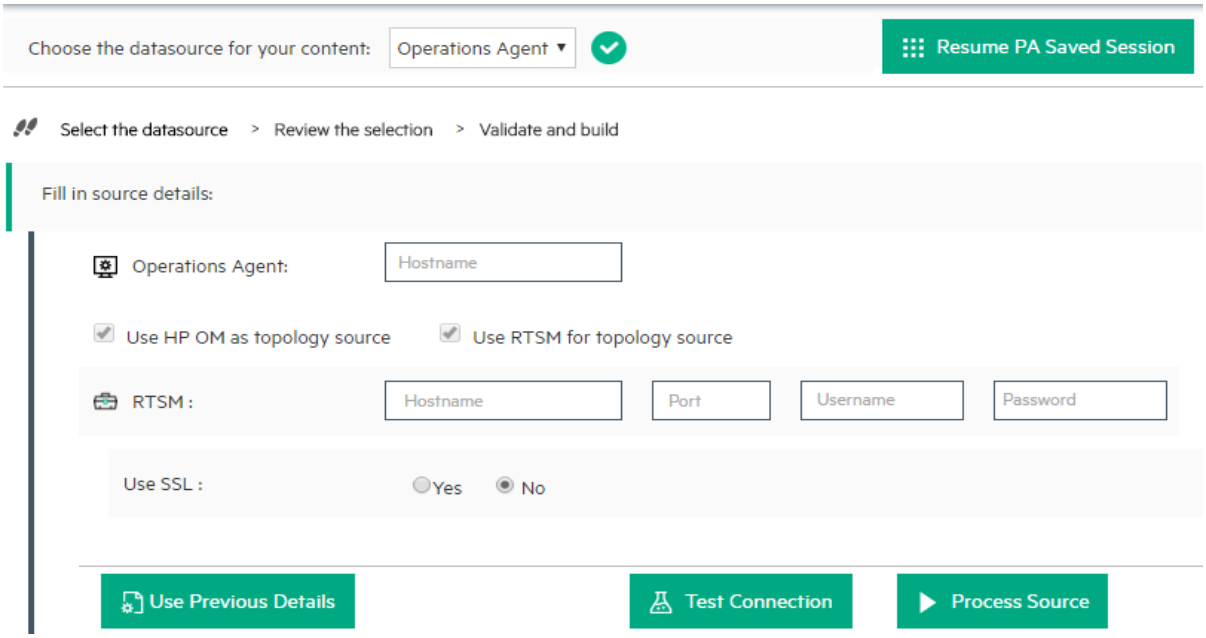
Follow these steps to generate the Domain, ETL, and Application components of the content pack:

### Task 1: Select the Datasource




1. On the Content Workspace page, from the **Choose the datasource for your content:** list, select **Operations Agent**.

   The Select the datasource tab is displayed.

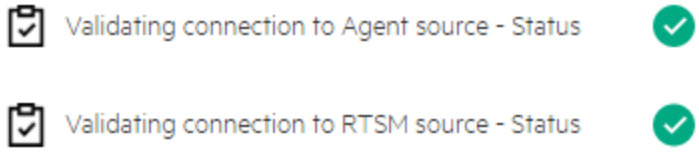



2. Type the **Operations Agent** host name to specify your datasource details.

> **Note:** Once you create content, the following options are displayed on this page during your subsequent sessions if you have saved your sessions:
>
> - **Use Previous Details**: If you have entered datasource details in OBR Content Designer earlier, click **Use Previous Details** to load Operations Agent details from an earlier session. Enter the **Password** and then click **Process Source**.
> - **Resume PA Saved Session**: Click this option if you have already saved content pack artifact details in your previous session and want to continue creating content using the same details. Each time you use this option, make sure you click **Use Previous Details** to re-enter the password as OBR Content Designer does not save password.

3. Type the following **RTSM** details:
   - **Hostname**: RTSM host name or IP address
   - **Port**: RTSM port number
   - **Username**: RTSM username
   - **Password**: RTSM password
4. In **Use SSL**, click **Yes** if you want to establish secure connection with Operations Agent, else click **No**.
5. Click **Test Connection** to check if the Operations Agent and RTSM sources are connecting.

The following messages are displayed on successful validation:



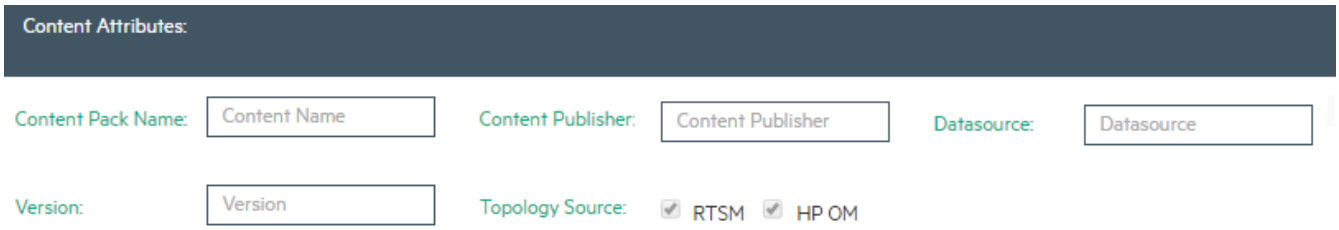

indicates the validation failed.

click to check the logs or view the log file at `{CDE_HOME}\cdeConsole\logs\server_err.log`.

6. Click **Process Source**.

   The **Review the selection** page appears.

### Task 2: Specify Content Attributes




1. Type you **Content Pack Name**.

   Enter a string value as your content pack name, which you will be used for content creation.

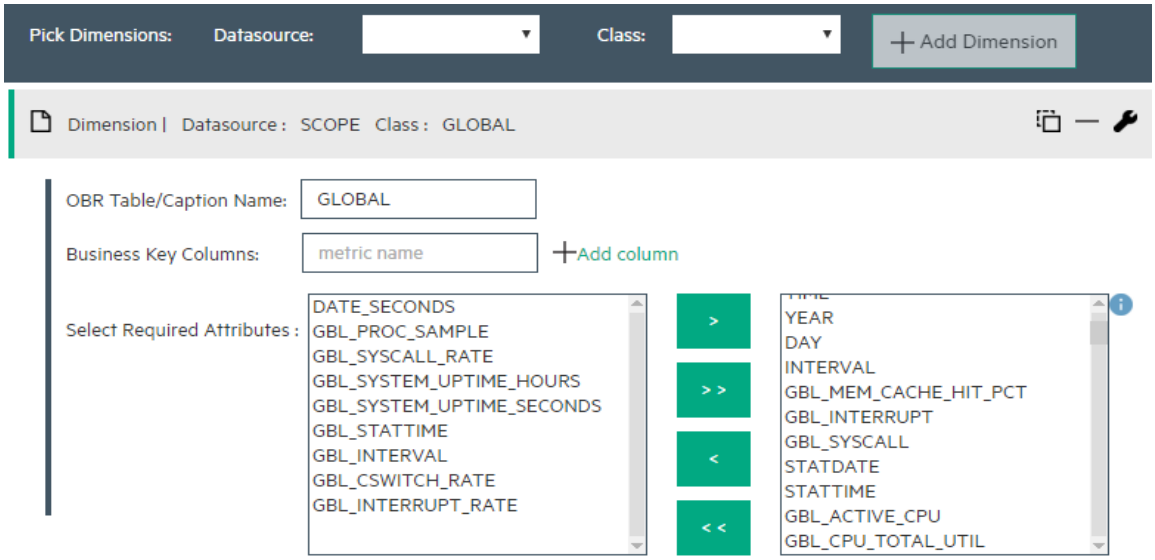
2. In **Content Publisher** name, type the content developer/company details.
3. Type your datasource application in the **Datasource** box.
4. In the **Version** box, type the version of OBR against which you develop content. *Example*: 10.01.000.

### Task 3: Add Dimensions

**Best practices for Operations Agent as source while selecting dimensions and facts:**

- For each of the unique datasource and class combination, one fact and one dimension must be selected.

- This dimension must be selected in associated dimension attribute to ensure that one fact table and one dimension table are created for each datasource and class combination.




1. In **Pick Dimensions**, select the **Datasource** and **Class** from the lists.
2. Click **Add Dimension**.
3. Type **OBR Table/Caption Name**. Table name created in the model would be of this name.
4. Click in the **Business Key Columns** box to select the column name and click **Add column**.

   The selected column names are listed.

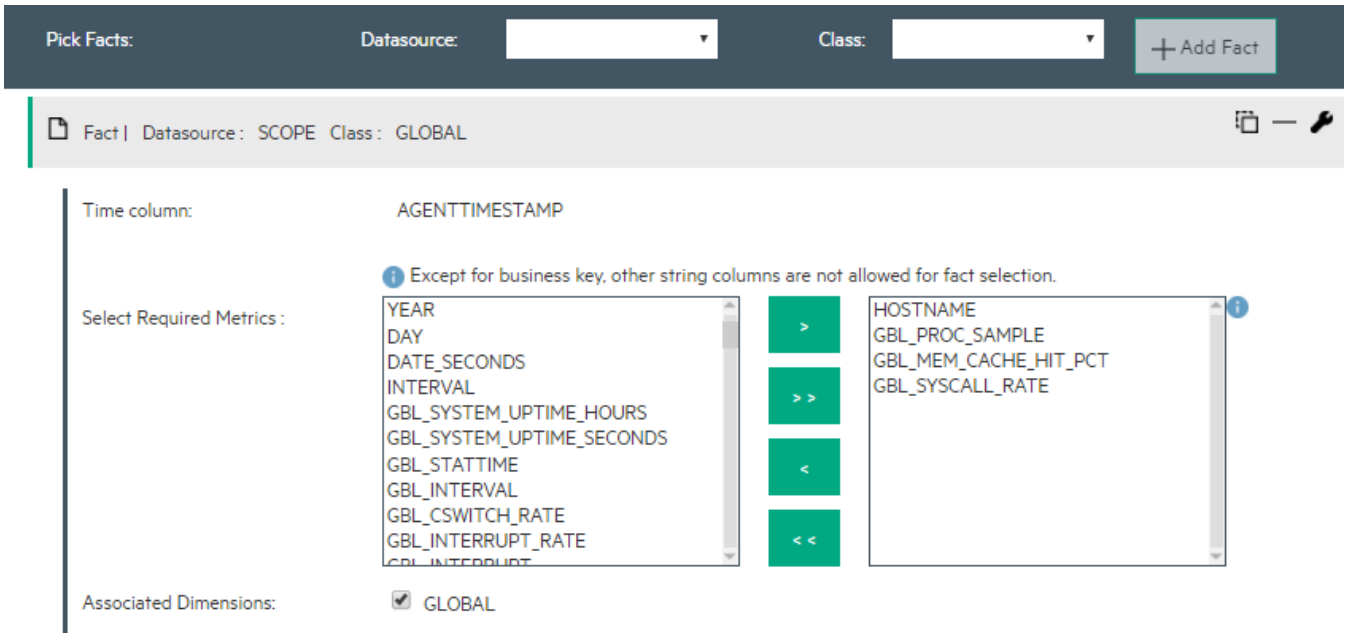
   a. Repeat step 4 to add more Business Key Columns.

   b. Click — next to the column name to delete the column.
5. Click **Add column**.

   You can select multiple business key columns from the list.
6. Repeat steps 1 to 5 to add more dimension tables.
7. **Select Required Attributes** from the list.
   - Click > to move selected column names or >> to move all the column names.

**Tip:** Click to duplicate the current dimension source and — to delete the current datasource and class selection.

### Task 4: Adding Facts




1. In **Pick Facts**, select the **Datasource** and **Class** from the lists.
2. Click **Add Fact**.
3. Select **Time Column**.

   The **Time Column** displays the default value.
4. **Select Required Metrics** from the list.

   > **Note:** Do not include the default **Time Column** value to the selected required metrics list.
5. Select the check box if you want to choose **Associate Dimensions**.

   Select the dimension class matching the datasouce/class combination of corresponding fact selection as one associated class. And the dimension class of datasource/class combination which you map to NT/Unix.
6. The **Business key to Fact column association** displays the selected dimensions. Business key column selected here should be of same name as selected in the above dimension selection. for same combination of datasource/class name.

7. Select the **Aggregate Functions** by clicking the check boxes. Select aggregate columns for the selected metrics as per "Select Required Metrics from the list." on the previous page.

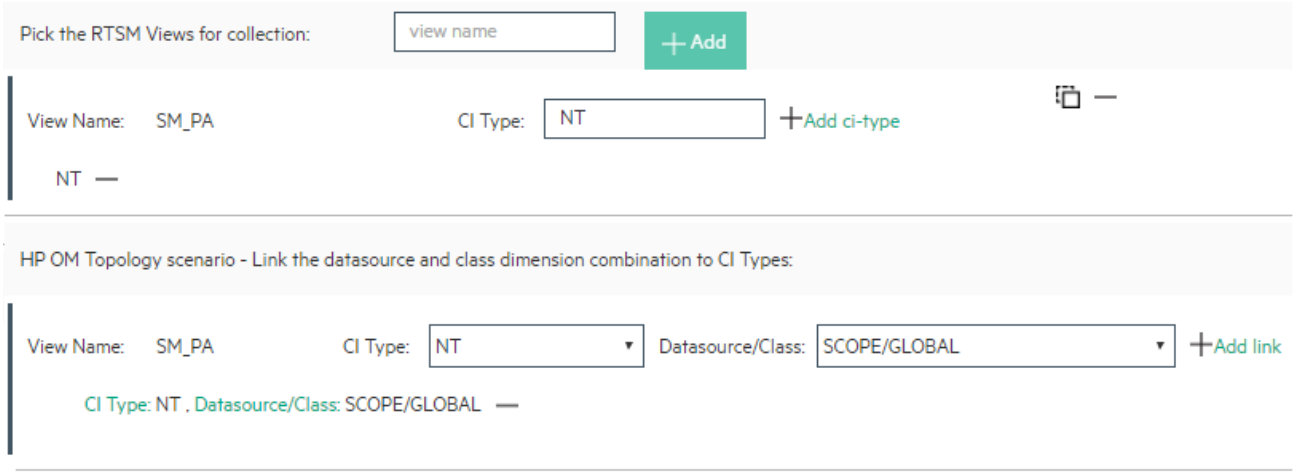
> **Tip:** Click ↻ to view **Sample Data**, ⧉ to duplicate the current fact source and — to delete the current datasource and class selection.

### Task 5: Select Views

> **Note:**
> - For Operations Agent as the datasource, the fact data is reconciled to host by default. Hence, it is mandatory to select a view and map `nt/unix` as citype.
> - The fact table of datasource/class combination you select here, is linked to `K_CI_system` automatically. You will not find any local dimension table for this particular fact selection.

> The view you select must be available in the RTSM datasource for successful deployment of content pack.

1. In the **Pick the RTSM Views for collection:** box, type or select the required RTSM, and then click **Add**.




   A message *View added successfully* is displayed.

2. Select the **CI Type** and click **Add ci-type**.

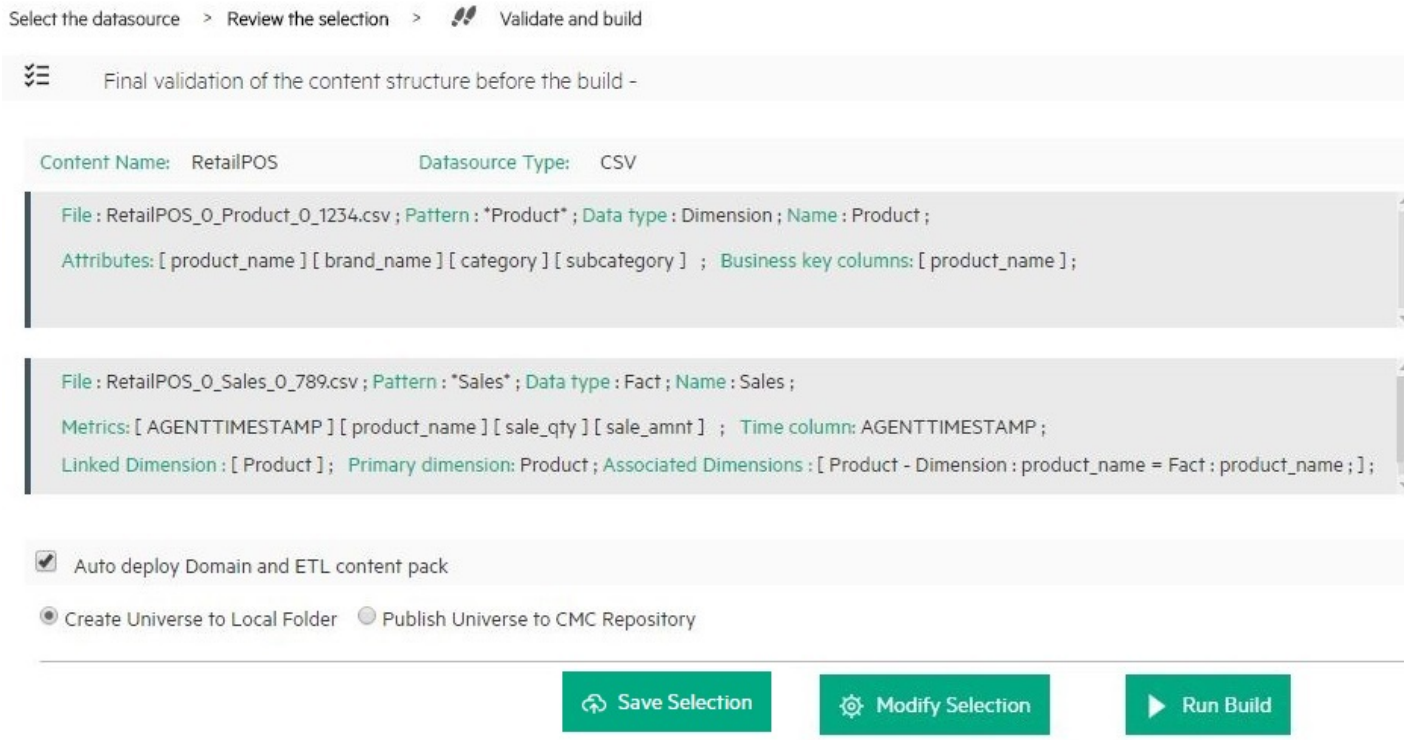
   > **Tip:** Click to view sample data from the dimension table, to duplicate the current dimension source, and to delete the current file selection.

3. Under the **OM Topology scenario - Link the datasource and class dimension combination to CI Types:** section,
   a. Select the **CI Type**, and then select the **Datasource/Class** combination.
   b. Click **Add link**. Repeat these steps to add more CI Type and Datasource/Class.
4. Repeat steps 1 to 3 to add more RTSM views.
5. Click **Confirm Selection**.

   Click **Modify Selection** to reset the content workspace.

### Task 6: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table collected.




1. Select **Auto deploy Domain and ETL content pack** if you want to deploy the content on OBR server after successful build.

   > **Caution:** If you have selected **Auto deploy Domain and ETL content pack** in OBR Content Designer, do no try to deploy content in your OBR system **Administration Console** > **Deployment Manager** at the same time. Content pack deployment will fail.

2. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   you can put this in NOTE

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`

- `.dfx`
- `.unx`

To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

- **Publish Universe to CMC Repository**

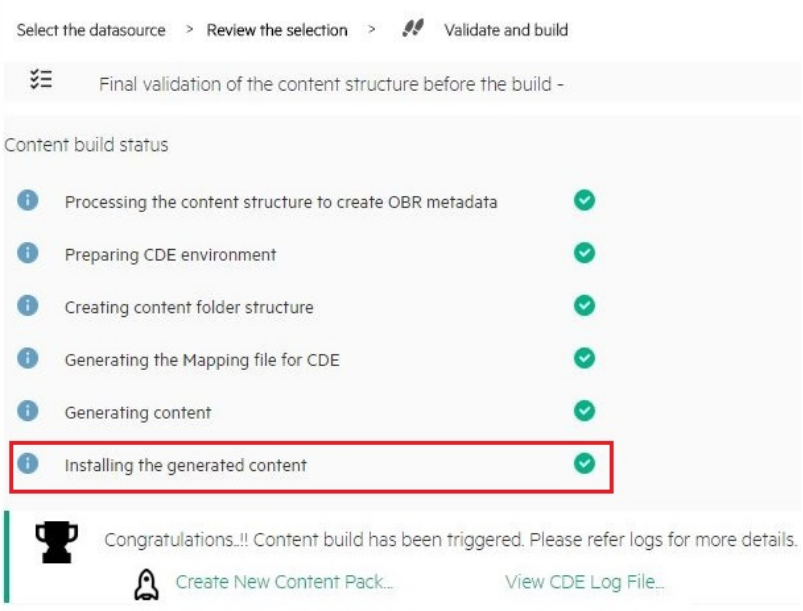
  On selecting this option , Universe gets deployed directly to CMC repository.

To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

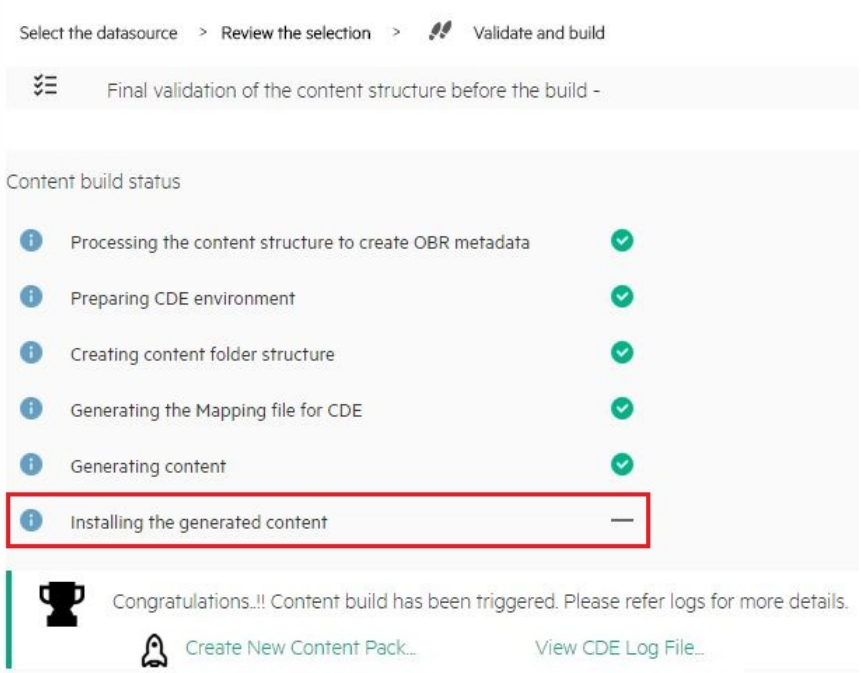
If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

3. Click **Save** to save your current content pack selection for future use.
4. Click **Modify selection** to reset the content workspace.
5. Click **Run Build** to generate your content packs.

   Content build status is displayed and content pack creation is triggered.

> **Note:** If you have selected **Auto deploy Domain and ETL content pack**, you will see the Installing the Generated content is shown in green.
>
> 
> 
>
> If this step fails, go to `{PMDB_HOME}\log\packagemanager.log` file and check the errors.

If you have **not selected** Auto deploy Domain and ETL content packs on OBR after successful build in the previous step, installation is skipped and you will see a hyphen **(-)** against Installing the Generated content.




You have to log on to OBR Administration Console and deploy the content pack. For information about deploying and installing content packs, see "Deploying Content Packs" on page 79.

Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified.

**Note:**

- Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.
- You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.
- On successful build "Content Build Successful" is displayed in the log file.

