



# Red Hat JBoss Data Virtualization

## 6.3

### Using the Dashboard Builder

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This is a more advanced guide that introduces the Dashboard Builder. Some prior experience is required and you need to have data sources configured to use this guide. If this is not the case for you, please explore the Installation and Administration Guides first.

David Sage



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## Abstract

This document provides an overview of the Dashboard Builder. It is for more advanced users who already know how to configure data sources.

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## 1. INTRODUCTION AND GOALS OF THIS ARTICLE

Now that you have installed Red Hat JBoss Data Virtualization successfully and explored the quick starts, you can look at the Dashboard Builder. Note that this article is aimed at more advanced users and it requires you to have a data source already configured. If you are a less advanced user, Red Hat recommends you read the Installation Guide and Administration Guide before proceeding to work through this article.

## 2. WHAT IS THE DASHBOARD BUILDER?

JBoss Dashboard Builder is an open source dashboard and reporting tool that allows you to do the following:

1. Configure dashboards visually.
2. Create graphical representation of KPIs (Key Performance Indicators).
3. Create definitions of interactive report tables.
4. Filter and search from both in-memory and database sources.
5. Process execution metrics dashboards.
6. Extract data from external systems.
7. Configure access to systems.

## 3. PRACTICAL TUTORIAL: LOG INTO THE DASHBOARD BUILDER

Now that you know a little about what the Dashboard Builder can do, you can log into it and have a look for yourself.

### 3.1. Prerequisites

Name	Description
Red Hat JBoss Data Virtualization	Red Hat JBoss Data Virtualization must be installed and running. (Please refer back to the Getting Started Guide if you need a refresher on this.)
Dashboard Builder Account and Password	You must have a valid account and password. (You would have set this up during installation.)
A pre-configured data source	Red Hat JBoss Data Virtualization must be connected to a data source before you proceed with this work.

### 3.2. Log into the Dashboard Builder

1. Navigate to JBoss Dashboard Builder in your web browser. The default location is <http://localhost:8080/dashboard/>.
2. Log in using a valid username and password.

## 4. PRACTICAL TUTORIAL: USING THE DASHBOARD BUILDER FOR THE FIRST TIME

1. Click the **Create Workspace** icon to create new workspace properties.
2. Give the workplace a name and then press **Create Workspace**.
3. Click on the new workspace to edit the details.
4. Set the **User Home Search** to be **current page** and press save to set the URL,
5. From the tree of workspaces on the left, expand to Workspaces/workspace and click on Pages (which will be empty on the right).
6. On the far right, click on the **Page** icon to create new page
7. Enter the page name and press **Create New Page**.
8. Click on **Workspace** (found in the top drop-down list). Select the page you just created.
9. To add a tree menu panel click on the **puzzle** icon to create a panel, expand **Navigation** to select the Tree menu, drag the **Create Panel** to the page (you will see the page locations appear) and drop it on one of the left-hand location.
10. To add a log-off panel, click on the **puzzle** icon to create a panel, expand **Navigation** to select the Tree menu and drag the **Logout Panel** from the page to the top right-hand side.
11. To add a graphic panel, click on the **puzzle** icon to create a panel , expand **Dashboard** to select Key Performance Indicator (KPI) and drag the **Create Panel** to one of the central locations.
12. The next dialog box will appear, asking you to choose an instance. (You should see your data provider). Go into the KPI editor and enter the KPI name and select the graph type.
13. There is no **Save** button to complete this page. Simply close the window to complete the task.
14. Enter page name and press create new page.

## 5. PRACTICAL TUTORIAL: CONNECTING TO A DATA SOURCE

This next exercise is optional and relies on you having an external data source available to use. In the exercise, we are going to connect to an external data source via the Dashboard Builder. We are going to be largely covering the same ground as in the exercise above but we will be going into a little more detail to make you really familiar and comfortable with the technology.

You can connect either to a JNDI data source, that is, a data source set up and accessible from the application container, or directly to the data source as a custom data source, if the application container has the correct JDBC driver deployed.

