

IT Business Analytics

Software Version: 10.00 Linux operating system

Content Reference Guide

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Getting Started with the Content Reference Guide

The Content Reference Guide includes information about IT Business Analytics integrations with the supported data sources as well as information about the context, KPIs, and Metrics relevant for each data source.

Note: You can add tables to contexts and modify the contexts using the Context Designer. For details, see "Semantic Layer - Contexts and Universes" on the next page in the Administrator *Guide*.

Contexts

This section provides information about contexts.

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Semantic Layer - Contexts and Universes

ITBA semantic layer includes Contexts and universes.

The Context Designer feature enables you to create and manage Contexts (universes). The Contexts can be based on your target schema tables or on Excel (or .CSV) files that can be uploaded to the target schema using the Data Loader.

Context Designer can be used to upload data and create contexts based on the data, when you want to work with the IT Business Analytics application without using Data Warehouse and SAP BusinessObjects Enterprise. It is a direct way to upload data into the IT Business Analytics Studio using files without performing integrations to external sources or to other HP products. It can be used, to integrate third party data, testing, or for Proof of Concept (POC) sessions. It can also be used as a component of IT Business Analytics to integrate third party data.

Context Designer provides KPI results based on your real data.

Semantic Layer - Context Management

The Context Management feature enables you to view the Contexts that have being created in your application or the Contexts that have been loaded in your application, to delete Contexts, and to launch Context Designer where you can create a new Context, view the design of an existing Context, or upload a .CSV file.

To access:

In ITBA, click **ADMIN > Semantic Layer > Semantic Layer**. The Context Management page opens.



This section includes:

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Import contexts using Content Acceleration Packs (CAPs)	10

View existing out-of-the-box Contexts (universes)

- 1. In ITBA, click **ADMIN > Semantic Layer > Semantic Layer**. The Context Management page opens.
- 2. The list of out-of-the-box Contexts is displayed.
- 3. You can now:
 - Click Launch Context Designer to open the Context Designer. For details, see "Semantic Layer - Context Designer" on page 13.
 - Double-click the relevant Context in the list to open the Context Designer in context. For details, see "Semantic Layer - Context Designer" on page 13.
 - Click to refresh the display.
 - $_{\circ}$ Select the relevant context and click \fbox to delete the context.

Export contexts using Content Acceleration Packs (CAPs)

To export contexts, proceed as follows:

- 1. Create a CAP that only includes the contexts you want to export. For details, see Create a CAP with the Business Analytics application data in the *Content Acceleration Packs Guide*.
- 2. Export the CAP you created. For details, see Download a CAP to the user's local system in the *Content Acceleration Packs Guide*.

Import contexts using Content Acceleration Packs (CAPs)

To import contexts, proceed as follows:

- 1. Copy the CAP that includes the relevant contexts to the relevant local system.
- 2. Upload the CAP. For details, see Upload a CAP to the Business Analytics application in the *Content Acceleration Packs Guide*.
- Activate the CAP in ADMIN > Data management > Activate CAP. For details, see Activate a CAP in the Content Acceleration Packs Guide.
- Verify the upload by accessing the contexts in ADMIN > Semantic Layer > Semantic Layer. For details, see "Semantic Layer - Context Designer" on page 13.

Note:

• If the context you import already exists, it is deleted and replaced by the context imported using the CAP.



Context Management Page

The Context Management page enables you to manage the Contexts.

Context Management		
The Context Designer enables you to create and manage business contexts (universes). Contexts can include your target schema tables or .CSV files that you can upload to the target schema using Context Designer. Double-click a context in the list below to open its configuration.		
0	Launch Context Designer	
Context Name		
ALM Defect		
ALM Requirement		
ALM Test		
ApplicationPerformance		
ApplicationPerformanceDemo		
ApplicationPortfolioManagement		
AssetManagement		
AssetManagementDemo		
AvailabilityManagement		
ChangeManagement		
CloudOptimization		
CloudOptimizationDemo		
DataProtection		

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description	
Ū	Select the relevant context and click it to delete the context.	
	You can select more than one context and click the icon to delete all the selected contexts from the list.	
0	Refreshes the display.	
Launch Context Designer	Click to open the Context Designer. For details, see "Semantic Layer - Context Designer" on the next page.	
<context name=""></context>	Double-click the Context name to open its detail in the Context Designer. For details, see "Semantic Layer - Context Designer" on the next page.	

Semantic Layer - Context Designer

The Context Designer feature enables you to create and manage Contexts (universes). The Contexts can be based on your target schema tables or on Excel (or .CSV) files that can be uploaded to the target schema using the Data Loader.

Context Designer can be used to upload data and create contexts based on the data, when you want to work with the IT Business Analytics application without using Data Warehouse and SAP BusinessObjects Enterprise. It is a direct way to upload data into the IT Business Analytics Studio using files without performing integrations to external sources or to other HP products. It can be used, to integrate third party data, testing, or for Proof of Concept (POC) sessions. It can also be used as a component of IT Business Analytics to integrate third party data.

Context Designer provides KPI results based on your real data.

- The total number of KPI Breakdowns (STUDIO and on-Demand) is limited to 5000 per dimension.
- If the calculation of a KPI or Metric ends in error, check the engine.log for a number of Breakdowns being larger than the default value. You can update the default value in \$HPBA_ Home\glassfish\glassfish\domains\BTOA\config\settings\engine-settings.xml. For details, see Logs and the LogTool in the Administrator Guide.

To access:

- 1. In ITBA, click **ADMIN > Semantic Layer > Semantic Layer**. The Context Management page opens. If not, click **Data Loader**. For details, see "Context Designer Page" on page 34.
- 2. In the Context Designer page that opens:
 - To create a new context, click Create a new context.
 - To edit a context, click Open an existing context.

Learn More	Tasks	UI Description	
Learn Mor	e		
This section includes:	:		
View existing Con	itexts (universes)		

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Semantic Layer (Context and Universe)

A semantic layer is a business representation of corporate data that helps end-users access data autonomously using common business terms. It maps complex data into familiar business terms such as product, customer, or revenue to offer a unified, consolidated view of data across the organization. By using common business terms, rather than data language, to access, manipulate, and organize information, it simplifies the complexity of business data. These business terms are stored as objects in a Business Context (or universe), accessed through business views. Business Contexts enable business users to access and analyze data stored in a relational database and OLAP cubes. This is claimed to be core business intelligence (BI) technology that frees users from IT while ensuring correct results.

Business Views is a multi-tier system that is designed to enable companies to build comprehensive and specific business objects that help report designers and end users access the information they require. Business Views is intended to enable people to add the necessary business context to their data islands and link them into a single organized Business View for their organization.

A Context or universe is a business representation of an organization's data that helps end-users access data using common business terms. A Context is the result of a semantic layer of metadata that creates a business oriented view of the data. A Context contains a schema of the tables that make up the dimension and measurement objects. A Context is an interface between the data warehouse and the analytics that display the data.

Context are made up of objects and classes that are mapped to the source data and are accessed through queries and reports. They correspond to the business contexts used in IT Business Analytics.

Each Context includes classes (entities), objects with a dimension attribute, and relationships between the entities. The entity's values are used in the calculation of values and statuses of the Key Performance Indicators (KPIs) or Metrics that represent them. The KPIs or Metrics are the building blocks used by the IT Business Analytics engine and the Studio.

IT Business Analytics Semantic Layer may include:

- Universes created in SAP BusinessObjects. For more details on universes, see the relevant SAP BusinessObjects documentation.
- Out-of-the-box Contexts created using the Context Designer.
- User-defined Contexts created using Context Designer and populated with data uploaded from
 .CSV files using Context Designer. For details on the Context Designer, see Semantic Layer Context Designer in the *Content Reference Guide*.

If you want to change the formula of a KPI or Metric , you must be aware of the relationships in the context (universe) of the KPI or Metric. For details, see the KPI and Metric Library in Excel format, in the relevant integration sections in this document, or in the relevant Content Acceleration Pack (CAP) in the *Content Acceleration Packs Guide*.

The contexts, entities, and dimensions that are displayed and used in the Studio are part of the universes that are located in the **ITBA** library.

Context or Universe Contents

A Context (or Universe) is a set of entities. Each entity is a set of fields. Each field can be a dimension, measurement, or fact that can provide information about the business.

A formula calculates, for a specified time period, using the values of specific entities, a value that represents a specific aspect of the business. The value is assigned to a Key Performance Indicator (KPI) so that the KPI represents a specific aspect of the business.

Each Context includes some KPIs. The KPIs are the building blocks of the Studio and the KPI engine.

These entities that are used in the calculation of the KPIs are provided by the relevant integrated data source. Each data source corresponds to a specific Content Pack that provides the connection between the data source and ITBA.

Out-of-the-Box Contexts

You can only add more tables and entities to an out-of-the-box Context, you cannot remove or modify the original elements.

Terms

Dimension. An entity that describes, qualifies, or otherwise adds meaning to the measurements (facts) that business users want to analyze.

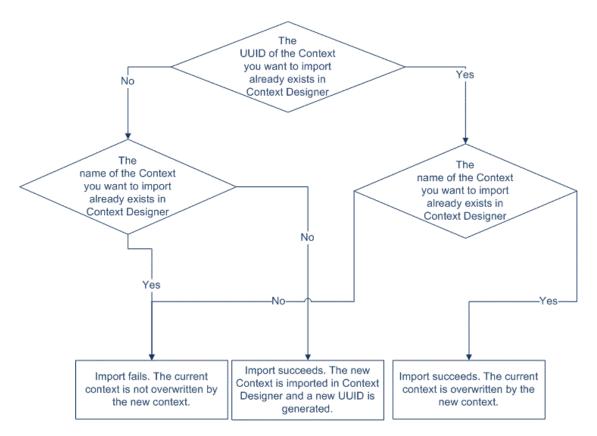
Measure. A value collected by the executable during execution, such as the number of rows processed during an ETL job, or an amount extracted from a table that describes expenses in a source application.

Metric. A framework to establish and collect measurements of success or failure on a regulated, timed basis that can be audited and verified.

Contexts, entities, and fields UUIDs

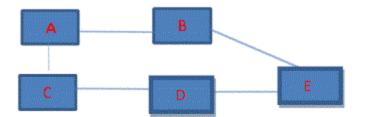
To uniquely identify contexts, entities, and fields, a universally unique identifier (UUID) is assigned to them. When you save a new context, the UUID is auto-generated.

The flowchart explains the different configurations and their impact on the import of a Context in the Context Designer:



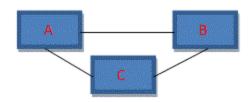
Loops in Contexts

Contexts can include tables that are linked together forming a loop.



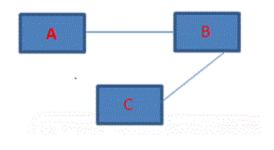
To perform the calculation of a KPI or Metric, the system selects the path with the lowest number of joins as the default path. If the formula includes both fields in A and in E, then the system will choose A-B-E (2 joins) instead of A-C-D-E (3 joins).

If the structure has the same number of joins and the formula includes fields from the three tables, then the system cannot select the path with the lowest number of joins (same number for each path).

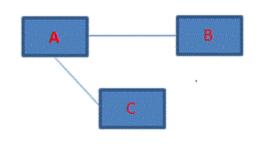


In that case, the selection of the path used for calculation is random.

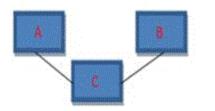
The paths could then be:



Or



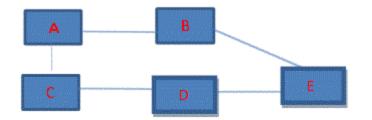
Or



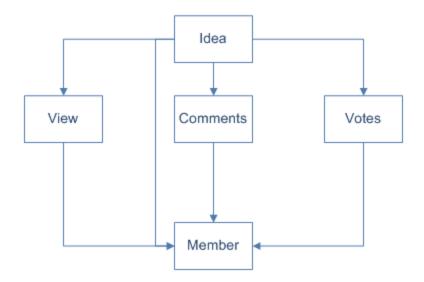
Tip: The problem of loops in context structure is that calculations may have different results depending on the path selected by the system (random or lowest number of joins), therefore loops are not recommended.

Workarounds:

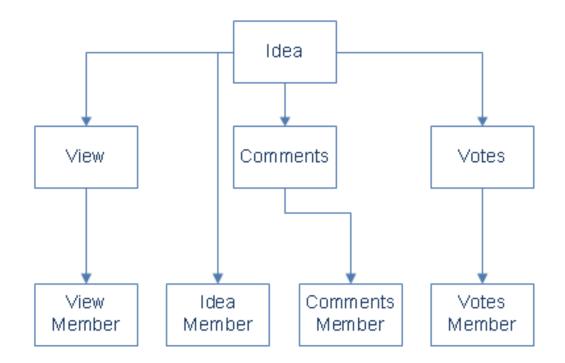
• Modify the formulas: If you want the path to follow a specific path, you must modify the formula so it includes the path. For example, if the formula is SUM (A.duration, *) filter E.status='OK' it will follow the A-B-E path because it has the smallest number of joins, but if you want it to pass via C you can modify the formula as follows: SUM (A.duration, *) with filter E.status='OK' but then the path could go A-C-D-E or C-A-B-E. If you want it to follow A-C-D-E you should use SUM (A.duration, C.id=C.id and D.id=D=id) with filter E.status='OK'.



• **Duplicate the table:**Duplicate the table that is linked to a large number of other tables. If you have the following context structure:

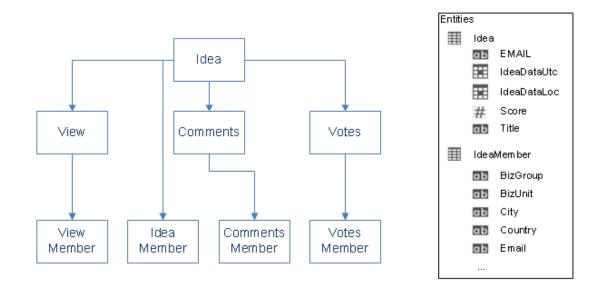


You can create the same structure without loops by using copies (aliases) of the Member table, give each table another name, and create the relevant joins, as follows:

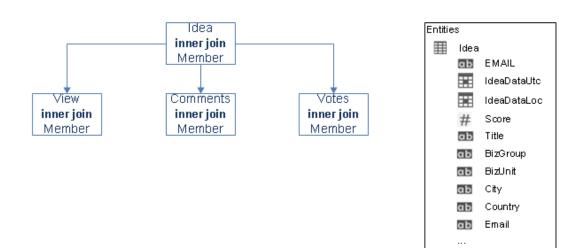


Once you have created the aliases you can drag them to the Entities area.

• **Modify the view:** If you have the structure below then when the tables are dragged to the Context Designer Entities area, then each entity and its attributes appear separately .



You can modify the views in the Target schema to correspond to the structure below, where the attributes of the entity include both the entity original attributes and the attributes corresponding to the person who submitted the idea. You create these views in the SQL server. This way when the tables are dragged to the Context Designer Entities area they display the entity and its attributes as well as the corresponding Member entity and its attributes.



Link between Contexts and KPI or Metric Formulas

When you create a Context, you select tables, create links between the tables, and select the relevant

columns in the tables to be part of the Context. For details, see Semantic Layer - Context Designer in the *Administrator Guide*.

When you create a KPI or a Metric you assign them a Context in the Studio. The Context tables become variables that you can use when creating KPI or Metric formulas, and the table columns become the variable entities.

For example the % of Reopened Defects KPI has the following formula:

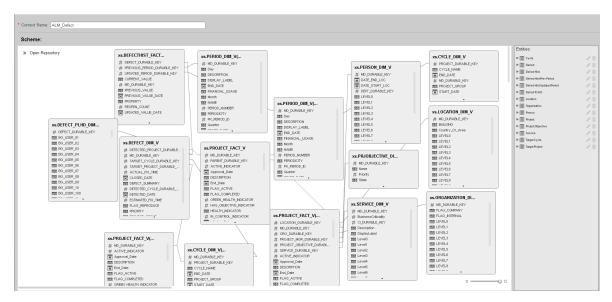
RATIO_MATH(COUNT_DISTINCT(DefectHist.Defect , DefectHist.ReopenFlag =1 And Defect.Status <> 'Closed') , COUNT(Defect ,Defect.DefectSummary<> 'INVALID' And Defect.DefectSummary<> 'UNKNOWN'),0)*100

Its definition is:

				Help 🔾 >
KPI .	Active KPIs []]	Configuration details	Calculation details	
KPI Library	Lists all the elements configured and calculated in the system. To add elements, click here or click the side-by-side button above and drag and drop template items from the KPI Library to the Active KPIs pane. Read more.	 General - KPI *Name : 	% of Reopened Defects *Unit: %/~	Navigate to the source template
			S of Reopened Detects	
	* 10 1 16 14 10 /	Description :	The number of reopened defects (supposedly fixed defects or defects that were once fixed but reappeared) relative to the total number of logged defects.	
	Search: Search> Q			
	▼ 🖹 Active KPIs			
	AAARndScorecard #1284674119	Calculation period :	Monthly	
	🕨 🥅 Financial Planning and Analysis			
	💌 🗁 Public Metrics and KPIs	 Result Threshold 		
	44 % of Reopened Defects	Direction :	Inimize 🗸 🗸 Include marginal status (Warning)	
	🕫 Incident Aging			
	🐼 KPI for Annotation Test			
		0 8	20	100
		👻 Additional Details		
		Business	Make sure our detect correction procedure is efficient.	
		Motivation :	Have sure our derect concerner procedure is enricement	
		Additional Info :	Name URL	Add
			No data to display	HUU
		Test KPI		Save Discard

The Business Context is ALM_Defect. Click **Admin > Semantic Layer** and open the ALM_Defect Context:

Semantic Layer	Context Management			
		eate and manage business contexts (universes). a tables or .CSV files that you can upload to the tar; o open its configuration.		
	i C Launch Context Designer			
	Context Name			
	ALM Defect			
	ALM Requ			
	ALM Test			
	ApplicationPerformance			
	ApplicationPortfolioManagement			
	AssetManagement			
	AvailabilityManagement			
Jsers and Roles	ChangeManagement			
Data Source Management	CloudOptimization			
ETL Management	<u>CloudOptimizationDemo</u>			
Foundation	DataProtection			
Foundation	DemandManagement			
Data Warehouse	FinancialManagement			
Scorecard	IncidentManagement			
TFM	Link Test Context			
	NetworkNodeManager			
Semantic Layer	OrchestrationAutomation			
Content Acceleration Pack	Deried Universe			



The contents of the Context including the ALM tables is displayed:

In the Entities area on the right, you can see the tables and the table columns that were selected to be part of the ALM_Defect Context itself.

It is recommended that the person who creates the KPI or Metric formula should be familiar with the ALM entities that are used in the ALM_Defect context:

The **Defect_Hist** table corresponds to one of the entities (**DefectHist**) that appears in the list of Variables that can be used when creating or modifying the formula of a KPI based on the **ALM_Defect** context. To access the KPI or Metric formula, click **Studio**, highlight the relevant KPI (% of **Reopened Defects** for example), click the **Calculation Details** tab, and then click **Open Formula builder**.

The variables you see in the formula builder correspond to the Entities in the Context Designer (above) and correspond to the <EntityName> in the syntax of the formulas (as explained in KPI or Metric Formula in the *Business Analyst Guide*).

Formula Builder		Help	×
Functions	Variables		
▼ Aggregating	Search		
SUM	▶ Defect		
MIN	▶ DefectHist		
MAX	▶ DefectPLHD		
AVG	DefectRequirementBridge		
COUNT	DefectTestInstanceBridge		
PERCENTAGE	DetectedCycle		
COUNT_DISTINCT	Add		
Description			
Formula + - * / > < = <> >= <=	And Or Not Like ()	, ,	
DATE_CONVERT('ms','d', AVG(Defect.ClosedDate,Defect.DetectedDate>De IN_PERIOD)-AVG(Defect.DetectedDate,Defect.De Defect.ClosedDate IN_PERIOD))			
		Test	

When you expand a variable, the items you see below correspond to the fields (in the Context Designer) and correspond to the <FieldName> items in the formulas syntax (as explained in KPI or Metric Formula in the *Business Analyst Guide*).

Formula Builder		Help	×
Functions	Variables		
✓ Aggregating	Search		
SUM	▶ Defect		
MIN	▼ DefectHist		
MAX	DATE_OF_NEW_VALUE		
AVG	DATE_OF_NEW_VALUE_PERIOD_UT	c	
COUNT	DATE_OF_NEW_VALUE_TIME_LOC		
PERCENTAGE	DATE_OF_NEW_VALUE_TIME_UTC		
COUNT_DISTINCT	Add		
Description			
Formula			
+ - * / > < = <> >= <=	And Or Not Like (),	•	
DATE_CONVERT('ms','d', AVG(Defect.ClosedDate,Defect.DetectedDate>De IN_PERIOD)-AVG(Defect.DetectedDate,Defect.De Defect.ClosedDate IN_PERIOD))		e	
	Te	st	



This section includes:

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View existing Contexts (universes)

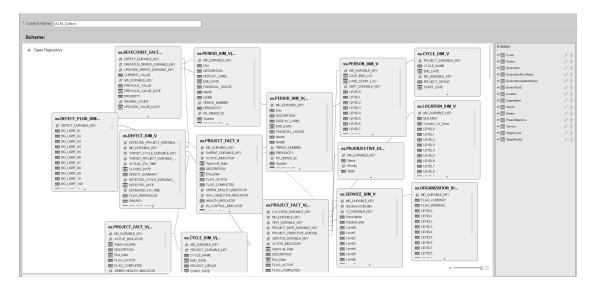
- In Business Analytics, click ADMIN > Semantic Layer > Semantic Layer. The Context Management page opens.
- 2. The list of out-of-the-box Contexts is displayed.

Semantic Layer	Context Management	
	Contexts can include your target sch schema using Context Designer. Double-click a context in the list belo	
	î O	Launch Context Designer
	Context Name	
	ALM Defect	
	ALM RequALM_Defect	
	ALM Test	
	ApplicationPerformance	
	ApplicationPortfolioManageme	ent
	AssetManagement	
	AvailabilityManagement	
Users and Roles	ChangeManagement	
Data Source Management	CloudOptimization	
ETL Management	CloudOptimizationDemo	
	DataProtection	
Foundation	DemandManagement	
Data Warehouse	FinancialManagement	
Scorecard	IncidentManagement	
ITEM	Link Test Context	
	NetworkNodeManager	
Semantic Layer	OrchestrationAutomation	
Content Acceleration Pack	Deried Universe	

- 3. Click Launch Context Designer.
- 4. In the Context Designer page that opens, click **Open an existing context** and select the relevant context.

Select a context from the list	×
ALM_Defect	
ALM_Requirement	11
ALM_Test	Ш
ApplicationPerformance	Ш
ApplicationPortfolioManagement	Ш
AssetManagement	
AvailabilityManagement	
ChangeManagement	
CloudOptimization	
CloudOptimizationDemo	
DataProtection	
DemandManagement	_
OK Cancel	

5. The structure of the Context is displayed.



Create a Context and use its contents in the Studio

1. Create a new Context

- a. In ITBA, click ADMIN > Semantic Layer > Semantic Layer.
- b. In the Context Management page, click Launch Context Designer.
- c. Click Create a New Context. The Context Designer page opens.
- d. Enter the name of the Context .
- e. Click Open Repository. The Repository area opens. You can use:
 - Tables from the ExternalTables list. These tables are created from external tables in CSV format that are uploaded to ITBA. For details on how to upload a CSV table, see "Semantic Layer - Excel (or .CSV) File Loader" on page 43. After the table is uploaded, a corresponding table named ext.<csv_table_name> is listed in the ExternalTables list.
 - Internal tables from the InternalTables list.

If you are working with Enterprise ITBA, the tables listed in the InternalTables list are the Data Warehouse tables, the Period tables created during the post-install procedure, and the View table.

- f. Drag the relevant tables from the Repository to the Scheme area.
- g. Define the relationships between the tables by dragging a specific column from one table and dropping it over the relevant column in another table. A visual link is added to the graph to indicate the relationship.
- h. Drag the relevant tables from the Scheme area to the Entities pane. The tables become variables and the columns become the variable entities that can be used to create KPI or Metric formulas when a KPI or Metric is assigned the Context in the Studio.
- i. Click 🛗 to save the Context.
- 2. Load the Context and verify the variables and entities
 - a. In ITBA, click Studio.
 - Activate a KPI or a Metric or clone any active KPI or Metric that does not have a KPI Breakdown or Breakdown Metric. For details, see Activate Scorecards, Perspectives, Objectives, Metrics, or KPIs Using Templates or Create Active Scorecards, Perspectives, Objectives, Metrics, or KPIs in the *Business Analyst Guide*.
 - c. Click the **Calculation details** tab, and click **Select business context**. For details, see KPI or Metric Configuration and Calculation Details in the *Business Analyst Guide*.
 - d. In the Business Context dialog box, change its Context to the new Context.
 - e. You can then modify the formula that is used to calculate the KPI or Metric status by selecting the variables that correspond to the entities and fields that were defined in the Context Designer. To do that click **Open Formula Builder**.

f. In the Formula Builder dialog box, verify that the variables correspond to the tables you selected in the Entities area in the Context Designer, and that the entities of the variables correspond to the selected columns of those tables. Click **OK** to save the KPI.

Formula Builder	Help ×
Functions	Variables
✓ Aggregating	Search
SUM	▶ Defect
MIN	▶ DefectHist
MAX	▶ DefectPLHD
AVG	DefectRequirementBridge
COUNT	DefectTestInstanceBridge
PERCENTAGE	DetectedCycle
COUNT_DISTINCT	Add
Description	
Formula + - * / > < = <>>= <= DATE_CONVERT('ms','d',	And Or Not Like (), '
AVG(Defect.ClosedDate,Defect.DetectedDate>Defect.DetectedDate>Defect.ClosedDateIN_PERIOD)-AVG(Defect.DetectedDate,Defect.Defect.Defect.ClosedDateIN_PERIOD))	
	Test

Note: In the same way, you can modify the Filter of the KPI or Metric to use the variables corresponding to the .CSV file-based Context (universe).

Update a Context

 In ITBA, click ADMIN > Semantic Layer > Semantic Layer. In the Context Management page, click Launch Context Designer. The Context Designer page opens. For details, see "Context Designer Page" on page 34.

- 2. Select the relevant Context.
- 3. Make the relevant changes: delete or add entities, fields, tables, columns, or relationships.
- 4. Click ^{lit} to save the Context.
- 5. Load the Context and verify.

Export contexts using Content Acceleration Packs (CAPs)

To export contexts, proceed as follows:

- 1. Create a CAP that only includes the contexts you want to export. For details, see Create a CAP with the Business Analytics application data in the *Content Acceleration Packs Guide*.
- 2. Export the CAP you created. For details, see Download a CAP to the user's local system in the *Content Acceleration Packs Guide*.

Import contexts using Content Acceleration Packs (CAPs)

To import contexts, proceed as follows:

- 1. Upload the CAP. For details, see Upload a CAP to the Business Analytics application in the *Content Acceleration Packs Guide*.
- Activate the CAP in ADMIN > Data Management > Activate CAP. For details, see Activate a CAP in the Content Acceleration Packs Guide.
- 3. Verify the upload by accessing the contexts in **ADMIN > Semantic Layer > Semantic Layer**.

Note:

• If the context you import already exists, it is deleted and replaced by the context imported using the CAP.

Add a column to a Target database table and the impact on the context

When you restructure the Target database by adding a column to a table, the corresponding tables in the relevant Contexts are automatically refreshed. You must then proceed as follows:

1. Restructure the Target database by adding a column to a specific table.

The column is automatically and immediately inserted into the corresponding table in the Context, and the links between the Context tables are maintained. A new index is not created if you add a new column directly in the target DB so you have to create an entry for the new column accessing by the SQL Studio Manager. The index is located under the table and then under the columns.

- 2. If needed, create additional links between the new column and the other tables.
- 3. If needed, drag the new column into the **Entities** area.
- 4. Save the context.

Note:

- If you change the type of a column from a table in the Target database, the formula that calculates KPIs based on the Context that includes that table, may also be invalid.
- If you change the name of a column from a table in the Target database, the effect is the same as adding a new column. Refer to the procedure above.

Remove a column from a Target database table and impact on context

When you restructure the Target database by removing a column from a table, the corresponding tables in the Contexts are automatically refreshed. You must then proceed as follows:

- 1. Remove the index corresponding to the relevant column by accessing the SQL Studio Manager. The index is located under the table and then under the columns.
- 2. Remove the relevant column from the table in the Target database.

The column is automatically and immediately removed from the corresponding table in the Context, and the links between the Context tables are maintained. The link from this column to other tables are removed.