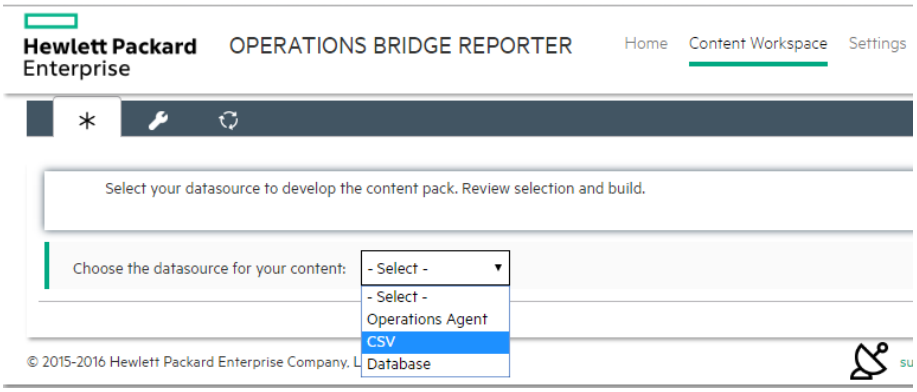
# CSV File as Datasource

You can create content using a set of CSV files as the datasource using OBR Content Designer. Perform the following steps to generate the Domain, ETL, and Application components of the content pack:

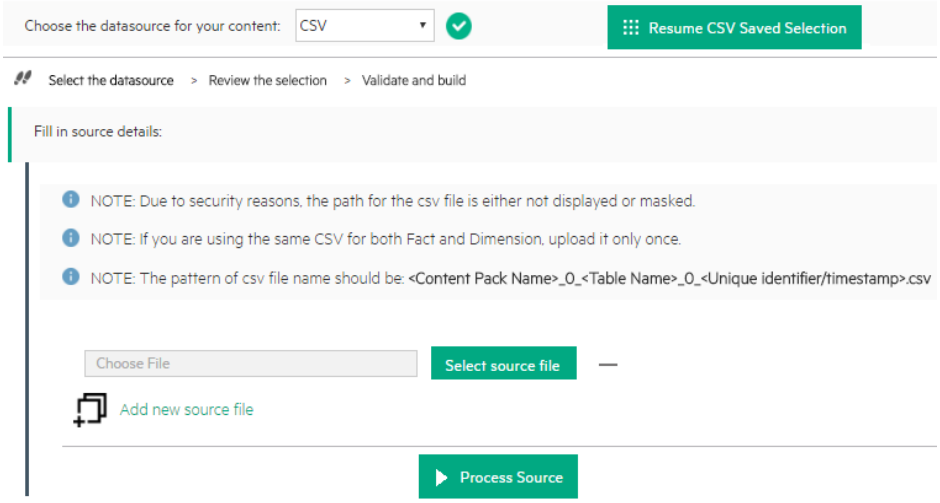
> **Note:** Ensure the following before selecting the .CSV files:
>
> - Names of the CSV files you select are in the format: *<DomainName>_0_<TableName>_0_<UniqueIdentifier/TimeStamp>*.csv
>
>  Example: RetailPOS_0_Store_0_567.csv
>
> - If you are selecting CSV files that are converted from dos2Unix, the new line character or the record delimiter (terminator) in the .CSV files must be \n\r.

### Task 1: Select the Source File

1. Open the **Content Workspace** page.
2. From the **Choose the datasource for your content:** list, select **CSV**.




3. Click **Select source file** and add the source .CSV file.



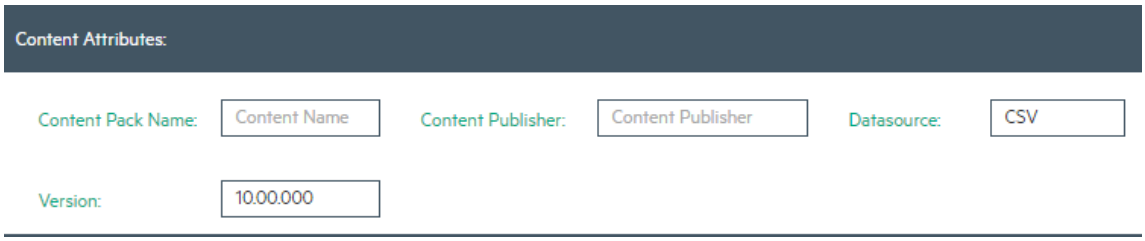

> **Note:**
> Click **Resume CSV Saved Selection** if you have saved dimension and fact selections on content workspace.
>
> Click **--**next to Select source file to remove the selected CSV file.

4. Click **Add new source file**, and then click **Select source file** to add more `.CSV` files.
5. Click **Process Source** after you have added the `CSV` files.

   The **Review the Selection** page appears.

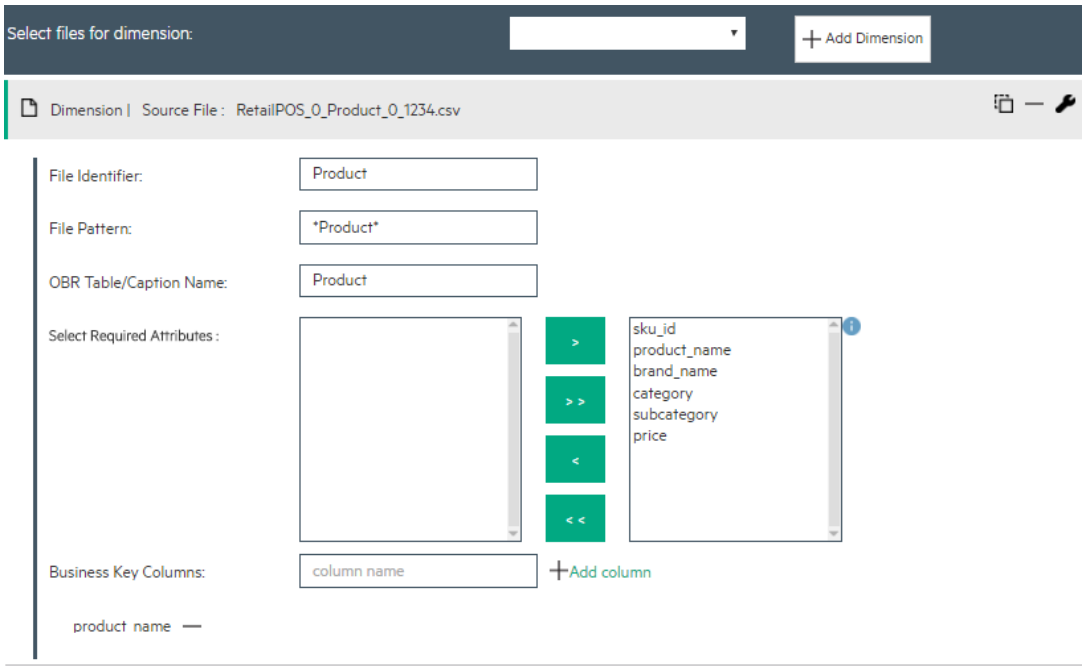
> **Note:** If you want to create fact and dimension from fields in same `.csv` file, make copies of the `.csv` and use them separately. Both the `.csv` files should have appropriate names.

### Task 2: Specify Content Attributes




1. Type **Content Pack Name** and **Content Publisher** name.
2. Type your datasource application in the **Datasource** box and content pack **Version**.

### Task 3: Add Dimensions




1. From the **Select files for dimension:** list, select the dimension file and click **Add Dimension**.
2. Type the **File Identifier**, **File Pattern**, and **OBR Table/Caption Name**.
3. From the **Select Required Attributes** list choose the metrics required.
4. Click in the **Business Key Columns** box to select the column name and click **Add column**.

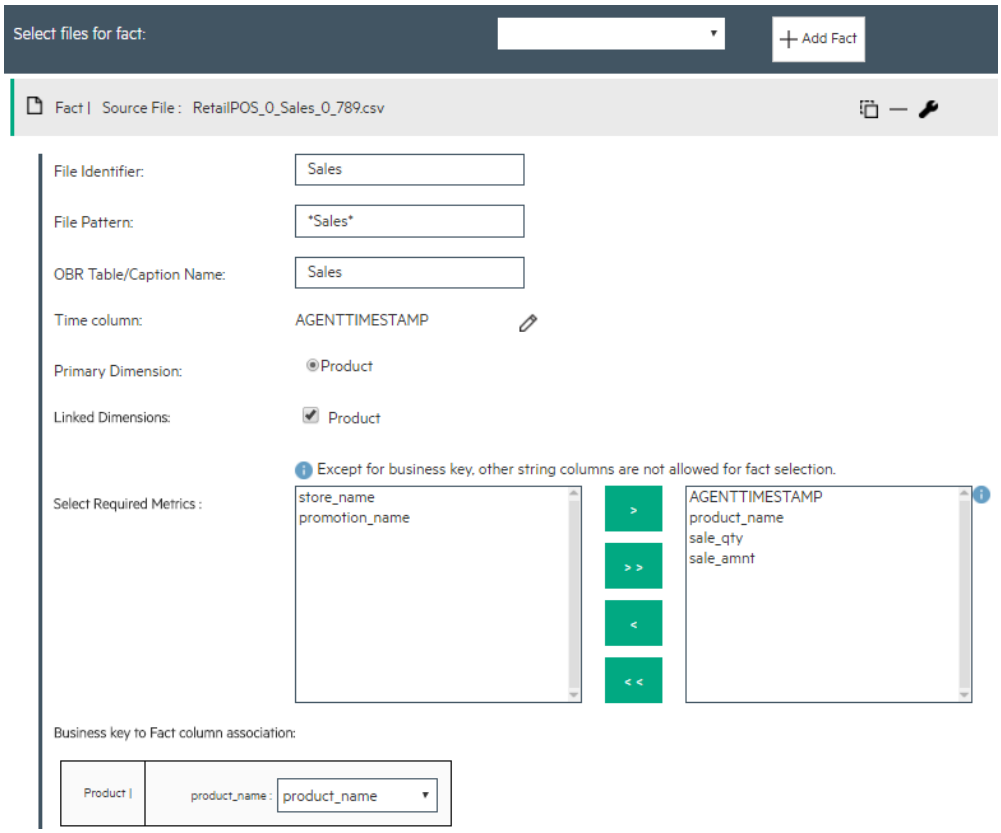
   The selected column names are listed.

   - Repeat step 4 to add more Business Key Columns.
   - Click — next to the column name to delete the column.

   > **Tip:** Click to duplicate the current dimension source and — to delete the current datasource and class selection.

5. Repeat steps 1 to 4 to add more dimensions.

### Task 4: Add Facts



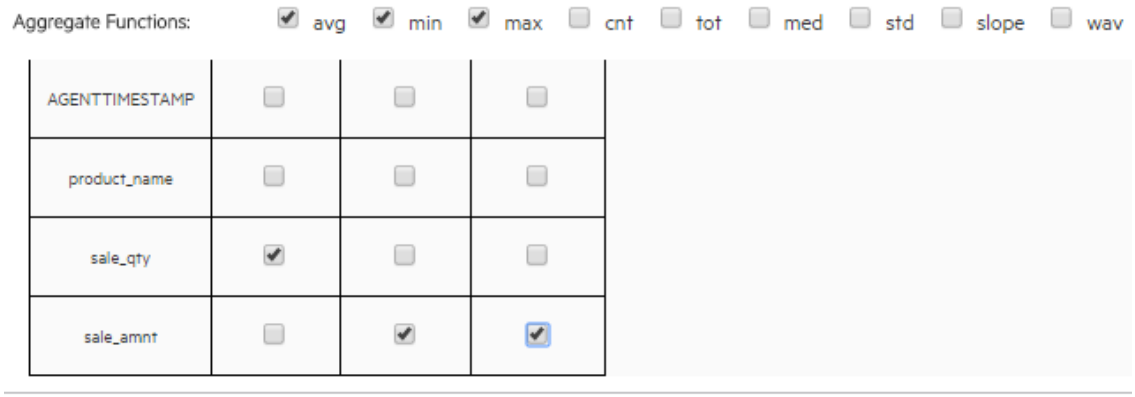

1. From the **Select files for fact list**, select the fact file, and then click **Add Fact**.
2. Type the **File Identifier**, **File Pattern**, and **OBR Table/Caption Name**.
3. Click to add **Time Column** and select the column name.

   > **Caution:** This step is mandatory.

4. Select the **Primary Dimension**. The **Linked Dimension** is selected automatically.
5. From the **Select Required Metrics** list choose the metrics required.
6. From **Business key to Fact column association** list, select the business key column name and associated fact column name.

   > **Note:** Ensure that **Time column** and **Business key to Fact column association** are selected as part of required metrics.

7. Click the check boxes to select **Aggregate Functions**.




8. Repeat steps 1 to 7 to add more facts.

   Click to duplicate the current fact source and — to delete the current selection.

9. Click **Confirm Selection** to proceed to build content.

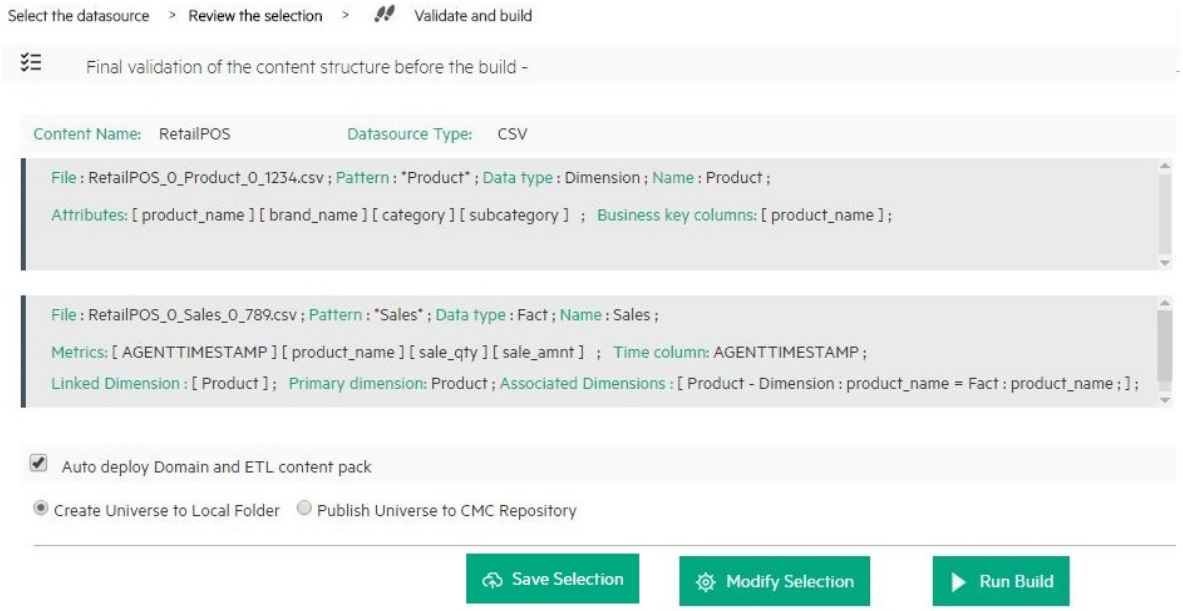
   The **Validate and build** page appears.

   Click **Modify Source** to reset the workspace and select different CSV files.

   > **Note:** When you click **Modify Source** and change CSV files, if you retain one or more previously selected CSV files for content creation, Content Designer retains all the details of the unchanged CSV files.

### Task 5: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table you have collected.




1. Select **Auto deploy Domain and ETL content pack** if you want to deploy the content on OBR after successful build.

   > **Caution:** If you have selected **Auto deploy Domain and ETL content pack** in OBR Content Designer, do no try to deploy content in your OBR system **Administration Console** > **Deployment Manager**. Content pack deployment will fail.

2. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`
     - `.dfx`
     - `.unx`

     To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

- **Publish Universe to CMC Repository**

  On selecting this option , Universe gets deployed directly to CMC repository.

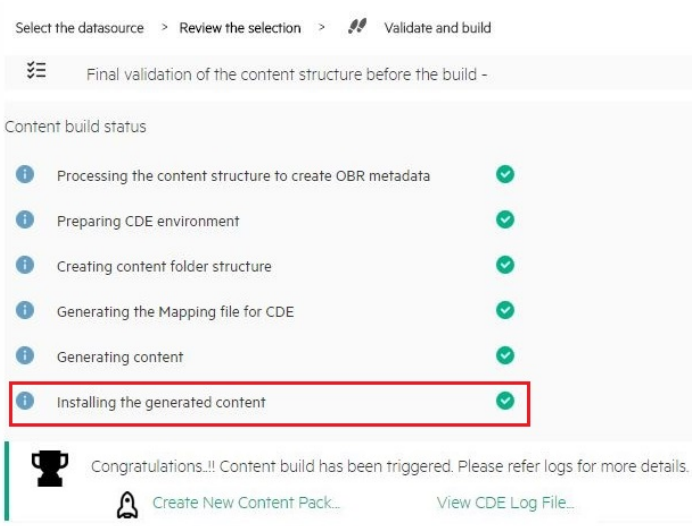
To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

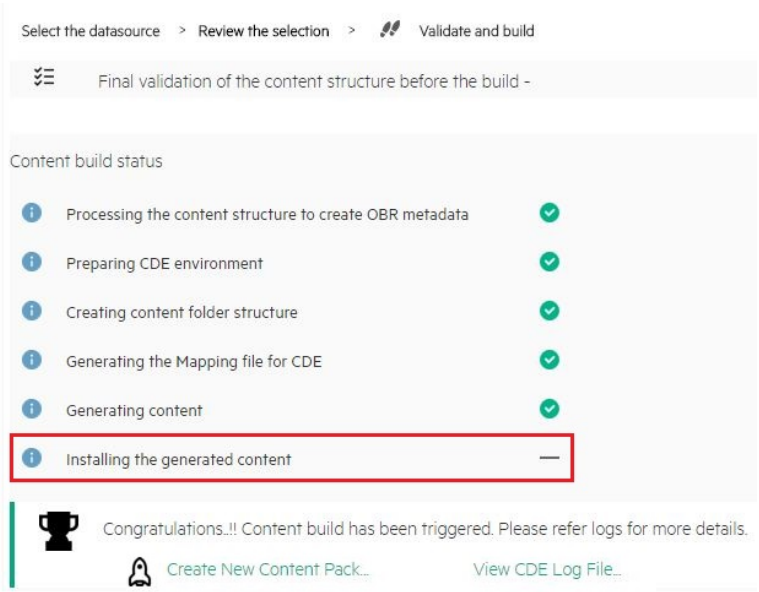
If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

3. Click **Save** to save your current content pack selection for future use.
4. Click **Modify selection** to reset the content workspace.
5. Click **Run Build** to create your content packs.

   Content build status is displayed and content pack creation is triggered.

   Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified.

> **Note:** If you have selected **Auto deploy Domain and ETL content pack** in step 1, you will see the Installing the Generated content is shown in green.
>
> 
> 
>
> If this step fails, go to `{PMDB_HOME}\log\packagemanager.log` file and check the errors.
>
> If you have **not selected** Auto deploy Domain and ETL content packs on OBR after successful build in the previous step, installation is skipped and you will see a hyphen **(-)** against Installing the Generated content.




You have to log on to OBR Administration Console and deploy the content pack. For information about deploying and installing content packs, see "Deploying Content Packs" on page 79.

**Note:**
After you deploy the content pack, ensure that the input CSV files are available in the `{PMDB_HOME}\collect\` folder.

The record terminator in the CSV files must be according to the platform on which OBR is installed:

- **OBR on Windows**: Record terminator of the input CSV must be `\n\r`.
- **OBR on Linux**:Record terminator of the input CSV must be `\n`

- Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.
- You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.
- On successful build *Content Build Successful* is displayed in the log file.

# Database as a Datasource

OBR collects data from databases that support Java Database Connectivity (JDBC): Microsoft SQL, Oracle, Sybase IQ, PostgreSQL, and so on).

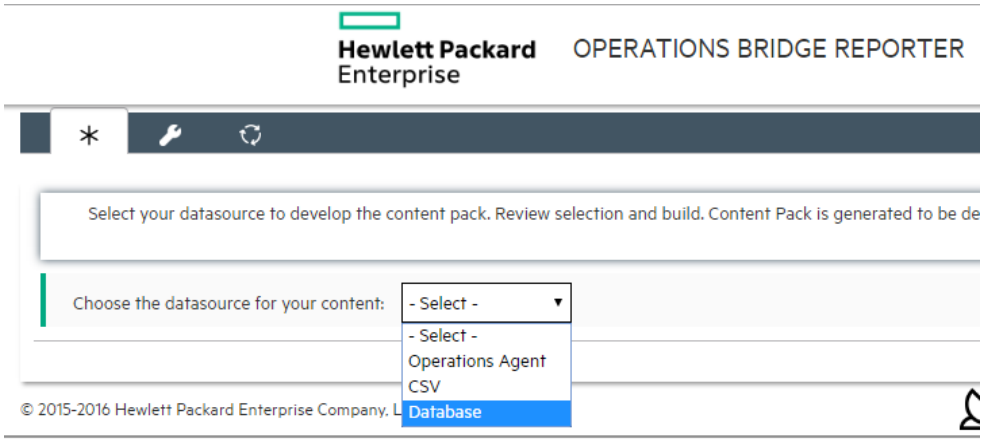
Perform the following steps to generate the Domain, ETL, and Application components of the content pack:

> **Note:** If you select ORACLE as the database type, do not select Auto deploy Domain and ETL content pack. Your ETL content pack collection policy has to be edited and recreated using the command-based CDE. Edit the following:
>
> From your collection policy, find the following DBDATE:
>
> <statement>select "DBDATE" as DBDATE,"CUSTOMER_ID" as CUSTOMER_ID,"SESSION_COMP_SEC" as SESSION_COMP_SEC from RUM_EVENTS_90000 where **DBDATE > $FETCH_START_TIME**</statement>
>
> Replace with the following:
>
> <statement>select "DBDATE" as DBDATE,"CUSTOMER_ID" as CUSTOMER_ID,"SESSION_COMP_SEC" as SESSION_COMP_SEC from RUM_EVENTS_90000 where **DBDATE > TO_TIMESTAMP($FETCH_START_TIME, 'YYYY-MM-DD HH24:MI:SS.FF')**</statement>
>
> For instructions to recreate ETL content pack, see *Operations Bridge Reporter Content Development Guide*.

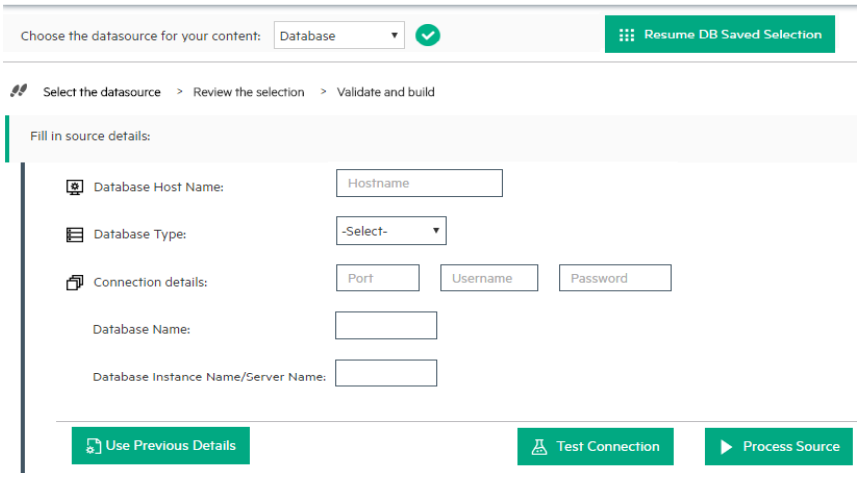
### Task 1: Select the Datasource

1. Open the **Content Workspace** page.
2. From the **Choose the datasource for your content:** list, select **Database.**

   The Select the datasource tab is displayed.




3. Specify the **Database** host name.




> **Note:**
>
> - If you have entered database details in OBR Content Designer earlier, click **Use Previous Details** to display database details from an earlier session.
> - Click **Resume DB Saved Selection** to view the dimension and fact selections from your previous session on OBR Content Designer.

4. Select the **Database Type** from the list.

> **Note:** For the database type, copy the following `.jar` files as applicable from the available location to the `%CDE_HOME%\lib` directory:
>
> | Database Type | .jar file | Available Location |
> |---|---|---|
> | MSSQL | **jtds.jar** | `{PMDB_HOME}\lib` |
> | ORACLE | **OVoracle.jar** | `{PMDB_HOME}\lib` |
> | SYBASEIQ/SYBASEASE | **jconn4.jar** | You can copy the **jconn4.jar** file from your jConnect install location or download the file from the Internet. |
> | POSTGRESQL | **postgresql.jar** | `{PMDB_HOME}\lib` |
> | VERTICA | **vertica-jdbc.jar** | `{PMDB_HOME}\lib` |

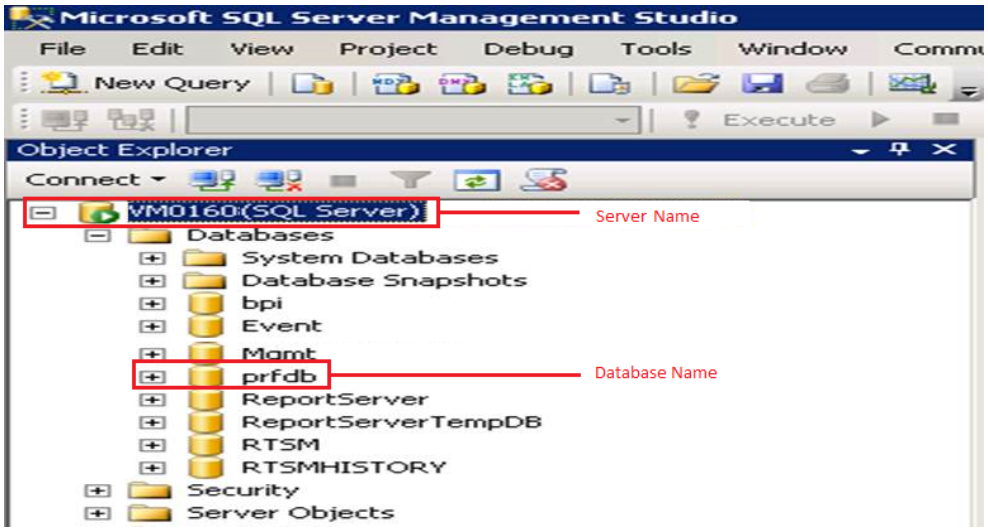
5. Type the **Connection details**: Port number, username, and password.
6. Specify the **Database Name** and **Database Instance Name/Server Name**.

