

Red Hat JBoss BPM Suite

Customer Evaluation Demo

(Use case: rules integration with BPM)

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Introduction

This is a JBoss BPM Suite demo application setup guide for the Customer Evaluation Demo. The setup will create a fully installed and configured JBoss BPM Suite environment so that you can demo the project in all the available BPM components.

It will provide you with a JBoss Developer Studio project with unit tests to demo the project in the IDE. It will also provide a JBoss BPM Suite product configured with the demo for inspection in the web tooling called the business central admin console for business users.

This project was directly migrated from the previous version of JBoss BRMS 5.x and that project can be found for evaluation at <https://github.com/eschabell/brms-customer-evaluation-demo>.

Setup and Configuration

Installation

You first need to get the project by cloning it from the central location:

```
git clone git://github.com/eschabell/bpms-customer-evaluation-demo.git
```

Once downloaded, you will have the following folder structure:

- \bpms-customer-evaluation-demo
 - \installs – Initially empty, but will contain the JBoss BPM Suite 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 JBoss BPM Suite runtime server.
 - \docs – contains Demo Overview and Quick Start Guide along with demo images.
 - init.sh – Script to install and configure the run time server environment.

Next, download JBoss BPM Suite from the Red Hat Customer Portal

(<https://access.redhat.com/jbossnetwork>).

Download JBoss BPM Suite:

1. Under *JBoss Enterprise Platforms*, select the *BPM Suite* product.
2. Select the version required as listed in the */installs/README* file.
3. Download *Red Hat JBoss BPM Suite Installer*

Now copy `jboss-bpms-installer-{$version}.jar`, to the projects `\installs` folder. Ensure that this file is executable by running:

```
$ chmod +x <path-to-project>/installs/jboss-bpms-installer-{$version}.jar
```

Lastly, from the `bpms-customer-evaluation-demo` folder, run the `init.sh` script:

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

When the script completes you will have a new folder named `jboss-eap-6.1`, in the `bpms-customer-evaluation-demo`'s `target` folder. The folder is a ready to run JBoss EAP 6 server with JBoss BPM Suite with the following modifications made:

- The *erics* accounts enabled (password: *bpmsuite1!*) in the *application-roles.properties* file in *bpms-customer-evaluation-demo/target/jboss-eap-6.1/jboss-as/standalone/configuration*
- Adjusted server with copied new *standalone.xml* to *bpms-customer-evaluation-demo/target/jboss-eap-6.1/jboss-as/standalone/configuration*
- Copied over *support/bpm-suite-demo-niogit* project repository to *bpms-customer-evaluation-demo/target/jboss-eap-6.1/jboss-as/bin/.niogit*, this contains the git repository that the product will pick up on initial startup and can be reset with a fresh copy if needed.

JBoss Developer Studio Configuration

In this section, you will configure JBoss Developer Studio. Specifically you will add the JBoss BPM Suite platform server runtime environment and then import the project that makes up the JBoss BPM Suite Customer Evaluation Demo.

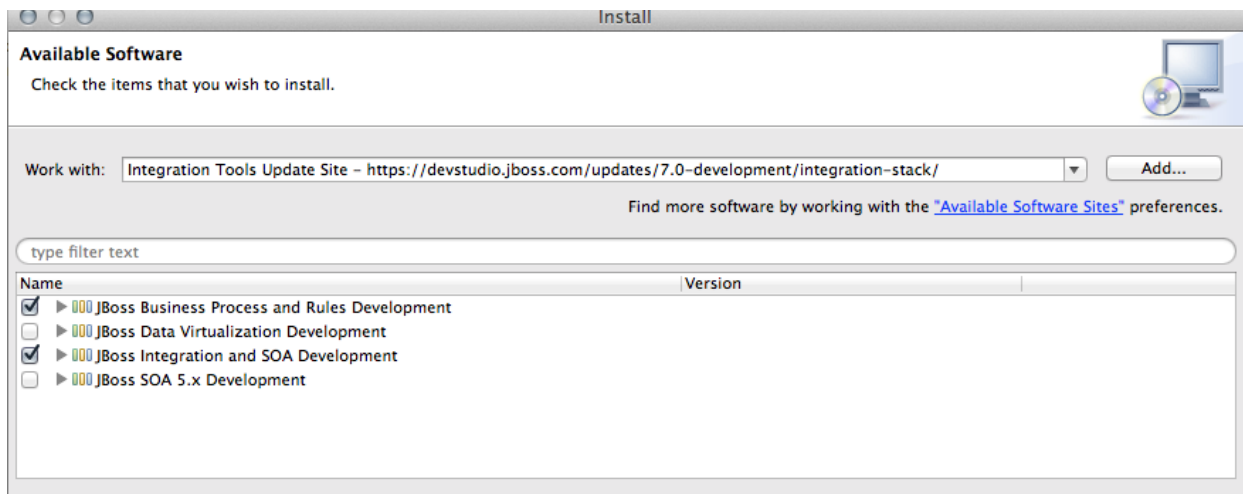
Important: It is assumed that you already have JBoss Developer Studio installed. This demo has been tested with JBoss Developer Studio 7