- 3. Remove the column from the **Entities** area.
- 4. Save the context.

Note:

• If you remove a column from a table in the Target database, the corresponding column is automatically and immediately removed from the relevant Context.

- If the column was also listed in the Entities then make sure to remove it from the Entities as well before saving and validating the modified context.
- If the column is removed from a table in the Target database, and the Context is not verified, the formula that calculates KPIs based on the Context, might also be invalid. If the removed column has a link to another column, the link is also removed

Clone a context

To clone a context:

- 1. Create a CAP that includes only the context. For details, see Create Content Acceleration Packs in the *Content Acceleration Packs Guide*.
- 2. Download the CAP to your local system. For details, see Download a CAP to the user's local system in the *Content Acceleration Packs Guide*.
- 3. Open the <context_name>.XML file and change the context name and at least one character in the UUID. Change also the UUID of all the entities, and the fields in the context.

```
For example:
```

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
-<contexts>
-<context uuid="4c60950d-2fdc-49c5-a34e-5c041963d0bb" active="false"
name="SALARY">
  -<entity uuid="c3a48abd-7156-47a7-a489-527bfa2385c9" name="ext_IT_Salary_
new" isVisible="false">
      <field uuid="7adedab5-9336-490b-8594-db81fe559c37" name="NAME"
      isVisible="false"
      tableName="@extension.schemaName@.IT Salary new"
      columnName="NAME" qualification="DIMENSION" type="STRING"
      isLOV="false"/>
    </entity>
    -<table name="@extension.schemaName@.IT Salary new" height="126"
yPos="236.95" xPos="493.0">
     <column name="NAME" type="varchar"/>
     <column name="ORGANIZATION_NAME" type="varchar"/>
     <column name="ORG ID" type="numeric"/>
     <column name="SALARY" type="numeric"/>
     </context>
</contexts>
```

4. Save the XML file.

- 5. Rename the CAP in your local system.
- 6. Upload it. For details, see Upload a CAP to the Business Analytics application in the *Content Acceleration Packs Guide*.
- 7. Activate it. For details, see Activate a CAP in the Content Acceleration Packs Guide.



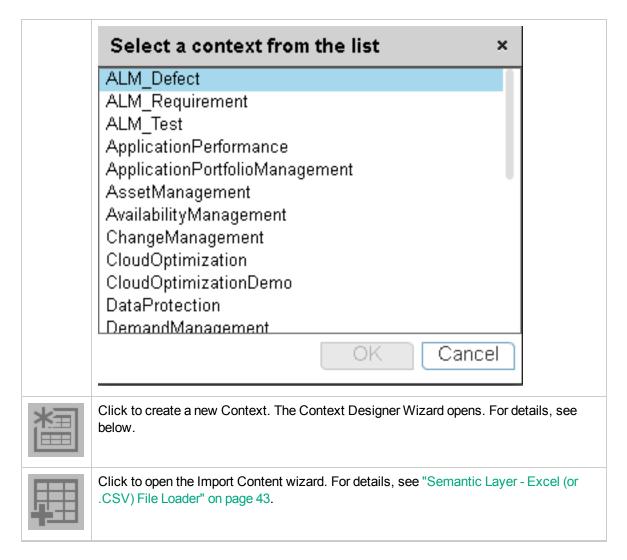
Context Designer Page

The Context Designer page enables you to manage the Contexts that you create using the Context Designer feature.



User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
	Click to display a list of existing Contexts created in the Context Designer. Select the relevant Context and click OK .



Context Designer Wizard

The Context Designer wizard enables you to create a Context with tables, entities, and relationships. Once you have completed the Context, save it. The Context is then added to the list of Contexts available in the Studio. The tables that compose the universe are added as variables and the table columns as variable entities. The variables and entities can be used to calculate the formulas for the KPIs that are assigned the Context. For details, see KPI or Metric Configuration and Calculation Details in the *Business Analyst Guide*. This page enables you to configure a Context.

Context Designer		
		Help
* Context Name:		
Scheme:		
Chose Repository Repository Chose Repository <	¹	Drag tables or columns from the business model

Context Designer Toolbar

User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
*3	New. Click to create a new Context.
	Save. Click to save the currently opened Context.
	Open. Click to display a list of existing Contexts created in the Context Designer. Select the relevant Context and click OK .

Select a context from the list ×
ALM_Defect ALM_Requirement ALM_Test ApplicationPerformance ApplicationPortfolioManagement AssetManagement AvailabilityManagement ChangeManagement CloudOptimization CloudOptimizationDemo DataProtection DemandManagement
OK Cancel
 Add table. Click to add tables in CSV format to the Repository. The data loader wizard opens. For details, see "Semantic Layer - Excel (or .CSV) File Loader" on page 43.
 Click to validate the Context. The validation checks if the name of the Context is unique, if all the tables in the Context exist in the Repository, and more. When you click the 🗎 Save button, the Context is validated. An invalid Context is not saved.

Context Area

UI Element	Description
Context name	The name of the Context.
	Limitation: SAP BusinessObjects Enterprise Universe names should not duplicate Context names, and all names of Universes and Contexts should be unique.
	Note: If you have assigned to a KPI a Context created with the Context Designer, and then you modify the Context name in the Context Designer, make sure that you

UI Element	Description
	assign the modified Context to the KPI in the Studio otherwise the KPI becomes invalid as it uses a Context that does not exist.

Scheme Area

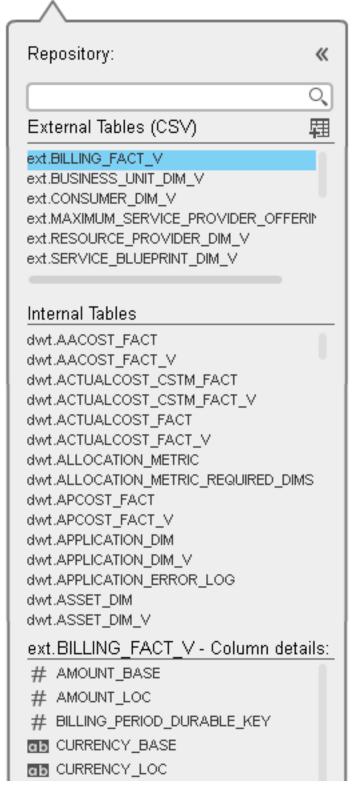
UI Element	Description			
Repository	Click the button to open the table repository. For details, see "Repository" on the next page.			
<drag and="" drop=""></drag>	Select the relevant table in the Repository and drag and drop it in the Scheme area to make the table part of the universe.			
<create relationships=""></create>	Select the relevant entity in a table and drag and drop it on the relevant entity in another table to create the relationship between these two entities.			

UI Element	Description
	dwt.AACOST_FACT # ACTUALCOST_DE # ACTUALCOST_DESCRIPTION # APPLICATION_DURABLE_KEY # ASSET_DURABLE_KEY # BUOGET_DURABLE_KEY # BUOGET_LINE_JO # BUOGET_LINE_JO
	Use the slider to zoom in or out.

Repository

The Repository area enables you to select external or internal tables to add to the Context you are building.

« Close Repository



User interface elements are described below (when relevant, unlabeled elements are shown in angle brackets):

UI Element	Description
«	Click to close the Repository.
External Tables (CSV)	Lists the CSV tables that were uploaded using the data loader wizard. Click the relevant table to display its column details.
椢	Click to add tables in CSV format to the Repository. The data loader wizard opens. For details, see "Semantic Layer - Excel (or .CSV) File Loader" on page 43.
Internal Tables	Lists the tables. Click on the relevant table to display its entities in the Column details section.
Column Details	 Lists the entities (columns) of the table selected in the Internal Tables section. Each entity is preceded by an icon indicating the type of entity: a date. b of a string. c of a numeric

Entities Area

You drag tables from the Scheme area to the Entities area to add a variable corresponding to the table to the list of variables available to create the formula for the KPI that is assigned the Context. The table columns become the variable entities.

Entities:		
V III Defect		/ ti
# ACTUAL_FIX_TIME	₽₽	/ 1
ab ASSIGNED_TO	₽₽	/ 1
ab CLOSED_IN_VERSION	₽₽	/ 1
ClosedDate	88	/ 1
DATE_CLOSED	88	/ 1
DATE_CLOSED_PERIOD	88	/ 1

UI Element	Description
<drag and drop></drag 	Drag and drop a table from the middle pane to the Entities pane to add the table's entities and fields to the list of available entities and fields available to be added to a KPI formula in the Formula Builder. For details, see KPI or Metric Formula in the <i>Business Analyst Guide</i> .
<table></table>	The table that you dragged from the Scheme area to the Entities area is displayed followed by its columns.
<left column></left 	Icons indicate the format of the column.
<right columns></right 	 The icons to the right of the column enable you to decide to: Enable the auto completion feature. For details, see Variables in the Business Analyst Guide. Enable the creation of a Breakdown for the relevant KPI. This can cause performance issues if the KPI Breakdown has more than 100 values. Enables you to set the dimension permission for this entity dimension in the Dimension Permission page. For details, see Dimension Permissions in the Administrator Guide. Note: You must also have selected to enable the creation of a Breakdown. The list of fields that are available for breakdowns is configured in the Context Designer. By default, numeric fields are not dimensions, therefore they are not available for breakdowns. If you want them to be available for breakdown, open the Context Designer and in the Entities area, click to enable the creation of Breakdowns. For details, see Semantic Layer - Context Designer in the Context Reference Guide.
Remove	Click to remove the selected table or entity.

Semantic Layer - Excel (or .CSV) File Loader

The Context Designer feature enables you to create and manage Contexts (universes). The Contexts can be based on your target schema tables or on Excel (or .CSV) files that can be uploaded to the target schema using the Data Loader.

Context Designer can be used to upload data and create contexts based on the data, when you want to work with the IT Business Analytics application without using Data Warehouse and SAP BusinessObjects Enterprise. It is a direct way to upload data into the IT Business Analytics Studio using files without performing integrations to external sources or to other HP products. It can be used, to integrate third party data, testing, or for Proof of Concept (POC) sessions. It can also be used as a component of IT Business Analytics to integrate third party data.

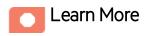
Context Designer provides KPI results based on your real data.

Note: It is recommended to use Excel files instead of .CSV files.

To access:

- In ITBA, click ADMIN > Semantic Layer > Semantic Layer. The Context Management page opens. Click Launch Context Designer and select Import Content.
- In the Context Designer page, click the **Import Content** ^{III} icon in the toolbar to open the Import wizard.
- In the Context Designer page, in the Repository area, click the **Import Content** ^{III} icon to open the Import wizard.





To understand more about Contexts, see the Learn More section in "Semantic Layer - Context Designer" on page 13.

Import an Excel or a .CSV file in Context Designer or use them as data sources in IDE

The differences between the two techniques is as follows:

• **Context Designer:** When you import an Excel or a .CSV file using the Context Designer located in the Admin tab, a Context based on the structure of the file is created in Context Designer. You can then extend the context by adding other tables and creating connections. The newly created context can then be used as a base for KPIs.

This process is fast and efficient and displays value very quickly. It is recommended for one-time operations, when the data does not change very often, when you don't need historical information, or for POCs.

Note that you can also schedule the automatic import of an Excel or a .CSV file. You can even schedule the automatic import of an Excel or a .CSV files with a changed structure.

• **IDE:** When you use an Excel or a .CSV file as the data source in the IDE, you create a content pack and a basic ETL.

This process is more complex, but provide more flexibility. It is recommended for Production environments. Because this procedure creates a content pack and uses an ETL, it enables the use of all the other capabilities of the system. It provides the handling of historical information, the scheduling of data import from the same Excel or .CSV file when the file changes periodically, the creation of Target database tables different from the original Excel or .CSV table, the connection to other entities, the splitting of the original Excel or .CSV table into different tables in the Target database, or the addition of the original data to other tables in the Target database. In addition, the process identifies changes and deletions of data, and can handle large amounts of data.



This section includes:

Jpload tables in Excel format to the Tables Repository	. 44
Jpload tables in .CSV format to the Tables Repository	. 45
Jse Case - Create a New Business Context Using .CSV Files	. 46

Upload tables in Excel format to the Tables Repository

You can upload data into the Table Repository of the Context Designer, using Excel files and without

integration with external sources or with other HP products. It can be used to integrate third party data sources, testing, or for Proof of Concept (POC) sessions. You can, in the same way, replace the data in an existing table, or add data to an existing table when the table has been loaded using an Excel file.

Note: You can upload Excel tables with .XLSX or.XLS formats.

To upload data from the Excel file into the Table Repository:

1. Create the Excel file containing the data you want to use in the Table Repository (for example: latest.XLSX).

Recommended: Excel tables should have unique names across all active Content Acceleration Packs (CAPs). For details on CAPs, see Create Content Acceleration Packs in the *Content Acceleration Packs Guide*. See also additional limitations in Limitations in the *Content Reference Guide*.

- 2. In IT Business Analytics, click the **ADMIN** > **Semantic Layer** > **Semantic Layer**.
- 3. In the Context Management page, click Launch Context Designer .
- 4. Click **Import Content** ^{III} to open the Import Wizard (data loader). Follow the steps to upload the Excel file. For details, see Content Import Wizard in the *Content Reference Guide*.

The file is uploaded. The upload operation saves the changes you made to the Excel file. The new table appears in the External Tables area.

Upload tables in .CSV format to the Tables Repository

You can upload data into the Studio using .CSV files and without integration to external sources or to other HP products. It can be used to integrate third party data sources, testing, or for Proof of Concept (POC) sessions. You can, in the same way, replace the data in an existing table, or add data to an existing table when the table has been loaded using a .CSV file.

To upload data from the .CSV file into the Studio:

1. Create the .CSV file containing the data you want to use in the Studio (for example: latest.CSV).

Recommended: CSVtables should have unique names across all active Content Acceleration Packs (CAPs). For details on CAPs, see Create Content Acceleration Packs in the *Content Acceleration Packs Guide*. See also additional limitations in Limitations in the *Content Reference Guide*.

2. InITBA, click the ADMIN > Semantic Layer > Semantic Layer.

- 3. In the Context Management page, click Launch Context Designer.
- 4. Click **Import Content** ^{III} to open the Import Wizard (data loader). Follow the steps to upload the .CSV file. For details, see "Content Import Wizard" on the next page.

The file is uploaded. The upload operation saves the changes you made to the .CSV file. The new table appears in the External Tables area.

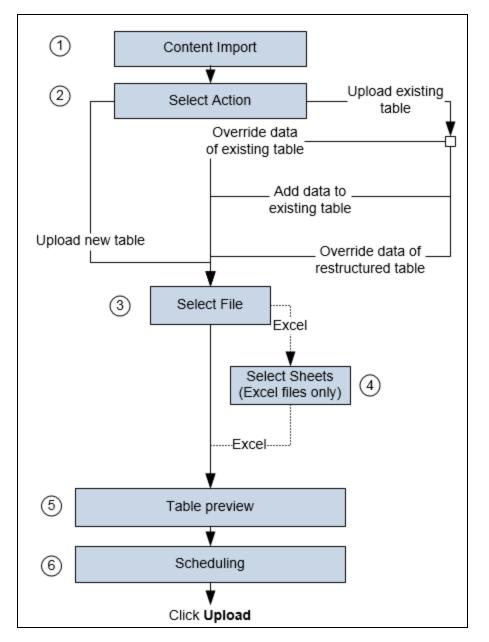
Use Case - Create a New Business Context Using .CSV Files

For details, see Create a New Business Context in the Getting Started.

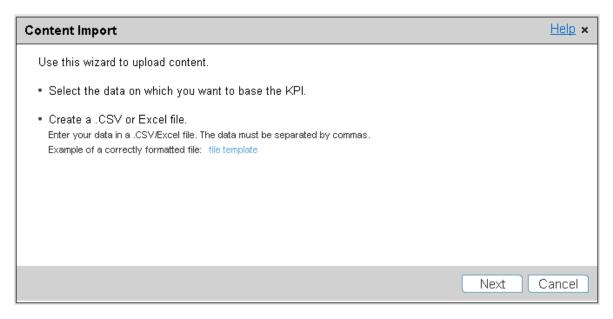


Content Import Wizard

The wizard enables you to upload content.



1 - Content Import



UI Element	Description				
Select the data on which you want to base	You can use Excel (or .CSV) files as a data source. A .CSV file contains data separated by commas. Each Excel file sheet or each .CSV file that is uploaded corresponds to a Context with only one entity. The name of the Context that is created is the name of the Excel sheet (or .CSV) file. The names of the columns in the Excel sheet (or for .CSV files, the first row of the file) represent the names of the entity fields. These fields become the variables that can be used to create the formula that is used to calculate the value of the KPIs or Metrics associated with the Context.				
the KPI.	File Structure The .CSV file should have a table structure. Example The following is an example of a .CSV file in CSV format: MD_BUSINESS_KEY, SLA_NAME, SLA_STATE, SLA_TYPE, DATE_START, DATE_END SLA01, SLA01, Passed, Corporate, 1/1/2011 13:00:00, 2/1/2011 19:00:00 SLA02, SLA02, Passed, Corporate, 1/2/2011 11:00:00, 2/3/2011 11:00:00, 2/3/2011 11:00:00, 2/3/2011 11:00:00 SLA03, SLA03, Passed, Corporate, 1/3/2011 11:00:00, 2/3/2011 11:00:00, 2/3/2011 11:00:00, 2/3/2011 11:00:00 SLA04, SLA04, Passed, Corporate, 1/3/2011 11:00:00, 2/3/2011 11:00:00 SLA04, SLA04, Passed, Corporate, 1/3/2011 11:00:00, 2/3/2011 11:00:00 SLA13, SLA13, Passed, Corporate, 1/3/2011 11:00:00, 2/3/2011 11:00:00 SLA14, SLA14, Passed, Corporate, 1/6/2011				
	Example The following is an example of an Excel file:				

t I	Desc	ription				
		А	В	с	D	
	-	NAME	SALARY	_		-
		John		ORGANIZATION_NAME Helpdesk	ORG_ID 100	
		Jack		Helpdesk	100	
	4	Bill		Helpdesk Office Constitution (North A	100	
		Bob		Office Supplies (North A		
		Anna		SAP Support (North Ame		
		Victoria		Service Manager	400	
		Louise		Helpdesk	100	
		Amos		SAP Support (North Ame		
		Mary = :		Helpdesk	100	
	11	Eric		Office Supplies (North A	200	
	th	e Maximur ames: General:	n Size of .(Excel files mum size of the data file is : CSV file (MB) setting in AD	OMIN > Settings > BA	A Set
	the	e Maximun ames: General: • The en (only a • The na	n Size of .(atity field na Iphanumeri ume of the d	mum size of the data file is	of column titles in the es (_)).	A Set datab
	the	e Maximun ames: General: • The en (only a • The na	n Size of .(http://www.oficial. http://www.of	mum size of the data file is a CSV file (MB) setting in AD mes should follow the rules c characters and underscore ata file should follow the rule	of column titles in the es (_)).	A Set datab
	th • Na •	e Maximun ames: General: • The en (only a • The na alphan .CSV file. • The ma	n Size of .(http://www.oficial. http://www.of	mum size of the data file is a CSV file (MB) setting in AD mes should follow the rules c characters and underscore ata file should follow the rule	of column titles in the es (_)). es of Context names (). ity field name is 30 cha	A Set datab only
	th • Na •	e Maximun ames: General: • The en (only a • The na alphan .CSV file. • The ma entity f	n Size of .(atity field na lphanumeric ame of the d umeric cha aximum nur field name is ncluded betw	mum size of the data file is a CSV file (MB) setting in AD mes should follow the rules a characters and underscore ata file should follow the rule racters and underscores (_) mber of characters in an entited of the rule of characters in an entited of the rule rule rule of characters in an entited of the rule rule rule of characters in an entited of the rule rule rule of characters in an entited of the rule rule rule of the rule rule rule rule rule rule rule rul	of column titles in the es (_)). es of Context names (). ity field name is 30 cha as in the first row of the	datab only aracte
	th • Na •	e Maximun ames: General: • The en (only a • The na alphan .CSV file. • The ma entity file.	n Size of .(http://www.size.of http://wwww.size.of http://www.size.of http://www.size.of http://www.size.of	mum size of the data file is CSV file (MB) setting in AD mes should follow the rules c characters and underscore ata file should follow the rule racters and underscores (_) mber of characters in an enti- s the string between comma	of column titles in the es (_)). es of Context names (). ity field name is 30 cha as in the first row of the	datab only aracte
	th4 • Na •	e Maximun ames: General: • The er (only a • The na alphan .CSV file. • The ma entity fi • Data ir comma	n Size of .(http://www.commencedimensional http://www.commenc	mum size of the data file is CSV file (MB) setting in AD mes should follow the rules c characters and underscore ata file should follow the rule racters and underscores (_) mber of characters in an enti- s the string between comma	of column titles in the es (_)). es of Context names (). ity field name is 30 cha as in the first row of the ng to columns) should	datab only aracte e.CSV not ir
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UI Element	Descr	iption						
	 (_). The maximum number of digits in a data field is 18 digits and 2 decimal digits. The maximum number of characters in a data field is 254 characters. A data field should not include a formula. A column should not include different types of data (for example, numeric, and date data). A date column should only include dates. Make sure you also check out the limitations in Limitations in the <i>Content Reference Guide</i> .							
	 Tip: The date data obtained from the data sources is automatically reformatted internally using the YYYY.MM.dd HH:mm:ss (based on 24 hours) format. All internal calculations are performed using this format. If you are using CSV files, you can select the date format in the <data upload=""> wizard. The selected format is automatically reformatted internally using the YYYY.MM.dd HH:mm:ss (based on 24 hours) format.</data> The dates displayed in the application user interface are reformatted according to the browser locale. 							
Create a .CSV or Excel	· · · · · · · · · · · · · · · · · · ·							
File		А	В	С	D			
	1	Field_1_Name	Field_2_Name	Field_3_Name	Field_4_Name			
				Field_3_Value_1				
				Field_3_Value_2				
				Field_3_Value_3				
					Field_4_Value_4			
				Field_3_Value_5				
					Field_4_Value_6 Field_4_Value_7			
	O F	ieiu_i_value_/	rielu_2_value_/	rielu_5_value_/	rielu_4_value_/			

2 - Select Action



UI Element	Description
Upload a new table	Select this option if you want to create a new table in the Context Designer using the information from the Excel or .CSV file.
Update an existing table	Select this option if you want to update an external table that was previously uploaded to the Context Designer. When you click this option, the following options are displayed:

UI Element	Description
	Select Action Help ×
	External context can be uploaded to either a new table or to an existing one:
	Upload a new table
	● Update an existing table
	○ Add data to an existing table
	Override the data in an existing table with the new data
	 Override the data with new data in a table with changed structure
	Back Next Cancel Add data to an existing table. Select this option when you want to add data to an existing table. The data from the new imported file is added at the end of the existing
	table. The formats of the two imported files must be the same.
	• Override the data in an existing table with the new data. Select this option when you want to override the data of an existing table with the data of the file you are uploading. The formats of the two imported files must be the same.
	• Override the data with new data in a table with changed structure. Select this option when you want to override the data of an existing table with the data of the file you are uploading. The formats of the two imported files is different. You might have added or removed columns.
	If you want to override the data of a table with changed structure and the file you import is an Excel file with more than one sheet, note that you can only import one sheet at a time. You must import separately each one of the sheets.

3 - Select File

This page is displayed when you selected the Upload a new table option:

Select File		<u>Help</u> ×
Select the file t	o be used to create the new table:	
File Name:	phone_nos.xlsx Browse	
	Back Next (Cancel

This page is displayed when you selected the **Update an existing table** option:

Select File		<u>Help</u> ×
Select the file to	override the existing table:	
File Name:	Browse	
Table Name:	ext.APPLICATION_DIM_V ~	
	Back Next (Cancel

UI Element	Description
File Name	Select the file you want to upload.
Table Name	Select the relevant table name.

4 - Select Sheets

This page displays the table created from an Excel file.

Select the sheets you want to upload.

Select Sheets		<u>Help</u> ×
Select the sheets to be used to create the new tab	les	
Available Sheets	Selected Sheets	
Addresses	IT_Salary	
	Family Status	
	٠	
	Back Ne	ext Cancel

In you are performing the override of an Excel file with more than one sheet, note that you can only import one sheet at a time when you override the data of a table with changed structure. If you change the structure of more than one sheet, perform the import for each one of the sheets.

5 - Table Preview

This page displays the table created from the Excel file:

Ta	ble Preview		<u>Help</u> ×
	📀 IT_Salary_2 1/2 📀		
	NAME	SALARY	ORGANIZATION_NAME
	John	45000.0	Helpdesk
	Jack	70000.0	Helpdesk
	Bill	82000.0	Helpdesk
	Bob	67000.0	Office Supplies (North America)
	Anna	45000.0	SAP Support (North America)
			Back Next Cancel

This page displays the table created from the .CSV:

Та	ble Preview			<u>Help</u> ×
	IT_Salary1			
	NAME	SALARY	OGRANIZATION_NAME	
	John	45000	Helpdesk	
	Jack	70000	Helpdesk	
	Bill	82000	Helpdesk	
	Bob	67000	Office Supplies (North America)	
	Anna	45000	SAP Support (North America)	
	Select the date format used in the file			
			Back Next (Cancel

The page displays the table with a new column when you override an existing file.

NAME	SALARY	ORGANIZATION_NAME
John	45000.0	Helpdesk
Jack	70000.0	Helpdesk
Bill	82000.0	Helpdesk
Bob	67000.0	Office Supplies (North America)
Anna	45000.0	SAP Support (North America)

UI Element	Description		
<table_name></table_name>	The name of the table. It corresponds to the selected sheet in the Excel file or to the CSV file itself.		
<sheet_nbr total_<br="">nbr_sheets></sheet_nbr>	The sheet number and the total number of uploaded sheets in the Excel file.		
	Click the arrows to display the other table previews.		
	The contents of the .CSV or Excel file are displayed in the box in table format.		
	If you selected more than one sheet of the Excel file, arrows appear and you can view a sample of each sheet you selected.		