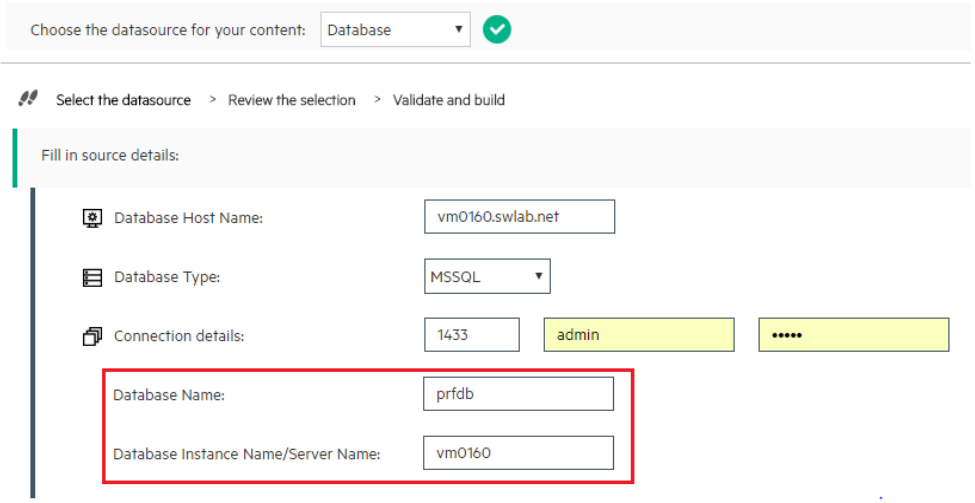
> **Note:**

- **For MSSQL database**:

  The **Database Name** is the name of your database on the MSSQL server and **Server Name** is the name of the SQL server where the database is created.

  **Example**:

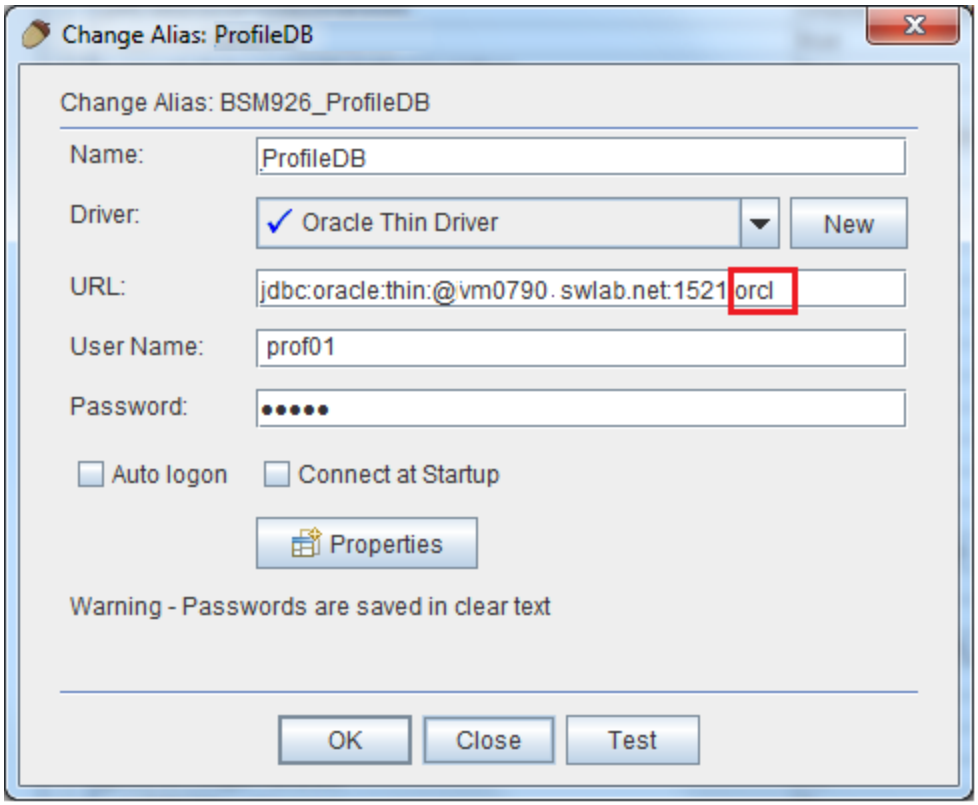


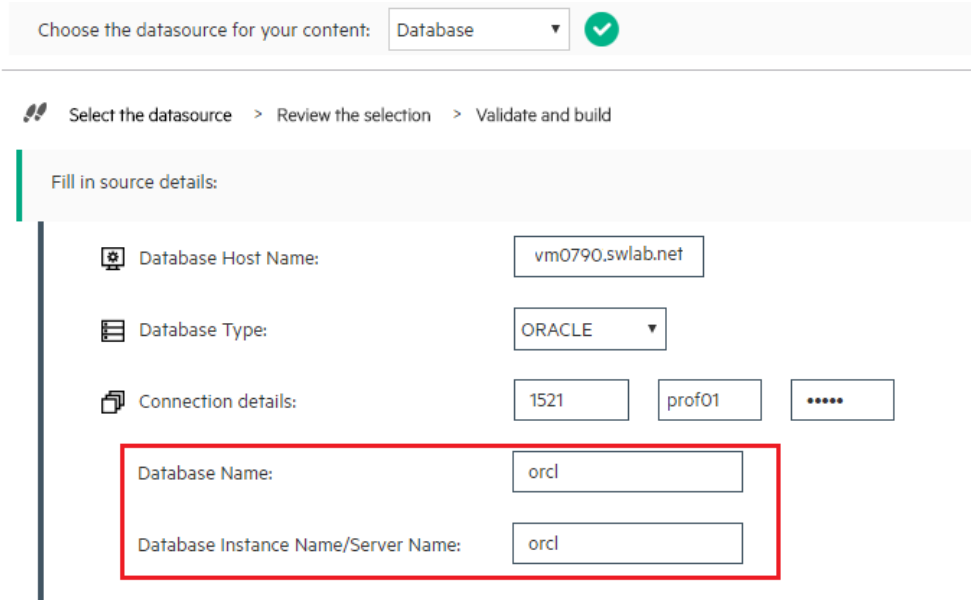




- **For Oracle database**:

  The Database Name and the Database Instance Name are the same. Type the same name in both the boxes.

  **Example**:

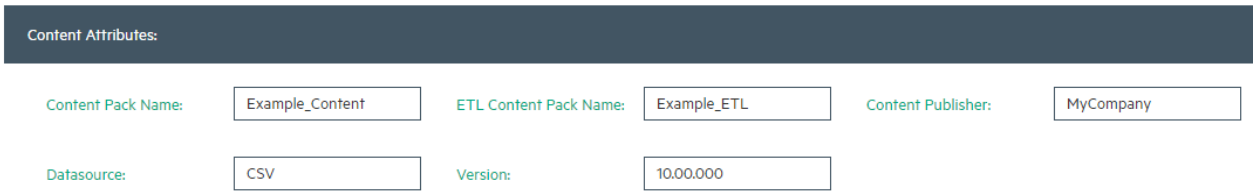



7. Click **Test Connection** to check the database connectivity.
8. Click **Process Source** to proceed with content development.

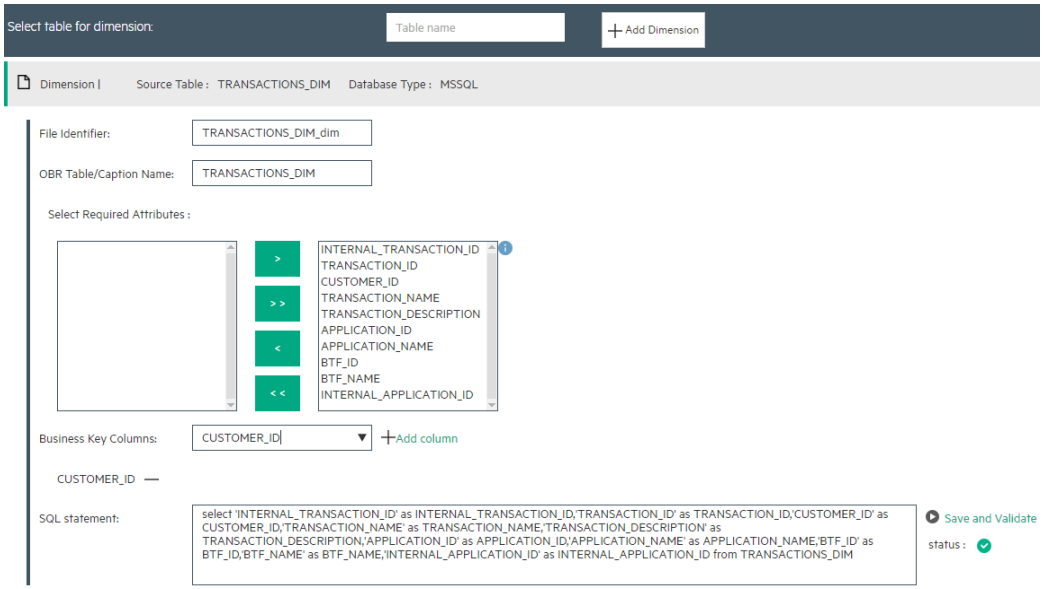
   The **Review the selection** page appears.

### Task 2: Specify Content Pack Attributes




1. Specify **Content Pack Name** and **Content Publisher** name.
2. Specify your datasource application in the **Datasource** box and content pack **Version**.

### Task 3: Add Dimensions



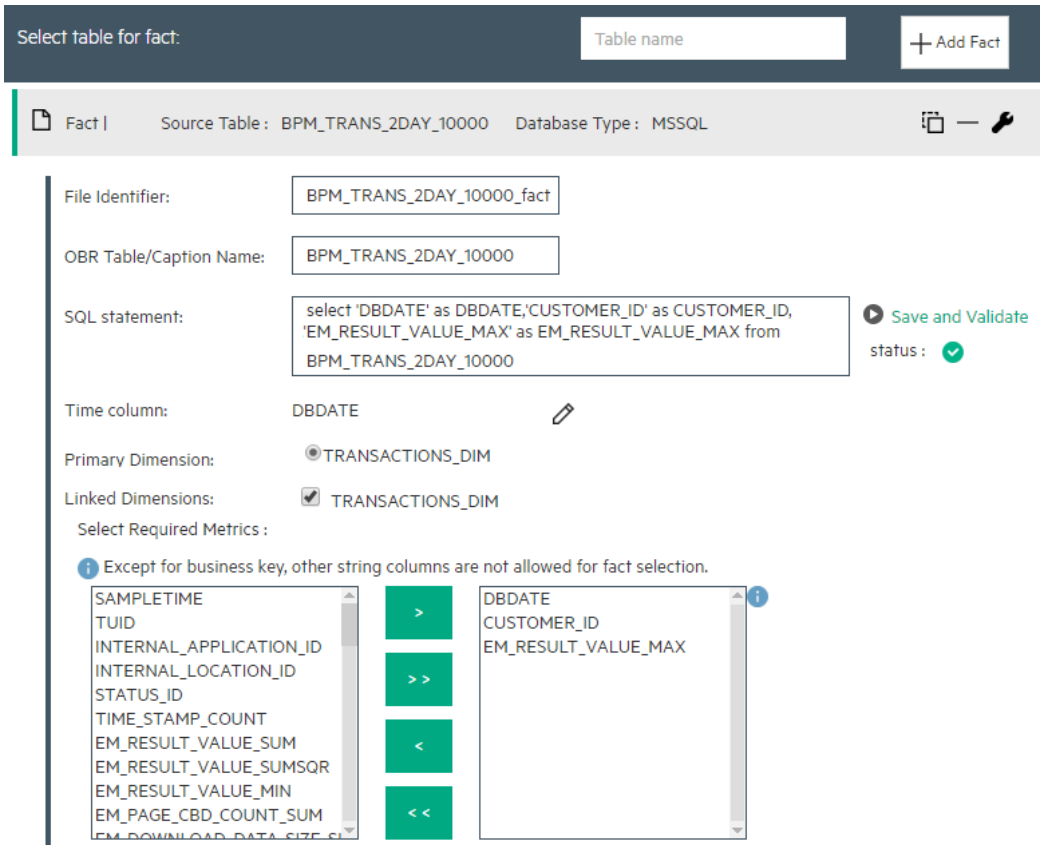

1. From the **Select tables that serve as dimension for the content:** list, select the dimension table.
2. Click **Add Dimension**.
3. Specify the **File Identifier**, and **OBR Table/Caption Name**.
4. From the **Select Required Attributes** list choose the metrics required.
5. Click in the **Business Key Columns** box to select the column name and click **Add column**.
6. Write or modify the **SQL Statement**, and click **Save and Validate**.

   The SQL statement validation status is displayed.

7. Repeat steps 1 to 6 to add more dimensions.

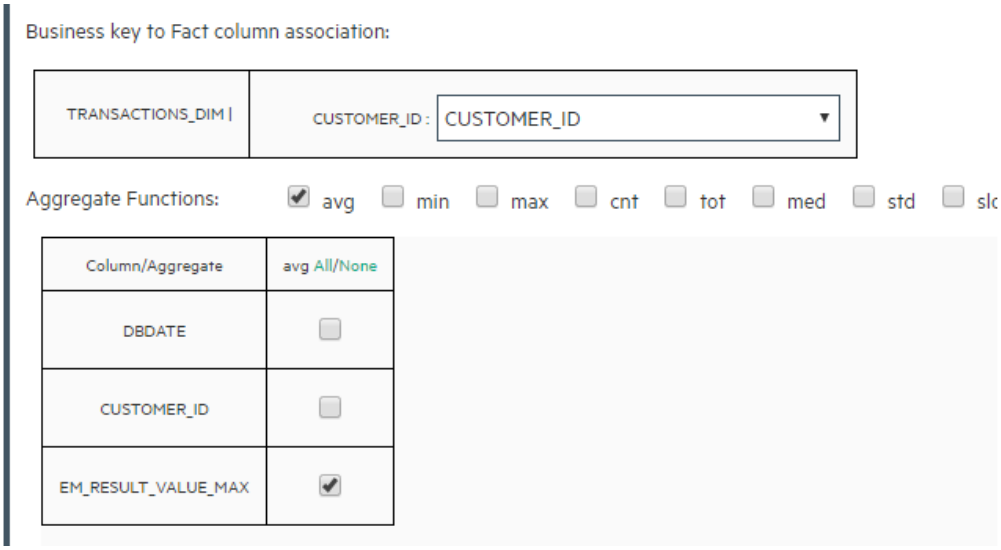
> **Tip:** Click ↻ to view sample data from the dimension table, ⧉ to duplicate the current dimension source, and − to delete the current file selection.

### Task 4: Add Facts




1. From the **Select tables that serve as Fact for the content** list, select the fact table.
2. Click **Add Fact**.
3. Specify the **File Identifier** and **OBR Table/Caption Name**.
4. Write or modify the **SQL Statement**, and click **Save and Validate**.
5. Click ✎ to add **Time Column** and select the column name.
6. Select the **Primary Dimension** and **Linked Dimensions**.
7. From the **Select Required Metrics** list choose the metrics required.
8. From **Business key to Fact column association** list, select the business key column names

and the associated fact column names.




9. Click the check-boxes to select **Aggregate Functions**.

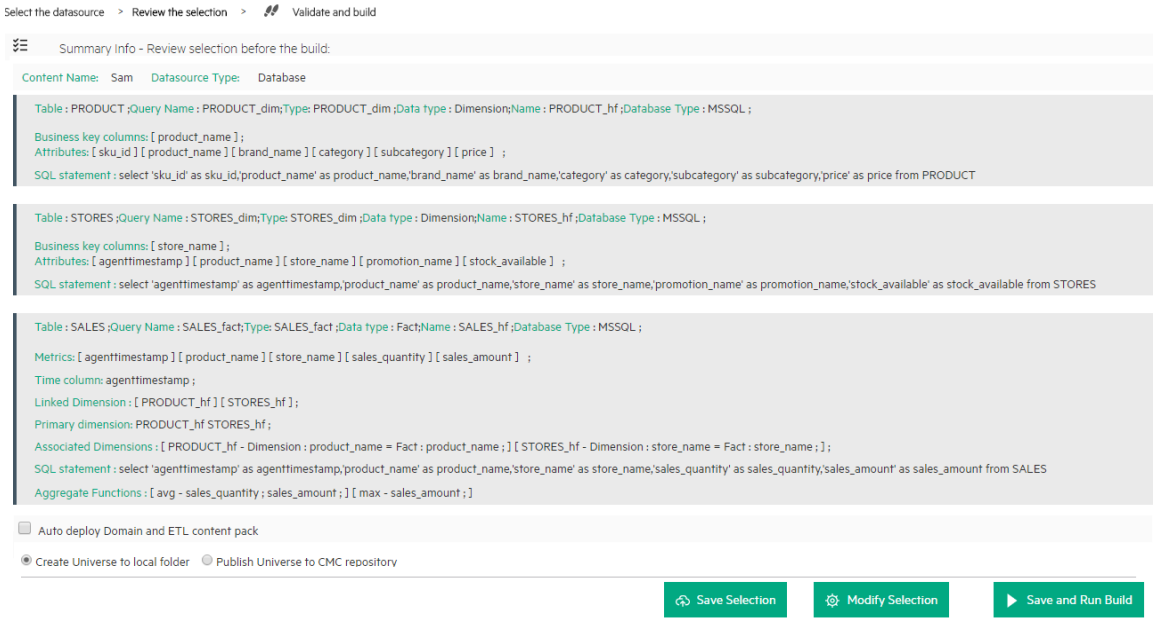
   **Tip:** Click to view sample data from the dimension table, to duplicate the current dimension source, and to delete the current file selection.

10. Repeat steps 1 to 8 to add more dimensions.
11. Click **Modify Source** to go back and select a different source.
12. Click **Confirm Selection** to proceed to build content.

    The **Validate and build** page appears.

### Task 5: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table you have collected.




1. Select **Auto deploy Domain and ETL content pack** if you want to deploy the content on OBR after successful build.

   > **Caution:** If you have selected **Auto deploy Domain and ETL content pack** in OBR Content Designer, do no try to deploy content in your OBR system **Administration Console** > **Deployment Manager** at the same time. Content pack deployment will fail.

2. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`
     - `.dfx`
     - `.unx`

     To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

- **Publish Universe to CMC Repository**

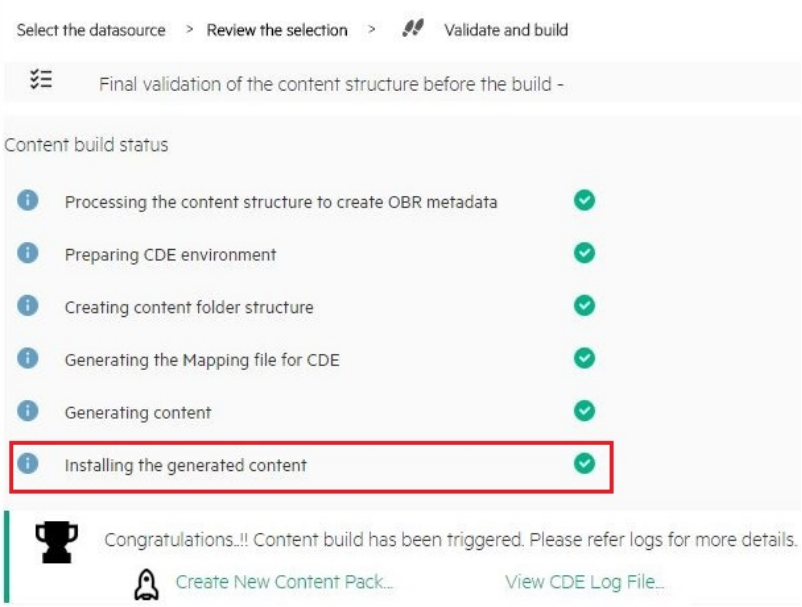
  On selecting this option , Universe gets deployed directly to CMC repository.

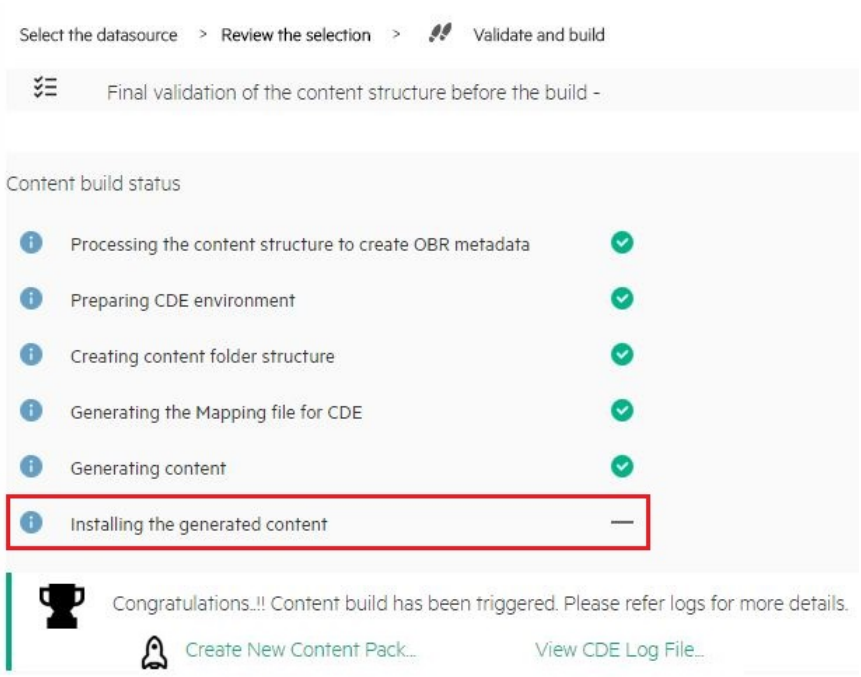
To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

3. Click **Save** to save your current content pack selection for future use.
4. Click **Modify selection** to reset the content workspace.
5. Click **Run Build** to create your content packs.

   Content build status is displayed and content pack creation is triggered.

> **Note:** If you have selected **Auto deploy Domain and ETL content pack** in step 1, you will see the Installing the Generated content is shown in green
>
> 
> 
>
> If this step fails, go to `{PMDB_HOME}\log\packagemanager.log` file and check the errors.
>
> If you have **not selected** Auto deploy Domain and ETL content packs on OBR after successful build in the previous step, installation is skipped and you will see a hyphen **(-)** against Installing the Generated content.




You have to log on to OBR Administration Console and deploy the content pack. For information about deploying and installing content packs, see "Deploying Content Packs" on page 79.

Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified.

**Note:**

- Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.
- You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.
- On successful build "Content Build Successful" is displayed in the log file.

# Generating Content on a Non-OBR System

This section guides you with the steps for creation of Content on a system that does not have OBR installed.

## Operations Agent as a Datasource

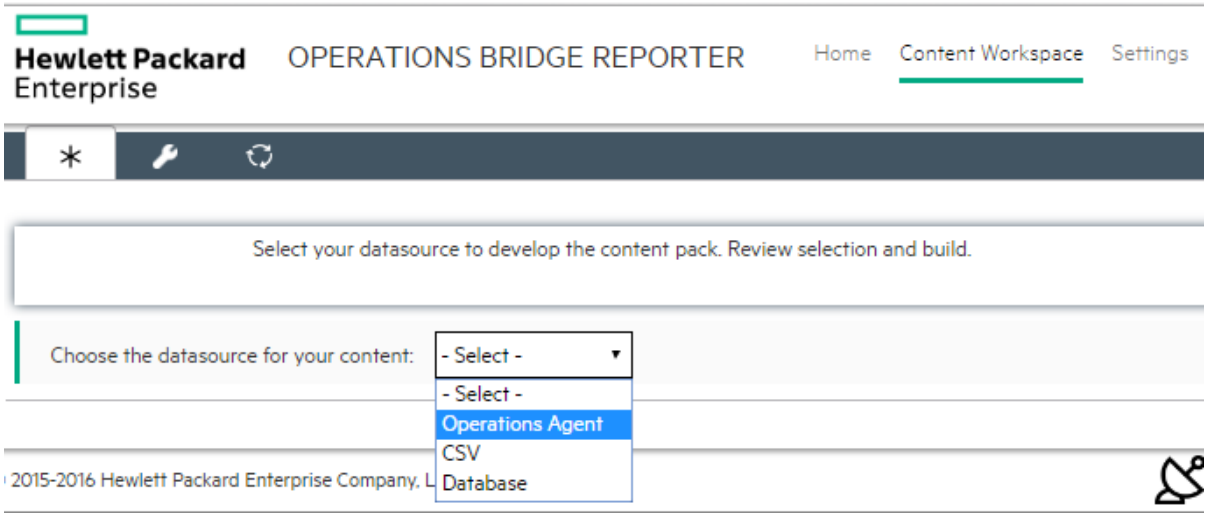
This section guides you to create content for Operations Agent as datasource.

> **Note:**
>
> Before you configure Operations Agent as a datasource, ensure the following:
>
> - You must have RTSM and Operations Agent datasource for building content.
> - Ensure that the topology source is RTSM when Operations Agent is the datasource for creating content.

