JBoss BRMS

Cool Store Demo

(Shopping Cart user interface integration with decision tables and rules)

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1   Introduction

This is a BRMS demo application setup guide for the Cool Store Demo. The setup will create a fully installed and configured BRMS environment so that you can demo the project in all the available jBPM components. It will provide you with a JBoss Developer Studio project with unit tests to demo the project in the IDE. It will provide a repository that you can import into BRMS BRM and demo the web tooling, web business central admin console and asset manager BRM tooling.

2   Setup and Configuration

2.1   Installation

You first need to extract the demo distribution zip (brms-coolstore-demo-[version].zip) to a location of your choosing. Once extracted, you will have the following folder structure:

- \brms-coolstore-demo
  - \installs – Initially empty, but will contain the BRMS platform downloads.
  - \projects – The project that comprise the demo.
  - \support – Additional supporting files used by the demo.
  - \target – Will be created by running init.sh. Contains the fully configured BRMS runtime server.
  - init.sh – Script to install and configure the run time server environment.
  - Quick Start Guide.odt – This document

Next, download JBoss Enterprise BRMS Platform from the Red Hat Customer Portal (https://access.redhat.com/jbossnetwork).

Download BRMS Platform:
1. Under *JBoss Enterprise Platforms*, select the *BRMS Platform* product.
2. Select version *5.3.1* in the *Version* field.
3. Download *JBoss BRMS 5.3.1 Deployable for EAP 6*
   *(*Please note that this is the deployable distribution, not the standalone one.)

Now copy `brms-p-5.3.1.GA-deployable-ee6.zip`, to the brms-coolstore-demo's *installs* folder. Ensure that this file is executable by running:

```
$ chmod +x <path-to-project>/installs/brms-p-5.3.1.GA-deployable-
ee6.zip
```

Download EAP 6 Platform:
1. Under *JBoss Enterprise Platforms*, select the Application *Platform* product.
2. Select version 6.1.0 in the *Version* field.
3. Download *Aplication Platform 6.1.0*

Now copy `jboss-eap-6.1.0.zip`, to the brms-coolstore-demo's *installs* folder. Ensure that this file is executable by running:

```
$ chmod +x <path-to-project>/installs/jboss-eap-6.1.0.GA.zip
```

Lastly, from the brms-coolstore-demo folder, run the *init.sh* script:

```
$ ./init.sh
```

When the script completes you will have a new folder named *jboss-eap-6.0*, in the brms-coolstore-demo's *target* folder. The folder is a ready to run EAP 6 server with BRMS 5.3.1 with the following modifications made:

- The *admin, krisv, mary, john, erics* accounts enabled (passwords are same as users name) in the *brms-roles.properties* and *brms-users.properties* file in *brms-coolstore-demo/target/jboss-eap-6.0/jboss-as/standalone/configuration*
- Adjusted server security domain to include *brms,* copied new *standalone.xml* to *brms-coolstore-demo/target/jboss-eap-6.0/jboss-as/standalone/configuration*
- Added patched process designer, *designer.war.*

2.2 JBoss Developer Studio Configuration

In this section, you will configure JBoss Developer Studio. Specifically you will add the BRMS 5.3.1 platform server runtime environment and then import the project that makes up the BRMS Rewards Demo.

Important: It is assumed that you already have JBoss Developer Studio installed. This demo has been tested with JBoss Developer Studio 6 (latest).

Launch JBoss Developer Studio

1. Either select or switch to a new workspace by pointing to the *brms-coolstore-demo/projects* folder.

2. If the Welcome to JBoss Developer Studio screen appears, dismiss it by click the Workbench arrow in the upper right.

Setup EAP 6 Server

1. Select the *Servers* view
   If it is currently not open, select *Show View --> Other...* from the *Window* menu and search for the *Servers* view.

2. Click *new server wizard...*

3. Select *JBoss Enterprise Application Platform 6.x*. Click *Next*.

4. Set Home Directory to *brms-coolstore-demo/target/jboss-eap-6.1*.

5. Click *Finish*.

Install SOA tools for BRMS

1. Select *Help → Install New Software...* and add SOA Tools update site
   https://devstudio.jboss.com/updates/5.0/central/soa-tooling/

2. Select *Business Rules Tooling & SOA and Data Services Tooling (all sub-menu items will be selected)* and proceed thru installation and restart JBoss Developer Studio to complete the installation. You will be told to restart JBoss Developer Studio for the changes to take effect, do this now.