	You can set the date format only for the CSV file.		
	If you override an Excel file you can only import one sheet at a time if the sheet structure has changed. In the table in the Table Preview page:		
	• The title of a column that was added to the imported file but did not exist in the database is green.		
	Bank		
	191.0		
	192.0		
	191.0		

UI Element	Description
	The title of a column that was removed from the imported file but exists in the database is red and crossed-out.
Select the date format you used in the file	Select the date format you used in the .CSV file.

6 - Automatic Import Scheduler

You can schedule the upload of a .CSV or Excel file automatically.

Automatic Import Scheduler	<u>Help</u> ×
✓ Schedule import later	
The automatic import should occur Weekly 🗸 on Sunday 🗸 00:00 🗸	
File location [\\ <remote_machine>\<c>\$\<folder_name>\<file_name.xls></file_name.xls></folder_name></c></remote_machine>	
Select upload type Add data	
Back Upload (Cancel

Automatic Import Scheduler	<u>Help</u> ×
Schedule import later	
The automatic import should occur Weekly -> on Sunday -> at 00:00 ->	
File location \\ <remote_machine>\<c>\$\<folder_name>\<file_name.xls></file_name.xls></folder_name></c></remote_machine>	
Select upload type Add data ~	
Back Upload	Cancel

UI Element	Description
Schedule import later	Select to schedule the automatic import at a later time. For details, see "Semantic Layer - Data Loader Scheduler" on the next page. This is the default.
The automatic import should occur <periodicity> at <time></time></periodicity>	Select to import the file: Daily.and select the time (from 00:00 to 23:30) when you want to
	perform the import operation. Weekly. and select the day (Monday to Sunday) and time (from 00:00 to 23:30) when you want to perform the import operation.
	Monthly. , and select the date (1 to 31 , or last day of the month) and time (from 00:00 to 23:30) when you want to perform the import operation.
File location	The location of the .CSV or Excel file that you want to upload automatically. Use the format described in the field. The location must be accessible by BA.
Select upload type	• Add data. Select this option when you want to add the data from the new imported file at the end of the existing table. The formats of the two imported files must be the same.
	• Override data. Select this option when you want to replace the data of the existing table with the data of the file you are uploading The formats of the two files must be the same.

Semantic Layer - Data Loader Scheduler

You can schedule the import of Excel (or .CSV) files into Context Designer.

You can also schedule the automatic import of Excel (or .CSV) files directly into Context Designer when you import for the first time. For details, see "Content Import Wizard" on page 47.

Note: It is recommended to use Excel files instead of .CSV files.

You can also select to schedule the import at a later time.

To access:

Click ADMIN > Semantic Layer > Data Loader Scheduler.



Schedule (or edit) the automatic import of an Excel (or .CSV) file

- 1. Click Admin > Semantic Layer > Data Loader Scheduler.
- 2. In the Data Loader Scheduler page, click Add Schedule (or)
- 3. In the dialog box that opens, select or enter the frequency and the time when the upload should take place, the type of upload (**Add data** or **Override data**), and the location of the file.
- 4. Click OK.



Data Loader Scheduler Page

c:\temp	04/09/2014	Weekly - Sunday at 00:00	Active ~	Add data	l
	File location c:\temp				

UI Element	Description
Add Schedule	Click to schedule the automatic upload of a .CSV or Excel file.

Frequency	×
File loca	tion : Insert path
Select u	oload type : Add data 👻
	Test location
Edit freq	
Import t	me : 00:00 ~
	 Sunday Monday
	 Tuesday
Import d	ay : 💿 Wednesday 💿 Thursday
	 Friday
	Saturday
	Add Cancel
UI Element	Description
File location	The location of the .CSV or Excel file that you want to upload automatically.
	LimitationsPath. The path to the file to be imported should have shared

UI Element	Description
	 access (read/write), and should not include authentication. .CSV Files: Date format. The date format in .CSV files that you want to import using the Data Loader Scheduler must be: DD/MM/YYYY as it is not possible to specify the data format in the Data Loader Scheduler.
	• File name. The .CSV file name should be as the same as the DB table name.
	Column names. The column names in the .CSV file should match the names of the columns in the DB table.
	Excel file.
	 Make sure that the sheet names in the Excel file that you import using the Data Loader Scheduler match the names of the sheets (tables) in the original Excel file you imported using the Data Loader wizard.
	 Make sure that the column names in the Excel file that you import using the Data Loader Scheduler match the names of the columns in the original Excel file you imported using the Data Loader wizard. If the column names do not match, an error is issued: Failed populating content for table: <table_name> <database_exception_number>.</database_exception_number></table_name>
	Make sure you also check out the limitations in "Limitations for .CSV and Excel files" on page 49.
Import all sheets	The option is selected by default. When the option is selected, all the sheets of the Excel file are imported.
	If you deselect the option, the list of sheets is displayed. You can then select the relevant sheets.
Select upload type	• Add data. Select this option when you want to add the data from th new imported file at the end of the existing table. The formats of the two imported files must be the same.
	• Override data . Select this option when you want to replace the dat of the existing table with the data of the file you are uploading The formats of the two files must be the same.
Test location	Click to test the location of the file you want to import.
Edit	If in Edit frequency , you selected:

	UI Element	Description
	frequency	• Daily , you can then select the time when you want to perform the import operation in the Import time field.
		• Weekly, you can then select the day of the week when you want to perform the import operation in the Import day list.
		• Monthly , you can then select the day of the month when you want to perform the import operation in the Import day of month list.
		If you chose day 31, the import occurs only on months with 31 days. If you want to schedule the import on the last day of every month, select Last day of month .
	Import time	Select the time (from 00:00 to 23:30) when you want to perform the import operation.
		Tip: Do not schedule more than 15 imports during the same 5 minutes.
	Import	This field appears when you have selected Edit frequency = Weekly .
	day	Select the day when you want to perform the import operation.
	Import	This field appears when you have selected Edit frequency = Monthly .
	day of month	Select the day of the month when you want to import the data.
		If you chose day 31, the import occurs only on months with 31 days. If you want to schedule the import on the last day of every month, select Last day of month .
1	Click to edit the scheduler for the relevant file. For details, see "Add Schedule" on page 60.	
Datafile name	The name of the .CSV or Excel file that you want to upload automatically.	
File location	The location of the .CSV or Excel file that you want to upload automatically.	
Start date	The date from when you want to start the scheduling.	
Import frequenc y	· ·	oad of the file takes place. The frequency can be: Daily , Weekly , or e scheduled time of the upload is a time frame between 00:00 and 23:00 .
Status	• Active. S	elect this option to activate the scheduler.
	Suspend place.	ed. Select this option to suspend the scheduler. The upload will not take

Upload type	• Add data. Select this option when you want to add the data from the new imported file at the end of the existing table. The formats of the two imported files must be the same.
	• Override data. Select this option when you want to replace the data of the existing table with the data of the file you are uploading The formats of the two files must be the same.
Ū	Deletes the scheduling.

SAP BusinessObjects Enterprise Contexts (Universes)

A KPI or Metric Context (universe) represents a global business facet related to the aspect of business the KPI or Metric represents. For example, the % of Assets in Maintenance KPI represents one aspect of the AssetManagement universe.

You can add a Context to the Studio and the BA engine and attach KPIs or Metrics to the new Context in the Studio.



This section includes:

Add a Context to Studio using Context Designer	65
Add a Context to Studio using BO	65
Universe Creation Guidelines	66

Add a Context to Studio using Context Designer

You can create new Contexts, using Context Designer. For details, see Semantic Layer - Context Designer in the *Administrator Guide*.

If you have SAP BusinessObjects Enterprise installed, you can also create Contexts (Universes) using BOE. Once you are done you must add these Contexts to the Studio.

Add a Context to Studio using BO

- 1. Make sure you have modeled the data structure in your database.
- 2. Add the universe using the BO Designer according to the Universe Creation Guidelines. For details, see "Universe Creation Guidelines" on the next page.
- 3. Export the universe to the BA directory in your BO CMS (Central Management Server) using the BO Designer .

- 4. To load the universe to the Studio library you can do one of the following:
 - Run the JMX reload metadata.
 - i. Make sure you have JDK installed.
 - ii. Run jconsole in the Start menu.
 - iii. In the window that opens, select the Remote Process option, enter <host_name>:<port_ number> and click Connect.
 - iv. After the application completes its loading, click the **MBeans** tab.
 - v. Click com.hp.btoa.studio.jmx.
 - vi. Click loadMetaData.
 - Note that if you do not click **loadMetaData**, the change will be performed by an automatic update after 24 hours or 7 days depending on your configuration. You can modify the configuration using the **Meta Data reload rate (Days)** parameter in the **BA Settings** section of the ADMIN Tab. For details, see BA Settings in the *Administrator Guide*.
- 5. You can now design active or template entities, create the formulas and filters for the KPIs or Metrics, and more.



Universe Creation Guidelines

This section explains how you can create Universes that can be used by the IT Business Analytics Studio and the BA Engine.

Guidelines

- 1. Folders represent the name of the entity that is presented.
- 2. Classes in the directory represent the attributes of that entity.
- 3. Classes should be of type Date, String, or Numeric.
- 4. Entities (represented by directories) in the same universe must have a relationship between them.
- 5. Hierarchical relationships should be flattened to attributes (Level1, Level2, ...). These relationships can be defined in a joined table.

Limitations

1. No current support for directories within directories or other hierarchies.

- 2. Ensure that there aren't multiple joins between entities represented in the Universe (This is a Universe limitation). Use aliases to copy.
- 3. Folder names should be unique.
- 4. Count, in a formula, can only be performed on Numeric and String fields.
- 5. Conditions on objects not supported.
- 6. Details on objects not supported.
- 7. Do not put mappings in the universe where fields are translated from the value in the database to the value that the universe returns.

Field Types

- Dimensions
 - Fields that can be broken down per KPIs or Metrics should be marked as Dimensions see the top mark in the figure below.
 - If the field can only have a limited set of values, then turn on the List of Values field below see the second mark in the figure below. The studio will only show the first 100 values.
 - Warning this should only be turned on for fields that have a small set of values all the values

will be loaded into memory in the studio.

Edit Properties of Name	×
Definition Properties Advance	d Keys Source Information
-	ualification for multidimensional analysis:
Associate a List of Values	
-IVI Associate a list of values	Allow users to edit this list of values Automatic refresh before use Hierarchical Display
List <u>N</u> ame:	Export with universe
020	Delegate search
Restore Default	Edit Display
ОК	Cancel <u>Apply</u> <u>H</u> elp

Measures

 Fields that are only used as measures in KPI or Metric formulas should be marked as Measures. Make sure to configure as in figure below.

efinition Properties Advance	ed Keys Source Ini	formation
Qualification This object has the following of O Dimension O Detail Choose how this measure will		
Eunction:	None	
Associate a List of Values List Name: 020	Allow users to each Automatic refres	h <u>b</u> efore use ay
Restore Default	Edit	Displa <u>v</u>

Import or Export Contexts, Data, KPIs, Metrics, Trees, Pages, or Components

You can import or export complete trees (with their Scorecards, Perspectives, Objectives, and KPIs), Unassigned KPIs, Metrics from the Active KPIs pane, as well as user-defined pages or components.

The import or export flows are meant to be used when moving from staging to production and not as a way to update system configuration. If you want to use the import or export flows to update the system configuration, you must delete all the nodes in the active KPIs pane, before performing the import operation. . For details, see Migrate from Development or Test Environment to Production in the *Administrator Guide*.

The export and import flows are also meant to be used for localization purposes, when you want to work with other languages than English. For details, see Localization and Globalization in the *Administrator Guide*.

To export or import the items listed above, you can use the Content Acceleration Pack (CAP) feature. You can export or import:

- Contexts. For details, see Migrate contexts in the Administrator Guide.
- Data imported using .CSV files. For details, see Migrate Data Imported using .CSV files in the Administrator Guide.
- Trees of their Scorecards, Perspectives, Objectives, and KPIs, Unassigned KPIs, and Metrics. For details, see Migrate Trees, Metrics, and Unassigned KPIs in the *Administrator Guide*.
- User-defined pages or components. For details, see Migrate User-defined Pages or Components in the *Administrator Guide*.

Note: You can migrate Contexts, trees, KPIs, Metrics, user-defined pages, or components using one CAP per type of item or one CAP for all the items you want to export/import/migrate.

Reference: Contexts (Universes)

IT Business Analyticss includes out-of-the-box Context (universes) that correspond to specific aspects of the business. The entities in these Contexts are IT Data Model-compliant. For details about IT Data Model, see IT Data Model in the *Business Analyst Guide*.

To access:

In IT Business Analytics, click Admin > Semantic Layer > Semantic Layer. In the Context Management page, click Launch Context Designer. In the Context Designer page, click Open an existing context, and select the Context.



Contexts Created using SAP BusinessObjects Enterprise

A Context (universe) represents a business universe.

A Context is a set of entities. Each entity is a set of fields. Each field can be a dimension, measure, or fact. It can be measured.

A formula calculates, for a specified time period, using the values of specific entities, a value that represents a specific aspect of the business. The value is given to a Key Performance Indicator (KPI). The KPI represents the specific aspect of the business.

Each universe includes some KPIs. The KPIs are the building blocks of the Studio and the KPI engine.

The universe entity relationship diagrams (ERDs) are logical views of the universe data models. The ERDs are interactive and contain details about the tables and classes used in the universe.



This section includes:

Plan the integration of the relevant data sources and the activation of the corresponding Content	
Packs	.72
Display the Context	.72

Plan the integration of the relevant data sources and the activation of the corresponding Content Packs

Proceed as follows:

- 1. Learn about KPIs and Metrics (Key Performance Indicators (KPIs) and Metrics in the *Business Analyst Guide*).
- 2. Consult the list of KPIs and Metrics for each data source in the *Content Reference Guide*(or in the KPI Library in Excel format you can sort the list according to the business context).

This document is accessible from the Help Center page in the online Help Center (documentation library), or from the HPE Software Product Manual Site (https://softwaresupport.hpe.com/group/softwaresupport/search-result?doctype=manuals?keyword=).

3. Understand the structure of the Contexts and about the KPIs or Metrics and their relation to Contexts. For details, see Semantic Layer - Context Designer or SAP BusinessObjects Enterprise Contexts (Universes) in the *Administrator Guide*.

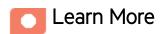
Display the Context

- 1. In IT Business Analytics, click **Admin > Semantic Layer > Semantic Layer**. The Context Management page opens.
- 2. The list of out-of-the-box Contexts is displayed.
- 3. Click Launch Context Designer.
- 4. In the Context Designer page that opens, click **Open an existing context**.
- 5. Select the relevant Context.

The structure of the Context is displayed.

KPIs, Metrics, Contexts, and Data Source Integrations

The following sections provide information about the Data Sources, the Contexts linked to the data sources, and the corresponding KPIs and Metrics, and indicates if there is a need for consolidation when working with other data sources.



Note: The Period_Universe context is not based on external data sources. It is used to manage periods internally.

Application Lifecycle Management Data Source

Data source: "Integration with ALM" on page 76

KPIs and Metrics: "ALM-Related KPIs and Metrics" on page 84

Related CAPs: ALM_Demo and ALM Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Consolidation with PPM ("Integration with ALM" on page 76)

Asset Manager Data Source

Data source: "Integration with AM" on page 86

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: AM_Demo and AM Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Amazon Web Services Data Source

Data source: "Integration with AWS" on page 91

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Amazon Web Service CloudWatch Data Source

Data source: "Integration with AWSCW" on page 96

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Azure Data Source

Data source: "Integration with Azure" on page 101

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Configuration Management System Data Source

Data source: "Integration with CMS" on page 112

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CMS_Demo and CMS Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Cloud Service Automation Data Source

Data source: "Integration with CSA" on page 118

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Project and Portfolio Management Data Source

Data source: "Integration with PPM" on page 215

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide

Related CAPs: PPM_Demo and PPM Content Acceleration Packs in the *Content Acceleration Packs Guide*

Server Automation Data Source

Data sources: "Integration with SA" on page 219

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: SA_Demo and SA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

The Context includes the Node entity, so you can create a KPI based on that entity and then break it down by service and/or application.

Do not create a Service to Application drill down or an Application to Service drill down.

Service Manager Data Source

Data source: "Integration with SM" on page 223

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: SM Content Acceleration Pack in the Content Acceleration Packs Guide.

Virtual Performance View

Data source: "Integration with vPV" on page 230

KPIs and Metrics: KPIs and Metrics in the Content Acceleration Packs Guide.

Related CAPs: CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Integration with ALM

HP Application Lifecycle Management (ALM) empowers IT to manage the core application life cycle, from requirements through deployment, granting application teams the crucial visibility and collaboration needed for predictable, repeatable, and adaptable delivery of modern applications. ALM supports you through all phases of the application life cycle management. By integrating the tasks involved in application management, it enables you to better align IT with your business needs.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Application Lifecycle Management data source. The purpose of the integration of ALM as a data source is to bring quality management information into the Data Warehouse.

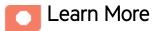
The data warehouse is connected to ALM through high-level integration processes. A set of database views enables the extraction of the main ALM objects.

Note: To locate ALM documentation in the HPE Manual Site, you may have to input **QC** in the search field.

To access:

Select **ADMIN** > **Data Management** > **Connect Data Source** then click **Activate** to activate the integration processes for the **ALM** data source.





Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the Administrator *Guide*.

Important Information

• ALM supports multiple instances of the Content Pack.

- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.

ALM Adapter Limitations

- To control the data extraction page size from the Data Warehouse server side, set the alm.page.size parameter to 1000 in %HPBA_
 Home%/ContentPacks/ALM/EXTRACTOR/extractor-alm/settings.properties.
- The ALM Adapter transfers the relevant information from the ALM data source. In the ALM Site Administration, select the Site Configuration tab and make sure that the REST_API_MAX_ PAGE_SIZE configuration is at least 2000 pages. In the ALM activation page in ALM, the alm.page.size setting should be equal to or less than the REST_API_MAX_PAGE_SIZE setting.



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Activate the Integration

1. Prerequisites:

- Port 8080 / 8443 must be available.
- 2. Select **ADMIN** > **Data Management** > **Install Content Pack** then click the install button relevant for the data source.
- 3. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 4. The Add Data Source page opens. Select the **ALM** data source type.
- 5. Select or enter the configuration parameters.
- 6. Click **Next** to proceed to the validation page.

Connect to ALM on a Secured Connection

- 1. Export the ALM SSL certificate to a file. For details, see the ALM Hardening Guide.
- After the installation procedure is finished, reveal the ALM certificate to Data Warehouse, you
 import the SSL certificate trusted by the ALM server into the JDK key store using the keytool.exe
 tool provided by the JDK by running the command :

On the server side (glassfish): Run the <HP-BA>\jdk\jre\bin\keytool" -importcert -alias <alias> -file <path_to_certificate>" -keystore "<JRE>\lib\security\cacerts" -trustcacerts storepass changeit command.

Example

"%HP_BA_Home%/jdk/jre/bin/keytool" -importcert -alias hpba -file

"c:\<HP-BA>\agora\jdk\jre\bin\keytool" -importcert -alias hpxs -file

"%HP_BA_Home%/vmbtoarnd09.cer" -keystore "%HP_BA_ Home%/jdk/jre/lib/security/cacerts" -trustcacerts -storepass changeit

- 3. Select the **Is secured** toggle-button in the activation parameters screen.
- 4. Change the port to a secured port (default is 8443).

Note:

• The default password for JVM keystore is **changeit**. If this password was not changed before, use the default keystore password for certificate import.

• In Connect Data Source, the specified machine name must be identical to the name of the machine for which the certificate is issued.

ALM Customization

ALM Demand Management provides system parameter fields. You can change name and data length of these parameter fields in ALM Demand Management, depending on your purpose and requirements.

To support all customers' KPIs, all ALM customized fields of Demand Management are populated to the Data Warehouse and added as place holders in the universe. You can use these fields in BA KPI formulas.

Related Dimension Tables and Views

Related Dimension Tables

- REQUIREMENT_PLHD_DIM
- PROJECT_PLHD_DIM
- DEFECT_PLHD_DIM
- TEST_PLHD_DIM
- TESTINSTANCE_PLHD_DIM
- TESTRUN_PLHD_DIM
- TESTSET_PLHD_DIM

Related Views

- REQUIREMENT_PLHD_DIM_V
- PROJECT_PLHD_DIM_V
- DEFECT_PLHD_DIM_V
- TEST_PLHD_DIM_V
- TESTINSTANCE_PLHD_DIM_V
- TESTRUN_PLHD_DIM_V
- TESTSET_PLHD_DIM_V

Consolidate Between ALM and PPM

If you are integrating ALM and PPM data sources, the consolidation process between ALM and PPM identifies ALM releases as child- projects of PPM projects. You can map which release of the ALM domain is connected to the specific PPM project. The manual mapping must be performed before running ETL.

To configure ALM and PPM consolidation:

- 1. Navigate to %HP_BA_Home%/DataWarehouse/ExternalSources/ALM_RELEASE_ MAPPING.
- 2. Open the <External_Source_Folder>/ALM_RELEASE_MAPPING.csv file.

ALM_DOMAIN	ALM_PROJECT	ALM_ID	ALM_MD_CP_ID	PPM_ID	PPM_MD_CP_ID

3.

Note: Do not remove the header row. In addition, if the spreadsheet has a dummy row under the header row, do not edit or delete the dummy record. This record tells the ETL process what data type to use when processing the column.

4. Save your additions and changes.

Configure ALM Reopen Events

You can configure a defect's reopen event by mapping which defect status changes can trigger a reopen event. When you configure the file, all of these status changes are marked as reopen events. This allows for a dynamic configuration of reopen events mapping.