RTSM is a source of the topology information for OBR. The topology information includes all Configuration Items (CIs) as modeled and discovered in RTSM. Node resource information is directly obtained from Operations Agent.

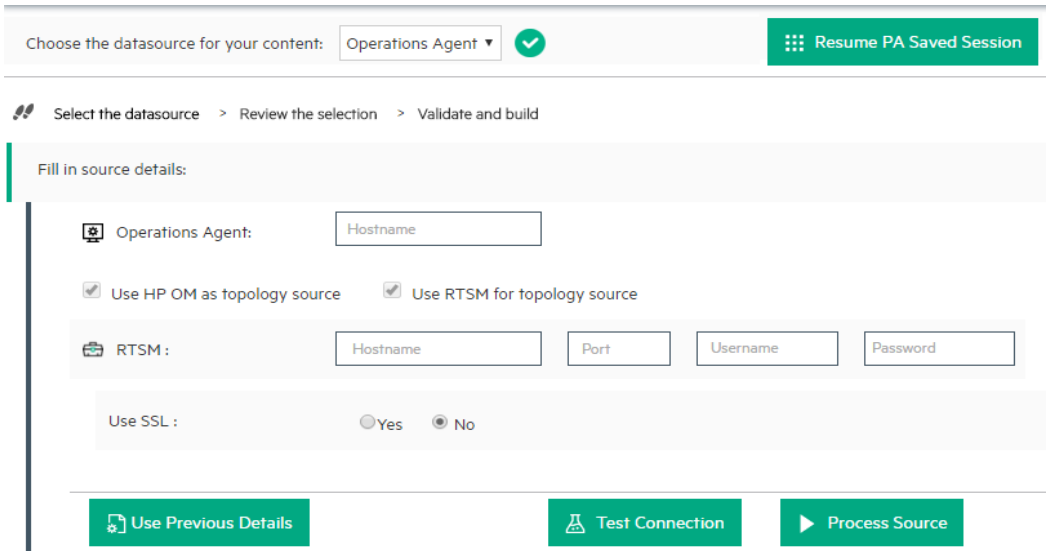
Follow these steps to generate the Domain, ETL, and Application components of the content pack:

### Task 1: Select the Datasource




1. On the Content Workspace page, from the **Choose the datasource for your content:** list, select **Operations Agent**.

   The Select the datasource tab is displayed.



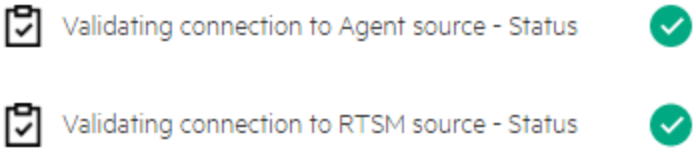

2. Type the **Operations Agent** host name to specify your datasource details.

   > **Note:** Once you create content, the following options are displayed on this page during your subsequent sessions if you have saved your sessions:

- **Resume PA Saved Session**: Click this option if you have already saved content pack artifact details in your previous session and want to continue creating content using the same details.
- **Use Previous Details**: If you have entered datasource details in OBR Content Designer earlier, click **Use Previous Details** to load Operations Agent details from an earlier session. Enter the **Password** and then click **Process Source**.

3. Type the following **RTSM** details:
   - **Hostname**: RTSM host name or IP address
   - **Port**: RTSM port number
   - **Username**: RTSM username
   - **Password**: RTSM password
4. In **Use SSL**, click **Yes** if you want to establish secure connection with Operations Agent, else click **No**.
5. Click **Test Connection** to check if the Operations Agent and RTSM sources are connecting.

   The following messages are displayed on successful validation:

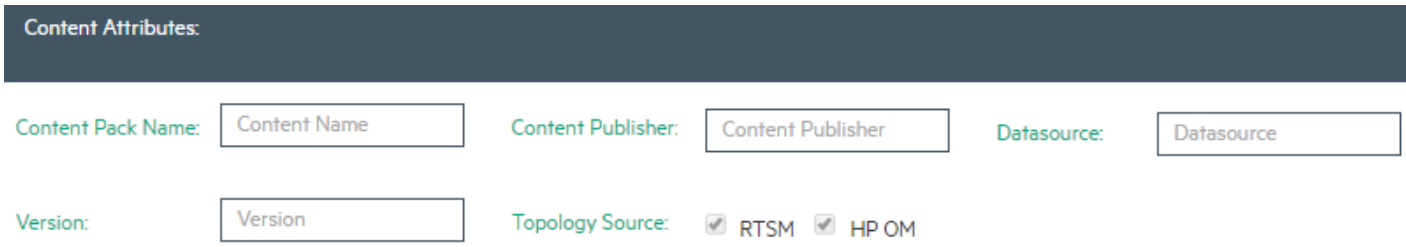
   
   

   indicates the validation failed.

   click to check the logs.
6. Click **Process Source**.

   The **Review the selection** page appears.

### Task 2: Specify Content Attributes

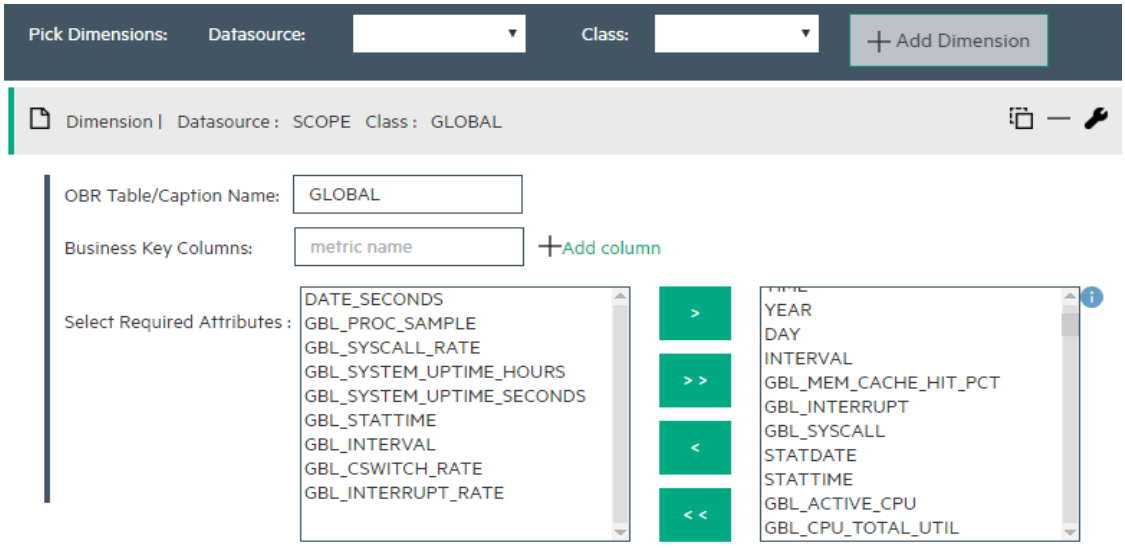



1. Type the **Content Pack Name** and **Content Publisher** name.
2. Type your datasource application in the **Datasource** box and content pack **Version**.

### Task 3: Add Dimensions

**Best practices for Operations Agent as source while selecting dimensions and facts:**

- For each of the unique datasource and class combination, one fact and one dimension must be selected.
- This dimension must be selected in associated dimension attribute to ensure that one fact table and one dimension table are created for each datasource and class combination.




1. In **Pick Dimensions**, select the **Datasource** and **Class** from the lists.
2. Click **Add Dimension**.

3. Type **OBR Table/Caption Name**.
4. Click in the **Business Key Columns** box to select the column name and click **Add column**.

   The selected column names are listed.

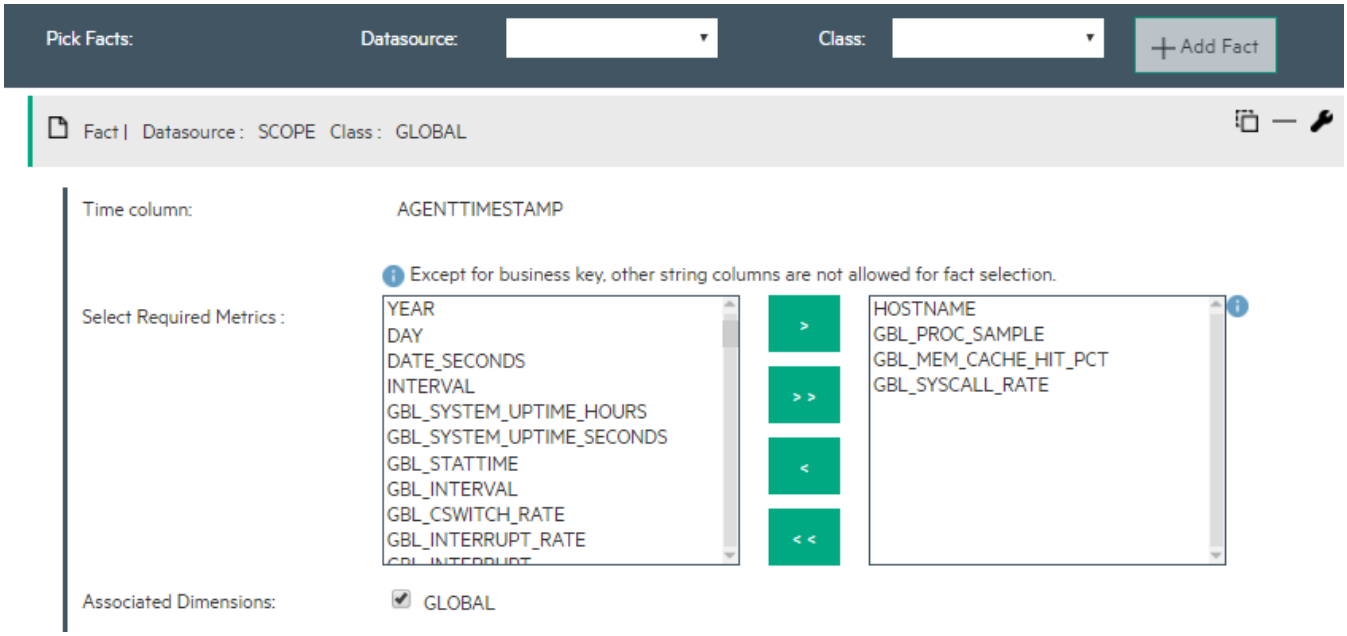
   a. Repeat step 4 to add more Business Key Columns.

   b. Click — next to the column name to delete the column.
5. Click **Add column**.

   You can select multiple business key columns from the list.
6. Repeat steps 1 to 5 to add more dimension tables.
7. **Select Required Attributes** from the list.
   - Click > to move selected column names or >> to move all the column names.

Click to duplicate the current dimension source and — to delete the current datasource and class selection.

### Task 4: Adding Facts




1. In **Pick Facts**, select the **Datasource** and **Class** from the lists.
2. Click **Add Fact**.

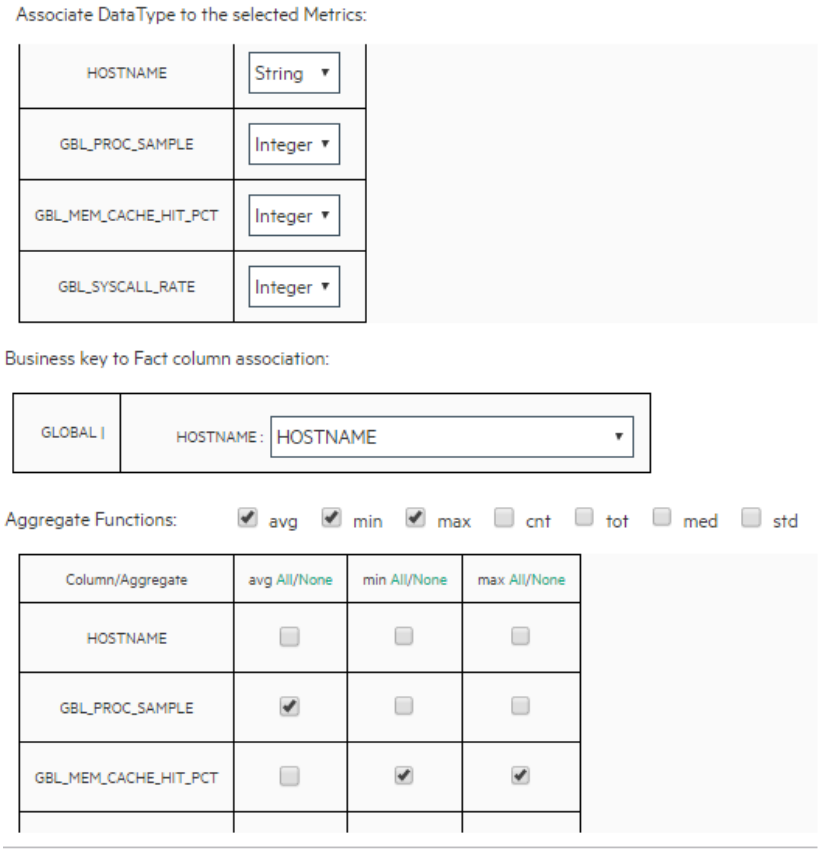
3. Select **Time Column**.

   The **Time Column** displays the default value.

4. **Select Required Metrics** from the list.

   > **Note:** Do not include the default **Time Column** value to the selected required metrics list.

5. Select the check box if you want to choose **Associate Dimensions**.
6. The **Business key to Fact column association** displays the selected dimensions.



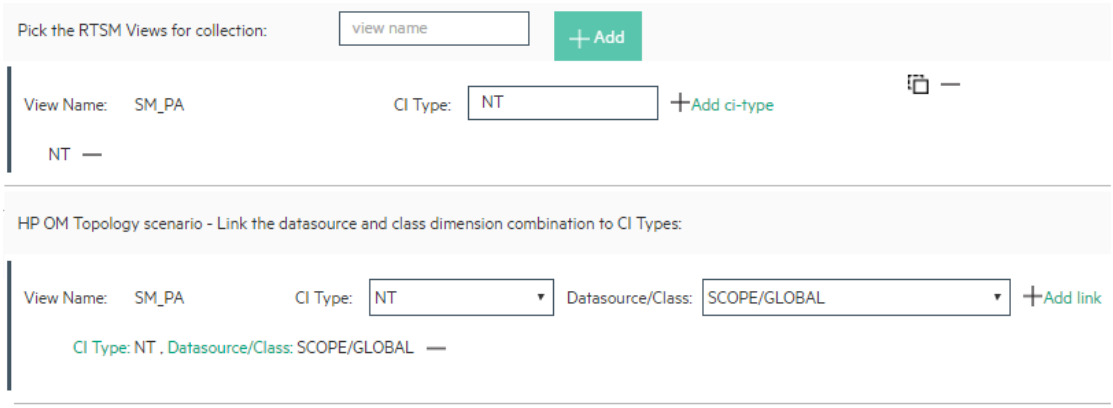

7. Select the **Aggregate Functions** by clicking the check boxes. Select aggregate columns for the selected metrics as per "Select Required Metrics from the list." above.

   Click to view **Sample Data**, to duplicate the current fact source and to delete the current datasource and class selection.

### Task 5: Select Views

> **Note:**

- For Operations Agent as the datasource, the fact data is reconciled to host by default. Hence, it is mandatory to select a view and map `nt/unix` as citype.
- The fact table of datasource/class combination you select here, is linked to `K_CI_system` automatically. You will not find any local dimension table for this particular fact selection.




1. In the **Pick the RTSM Views for collection:** box, type or select the required RTSM, and then click **Add**.

   A message *View added successfully* is displayed.

2. Select the **CI Type** and click **Add ci-type**.

   Click to duplicate the current view selection and — to delete the current view selection.

3. Under the **OM Topology scenario - Link the datasource and class dimension combination to CI Types:** section,

   a. Select the **CI Type**, and then select the **Datasource/Class** combination.

   b. Click **Add link**. Repeat these steps to add more CI Type and Datasource/Class.

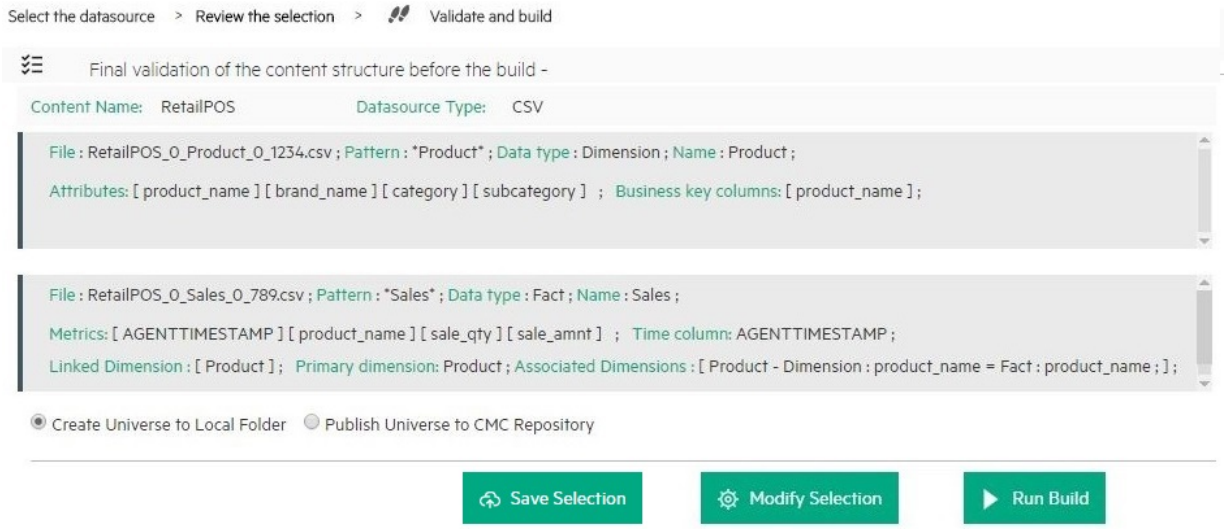
4. Repeat steps 1 to 5 to add more RTSM views.

5. Click **Confirm Selection**.

   Click **Modify Selection** to reset your content workspace.

### Task 6: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table you have collected.




1. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`
     - `.dfx`
     - `.unx`

     To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

   - **Publish Universe to CMC Repository**

     On selecting this option , Universe gets deployed directly to CMC repository.

   To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

   If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

2. Click **Save** to save your current content pack selection for future use.

3. Click **Modify selection** to reset the content workspace.
4. Click **Run Build** to create your content packs.

   Content build status is displayed and content pack creation is triggered.

   Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified. For information about deploying content pack on OBR, see "Deploying Content Packs" on page 79.

   > **Note:**
   > - Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.
   > - You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.

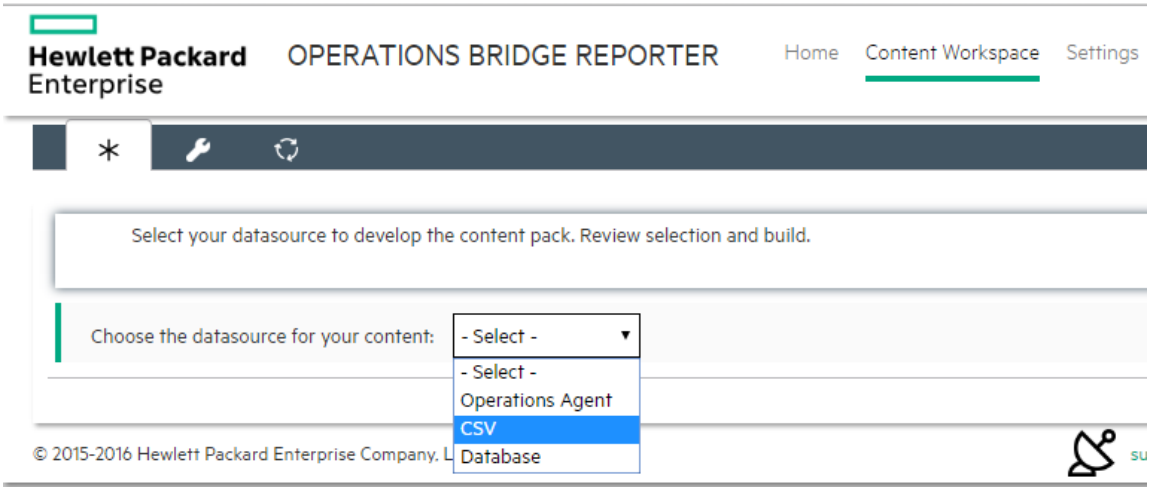
# CSV File as Datasource

You can create content using a set of `CSV` files as the datasource using OBR Content Designer. Perform the following steps to generate the Domain, ETL, and Application components of the content pack:

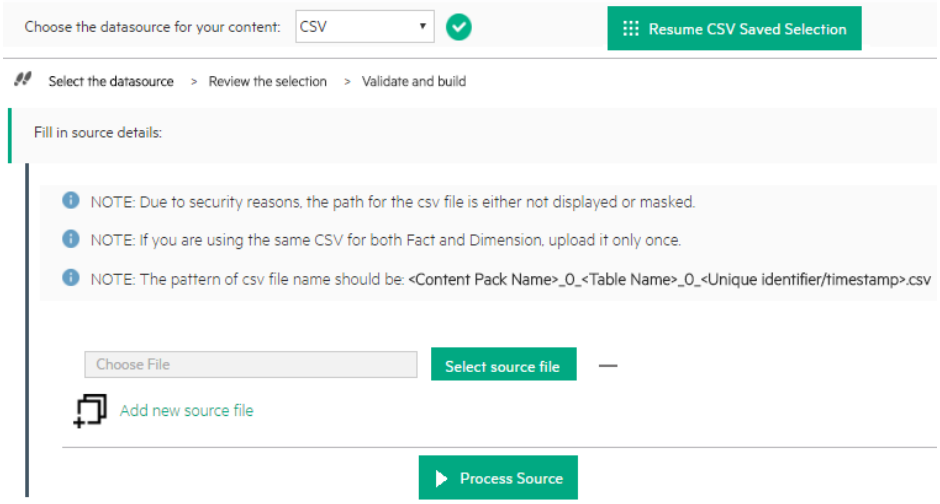
> **Note:** Ensure the following before selecting the .CSV files:
> - Names of the CSV files you select are in the format: `<DomainName>_0_<TableName>_0_<UniqueIdentifier/TimeStamp>.csv`
>
>   Example: `RetailPOS_0_Store_0_567.csv`
> - If you are selecting CSV files that are converted from dos2Unix, the new line character or the record delimiter (terminator) in the .CSV files must be \n\r.

### Task 1: Select the Source File

1. Open the **Content Workspace** page.
2. From the **Choose the datasource for your content:** list, select **CSV**.




3. Click **Select source file** and add the source `.CSV` file.



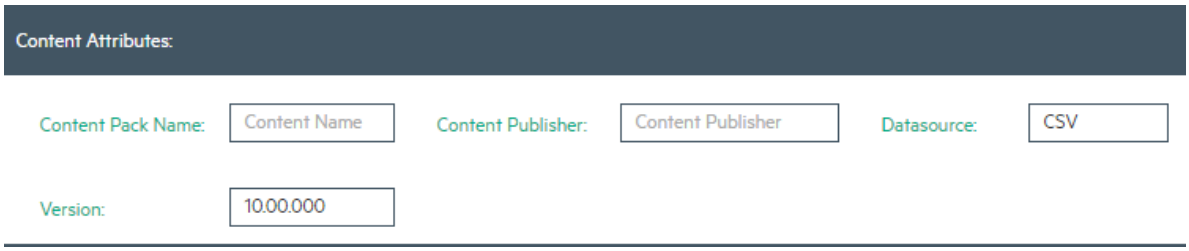

> **Note:**
> Click **Resume CSV Saved Selection** if you have saved dimension and fact selections on content workspace.
>
> Click **--**next to Select source file to remove the selected CSV file.

4. Click **Add new source file**, and then click **Select source file** to add more `.CSV` files.
5. Click **Process Source** after you have added the `CSV` files.

   The **Review the Selection** page appears.

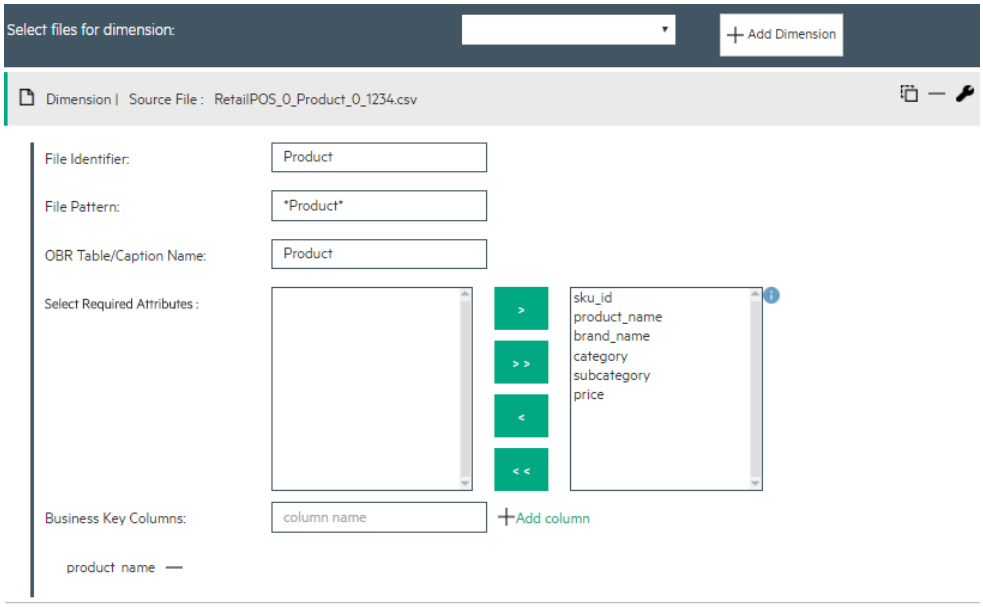
> **Note:** If you want to create fact and dimension from fields in same `.csv` file, make copies of the `.csv` and use them separately. Both the `.csv` files should have appropriate names.

