JBoss BRMS

Rewards Demo

(Use case: Human Task integration with BPM)

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Introduction

This is a BRMS demo application setup guide for the Rewards Demo. The setup will create a fully installed and configured BRMS 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 repository that you can import into BRMS BRM and demo the web tooling, web business central admin console and asset manager BRM tooling for business users.

Setup and Configuration

Installation

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

git clone git://github.com/eschabell/brms-rewards-demo.git

Once downloaded, you will have the following folder structure:

- \brms-rewards-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.

o   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-rewards-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:
4. Under *JBoss Enterprise Platforms*, select the Application *Platform* product.
5. Select version 6.*1.1* in the *Version* field.
6. Download *JBoss Aplication Platform 6.1.1.*

Now copy `jboss-eap-6.1.1.zip`, to the brms-rewards-demo's *installs* folder. Ensure that this
file is executable by running:

```
$ chmod +x <path-to-project>/installs/jboss-eap-6.1.1.zip
```

Lastly, from the brms-rewards-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 brms-rewards-
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-customer-evaluation-
     demo/target/jboss-eap-6.1/jboss-as/standalone/configuration*
   • The security settings modifed by copying *components.xml* to *brms-customer-evaluation-
     demo/target/jboss-eap-6.1/standalone/deployments*
   • Adjusted server security domain to include *brms,* copied new *standalone.xml* to *brms-
     customer-evaluation-demo/target/jboss-eap-6.1/jboss-as/standalone/configuration*
   • The custom work items are activated by adding *CustomWorkItemHandlers.conf* and
     drools.session.conf to the *jbpm-gwt-console-server* at *brms-customer-evaluation-
     demo/target/jboss-eap-6.1/standalone/deployments/business-central-server.war/WEB-
     INF/classes/META-INF*
   • The domain model jar *customereval-model.jar* added to the console at *brms-customer-
     evaluation-demo/target/jboss-eap-6.1/deployments/jbpm-gwt-console-server.war/WEB-
     INF/lib*
   • Enable users in human task server by copying new *jbpm-human-task-war-web.xml* file to
     *brms-customer-evaluation-demo/target/jboss-eap-6.1/jboss-
     as/standalone/deployments/jbpm-human-task.war/WEB-INF/web.xml*
   • Both business-central-server and jbpm-human-task server needs a netty dependency, added

a *MANIFEST.MF* to their repective *WEB-INF/classes/META-INF* directories

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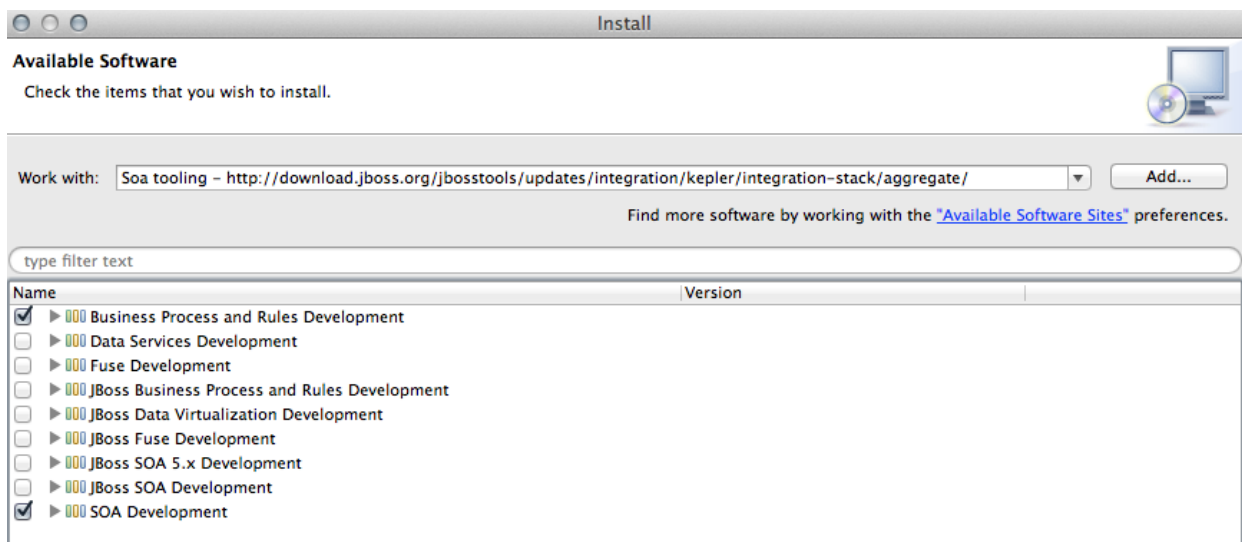
Important: It is assumed that you already have JBoss Developer Studio installed. This demo has been tested with JBoss Developer Studio 7