Launch JBoss Developer Studio

1. Either select or switch to a new workspace by pointing to the *bpms-customer-evaluation-demo/projects* folder.
2. If the Welcome to JBoss Developer Studio screen appears, dismiss it by click the Workbench arrow in the upper right.

Install Integration Tools for JBoss BPM Suite

1. Select *Help* → *Install New Software...* and add Integration Tools update site:
<https://devstudio.jboss.com/updates/7.0-development/integration-stack/>
2. Select *JBoss Business Process and Rules Development & JBoss Integration and SOA Development* (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 JBoss EAP 6.1 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 *bpms-customer-evaluation-demo/target* folder, then select *OK*.
4. The *jboss-eap-6.1* runtime created earlier should have been found and selected. If so, select *OK*.
5. Select *OK* again to close the Preferences dialog window.

Import Projects

1. Select *Import...* from the *File* menu.
2. Expand the *Maven* folder, and then select *Existing Maven Projects*.
3. Select the *Browse* button to *Select root directory*, you should be in the *bpms-customer-evaluation-demo/projects* folder (if not, then navigate there) and then select *OK*.
4. Make sure the project (*customer-evaluation-demo*) is selected and then select *Finish*.
5. The project is now imported.

Start the JBoss BPM Suite Platform

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

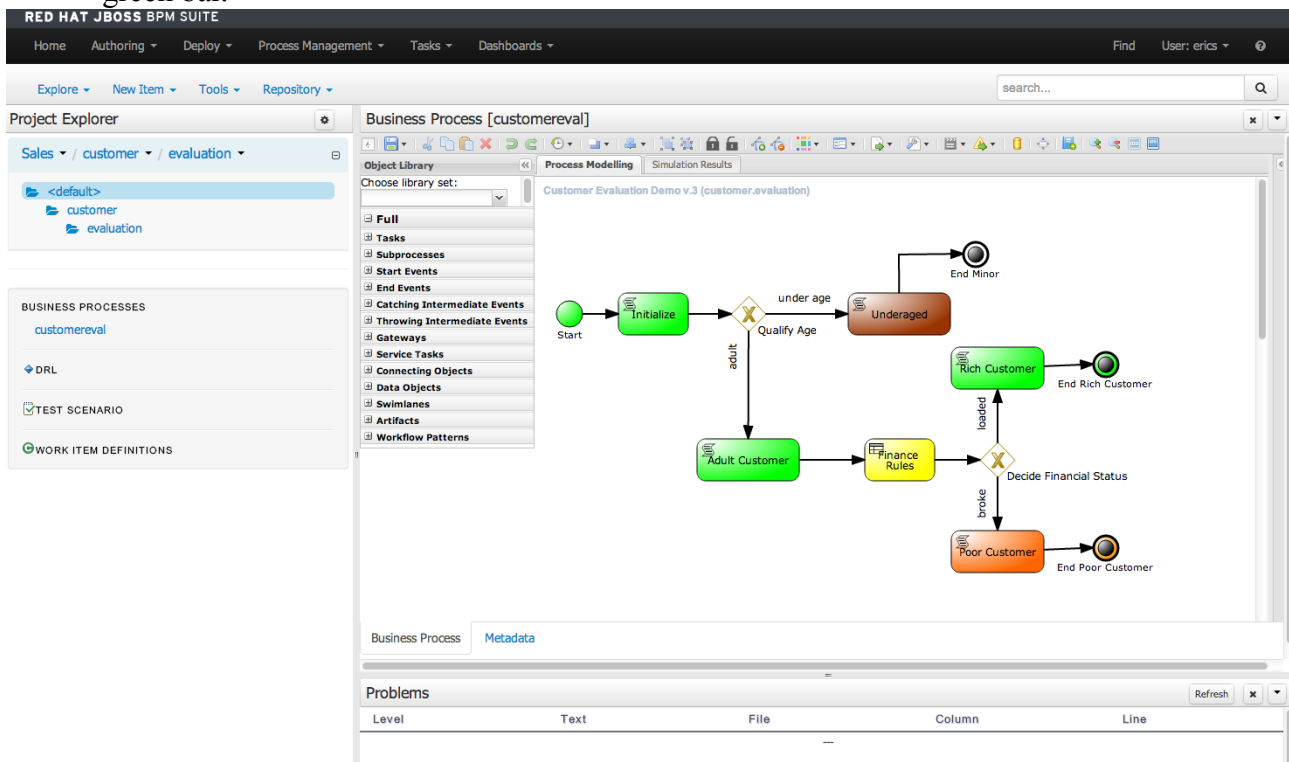
1. Select the *Servers* view
If it is currently not open, select *Show View --> Other...* from the *Window* menu and search for the *Servers* view.
2. You should see the *jboss-eap-6.1* server you created earlier.
3. Right click on *jboss-eap-6.1* and select *Start* from the pop-up menu. In a few moments your JBoss Enterprise BRMS Platform will be running.

Viewing Project in JBoss BPM Suite Business Central Console

In this section, you will access and view the project assets in the JBoss BPM Suite Business Central console.

1. Open up your Web browser of choice and navigate to <http://localhost:8080/business-central>
2. Use the default credentials of *erics/bpmsuite1*!