### Task 2: Specify Content Attributes




1. Type **Content Pack Name**. Example, `RetailPOS`.
2. **Content Publisher** name. Example, `ABC Retail`.
3. Type your datasource application in the **Datasource** box and content pack **Version**.

### Task 3: Add Dimensions




1. From the **Select files for dimension:** list, select the dimension file and click **Add Dimension**.
2. Specify the **File Identifier**, **File Pattern**, and **OBR Table/Caption Name**.

   > **Note:** Table names must be unique across your content creation in OBR.

3. From the **Select Required Attributes** list choose the metrics required.
4. Click in the **Business Key Columns** box to select the column name and click **Add column**.

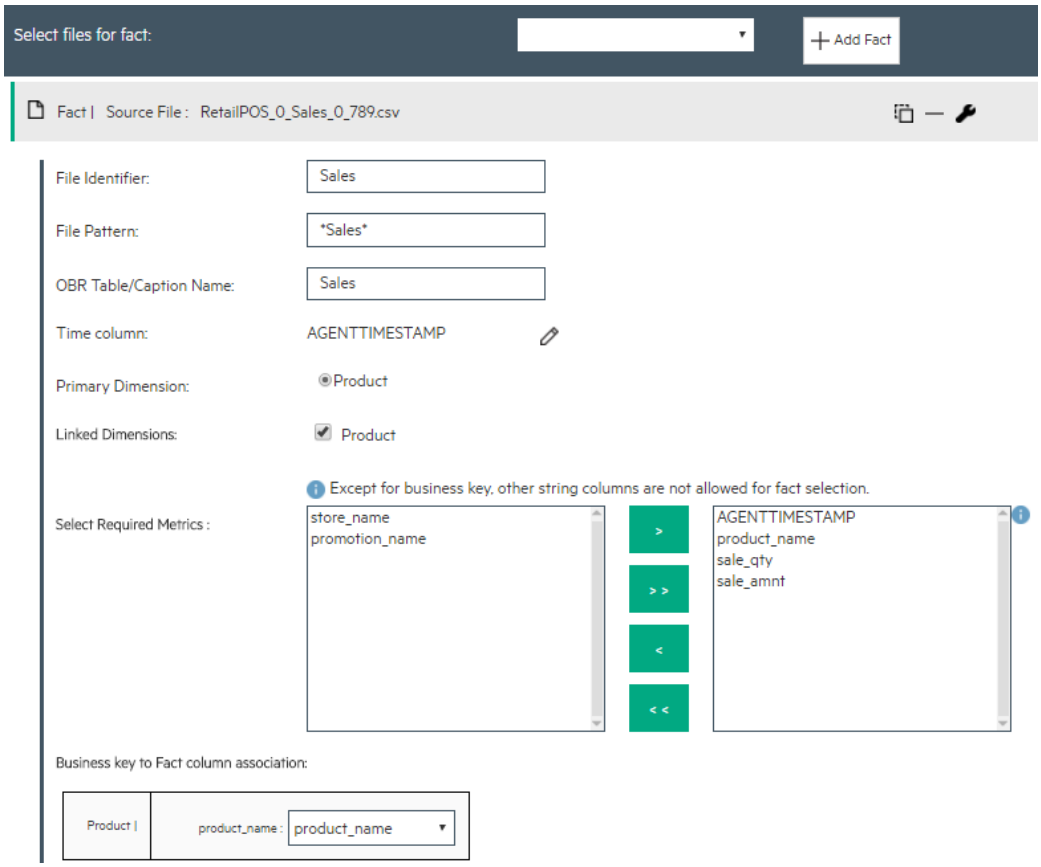
The selected column names are listed.

- Repeat step 4 to add more Business Key Columns.
- Click — next to the column name to delete the column.

> **Note:** Click to duplicate the current dimension source and — to delete the current datasource and class selection.

5. Repeat steps 1 to 4 to add more dimensions.

### Task 4: Add Facts



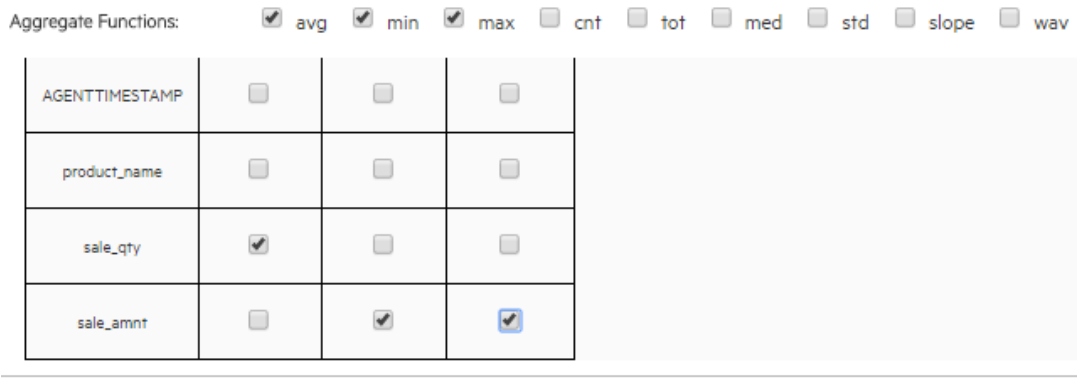

1. From the **Select files for fact list**, select the fact file, and then click **Add Fact**.
2. Specify the **File Identifier**, **File Pattern**, and **OBR Table/Caption Name**.
3. Click to add **Time Column** and select the column name.

> **Caution:** This step is mandatory.

4. Select the **Primary Dimension**. The **Linked Dimension** is selected automatically.
5. From the **Select Required Metrics** list choose the metrics required.
6. From **Business key to Fact column association** list, select the business key column name and associated fact column name.

> **Note:** Ensure that **Time column** and **Business key to Fact column association** are selected as part of required metrics.

7. Click the check boxes to select **Aggregate Functions**.




8. Repeat steps 1 to 7 to add more facts.

   Click to duplicate the current fact source and — to delete the current selection.

9. Click **Confirm Selection** to proceed to build content.

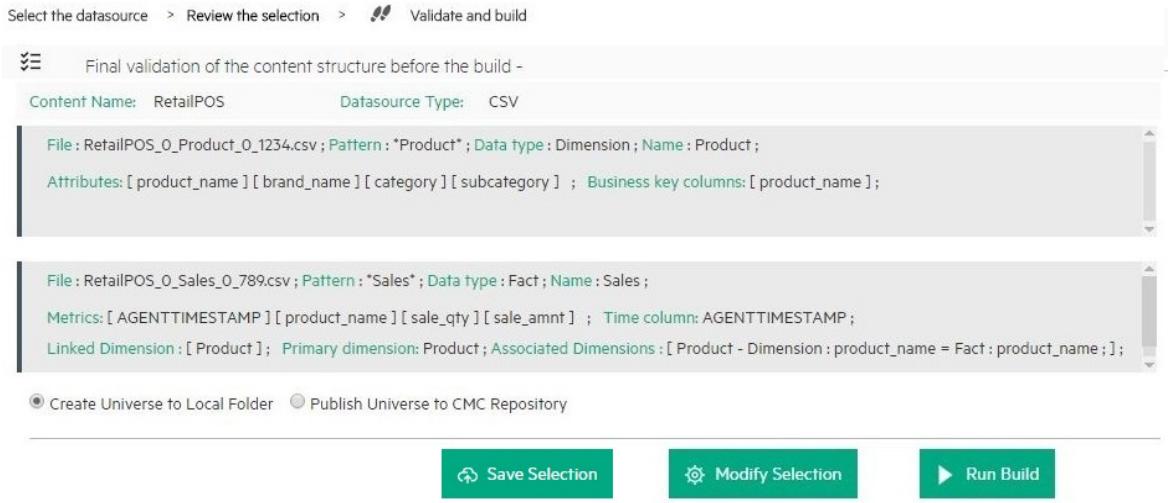
   The **Validate and build** page appears.

   Click **Modify Source** to reset the workspace and select different CSV files.

> **Note:** When you click **Modify Source** and change CSV files, if you retain one or more previously selected CSV files for content creation, Content Designer retains all the details of the unchanged CSV files.

### Task 5: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table you have collected.




1. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`
     - `.dfx`
     - `.unx`

     To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

   - **Publish Universe to CMC Repository**

     On selecting this option , Universe gets deployed directly to CMC repository.

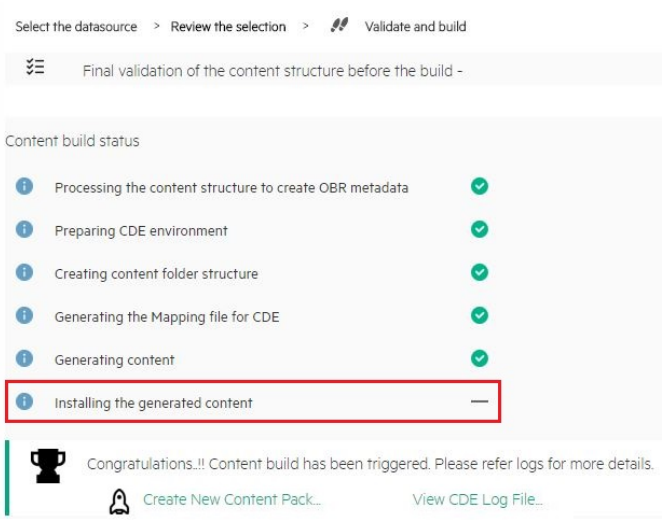
   To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

   If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

2. Click **Save Selection** to save your current content pack selection for future use.

3. Click **Modify selection** to reset the content workspace.
4. Click **Run Build** to create your content packs.

   Content build status is displayed and content pack creation is triggered and the following status is displayed:




   Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified.

   Log on to OBR Administration Console and deploy the content pack. For information about deploying and installing content packs, see "Deploying Content Packs" on page 79.

   > **Note:**
   > After you deploy the content pack, ensure that the input CSV files are available in the `{PMDB_HOME}\collect\` folder.
   >
   > The record terminator in the CSV files must be according to the platform on which OBR is installed:
   >
   > - **OBR on Windows**: Record terminator of the input CSV must be `\n\r`.
   > - **OBR on Linux**:Record terminator of the input CSV must be `\n`

Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.

You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.

# Database as a Datasource

OBR collects data from databases that support Java Database Connectivity (JDBC): Microsoft SQL, Oracle, Sybase IQ, PostgreSQL, and so on).

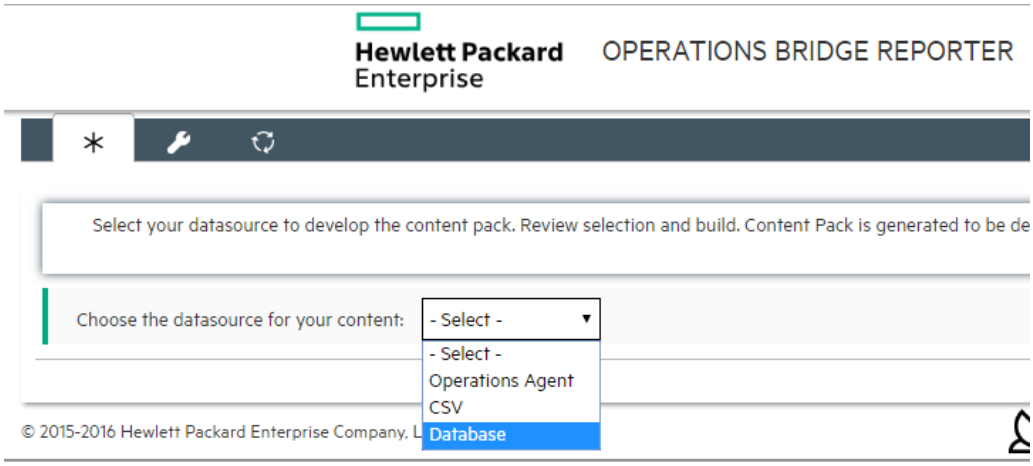
> **Note:** If you select ORACLE as the database type, do not select Auto deploy Domain and ETL content pack. Your ETL content pack collection policy has to be edited and recreated using the command-based CDE.
>
> From your collection policy, find the following DBDATE:
>
> <statement>select "DBDATE" as DBDATE,"CUSTOMER_ID" as CUSTOMER_ID,"SESSION_COMP_SEC" as SESSION_COMP_SEC from RUM_EVENTS_90000 where **DBDATE > $FETCH_START_TIME**</statement>
>
> Replace with the following:
>
> <statement>select "DBDATE" as DBDATE,"CUSTOMER_ID" as CUSTOMER_ID,"SESSION_COMP_SEC" as SESSION_COMP_SEC from RUM_EVENTS_90000 where **DBDATE > TO_TIMESTAMP($FETCH_START_TIME, 'YYYY-MM-DD HH24:MI:SS.FF')**</statement>
>
> For instructions to recreate ETL content pack, see *Operations Bridge Reporter Content Development Guide*.

Perform the following steps to generate the Domain, ETL, and Application components of the content pack:

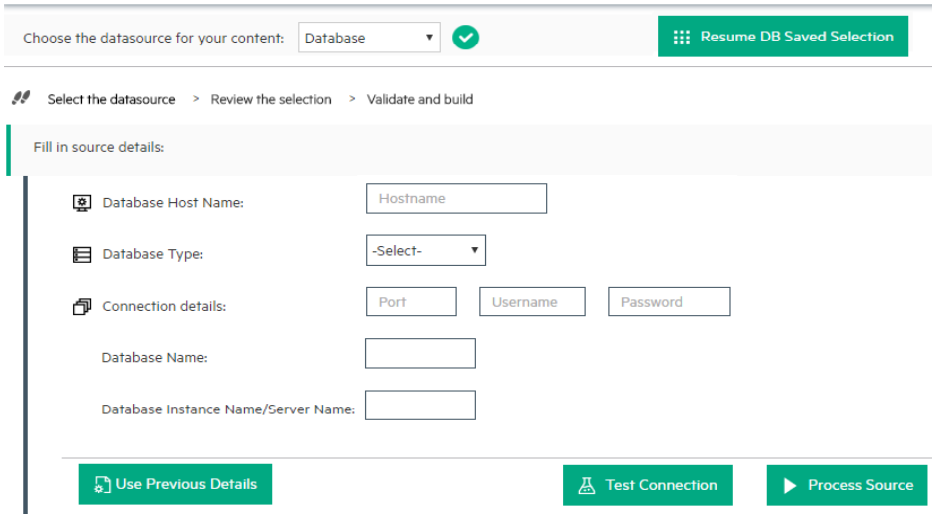
### Task 1: Select the Datasource

1. Open the **Content Workspace** page.
2. From the **Choose the datasource for your content:** list, select **Database.**

   The Select the datasource tab is displayed.




3. Specify the **Database Host Name**.




> **Note:**
>
> - If you have entered database details in OBR Content Designer earlier, click **Use Previous Session Details** to load database details saved earlier.
> - Click **Resume DB Saved Selection** to load your content pack attributes selection from an earlier session in content workspace.

4. Select the **Database Type** from the list.

> **Note:** For the database type, copy the following `.jar` files as applicable from the available location to the `{CDE_HOME}\lib` directory:

| Database Type | .jar file | Available Location |
|---|---|---|
| MSSQL | **jtds.jar** | {PMDB_HOME}\lib |
| ORACLE | **OVoracle.jar** | {PMDB_HOME}\lib |
| SYBASEIQ/SYBASEASE | **jconn4.jar** | You can copy the **jconn4.jar** file from your jConnect install location or download the file from the Internet. |
| POSTGRESQL | **postgresql.jar** | {PMDB_HOME}\lib |
| VERTICA | **vertica-jdbc.jar** | {PMDB_HOME}\lib |

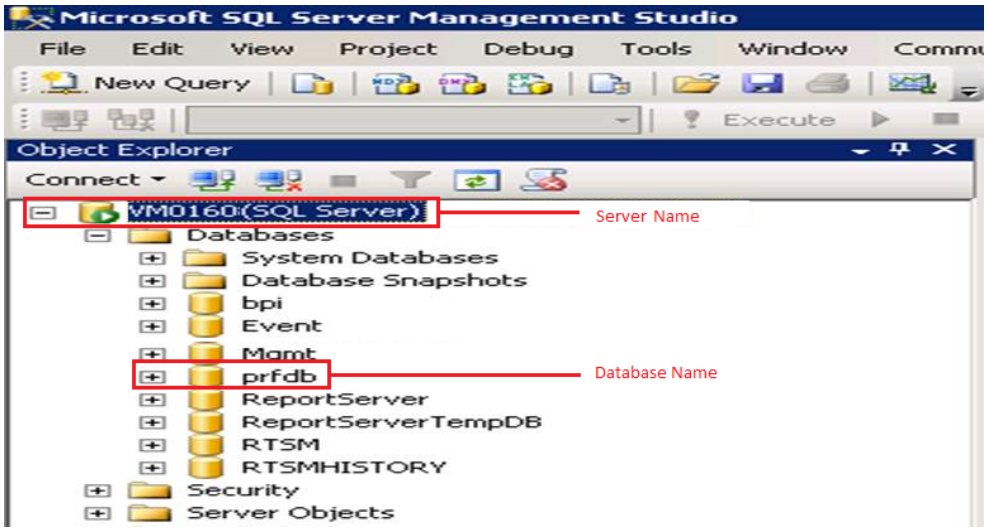
5. Specify the **Connection details**: Port number, username, and password.
6. Specify the **Database Name** and **Database Instance Name/Server Name**.

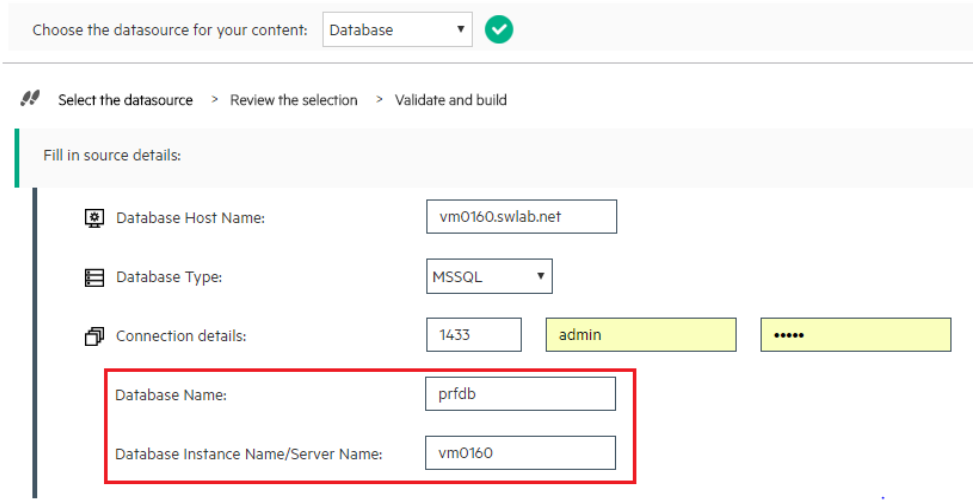
**Note:**

- **For MSSQL database**:

  The **Database Name** is the name of your database on the MSSQL server and **Server Name** is the name of the SQL server where the database is created.

  **Example**:

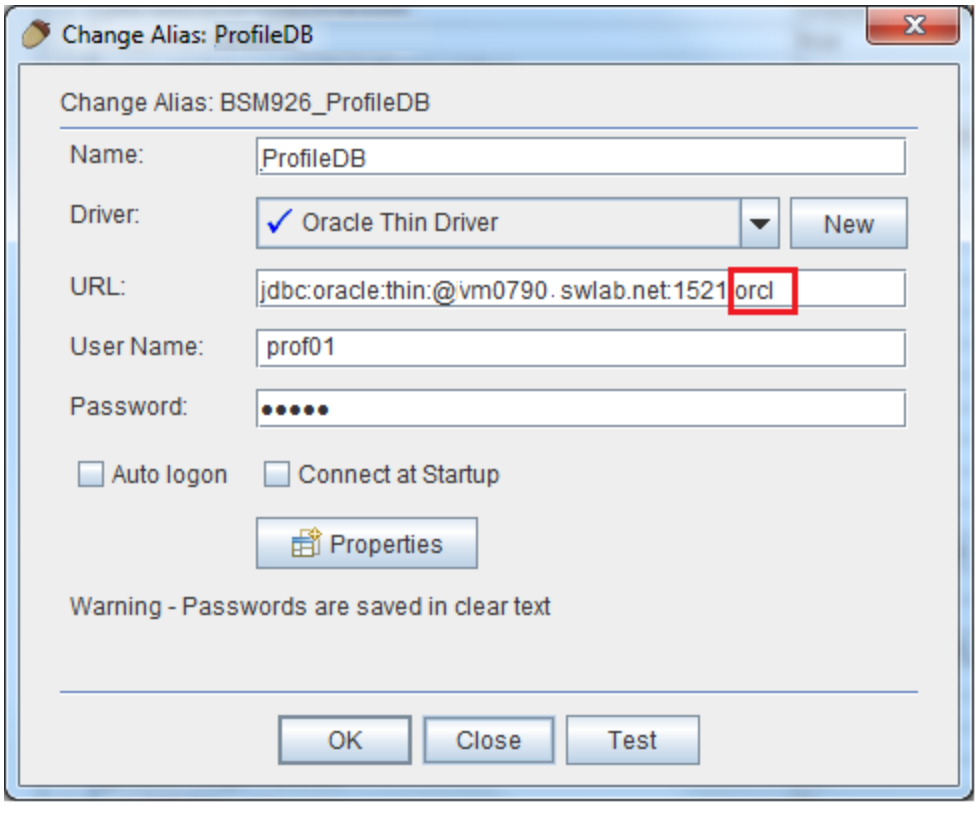


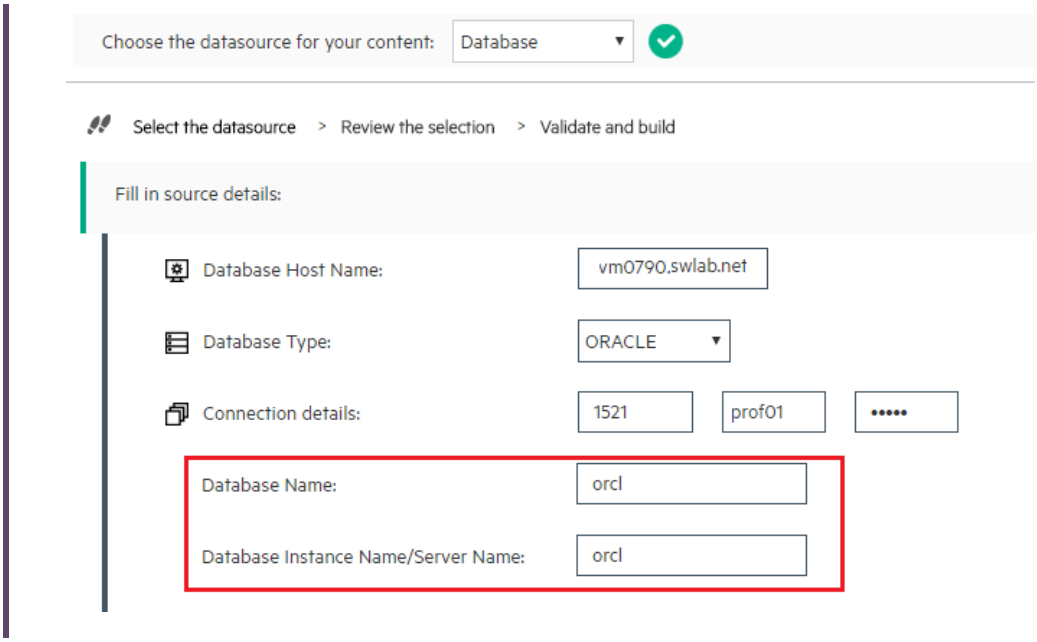



- **For Oracle database**:

  The Database Name and the Database Instance Name are the same. Type the same name in both the boxes.