To configure reopen event mapping:

- Navigate to %HPBA_HOME%/ContentPacks/ALM/EXTERNAL/DEFECT_REOPEN_ MAPPING.CSV.
- 2. Open the <External_Source_Folder>/ALM_DEFECT_REOPEN_MAPPING.csv file.
- Enter the required defect status, for example, old_value = Fixed, new_value= Open. All records that match this pattern will be marked as reopen event.
- 4. Save your additions and changes.

Note: Configuration must be done prior to running ETL. If data is processed without this configuration, no reopen events will be calculated (besides the out-of-the-box ones).

Configure ALM_PAGE_SIZE

In the ALM Site Administration, select the Site Configuration tab and make sure the REST_API_MAX_ PAGE_SIZE configuration is at least 2000. I



ALM Activation Page

The data warehouse is connected to ALM through high-level integration processes. A set of database views enables the extraction of the main ALM objects.

Data Source Wizard			Help 🗙
ALM (Application Lifecy	/cle Management)		
*Instance name :	[
ALM Version :	11/11.5	~	
Time Zone :	Asia/Shanghai	~	
Data Source Type :	ALM	~	
*Username :	< <enter username="">></enter>	N	
*Password :			
*Hostname/IP Address :	<=Enter hostname of	r IP address>>	
*Port :		://80, https://443>>	
Domain,Project :	Is Secured	nject1;domain2,project2;>	~~
Initial Load Period (months)	: (6	~	
		Back Next	Cancel

Mandatory fields are marked with a red asterisk.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
ALM Version	Select the relevant version. For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	Select the data source type.
Username	Enter the username used to log on to ALM.
Password	Enter the password used to log on to ALM.
Hostname/IP	Enter the hostname of the server on which ALM is installed.
Address	Note: In the case of SSL secured connection, the server hostname must be identical to the name to which the certificate was issued.
Port	Enter the server port number.
	Default port for http protocol: 80
	Default port for https protocol: 443
Is Secured	Select the option to use the https protocol.
	Default protocol is http .
Domain,Project	Enter the domain and project pair, separated by a semicolon ";".
	Example domain1, project1; domain2, project2; domain3, project3.
	A * represents all projects. For example: domain1,*;domain2,project2. This means the ALM extractor extracts all projects under domain1 , and only project2 under domain2 .
	Note: If you do not specify the domain and project pair, the ETL extracts data from all domains and projects.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

User interface elements are described below:



ALM-Related KPIs and Metrics

For a list of the ALM-related KPIs and Metrics, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Place Holder Mapping

The place holder entities: DEFECT_PLHD, REQUIREMENT_PLHD, PROJECT_PLHD columns are listed below with their corresponding context columns:

DEFECT_PLHD	
DEFECT_PLHD.BG_USER_05	OpenClose
DEFECT_PLHD.BG_USER_06	SecurityImpact
DEFECT_PLHD.BG_USER_14	LastDate
DEFECT_PLHD.BG_USER_15	CloseInDate
DEFECT_PLHD.BG_USER_16	OpenInDate
DEFECT_PLHD.BG_USER_22	NewInDate
DEFECT_PLHD.BG_USER_24	FixedInDate
DEFECT_PLHD.BG_USER_27	GlobalID
DEFECT_PLHD.BG_USER_34	DevelopmentEngineer
DEFECT_PLHD.BG_USER_36	InvestigationEngineer
DEFECT_PLHD.BG_USER_41	SourceIncidentID
DEFECT_PLHD.BG_USER_43	IssueType
DEFECT_PLHD.BG_USER_44	CustomerCompany
DEFECT_PLHD.BG_USER_45	CustomerEmail
DEFECT_PLHD.BG_USER_63	ResolutionNote
DEFECT_PLHD.BG_USER_64	CustomerNote

DEFECT_PLHD.BG_USER_71	ReopenCount
DEFECT_PLHD.BG_USER_83	Regression
DEFECT_PLHD.BG_USER_84	EscalationStatus
DEFECT_PLHD.BG_USER_89	Workaround
DEFECT_PLHD.BG_USER_95	Team
PROJECT_PLHD	
PROJECT_PLHD.REL_USER_04	ReleaseState
PROJECT_PLHD.REL_USER_05	PRS_ID
PROJECT_PLHD.REL_USER_06	PRS_MR_Date
PROJECT_PLHD.REL_USER_10	ReleaseType
REQUIREMENT_PLHD	
REQUIREMENT_PLHD.RQ_USER_52	EstimatedCompletedDate
REQUIREMENT_PLHD.RQ_USER_50	ActualCompletedDate
REQUIREMENT_PLHD.RQ_USER_01	Status
REQUIREMENT_PLHD.RQ_USER_20	Team
REQUIREMENT_PLHD.RQ_USER_44	QAStatus
REQUIREMENT_PLHD.RQ_USER_47	ActualStartDate
REQUIREMENT_PLHD.RQ_USER_49	ActualEndDate
REQUIREMENT_PLHD.RQ_USER_48	ActualImpDate
	1

Integration with AM

Asset Management helps you to manage your assets across procurement, active lifecycle, and disposals so you can optimize end-to-end asset usage for optimal value and lower costs.

The AM integration uses the SAP BusinessObjects Data Services drivers for data store connections.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Asset Manager data source.

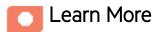
The Asset Manager (AM) content pack enables you to receive data information from the AM application. AM is a fully integrated suite of modules delivered as part of the Service Management Center software package. AM software manages the physical, virtual, financial, and contractual aspects of assets.

Note: Information about the ALT data source and more general content issues are detailed in the *Content Reference Guide*.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select AM to activate the integration processes for the AM data source.





Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the Administrator *Guide*.

Important Information

- The AM Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service

(DCS) in the Administrator Guide.

• All fields are case-sensitive.



Activate the integration

1. Prerequisite:

The AM data source can have either the Oracle or the SQL Server type.

2. Activate the AM Data Source:

- a. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- b. The Add Data Source page opens. Select the **AM** data source type.
- c. Select or enter the configuration parameters.
- d. Click Next to proceed to the validation page.

Note: The system does not support changing the **Data Source Type**, therefore you must select the relevant type, SQL or Oracle, before activation.

UI Description

AM Activation Page

The data warehouse is connected to Asset Manager through high-level integration processes.

User interface elements are described below:

For the SQL server:

The following is an example of the AM Activation page when the database backup of Asset Manager is restored on an SQL Server.

Data Source Wizard		Help 🗙
AM (Asset Manager)		
*Instance name :		
AM Version :	9.41/9.5 ~	
Time Zone :	Asia/Shanghai 🗸	
Data Source Type :	MSSQL ~	
*Username :	< <enter username="">></enter>	
*Password :		
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or=""></enter>	>
*Port:	<>Default: Oracle 1521, MSSQL 1	433, MySql 3306>>
*Database Name :	< <enter database="" name="">></enter>	
Initial Load Period (months) :	6 ~	
	Back	Next Cancel

Mandatory fields are marked with a red asterisk.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
AM Version	Select the relevant AM version. For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.

UI Element	Description
Data Source Type	AM should be configured to run on an SQL Server.
Username	Enter the username used to log on to the AM database.
Password	Enter the password used to log on to the AM database.
Hostname/IP Address	Enter the SQL server database hostname or IP address.
Port	Enter the server port number.
Database Name	Enter the database name used by AM.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

For the Oracle Server:

The following is an example of the AM Activation page when the database backup of Asset Manager is restored on an Oracle Server.

Data Source Wizard		Help ×
AM (Asset Manager)		
*Instance name :		
AM Version :	9.41/9.5 ~	
Time Zone :	Asia/Shanghai 🗸	
Data Source Type :	Oracle	
*Username :	< <enter username="">></enter>	
*Password :		
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>	
*Port :	<pre><<default: 1433,="" 1521,="" 3306="" mssql="" mysql="" oracle="">></default:></pre>	
SID :	< <if entered,="" mandatory="" name="" not="" service="">></if>	
Service Name :	< <if entered,="" mandatory="" not="" sid="">></if>	
Initial Load Period (months) :	6 ~	
	Back Next Cano	el

Mandatory fields are marked with a red asterisk.

Note: The Oracle database can have both Server ID (SID) and Service Name properties, but the user should specify only one. If you define the SID, then the SID is used, and if you define Service Name, then Service Name is used. If you define both in the UI, only SID is used.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
AM Version	Select the relevant AM version. For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	AM should be configured to run on an Oracle server.
Username	Enter your username used to log on to the AM database.
Password	Enter your password used to log on to the AM database.
Hostname/IP Address	Enter the Oracle server hostname or IP address.
Port	Enter the server port number.
SID	Enter the unique name of the database.
Service Name	Enter the alias used when connecting.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.



AM-Related KPIs and Metrics

For a list of the AM-related KPIs and Metrics, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Integration with AWS

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Amazon Web Services data source.

Amazon Web Services (AWS) offers a complete set of infrastructure and application services that enable you to run virtually everything in the cloud: from enterprise applications and big data projects to social games and mobile apps. One of the key benefits of cloud computing is the opportunity to replace up-front capital infrastructure expenses with low variable costs that scale with your business.

The purpose of the integration of AWS as a data source is to bring AWS information into the Data Warehouse.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select AWS to activate the integration processes for the AWS data source.



Cloud Optimization Offering

The Cloud Optimization offering includes integrations with:

- Amazon Web Services (AWS). For details see Integration with AWS in the *Content Reference Guide*.
- Amazon Web Service CloudWatch(AWSCW). For details see Integration with AWSCW in the Content Reference Guide.
- Cloud Service Automation (CSA). For details see Integration with CSA in the Content Reference Guide.

Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

Important Information

- The AWS Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.
- The AWS DCS extraction of the csv file from the S3 bucket uses a properties file along with the datasource.xml file. It is available once the AWS content pack is deployed under: **\$HPBA_**

Home/ContentPacks/AWS/conf.

The properties file defines fixed csv properties, such as the csv file name, suffix, time format, filters in csv file, delayDay, and can be modified.

- AWS proxy parameters are optional in a public network.
- **Tip:** If you integrate with both CSA and AWS/AWSCW, you must run the AWS/AWSCW ETL before the CSA ETL. If you do not run the ETL as recommended, you must wait for the end of the CSA ETL run to view the correct data.
- The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_ CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.



Activate the Integration

- 1. Select **ADMIN** > **Data Management** > **Install Content Pack** then click the install button relevant for the data source.
- 2. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 3. The Add Data Source page opens. Select the **AWS** data source type.
- 4. Select or enter the configuration parameters.
- 5. Click **Next** to proceed to the validation page.



AWS Activation Page

The following is an example of the AWS Activation page.

Data Source Wizard		Help 🗙
AWS (Amazon Web Services))	
		- 11
*Instance name :		
AWS Version :	N/A ~	
Time Zone :	PST ~	
Data Source Type :	Aws ~	
*Access Key Id :	< <enter accesskeyid="">></enter>	
*Secret Access Key :		
*Bucket:	< <enter bucket="" name="">></enter>	
*Account Id :	< <enter accountid="">></enter>	
Proxy Host :	< <enter proxyhost="">></enter>	
Proxy Port :	< <enter proxyport="">></enter>	
Proxy Username :	< <enter proxyusername="">></enter>	
Proxy Password :		
Proxy Domain :	< <enter proxydomain="">></enter>	
Proxy Workstation :	< <enter proxyworkstation="">></enter>	
Initial Load Period (months) :	6 ~	
	Back Next Canc	el
	Back Next Canc	el

User interface elements are described below:

Note: If the AWS configuration is for a named instance connection, make sure to enter the named instance port.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
AWS Version	This parameter is Not Applicable.
Time Zone	PST only
Data Source Type	AWS. This parameter is read only.
Access Key Id	Enter the AWS access key ID.
Secret Access Key	Enter the AWS secret access key.
Bucket	Enter the AWS S3 bucket name which was specified when you set up the Programmatic Billing Access.
Account Id	Enter the AWS account ID.
Proxy Host	Enter the proxy host name.
Proxy Port	Enter the proxy port number.
Proxy Username	Enter the proxy username used to log on to the network.
Proxy Password	Enter the proxy password used to log on to the network.
Proxy Domain	Enter the proxy domain.
Proxy Workstation	Enter the proxy workstation.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.



AWS-Related KPIs and Metrics

The KPIs and Metrics related to the Amazon Web Services data source are provided in the CSA and CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Integration with AWSCW

This section describes the integration, contexts, KPIs, Metrics, and reports associated with the integration with the Amazon Web Service CloudWatch data source.

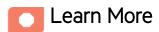
Amazon CloudWatch (AWSCW) monitors your Amazon Web Services resources and the applications you run on AWS in real-time. You can use CloudWatch to collect and track metrics, which are the variables you want to measure for your resources and applications. CloudWatch alarms send notifications or automatically make changes to the resources you are monitoring based on rules that you define. For example, you can monitor the CPU usage and disk reads and writes of your Amazon Elastic Compute Cloud (Amazon EC2) instances and then use this data to determine whether you should launch additional instances to handle increased load. You can also use this data to stop underused instances to save money. In addition to monitoring the built-in metrics that come with AWS, you can monitor your own custom metrics. With CloudWatch, you gain system-wide visibility into resource utilization, application performance, and operational health.

The purpose of the integration of AWSCW as a data source is to bring this information into the Data Warehouse.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select AWSCW to activate the integration processes for the AWSCW data source.





Cloud Optimization Offering

The Cloud Optimization offering includes integrations with:

- Amazon Web Services (AWS). For details see Integration with AWS in the *Content Reference Guide*.
- Amazon Web Service CloudWatch(AWSCW). For details see Integration with AWSCW in the Content Reference Guide.

• Cloud Service Automation (CSA). For details see Integration with CSA in the Content Reference Guide.

Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the Administrator *Guide*.

Important Information

- The AWSCW Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.
- The AWSCW DCS extracts the metric data from Amazon Web Service CloudWatch and uses it as a properties file along with the datasource.xml file. It is available once the AWSCW content pack is deployed under: **%HPBA_Home%/ContentPacks/AWSCW/conf**.

The properties file defines the rule to extract the metrics data, such as **criteriaTimeFormat**, **dimensionDelimiter**, **valueDelimiter**, **period**, and **minimumScope**. Generally, the value of the period is changed to define the frequency of metrics data.

- AWSCW proxy parameters are optional in a public network.
- **Tip:** If you integrate with both CSA and AWS/AWSCW, you must run the AWS/AWSCW ETL before the CSA ETL. If you do not run the ETL as recommended, you must wait for the end of the CSA ETL run to view the correct data.
- The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_ CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.



Activate the Integration

- 1. Select **ADMIN** > **Data Management** > **Install Content Pack** then click the install button relevant for the data source.
- 2. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 3. The Add Data Source page opens. Select the **AWSCW** data source type.
- 4. Select or enter the configuration parameters.
- 5. Click **Next** to proceed to the validation page.



AWSCW Activation Page

The following is an example of the AWSCW Activation page.

Data Source Wizard			Help :
AWSCW (Amazon Web S	ervices - CloudW	atch)	
*Instance name :	[
AWSCW Version :	N/A	~	
Time Zone :	UTC	~	
Data Source Type :	AWSCW	~	
*Access Key Id :	< <enter accesskey<="" td=""><td>ld>></td><td></td></enter>	ld>>	
*Secret Access Key :			
Proxy Host :	< <enter proxyhost<="" td=""><td>>></td><td></td></enter>	>>	
Proxy Port :			
Proxy Username :	< <i><enter i="" proxyusen<=""></enter></i>	name>>	
Proxy Password :			
Proxy Domain :	< <enter proxydom<="" td=""><td>∂ÍN>></td><td></td></enter>	∂ÍN>>	
Proxy Workstation :	< <enter proxywork<="" td=""><td>(station>></td><td></td></enter>	(station>>	
Initial Load Period (months) :	14 days	~	

User interface elements are described below:

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
	Note: If the AWSCW configuration is for a named instance connection, make sure to enter the named instance port.
AWSCW Version	This parameter is Not Applicable.
Time Zone	UTC only.
Data Source Type	AWSCW. This parameter is read only.
Access Key Id	Enter the AWS access key ID.
Secret Access Key	Enter the AWS secret access key.
Proxy Host	Enter the proxy host name.
Proxy Port	Enter the proxy port number.
Proxy Username	Enter the proxy username used to log on to the network.
Proxy Password	Enter the proxy password used to log on to the network.
Proxy Domain	Enter the proxy domain.
Proxy Workstation	Enter the proxy workstation.
Initial Load Period (months)	14 days. AWS CloudWatch stores only 14 days data.



AWSCW-Related KPIs and Metrics

The KPIs and Metrics related to the Amazon Web Service CloudWatch data source are provided in the CSA and CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Integration with Azure

Azure is Microsoft cloud computing platform, a growing collection of integrated services like analytics, computing, database, mobile, networking, storage, and web, for moving faster, achieving more, and saving money.

The purpose of the integration of Azure as a data source is to bring Azure information into the Data Warehouse.

The integration with Azure provides a general idea on how much money is spent on each Virtual Machine daily by different usage types. In addition, if the diagnostics function is enabled, you can also view the CPU utilization and Memory.

The data extracted from Azure is correlated to the data available in the KPIs and reports available in the CSA CAP. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

To access:

Select **ADMIN** > **Data Management** > **Connect Data Source** then click **Add data source** and select **Azure** to activate the integration processes for the Azure data source.



Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

Important Information

- The Azure Content Pack supports multiple instances.
- DCS Integration: An extractor using the Data Collection Service mechanism that extracts entities

from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.

- All fields are case-sensitive.
- Azure must be activated with the CSA data source. If you activate Azure alone, only the cost fact information is displayed, without the ability to drill down further.

Azure Usage Data.

For performance reasons, the ETL job extracts only, at most, 1 month of data for the initial and delta loads.

Utilization Data.

For performance reasons, the ETL job extracts only, at most, 1 week of data for the initial and delta loads.

Azure utilization data is based on the latest Microsoft Azure preview portal function. Make sure you switch on Diagnostic for the Microsoft Azure Cloud VM instances, to have utilization data returned by the Microsoft Azure Cloud Service API.

Limitation:

- You can create Virtual Machines, storage, web apps, and a lot of other components with one subscription ID under a global account of Azure. If the Virtual Machine type is Windows, BA can obtain the name of the Cloud Services and provide its utilization data. If the Virtual Machine type is Linux, BA cannot obtain the name of the Cloud Services and provide its utilization data. The impact is on the SERVICE_PROVIDER_UTILIZATION_FACT entity.
- In Azure, you can enter your VM name when creating the VMs, and it is possible to use the same VM name for different Cloud Services. Due to the above limitation, the deployment ID is not displayed in the storage table, making it impossible to know the VM from which the metric data originates. So it is recommended **not** to create VMs with the same name.
- When using CSA with Azure Content Pack version: 14.12, and the OOTB design : CSL_BP_ MICROSOFT_AZURE_COMPUTE_3.20_CP3.0, Azure usage related data is displayed in the CSA-Resource Usage and Utilization for Consumer and CSA_Resource Usage and Utilization for Resource Supplier Manager reports, but Azure CPU utilization data is not available and is not displayed in these reports.



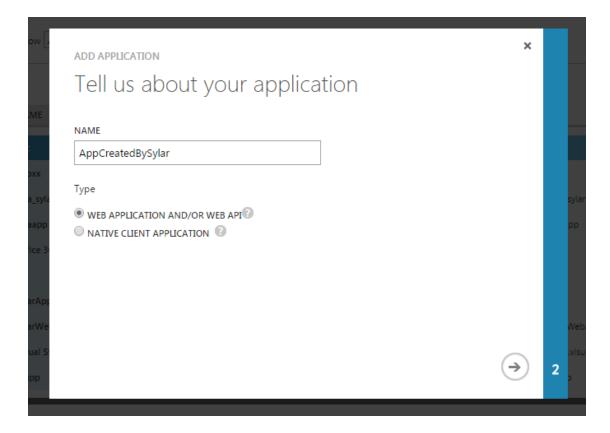
This section includes:

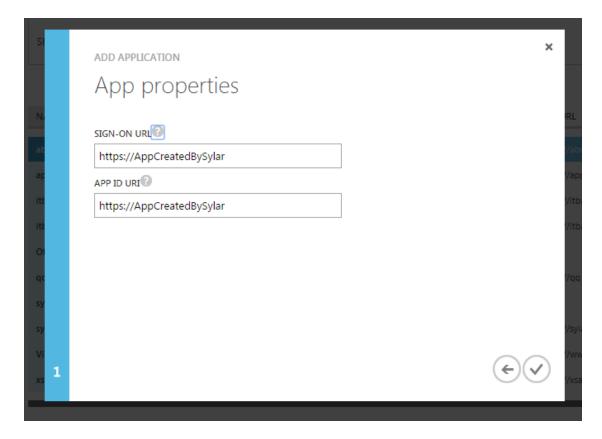
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Create an application in Azure portal

 To create an application in the Azure portal, open: https://manage.windowsazure.com/ and click ACTIVE DIRECTORY > Default Directory > APPLICATIONS > ADD > Add an application my organization is developing.

		default directory	
		USERS GROUPS APPLICATIONS DOMAINS DIRECTORY INTEGRATION CONFIGURE R	
	Default Directory	Show	×
		What do you want to do?	
		NAME	RL
		Add an application my organization is developing	/abc
		Add an application from the gallery	'/apps //itba_sylar
		itbaapp	∕/itbaapp
		Office 3	/qq
		sylarAp;	
		sylarWe Visual S	/sylarWebApp /www.visualstudio.com/
		xsapp	'/xsapp
+		→ {=} Ū ADD VIEW ENDPOINTS DELETE	2





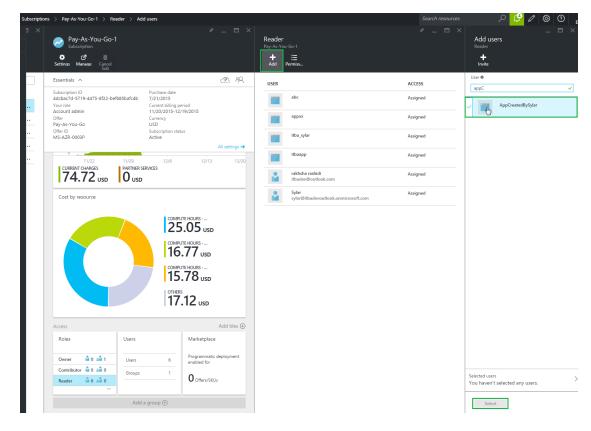
 Click <Application_just_created> > CONFIGURE > keys > Select Duration > Save to get the key as App password; and the CLIENT ID as App id. They are used when configuring the data source in ITBA.

AppCreatedByS		
аррхх		
itba_sylar itbaapp Office 365 Mana 99	APPLICATION IS MULTI-TENANT YES NO	0
sylarApp sylarWebApp	CLIENT ID 755820ec-106d-47b9-80a9-	0
Visual Studio OnL xsapp	USER ASSIGNMENT REQUIRED TO YES NO ACCESS APP	0
	keys	0
	1 year v 12/2/2015 12/2/2016 OTVd1WvS2+3TB Image: Constraint of the constraint of th	
	Copy and store the key value. You won't be able to retrieve it after you leave this page.	

Assign permission to subscriptions in the Azure portal

 To assign permissions to subscriptions in the Azure portal, open: https://portal.azure.com/ and click Subscriptions, select the relevant subscription for which the customer wants to view data in ITBA, click Access (Roles) > Reader.

ubscriptions			Pay-As-You-Go			
			Settings Manage Canci Sub	el		A 12
Search to filter items SUBSCRIPTION	∧ SUBSCRIPTION ID		Essentials ^ Subscription ID		irchase date	
Pay-As-You-Go-1	4dcbac7d-5719-	📀 Active 🛛	4dcbac7d-5719 Your role	Cu	21/2015 Irrent billing period	
Pay-As-You-Go-2	981c4a77-283	🤣 Active 🛛	Account admin Offer		/20/2015-12/19/20	015
🔗 Pay-As-You-Go	4872fe54-d28b-	() Disabled	Pay-As-You-Go Offer ID MS-AZR-0003P	Sul	bscription status	
Pay-As-You-Go-3	60f99e0a-cc56-4	() Disabled	MS-AZR-0003P	AC	tive	All settings
Pay-As-You-Go-4	58f06ab8-1384-	Disabled	11/22	11/29	12/6	12/13 12/
			Cost by resource		сомритено 25.0)5 USD
			Cost by resource		сомрите на 25.0 сомрите на 16.7 сомрите на 15.7 т	05 usd Durs 7 usd Durs 8 usd
			Cost by resource	>	25.0 COMPUTE HIC 16.7 COMPUTE HIC 15.7 COMPUTE HIC 15.7	25 usd DURS 7 usd DURS 8 usd 2 usd
				XUsers	25.0 COMPUTE HC 16.7 COMPUTE HC 15.7 TTHERS 17.12	25 usd DURS 7 usd DURS 8 usd 2 usd
					25.0 compute HC 16.7 compute HC 15.7 others 17.12	DURS 7 usp DURS 8 usp 2 usp Add tiles - larketplace
			Roles Owner © 0 20 10 10 10 10 10 10 10 10 10 10 10 10 10	Users Users Groups	25.0 COMPUTE HC 16.7 COMPUTE HC 15.7 0THERS 17.12 M PR en	DDBS 7 USD DDBS 8 USD 2 USD Add tiles tarketplace cogrammatic deployment tabled for
			Roles Owner @ 0 20 1	Users Users Groups	25.0 COMPUTE HC 16.7 COMPUTE HC 15.7 0THERS 17.12 M PR en	DURS 7 usp 0005 8 usp 2 usp Add tiles (larketplace



2. Click Add and select the application that the customer created for ITBA and click Select.

Note: If, in ITBA, you want to view data from multiple subscriptions you must assign the permissions to each subscription separately using the above procedure.

Create the certificate and bind all subscriptions

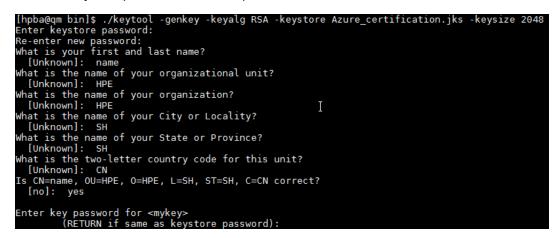
- 1. Generate a self-signed certificate using the JDK keytool:
 - a. After ITBA is installed, log on to the ITBA Linux server and use the following command in the command line to generate the certificate:

cd \$HPBA_HOME/jdk/bin

keytool -genkey -keyalg RSA -keystore <certificatename>.jks -keysize 2048

where <certificatename> is the name of the certificate you want to create.

b. Enter the keystore password and the requested information.



c. Convert <certificatename>.jks to <certificatename>.cer and <certificatename>.pfx. using the following command:

keytool -importkeystore -srckeystore <certificatename>.jks -srcstoretype JKS -