Launch JBoss Developer Studio

1. Either select or switch to a new workspace by pointing to the *brms-rewards-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 SOA tools for BRMS

1. Select *Help → Install New Software...* and add SOA Tools update site:

   http://download.jboss.org/jbosstools/updates/integration/kepler/integration-stack/aggregate/

2. Select *Business Process and Rules Development & 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 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-rewards-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 *brms-rewards-demo* folder (if not, then navigate there) and then select *OK*.

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

5. The projects are now imported.

Start the JBoss Enterprise BRMS 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.

Importing Project Repository into BRM

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-rewards-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.

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

1. Select the file *brms-rewards-demo/src/test/java/RewardsApprovalTest.java*, right click, *Run As...*, *JUnit Test.*

Your output should look something like illustration 1 and example output of the console logging:

```
Executing work item WorkItem 2 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward for erics: Outcome is Approved, Reason given is (Amazing demos
for JBoss World!)., TaskName=Log}]

Executing work item WorkItem 3 [name=Email, state=0, processInstanceId=1,
parameters{Body=Congratulations!, Subject=You received a reward!, To=erics@info.com,
TaskName=Email, From=rewards@info.com}]

Executing work item WorkItem 2 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward for erics: Outcome is Rejected, Reason given is (Amazing demos
for JBoss World!)., TaskName=Log}]
```
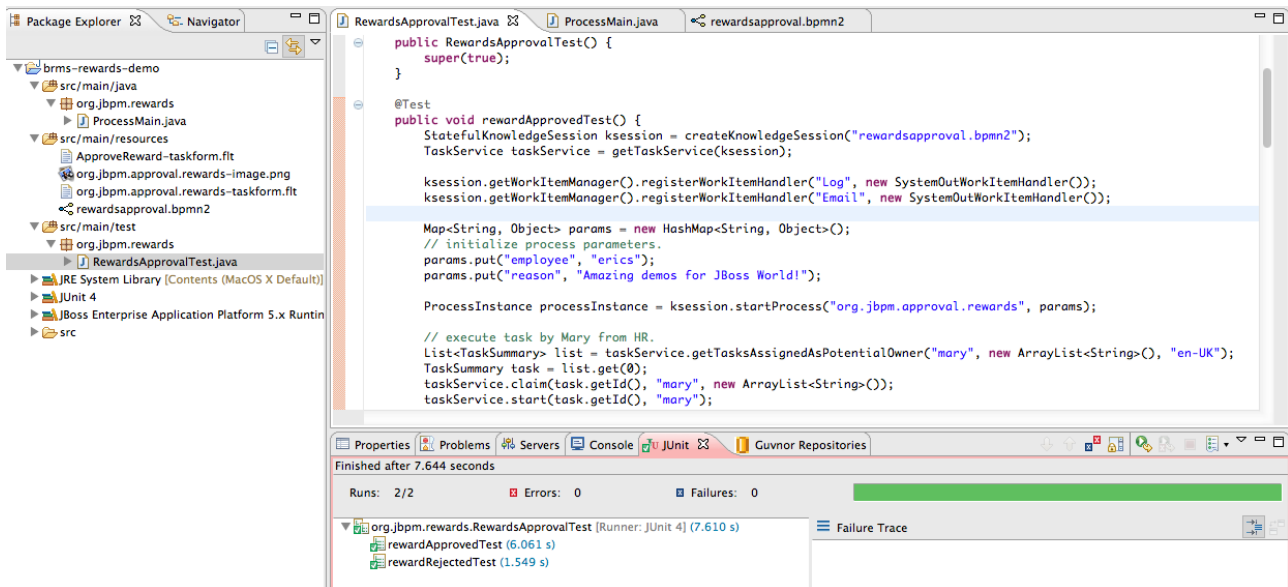

Illustration 1: RewardsApprovalTest run.