3. Select the *Authoring* pull down menu at the top right.
4. From the *Authoring* list select *Project Authoring* to view the project assets
 1. Initial view should be of the process itself, otherwise select the *Business Processes* → *customereval* to open the process in the designer.
 2. View the single rule, select *DRL* → *financerules* to open in the viewer.
 3. To view the projects data model, open the *Data Modeler* by selecting on the top right *Tools* → *Data Modeler* to find and examine the *Person* and *Request* objects that make up our business model.
 4. The other items in the project can be viewed in the same fashion, left to you to explore, extend, and create new ones such as tests.
5. Deploy the project by selecting the *Tools* → *Project Editor* from the top right, then in the *Project* view select the *Build & Deploy* button. You will be asked to save eventual changes, then see the successfully saved message in a green bar at the top along with *Build Successful* green bar.



Running the Demo

JBDS IDE demo

You can demo the project in the JBoss Developer Studio by making use of the editors, running the provided unit tests and watching the console for logged (verbose) output. This unit test demonstrates the maven interaction that you can achieve with a JBoss BPM Suite project.

First you have to have started the JBoss BPM Suite as covered above and built the project so that a *kjar* will be built (a knowledge jar is just a maven jar artifact) that contains your rule, process, and model packaged up for development and deployment use.

This unit test in the development project shows how a dependency is added to the project pom file, that we can then pull in to develop our application against. We will pull in the dependency and then

run the unit tests.

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

1. Make sure the JBoss BPM Suite is running, that the project has been *Build & Deployed*.
2. From within JBoss Developer Studio run the *Maven Install* command as shown in illustration 1, this will pull in the *customer evaluation 1.0* dependency that is required as listed in the projects pom file.