```
destkeystore <certificatename>.pfx -deststoretype PKCS12
```

d. Enter destination keystore password. Remember this password which will be used in the Connect to Data Source page.

Use the same password for destination keystore and source keystore.

```
hpba@qm bin]$ ./keytool -importkeystore -srckeystore Azure_certification.jks -srcstoretype JKS -destkeystore Azure_certification.pfx -deststoretype PKCS12
inter destination keystore password:
nter source keystore password:
ntry for alias mykey successfully imported.
mport command completed i lentries successfully imported, 0 entries failed or cancelled
```

e. Enter the following command:

keytool -export -file <certificatename>.cer -keystore <certificatename>.jks

Enter the keystore password.

[hpba@qm bin]\$./keytool -export -file Azure_certification.cer -keystore Azure_certification.jks Enter keystore password: Certificate stored in file <Azure certification.cer> In the Azure Management Portal accessed via https://manage.windowsazure.com/, select SETTINGS > MANAGEMENT CERTIFICATES > UPLOAD.

Ø	SCHEDULER 0	settings					
4			MANAGEMENT CERTI	FICATES ADMIN			
π		NAME	Ŷ	STATUS	SUBSCRIPTION	SUBSCRIPTION ID	
<u>st</u>		Unknown				×	p13e-aca3adb1a17f
		Unknown	Upload	manag	omont cortif		-8f22-bef685bafc4b
		Unknown	opioau a	a manay	ement certif	Icate	b95c-3feff1c561da
()		SylarCertificate	Upload a certificate	e (.cer) file for man	aging your subscription.		b394-b819e7c39fc5
		SylarCertificate	FILE				-8f22-bef685bafc4b
R		SylarCertificate	BROWSE F	OR FILE			b95c-3feff1c561da
		Pay-As-You-Go-S	SUBSCRIPTION				-8f22-bef685bafc4b
\otimes		Pay-As-You-Go-	Pay-As-You-Go	-1	*		b394-b819e7c39fc5
		Pay-As-You-Go-					b394-b819e7c39fc5
		Pay-As-You-Go-S				\frown	b394-b819e7c39fc5
		Pay-As-You-Go-				\checkmark	-8f22-bef685bafc4b
0.		Pay-As-You-Go-					
02/			-16-2015-credentials	🗸 Created	Pay-As-You-Go-1	4dcbac7d-5719-44	75-8f22-bef685bafc4b
4			-15-2015-credentials	🗸 Created	🛕 Pay-As-You-Go	4872fe54-d28b-4a	08-b394-b819e7c39fc5
-	SETTINGS		-15-2015-credentials	🗸 Created	🛕 Pay-As-You-Go	4872fe54-d28b-4a	08-b394-b819e7c39fc5
Q	SCH WGS		-15-2015-credentials	🗸 Created	🛕 Pay-As-You-Go	4872fe54-d28b-4a	08-b394-b819e7c39fc5
			-15-2015-credentials	🗸 Created	🛕 Pay-As-You-Go	4872fe54-d28b-4a	08-b394-b819e7c39fc5

3. Upload <certificatename>.cer for each subscriptions.

Activate the Integration

- 1. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 2. The Add Data Source page opens. Select the Azure data source type.
- 3. Select or enter the configuration parameters.
- 4. Click **Next** to proceed to the validation page.

Note: If you want to display Azure utilization data returned by the Microsoft Azure Cloud Service API, make sure you switch on Diagnostic for the Microsoft Azure Cloud VM instances.



Azure Activation Page

The following is an example of the Azure Activation page.

AZURE (Microsoft Azure) *Instance name :					
*Instance name :]				
AZURE Version :	~				
Time Zone : U	тс 🗸				
Data Source Type : G	ENERIC ~				
*Tenant Id :	<enter tenantld="">></enter>				
*App Id :	< <enter app="" id="">></enter>				
*App Password :	p Password :				
*Certificate :	< <enter certificate="">></enter>				
*Certificate Password :					
Proxy Host :	oxy Host : < <enter proxyhost="">></enter>				
Proxy Port :	<enter proxyport="">></enter>				
Proxy Username :	<enter proxyusername="">></enter>				
Proxy Password :	Proxy Password :				
Proxy Domain :	< <enter proxydomain="">></enter>				
Proxy Workstation :	< <enter proxyworkstation="">></enter>				

User interface elements are described below:
--

UI Element	Description				
Instance name	Enter a name for the data source instance you are activating.				
Azure VersionSelect the relevant Azure version. For details, see the Support Matrix.					
Time Zone	Time zone must be UTC.				
Data Source Type	GENERIC. This parameter is read only.				
Tenant ID	The unique ID of the organization in Azure AD that has granted access for your app.				
APP ID	The unique identifier for your application. You must use this if your application accesses data in another application, such as the Microsoft Azure AD Graph API.				
	Input the CLIENT ID that you obtain after creating the relevant application in the Azure portal.				
	Note: In Azure, one Global ID can have multiple subscriptions. To get consumption data for an Azure subscription, APP ID is required. If you want to get consumption data for all subscriptions under the Global ID, all subscriptions are required to be authorized for the same APP ID, which will be added to the DCS page.				
APP Password	If your app reads or writes data from/to Microsoft Azure AD, such as data that is made available through the Graph API, your app need a key. The APP Password is the key that you obtain after creating the relevant application in the Azure portal.				
Certificate	Once you have created a management certificate, (a .cer file with only the public key) you can upload it into the portal. When the certificate is available in the portal, anyone with a matching certificate (private key) can connect through the Management API and access the resources for the associated subscription.				
	The absolute path to the .pfx certification file on the ITBA Linux server. For example,				
	/home/ITBA/Azure_certification.pfx.				
Certificate Password	The keystore password of the .pfx certification.				
Proxy Host	The proxy host.				
Proxy Port	The proxy port.				
Proxy Username	The Proxy user name.				

UI Element	Description
Proxy Password	The Proxy password.
Proxy Domain	The Proxy domain.
Proxy Workstation	The Proxy workstation.
Initial Load Period (month)	Select the number of months from which you want the initial data loaded. The Initial load period is 1 month for usage and 1 week for utilization.



Azure-Related KPIs and Metrics

The KPIs and Metrics related to the Azure data source are provided in the CSA and CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Integration with CMS

HPE Configuration Management System (CMS) comprises three components: UCMDB, Discovery, and Configuration Manager. The UCMDB reconciles data from multiple discovered and federated sources into one data set, model your business services, calculate the potential impact of changes within these services, track changes for any configuration item, and contains reporting capabilities to transform CMDB data into comprehensible, actionable information that helps answer critical questions and solve business problems. HPE Universal Discovery (UD) software is used by UCMDB to acquire and maintain application and IT infrastructure data. Configuration Manager makes it possible to analyze IT environments in order to move toward fewer standards and improve IT management processes. This helps you improve data quality in your configuration management system (CMS), avoid single points of failure, achieve geographic redundancy of applications and drive changes based on configuration standards.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Configuration Management System data source.

The purpose of the integration of Configuration Management System (CMS) as a data source is to bring quality management information into the Data Warehouse.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select CMS to activate the integration processes for the CMS data source.

Learn More	Tasks	UI Description	Reference
Learn Mc			

Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the Administrator *Guide*.

DCS Integration:

An extractor using the Data Collection Service mechanism that extracts entities from the CMS source and generates corresponding flat files using the TQL query language. For details, see Connect the Data Source in the *Administrator Guide*.

Important Information

- CMS supports multiple instances of the Content Pack.
- All fields are case-sensitive.



Activate the integration

- 1. Activate the CMS Data Source:
 - a. Select ADMIN > Data Management > Connect Data Source then click Add data source.
 - b. The Add Data Source page opens. Select the **CMS** data source type.

- c. Select or enter the configuration parameters.
- d. Click **Next** to proceed to the validation page.

Note: The system does not support changing the **Data Source Type**, therefore you must select the relevant type: CAC or non-CAC, before activation.

Note: Before reactivating the CMS data source, click **Edit Settings** and enter the **Username** and **Password**.

Connect to CMS on a Secured Connection

- Export the CMS SSL certificate to a file. For details, see the CMS Hardening Guide available in the HPE Software Support Online web site (https://softwaresupport.hp.com/group/softwaresupport/home).
- 2. If you have selected CAC, perform this step, otherwise go to the next step.

To reveal the CMS certificate to Data Warehouse, import the SSL certificate trusted by the CMS server into the JDK key store using a tool provided by the JDK called **keytool.exe** by running the command :

\$HPBA_Home/dk/jre/bin/keytool -importcert -alias <alias> -file <file> -keystore %HPBA_Home%/jdk/jre/lib/security\cacerts -trustcacerts

Note: The default password for JVM keystore is a 'changeit'. If this password wasn't changed before, use the default keystore password for certificate import.

- 3. Restart the ITBA server.
- 4. Select **Is secured** in the activation parameters page.

Is secured unchecked with NON CAC still works.

5. Change the port to a secured port. Default port is 8080. Secured default port is 8443, CAC default port is 8444.



CMS Activation Page

The data warehouse is connected to Configuration Management System through high-level integration processes.

• Non CAC Access:

Mandatory fields are marked with a red asterisk.

Data Source Wizard		Help ×				
CMS (Configuration Management System)						
*Instance name :						
CMS Version :	10.2 ~					
Time Zone :	Asia/Shanghai 🗸					
Data Source Type : Access Type :	CMS ~ Non CAC ~					
*Username : *Password :	< <enter username="">></enter>					
	Is Secured					
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>					
*Port :	< <default 8080,="" 8443="" https:="" ports:http:="">></default>					
*Customer Name :	Default Client					
Initial Load Period (months)	: <mark>6 ~</mark>					
	Back Next Cano	el				

CAC Access:

Data Source Wizard					
CMS (Configuration Manag	ement System)				
*Instance name :					
CMS Version :	10.2 ~				
Time Zone :	Asia/Shanghai 🖌				
Data Source Type :	CMS ~				
Access Type :	CAC 🖌				
*Certificate :					
*Password :					
	Is Secured				
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>				
*Port :	< <default 8080,="" 8443="" https:="" ports:http:="">></default>				
*Customer Name :	Default Client				
Initial Load Period (months) :	6 ~				
	Back Next Canc	el			

UI Element	Description		
Instance name	Enter a name for the data source instance you are activating.		
CMS Version	Select the relevant CMS version. For details, see the Support Matrix.		
Time Zone	Select the time zone for the data source.		
Data Source Type	CMS.		
Access Type	Select CAC or Non CAC		

UI Element	Description
Certificate/User Name	If you select CAC , the field is displayed as Certificate. Enter the name of the certificate.
	If you select Non CAC , the field displayed as User Name . Enter the name of the user used to access the UCMDB server.
Password	If you select CAC , enter the password of the UCMDB server's certificate file. If you select Non CAC , enter the password of the user used to access the UCMDB server.
Is Secured	Select to use https to get data.
	Unselect to use http to get data.
Hostname/IP Address	Enter the CMS hostname or IP address.
Port	Enter the server port number.
Customer Name	Used for multi-customer purposes. If no user name is given, then Default Client is displayed.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.



CMS-Related KPIs and Metrics

For a list of the CMS-related KPIs and Metrics, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Integration with CSA

Cloud Service Automation (CSA) is a platform that orchestrates the deployment of computation and infrastructure resources and of complex multi-tier application architectures. HP CSA integrates and leverages the strengths of a hybrid cloud environment, providing the ability to design and deploy enterprise-ready cloud services tailored to the business needs of your organization. It works through a catalog-based subscription process. Subscribers request and modify cloud service offerings with pre-defined pricing and other customer-specific features. Once the request is approved, through a policy-driven process, HP CSA deploys the cloud service offering using a structured lifecycle with pre-defined integration mechanisms for invoking external processes.

The integration with CSA as new content pack provides reporting analysis based on CSA data model.

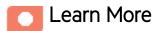
The purpose of the integration of CSA as a data source is to bring this information into the Data Warehouse.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with specific data sources.

To access:

Select ADMIN> Data Management > Connect Data Source then click Add data source and select CSA to activate the integration processes for the CSA data source.





Cloud Optimization Offering

The Cloud Optimization offering includes integrations with:

- Amazon Web Services (AWS). For details see Integration with AWS in the *Content Reference Guide*.
- Amazon Web Service CloudWatch(AWSCW). For details see Integration with AWSCW in the Content Reference Guide.

• Cloud Service Automation (CSA). For details see Integration with CSA in the Content Reference Guide.

Other Data Sources

The data from the below data sources is integrated with the data from CSA and displayed in the CSA CAP pages, KPIs, and Metrcs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

 Amazon Web Services (AWS) offers a complete set of infrastructure and application services that enable you to run virtually everything in the cloud: from enterprise applications and big data projects to social games and mobile apps. One of the key benefits of cloud computing is the opportunity to replace up-front capital infrastructure expenses with low variable costs that scale with your business.

The integration with AWS provides cost and usage reports based on the cost allocation report provided by AWS account.

- Amazon CloudWatch (AWSCW) monitors your Amazon Web Services resources and the applications you run on AWS in real-time. You can use CloudWatch to collect and track metrics, which are the variables you want to measure for your resources and applications. CloudWatch alarms send notifications or automatically make changes to the resources you are monitoring based on rules that you define. For example, you can monitor the CPU usage and disk reads and writes of your Amazon Elastic Compute Cloud (Amazon EC2) instances and then use this data to determine whether you should launch additional instances to handle increased load. You can also use this data to stop under-used instances to save money. In addition to monitoring the built-in metrics that come with AWS, you can monitor your own custom metrics. With CloudWatch, you gain system-wide visibility into resource utilization, application performance, and operational health.
- Azure is Microsoft cloud computing platform, a growing collection of integrated services like analytics, computing, database, mobile, networking, storage, and web, for moving faster, achieving more, and saving money.
- Virtual Performance Viewer (vPV) is a web-based analysis and visualization tool that analyzes performance trends of elements in virtualized environments. vPV gives you at-a-glance visibility across your virtual environment for real-time insights into performance, capacity, and health. This helps you to optimize your infrastructure and quickly solve virtualization and cloud performance issues. It enables virtualization monitoring by providing an overview of the environment, near-real-time and historical data analysis and triaging using an interactive dashboard. It also enables monitoring for cloud and hypervisor environments. HPE vPV provides performance monitoring, graphing, and reporting in a single interface.

Important Information

- To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.
- The CSA Content Pack supports multiple instances.
- All fields are case-sensitive.
- The CSA ETL job aggregates the CSA Subscription Price with a daily granularity in the target database. This means that the ETL job gets the price from CSA, converts it into the actual cost according to the ETL running date, generates a cost record for that day, and stores it in the target database. For example, if the current date is April 22nd, for the month of April, after the ETL run has completed, you see a total of the 22 aggregated records of the CSA subscription Price in the target database.
- **Example of a CSA subscription price calculation:** If, for example, the price of one daily subscription is \$10, you have just used the subscription for 12 hours, and the ETL starts to run at this moment, the total you have to pay is 10*12/24=\$5. The CSA subscription price is calculated for the real usage accurate to the second. Though some customers would prefer to see \$10 on the report even if the usage is not yet 24 hours, BA displays \$5 after the ETL load because it represents the real usage.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- **Tip:** If you integrate with both CSA and AWS/AWSCW, you must run the AWS/AWSCW ETL before the CSA ETL. If you do not run the ETL as recommended, you must wait for the end of the CSA ETL run to view the correct data.
- The CSA and CSA_Demo CAPs are associated with the CSA data source, its context, KPIs, and Metrics. For details, see the CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.
- When using CSA with Azure Content Pack version: 14.12, and the OOTB design : CSL_BP_ MICROSOFT_AZURE_COMPUTE_3.20_CP3.0, Azure usage related data is displayed in the CSA-Resource Usage and Utilization for Consumer and CSA_Resource Usage and Utilization for Resource Supplier Manager reports, but Azure CPU utilization data is not available and is not displayed in these reports.



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Change the default exchange rate of each currency

To help you convert the billing amount to different currencies, ITBA has pre-configured their default exchange rates.

If you want to change the default exchange rate of each currency, open the **\$HPBA_ HOME/ContentPacks/CSA/EXTERNAL/EXCHANGE.csv** file and change the rates.

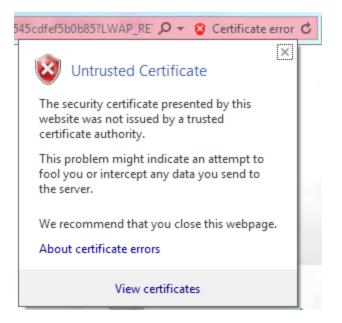
	А	В	С	D	E	F
1	SOURCE_CURRENCY	TARGET_CURRENCY	START_DATE	END_DATE	EXCHANGE_RATE	IS_CURRENT
2	JPY	CNY	2009/1/1	2009/1/11	0.0741	Y
З	JPY	EUR	2009/1/1	2009/1/11	0.008	Y
4	JPY	GBP	2009/1/1	2009/1/11	0.0073	Y
5	JPY	USD	2009/1/1	2009/1/11	0.0109	Y

Configure the BA Website Browser SSL

1. Log on to BA, and click Continue to this website (not recommended).

8	There is a problem with this website's security certificate.
	The security certificate presented by this website was not issued by a trusted certificate authority.
	Security certificate problems may indicate an attempt to fool you or intercept any data you send to the server.
	We recommend that you close this webpage and do not continue to this website.
	Ø Click here to close this webpage.
	Sontinue to this website (not recommended).
	More information

2. Click Certificate error and then click View certificates.



3. Click the Details tab and click Copy to File ...

Certificate	×
General Details Certific	ation Path
Show: <all></all>	
Field	Value
Version Serial number Signature algorithm Signature hash algor Valid from Valid to Subject	V1 00 96 a3 95 18 33 26 0f 6e sha256RSA rithm sha256 xs 10v7.fpazsh.com Thursday, November 19, 2015 Tuesday, November 17, 2020 vs 10v7 fpazsh.com
Learn more about <u>certific</u>	Edit Properties Copy to File
	ОК

Click Next.



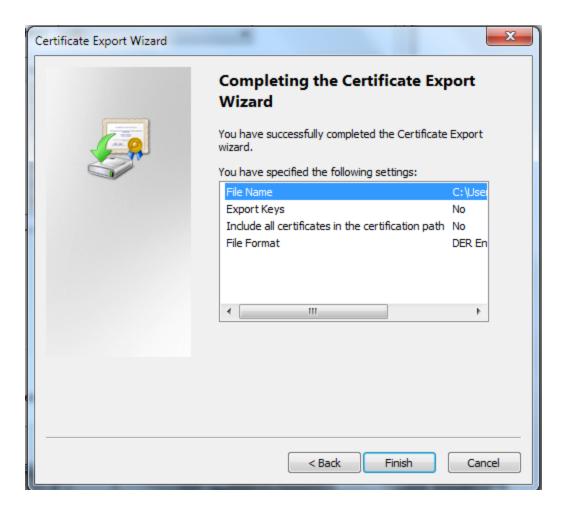
Click Next.

Certificate Export Wizard
Export File Format Certificates can be exported in a variety of file formats.
Select the format you want to use:
OER encoded binary X.509 (.CER)
Base-64 encoded X.509 (.CER)
Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)
Include all certificates in the certification path if possible
Personal Information Exchange - PKCS #12 (.PFX)
Include all certificates in the certification path if possible
Delete the private key if the export is successful
Export all extended properties
 Microsoft Serialized Certificate Store (.SST)
Learn more about <u>certificate file formats</u>
< Back Next > Cancel

Click the **Browse...** button and give a file name, such as **CSA45.cer**, and click **Next**.

Certificate Export Wizard	×
File to Export Specify the name of the file you want to export	
File name:	
CSA45.cer	Browse
< Back	Next > Cancel

Click the Finish button.



4. Open the Internet Options > Content and click Certificates.

Internet Options
General Security Privacy Content Connections Programs Advanced
Certificates Use certificates for encrypted connections and identification.
Clear SSL state Certificates Publishers
AutoComplete
AutoComplete stores previous entries Settings on webpages and suggests matches for you.
Feeds and Web Slices
Feeds and Web Slices provide updated content from websites that can be read in Internet Explorer and other programs.
OK Cancel Apply

5. Open the Trusted Root Certification Authorities and click Import... link.

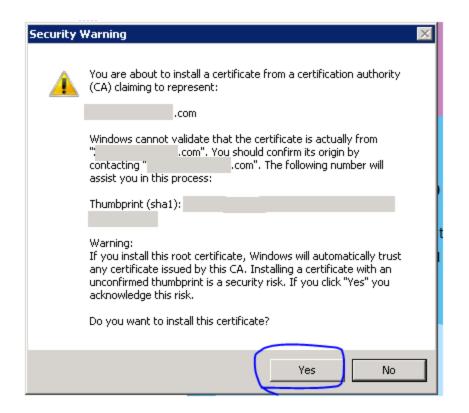
Certificates	-		-	-	x
Intended p	urpose: <a< td=""><td> ></td><td></td><td></td><td>•</td></a<>	>			•
Personal	Other People	Intermediate Certification	Authorities Tru	usted Root Certification	• •
Issued	То	Issued By	Expiratio	Friendly Name	
adm	ninistrator		7/7/2025	<none></none>	
Import.	Export	Remove		Adva	nced
Certificat	e intended purpo	oses			
<all></all>					
				View	
Learn more	e about <u>certifica</u>	tes		Clo	se

- 6. Select the relevant certificate file and click Import.
- 7. Click Next.

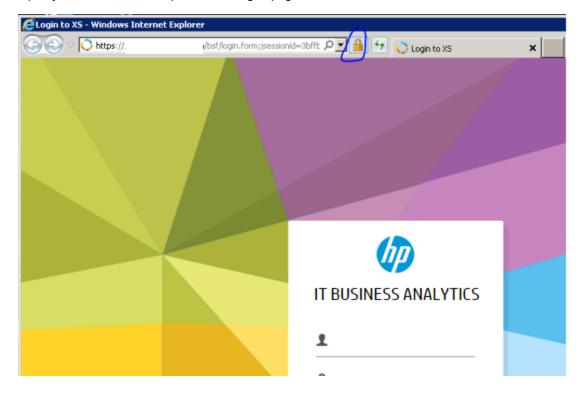




8. Click Yes.



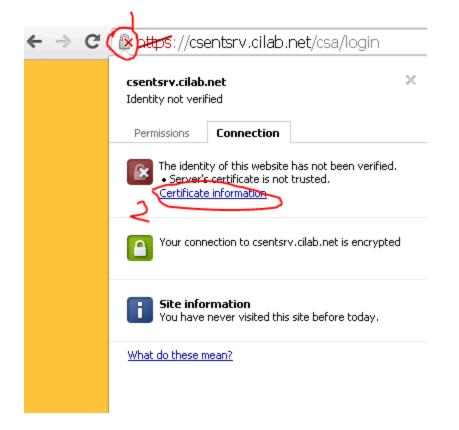
9. Open your browser and reopen the BA logon page.



Import the CSA SSL certificate to BA keystore

- 1. Export the CSA SSL certificate:
 - a. Access the CSA portal from the browser of the BA server.

← → C 🕑	د مطبع: //csentsrv.cilab.net/csa/login
	The site's security certificate is not trusted
	You attempted to reach csentsrv.cilab.net , but the server presented a certificate is not trusted by your computer's operating system. This may mean that the server ha security credentials, which Chrome cannot rely on for identity information, or an atta intercept your communications.
	You should not proceed, especially if you have never seen this warning before for the
	Proceed anyway Back to safety
	► <u>Help me understand</u>



b. Click the red cross in the URL bar and then click Certificate information.

Certificate	×
General Details Certification Path	1
	'
Show: <all></all>	
Field	Value 🔺
Version	V3
Serial number	20 14 08 27 14 34 29
Signature algorithm	sha1RSA
Signature hash algorithm	sha1
Issuer	Enterprise Appliance, US, Calif
Valid from	Wednesday, August 27, 2014
Valid to	Tuesday, August 27, 2024 7:4
Subject	192.168.1.76, HP
I	
	dit Properties
Learn more about certificate details	
	OK

c. In the window that pops up, click the **Details** tab, and click the **Copy to File** ... button.

d. In the window that pops up, click Next.



e. Click Next.

Doit	ect the format you want to use:
	DER encoded binary X.509 (.CER)
	C Bage-64 encoded X.509 (.CER)
	 Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B) Include all certificates in the certification path if possible
	C Personal Information Exchange - PKC5 #12 (.PFX)
	\square Delete the private key if the export is successful
	Export all extended properties
	C Microsoft Serialized Certificate Store (.SST)

f. Specify the name of the file you want to export and click Next.

tificate Export Wi	izard			
File to Export Specify the nan	ne of the file you war	t to export		
File name:				
C:\Software\c	sa-certificate_fromE>	plorer.cer	Bro	wse
				Cancel
		< Back	Next >	

g. In the next page, click Finish.

Certificate Export Wizard		×
Certificate Export Wizard	Completing the Certificate Export Wizard You have successfully completed the Certificate Export wizard. You have specified the following settings: You have specified the following settings: File Name C:\Soft Export Keys No Include all certificates in the certification path No File Format DER En	X
	< <u>B</u> ack Finish Cancel	· · · · ·

The CSA SSL cert file is now exported.

In the above example, the file is located at C:\software\csa-certificate_ fromExplorer.cer%HPBA_Home%/software/csa-certificate_fromExplorer.cer.

- 2. Open a command prompt and run the following commands:
 - In Linux:

keytool -importcert -alias csa -file %HPBA_Home%/software/csa-certificate_ fromExplorer.cer -keystore %HPBA_Home%/jdk/jre/lib/security/cacerts -trustcacerts

• In Windows:

cd <HPBA_Home>\jdk\jre\bin keytool –importcert –alias csa –file "c:/Software\csa-certificate_fromExplorer.cer" – keystore C:/%HPBA_Home%/jdk/jre/lib/security/cacerts –trustcacerts

- a. When prompted for the keystore password, type changeit.
- b. When prompted to trust this certificate, type yes.

```
_ 🗆 🗵
 👞 Administrator: C:\Windows\system32\cmd.exe
 c:\HPXS\agora\jdk\jre\bin>keytool -importcert -alias csa -file C:\software\csa-c
ertificate_fromExplorer.cer -keystore C:\HPXS\agora\jdk\jre\lib\security\cacerts
                                                                                                                                                                                                                                                                     ٠
ertificate_fromExplorer.cer -keystore C:\HPXS\agora\jdk\jre\lib\security\cacerts

-trustcacerts

Enter keystore password:

Owner: CN=192.168.1.76, 0=HP

Issuer: CN=Enterprise Appliance, C=US, ST=California, L=Palo Alto, OU=www.hp.com

, 0=Hewlett Packard

Serial number: 20140827143429

Valid from: Wed Aug 27 07:42:11 PDT 2014 until: Tue Aug 27 07:42:11 PDT 2024

Certificate fingerprints:

MD5: C2:4C:FC:39:7A:93:3D:7B:B3:69:39:0B:D7:98:64:80

SHA1: C4:BA:9E:A8:06:D3:3E:B3:D5:67:58:6C:28:83:FB:4C:AC:0E:DE:42

SHA26: B7:BE:3F:EB:8B:62:1B:2C:CE:B0:3D:D4:64:13:E8:2C:19:FA:65:44:E4:

02:70:0E:49:16:AE:AC:FC:SA:EF:9F

Signature algorithm name: SHA1withRSA

Version: 3
 Extensions:
#1: ObjectId: 2.5.29.19 Criticality=false
BasicConstraints:[
CA:false
PathLen: undefined
 #2: ObjectId: 2.5.29.15 Criticality=false
KeyUsage [
DigitalSignature
Non_repudiation
Key_Encipherment
Data_Encipherment
       Key_Agreement
#3: ObjectId: 2.16.840.1.113730.1.1 Criticality=false
NetscapeCertType [
SSL client
SSL server
S/MIME
Object Signing

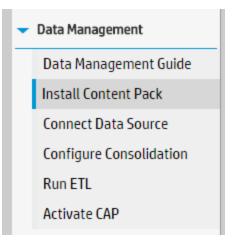
    #4: ObjectId: 2.5.29.17 Criticality=false
    SubjectAlternativeName [
DNSName: csentsrv.cilab.net
    DNSName: csentsrv
    IPAddress: 192.168.1.76
    DNSName: 192.168.1.76