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

1. Select the file *brms-rewards-demo/src/test/java/RewardsApprovalExtendedTest.java*, right click, *Run As..., JUnit Test.*

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

```
Executing work item WorkItem 2 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward for erics: award is Approved, explanation is (Great work).,
TaskName=Log}]

Executing work item WorkItem 3 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward congrats for erics: Approved (Amazing demos for JBoss World!)
added to personnel file., TaskName=Log}]

Executing work item WorkItem 4 [name=Email, state=0, processInstanceId=1,
parameters{Body=Congratulations!, Subject=You received a reward!, To=erics@info.com,
TaskName=Email, From=rewards@info.com}]

Executing work item WorkItem 2 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward for erics: award is Rejected, explanation is (Too complicated
for me)., TaskName=Log}]

Executing work item WorkItem 3 [name=Log, state=0, processInstanceId=1,
parameters{Message=Rejected Reward for erics: Rejected (Amazing demos for JBoss World!)
added to personnel file., TaskName=Log}]

Executing work item WorkItem 4 [name=Email, state=0, processInstanceId=1,
```

```
parameters{Body=Bummer..., Subject=You're reward got rejected!, To=erics@info.com,
TaskName=Email, From=rewards@info.com}]
```
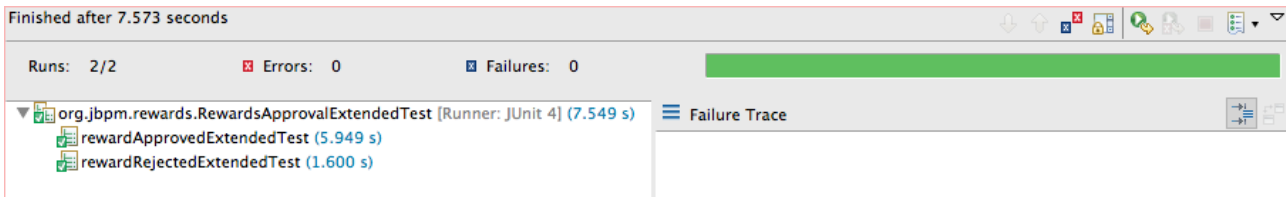

Illustration 2: RewardsApprovalExtendedTest run.

ProcessMain

You can run the Rewards Demo (Extended) process from your IDE, tailoring your input objects as you see fit while leveraging the provided human task service in BRMS. You just need the JBoss BRMS server running to provide you with a human task service and follow these steps to demo the functionality:

1. Start the JBoss BRMS server in JBDS via the Server tab.

2. Select *ProcessMain.java* file or *ProcessMainExtended.java* file and right-click, *Run As...*, *Java Application* and watch the *Console* tab for output. This has started your process instance and it is waiting in the first human task.

3. Go to browser and login to http://localhost:8080/business-central (erics, krisv, admin will all work).

4. Open *Task* tab, select *Group Tasks*, *Refresh*, select entry that appears in list, hit *Claim* button, task will now disappear from list.

5. Select *Personal Tasks*, *Refresh*, select entry listed, hit *View* button, fill in form and submit either as *Rejected* or *Accepted* as you desire.

6. Return to JBDS *Console* tab and view logged process completion output based on path chosen (*Accepted* or *Rejected).*

Example output in the console when you start the process is blank, it is awaiting your attention at the first human task, after you complete the task you might see output as follows (based on Extended version with an Approved Reward):

```
Executing work item WorkItem 2 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward for erics: award is Approved, explanation is (yep).,
TaskName=Log}]

Executing work item WorkItem 3 [name=Log, state=0, processInstanceId=1,
parameters{Message=Reward congrats for erics: Approved (Amazing demos for JBoss World)
added to personnel file., TaskName=Log}]

Executing work item WorkItem 4 [name=Email, state=0, processInstanceId=1,
parameters{Body=Congratulations!, Subject=You received a reward!, To=erics@info.com,
TaskName=Email, From=rewards@info.com}]
```

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-rewards-demo/support/repository-export.zip → Import (Ok to pop-ups)*

2. View process: *Knowledge Bases → Packages → org.jbpm.rewards → Asset tab → view Processes* and *Open rewardsapproval* or *rewardsapprovalextended* and wait for web designer to appear.

