

Knowage Documentation

Knowage server installation

Before install Knowage server, check whether following pre-requirements are available.

- Mysql server 5.5 or above version
- Java 1.8
- 2 GB of free space on file system

Download Knowage server CE in

https://forge.ow2.org/project/showfiles.php?group_id=442&release_id=6006

Extract zip folder and run catalina.sh file which is in bin folder. (Knowage server has embedded tomcat 7 server.)

Set up the configurations and choose 'high-js charts' option when executing very first time.

Knowage Report Designer installation

Download the Knowage Report Designer from

https://forge.ow2.org/project/showfiles.php?group_id=442&release_id=6006

Extract the zip folder and execute KnowageReportDesigner file.

Create Hive connection

Download Cloudera_HiveJDBC4 jar file collection and add them into Knowage engines (knowage birt report , knowage cockpit)

Add following jar files to engines.

- commons-codec-1.3.jar
- commons-logging-1.1.1.jar
- hiveJDBC4.jar
- hive_metastore.jar
- hive_service.jar
- httpclient-4.1.3.jar
- httpcore-4.1.3.jar

- libfb303-0.9.0.jar
- libthrift-0.9.0.jar
- log4j-1.2.14.jar
- ql.jar
- TCLIServiceClient.jar
- zookeeper-3.4.6.jar

Create Mysql connection

Download mysql-connector-java 5.1.45 (jdbc driver) and add it into lib folder which is in Knowage engines (knowage birt report , knowage cockpit)

Create a Datasource

In the **administrative menu** there is a sub panel called **Data providers**. In there select **data source** for create a new data source.

By clicking the Add button (+) on the top right corner of the left panel, an empty form will be displayed on the right. In that form enter values for following properties.

Label - Mandatory identifier of the data source

Description - Description of the data source

Dialect - The dialect used to access the database. Supported dialects are:
Oracle, SQL Server, HSQL, MySQL, PostgreSQL, Ingres, DB2, AS400

Read only - Available options are: Read Only and Read-and-write.

Write default - If a data source is set as Write Default then it is used by Knowage for writing temporary tables also coming from other Read Only data sources

Type - The available options are JDBC or JNDI

If jdbc is selected you have to fill following fields.

Url - database url

User - database username

password - database password

Driver - driver class name

If JNDI is selected, you have to fill following fields.

Multischema - Available options are Yes or No

Jndi name : java:comp/env/jdbc/<resource_name> - not multischema
java:comp/env/jdbc/<prefix> - multischema

Example : Mysql datasource

- Label - mysql_datasource
- Description - mysql datasource
- Dialect - Mysql
- Read only - read and write
- Write default - no
- Type - jdbc
- Url - jdbc:mysql://localhost:3306/*database_name*
- username - root password - root
- Driver - com.mysql.jdbc.Driver

Example : Hive datasource

- Label - hive_datasource
- Description - hive datasource
- Dialect - HiveSQL
- Read only - read and write
- Write default - no
- Type - jdbc
- Url - jdbc:hive2://localhost:10000/*database_name*
- username - password -
- Driver - org.apache.hive.jdbc.HiveDriver

Then test the data connection selecting **Test** option. If it is successful then **save** the datasource.

Create a dataset

Select **Data set** option in **Data providers** panel.

There are different type of datasets can be created. Following are the available dataset types.

- Query
- Java class
- File
- Script
- Qbe
- Custom
- Flat

In here, **query** dataset type is used to create dataset.

To add a new dataset click **add** (+) button. If dataset is similar to other existing dataset then click **clone** button to create a copy of dataset. To remove the existing dataset click **remove** button.

Once you have clicked the **Add** button, you can fill in the dataset definition form.

In the Detail tab you have to define the Name, the Label and an optional Description of the dataset. In the Scope tab you can choose one option between enterprise, user, technical options. Then after specify the category option.

In the **Type** tab you can define the type of dataset. First select the type of dataset and datasource name. Then after according to the type next fields will be displayed. When creating query type dataset you have to enter the query which is going to select data from the datasource.

Example :

Detail section

- Label : hive_data
- Name : Hive data
- Description : this contains data from hive data source
- Scope : Enterprise
- Category : Default dataset category

Type section

- Dataset type : Query
- Datasource : hive_datasource

- Query : select time_stamp, sp_id, ncs, operator_name, (sp_revenue + 0.0) as sp_revenue , (total_amount_sp + 0.0) as total_amount_sp
- from knowage_report

Then after preview the dataset clicking **preview** button. Then save the dataset by clicking **save** button.

Note : If you are going to use measurement columns then click **metadata** button and change the attribute option of selected column into measure option.

Create a cockpit

You can create a new Cockpit from the **Analysis** area of the **Workspace** by clicking on the “**Plus +**” icon and selecting **Cockpits**.

Then it will show an empty cockpit page with different options.

In there click **cockpit menu** and then add a widget using **Add widget** button. There are different type of widgets are available. You can add a Text , an Image , a Chart , a Table , a Static Pivot Table or a Document to the cockpit.

In following explains how a cross-tab table is created.

From widgets select cross-tab widget. Then you will get a window which has three side tabs. Dataset tab, Configuration tab and Style tab.

Using the “**Dataset**” tab the user can add the dataset to take values from. First select the dataset name and then its fields will be appeared on left side. Then after drag and drop suitable fields for rows, columns and measures. Using **style** section, fonts and other features can be set. Using **configuration** tab, sub-totals and grand totals can be added. Click save button to save changes that you have made. Then after cross-tab table will be displayed in there.

Note : If you get “Unable to load data from dataset test. Please check dataset & widget config”. Clear the cache using **clear cache** button and refresh the widget.

Create a birt report

First, create a birt report using Knowage Report Designer.

In **document development** section, there is a plus icon to add documents. Click that button and select **Generic document**. Then a form will be appeared.

Label - label name for report

Name - name for report

Description - description

Engine - birt report engine

Datasource - select the suitable data-source name

State - development

Criptable - false

Visible - true

Template - select the birt report template file (.rptdesign file).

Then select the place in functionalities tree and save the document.

If you need to create parameterized reports, you can add analytical drivers.

Parameterized reports

When creating birt report, you have to define parameters.

Right-click on Report Parameters in the tree panel and select **New Parameter** . Here you can set the data type and choose a name for your parameter. Give a default value to that parameter.

Once you have defined all parameters, open the (or create a new) dataset. Parameters are identified by a question mark ? . For each ? that you insert in your query, you must set the corresponding link in the Parameters tab.

Then create a LOV (List Of Value) in Knowage server. Select **LOV Management** from admin panel. Create a new LOV including following details.

Label : Label name for LOV

Name : Name for LOV

LOV Type : select the type of LOV

If LOV type is query following fields will appear.

Label : data source name

Query Definition - query that get values for LOV

Test and save the LOV.

Create an analytical driver

Provide following details when creating **analytical driver**.

Label : label name for analytical driver

Name : name for analytical driver

Type : type of driver date / number / string

Functional : select if it is functional

Temporal : select if it is temporal

After filling fields click **save** button.

Then after create a new use model in there. Click **Analytical driver use mode details** tab. Enter details for following fields.

Label : label name for use mode

Name : name for use mode

LOV / Manual input : select suitable type

If Manual input has been selected

Default value : none/ use a love / Pick up

If LOV has been selected

Select LOV - select suitable LOV name

Select Modality - select from list / combo box

Default value : none/ use a love / Pick up

Then after, select the roles and predefined constraints as your requirement.

To save the use mode click **save** button.

After creating analytical driver add that driver to suitable report in Knowage.

Note : When adding driver, provide parameter name in birt report engine as url in driver section.