 #5: ObjectId: 2.5.29.14 Criticality=false
SubjectKeyIdentifier [
KeyIdentifier [
0000: 9B 0E 4D BF F4 55 1D 51 4C E8 83 7B B4 0E 4B A1 ..M..U.QL.....K.
0010: 7A FD FC F0 z...
 Trust this certificate? [no]: yes
Certificate was added to keystore
 c:\HPXS\agora\jdk\jre\bin}_
```

- c. Restart the HP IT Business Analytics Service from Services Windows admin tools.
- d. Run %HPBA_Home%/supervisor/bin/hpba-restart.sh to restart BA.
- e. Wait a few minutes for the services to fully start.

Install the Content Pack

- 1. Make sure you have imported the CSA SSL Certificate (see above).
- 2. Log on to the BA application.
- Click ADMIN > Data Management, click Install Content Pack to install the CSA Content Pack.
 For details, see Install Content Pack.



Activate the CSA data source

- 1. Make sure you have imported the CSA SSL Certificate (see above).
- 2. Log on to the BA application.
- 3. Make sure you have installed the Content Pack (see above).
- 4. Click ADMIN > Data Management and the click Connect Data Source .

5. Click Add data source.

Data Sources	
	want to activate or deactivate. By activating a source you start streaming data from the source, into the target mode Last Update: 1:04:15 PM
Instance Name	Content Pack Name
	No items to display.

6. Select the CSA data source type and press Next.

Data Source Wizard ×				
	Add Data Source			
	Select the type for the new data source instance and click "Next".			
	Data source type : CSA (Cloud Service 💙			
	Next Cancel			
	INEXT Califer			

If the **Next** button does not appear in the Wizard dialog box, click the edge of the Data Source Wizard and when the black cross appear, move the window upwards until you see the **Next** button.

Data Source Wizard Help 🗙				
CSA (Cloud Service Automation)				
*Instance name :				
CSA Version : Time Zone :	3.1/3.2 ∧ Asia/Jerusalem			
Data Source Type :	CSA ~			
*Organizationname :	CSA-Provider			
*Username :	< <enter username="">></enter>			
*Password :				
*Hostname/IP Address : *Port :	<i><<enter address="" hostname="" ip="" or="">></enter></i> 8444			
Initial Load Period (months)	: 6			
	Back Next Car	icel		

User interface elements are described below:

Note: If the CSA configuration is for a named instance connection, make sure to enter the named instance port.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
CSA Version	Select the relevant version For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	CSA
	This parameter is read only.
Organization Name	Enter the Organization Name that is necessary to retrieve admin details.
	The default value is CSA-Provider.
Username	Enter your admin username used to log on to CSA. The default username is ooInboundUser .
Password	Enter your admin password used to log on to CSA. The default admin password is cloud .
Hostname/IP Address	Enter the CSA server hostname or IP address.
Port	Port for REST API (default value is 8444).
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

		Help
CSA (Cloud Service Aut	omation)	
*Instance name :	CSA41	
CSA Version :	3.1/3.2/4.x 👻	
Time Zone :	UTC 🗸	
Data Source Type :	CSA ~	
*Organizationname :	CSA-Provider	
*Username :	admin	
*Password :		
*Hostname/IP Address :	192.168.1.75	
*Port :	8444	
Initial Load Period (months)	б ~	
	Back	Next Cancel

7. Enter the CSA configuration parameters and click **Next** to validate the parameters.

Execute the ETL process

After adding the CSA data source, you need to run the ETL to pull data from CSA source.

You can schedule the running of the ETL process. For details, see Run ETL - Content Flow Managementin the *Administrator Guide*.

- 1. Log on to the BA application.
- 2. Make sure you have imported the CSA SSL Certificate (see above).
- 3. Make sure you have installed the Content Pack (see above).
- 4. Make sure you have activated the data source (see above).
- 5. Click ADMIN > Data Management > Run ETL.

 Click Add Scheduler to schedule the ETL run or click >. This loads the data from the CSA data source.

Note: The ETL run might last some time depending on the volume of data it has to load.

Activate the relevant CSA CAP

Activate the CSA_Demo CAP for demo purposes or activate the CSA CAP for live data into BA.

For live data cases, if you had activated the CSA_Demo previously, you must deactivate it before you activate the CSA CAP.

- 1. Log on to the BA application.
- 2. Ignore the Unreachable Java Applet. Click OK.

Unreacha	ble Java Applet	×
A	Business Analytics might not work properly because a Java applet did not load in a timely manner. Make sure Java is installed, up-to-date, and enabled in your browser.	
	ОК	

- 3. Make sure you have imported the CSA SSL Certificate (see above).
- 4. Log on to the BA application.
- 5. Make sure you have installed the Content Pack (see above).
- If you plan to activate the CSA_Demo proceed to the next step. If you plan to activate the CSA, make sure you have executed the ETL (see "Execute the ETL process" on the previous page).
- 7. Click ADMIN > Data Management and click Activate CAP.
- Select the CSA or the CSA_Demo in the list of CPs, and click Activate to activate the CAP. Click Yes to begin the activation process. Then wait until the CAP activation is successful.
- 9. Close the **ADMIN** tab.

Calculate the KPI

- 1. Log on to the BA application.
- 2. Click the **STUDIO** tab and click the calculation tool and select **Recalculate**.

🅼 п	BUS	INESS ANALYTICS				STUD	O EXPLORER ADMIN
							Help © ×
CSA-	Ϋ́	Active KPIs	~	Configuration details	Calculation details		
Page	Library	Lists all the elements configured and calculated in the system. elements, click here or click the side-by-side button above and and drop template items from the KPL Library to the Active KPIs Read more.	drag				Navigate to the source template
		* 10 1 10 10 10 10	20	ALM_Defect	Recalcula	te Help ×	
Resc		Search Search Automation	ALM_D alculate now ecalculate	ext Calculation	to 5 year Universe Recatcul	es: reactionates all results for the selected universe/context from the selected date (up (s) back) till the current date (s) back) till the current date (s) back to the resolution of the selected date (up (s) back to the selected date (up) (s) back to the sele	Open Formula Builder Validate
Netv		 		<select data="" kpi<="" of="" test="" th="" the=""><th>ised to c</th><th>derstand the implications of this process and would like to proceed with the calculation</th><th>Open Filter Builder Validate Save Discard</th></select>	ised to c	derstand the implications of this process and would like to proceed with the calculation	Open Filter Builder Validate Save Discard

- a. Select the CSA_CloudOptimization in the Universe/Context for recalculation list.
- b. Select the recalculation start date.
- c. Check the check box.
- d. Click Calculate.

The calculation may take a few minutes.

3. To check the KPI calculation status, click the calculation tool and select **Calculation monitoring**.

🅼 п	BUS	INESS ANALYTICS						STUDIO	EXPLORER	ADMIN
								516510	EAFEORER	Help C
CSA-	KPI	Active KPIs	«	Configuration details	Calculation details					
Page P	Library	Lists all the elements configured and calculated in the system. To ad elements, click here or click the side-by-side button above and drag and drop traplate items from the KPL library to the Active KPIs pane Read more		Business Context					Navigate to the so	ource template
		* • • • • • • • •	٢	ALM_Defect	S	elect business context				
		Search: <pre><search></search></pre>	9	Calculatenow Recalculate						
Resc		🔫 🛅 Active KPIs	t≌ s	Schedule Context Calculat	ion					
Ľ,		Eloud Server Automation Eloud Server Supply Manager		Calculation monitoring	calculate the	: formula>			Open Filter Bui Validate	ilder
		Service Business Manager								
u		 Public Metrics and KPIs Project Spend vs Project Budget Public vs Private Cloud Spending 		 Comments 						
Netv		 ▶ ∠ Amount of Used Storage ▶ ∠ Network Traffic 		<add explan<="" more="" th=""><th>ations to provide n</th><th>ore depth to the business logic behind the forn</th><th>nula and the filter></th><th></th><th></th><th></th></add>	ations to provide n	ore depth to the business logic behind the forn	nula and the filter>			
		▶ I∠ Number of Used Instances		Test KPI					Save	Discard

4. Select **Calculations running now** in the Monitoring options.

Calculation monitoring	Help	×
Monitoring options : Calculations running now 🗸		
Select business context to view calculation details		
Qusiness Context Current calculation periods:		
No items to show. Yearly :		
Monthly:		
Quarterly :		
Weekly:		
Daily :		
Calculation start time :		
	lose	

If No items to show is displayed, the KPI calculation is finished.

Now you can view the CSA dashboard pages with live data.

You can schedule the Scheduled calculation of the KPI. For details, see Calculation Scheduling in the *Business Analyst Guide*.

Configure the Cloud Analytic Tiles in the Provider Portal

- 1. Create a user in ITBA with the same login name as in CSA.
 - a. From the ITBA ADMIN tab, create an ITBA user account with same login name as CSA (admin). The password does not need to be the same. The password needs to be complex.

IT EXECUTIVE SCORECAF	2D		STUDIO	EXPLORER	FINANCE	
Users and Roles User Management Role Management Resource Managem LDAP Management Data Source Management	ent Image: Casual/Viewer Image: Casual/Viewer <	Group Details Group Name : Group Description	Administrator			
Add user			×			
*Login Name :	admin]				
*Display Name :	admin]				
*Email :	admin@cilab.net]				
*New Password :]	L			
*Confirm Password :	*Confirm Password : ••••••		0.			
			3.			
	ОК	Cancel				

- b. Log out from ITBA, and log on again in as the administrator.
- c. Select the pages relevant to CSA and make sure you can see the pages with live data.

2. Configure single sign-on:

a. Enable SSO between the CSA Cloud Service Management Console (SMC) and BA. For details, see "Enabling the Cloud Analytics Secondary Tiles" in the *HP Cloud Service Automation Configuration Guide*.

Enable SSO between the Marketplace Portal (MPP) and BA. For details, see "Configure the Showback Report Tile" in the *HP Cloud Service Automation Configuration Guide*.

 b. In CSA, initString is configured in the crypto element in the %CSA_HOME%\jboss-as-7.1.1.Final\standalone\deployments\csa.war\WEB-INF\hpssoConfiguration.xml file. The initString value represents a secret key and should be treated as such in your environment.

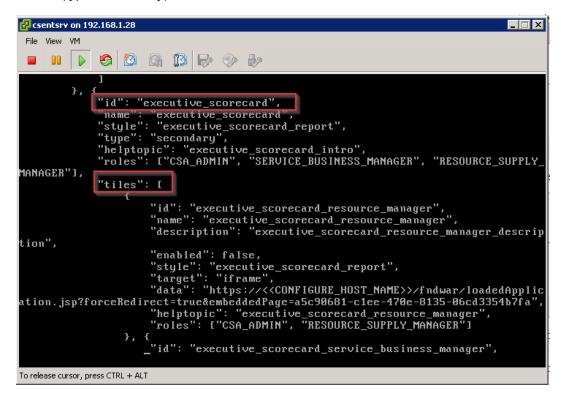
Navigate to the <crypto> tag and enter the relevant value in the initString parameter.

c. In BA, click ADMIN > Settings > Single Sign-on and set the LW-SSO Token Creation key (initString) with the key above (without the double-quote and without the string "initString").
 Change the domain name to the BA server domain (CSA server should have the same domain name). Click Save.

Users and Roles	✓ Identity Management Single Sign-On	1	
 Data Source Management ETL Management 	□ Identity Management Enabled		
✓ Settings	Name	Description	Value
Data Warehouse Foundation	Identity Management Header	Name of the Identity Management header	
Single Sign-On	✓ Lightweight Single Sign-On		
Pages Website	LW-SSO Cookie Secure		
ITFM	Name 🌩	Description	Value
Dashboard Settings	LW-SSO Trusted Hosts - Net Bios Names	Comma separated list of trusted hosts net	
Engine Settings Score Thresholds	LW-SSO Trusted Hosts - IPs	Comma separated list of trusted hosts IPs	
XS Settings	LW-SSO Trusted Hosts - FQDN	Comma separated list of trusted hosts FQ	
Notifications	LW-SSO Trusted Hosts - DNS Domains	Comma separated list of trusted DNS dom	example.com
Semantic Layer	LW-SSO Token Creation Key (initString)	Used for init of the symmetric encryption k	
Content Acceleration Pack	LW-SSO Server Domain	Used for token creation (required for multi	example.com

- 3. Configure the embedded page URL:
 - a. In CSA server, backup the %CSA_HOME%/jboss-as 7.1.1.Final/standalone/deployments/csa.war/dashboard/config.json file (where %CSA_ HOME% is the directory in which Cloud Service Automation is installed).
 - b. Edit the **config.json** file.

c. Search for the **id: executive_scorecard** tile (beware there are two such tiles), start from the second (type = secondary) as shown below:



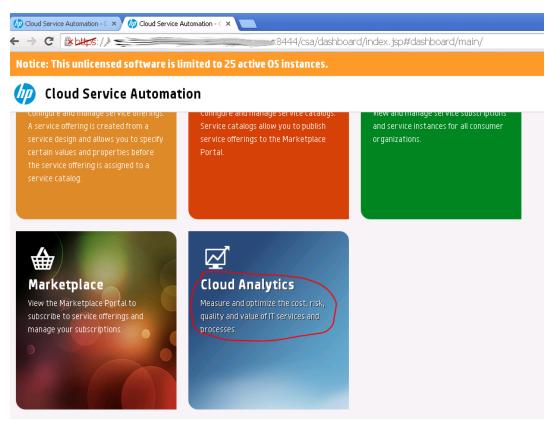
- d. Under the tiles node, change "enabled": false to "enabled": true, for the following ids:
 - i. Executive_scorecard_resource_manager
 - ii. Executive_scorecard_service_business_manager
 - iii. Executive_scorecard_showback_report
- e. Do not change it in the id: executive_scorecard_standalone.
- f. Change "enabled": true to "enabled": falsein the id: assistance_executive_scorecard.

g. For all tiles that are under the id: executive_scorecard, in the data section, change <CONFIGURE_HOST_NAME> to match the hostname of your Business Analytics installation. For example xs.example.com.

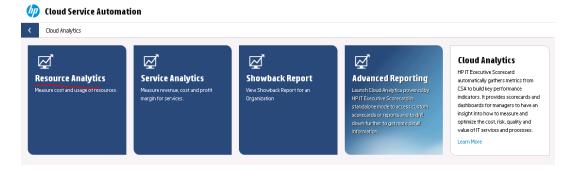


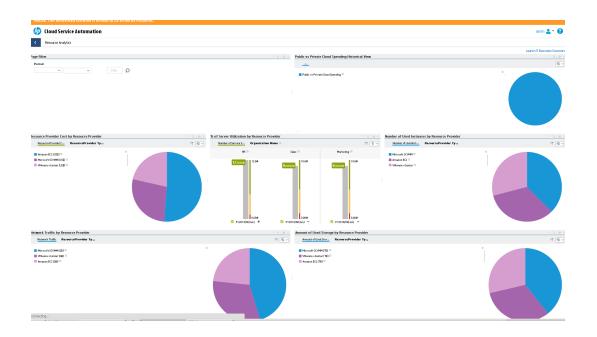
4. Access BA pages in the CSA system:

a. Log on to CSA using the full qualifier domain name (FQDN) URL.



b. Open the embedded BA pages in the CSA system.





Support CSA Multiple Currency for Service Offering

- 1. Edit EXCHANGE.csv.
- 2. Upload EXCHANGE.csv to %HPBA%/ContentPacks/CSA/EXTERNAL in the BA server.
- 3. Run the ETL to import exchange data. For details, see Run ETL Content Flow Managementin the *Administrator Guide*.

Configure the Showback report for the Consumer Organization Administrator

In this section, we simulate the CSA Consumer Organization administrator use case that leverages two existing groups in the LDAP server. Each group can only see its own group's data. CSAEngineers group can only see the engineering group data and the CSAHR group can only see the HR group data. For details, see also Setting access restrictions on a universe in the *Universe Designer for BusinessObjects XI 3.1*.

"Step 1 - Configure resource, user and permission" on the next page

- "Step 2 Configure the restriction of Cloud Billing universe" on page 166
- "Step 3 Configure the Business Analytics tile in the CSA Market Place Portal" on page 178

Step 1 - Configure resource, user and permission

1. In the CSA integrated LDAP server, select 2 groups: CSAHR and CSAEngineers.

🧓 OpenDJ Control Panel - Manage Entries					
File Entries View Help					
Base DN: dc=hpxs,dc=com 🔻	Filter: Users				
	Filter: josers				
⊡ 🕵 dc=hpxs, dc=com ⊕ 💑 People 🜊 ExAdmin	E cn=CSAengineers, ✓ Only Show Attributes				
ExScorcard	Common Name: * Object Class: * Members of Group:	CSAengineers			
		groupOfUniqueNames			
⊕- ▲ XSSearchGroupName ▲ 88191392-827b-4239-a9 ▲ CSAHR		cn=xsuser common name,ou=People,dc=hpxs,dc=com cn=xsuser1 Common Name,ou=People,dc=hpxs,dc=com cn=xsuser2 Common Name,ou=People,dc=hpxs,dc=com			
CSAengineers					

2. In the ITBA application, configure LDAP. For details, see LDAP Management in the *Administrator Guide*.

) IT E	EXE	ECUTIVE SCORECARD			
5A-	•	Users and Roles User Management	LDAP Management		
Vet We		Role Management Resource Management LDAP Management Data Source Management	 Host Address : Port : LDAP Account : LDAP Password : 	16.165.218.176 389 cn=Directory Manager	
	• •	ETL Management Settings		SSL Connect	īps is
	•	Notifications Semantic Layer	small; for example, if poss *Vendor : *Root Group Search DN :	other and the Root as the base DN.	
	•	Content Acceleration Pack	*Root Group Filter : *Group Search DN : *Group Filter : *User Search DN :	cn=CSA* dc=hpxs,dc=com l(objectclass=groupOfUniqueNames)(objec OU=people,dc=hpxs,dc=com	Test
			*User Filter : *Administrator List :	cn=* <-Select Administrator List>> Save Disable	Test

Create the CSA engineers and CSAHR groups and assign them users.

 Users and Roles 	🛕 Users & Groups 🔒 Search Users	Group Details
User Management		Group Name : CSAengineers
Role Management	▼ A CSAengineers	Group Description :
Resource Management	▲ xsuser common name	
LDAP Management	<u> x</u> suser1 Common Name	
-	<u> x</u> suser2 Common Name	
Data Source Management	▼ ① CSAHR	
ETL Management	<u> x</u> sadmin LastName	
	<u> x</u> sadmin1Common Name	Roles and Permissions
Settings	xsadmin2CommonName	+ 🔟
Notifications		Role name
		GEN_Cloud Server Automation
Semantic Layer		

3. Create the resource for the CSA-Showback for Consumer Organization Admin page.

Resources * Î O	Resource Details
Budget Cost Centers	Resource : CSABilling Page
Budgets	Description :
▼ /Bu Pages	
/III CSABilling Page	
▼	
GEN_Cloud Server Automation	Edit details
	Instances
	instalikes
	Instance
	CSA-Billing Statement for Consumer Organization Admin

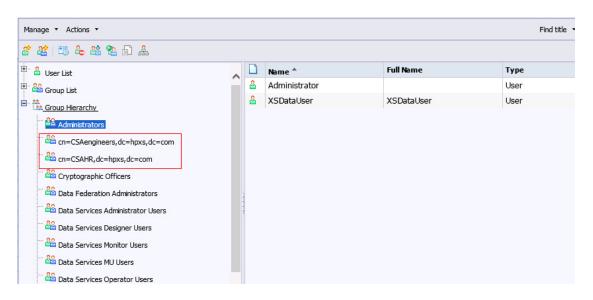
4. Create the CSAreportviewer role.

Users and Roles	Roles	Role Details:		
User Management	* 🗓 🖸	Role Name : CSAreportViewer		
Role Management	Administrator	Role Description :		
Resource Management	BUDGET_COORDINATOR			
LDAP Management	CSAreportViewer			
EDAr Hanagement	DWH administrator			
Data Source Management	FINANCIAL_ANALYST	Edit details		
ETL Management	GEN_Cloud Server Automation			
-	 Scorecard Administrator 	Permissions		
Settings	Viewer	+ / 11		
Notifications		Permission	Resource	
Semantic Layer		🕞 View Page	CSABilling Page	
	-			

5. Assign the role CSA report viewer to two groups.

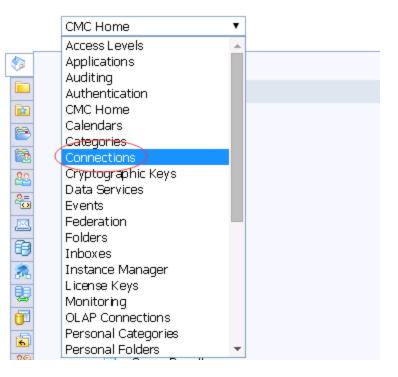
 Users and Roles 	Users & Groups Search Users	Group Details		
User Management	1 回 F I CO CO CO	Group Name : CSAengineers		
Role Management	▶[A] CSAengineers	Group Description :		
Resource Management	▶[Æ]CSAHR			
LDAP Management				
Data Source Management				
ETL Management		Roles and Permissions		
Settings				
· · · · · · · · · · · · · · · · · · ·				
Notifications		Role name	Permission	Resource
		CSAreportViewer	View Page	CSABilling Page
Semantic Layer		GEN_Cloud Server Automation		

6. Configure LDAP with BOE. For details, see LDAP in BusinessObjects in the Administrator Guide.



- 7. Configure the group permission in the BOE server:
 - a. Log on to BusinessObjects Central Management Console (http:// <local BOE server name>:8080/BOE/CMC) using the administrator name and password and configure LDAP with BOE. For details, see LDAP in BusinessObjects in the Administrator Guide.
 - b. Open the Connections:

Central Management Console



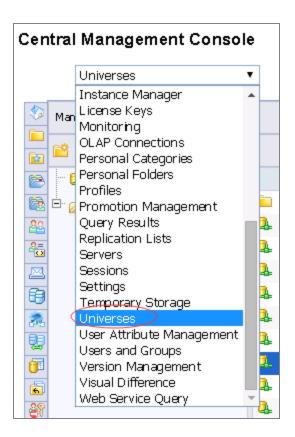
c. Select the XS_DWH_JDBC connection that your report uses and click **User Security**.

View Security Assign Security	I Principals Remove	Add Pi	oading lide Navigation Default Settings Properties
Full Name Type Access	Name		Categories
User Group Full Control (Inherited)	Administrators	<u>88</u>	Schedule
dc=com User Group View On Demand	cn=CSAengineers,dc=hpxs,dc=com	<u>88</u>	User Security
m User Group View On Demand	cn=CSAHR,dc=hpxs,dc=com	<u>88</u>	Connectivity
User Group No Access	Everyone	<u>88</u>	Limits
			Limits

d. Grant the View On Demand permission to the two groups.

Default Settings Properties	Add I	Principals Remove		View S	ecurity Assign Security
Categories		Name	Full Name	Туре	Access
Schedule	<u>88</u>	Administrators		User Group	Full Control (Inherited)
User Security	<u>88</u>	cn=CSAengineers,dc=hpxs,dc=com		User Group	View On Demand
Connectivity	22	cn=CSAHR,dc=hpxs,dc=com		User Group	View On Demand
Limits	<u>88</u>	Everyone		User Group	No Access

8. Open the Universes.



9. Select the CloudBilling universe that your report uses and click Universe Security.

Cen	tral Management Consol	e				
	Universes	•				
\$	Manage 🔹 Actions 🔹 Organize 👻					
	📸 🖻 - 🖽 🕹 🛠					
8	🔤 Universes List		Title 📤			
2	🖳 🧰 Universes	8	Cloud Billing			
<u>8</u> 2	🛄 🗖 Data Warehouse Universes	2	Cloud Billing I	Properties		
20	🐃 🧰 Monitoring TrendData Univers			Universe Secu	urity	
6	🛄 Repart Conversion Tool Unive			User Security		
2	webi universes			New	>	
2	🖹 🛄 XS Metrics			Tools	>	
6						
6	🛄 🔤 SystemHealth			Organize	>	
8 9	🛄 💴 XS Studio			Delete		

10. Add the **Private** security to the two groups.

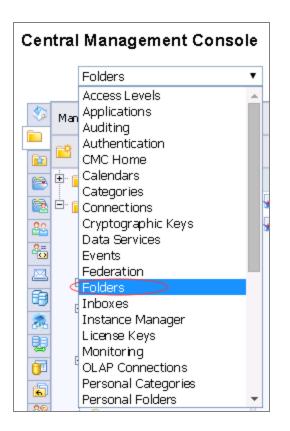
					Add Update	Reset Refres
Remove	Name	Full Name	Туре	Description	Object Level Security	Net Security
	Everyone		User Group	All users of this system	(Inherited Security)	Public
	Administrators		User Group	Users who can administrate this system	(Inherited Security)	Private
	cn=CSAengineers,dc=hpxs,dc=com		User Group		Private 🗸	Public
	cn=CSAHR,dc=hpxs,dc=com		User Group		Private	Public

11. Grant the View on Demand permission to the 2 groups in User Security.

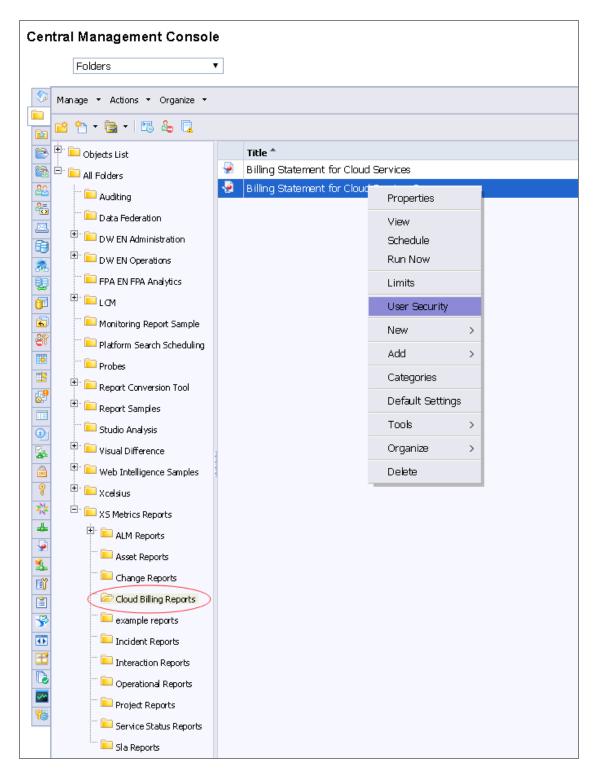
ntral Management Console	e			
Universes	•			
Manlage 🔹 Actions 👻 Organize 👻				
📸 🖻 📲 📇 🐇 🖌 🛠				
🖉 Universes List		Title 📤		
Universes	2 2	Cloud Billing Cloud Billing Demo	Properties	
Tendra Warehouse Universes			Universe Secur	ity
Report Conversion Tool Unive		(User Security New	
en webi universes			Tools	>
Cloud Billing			Organize	>
🦾 🧰 System Health			Delete	
🛄 🔛 XS Studio				

bb	Principals Remove		View S	ecurity Assign Security
	Name	Full Name	Туре	Access
<u>80</u>	Administrators		User Group	Full Control (Inherited)
20	cn=CSAengineers,dc=hpxs,dc=com		User Group	View On Demand
20	cn=CSAHR,dc=hpxs,dc=com		User Group	View On Demand
<u>.</u>	Everyone		User Group	No Access
<u>80</u>	Universe Designer Users		User Group	Full Control (Inherited)

12. Select Folders.



13. Select the Showback for Consumer Organization Admin report and click User Security.

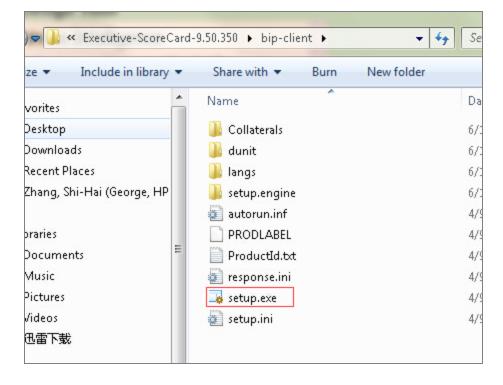


14. Grant the View On Demand to the 2 groups.

ide Navigation ▷ Default Settings					
Properties	Add I	Principals Remove		View S	Security Assign Security
Categories		Name	Full Name	Туре	Access
Schedule	<u>88</u>	Administrators		User Group	Full Control (Inherited)
User Security	<u>8</u> 2	cn=CSAengineers,dc=hpxs,dc=com		User Group	View On Demand
Connectivity	22	cn=CSAHR,dc=hpxs,dc=com		User Group	View On Demand
Limits	<u>22</u>	Everyone		User Group	No Access

Step 2 - Configure the restriction of Cloud Billing universe

- 1. Configure the restrictions of the Cloud Billing universe:
 - a. On the BOE server, install SAP BusinessObjects BI platform 4 Client Tools. Unzip the **bipclient.ZIP** file from installation file and click **setup.exe** to install it.



b. Open the Universe Design Tool.

CAD During of Intelligence
SAP Business Intelligence
퉬 SAP BusinessObjects BI platform 4
퉬 SAP BusinessObjects BI platform 4 Clien
🌆 Business View Manager
🏘 Data Federation Administration Tool
of Information Design Tool
📝 Query as a Web Service Designer
🆓 Report Conversion Tool
💕 Translation Management Tool
🔆 Universe Design Tool
🐓 Web Intelligence Rich Client
🥺 Widgets
SAP BusinessObjects Data Services 4.1
n a l

c. Log on to the Universe Design using the BOE administrator.

User Identification	×
	SAP Business Objects
Enter your name and p	bassword to log in.
<u>S</u> ystem	localhost 💌
<u>U</u> ser Name:	Administrator
Password:	*****
Authentication	Enterprise
	OK Cancel <u>H</u> elp

d. Click the **Import** button.

3	universe design	tool - [Admi	nistrator - @XS950DEMO.fpazsh.com:6400]
	<u>File</u> <u>E</u> dit <u>V</u> iew	<u>I</u> nsert <u>T</u> ools	<u>W</u> indow <u>H</u> elp
	<u>N</u> ew ⊘ Open ⊆lose	Ctrl+N Ctrl+O Ctrl+₩	1 A A 9 3 B # 3 B P 32 4 6 6 6 6 7 8 7 8 8
3	<u>Save</u> Save <u>A</u> s Save All	Ctrl+5 F12	
	Import Export Metadata Exc	hange	
	Parameters		
	Page Setyp Print Preyjew. Print		
	<u>1</u> Cloud Billing	Demo.unv	
	E <u>×</u> it		

e. Open the Cloud Billing universe.

Import Universe	×
	Select a universe domain in the repository to see available universes. Select the universe you want to import. Double-click to lock or unlock a universe. A grayed padlock means someone else has locked the universe.
<u>F</u> older:	/XS Metrics/Cloud Billing
	Open the selected universes
<u>Available</u> Universes	_
Universe Name	Locked by
Cloud Billing	
Cloud Billing De	emo
Description:	
	 ▼
Import Folder:	C:\Users\itaadmin\AppData\Roaming\SAP BusinessObjects\SAP
	Browse
	OK Cancel <u>H</u> elp

Import Universe	. ×	
	Select a universe domain in the repository to see available universes. Select the universe you want to import. Double-click to lock or unlock a universe. A grayed padlock means someone else has locked the universe.	
Folder:	/X5 Metrics/Cloud Billing Browse	
	Open the selected universes	
Available Universes	5:	
Universe Name	Locked by	
Cloud Billing		
Cloud Billing De	emo	
Description:		
	 ▼	
Import Folder:	C:\Users\itaadmin\AppData\Roaming\SAP BusinessObjects\SAP	
	Browse	
	OK Cancel Help	//

- f. Add the relevant restrictions in the Manage Access Restrictions wizard:
 - Engineer_restriction is set for CSAengineers which is configured to see only the engineering group's data.
 - HR_restriction is set for CSAHR which is configured to see only the HR group's data.

骄 universe design tool - Clo	ud Billing Demo - [Administ	rator - @X5950DEMO.fpazsh.com:6400]
Eile Edit View Insert	<u>T</u> ools <u>W</u> indow <u>H</u> elp	
🕴 🗅 🥔 🔙 🛛 🗉 🙆 🖌	Connections	🎒 🥬 🎦 🔃 🖤 襟 100% 💌
] □ " " " 3 □ □] × √ <i>f</i> ≈	Hierarchies Lists of Values Aggregate Navigation	▶ <mark>१ \$⁄ \$2 \$2</mark>
E- Contraction Models	List of Aliases SQL List of Derived Tables	
	Query Panel	
	Automated Detection	ext.CSA_BILLING_FACT_V AMOUNT_BASE
	Login As Change <u>P</u> assword	AMOUNT_LOC BILLING_PERIOD_DURABLE_KEY CURRENCY_BASE CURRENCY_LOC
	Manage security	Manage Access Restrictions
		SERVICE_BUJEPRINT_DURABLE_KEY SERVICE_INSTANCE_DURABLE_KEY SERVICE_OFFERING_DURABLE_KEY SUBSCRIPTION_DURABLE_KEY

g. Create the restriction.

- i. Click **New** in the wizard.
- ii. Click the **Rows** tab and click **Add...**.

Edit Restriction - New R	estriction	X	on
Restriction Name:	OrganizationRestrictionHR	-	estriction
Connection Controls	SQL Objects Rows Table Mapping		
	g a Where clause on the RDBMS table specifed below allows restrict access to rows, and limit the results returned by a		
Restricted tables	Where Clause Status	I	
Add	New Row Restriction Table: [Where Clause: [×
Reset	OK Canc	el	>> Help

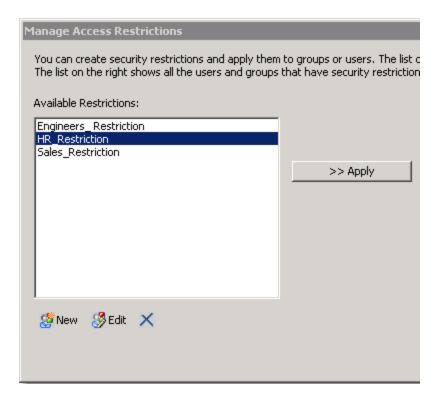
iii. Select the **XS_BUSINESS_UNIT_DIM_V** table in the **Table** list, and set the SQL query in as follows:

New Row Restriction	×
Table:	
Where Clause:	
	× >>
T	<u> </u>
OK	Cancel Help
Table Browser	
You can select the table	
Table	
xc.BILLING_EACT_V xs.BUSINESS_UNIT_DIM_V xs.PERIOD_DIM_V xs.PERSON_DIM_V xs.SERVICE_INSTANCE_DIM_V xs.SUBSCRIPTION_DIM_V	
	OK Cancel Help

- iv. Click OK.
- v. Add restrictions1 as XS.BUSINESS_UNIT_DIM_V.Name = 'Engineering'.

Where Clause Definition xs.BUSINESS_UNIT_DIM_V.Name = 'Engineering	ing'	×
Iables and Columns: Image: Substance Subs	Operators: Caracter Caracter Character Character Character Date Date Date Character Character Character	
	OK Cancel <u>H</u> elp	

- vi. Click OK.
- h. Repeat the steps from "Create the restriction. " on page 171 to create the second restriction.



2. Click the **Add user** or **Add group** button, select the user and click the > button.

Select Users and Groups				
		nich you can apply security restriction h criteria. The list on the right show:		on the left shows all the available users and groups in the groups that have been selected.
Available groups and users		1-25/25 🕉	_	Selected groups and users:
Account Name 🔺	Full Name	Description		Account Name
& Administrator & Administrators & cn=CSAengineers & cn=CSAHR,dc=hp		Administrator account Users who can administrate	>	器 cn=CSAengineers,dc=hpxs,dc=com 器 <mark>cn=CSAHR,dc=hpxs,dc=com</mark>
🈹 Cryptographic Offi		The users authorized to man	<<	
😹 Data Federation A		Data Federation Administrat		
😹 Data Services Ad		Data Services administrators	<	
🛛 🍇 Data Services Desi		Data Services users who are	1	
Data Services Mon		Data Services users who can.		۲
- Search			1	
Search by:	Name	•		
For text:		<u> </u>		
Look in:	Groups	Users		
				OK Cancel

3. Click OK.

Manage Access Restrictions				
You can create security restrictions and apply them shows all the users and groups that have security r		on the left shows all the existing security r	estrictions for this universe. The list on th	e right
Available Restrictions:		Available groups and users:		
Engineers_Restriction HR_Restriction Sales_Restriction	>> Apply	Name	Restriction <none> <none></none></none>	Priority
		•		
🥵 New 🛞 Edit 🗙		😹 Add user or group 🛛 🖓 Priority 🚽	🛞 Preview 🗙 🛛 🎲 🖓 🕜	
			ОК Са	ancel

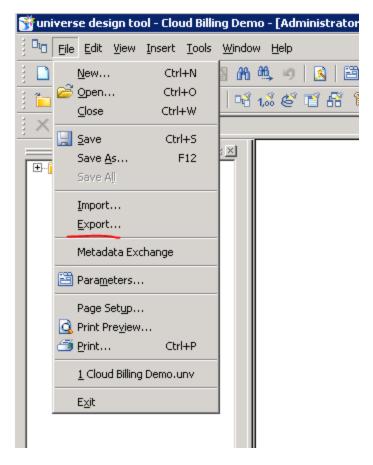
4. Select Engineers_Restriction in Available Restrictions area, select the CSA engineers group in the Available groups and users area, and then click the >>Apply button.

Manage Access Restrictions							
You can create security restrictions and apply them shows all the users and groups that have security r		on the left shows all the existing	g security res	strictions for this universe.	The list on the right		
Available Restrictions:	Available Restrictions: Available groups and users:						
Engineers_Restriction		Name		Restriction	Priority		
HR_Restriction Sales_Restriction		😹 cn=CSAengineers,dc=hp		Engineers_Restriction	1		
	>> Apply	Kn=CSAHR, dc=hpxs, dc=	=com	<none></none>			
		•			► I		
🥵 New 🧏 Edit 🗙		🚜 Add user or group 🛛 🖓	Priority 🛛 🐣)Preview 🗙 🙀 🥨			
				ОК	Cancel		

5. Repeat the previous step for the **HR_Restriction** and the HR group.

Manage Access Restrictions							
You can create security restrictions and apply them shows all the users and groups that have security r		in the left shows all the existing security re	strictions for this universe. The list on th	e right			
Available Restrictions:	Available Restrictions: Available groups and users:						
Engineers_Restriction		Name	Restriction	Priority			
HR_Restriction Sales_Restriction		😹 cn=CSAengineers,dc=hpxs,dc=com	Engineers_Restriction	1			
	>> Apply	😹 cn=CSAHR,dc=hpxs,dc=com	HR_Restriction	2			
		 ▲					
🥵 New 🛞 Edit 🗙		🚜 Add user or group 🛛 🖓 Priority 🛛 🍕	🔋 Preview 🗙 🛛 🤪 🛛 🥝				
			ОК С	ancel			
				11			

6. Click Export...



- 7. Click OK.
- 8. Log on to BA as the HR group one user and open the CSA billing report in the Dashboard.

9. Click the **Refresh** button to display the following value for Org Name.

C & bttps://xs950live.fpazsh.com/fndwar/	loadedApplication.jsp?flavor=	<u>^</u>
		User: ᡗ 🛛 xsadmin LastName 🛛 Logout 🗍 He
IT EXECUTIVE SCORECARD		STUDIO EXPLORER FINANCE ADMIN
5A-Billing Statement for Cloud Services ×		Select Page 🗸 🗘 🥵 🎦 🕼 🛞 🗌
Jeb Intelligence Report Viewer		
	🔊 @ @ •] 🕼 Track • 🐺 Drill • 🍄 Filter Bar 🛞 Outline	Reading - Design - 2
Decement Summary • •	Prompts Prompt	

- 10. Log on BA as the Engineers group one user and open the CSA billing report in the Dashboard.
- 11. Click the **Refresh** button to display the following value for Org Name.

User. 🗶 xsuser common	n name 🛛 Logout 🛛 Help 🍕
IT BUSINESS ANALYTICS STUDIO EXPLOY	RER ADMIN
CSA-Billing Statement for Cloud Services × Select Page 🗸 O 🛱 📓 🗅	8 . • 0
Web Intelligence Report Viewer	* 1i @ « ×
Web Inteligence - 🗅 🎓 🚰 - 🏝 🕅 🇐 🖆 🚣 - 🖻 - 👘 🕫 💩 - 😨 Track - 🗣 Drill - 🍫 Filter Bar 🕮 Ouline Reading	• Design • 🕜 •
Converti Savenary Converting Converting Converting Converting Converting Converting Converting Converting	Â ¢ ¥
Biling Statement for Cloud Services • 😰 Track changes: Off H 4 Page 1 of 1 + H 😹 🕑 100% •	🕀 157 days ago

Step 3 - Configure the Business Analytics tile in the CSA Market Place Portal

To enable and configure the Showback report on the CSA Market Place Portal for the Consumer Organization Administrator persona:

- 1. Locate the **%CSA_HOME%\portal\conf\dashboard.json** file.
- In the file, locate the section below and in the highlighted url replace the <CONFIGURE_HOST_ NAME> placeholder with the host name of the BA instance.

