JBoss Enterprise BRMS Platform 5

BRMS Getting Started Guide

For JBoss Administrators

Edition 5.3.1

JBoss Enterprise BRMS Platform 5 BRMS Getting Started Guide

For JBoss Administrators
Edition 5.3.1

Red Hat Content Services

Legal Notice

Abstract

This guide provides the steps necessary for administrators to install JBoss Enterprise Business Rules Management System Platform, the plug-ins for JBoss Developer Studio, and provides instructions for running example projects.

Table of Contents

PREFACE

CHAPTER 1. INTRODUCTION

1.1. JBOSS ENTERPRISE BUSINESS RULES MANAGEMENT SYSTEM PLATFORM

JBoss Enterprise BRMS Platform is a business rules management system for the management, storage, creation, modification, and deployment of business rules . Web-based user interfaces and plug-ins for JBoss Developer Studio provide users with different roles the environment suited to their needs. JBoss Enterprise BRMS provides specialized environments for business analysts, rules experts, developers, and rule administrators.

JBoss Enterprise BRMS Platform is supported on a variety of operating systems, Java Virtual Machines (JVMs), and database configurations. A full list of certified and compatible configurations can be found at http://www.redhat.com/resourcelibrary/articles/jboss-enterprise-brms-supported-configurations.

Report a bug

CHAPTER 2. INSTALLATION

2.1. INSTALLATION OPTIONS

The JBoss Enterprise BRMS Platform can be installed as a standalone server with BRMS already deployed to an application server (BRMS 5.3.1 comes already deployed to JBoss Enterprise Application Platform 5.2) or as a web archive that can be deployed to an existing application server

Report a bug

2.2. INSTALLING THE STANDALONE PACKAGE

The JBoss Enterprise BRMS Platform 5.3.1 standalone package will be based on JBoss Enterprise Application Platform 5.2, and will be available at a later date when JBoss Enterprise Application Platform 5.2 becomes available.

The following procedure details how to install the JBoss Enterprise BRMS Platform 5.3 standalone package.

Procedure 2.1. Installing the Standalone Package

1. Download the standalone package zip file from the Red Hat Customer Support Portal at https://access.redhat.com. Select **Downloads** → **Download your software** → **BRMS Platform**, then select the version. The current version is **5.3.0**, these instructions use the package names for 5.3.0 but also apply to earlier versions except where noted.

2. Extract the contents of the standalone zip archive to install the server. This creates the **brms-standalone-5.3.0** directory which includes an installation of JBoss Enterprise Application Platform with JBoss Enterprise BRMS Platform deployed.

   > **NOTE**
   >
   > JBoss Enterprise BRMS Platform 5.3.0 is deployed to either the **default** or **production** profiles. This guide uses the **default** profile.

3. Enable Users. The default configuration uses the BRMS JAAS application profile. This profile stores user names and passwords in the **brms-standalone-5.3.0/jboss-as/server/default/conf/props/brms-users.properties** file.

   Users are added by adding entries to this file in the format *username=password*. Entries can be commented out by adding a hash character (#) to the beginning of the line.

   ```
   #admin=password
   jsmith=s@r@hSm1th
   tandrews=pp3rrss0nn3ll
   ```

   Refer to the *BRMS Administration Guide* for information about changing the JAAS profile to one that supports a different authentication system, such as LDAP.

4. The default configurations use embedded databases that are not suitable or supported for production environments. Before deploying into a production environment this configuration must be changed to a supported database. Please refer to the *BRMS Administration Guide* for database configuration instructions.

5. Start the server from the command line with the **run.sh** command on a UNIX or Linux system, or **run.bat** on a Microsoft Windows system.

```
[localhost ]$ ./run.sh -c default
```

The **run.sh** and **run.bat** scripts are located in the **bin** directory.

For example, the full path to the bin directory for the BRMS 5.3.0 standalone server is **brms-standalone-5.3.0/jboss-as/bin/**.

After successfully starting a message is displayed on the command line reporting how long it took the server to start.

Report a bug

2.3. INSTALLING THE DEPLOYABLE PACKAGE

The deployable package is provided for customers to install JBoss Enterprise BRMS Platform 5.3.1 to an existing application server. JBoss Enterprise BRMS 5.3.1 is supported on the following containers:

- JBoss Enterprise Application Platform 5.1.2, 5.2.0, and 6.0.0

- JBoss Enterprise SOA Platform 5.3.0

- JBoss Enterprise Web Server 1.0.2 and 2.0.0

Procedure 2.2. Installing the Deployable Package

1. Download the deployable package zip file from the Red Hat Customer Support Portal at https://access.redhat.com.

   Select **Downloads → Download your software → BRMS Platform**, and then select the version and choose the deployable package.