  **Example**:

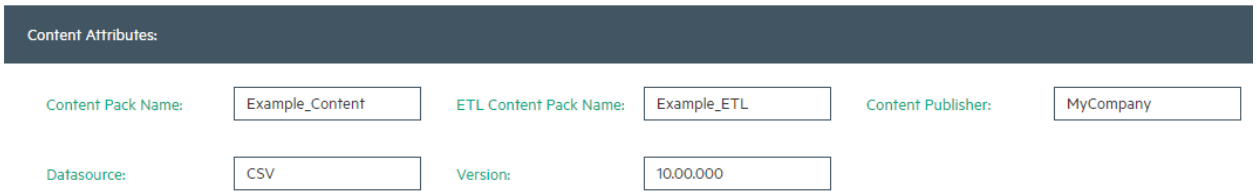





7. Click **Test Connection** to check the database connectivity.
8. Click **Process Source** to proceed with content development.

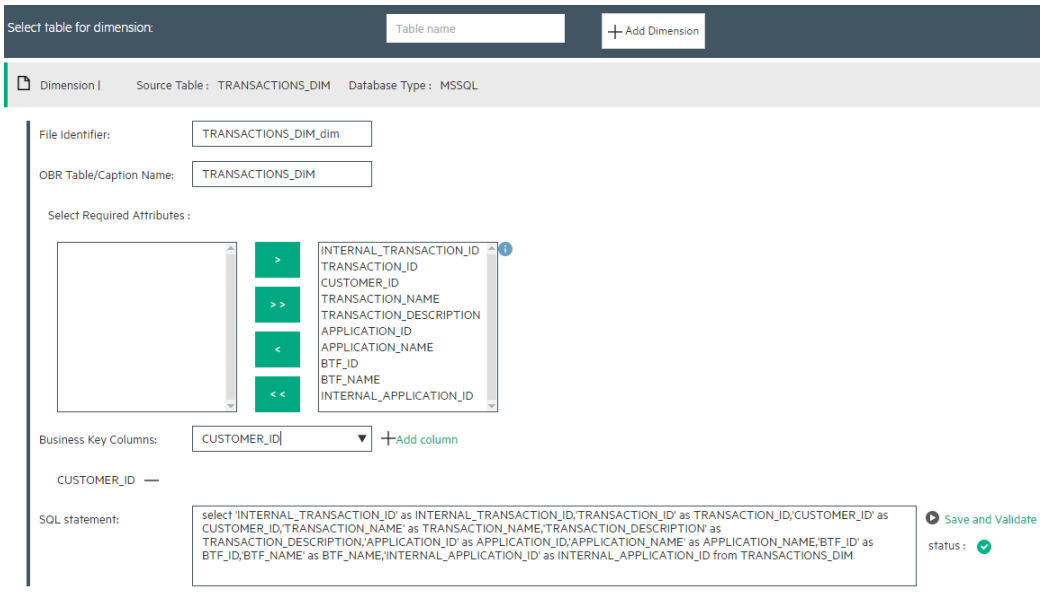
   The **Review the selection** page appears.

## Task 2:Specify Artifact Attributes




1. Specify **Content Pack Name** and **Content Publisher** name.
2. Specify your datasource application in the **Datasource** box and content pack **Version**.

### Task 3: Add Dimensions



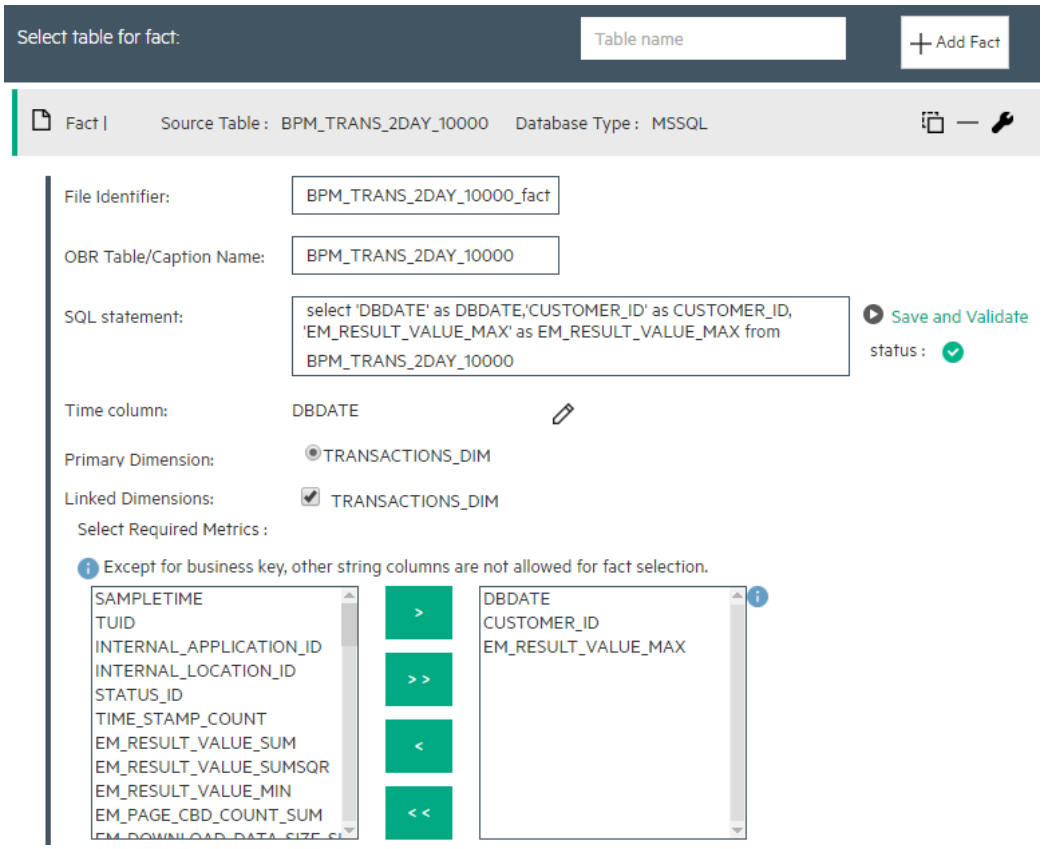

1. From the **Select tables that serve as dimension for the content:** list, select the dimension table.
2. Click **Add Dimension**.
3. Specify the **File Identifier**, and **OBR Table/Caption Name**.
4. From the **Select Required Attributes** list choose the metrics required.
5. Click in the **Business Key Columns** box to select the column name and click **Add column**.
6. Write or modify the **SQL Statement**, and click **Save and Validate**.

   The SQL statement validation status is displayed.

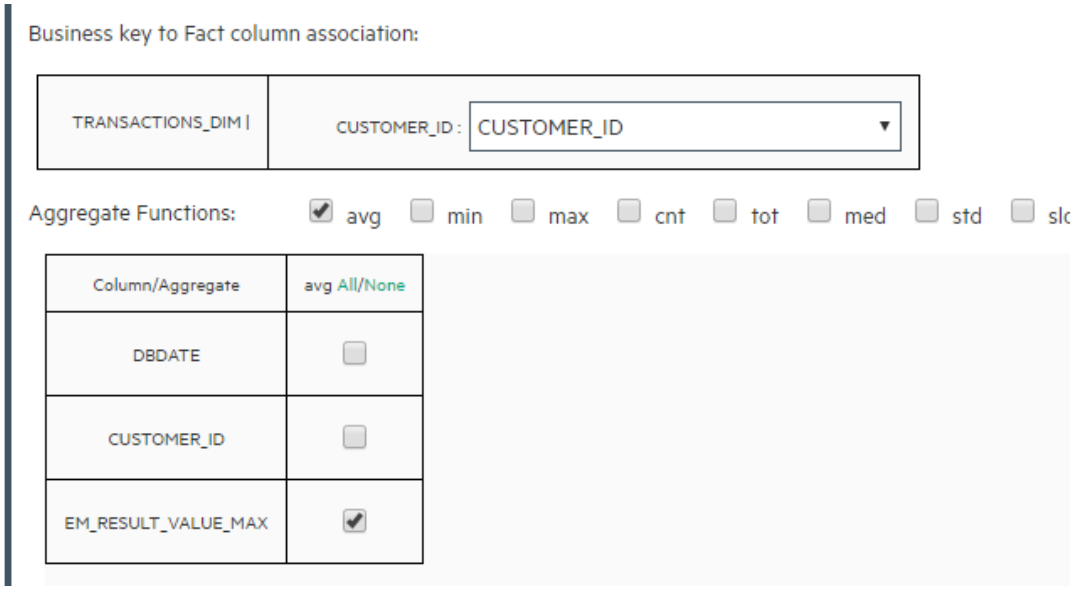
   > **Tip:** Click to view sample data from the dimension table, to duplicate the current dimension source, and to delete the current file selection.

7. Repeat steps 1 to 6 to add more dimensions.

### Task 4: Add Facts




1. From the **Select tables that serve as Fact for the content** list, select the fact table.
2. Click **Add Fact**.
3. Specify the **File Identifier** and **OBR Table/Caption Name**.
4. Write or modify the **SQL Statement**, and click **Save and Validate**.
5. Click ✎ to add **Time Column** and select the column name.
6. Select the **Primary Dimension** and **Linked Dimensions**.
7. From the **Select Required Metrics** list choose the metrics required.
8. From **Business key to Fact column association** list, select the business key column names and the associated fact column names.




9. Click the check boxes to select **Aggregate Functions**.

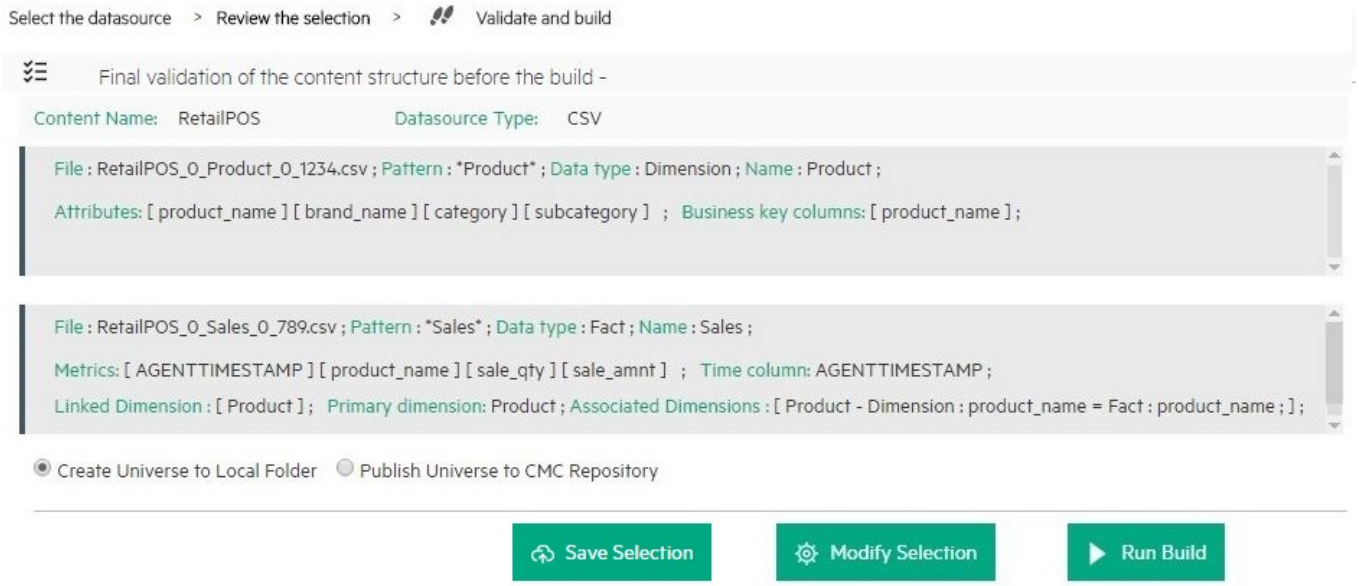
   **Tip:** Click to view sample data from the fact table, to duplicate the current fact source and to delete the current file selection.

10. Repeat steps 1 to 8 to add more dimensions.
11. Click **Modify Source** to go back and select a different source.
12. Click **Confirm Selection** to proceed to build content.

    The **Validate and build** page appears.

### Task 5: Build and Deploy Content

The **Validate and build** page displays the details of the dimension and fact table you have collected.




1. Select **Create Universe to Local Folder** or **Publish Universe to CMC Repository**:

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   - **Create Universe to Local Folder**

     SAP BusinessObjects universe is created in your local file system at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers` with the following extensions:

     - `.blx`
     - `.cnx`
     - `.dfx`
     - `.unx`

     To export universe to CMC repository, see "Exporting the Universe to CMC Repository" on page 82

   - **Publish Universe to CMC Repository**

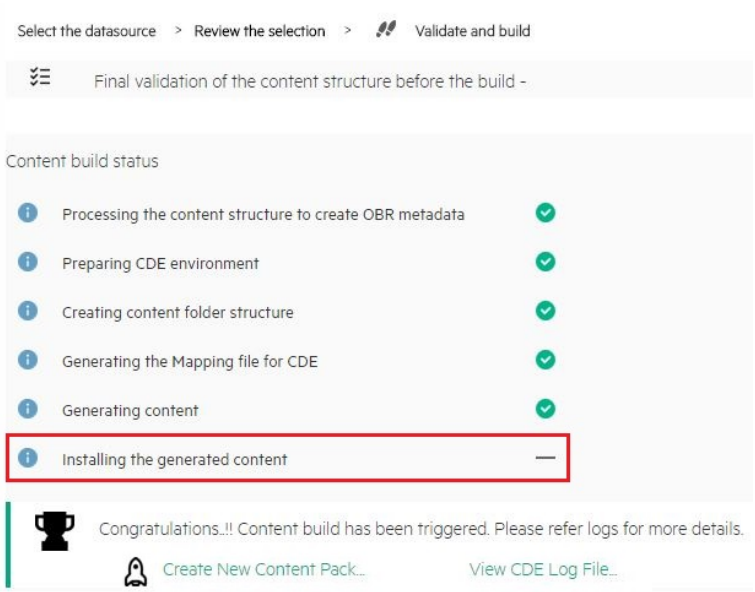
     On selecting this option , Universe gets deployed directly to CMC repository.

   To generate Reports from BI Launch Pad, see "Generating Reports from BI Launch Pad" on page 93

   If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on page 81 to create application content pack.

2. Click **Save** to save your current content pack selection for future use.
3. Click **Modify selection** to reset the content workspace.
4. Click **Run Build** to create your content packs.

   Content build status is displayed and content pack creation is triggered.



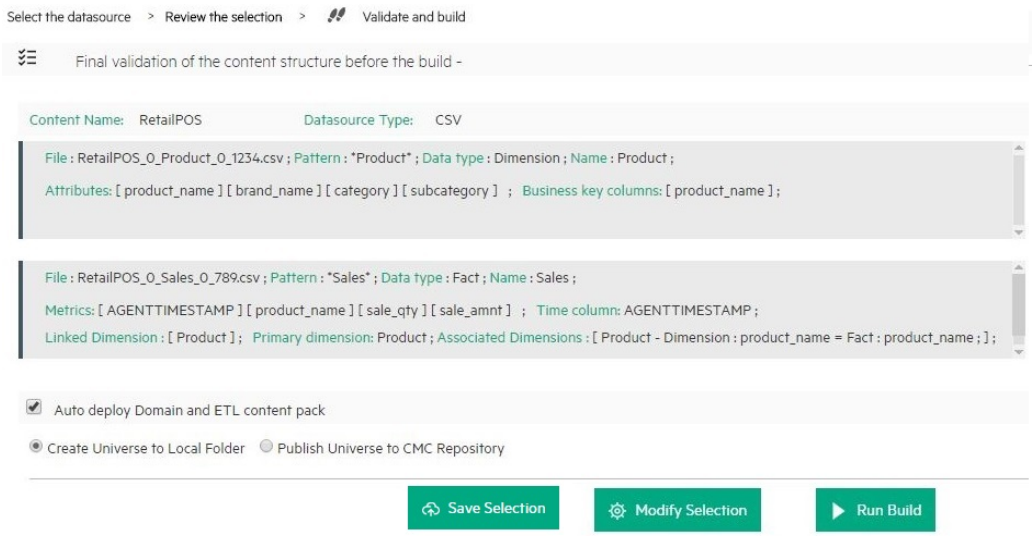

   Domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the <*content pack name*> you have specified.

> **Note:**
>
> - Click **Create New Content** to create a new content pack or **View CDE Log File** to see the CDE logs.
> - You can also see the status on your system in the log file at `{CDE_HOME}\log\cde.log`.
> - On successful build "Content Build Successful" is displayed in the log file.

# Deploying Content Packs

## Deploying Domain and ETL Content Packs

After you build content using OBR Content Designer, domain, ETL, and Application component packs are created at `{CDE_HOME}\workspace` folder with the *<ContentPack>* name you have specified. If you have selected **Auto deploy Domain and ETL content pack** while creating content on OBR system, the domain and ETL content pack components are available on **OBR Administration Console > Content Packs Deployment** for installation.




To deploy the generated content pack manually on OBR system, follow these steps:

1. On your OBR system, go to `{PMDB_HOME}\packages\` directory.
2. Create a folder with the *<ContentPack>* name your have specified.
3. Copy the contents of the following folders to `{PMDB_HOME}\packages\<ContentPack>` folder:

   **Domain**: `{CDE_HOME}\workspace\<ContentPack>\Core<ContentPack>.ap\dist\ContentPack>`

   **ETL**: `{CDE_HOME}\workspace\<ContentPack>\ETL_<ContentPack>.ap\dist\ContentPack>`

Copying a generated components to the `packages` folder makes the components available in the **OBR Administration Console > Content Packs Deployment** page for installation.

> **Note:** Make sure that you install the same versions of the content pack and their dependent content pack.

# Generating and Exporting Application Content Pack

1. Select **Auto deploy Domain and ETL content pack** if you want to deploy the content on OBR server after successful build.

   > **Caution:** If you have selected **Auto deploy Domain and ETL content pack** in OBR Content Designer, do no try to deploy content in your OBR system **Administration Console** > **Content Packs Deployment** at the same time. Content pack deployment will fail.

2. Select **Create Universe to Local Folder** to create SAP BusinessObjects universe in your local file system and publish it later on OBR CMC repository.

   > **Tip:** If you are developing content in Windows, the best practice is to select **Publish Universe to CMC Repository**.

   Files are created with the following extensions at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers`:

   - `.blx`
   - `.cnx`
   - `.dfx`
   - `.unx`

   Or select **Publish Universe to CMC Repository** On selecting this option , Universe gets deployed directly to CMC. To view the published universe and create reports after publishing the universe, perform the following:

   - Export universe to CMC repository - see "Exporting the Universe to CMC Repository" on page 82.
   - Generate Reports from BI Launch Pad - see "Generating Reports from BI Launch Pad" on page 93.

   If you are creating content on a Linux system, see "Creating Application Content Pack for a Linux System" on the next page to create application content pack.

For information about installing and configuring content packs, see *Operations Bridge Reporter Configuration Guide*.

For information about exporting SAP BusinessObjects universe to repository, see "Exporting the Universe to CMC Repository" on the next page.

# Next Steps

This section guides you with the next steps post creation of Content packs.

# Creating Application Content Pack for a Linux System

When you create content using a Linux system, you need to create the application content pack using a Windows system where BusinessObjects Client Tools is installed. Copying the files from Linux to Windows does not work.

Follow these steps to create Application content pack in windows:

1. Extract the `CDE.zip` file.
2. Run `setenv.bat` command with appropriate parameter values.
3. Copy the ETL, Domain and Application components generated under `$CDE_HOME/workspace` directory of the Linux system to Windows `%CDE_HOME%\workspace` folder.
4. On your command prompt, go to `%CDE_HOME%\workspace\RetailPOS\RetailPOSDomain.ap`.
5. Run the following command to compile domain content pack:

   ```
   ant
   ```

6. Go to `%CDE_HOME%\workspace\RetailPOS\RetailPOSETL.ap`.
7. Run the following command to compile ETL content pack:

   ```
   ant
   ```

8. Go to `%CDE_HOME%\workspace\RetailPOS\RetailPOSReporting.ap`.
9. Run the following command to compile application content pack:

   ```
   ant
   ```

   Files are created with the following extensions at `{CDE_HOME}\workspace\<ContentPack_Name>\<ContentPack_Name>.ap\UnxFolder\UnxLayers`:

- `.blx`
- `.cnx`
- `.dfx`
- `.unx`

To view the published universe and create reports refer After publishing the universe, perform the following:

- Export universe to CMC repository - see "Exporting the Universe to CMC Repository" below.
- Generate Reports from BI Launch Pad - see "Generating Reports from BI Launch Pad" on page 93.

# Exporting the Universe to CMC Repository

After the application content pack is generated using the OBR Content Development Environment (CDE) or OBR Content Designer, perform the following steps:

Prerequisites:

- SAP BusinessObjects Client Tools has to be installed on any windows systems. Extract and install the client tools that is available in the following location:

  *<OBR .tar Extracted location>*/packages/BusinessObjects_Client_tools.ZIP

  > **Note:** If you are installing the Client Tools on the same OBR or SAP BusinessObjects installed system, follow these steps:
  >
  > a. Go to the location `<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc`
  >
  > b. Copy the `vertica.sbo` file to some other location.
  >
  > c. Install the SAP BusinessObjects Client Tools
  >
  > d. Replace the `vertica.sbo` file to the same location.

- On the system where the SAP BusinessObjects Client Tools is installed, go to the `<drive>:\Windows\System32\drivers\etc\hosts` file and type the hostname and IP address entries of the OBR and BO systems.
- Vertica JDBC driver

- Ensure that all the SAP BusinessObjects services are running in system where SAP BusinessObjects is installed.

After successful installation of SAP BusinessObjects Client Tools perform the following steps:

> **Important:** If you have installed client tools on the same OBR or BO installed system, do not perform step 1 and 2.

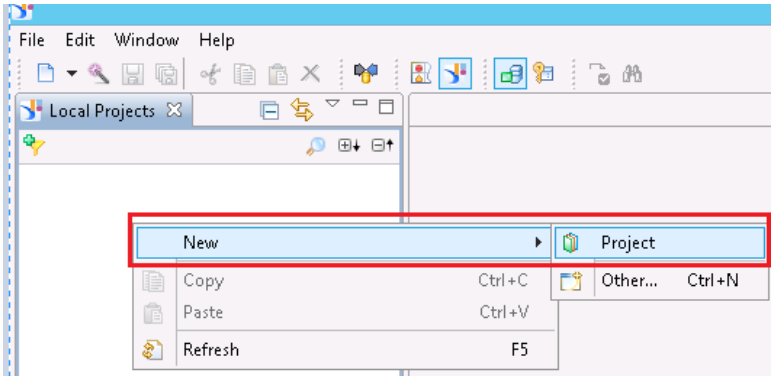
1. In SAP BusinessObjects server, copy `Vertica.sbo` and `Vertica-jdbc.jar` from the following location:

   **On Linux:**

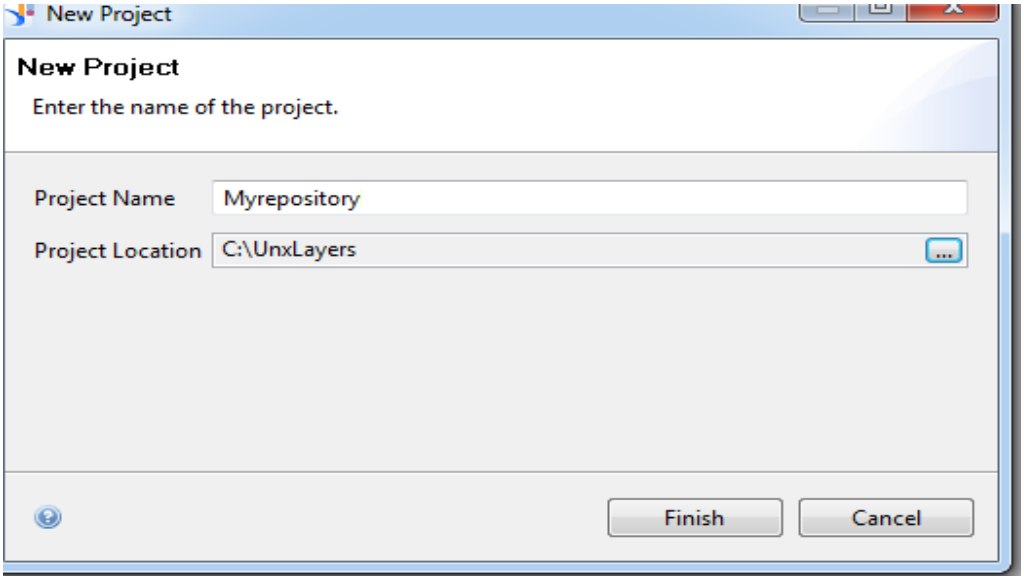
   - Vertica.sbo - `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/jdbc`
   - Vertica-jdbc.jar - `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/dataAccess/connectionServer/drivers/java`

   **On Windows:**

   - Vertica.sbo - `<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc`
   - Vertica-jdbc.jar - `<BO Install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\drivers\java`
2. On the Windows system where SAP BusinessObjects Client Tools is installed, paste the copied `Vertica.sbo` and `Vertica-jdbc.jar` to the following location:
   - Vertica.sbo - `<BO install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc`
   - Vertica-jdbc.jar - `<BO Install drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\drivers\java`
3. On the system where SAP BusinessObjects Client tools is installed, select **SAP Business Intelligence**> **SAP BO BI platform 4 Client Tools** > **Information Design Tool**.
4. Log on to Information Design Tool (IDT).
5. Right-click in the **Local Projects** area, and select **New** > **Project**.