```
{
       "label": "common.section.ADMINISTRATION.label",
       "role": ["CONSUMER_ORGANIZATION_ADMINISTRATOR"],
       "tiles": {
         "default": {
           "className": "light-gray"
         },
         "items": [{
           "label": "common.items.MANAGE_USER_SUBSCRIPTIONS",
           "icon": {
             "className": "icon-manage-subscriptions"
           },
           "link": "#/user/manage"
         }, {
           "label": "common.items.SCORECARD",
           "icon": {
             "className": "icon-status"
           },
           "link": {
             "url":"https://<CONFIGURE HOST
  NAME>/fndwar/loadEmbeddedPage.jsp?com.hp.bsm.uim.pageUID=ef63ab7f-b86b-43c8-
  b8d8-bb81869b73dc",
             "target": "_blank"
           }
         }]
       }
     }
3. Save.
```



CSA Activation Page

The following is an example of the CSA Activation page.

Data Source Wizard		Help 🗙
CSA (Cloud Service Automation)		
*Instance name :		
CSA Version : Time Zone :	3.1/3.2 Asia/Jerusalem	
Data Source Type :	CSA ~	
Organizationname :	CSA-Provider	
*Username : *Password :	< <enter username="">></enter>	
*Hostname/IP Address : *Port :	< <i><enter address="" hostname="" ip="" or="">></enter></i> 8444	
Initial Load Period (months)	: 6~	
	Back Next Cano	:el

User interface elements are described below:

Note: If the CSA configuration is for a named instance connection, make sure to enter the named instance port.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
CSA Version	Select the relevant version For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	CSA
	This parameter is read only.
Organization Name	Enter the Organization Name that is necessary to retrieve admin details.
	The default value is CSA-Provider.
Username	Enter your admin username used to log on to CSA. The default username is ooInboundUser .
Password	Enter your admin password used to log on to CSA. The default admin password is cloud .
Hostname/IP Address	Enter the CSA server hostname or IP address.
Port	Port for REST API (default value is 8444).
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

Reference

CSA-Related KPIs and Metrics

For a list of the KPIs and Metrics related to the Cloud Service Automation data source, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Customize CSA Service Designer for Amazon Web Service Resource Provider

In CSA, you can define different service designs for Amazon Provider and those service designs can be different from user to user, and can be different from the CSA OOTB service design.

By default, the ETL logic hardcodes, the component type value, the component property value, and the values match only the CSA OOTB service design. If you do not use the CSA OOTB service designer, then you must change the ETL scripts manually.

In addition, when you add fields to component property list, and then display these field in the report, the data model does not include the new customized data.

-22	Amazon Network Interface NETWORK INTERFACE	
Proper	ties	
🖬 ava	ilabilityZone	
US-V	vest-2a	
🗖 dev	iceIndex	
🖬 inst	anceld	
i-4a	ffSebd	
🖬 inte	erfaceDescription	
🖬 inte	erfaceStatus	
in-u	se	
🖬 maq	Address	
02:b	1:b4:ee:98:d6	
🖬 net	workInterfaceId	
eni-t	1576a592	
🖬 priv	atelpAddress	
172.	31.41.245	
resi	ult	
seci	urityGroupIds	
sg-6	4c3a901;default	
🖬 sub	netid	
subr	net-1e7cd47b	

The CSA Content Pack provides a separate ETL logic to support customized CSA service designs

Below is the ETL logic that you can use to get the component value from the AWS service design. To easily customize the logic in the ETL scripts:

- a. The logic used to handle the AWS service design is extracted into a separate script instead of having all logic in one Server Side Includes (SSI) step. The file name of the script is AWSservice-design.
- b. Afterwards, you can modify the OOTB logic to support your own CSA service design, without

impacting the others. Modify the **\$HPBA_**

HOME/ContentPacks/CSA/INBUILT/ETL/COMPONENT/CSA_COMPONENT_CONF_ DF.sql file by providing the SSI scripts folder and the file name for the SSI component in the CSTM_PROPERTY_<NN> fields.

```
case
    when positionb('^|^'|[ext.propertylist,'^|^'|['INSTANCEID'|['^=^']) = 0 then null
    else
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'|]
        ext.propertylist,positionb('^|^'|[ext.propertylist,'^|^'|['INSTANCEID'|['^=^']),'^|^',2),'^=^',2)
end as CSTM_PROPERTY_01 ,
    case
        when positionb('^|^'|[ext.propertylist,'^|^'|['IPaddress'|['^=^']) = 0 then null
        else
            ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'|])
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'|])
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'|])
        ext.SERVICEINSTANCEID || ':' ||split_part(split_part(substrb('^|^'|)),'^|^',2),'^=^',2)
end as CSTM_PROPERTY_02 ,
```

 Additional Customized Fields in the Component Entity to Support Customized CSA Service Designs

Currently, you cannot add extra fields to the **Showback for Cloud Services** report as the current data model cannot accommodate customized fields.

To support the capability of adding customized fields to the **Showback for Cloud Services** report, the component was modified to include 10 additional customized fields. For details, see "Customize CSA Service Designer for Amazon Web Service Resource Provider" on the previous page.

• BILLING_FACT table details

To support option level pricing calculation, the existing BILLING_FACT table was modified. It stores the real cost based on the subscription details including the subscription request, request option, and option property. The granularity of BILLING_FACT table is at the levels of subscription, request, option, property, daily.

Field Name	Field Type	Null	Field Description
SUBSCRIPTION_ID	FK	Ν	Foreign Key to subscription
SERVICE_ REQUEST_ID	FK	N	Foreign Key to subscription request
REQUEST_ OPTION_ID	FK	N	Foreign Key to request option
OPTION_ PROPERTY_ID	FK	N	Foreign Key to property
SERVICE_	FK	N	Foreign Key to service instance

Field Name	Field Type	Null	Field Description	
INSTANCE_ID				
BILLING_START	DATE	Ν	Foreign Key to billing start period	
BILLING_END	DATE	Ν	Foreign Key to billing end period	
CURRENCY_LOC	VARCHAR (10)	Y	Source currency	
CURRENCY_BASE	VARCHAR (10)	Y	DWH currency	
AMOUNT_LOC	NUMERIC	Y	The cost stays with the source currency	
AMOUNT_BASE	NUMERIC	Y	The cost is converted into DWH currency	
RECURRING_FLAG	INTEGER	Y	The flag to identify if the cost is coming from recurring price or not 1=Recurring price, 0=Initial price	
BASE_FLAG	INTEGER	Y	The flag to identify if the cost is coming from base price or not	
OPTION_FLAG	INTEGER	Y	The flag to identify if the cost is coming from option or not	
PROPERTY_FLAG	INTEGER	Y	The flag to identify if the cost is coming from property price or not	

• SERVICE_REQUEST_DIM table details

The user can subscribe to any on-shelf service offering in the CSA Consumer portal. When the user subscribes to a service, CSA creates the relevant request for the subscription, and if the user changes the subscription option from CPU 1 to CPU 2, another request is generated for the modified subscription.

The SERVICE_REQUEST_DIM table holds the subscription request information for the business analysis.

Field Name	Field Type	Null	Field Description
SERVICE_ REQUEST_ID	PK	Ν	PK of service request
NAME	VARCHAR (1000)	Y	Name of service request
DISPLAY_LABEL	VARCHAR	Y	Display name of service request

Field Name	Field Type	Null	Field Description
	(1000)		
INITIAL_PRICE	NUMERIC	Y	Initial price of service request
RECURRING_ PRICE	NUMERIC	Y	Recurring price of service request
RECURRING_ PERIOD	VARCHAR (100)	Y	Recurring period of service request
CURRENCY	VARCHAR (10)	Y	Source currency
REQUEST_ START	DATE	Y	The create time of service request
REQUEST_END	DATE	Y	The time that the service request is end of lifecycle
REQUEST_ STATE	VARCHAR (100)	Y	The state of service request
REQUEST_ STATUS	VARCHAR (100)	Y	The status of service request
REQUEST_ ACTION	VARCHAR (100)	Y	The action of service request(mainly used to capture the user subscription cancellation action)
SUBSCRIPTION_ ID	FK	N	Foreign Key to subscription

• REQUEST_OPTION_DIM table details

The user can subscribe to any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option.

Below is the screenshot for CSA catalog ordering, **Application ABC (1.0.0)** is the subscription. It contains three options **Primary Storage**, **Backup Storage**, and **Application Scaling**. Each option can define its own initial price and recurring price.

Application ABC (1.0 Application Servers	.0)	\$ 12,000.00 + \$ 200.00 daily	\$ 13,350.00
Published on May 11, 2015 9:56	42 DH	Show More Details is On	\$ 600.00 daily Checkent
_			Add To Cart
Primary Storage			
 250 GB 		\$ 100.00 and \$ 25.00 daily	Configuration
\$00.08		\$ 150.00 and \$ 50.00 daily	Primary Storage 250 GB
800 GB		\$ 200.00 and \$ 100.00 daily	Beckup Storage
			10
Backup Storage			Application Scaling
Option Set Description			CPU and Hemory Settings Cpu (2)
. 18		\$ 100.00 and \$ 200.00 daily	Memory (258)
218		\$ 150.00 and \$ 400.00 daily	Operational Cost
Application Scaling			
CPU and Memory Settings		\$ 0.00 and \$ 0.00 daily	
Cpu			
2\$ \$0.00 + \$ 25.00	aly 👻		
Memory			
268 - \$ 100.00 - \$ 50	00 daity 👻		

The REQUEST_OPTION_DIM table is designed to store the option level price information for each user submitted service request.

Field Name	Field Type	Null	Field Description
REQUEST_OPTION_ID	PK	Ν	PK of Request Option
OPTIONSET_NAME	VARCHAR (1000)	Y	Name of Option Set
OPTIONSET_DISPLAY_ LABEL	VARCHAR (1000)	Y	Display name of Option Set
OPTION_NAME	VARCHAR (1000)	Y	Name of Option
OPTION_DISPLAY_LABEL	VARCHAR (1000)	Y	Display name of Option
OPTION_FULL_NAME	VARCHAR (2000)	Y	Name of Option Set + Name of Option
OPTION_FULL_DISPLAY_ LABEL	VARCHAR (2000)	Y	Display name of Option Set + Display name of Option

Field Name	Field Type	Null	Field Description
INITIAL_PRICE	NUMERIC	Y	Initial price of option
RECURRING_PRICE	NUMERIC	Y	Recurring price of option
RECURRING_PERIOD	VARCHAR (100)	Y	Recurring period of option
SERVICE_REQUEST_ID	FK	Ν	Foreign Key to Service request
PARENT_ID	FK	N	Parent Foreign Key to Request Option

• REQUEST_OPTION_DIM_HIER table details

The user can subscribe any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option. Each option can contain sub options, which can themselves include sub options.

The REQUEST_OPTION_DIM_HIER table stores the option name hierarchy information for each user submitted service request. The maximum supported number of levels in the hierarchy is 20.

Field Name	Field Type	Null	Field Description
MD_SLEVEL	INTEGER	N	The level of the option
MD_LEVEL_0_NAME	VARCHAR(2000)	N	The full name of top level option
MD_LEVEL_1_NAME	VARCHAR(2000)	Y	The full name of second level option
MD_LEVEL_2_NAME	VARCHAR(2000)	Y	The full name of third level option
	VARCHAR(2000)	Y	The full name of n level option
MD_LEVEL_19_NAME	VARCHAR(2000)	Y	The full name of twentieth level option
REQUEST_OPTION_ID	FK	N	Foreign Key to Request option

For example, if you have the following hierarchy: option1 > option1.1> option1.1.1, then the row is displayed as follows:

MD_ SLEVEL	MD_LEVEL_ 0_NAME	MD_LEVEL_ 1_NAME	MD_LEVEL_ 2_NAME	MD_LEVEL_ 319_NAME	REQUEST_ OPTION_ID
3	option1	option1.1	option1.1.1	Null	option1.1.1's PK
2	option1	option1.1	Null	Null	option1.1's PK
1	option1	Null	Null	Null	option1's PK

OPTION_PROPERTY_DIM table details

The user can subscribe any on-shelf service offering in the CSA Consumer portal. When subscribing to a service, the user can select the relevant option. The option contains three properties (**250 GB**, **500 GB**, **800 GB**), and each property can define its own initial price and recurring price. The price supports fixed values, listed values, or multiple values.

ļ.	Application ABC (1.0.0) Application Servers	\$ 12,000.00 + \$ 200.00 daily	\$ 13,350.00
	Published on Hay 11, 2015 9:58:42 PM	Show More Details is Ge	\$ 600.00 daily
_			Checkout Add To Cart
P	rimary Storage		
	 250 GB 	\$ 100.00 and \$ 25.00 daily	Configuration
	500 68	\$ 150.00 and \$ 50.00 daily	Primary Storage 250 GB
	B00 G8	\$ 200.00 and \$ 100.00 daily	Beckup Storage
			10
	lackup Storage stion Set Description		Application Scaling OPU and Hemory Setting
	 18 	\$ 100.00 and \$ 200.00 daily	Cpu (2) Memory (258)
	278	\$ 150.00 and \$ 400.00 daily	Operational Cost
_			
~ 7) "	pplication Scaling		
0	 CPU and Memory Settings 	\$ 0.00 and \$ 0.00 daily	
	Cpu	_	
	2 \$ 50.00 + \$ 25.00 daily	·	
	Memory		
	268 \$ 100.00 + \$ 50.00 daily	 Image: A set of the set of the	

The OPTION_PROPERTY_DIM table stores the property information for each user selected property value in its related service request.

Field Name	Field Type	Null	Field Description
OPTION_PROPERTY_ID	PK	Ν	PK of Option property
PROPERTY_NAME	VARCHAR (1000)	Y	The name of the property
PROPERTY_DISPLAY_ NAME	VARCHAR (1000)	Y	The display name of the property
PROPERTY_VALUE_ID	VARCHAR (1000)	Y	The value ID of the option property
PROPERTY_VALUE_TYPE	VARCHAR	Y	The value type of the property

Field Name	Field Type	Null	Field Description
	(1000)		
PROPERTY_VALUE	VARCHAR (1000)	Y	The value of the property
PROPERTY_DISPLAY_ VALUE	VARCHAR (1000)	Y	The display value of the property
INITIAL_PRICE	NUMERIC	Y	The initial price of the property
INITIAL_PRICE_TYPE	VARCHAR(100)	Y	The initial price type of the property
RECURRING_PRICE	NUMERIC	Y	The recurring price of the property
RECURRING_PRICE_TYPE	VARCHAR(100)	Y	The recurring price type of the property
RECURRING_PERIOD	VARCHAR(100)	Y	The recurring period of the property
REQUEST_OPTION_ID	FK	Ν	Foreign Key to request option

COMPONENT_DIM table enhancements

The existing COMPONENT_DIM table was extended by adding more component properties to support customized service designs.

Field Name	Field Type	Null	Field Description
CSTM_PROPERTY_01	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_02	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_03	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_04	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_05	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_06	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_07	VARCHAR (1000)	Y	Customized component property field

Field Name	Field Type	Null	Field Description
CSTM_PROPERTY_08	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_09	VARCHAR (1000)	Y	Customized component property field
CSTM_PROPERTY_10	VARCHAR (1000)	Y	Customized component property field
Other existing fields did not change			

CSA Component_Property entity

Field Name	Field Type	Null	Field Description
PROPERTY_NAME	VARCHAR(1000)	Y	The name of the component property.
PROPERTY_VALUE	VARCHAR(2000)	N	The value of the component property.
COMPONENT_ID	FK	Y	Foreign Key to COMPONENT.

CSA Target entity

Entity Name	Change Description
BILLING_FACT	Refactor the existing logic of the cost aggregation to store option and property cost
REQUEST_OPTION_ DIM_HIER	New entity add to support option and sub option info
REQUEST_OPTION_DIM	New entity add to support option info
OPTION_PROPERTY_ DIM	New entity add to support option property info
SERVICE_REQUEST_ DIM	New entity add to support service request info
COMPONENT_DIM	Refactor the existing logic of the cost aggregation to store option and property cost

How to Upload .BIAR Files

Some Webi reports are supported in ITBA. You can view these reports in the relevant ITBA Dashboard pages. They are provided in the CSA CAP and the CSA_Demo CAP.

You can view these reports through the Dashboard pages that are linked to the BOE server.

Only the CSA CAP reports are imported into the BOE server automatically if you have configured the BOE connection while installing ITBA.

Note:

- Cloud_Billing.biar is needed for the Billing Statement for Cloud Services or Billing Statement for Consumer Organization Admin reports provided in the CSA CAP.
- Cloud_Billing_Demo.biar is needed for the Billing Statement for Cloud Services Demo report provided by the CSA_Demo CAP.

If you did not configure the BOE connection while installing ITBA, or if you want to watch demo reports, run the below steps.

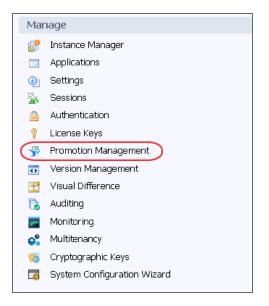
To import the Cloud_Billing.biar or the Cloud_Billing_Demo.biar:

1. Copy the .biar files from the ITBA server:

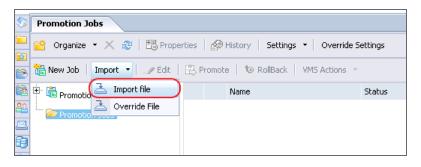
\$HPBA_HOME /ContentPacks/CSA/INBUILT/BI/BOE/Cloud_Billing.biar

\$HPBA_HOME /ContentPacks/DEMO_CONTENT/INBUILT/BI/BOE/Cloud_Billing_ Demo.biar

 Log on to the SAP BusinessObjects Central Management Console (CMC) at: http://<BOE_ Server_IP>:8080/BOE/CMC. 3. Click Promotion Management.



4. Click **Promotion Jobs > Import > Import file**.



5. Click **Choose File** and select the relevant .biar file.

Import from file	? □ ×
Select file from file system:	
File System FTP Choose File	
OK Cancel	

6. In the **Destination** field, select **Login to a New CMS**.

Promotion Jobs New Job ×	
🔛 🗙 🔁 Properties 🌮 History 🛛 Search for Resources	<i>₽</i> н 4
🔁 Add Objects 🖙 Manage Dependencies 🖹 Promote 🕲 Rollback	
Fields marked with an asterisk (*) are mandatory fields	
Name*: New Job1	🗁 Copy an Existing 2
Description:	This job contains the fo Folders, 1 Web Intellige Connection, 1 Universe
Keywords:	
Save Job in*: Promotion Jobs	🗁 Browse
Source : From File V	
Destination : Login to a New CMS Create Cancel)

7. Enter the BOE server IP number or server name, user name, and password, and then click Login.

Fields marked with an asterisk	(*) are mandatory fields					
Name*:	New Job1			i (Conv an Existing Job	
Description:			Login To System : System : User Name :		?	
Keywords:			Password : Authentication :		¥	
Save Job in*:	Promotion Jobs				Login Cancel	
Source :	From File	٣				
Destination :	Login to a New CMS	٣				
	Create					16

8. Click Create to create promotion job.

9. Click **Promote**.

Promotion Jobs New Job1 ×									
🛄 🛛 🗶 📴 Properties 🤌 History Search for Resources 🖉 🖉 History									
🐁 Add Objects 🍓 Manage Dependencies 🌔	🔁 Add Objects 🍇 Manage Dependencies 🔃 Promote 📔 Rollback								
🕂 🛗 New Job1		B	Name 📥	Туре	Created By	Created On			
🕂 💼 All Folders			BA Metrics Reports	Folders	Administrator	Apr 13, 2015 8:13 AM			
		-	Billing Statement for Cloud Services Demo	Web Intelligence	Administrator	Apr 13, 2015 8:13 AM			
🕂 🔊 Universes			Cloud Billing	Folders	Administrator	Apr 13, 2015 8:13 AM			
		2	Cloud Billing Demo	Universes	Administrator	Apr 13, 2015 8:13 AM			
			Cloud Billing Reports	Folders	Administrator	Apr 13, 2015 8:13 AM			
			XS Metrics	Folders	Administrator	Apr 13, 2015 8:13 AM			
		Q .	XS_DWH_JDBC	Relational Connection	Administrator	Apr 13, 2015 8:13 AM			

10. Click Promote.

Promote - New Job1			? 🗆
Security Settings Test Promote	Sou Destir Char	ems Confirmation urce * From File ration file Generation file cts to be promoted (7)	▼ ⊘ Log Off
		Type Folders	Name Cloud Billing BA Metrics Reports Cloud Billing Reports XS Metrics
	04 20 20	Relational Connection Universes Web Intelligence	X5_DWH_JDBC Cloud Billing Demo Billing Statement for Cloud Services Demo
	*	TED UKCINGEILE	Billing Statement for Cloud Services Demo
			Save Promote Schedule Cancel

The .biar file is uploaded successfully.

Promotion Jobs								
📸 Organize 🔹 🔀 🔀 Properties 🍰 History Settings 🔹 Override Settings								
🔚 New Job 🕴 Import 🝷 💷 Edit 🛛	🛗 New Job Import 🔻 🏒 Edit 🖹 Promote 🏷 RollBack VMS Actions 👻							
🛨 💼 Promotion Status	Promotion Status Name Status Created 🔨							
🗁 Promotion Jobs		New Job1	Success	May 4, 2015 5:09 PM				

11. Log on to the **Universe Design Tool** from the BOE Client.



12. Click **Tools > Connections...** Edit the relevant connection.

If you are uploading the CSA CAP, edit **XS_DWH_JDBC**.

If you are uploading the CSA_Demo CAP, edit **XS_EXT_JDBC**.

-1	Connection Panel				×
	Connections List The list of available	connections to ac	cess data		
	🛅 🕽 🥒 🐴 🗙	* 0 8	✓ 🛍		
	Name 🛆	Туре	Network Layer	Database Engine	Folder
	🎁 Conversion Audit	Secured	Oracle OCI	Oracle 10	1
	nonitoring TrendD	Secured	JDBC	Generic JDBC datas	1
	TS_DWH_JDBC	Secured	IDBC	HP Vertica 6.1	1
	TS_EXT_JDBC	Secured	Add	HP Vertica 6.1	1
	🎁 efashion	Secured	Edit	MS Access 2000	1
	🎁 efashion-webi	Secured .	Remove Test	M5 Access 2007	1
			Rename		
			Edit Description		
			Switch to Folder View		
			Properties		
	-				
				Close	Cancel <u>H</u> elp

13. Enter the relevant connection message of the Vertica server and click Next.

👔 Edit XS_DWH_JDBC (connection X
Login parameters [3 Define the login pa	/4] rameters to access your database using JDBC middleware
Authentication Mode	Use specified username and password
User Name	vertica
Password	хожжик
Server (host:port)	5433
Database	xsvertica
Test Connection	< <u>B</u> ack Cancel

14. Click **Next > Finish > Close**.

<pre> file Edit XS_DWH_JDBC connection </pre>	×
Configuration Parameters [4/4] Define the advanced parameters to access your databa middleware	ase using JDBC
Connection Pool Mode	Keep the connection active f
Pool Timeout	10 📫 Minutes
Array Fetch Size	10
Array Bind Size	5
Login Timeout	600 Second
JDBC Driver Properties (key=value,key=value)	
< Back Finish	Cancel Help

The import of the .biar files is complete.

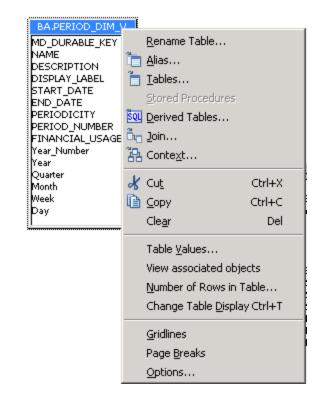
15. By default, the application schema name is **BA**, the extension schema name is **ext**, and the database name is **xsvertica**. If the customer server settings are different, change the as shown below.

a.	Click File >	Import…,	and select the Cloud	Billing	universe directory.
----	--------------	----------	----------------------	---------	---------------------

Import Universe	e X	Select a Universe Folder
	Select a universe domain in the repository to see available universes. Select the universe you want to import. Double-click to lock or unlock a universe. A grayed padlock means someone else has locked the universe.	Available Universe Folders:
Folder:	✓ Browse ✓ Open the selected universes	Conversion Tool Universes Webi universes
Universe Name	Locked by	😑 🧰 XS Metrics
Description:		
	×	OK Cancel
Import Folder:	C:\Users\Administrator\AppData\Roaming\SAP BusinessObjects	
	Browse	
	OK Cancel Help	

b. Select Cloud Billing and click $\ensuremath{\text{OK}}$.

Import Universe			×
	Select a universe domain in the repositor Select the universe you want to import. I a universe. A grayed padlock means som universe.)ouble-clic	vailable universes. k to lock or unlock
<u>F</u> older:	/XS Metrics/Cloud Billing	•	Browse
<u>Available</u> Universe:	Open the selected universes		
Universe Name		Locked	by
Cloud Billing			- /
Cloud Billing De	emo		
Description:			A V
Import Folder:	C:\Users\Administrator\AppData\Ro	aming\SA	P BusinessObjects
		[Browse
	ОК	Cancel	<u>H</u> elp



c. Right-click the relevant table, and select Rename Table.

d. In the **Owner** field enter the correct application schema name and in the **Qualifier** field enter the correct database name.

Rename Table 'BA.PERIOD_DIM_V'	×
Table name:	ОК
PERIOD_DIM_V	Cancel
Owner:	Help
ВА	
Qualifier:	
xsvertica	
Set case to	
Upper case	
Lower case	

e. After modifying all the relevant tables as shown above, click **File > Export...**

- f. Click **OK** to upload the changes to BOE the server.
- 16. Proceed in the same way for the Cloud Billing Demo universe directory.

CSA-Related Reports

The Showback for Cloud Services, Showback for Cloud Services Demo, and the Showback for Consumer Organization Admin reports are available as Dashboard pages when you activate the relevant CSA or CSA_Demo CAPs. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

The reports can also be viewed in a Web Intelligence Viewer component that you can add to a Dashboard page. For details, see The Web Intelligence Report Viewer Component in the *Business Analyst Guide*.

The CSA-Showback for Cloud Services report displays the subscription cost incurred, during the time period specified when the user opened the report, by the organizations for which the user has permission. It also displays the Option Full Name, Property Name, Property Value, and Cost for each selected user subscription. The period granularity of this report is daily. You can search by specific date range, by user name, or by organization name.

The CSA-Showback for Cloud Services report displays the subscription cost incurred by each organization based on demo data.

The CSA-Showback for Consumer Organization Admin report displays the subscription cost incurred by each organization during the time period you specified when you opened the report for the Admin user.

To access:

In the Dashboard, click the CSA-Showback for Cloud Services or the CSA-Showback for Cloud

Services Demo tab, if it is displayed, or click the Page Gallery B button in the Dashboard toolbar, and drag the CSA-Showback for Cloud Services or the CSA-Showback for Cloud Services Demo page outside the Page Gallery box, and close the box.

The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

Troubleshooting

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The billing statement (Showback) report does not display in Chrome and IE

To run the BOE reports in an BA Dashboard page, you must set Chrome to allow the running of unsecure content, by default. If you do not do that, the shield icon is displayed in the browser address bar, each time you start the application.

• In Chrome, click the gray shield on the right top corner of the application, click **Load unsafe script**, and click **Done**.

			a x
		Ø	\$
	This page includes script from unauthenticat	ed sources.	Help 🧲
5TUDIO	Learn more	Done	1
Select	Page 🗸 🌣 🎼 🛍 🏠 😭	~ -@-	0

• In IE, click the Show all content link.

Only secure content is displayed.	What's the risk?		Show all content X
* · · · · ·	,		

The CSA-related Dashboard pages do not open

Make sure you have activated the CSA-related CAPs: CSA or CSA_Demo.

Note: Only one of these two CAPs can be activated at a time in the BA application.

The KPI and the Dashboard CSA-related pages do not display data

Make sure that the CSA data source is activated, then run the ETL, and calculate the KPI. Run the KPI calculation from the Studio.

The Revenue KPI does not display correctly due to a currency problem

Do the following:

- 1. Edit **EXCHANGE.csv**.
- 2. Upload EXCHANGE.csv to %HP_BA%/ContentPacks/CSA/EXTERNAL.
- 3. Run ETL to import exchange data.

Demo data is displayed instead of real data

Make sure you de-activated the CSA_Demo and activate the CSA CAP.

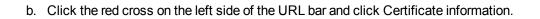
The CSA data source does not activate

Make sure you have imported the CSA SSL Certificate before activating the CSA data source.

To configure the CSA SSL Certificate:

- 1. Export the CSA SSL certificate:
 - a. Access the CSA portal from browser of BA server:

ntsrv.cilab.net/csa/login				
The site's security certificate is not trusted				
You attempted to reach csentsrv.cilab.net , but the server presented a certificate is not trusted by your computer's operating system. This may mean that the server ha security credentials, which Chrome cannot rely on for identity information, or an atta intercept your communications.				
You should not proceed, especially if you have never seen this warning before for th				
Proceed anyway Back to safety				
► <u>Help me understand</u>				



csentsrv.cilab.net Identity not verified	×
Permissions Connection	
The identity of this website has not beer • Server's certificate is not trusted. Certificate information Your connection to csentsrv.cilab.net is	
Site information You have never visited this site before t	oday.
What do these mean?	

c. Click the **Details** tab and click **Copy to File ...**

Certificate	×
General Details Certifica	ation Path
Show: <all></all>	•
Field	Value
Version Serial number Signature algorithm Signature hash algori Issuer Valid from Valid to	V1 00 96 a3 95 18 33 26 0f 6e sha256RSA thm sha256 xs 10v7.fpazsh.com Thursday, November 19, 2015 Tuesday, November 17, 2020 vs 10v7 fpazsh.com
, Learn more about <u>certifica</u>	Edit Properties Copy to File
	ОК

Click Next.



Click Next.

Certificate Export Wizard			
Export File Format Certificates can be exported in a variety of file formats.			
Select the format you want to use:			
DER encoded binary X.509 (.CER)			
Base-64 encoded X.509 (.CER)			
Cryptographic Message Syntax Standard - PKCS #7 Certificates (.P7B)			
Include all certificates in the certification path if possible			
 Personal Information Exchange - PKCS #12 (.PFX) Include all certificates in the certification path if possible 			
Delete the private key if the export is successful			
Export all extended properties			
Microsoft Serialized Certificate Store (.SST)			
Learn more about <u>certificate file formats</u>			
< Back Next > Cancel			

Certificat	te Export Wizard		×
	o Export Specify the name of the file you want to	export	
F	File name:		
[CSA45.cer		Browse
		< Back Next	> Cancel

Click the **Browse...** button and give it a file name, such as **CSA45.cer**, and click **Next**.

Click the **Finish** button.

Certificate Export Wizard		×		
	Completing the Certificate Exp Wizard	port		
	You have successfully completed the Certificate wizard.	Export		
	You have specified the following settings:			
	File Name	C:\Use		
	Export Keys	No		
	Include all certificates in the certification path	No		
	File Format	DER En		
	<	F		
	< Back Finish	Cancel		

The CSA SSLcert file is now exported. In this example, the file is located at C:\software\csa-certificate_fromExplorer.cerC:/software/csa-certificate_fromExplorer.cer.

- 2. Import the certificate to BA keystore:
 - a. Open a command prompt:

```
cd "C:\<HP-BA>\agora\jdk\jre\bin"
keytool -importcert -alias csa -file
"c:\Software\csa-certificate_fromExplorer.cer"
-keystore C:\<HP-BA>\agora\jdk\jre\lib\security\cacerts
-trustcacerts
cd "%HPBA_Home%/jdk/jre/bin"
keytool -importcert -alias csa -file
"c:/Software/csa-certificate_fromExplorer.cer"
-keystore %HPBA_Home%/jdk/jre/lib/security/cacerts
-trustcacerts
```

- b. When prompted for the keystore password, type changeit.
- c. When prompted to trust this certificate, type yes.