Here is how you connect to an external data source:

## 5.1. Prerequisites

Name	Description
Red Hat JBoss Data Virtualization	Red Hat JBoss Data Virtualization must be installed and running. (Please refer back to the Getting Started Guide if you need a refresher on this.)
Dashboard Builder Account and Password	You must have a valid account and password. (You would have set this up during installation.)
A data source	You must have a data source to which you can connect.

1. Make sure the data source is up and running and that the application server has access to the data source. (Check the driver, the login credentials, etc. In Red Hat JBoss EAP 6, you can do so in the Management Console under Subsystems → Connector → Datasources)
2. In Dashboard Builder, on the Tree Menu (by default located on the **Showcase** perspective), go to Administration → External connections.
3. On the displayed External Connection panel, click the **New DataSource** button.
4. Select the data source type (JNDI or Custom DataSource) and provide the respective data source parameters.

You must now create a new data source:

To create a new data provider, do the following:

1. In the **Tree Menu** (the panel in the lateral menu of the Showcase workspace), click Administration → Data providers.
2. In the **Data Providers** panel, click the **Create new data provider** button.
3. In the updated **Data Providers** panel, select the type of the data provider (depending on the source you want the data provider to operate on) from the **Type** menu.
4. Define the data provider parameters:
  - a. Data provider over a CSV file
    - i. Name: user-friendly name and its locale
    - ii. CSV file URL: the url of the file (for example, <file:///home/me/example.csv>)
    - iii. Data separator: the symbol used as separator in the CSV file (the default value is semicolon; if using comma as the separator sign, make sure to adapt the number format if applicable)



- iv. Quoting symbol: the symbol used for quotes (the default value is the double-quotes symbol; note that the symbol may vary depending on the locale)
  - v. Escaping symbol: the symbol used for escaping the following symbol in order to keep its literal value
  - vi. Date format: date and time format
  - vii. Number format: the format of numbers as resolved to thousands and decimals
- b. Data provider over a database (SQL query)
    - i. Name: user-friendly name and its locale
    - ii. Data source: the data source to query (the default value is local, which allows you to query the Dashboard Builder database)
    - iii. Query: query that returns the required data
5. Click **Attempt data load** to verify the parameters are correct.
  6. Click **Save**.
  7. In the table with the detected data, define the data type and if necessary provide a user-friendly name for the data. Click Save.

The data provider can now be visualized in an indicator on a page of your choice.

Next, you must create a workspace again:

1. Click the **Create workspace** button on the top menu. The management console with the Workspace node expanded and workspace management area with workspace details on the right is displayed.
2. In the **Create workspace** table on the right, set the workspace parameters:
  - a. Name: workspace name and its locale
  - b. Title: workspace title and its locale
  - c. Skin: skin to be applied on the workspace resources
  - d. Envelope: envelope to be applied on the workspace resources
3. Click **Create workspace**.
4. Optionally, click the workspace name in the tree menu on the left and in the area with workspace properties on the right define additional workspace parameters:
  - a. URL: the workspace URL
  - b. User home search: the home page setting
  - c. If set to Role assigned page, the home page as as in the page permissions is applied; that is, every role can have a different page displayed as its home page. If set to Current page, all users will use the current home page as their home page.

To create a new page, do the following:

1. Make sure you are in the correct workspace.
2. Next to the Page dropdown box in the top menu, click the **Create new page** button. The management console with the Pages node will be expanded and page management area with page details on the right is displayed.
3. In the **Create new page** table on the right, set the page parameters:
  - a. Name: page name and its locale
  - b. Parent page: parent page of the new page
  - c. Skin: skin to be applied on the page
  - d. Envelope: envelope to be applied on the page
  - e. Page layout: layout of the page
4. Click **Create new page**.
5. Optionally, click the page name in the tree menu on the left and in the area with workspace properties on the right define additional page parameters:
  - a. URL: the page URL
  - b. Visible page: visibility of the page
  - c. Spacing between regions and panels

Although users are usually authorized using the authorization method setup for the underlying application container (on Red Hat JBoss EAP, the other security domain by default), the Red Hat JBoss Dashboard Builder has its own role-based access control (RBAC) management tool to facilitate permission management on an individual page or multiple pages.