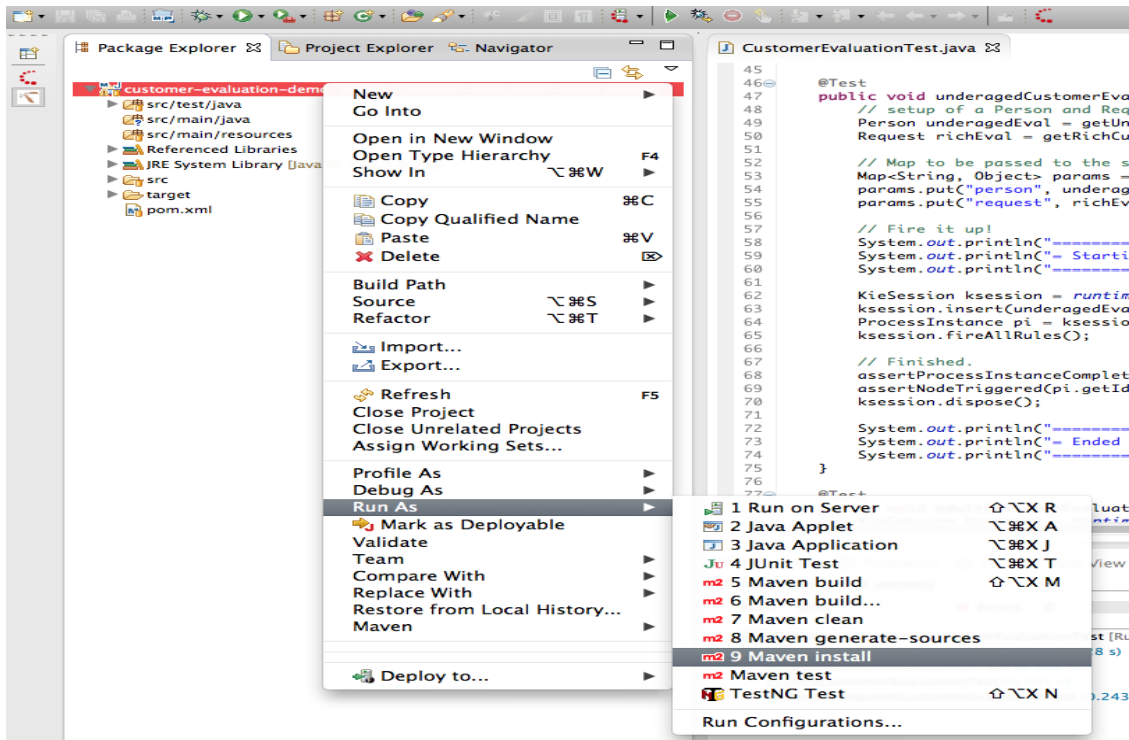


Illustration 1: Running Maven Install on the project.

3. In case you missed the unit test running in step 2, select the file *customer-evaluation-demo/src/test/java/CustomerEvaluationTest.java*, right click, *Run As...*, *JUnit Test*.