   Users installing to JBoss Enterprise Application Platform 6 should download the package that includes EE6 as part of the filename. All other users should download the package that does not include EE6 as part of the filename.

2. Extracting the downloaded archive creates the following zip archives:

   - **jboss-brms-engine.zip**

   - **jboss-brms-manager.zip**

   - **jboss-jbpm-console.zip**

   - **jboss-jbpm-engine.zip**

   - **modeshape.zip**

   Modeshape is a Java Content Repository (JCR) that is included in JBoss Enterprise BRMS 5.3.1 as a technical preview; see the *BRMS Administration Guide* for further details.

3. Extract **jboss-brms.war** from the **jboss-brms-manager.zip** archive and copy to the application server's deploy directory.

The deploy directories are as follow:

- JBoss Enterprise Application Platform 5.x:

  `jboss-as/server/`*`profile`*`/deploy/`

- JBoss Enterprise Application Platform 6.0:

  `jboss-eap-6.0/standalone/deployments/`

- JBoss Enterprise SOA Platform:

  `jboss-esb/server/`*`profile`*`/deploy/`

- JBoss Enterprise Web Server 1:

  `tomcat6/webapps/`

- JBoss Enterprise Web Server 2:

  `tomcat7/webapps/`

4. Extract **`business-central.war`**, **`business-central-server.war`**, **`designer.war`**, and **`jbpm-human-task.war`** from the **`jboss-jbpm-console.zip`** archive and copy to the application server's deploy directory as above.

5. JBoss Enterprise Web Server users must remove the **`.war`** extension from the name of the war archives. After the archives have been renamed the **`webapps/`** directory should contains the following subdirectories:

   - jboss-brms

   - business-central

   - business-central-server

   - designer

   - jbpm-human-task

6. JBoss Enterprise Application Platform 6 users must create the following empty files in the **`jboss-eap-6.0/standalone/deployments/`** directory:

   - jboss-brms.war.dodeploy

   - business-central.war.dodeploy

   - business-central-server.war.dodeploy

   - designer.war.dodeploy

   - jbpm-human-task.war.dodeploy

7. Extract the **`jboss-jbpm-engine.zip`** directory and copy the **`netty.jar`** file from **`jboss-jbpm-engine/lib/`** into a directory that will be on the classpath.

   - JBoss Enterprise Application Platform 5:

common/lib/

- JBoss Enterprise SOA Platform 5.x:

  common/lib/

- JBoss Enterprise Web Server 1:

  tomcat6/lib/

- JBoss Enterprise Web Server 2:

  tomcat7/lib/

> **NOTE**
>
> Both JBoss Enterprise Application Platform 5.x and JBoss Enterprise SOA
> Platform include a netty.jar file; however, JBoss Enterprise BRMS requires the
> specific version of netty.jar that is included with the JBoss Enterprise BRMS
> download.

JBoss Enterprise Application Platform 6 users do not need to extract netty.jar from the
jboss-jbpm-engine.zip directory. Instead, edit the **jboss-eap-6.0/standalone/configuration/standalone.xml** file so that the application server will
load the required netty library.

Update the **"urn:jboss:domain:ee:1.1"** subsystem property to match the following code
snippet:

```
<subsystem xmlns="urn:jboss:domain:ee:1.1">
   <global-modules>
   <module name="org.jboss.netty" slot="main"/>
   </global-modules>
   <spec-descriptor-property-replacement>false</spec-descriptor-property-replacement>
   <jboss-descriptor-property-replacement>true</jboss-descriptor-property-replacement>
</subsystem>
```

8. When deploying to JBoss Enterprise Web Server, copy the **antlr**, **common-collections**,
   dom4j, **javassist**, **jta**, **hibernate**, **log4j**, and **slf4j** jar files from the **jboss-jbpm-engine/lib/** directory to the application server's **lib** directory.

   - JBoss Enterprise Web Server 1:

     tomcat6/lib/

   - JBoss Enterprise Web Server 2:

     tomcat7/lib/

9. The default configurations use embedded databases that are not suitable or supported for
   production environments. Before deploying into a production environment, this configuration
   must be changed to a supported database. Please refer to the *BRMS Administration Guide* for
   database configuration instructions.

2.4. INSTALLING ON JBOSS ENTERPRISE APPLICATION PLATFORM 6

Procedure 2.3. Installing the Deployable Package

1. Download the deployable package zip file from the Red Hat Customer Support Portal at
   https://access.redhat.com.

   Select **Downloads → Download your software → BRMS Platform → JBoss BRMS 5.3.1 Deployable for EAP 6**.