```
Administrator: C:\Windows\system32\cmd.exe
                                                                                                                                                                                                                                                   _ 🗆 🗵
 c:\HPXS\agora\jdk\jre\bin>keytool -importcert -alias csa -file C:\software\csa-c
ertificate_fromExplorer.cer -keystore C:\HPXS\agora\jdk\jre\lib\security\cacerts
_-trustcacerts
                                                                                                                                                                                                                                                                 *
-trustcacerts

Enter keystore password:

Owner: CN=192.168.1.76, 0=HP

Issuer: CN=Enterprise Appliance, C=US, ST=California, L=Palo Alto, OU=www.hp.com

, 0=Hewlett Packard

Serial number: 20140827143429

Valid from: Wed Aug 27 07:42:11 PDT 2014 until: Tue Aug 27 07:42:11 PDT 2024

Certificate fingerprints:

MD5: C2:4C:PC:39:7A:93:3D:7B:B3:69:39:0B:D7:98:64:80

SHA1: C4:BA:9E:A8:06:D3:3E:B3:D5:67:58:6C:28:83:FB:4C:AC:0E:DE:42

SHA256: B7:BE:3F:EB:8B:6C2:1B:2C:CE:B0:3D:D4:64:13:E8:2C:19:FA:65:44:E4:

02:70:0E:49:16:AE:AC:FC:8A:EF:9F

Signature algorithm name: SHA1withRSA

Version: 3
Extensions:
#1: ObjectId: 2.5.29.19 Criticality=false
BasicConstraints:[
CA:false
PathLen: undefined
#2: ObjectId: 2.5.29.15 Criticality=false
KeyUsage I
DigitalSignature
Non_repudiation
Key_Encipherment
Data_Encipherment
Key_Agreement
#3: ObjectId: 2.16.840.1.113730.1.1 Criticality=false
NetscapeCertType [
SSL client
SSL server
S/MIME
Object Signing

    #4: ObjectId: 2.5.29.17 Criticality=false
    SubjectAlternativeName I
    DNSName: csentsrv.cilab.net
    DNSName: csentsrv
    IPAddress: 192.168.1.76
    DNSName: 192.168.1.76

#5: ObjectId: 2.5.29.14 Criticality=false
SubjectKeyIdentifier [
KeyIdentifier I
0000: 9B 0E 4D BF F4 55 1D 51 4C E8 83 7B B4 0E 4B A1 ..M..U.QL.....K.
0010: 7A FD FC F0 z...
Trust this certificate? [no]: yes
Certificate was added to keystore
 c:\HPXS\agora\jdk\jre\bin}_
```

- d. Restart the HP Executive Scorecard Service from the Services Windows admin tools.
- e. Run %HP_BA_Home%/supervisor/bin/hpba-restart.sh to restart BA.
- f. Wait a few minutes for the services to fully start.

Consumer user data is not displayed

Configure the <HP-XS>\agora\ContentPacks\CSA\conf\csa.properties%HP_BA_ Home/ContentPacks/CSA/conf/csa.properties file and remove the invalid users.

Orga	anizer 🛛 😑 SGDLITVM0153.hpswlabs.ada 🕞 Georgeauto 🛛 🍚 SGDLITVM0589.hpswlabs.ada			
🏹 С:\НР	C:\HPX5\agora\ContentPacks\C5A\conf\csa.properties - Notepad++			
File Edil	t Search View Encoding Language Settings Macro Run Plugins Window ?			
lo 🖻) 🖽 🖻 💫 📭 📥 🖌 🍋 🕒 🕒 🗢 🗠 📾 🏣 🔍 🤜 🖾 🚘 🛯 🏣 🌌 🔍 💌 🗉			
📕 httpd	I-ssl.conf 😑 csa.properties			
1	# Timeout for one REST request. The unit is minute.			
2	timeout = 10			
3	# Thread pool limitation			
4	threadPool = 10			
5	<pre>nodeDelimiter = ^,^</pre>			
6	propertyDelimite = ^ ^			
7	<pre>propertyValueDelimiter = ^=^</pre>			
8	invalidUsers = cdaInboundUser,csaReportingUser,ooInboundUser,admin			
9				

The CSA cost lags by one day

ETL only get data for the last closed date, so for the current date, you must wait for 1 more day. This issue will be fixed in a patch after version 9.50.

Configure the Flash player plugin

Disable the Chrome embedded Flash, and install the Adobe Flash plugin.

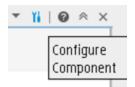
Name:	Shockwave Flash				
Description:	Shockwave Flash 15.0 r0				
Version:	15.0.0.189				
Location:	$\label{eq:constraint} C:\Users\target expression \label{eq:charget} C:\Users\target expression \label{expression} C:\Users\target expression expression$				
Type:	PPAPI (out-of-process)				
	Enable				
MIME types:	MIME type	Description	File extensions		
	application/x-shockwave-flash	Shockwave Flash	.swf		
	application/futuresplash	FutureSplash Player	.spl		
Name: Description: Version:	Shockwave Flash Shockwave Flash 11.7 r700 11,7,700,169 C:\Windows\SvsWOW64\Macr	omed\Flash\NPSWF3	2 11 7 700 169.dll		
Location:					
Location: Tyne:	NPAPI				
Location: Type:	NPAPI Disable				
		Description	File extensions		
Туре:	<u>Disable</u>	Description Adobe Flash movie	File extensions		

Hide the INVALID and UNKNOWN columns

The **INVALID** / **UNKNOWN** columns are the default columns for KPIs in BA. Based on the data that BA has to generate KPIs, these columns may or may not have proper data to display in a Dashboard page.

To hide these default columns, complete the following steps:

- 1. Open the component that shows the INVALID / UNKNOWN columns.
- 2. Click "Configure Component" option from the tray.



3. Select a number from the **Maximum number of slices** list that is higher than the number of slices that are displayed in the component. For example: The number of slices displayed in a component

are 3 then by selecting 4 from the pick list, the UNKNOWN and INVALID columns are replaced with the OTHER column.

How to Schedule the ETL

To schedule a batch job:

 Select ADMIN > Content Flow Management > Add Scheduler to configure the ETL run schedule.

The Stream Scheduler dialog box opens.

- 2. Select the Load -Batch Scheduler tab.
- 3. Select the relevant Schedule Type and times and click Save.

To schedule the run_steps command:

- Select ADMIN > Content Flow Management and click in the Stream Information area. The Stream Scheduler dialog box opens.
- 2. Select the Run-Steps Scheduler tab.
- 3. Click Add New to create a new schedule for a specific stream.
- 4. Click Save.
- 5. Click **Delete** to delete a displayed schedule. You can then add a new one to replace it.

How to Schedule the KPI engine

In this section, you will learn how to schedule an automatic context calculation, so the calculation runs automatically according to your configuration and the data that is presented in the Dashboard is the latest data. The calculation engine will then run automatically according to your settings.

To schedule a business context calculation

- 1. Click the Studio tab.
- In the Active KPIs pane, select the relevant KPI, click the Calculation options button, and select the option.
 Note that you schedule the calculation per Business Context.
- 3. In the Business Context Calculation Scheduling dialog box, select the relevant business context in the drop down **Business Context** list, and in the **Schedule details** area, enter the day and time

when you want to run the scheduled calculation.

4. Click Save.

The BA Dashboard pages are not displayed in the CSA portal

Make sure you configured the BA website SSL. For details, see "Configure the BA Website Browser SSL" on page 122.

Make sure to use the correct out-of-the-box CSA

Make sure that you are using the out-of-the-box CSA provided by Amazon Service Design, vCenter Service Design, and Hyper-V service design in their service offering and related subscriptions, so the following KPIs display their values in Business Analytics:

- Network Traffic
- Public vs Private Cloud Spending
- Number of Used Instances
- Amount of Used Storage
- % of Server Utilization
- Resource Provider Cost

The Service Designs are as follows:

• For Amazon service design, the service design name is CSL_BP_AMAZON_EC2_COMPUTE_ 3.10.

Integration with PPM

Project and Portfolio Management (PPM) Software provides an integrated platform for planning, staffing and monitoring Agile development projects, as well as managing application quality. PPM Center offers a consolidated view of all IT activities so that management has better visibility into the portfolio, more effective controls, greater flexibility in applying automated processes, and better-defined quality standards.

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Project and Portfolio Management data source.

The purpose of the integration of PPM as a data source is to bring quality management information into the Data Warehouse.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select PPM to activate the integration processes for the PPM data source.





Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the *Administrator Guide*.

Important Information

- The PPM Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.



This section includes:

Activate the Integration	
Consolidate PPM and ALM	216
Dimensions that are filled by XLSs	
PPM-Related KPIs and Metrics	218

Activate the Integration

- 1. Select **ADMIN** > **Data Management** > **Install Content Pack** then click the install button relevant for the data source.
- 2. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 3. The Add Data Source page opens. Select the **PPM** data source type.
- 4. Select or enter the configuration parameters.
- 5. Click Next to proceed to the validation page.

Consolidate PPM and ALM

If you are integrating ALM and PPM data sources, the consolidation process between ALM and PPM identifies ALM releases as child- projects of PPM projects. You can map which release of the ALM domain is connected to the specific PPM project. The manual mapping must be performed before running ETL. For details, see Consolidate Between ALM and PPM in the *Content Reference Guide*.



PPM Activation Page

The data warehouse is connected to Project and Portfolio Management through high-level integration processes. A set of database views enables the extraction of the main PPM objects.

Data Source Wizard		Help 🗙
PPM (Project Portfolio Management)		
*Instance name :		
PPM Version :	9.1/9.2	
Time Zone :	Asia/Jerusalem 🗸 🗸	
Data Source Type :	Oracle	
*Username :	< <enter username="">></enter>	
*Password :		
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>	
Port :	< <default: 1521="" oracle="">></default:>	
SID :	< <if entered,="" mandatory="" name="" not="" service="">></if>	
Service Name :	< <if entered,="" mandatory="" not="" sid="">></if>	
Schema Name :	< <enter schema="">></enter>	
Initial Load Period (months) : 6		
	Back Next Cano	tel

Mandatory fields are marked with a red asterisk.

User interface elements are described below:

Note: The Oracle database can have both Server ID (SID) and Service Name properties, but the

user should specify only one. If you define the SID, then the SID is used, and if you define Service Name, then Service Name is used. If you define both in the UI, only SID is used.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
PPM Version	Select the relevant PPM version. For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	PPM can be run only on Oracle.
Username	Enter your username used to log on to the PPM database.
Password	Enter your password used to log on to the PPM database.
Hostname/IP Address	Enter the Oracle server database hostname or IP address.
Port	Port for database connections.
SID	Enter the unique name of the database.
Service Name	Enter the alias used when connecting.
Schema Name	Enter the name of the Schema.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.



Dimensions that are filled by XLSs

- Budget
- Cost Category

PPM-Related KPIs and Metrics

For details about the KPIs and Metrics related to the integration with PPM, see KPIs and Metrics in the *Content Acceleration Packs Guide.*

Integration with SA

This section describes the integration, contexts, KPIs, Metrics, and reports, if any, associated with the integration with the Server Automation data source.

Server Automation (SA) enables you to govern the full spectrum of your software management requirements. With SA policy-based software management you can automate software installation and application configuration, and ensure that managed servers are compliant with software policies.

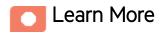
Note: Information about the ALT data source and more general content issues are detailed in the *Content Reference Guide*.

The purpose of the integration of SA as a data source is to bring quality management information into the Data Warehouse.

To access:

Select ADMIN > > Data Management > Connect Data Source then click Add data source and select SA to activate the integration processes for the SA data source.

Learn More	Tasks	UI Description	Reference
------------	-------	-----------------------	-----------



Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the *Administrator Guide*.

Important Information

- The SA Content Pack supports multiple instances.
- All fields are case-sensitive.



This section includes:

Activate the Integration

1. Prerequisite:

- Make sure that the Server Automation Platform is ready for use, meaning a set of APIs and a runtime environment that facilitate the integration and extension of SA.
- Check the Support Matrix for supported versions.
- 2. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 3. The Add Data Source page opens. Select the **SA** data source type.
- 4. Select or enter the configuration parameters.
- 5. Click **Next** to proceed to the validation page.



SA Activation Page

Data Source Wizard		Help \times
SA (Server Automation)	
*Instance name :		
SA Version :	9.00	
Time Zone :	Asia/Jerusalem 🗸	
Data Source Type :	SA ~	
*Username :	< <enter username="">></enter>	
*Password :		
*Hostname/IP Address : *Port :	<< <i>Enter hostname or IP address</i> >> 443	
Initial Load Period (months)	: 6	
	Back Next Cano	el

Mandatory fields are marked with a red asterisk.

User interface elements are described below:

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
SA Version	Select the relevant SA version. For details, see the Support Matrix.
Time Zone	Select the time zone for the data source.
Data Source Type	Oracle
	This parameter is read only.
User	Enter your username used to log on to the SA database.
Password	Enter your password used to log on to the SA database.
Hostname/IP Address	The remote server on which the SA database resides.
Port	Enter the port in the SA server which waits for connections from the SDK Client side. By default, the port number is 443. Enter the port of the SA DB. By default, the port number is 1521.
SID	Enter the unique name of the database.
Service Name	Enter the alias used when connecting.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.



SA-Related KPIs and Metrics

For details about the KPIs and Metrics related to the integration with SA, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Integration with SM

This section describes the integration, contexts, KPIs, Metrics, and reports associated with the integration with the Service Manager data source.

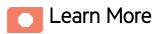
Service Manager (SM) is a comprehensive and fully integrated IT Service Management software suite that enables IT to improve service levels, balance resources, control costs, and mitigate risk exposure to the organization.

The purpose of the integration of SM as a data source is to bring quality management information into the Data Warehouse.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select SM to activate the integration processes for the SM data source.





Content Packs and their functionality

To learn about Content Packs and their functionality see, Connect the Data Source in the *Administrator Guide*.

Important Information

- The SM Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.
- SM DBdict (Database Dictionary) Interface: The structure of the SM database may differ

according to SM version. The SM FBIDCS extractor uses the DBdict interface containing the map between entities and physical tables. Dbdict interface for SM, maintains a logical view of RDBMS tables and columns in the database dictionary. DBdict describes how each table and column in your system is mapped to logical entities within SM. The SM applications use the logical definitions in the database dictionary to query and manage the actual records in your RDBMS. DBDict is used to avoid SM version compatibility issues.

🔼 Tasks

Activate the Integration

1. Prerequisite:

The SM data source can work with either the Oracle, SQL Server, or DB2 Server type.

- 2. Select **ADMIN** > **Data Management** > **Install Content Pack** then click the install button relevant for the data source.
- 3. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 4. The Add Data Source page opens. Select the **SM** data source type.
- 5. Select or enter the configuration parameters.
- 6. Click **Next** to proceed to the validation page.



SM Activation Page

The data warehouse is connected to SM through high-level integration processes.

User interface elements are described below:

For the SQL server

The following is an example of the SM Activation page when SM is installed on an SQL server.

Mandatory fields are marked with a red asterisk.

Data Source Wizard		Help 🗙
SM (Service Manager)		
*Instance name :		
SM Version :	7.11/9.2/9.3(dbdict)	
Time Zone :	Asia/Jerusalem 🗸	
Data Source Type :	MSSQL(dbdict)	
*Username :	< <enter username="">></enter>	
*Password :		
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>	- 1
Port :	< <default: 1433,="" 1521,="" 50000="" db2="" mssql="" oracle="">></default:>	
Database Name :	< <enter database="" name="">></enter>	
Initial Load Period (months)	: 6	
	Back Next Cano	:el

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
SM Version	Select the relevant SM version. For details, see the <i>Support Matrix</i> .
Time Zone	UTC is recommended.
Data Source Type	 Select MSSQL(dbdict). It is recommended to configure SM to run on an SQL Server through DBdict (SM application interface).

UI Element	Description
	 Select MSSQL(Non dbdict) Configure SM to run on a regular MSSQL server.
Username	Enter your username used to log on to the SM database.
Password	Enter your password used to log on to the SM database.
Hostname/IP Address	Enter the SQL data source hostname or IP address. If you connect to Named Instance, enter: <host_name b="" ip<="" or=""> Address>\<instance_name></instance_name>.</host_name>
Port	Port for database connections.
Database Name	Enter the name of the database for the MS SQL server.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

For the Oracle server

Note: The Oracle database can have both Server ID (SID) and Service Name properties, but the user should specify only one. If you define the SID, then the SID is used, and if you define Service Name, then Service Name is used. If you define both in the UI, only SID is used.

The following is an example of the SM Activation page when SM is installed on an Oracle server.

Mandatory fields	are marked with a red asterisk.
------------------	---------------------------------

Data Source Wizard		Help 🗙
SM (Service Manager)		
*Instance name :		
SM Version : Time Zone :	7.11/9.2/9.3(dbdict) Asia/Jerusalem	
Data Source Type :	Oracle(dbdict)	
*Username :	< <enter username="">></enter>	
*Password :		- 1
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>	
Port :	< <default: 1433,="" 1521,="" 50000="" db2="" mssql="" oracle="">></default:>	
SID :	< <if entered,="" mandatory="" name="" not="" service="">></if>	
Service Name :	< <if entered,="" mandatory="" not="" sid="">></if>	
Schema Name :	< <enter schema="">></enter>	
Initial Load Period (months)): 6	
	Back Next Can	cel

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
SM Version	Select the relevant SM version. For details, see the <i>Support Matrix</i> .
Time Zone	Select the time zone for the data source.
Data Source Type	 Select Oracle(dbdict). It is recommended to configure SM to run on an Oracle Server through DBdict (SM application interface).

UI Element	Description
	• Select Oracle(Non dbdict) Configure SM to run on a regular Oracle server.
Username	Enter your username used to log on to the SM database.
Password	Enter your password used to log on to the SM database.
Hostname/IP Address	Enter the Oracle data source hostname or IP address. If you connect to Named Instance, enter: <host_name ip<br="" or="">Address>\<instance_name>.</instance_name></host_name>
SID	Enter the unique name of the database.
Service Name	Enter the alias used when connecting.
Schema Name	Enter the name of the Schema.
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.

For the DB2 server

The following is an example of the SM Activation page when SM is installed on a DB2 server.

		11-1
Data Source Wizard		Hel
SM (Service Manager)		
*Instance name :		
SM Version : Time Zone :	7.11/9.2/9.3(dbdict) ~	
Data Source Type :	DB2(dbdict)	
*Username : *Password :	< <enter username="">></enter>	
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>	
Port :	< <default: 1433,="" 1521,="" 50000="" db2="" mssql="" oracle="">></default:>	
*Database Name :	< <enter database="" name="">></enter>	
*Schema Name :	<enter name="" schema=""></enter>	
Initial Load Period (months)	: 6 ~	

Mandatory fields are marked with a red asterisk.

UI Element	Description
Instance name	Enter a name for the data source instance you are activating.
SM Version	Select the relevant SM version.
	For details, see the Support Matrix.
Time Zone	UTC is recommended.

Back

Next

Cancel

X

UI Element	nent Description	
Data Source Type	urce Select DB2(dbdict). Configure SM to run on an IBM DB2 database.	
Username	Enter your username used to log on to the SM database.	
Password Enter your password used to log on to the SM database.		
Hostname/IP Address	Enter the data source hostname or IP address. Currently only the default port for connecting to MS SQL data sources is supported.	
	There is no option to connect to a SQL server named instance. Only the default instance is supported.	
Port	Port for database connections.	
Database Name	Enter the name of the database for the MS SQL server.	
Schema Name	Enter the db_owner of the source entities for the Oracle server, if your user who deploys the data source is not the db_owner of the source entities.	
	When integrating with SM 7.11, make sure the name does not include the double- quote character as the character is not supported by the Data Collection Service (DCS).	
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.	



SM-Related KPIs and Metrics

For details about the KPIs and Metrics related to the integration with SM, see KPIs and Metrics in the *Content Acceleration Packs Guide*.

Integration with vPV

The integration with VPV (Virtual Performance View) as a data source enables accessing vCenter and HP Helion data.

The purpose of the integration of VPV as a data source is to bring this information into the Data Warehouse.

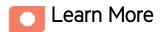
Virtual Performance Viewer (vPV) is a web-based analysis and visualization tool that analyzes performance trends of elements in virtualized environments. vPV gives you at-a-glance visibility across your virtual environment for real-time insights into performance, capacity, and health. This helps you to optimize your infrastructure and quickly solve virtualization and cloud performance issues. It enables virtualization monitoring by providing an overview of the environment, near-real-time and historical data analysis and triaging using an interactive dashboard. It also enables monitoring for cloud and hypervisor environments. HPE vPV provides performance monitoring, graphing, and reporting in a single interface.

The data extracted from vPV is correlated to the data available in the KPIs and reports available in the CSA CAP. For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.

To access:

Select ADMIN > Data Management > Connect Data Source then click Add data source and select VPV to activate the integration processes for the VPV data source.





Content Packs and their functionality

To learn about Content Packs and their functionality, see Connect the Data Source in the Administrator *Guide*.

Important Information

- The VPV Content Pack supports multiple instances.
- **DCS Integration:** An extractor using the Data Collection Service mechanism that extracts entities from the source and generates corresponding flat files. For details, see Data Collection Service (DCS) in the *Administrator Guide*.
- All fields are case-sensitive.
- VPV must be activated with the CSA data source. If you activate VPV alone, only the cost fact information is displayed, without the ability to drill down further.

Note: When configuring VPV reports:

- VPV Custom reports are not supported, therefore it is recommended to select the Daily report option.
- Only cost reports are supported.
- When you generate a report in vCenter Chargeback Manager, you cannot select the following values:
 - Disk Read
 - Disk Write
 - Network Transmitted
 - Network Received

Although the combined disk read and write utilization data and the combined network transmitted and received utilization data can be fetched and included in the report, the split utilization data for disk read, disk write, network transmitted, and network received is unavailable.

When using both the AWS and VCM data sources. Both the AWS and the VCM data sources offer the same type of information. If you integrate with both data sources, the values provided by the relevant Metrics might combine. For example, the Number of Used Instances Metric calculates how many VMs users are using the hybrid cloud environment. Both of the AWS data source (100 VM subscriptions) and the VCM data source (300 VM subscriptions) include this information. If, for example, you work with AWS only, the Number of Used Instances Metric is 100. If you work with VCM only, the Number of Used Instances Metric is 300. If you work with both data source, the Number of Used Instances Metric is 400.

The cloud-related reports (Dashboard pages) provided in the CSA_CAP and CSA_Demo_CAP CAPs combine integrated data from the following data sources Cloud Service Automation (CSA), Amazon Web Services (AWS), Amazon Web Service CloudWatch (AWSCW)

For details, see CSA_Demo and CSA Content Acceleration Packs in the *Content Acceleration Packs Guide*.



This section includes:

Change the default price of the vPV private cloud resources	. 233
vPV-Related KPIs and Metrics	235

Activate the Integration

- 1. Select ADMIN > Data Management > Connect Data Source then click Add data source.
- 2. The Add Data Source page opens. Select the VPV data source type.
- 3. Select or enter the configuration parameters.
- 4. Click **Next** to proceed to the validation page.

Change the default price of the vPV private cloud resources

To help you calculate the cost for vPV supported private cloud resources (CPU, Memory, Disk), ITBA has pre-configured their default prices.

To change the default price:

- 1. Log on to the ITBA server.
- Edit the last column in the PRICING_MODEL.csv located in \$HPBA_ Home/ContentPacks/vPV/EXTERNAL. The column provides the unit price.
- 3. Save.

The new pricing model will be valid in the next ETL run.



VPV Activation Page

The following is an example of the VPV Activation page for MS SQL server.

Data Source Wizard			Help 🗙
VPV (Virtualization Performa	ince Viewer)		
*Instance name :]	
VPV Version :	3.0 ~]	- 1
Time Zone :	NA ~	j	
Data Source Type :	VPV ~]	
*Username :	< <enter username="">></enter>		
*Password :			
*Hostname/IP Address :	< <enter address="" hostname="" ip="" or="">></enter>		
*Port :	8444		
Initial Load Period (months) :	1 ~]	
	Back	Next Cance	el de la companya de

User interface elements are described below:

For the SQL server:

If the VPV configuration is for a named instance connection, make sure to enter the named instance port.

UI Element	Description	
Instance name	Enter a name for the data source instance you are activating.	
VPV Version	Select the relevant VPV version. For details, see the Support Matrix.	
Time Zone	Time zone must be UTC.	
Data Source Type	VPV. This parameter is read only.	
vpvUsername	Enter your username used to log on to the VPV web application.	
vpvPassword	Enter your password used to log on to the VPV web application.	
Hostname/IP Address	Enter the hostname or IP address on which VPV is installed.	
Port	Port for VPV web application.	
Initial Load Period (months)	Select the number of months from which you want the initial data loaded.	



vPV-Related KPIs and Metrics

The KPIs and Metrics related to the integration with vPV are part of the integration with CSA. For details, see "CSA-Related KPIs and Metrics" on page 181.

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 Content Reference Guide (IT Business Analytics 10.00)

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 SW-Doc@hpe.com.

We appreciate your feedback!