Detect and add a BRMS 5.3.1 runtime environment

1. Select *Preferences* from the *Window* menu.

2. In the left hand side, expand *JBoss Tools* and then select *JBoss Tool Runtime Detection*

3. Select the *Add* button and navigate to the *brms-coolstore-demo/target* folder (**not** brms-coolstore-demo/projects/brms-coolstore-demo/target), then select *OK*.

4. The *jboss-eap-6.0* runtime created earlier should have been found and selected. If so, select *OK*.

5. Select *OK* again to close the Preferences dialog window.

Detect and add jBPM BRMS 5.3.1 runtime environment

1. Select *Preferences* from the *Window* menu.

2. In the left hand side, expand j*BPM* and then select *Installed jBPM Runtimes*

3. If not automatically listed in the view: Select the *Add* button, then the *Create a new jBPM Runtime...* button and navigate to the *brms-coolstore-demo/target/jboss-eap-6.0* folder, then name the runtime *jBPM BRMS 5.3.1 runtime* and select *OK*.

4. The *jBPM BRMS 5.3.1 runtime* should be selected. If so, select *OK* to close the Preferences dialog window. If not, click box to add check mark next to runtime and then select OK.

5. If asked to restart JBoss Developer Studio for the changes to take effect, restart.

Detect and add Drools 5.3.1 runtime environment

1. Select *Preferences* from the *Window* menu.

2. In the left hand side, expand *Drools* and then select *Installed Drools Runtimes*

3. If not automatically listed in the view: Select the *Add* button, then the *Create a new Drools 5 Runtime...* button and navigate to the *brms-coolstore-demo/target/jboss-eap-6.0* folder, then name the runtime *Drools 5.3.1.Final runtime* and select *OK*.

4. Select the *Drools 5.3.1.Final runtime.*

5. In *Drools* in the left hand side menu select *Drools Flow nodes*, make sure all boxes are checked and select *OK* to close the Preferences dialog window.

6. You will be told to restart JBoss Developer Studio for the changes to take effect, do this now.

Import Projects

1. Select *Import...* from the *File* menu.

2. Expand the *General* folder, and then select *Existing Projects into Workspace*

3. Select the *Browse* button to *Select root directory*, you should be in the *brms-coolstore-demo* folder (if not, then navigate there) and then select *OK*.

4. Make sure the project *brms-coolstore-demo* is selected and then select *Finish*.

5. The project is now imported.

2.3 Start the JBoss Enterprise BRMS Platform

In this section, you will start the server from within JBoss Developer Studio.

1. Select the *Servers* view

2. You should see the *JBoss EAP 6.1 Runtime Server* you created earlier.

3. Right click on *JBoss EAP 6.1 Runtime Server* and select *Start* from the pop-up menu. In a few moments your JBoss Enterprise BRMS Platform will be running.

2.4 Importing Project Repository into BRMS

In this section, you will import all of the JBoss Enterprise BRMS artifacts into the Business Rules Manager.

1. Open up your Web browser of choice and navigate to *http://localhost:8080/jboss-brms/*
2. Use the default credentials of *admin*/*admin*
3. Upon logging in, you will see the following prompt**:**

    This looks like a brand new repository.
    Would you like to install a sample repository?

    Important: Please be sure to select ***No thanks.***
4. Select the *Administration* section on the left hand side
5. From the *Administration* list select *Import Export*. This will open the *Import Export* window.
6. Now select *Browse...* and navigate to brms-coolstore-demo*/support* folder and select the *repository_export.zip* file.
7. Lastly, select the *Import* button. Select *OK* to confirm that you want to import the artifacts.
8. Build the package by selecting from the left navigation *Knowledge Bases → Packages → com → redhat →coolstore → Edit tab → Build Package* button.

3 Running the Demo

3.1 Goals of this demo

This demo comes to you from the field, a JBoss Solution Architect Jason Milliron wanted to look at the following:

1. create a JBoss BRMS solution for an online shopping cart.