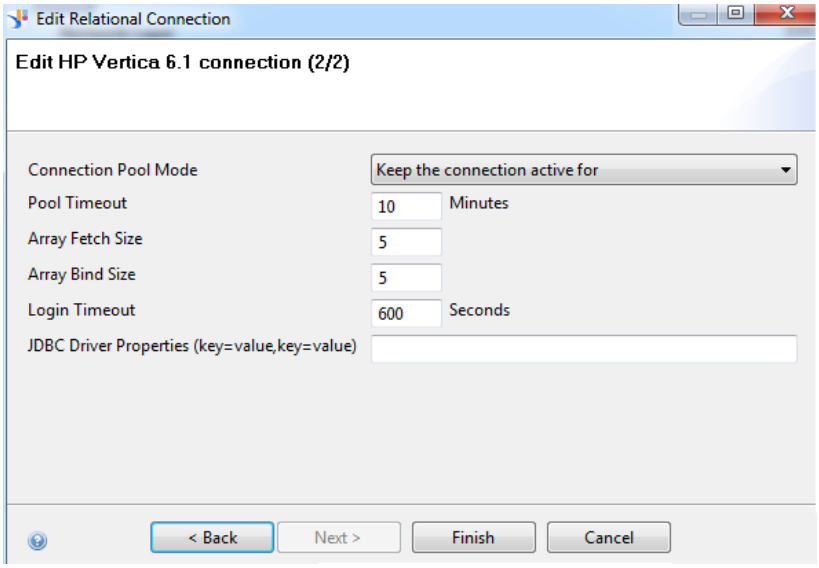

6. Specify the **Project Name** and **Project Location**. The project location is the path of unx folder (UnxFolder) generated by OBR Content Designer.



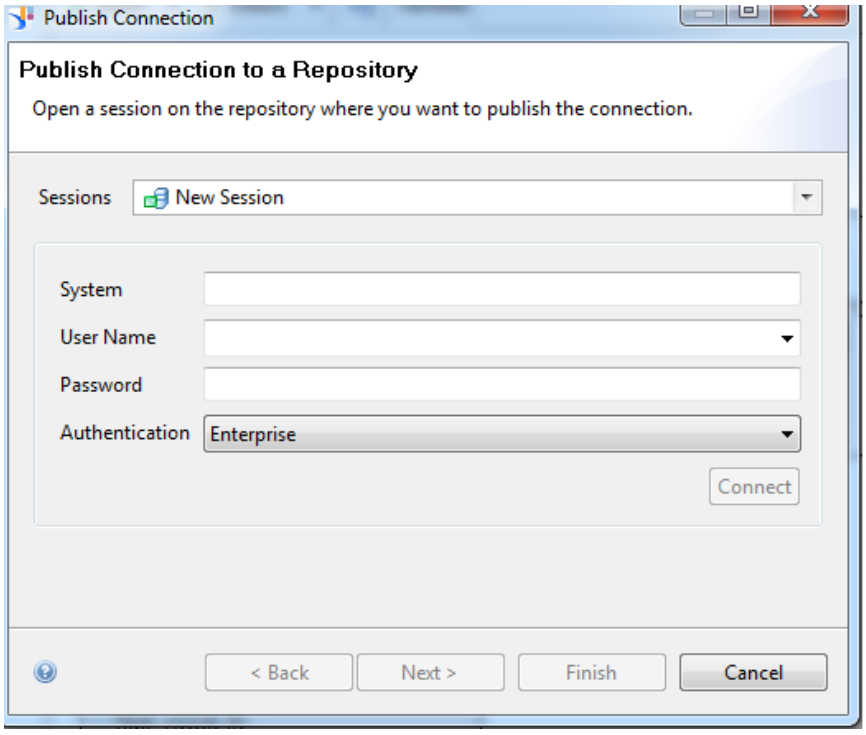

   UnxLayer contains files with the following extensions:

   - `.blx`
   - `.cnx`
   - `.dfx`
   - `.unx`

7. Click **OK**.
8. Double-click the **Application<*ContentPack*>.cnx** and modify the **Array Size** to 5.




9. Right-click the **Application<*ContentPack*>.cnx** file and select **Publish Connection to a Repository**.
10. On the Publish Connection window, perform the following:



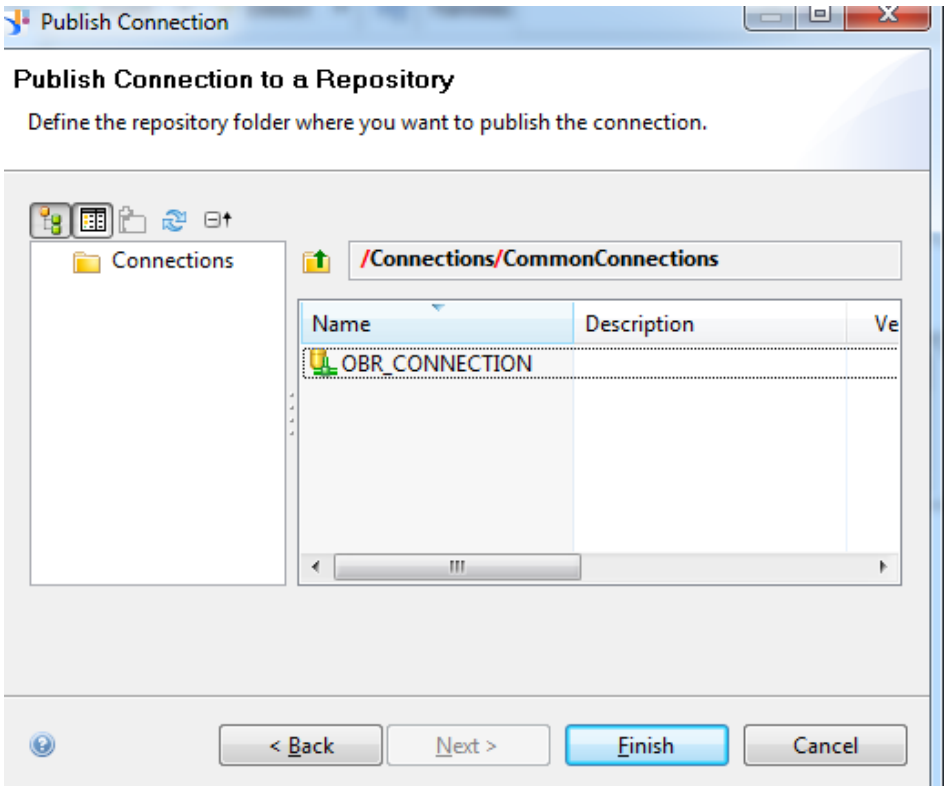

   a. From the **Session** drop-down list, select **New Session**.
   b. In the **System** box, type your OBR BusinessObjects system details.

c. Type OBR BusinessObjects server Administrator **User Name** and **Password**.

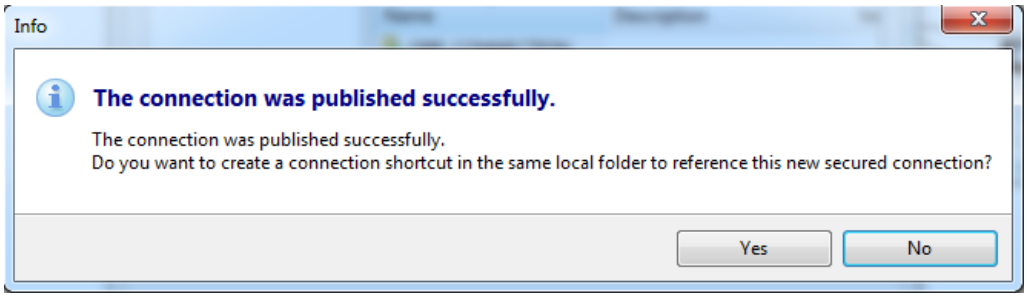
d. From the **Authentication** list, select **Enterprise**.

e. Click **Connect** to verify connection to OBR BusinessObjects system.

f. Click **Finish**.




11. Save the connection under the **CommonConnections** folder and click **Finish**.

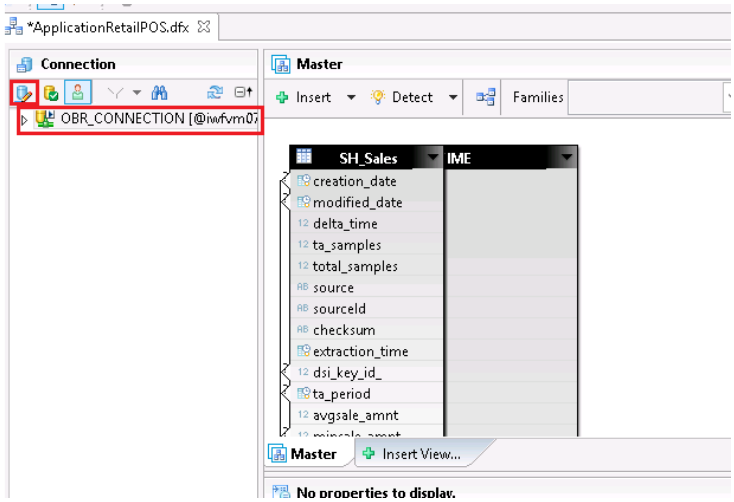



Click **Yes** if you want to create a shortcut to the connection file, or else click **No**.

The `OBR_CONNECTION.cns` is added to the new project.

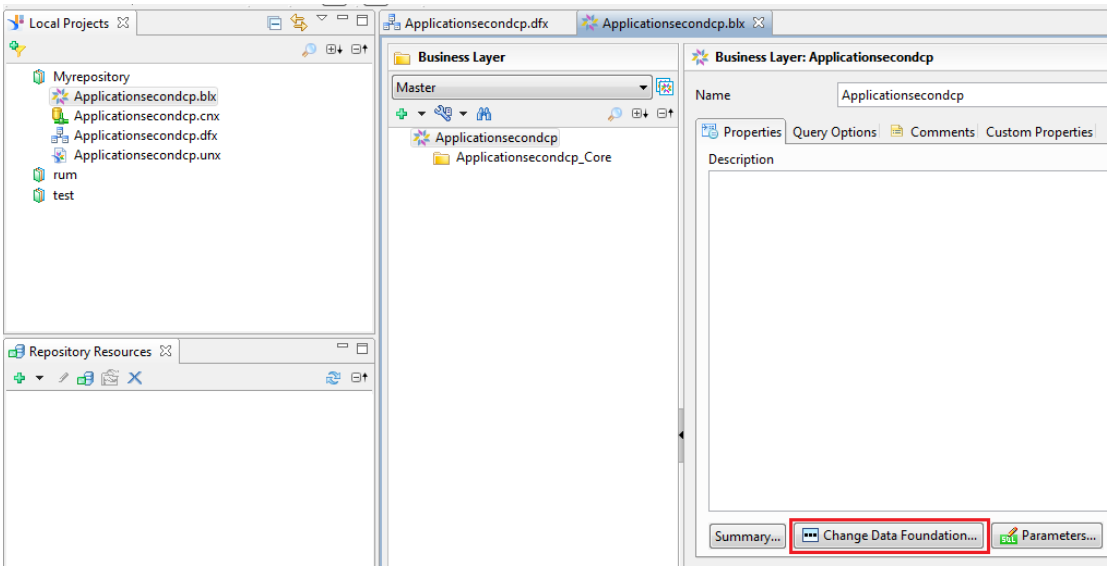
12. If prompted for secure connection, click **Yes**.

13. In the **Connection** area click the **Change Connection** icon and select the new **OBR_CONNECTION.cns**.

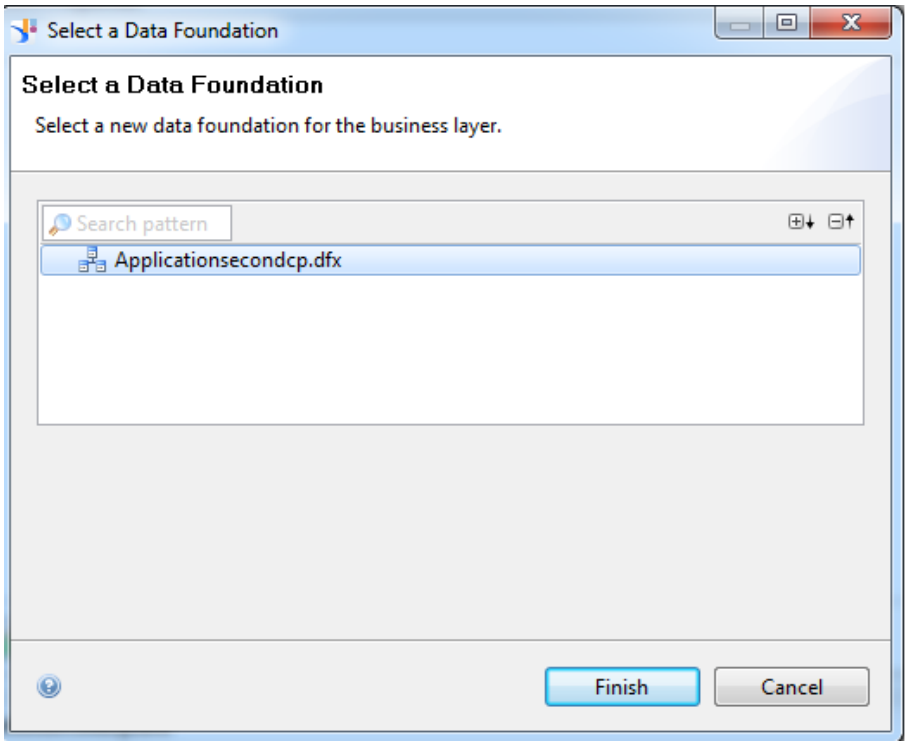



14. Select the connection name and click **Finish**.

15. In **Local Projects**, right-click the **.blx** file and select **Change Data Foundation**.




16. Select the **.dfx** file (data foundation) and click **Finish**.

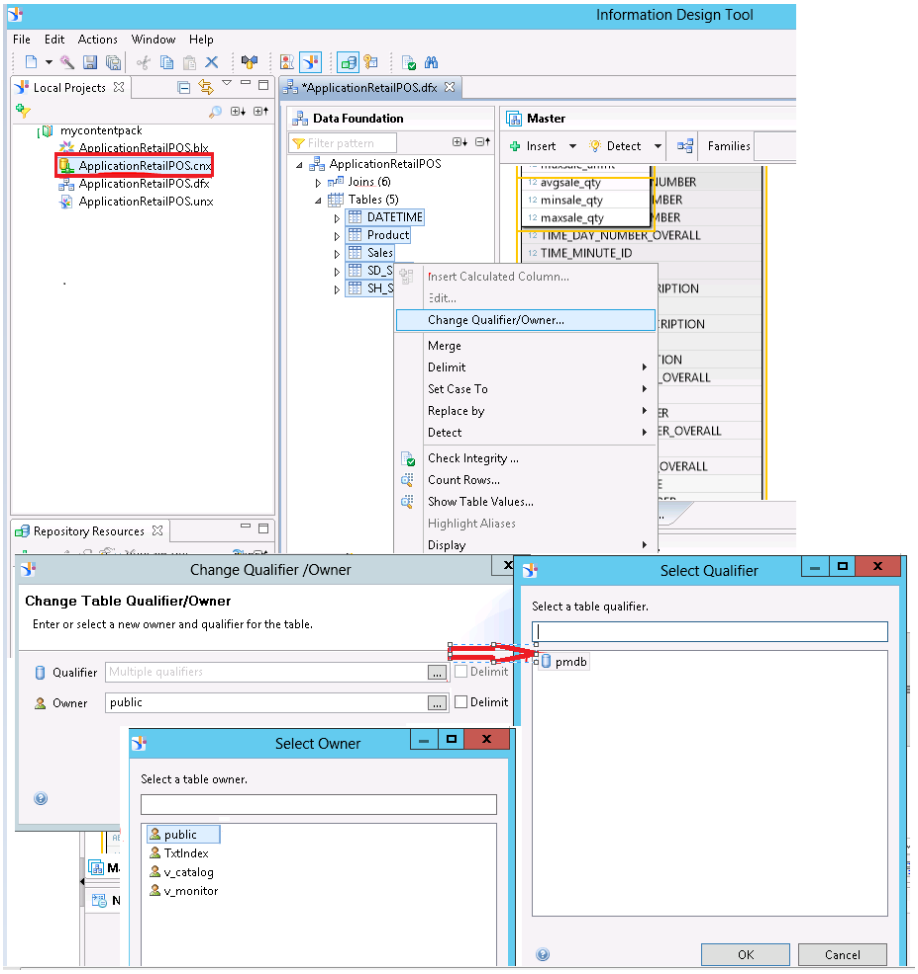



17. Right-click the **.blx** file and select **Publish** > **To Repository**.
18. Create a folder with your content pack name and click **Finish**.

    > **Note:** Ensure that your folder is selected before you click Finish.

19. Change the **Qualifier** and **Owner** as per your configuration during the on post-install configuration.

    By default, the Owner is `Public` and Qualifier is `pmdb`.




**Note:** If you are not able to change **Qualifier** and **Owner** successfully:

a. Go to `<BO installation Drive>:\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\dataAccess\connectionServer\jdbc\extensions\qt` directory.

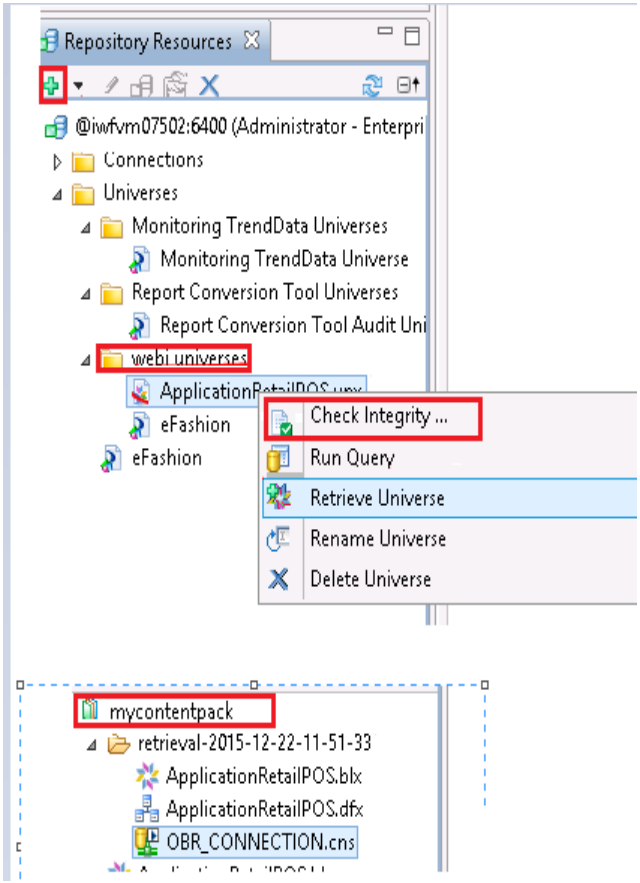
b. Open the `vertica.prm` file.

c. Change the following parameters to `Y` instead of N:

```
<Parameter Name="OWNER">Y</Parameter>
<Parameter Name="QUALIFIER">Y</Parameter>
```

### Points to remember

1. The connection name must be `OBR_CONNECTION` and the connection must be saved under the `CommonConnections` folder.
2. Qualifier and Owner must be appropriate as per your the custom change.
3. Please note that `.dfx` and `.cns` are connected with `.blx` layer. Export only the `.blx` layer to repository.
4. To import the universe from repository and make changes, right-click and retrieve the universe as shown below in Information Design Tool, so that you can view the `.dfx` and `.blx`. The `.cns` layer will be extracted in a folder named with the date of retrial.

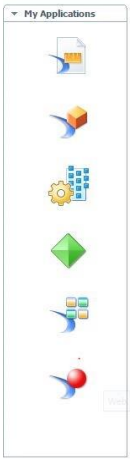



# Creating Web Intelligence Reports

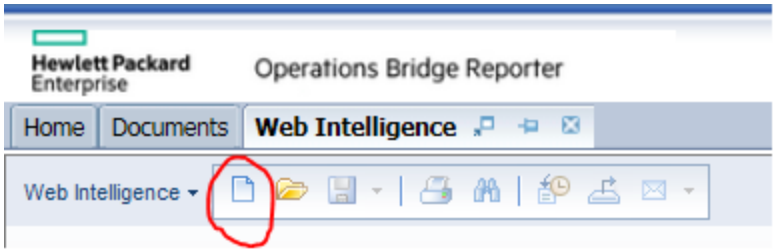
You can create Web Intelligence reports by selecting the universe in SAP BusinessObjects BI Launch Pad and building one or more queries to define the data content of the reports.

To create a simple sales report containing a table of sales quantity and sales amount per product category, follow these steps:

1. Logon to SAP BusinessObjects BI Launch Pad by using one of the following ways:
   - In the address bar of your web browser, type the URL of the SAP BusinessObjects system. The URL of the machine will be in the format: `https://<HostName>:8443/BI`
   - In the Administration Console, click **Additional Configurations** > **Reporting Platform** and then click **Launch BI Launch Pad**. The BI Launch Pad login page appears.
2. Log on to the SAP BusinessObjects BI Launch Pad with your System details, User Name and Password.
3. Under **My Applications**, click **Web Intelligence** icon.

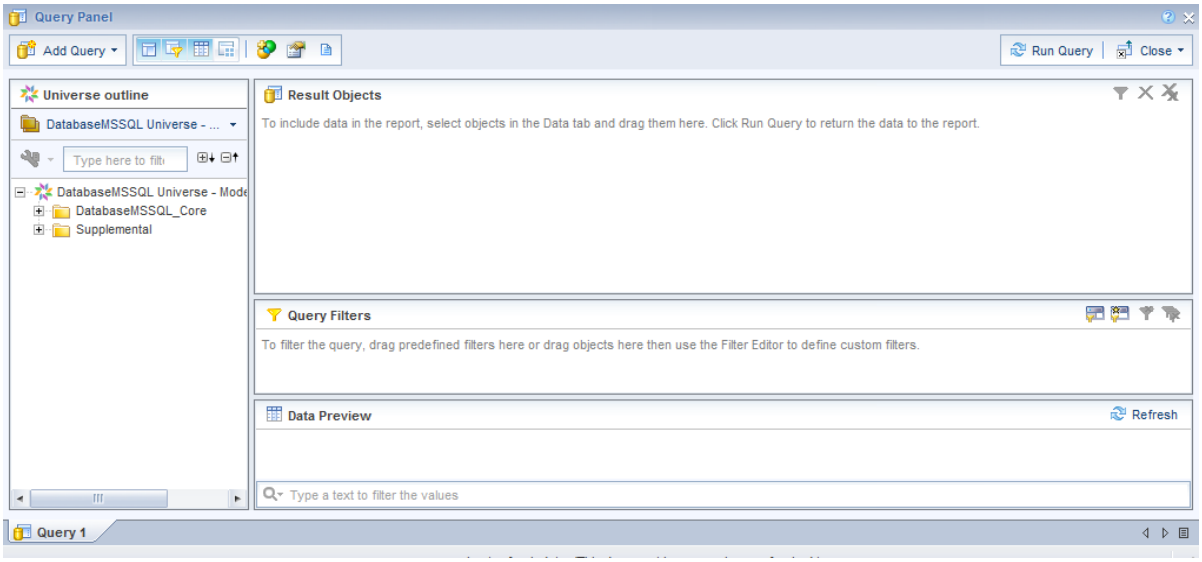



4. Click the **New** icon.




5. From the **Create a Document** page, click **Universe**.

   The Query Panel window opens. The **Universe Outline** tab displays the objects – dimensions and measures – available in the universe as shown in the following figure:




6. Select **RetailPOSReporting Universe - Model Generator.**
7. To include data in the report, select the following in the data tab and drag them into the Result Objects window. Alternatively, you can double-click the objects to place them in the Result Objects window.
   - Dimension: `Category` (under `Product(Retail Sales)`)
   - Measures:
     - `Sale Quantity` (under `Sales Measures`)
     - `Sale Amount` (under `Sales Measures`)
8. Click **Run Query** to return the data to the report.

   A table of Sale Quantity and Sale Amount by Product Category is created. You can rename the table to an appropriate title.

# Viewing Reports on SAP BusinessObjects BI Launch Pad

Now that you installed the Domain and Reports component packages and the data is loaded into the data warehouse, you can view the reports on the SAP BusinessObjects BI Launch Pad interface.