2. Extracting the downloaded archive creates the following zip archives:

   - `jboss-brms-engine.zip`

   - `jboss-brms-manager-ee6.zip`

   - `jboss-jbpm-console-ee6.zip`

   - `jboss-jbpm-engine.zip`

   - `modeshape.zip`

   Modeshape is a Java Content Repository (JCR) that is included in JBoss BRMS 5.3 as a technical preview, see the *BRMS Administration Guide* for further details.

3. Extract `jboss-brms.war` from the `jboss-brms-manager.zip` archive and copy to the `jboss-eap-6.0/standalone/deployments/` directory.

4. Extract `business-central.war`, `business-central-server.war`, `desginer.war`, and `jbpm-human-task.war` from the `jboss-jbpm-console-ee6.zip` archive and copy to the `jboss-eap-6.0/standalone/deployments/` directory.

5. Create the following empty files in the `jboss-eap-6.0/standalone/deployments/` directory:

   - jboss-brms.war.dodeploy

   - business-central.war.dodeploy

   - business-central-server.war.dodeploy

   - desginer.war.dodeploy

   - jbpm-human-task.war.dodeploy

6. Edit the `jboss-eap-6.0/standalone/configuration/standalone.xml` file so that the application server will load the required netty library.

   Update the `"urn:jboss:domain:ee:1.1"` subsystem property to match the following code snippet:

```
<subsystem xmlns="urn:jboss:domain:ee:1.1">
   <global-modules>
```
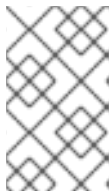
```
    <module name="org.jboss.netty" slot="main"/>
   </global-modules>
 <spec-descriptor-property-replacement>false</spec-descriptor-
property-replacement>
 <jboss-descriptor-property-replacement>true</jboss-descriptor-
property-replacement>
</subsystem>
```

7. Edit the name of the datebase in **jboss-eap-
   6.0/standalone/configuration/standalone.xml** changing it to **jbpmDS:**

```
<subsystem xmlns="urn:jboss:domain:datasources:1.1">
    <datasources>
        <datasource jndi-name="java:jboss/datasources/jbpmDS" pool-
name="jbpmDS" enabled="true" use-java-context="true">
            <connection-url>jdbc:h2:mem:test;DB_CLOSE_DELAY=-
1</connection-url>
            <driver>h2</driver>
            <security>
                <user-name>sa</user-name>
                <password>sa</password>
            </security>
        </datasource>
        <drivers>
            <driver name="h2" module="com.h2database.h2"/>
        </drivers>
    </datasources>
</subsystem>
```

NOTE

The included H2 database is not supported. It is provided for demonstration
purposes only and must be changed to a supported database. Please refer to the
JBoss BRMS 5 Administration Guide for database configuration instructions.

Report a bug

2.5. CONFIGURING AUTHENTICATION

The default authentication configuration uses the **jmx-console** JAAS application profile. If deploying
to an existing application server, it is possible that this profile has already been modified. In that case,
refer to the application server documentation for instructions on adding new users. To change the
default authentication, or add additional users, refer to the *JBoss Enterprise BRMS Administrator Guide*

JBoss Enterprise Application Platform 5.x and JBoss Enterprise SOA Platform

When deploying to JBoss Enterprise Application Platform 5.x or JBoss Enterprise SOA Platform, add
the login module policy to **server/*profile*/login-config.xml**. The
org.jboss.security.auth.spi.UsersRolesLoginModule in the example below is provided as
an example only.

```
<application-policy name="brms">
   <authentication>
      <login-module
```

```
code="org.jboss.security.auth.spi.UsersRolesLoginModule" flag="required">
        <module-option name="usersProperties">props/brms-
users.properties</module-option>
        <module-option name="rolesProperties">props/brms-
roles.properties</module-option>
    </login-module>
  </authentication>
</application-policy>
```

JBoss Enterprise Application Platform 6

When deploying to JBoss Enterprise Application Platform 6, edit the **jaas-config-name** property in **jboss-eap-6.0/standalone/deployments/jboss-brms.war/WEB-INF/components.xml** to **brms**:

```
<security:identity authenticate-method="#{authenticator.authenticate}"
jaas-config-name="brms"/>
```

JBoss Enterprise Web Server

When deploying to JBoss Enterprise Web Server, create a **jaas.config** file, and add the login module policy. The **org.jboss.security.auth.spi.UsersRolesLoginModule** in the example below is provided as an example only.

```
brms {
org.jboss.security.auth.spi.UsersRolesLoginModule required debug=true;
};
```

Save the file to the following location:

- JBoss Enterprise Web Server 1:

  tomcat6/conf/

- JBoss Enterprise Web Server 2:

  tomcat7/conf

> **NOTE**
>
> When using the above example for evaluation purposes, it is necessary to copy the **jbosssx.jar** from the JBoss Enterprise standalone download. Copy the **jbosssx.jar** file from the standalone download **jboss-as/lib/** to the **tomcat6/lib/** directory.