2. create easy to understand web application where able to apply changes to business logic in JBoss BRMS while viewers see web application updated without restarting application / server.

3. create web application using JavaEE, third party development framework (Vaadin) and CDI technology.

3.2 Demo setup from CLI

The following steps will run through the demo components without using JBDS:

1. setup project as described in Readme by using init.sh.

2. ***(NOTE: this step was shown in the init.sh run on the screen, did you already follow these instructions? It is repeated here as is is possible you did not do this yet and it will not work without this step!)*** You will need to add to your personal ~/.m2/settings.xml the settings provided in the file *projects/brms-coolstore-demo/maven/settings.xml.* These are setup to point maven to the local JBoss EAP6 maven artefacts in the */tmp* directory repository just extracted for you.

3. build project in *projects/brms-coolstore-demo*
   ○ *mvn clean install*

4. copy from projects to EAP server
   ○ *cp projects/brms-coolstore-demo/target/brms-coolstore-demo.war target/jboss-eap-6.1/standalone/deployments/*

5. start JBoss EAP

6. import project (*support/repository-export.zip)* into BRM (http://localhost:8080/jboss-brms)

7. build project in BRM

8. open web application (http://localhost:8080/brms-coolstore-demo), note Checkout button is disabled by design, the demo is about rules changing the discounts of products as you select and put them into your cart.
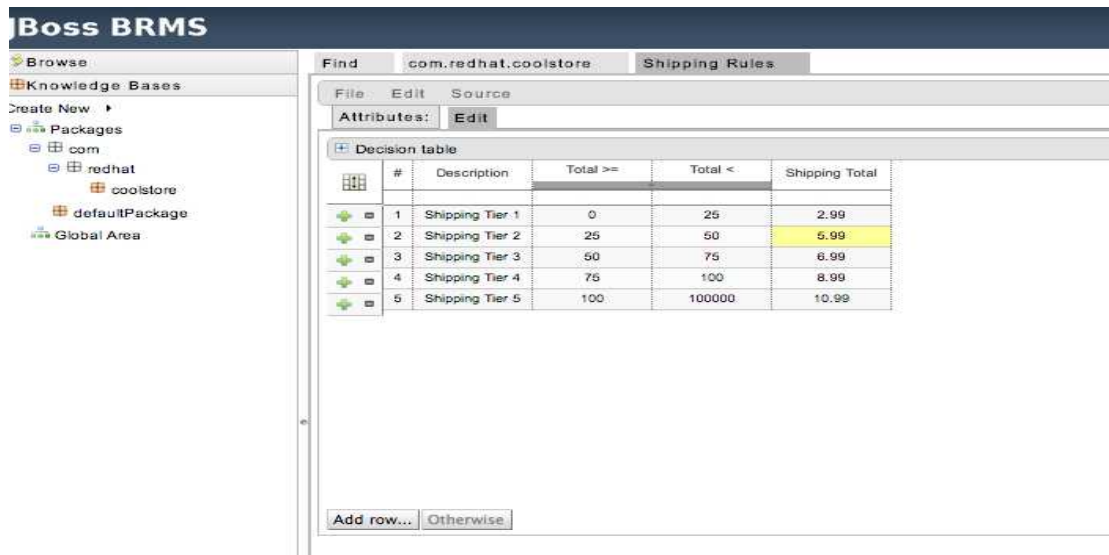
3.3 Running demo

The demo can be manipulated in several ways to show interaction between the GUI and rules based on

the Shipping rules:

1. in BRM select the coolstore package

2. open *Business rules assets → Shipping Rules*

3. edit pricing of shipping, last column, to modify how shipping is calculated (for example, increase 4.99 to 5.99, see Illustration 2

4. *File → Save chages* and rebuild coolstore package

5. Clear shopping cart (GUI) and select again items to see price changes take effect.

*Illustration 2: Adjust shipping pricing in decision table.*

3.4 JBDS IDE unit test

Unit Testing

The following will run the demo process with two unit tests:

1. Right-click the *brms-coolstore-demo* project and select *Properties*.

2. Select the *Maven* option in the tree on the left.

3. Set Active Maven Profile to *arq-jbossas-remote*, ensure "Resolve dependencies from Workspace projects" is checked. Click *Yes* when asked to update the project configuration. Click OK button to close Properties dialog.