To define permissions on a page or all workspace pages for a role, follow these steps:

1. On the top menu, click the **General configuration** button: the management console is displayed.
2. Under the **Workspace** node on the left, locate the page or the Pages node.
3. Under the page/pages node, click the **Page permissions** node.
4. In the **Page permissions** area on the right, delete previously defined permission definition if applicable and define the rights for the required role:
  - a. In the **Permission** assignation table, locate the Select role dropdown menu and pick the respective role.
  - b. In the **Actions** column of the table, enable or disable individual permissions.
5. Click **Save**. Although users are usually authorized using the authorization method setup for the underlying application container (on Red Hat JBoss EAP, the other security domain by default), the Red Hat JBoss Dashboard Builder has its own role-based access control (RBAC) management tool to facilitate permission management on an individual page or multiple pages.

A panel is a GUI widget, which can be placed on a page. There are three main types of panels:

1. Dashboard panels are the primary business activity management panels and include the following:
  - a. Data provider manager: a panel with a list of available data providers and data provider management options
  - b. Filter and Drill-down: a panel that displays all KPIs and their values to facilitate filtering in indicators on the given page defined over a data provider
  - c. HTML Editor panel: a panel with static content
  - d. Key Performance Indicator (indicator): a panel that visualizes the data of a data provider
2. Navigation panels are panels that provide navigation functions and include the following:
  - a. Breadcrumb: a panel with the full page hierarchy pointing to the current page
  - b. Language menu: a panel with available locales (by default in the top center)
  - c. Logout panel: a panel with the name of the currently logged-in user and the logout button
  - d. Page menu custom: a panel with vertically arranged links to all pages in the workspace (the list of pages can be adjusted) and general controls for the HTML source of the page
  - e. Page menu vertical: a panel with vertically arranged links to all pages in the workspace (the list of pages can be adjusted)
  - f. Page menu horizontal: a panel with horizontally arranged links to all pages in the workspace (the list of pages can be adjusted)
  - g. Tree menu: a panel with the links to essential features such as Administration, Home (on the Home page of the Showcase workspace displayed on the left, in the lateral menu)
  - h. Workspace menu custom: a panel with links to available workspaces (the list of workspaces can be adjusted) and general controls for the HTML source of the workspace
  - i. Workspace menu horizontal: a horizontal panel with links to available workspaces (the list of workspaces can be adjusted)
  - j. Workspace menu vertical: a vertical panel with links to available workspaces (the list of workspaces can be adjusted)
3. System panels are panels that provide access to system setting and administration facilities and include the following:
  - a. Data source manager: a panel for management of external data sources
  - b. Export dashboards: a panel export of dashboards
  - c. Export/Import workspaces: a panel for exporting and importing of workspaces

We are now going to add a panel:

1. Make sure the respective page is open (in the **Page** dropdown menu of the top menu select the page).
2. In the top menu, click the **Create a new panel** in current page button.

3. In the displayed dialog box, expand the panel type you want to add (Dashboard, Navigation, or System) and click the panel you wish to add.
4. From the **Components** menu on the left, drag and drop the name of an existing panel instance or the Create panel item into the required location on the page.
5. If inserting a new indicator, the **Panel** view with the graph settings will appear. Define the graph details and close the dialog.
6. If adding an instance of an already existing indicator, you might not be able to use it, if it is linked to the KPIs on the particular original page. In such a case, create a new panel.
7. If you need to, edit the content of the newly-added panel.

## 6. CONCLUSION

You have created a new workspace, a new page and added the following panels to that page: a tree menu on left, a logout button and a graphical panel for entering KPIs.