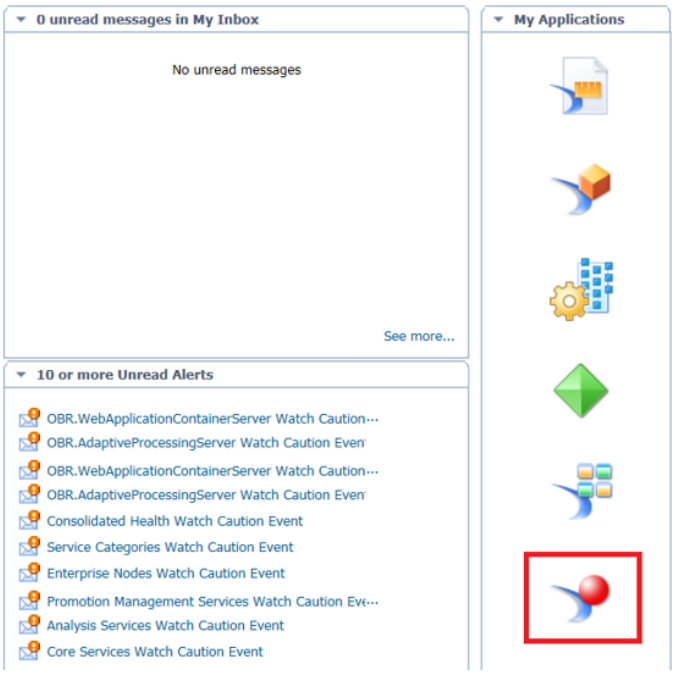
If you installed the recently created content pack, you will see the report in the `Document List` in BI Launch Pad.

For instructions on how to log on to the BI Launch Pad and view reports, see *Operations Bridge Reporter Online Help for Users.*

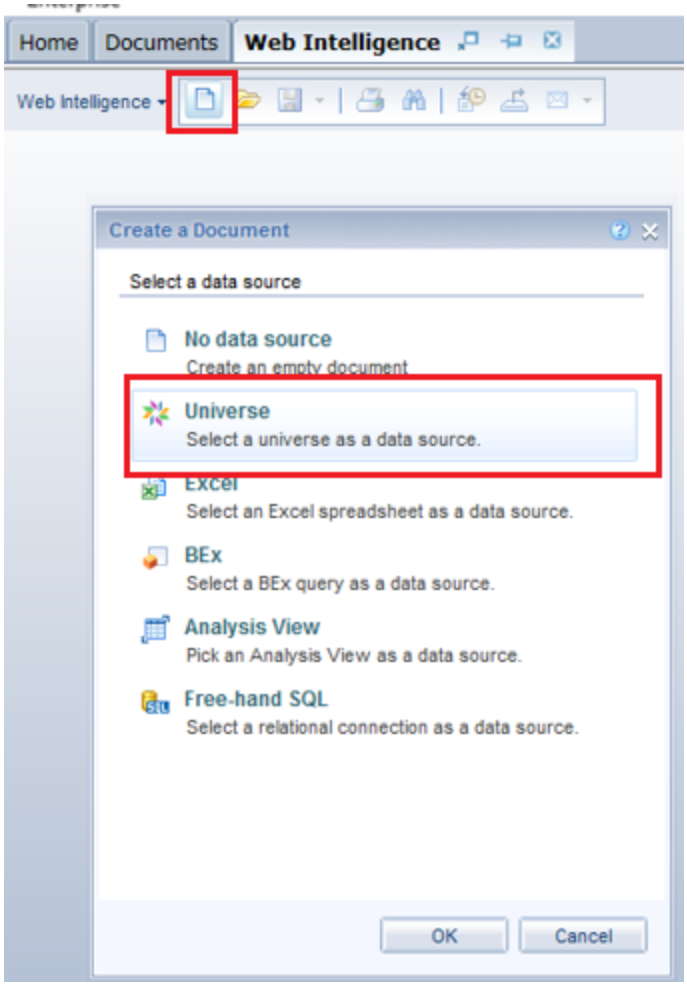
# Generating Reports from BI Launch Pad

Perform the following steps to create reports:

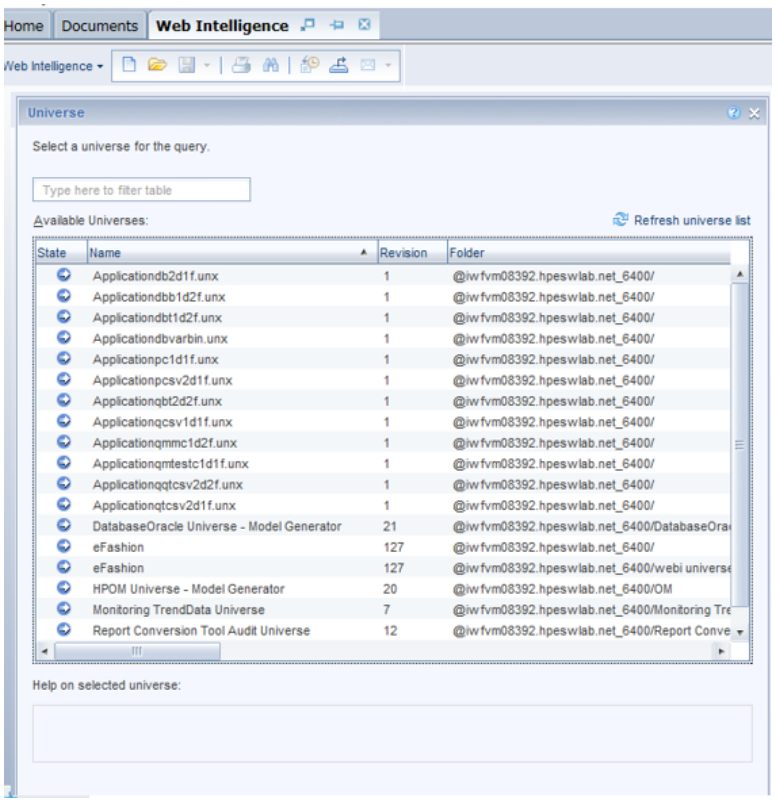
1. Type `https://<HostName>:8080/BI` on the web browser and log on to the BI launch pad of HPE OBR.
2. Click on Web Intelligence icon.



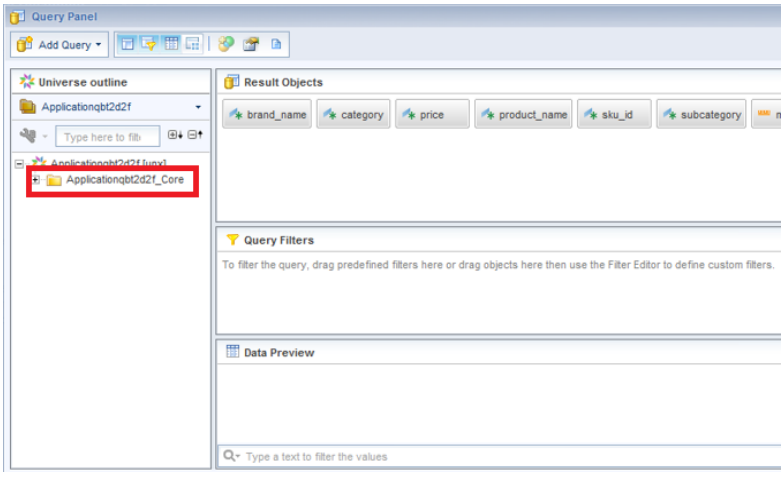

3. Click on create a new **Web intelligence** icon.



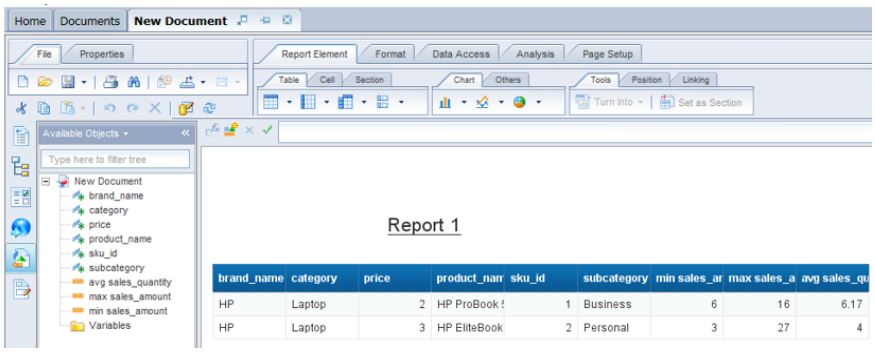

4. In the Create a Document page, celect **Universe** as adatasource.
5. Click **Refresh Universe list** if the created Universe is not available in Available Universe List.



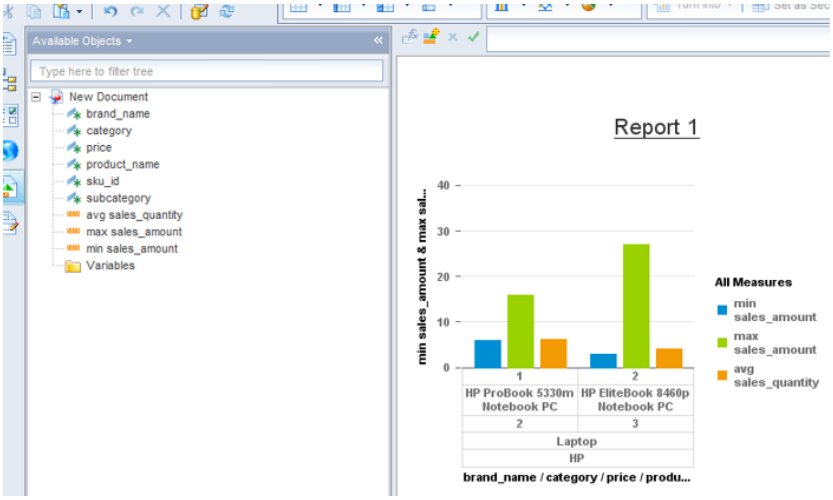

6. Double-click on the Universe to generate reports.
7. Click and expand the content under Universe outline to view the metrics.




8. Drag and drop the required metrics from *Dimension* and *Fact* tables to **Result objects**.
9. Click on **Run Query**. You can see the report generated.




10. You can generate column charts, pie charts and so on as per your requirement.




# Edit Content

OBR Content Designer allows you to make changes in your content pack artifacts using an built-in, easy-to-use XML editor and regenerate the content pack. You can also make changes in several content packs and re-build the content packs all at once.

# Modifying Existing Content Packs

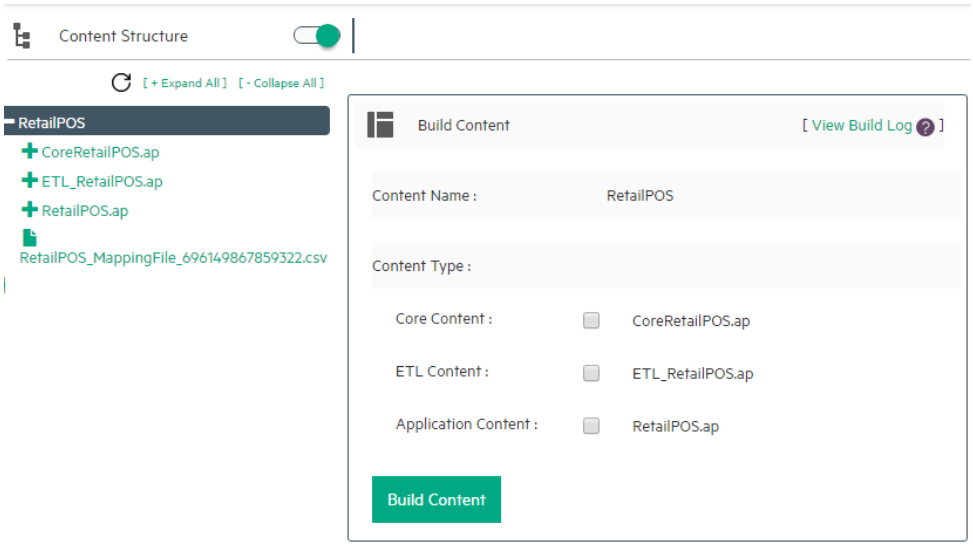
> **Note:** You can modify only the `.xml` files using the XML editor. You cannot modify `build.xml` file under any content pack.

# Edit content

Follow these steps to edit your content:

1. On your Content Workspace, click Edit Content .

   All the content packs you have previously created are listed.




2. Click a content pack name and then the plus sign to views the artifacts.

   Click **Expand All** to expand and view the content artifacts for all the content packs.

   Click **Collapse All** to collapse the artifacts.

   Click to hide the list of content packs; click the same button to view the content packs.

3. Click the `.xml` file you want to modify.

   The .xml file opens in the XML Editor on the left.

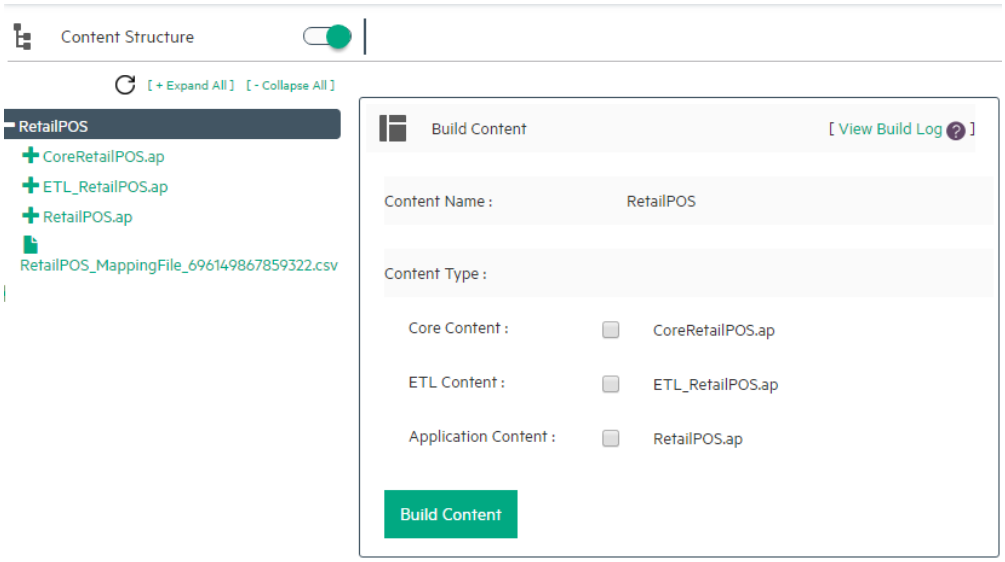
4. Make the changes required and click **Save**.

   When you click **Save**, the .xml file is saved but the content pack is not updated with the changes. Ensure that you rebuild the content.

# Re-build content pack

1. After you modify and save the .xml files for a content pack, click a content pack name.

   The Build Content page appears on the right.




2. Select the **Content Type**: Core, ETL, and Application.
3. Click **Build Content**.

   The content pack is re-generated. Click View Build Log to see the logs.

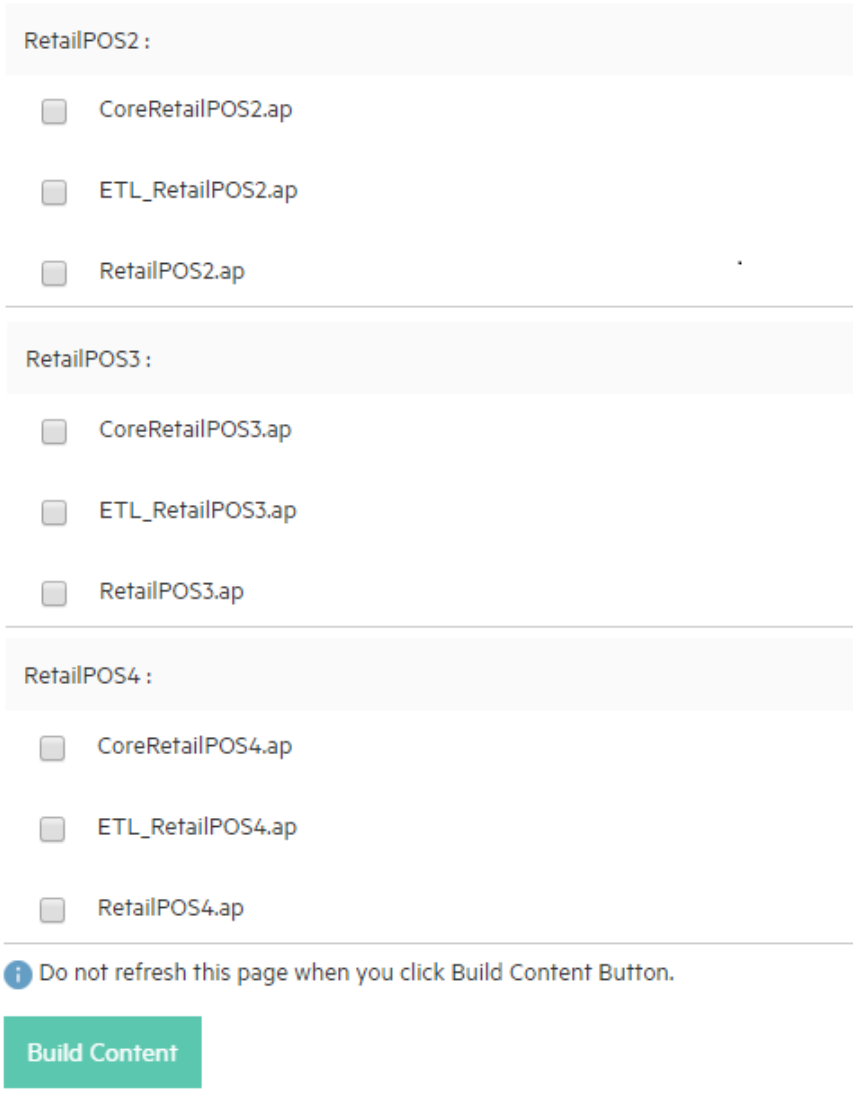
# Re-build Multiple Content Packs

OBR Content Designer provides the option to modify content packs and re-build multiple content packs at once.

Follow these steps to re-build the multiple modified content packs together:

1. On your Content Workspace, click **Build Content**.

   The Build Content page displayed with all the content packs.




2. Click the type of content you want to re-generate for each content pack.

   Click **Select All** to select all the content packs and **Deselect All** to clear your selection.

3. Click **Build Content** to rebuild all the selected content packs.

   The Build Successful or Build Failed message is displayed for each content pack based on the content pack status.

   > **Caution:** Do not refresh the page after you click Build Content. Wait until the content packs are regenerated.

4. Click **View Build Log** to see the logs.

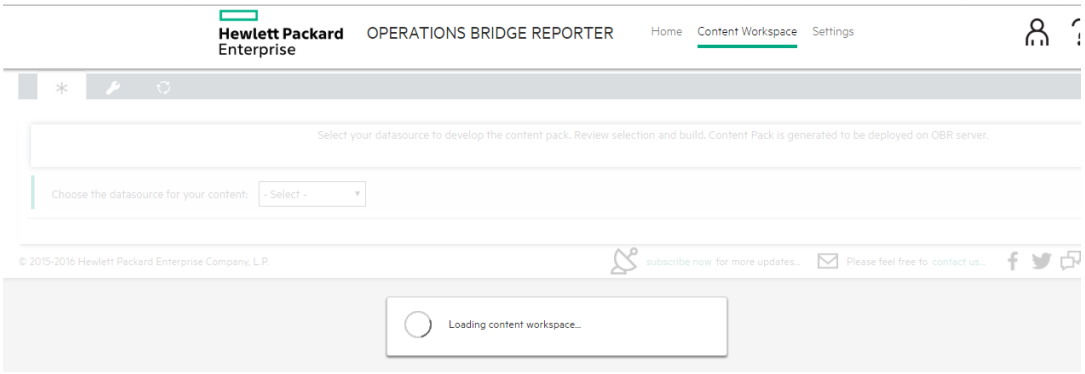
# Frequently Asked Questions (FAQs)

1. **I want to register a new User. How can I do that?**

   At present, **admin** is the only username supported on OBR Content Designer.

2. What do I do when my Content Workspace hangs?

   If the Content Workspace hangs as shown in the figure below, from the `{CDE_HOME}` folder, delete the files that are not related to content development.




3. **What can I do to avoid "Error: Could not find or load main class org.apache.tools.ant.launch.Launcher" even when ANT_HOME is set correct?**

   If you get the error *Error: Could not find or load main class org.apache.tools.ant.launch.Launcher, even when ANT_HOME is set correct*,

   Create the */usr/share/java-1.8.0* and */usr/lib/java-1.8.0* folders manually by running the below commands:

   - For /usr/share/java-1.8.0:

     ```
     mkdir /usr/lib/java-1.8.0
     ```

   - For /usr/lib/java-1.8.0:

     ```
     mkdir /usr/share/java-1.8.0
     ```

4. **While creating universe, the error *java.lang.UnsupportedOperationException: csEX* appears. Why?**

   Follow these steps for a successful universe creation:

- On your Windows system, go to **Control Panel > System and Security > System**.
- Click **Advanced system settings**.
- Click Advanced tab, and then click **Environment Variables**.
- In **System Variables**, locate **BO_HOME**.
- Specify the BO ClientTools path in the **Variable value** in double quotes (" ").

  For Example, `"C:\Program Files"`

5. **Can multiple users build content at a time using the Content Designer?**

   No. At preset, only one user can build content at a time.

6. **While running the content build using Content Designer, can I update ModelMapper.csv?** .

   No, you cannot update the file after triggering the build. You need to do it outside the content designer at `%CDE_HOME%\workspace\<contentpack>` folder manually using the command prompt. For more information, see *Operations Bridge Reporter Content Development Guide*.

7. **What do I do if BusinessObjects ClientTools is installed on the path that contains spaces?**

   *For regenerating content on your Windows system:*

   If BusinessObjects ClientTools is installed on the path that contains spaces,

   a. Exit the command prompt.

   b. Specify the BO_HOME environment variable path in double quotes ("").

      For example, if BusinessObjects ClientTools is installed on `C:\Program Files`, specify the BO_HOME **Variable value** in double quotes as `"C:\Program Files"`.

   c. Open a new command prompt.

   d. Go to `%CDE_HOME%\workspace\<content_pack_name>\<content_pack_name>.ap` directory.

   e. Run the `ant`command.

8. **What do I do when I come across a Table Not Found Error?** .

   Install domain content pack on OBR system, and perform the following steps:

   **On Windows**

   a. Right-click your Computer icon and select Properties.

   b. Click **Advanced System Settings**, **Advanced** tab, and then click **Environment Variables**.

c. Select **BO_HOME** from the list of enthronement variables and click **Edit**.

d. Specify the **Variable value** in double quotes (" ").

e. Click **OK**.

**On Windows and Linux**

a. Open the command prompt.

b. Go to `{CDE_HOME}\bin` directory.

c. Run `setenv.bat`/ `setenv.sh`.

d. Go to `{CDE_HOME}\workspace\<content_pack_name>\content_pack_name.ap` directory.

e. Run the `ant` command.

f. When you get a Build Successful message, follow the steps in "Exporting the Universe to CMC Repository" on page 82.

9. **Installing the generating content pack goes to an indefinite loop. What can I do to resolve this?**

   Check and ensure that your BusinessObjects services are up and running.

# References

For documents on SAP BusinessObjects Business Intelligence Platform, see SAP BusinessObjects Business Intelligence platform 4.1.

For information on the following SAP BusinessObjects Official Product Tutorials, see:

- SAP BusinessObjects Dashboards 4.x
- SAP BusinessObjects BI Launch Pad 4.x
- SAP BusinessObjects Information Design Tool
- Securing Business Objects Content – Folder Level, Top Level and Application Security

You can also refer to SAP BusinessObjects documents available at physical location on OBR server:

- For information on Central Configuration Manager help, go to:

  `<Install_Drive>\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\Help\en\Central Configuration Manager Help.chm` (**On Windows**)

- For information on Designer tool, go to:

  `<Install_Drive>\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\Web Content\enterprise_Xi40\help\en\designer_en.chm` (**On Windows**)

- For information on SDK samples and documents, go to:

  - `<Install_Drive>\Program Files (x86)\SAP BusinessObjects\SAP BusinessObjects Enterprise XI 4.0\SL SDK` (**On Windows**)
  - `/opt/HP/BSM/BOE4/sap_bobj/enterprise_xi40/SL_SDK` (**On Linux**)

- For information on Central management console (Administration of Business objects), go to:

  `/opt/HP/BSM/PMDB/BOWebServer/webapps/BOE/WEB-INF/eclipse/plugins/webpath.CmcAppBranding_lang.en/web/help/en` (**On Linux**)

- For information on BI Launchpad (creation of reports, report functions and other admin tasks like scheduling), go to:

  `/opt/HP/BSM/PMDB/BOWebServer/webapps/BOE/WEB-INF/eclipse/plugins/webpath.InfoView_lang.en/web/help/en` (**On Linux**)

# Send documentation feedback

If you have comments about this document, you can contact the documentation team by email. If an email client is configured on this system, click the link above and an email window opens with the following information in the subject line:

**Feedback on OBR Content Designer Guide (Operations Bridge Reporter 10.22)**

Just add your feedback to the email and click send.

If no email client is available, copy the information above to a new message in a web mail client, and send your feedback to docfeedback@hpe.com.

We appreciate your feedback!