Build package for deployment

To build your package for deployment:

1. Build package: *Knowledge Bases → Packages → org.jbpm.rewards → Edit tab → Build Package button*. Now the process has been deployed in the Business Central administration component.

Business Central

The Business Central administration console is available on http://localhost:8080/business-central once the BRMS server has been fully started and after deploying your process by building the package in BRMS BRM.

1. Login as user (admin, erics, krisv have same rights).

2. On left open *Processes* tab → *Process Overview* and you should see *Rewards Approval v6* and *Rewards Approval v1* appear. If not, hit Refresh. If not, ensure the demo package has been built without errors in BRM as described previously.

3. Click on either *Rewards Approval v6* or *Rewards Approval v1* to select this process, then *Start* button and *OK* for pop-up.

4. You will be presented with a form to fill in for starting this process, add an *employee* and *reason* before you hit the *submit* button. Close the window.

5. Click on the running instance, then *Diagram* button which will pop up with illustration 4 showing the process started and waiting in the first human task node.

6. You can view the *Instance Data* by hitting that button on the left.

7. Change to *Tasks* tab on left, select *Group Tasks*, select task as it appears, hit *Claim* button. The task entry should disappear.

8. Select *Personal Tasks*, the previous task will appear in your list, select it, push *View* button and fill in the Explanation field in the form and submit as *Rejected* or *Approved.* Close the window.

9. Back to *Processes* tab, select *Process Overview*, hit *Refresh* and the instance that was listed as running should now disappear as it has completed.
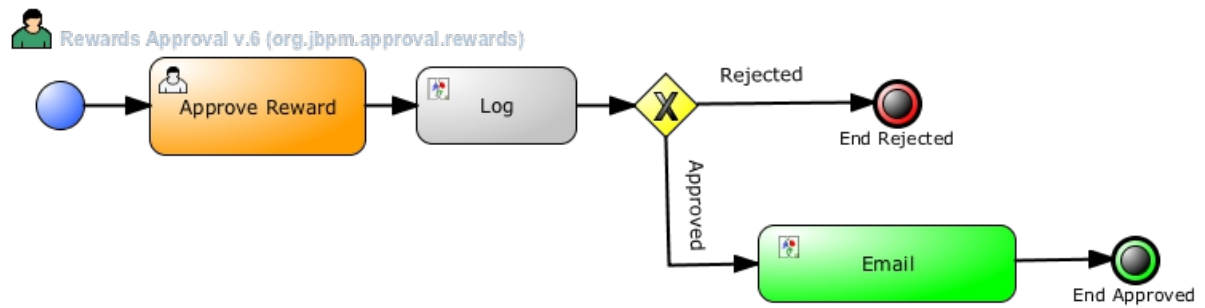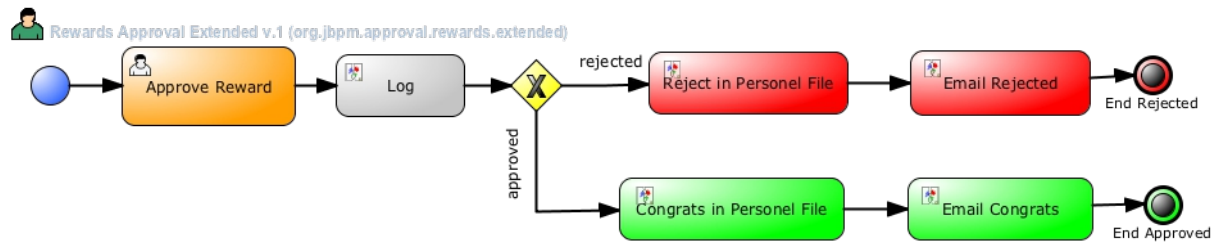
Illustration 4: Diagram Rewards Approval process in action.