4. Select the file *brms-coolstore-demo/Java Resources/src/test/java/com.redhat.coolstore.service.ShoppingCartServiceTest.java*, right click, *Run As...*, *JUnit Test*.

*Illustration 3: **ShoppingCartService**Test run*
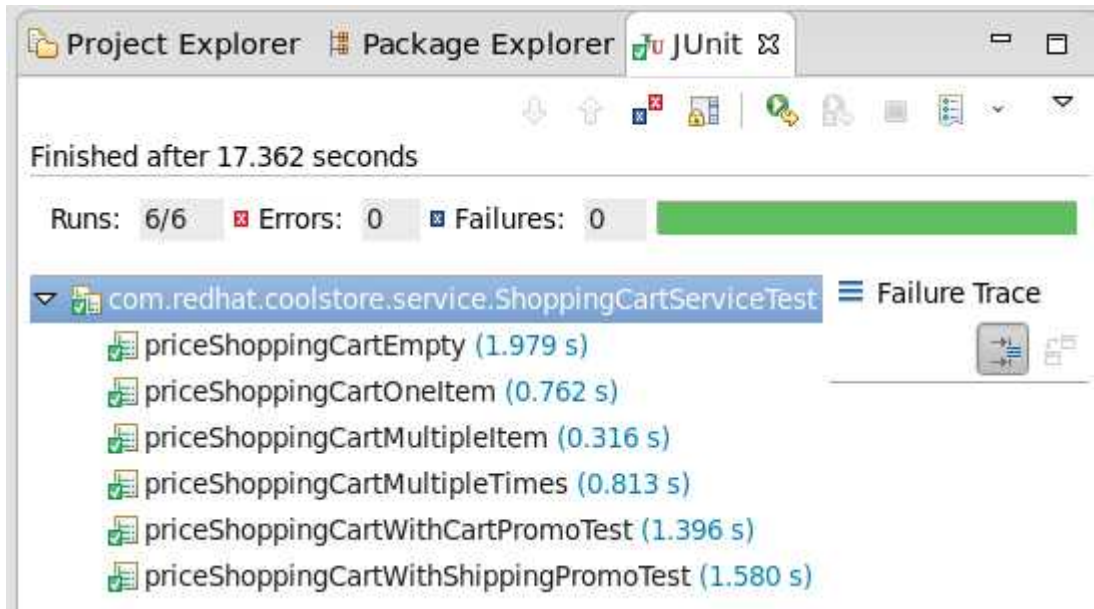
3.5 BRMS BRM demo

The package was already imported so now we can look closer at web designers viewing, rules asset viewing, package building and deploying, web business central admin console viewing.

Web Designer

The BRM is available on http://localhost:8080/jboss-brms once the BRMS server has been fully started.

1. Login with a user (admin, krisv, mary, john, erics available). To start fresh you can at any time import the original repository as follows: *Administration → Import Export → Choose File ->brms-coolstore-demo/support/repository-export.zip → Import (Ok to pop-ups)*

Build package for deployment

To build your package for deployment:

1. Build package: *Knowledge Bases → Packages → com → redhat →coolstore → Edit tab → Build Package* button.

3.6 Cool Store Demo deployment

In this section, you will deploy the application to the server from within JBoss Developer Studio.

1. Select the *Servers* view
    If it is currently not open, select *Show View --> Other...* from the *Window* menu and search for the *Servers* view.

2. If the server is not running, right click on *JBoss EAP 6.1 Runtime Server* and select Start from

the pop-up menu. In a few moments your JBoss Enterprise BRMS Platform will be running.

3. Right-click on *JBoss EAP 6.1 Runtime Server* and select *Add and Remove...* from the pop-up menu.

4. Select *brms-coolstore-demo* from the list of Available resources and click the *Add >* button to move it to the Configured resources section.

5. Click *Finish*.

3.7 Cool Store Demo deployment

1. Open up your Web browser of choice and navigate to http://localhost:8080/brms-coolstore-demo, should see 1.