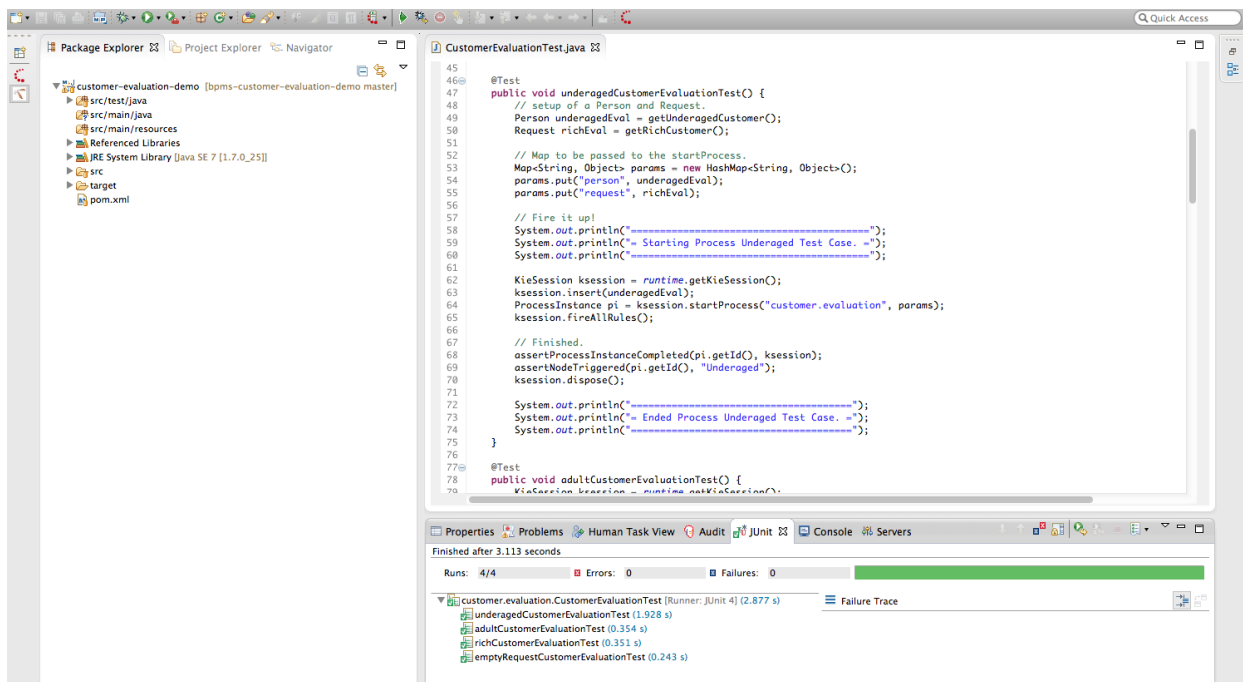


Illustration 2: JBDS JUnit Tests

Your output should look something like illustration 2 and example output of the console logging:

Test 1

```
=====
= Starting Process Underaged Test Case. =
=====
Entering Initialize Node
Leaving Initialize Node
Gateway: Qualify Age
Gateway: Qualify Age
Entering Underaged Node
Detected and reporting invalid request.
Set validRequest to: false
Leaving Underaged Node
Process ended in End Minor Node.
```

Test 2

```
=====
= Starting Process Poor Adult Test Case. =
=====
Entering Initialize Node
Leaving Initialize Node
Gateway: Qualify Age
Gateway: Qualify Age
Entering Adult Customer Node
Detected and reporting valid request
Set validRequest to: true
Leaving Adult Customer Node
Entering Finance Rules Node
Under funded customer
Set Request invalid comment to: Poor customer.
Customer request= org.jbpm.evaluation.customer.Request@31
Leaving Finance Rules Node.
Gateway: Decide Financial Status
Determined request is NOT valid, heading to Poor Customer Node
Request validity reason is: Poor customer
Leaving Finance Rules Node.
Gateway: Decide Financial Status
Detected request is invalid, heading to Poor Customer Node
Request not valid reason is: Poor customer
Entering Poor Customer Node
Customer has amount: 2 in the bank.
Leaving Poor Customer Node
Process ended in End Poor Customer Node.
```

Test 3

```
=====
= Starting Process Rich Adult Test Case. =
=====
Entering Initialize Node
Leaving Initialize Node
Gateway: Qualify Age
Gateway: Qualify Age
Entering Adult Customer Node
Detected and reporting valid request
Set validRequest to: true
Leaving Adult Customer Node
Entering Finance Rules Node
Leaving Finance Rules Node.
```

Gateway: Decide Financial Status
Determined request is valid, heading to Rich Customer Node
Entering Rich Customer Node
Detected and reporting valid request
Customer has amount: 2000 in the bank.
Leaving Rich Customer Node
Process ended in End Rich Customer Node.

Test 4

=====

= Starting Process Empty Request Test Case. =

=====

Entering Initialize Node
There as no evaluation objects defined, adding default ones for demo purposes.
Leaving Initialize Node
Gateway: Qualify Age
Gateway: Qualify Age
Entering Underaged Node
Detected and reporting invalid request.
Set validRequest to: false
Leaving Underaged Node
Process ended in End Minor Node.