Open the **tomcat/6/bin/catalina.sh** file and search for the following line:

```
# ----- Execute The Requested Command ------
```

Add the following line directly after the above line:

```
JAVA_OPTS="$JAVA_OPTS -Xms1303m -Xmx1303m -XX:MaxPermSize=512m -
Djava.security.auth.login.config=$CATALINA_BASE/conf/jaas.config"
```

2.6. ADDING USERS

Usernames, passwords, and roles are added to properties files.

Usernames and passwords are defined as follows:

```
username=password
```

Roles are defined as follows:

```
username=JBossAdmin,httpInvoker,user,admin
```

JBoss Enterprise Application Platform and JBoss Enterprise SOA Platform use the **brms-users.properties** file for usernames and passwords and **brms-roles.properties** to define roles.

Jboss Enterprise Web Server uses the **users.properties** file for usernames and passwords and **roles.properties** to define roles. JBoss Enterprise Web Server users must also add the username, passwords, and roles to the **tomcat6/conf/tomcat-users.xml** file:

```
<role rolename="manager-gui"/>
<role rolename="manager-script"/>
<role rolename="manager-jmx"/>


<role rolename="user"/>

<user username="admin" password="admin" roles="manager-gui,manager-script,manager-jmx,user"/>
```

> **NOTE**
>
> Users who are given permission to access the business central console must have one of the following roles: administrator, manager, or user.

Create the properties files in the following directory or on the classpath:

- JBoss Enterprise Application Platform 5.x:

  jboss-as/server/*profile*/conf/props/

- JBoss Enterprise SOA Platform:

  jboss-esb/server/*profile*/conf/props/

- JBoss Enterprise Web Server 1:

  tomcat6/lib/

- JBoss Enterprise Web Server 2

```
tomcat7/lib/
```

- JBoss Enterprise Application Platform 6:

```
jboss-eap-6.0/standalone/configuration/
```

JBoss Enterprise Application Platform 6 users must update the security domain to include references to **brms-users.properties** and **brms-roles.properties** by editing the **jboss-eap-6.0/standalone/configuration/standalone.xml** by adding the following XML:

```
<security-domain name="brms" cache-type="default">
    <authentication>
        <login-module code="UsersRoles" flag="required">
            <module-option name="usersProperties"
value="${jboss.server.config.dir}/brms-users.properties"/>
            <module-option name="rolesProperties"
value="${jboss.server.config.dir}/brms-roles.properties"/>
        </login-module>
    </authentication>
</security-domain>
```

Report a bug

2.7. PASSWORD CONFIGURATION FOR JAAS

When using the default JAAS authentication system, usernames and passwords need to be synchronized between JBoss Enterprise BRMS, the Process Designer, and the Business Central console. If the same usernames and passwords are not used, the different components will not function together.

If the additional users are added to the **brms-users.properties** file, they also need to be synchronized for the Process Designer and Business Central Console.

Procedure 2.4. Synchronizing Usernames and Passwords

1. Process Designer: To edit the usernames and passwords for the Process Designer, which is a separate application integrated with JBoss Enterprise BRMS, open the **designer.war/profiles/jbpm.xml** file and edit the **usr** and **pwd** properties:

   ```
   usr="admin" pwd="admin"
   ```

2. Business Central Console. To edit the usernames and passwords for the Business Central Console, open the **business-central-server.war/WEB-INF/classes/jbpm.console.properties** file and edit the **guvnor.usr** and **guvnor.pwd** properties:

   ```
   guvnor.usr=admin
   guvnor.pwd=admin
   ```

Report a bug

2.8. CONFIGURING BUSINESS PROCESS MANAGEMENT

Procedure 2.5. Configuring Business Process Management

1. Configure the human task server by editing `web.xml`, which is located in `jbpm-human-task.war/WEB-INF/`. The human task server defaults to HornetQ. `web.xml` is annotated with instructions. If further information is required, please refer to the Human Tasks chapter of the *JBoss BRMS Business Process Management Guide*

2. Configure the Business Central Console by editing the `jbpm.console.properties` file, which is located in the `business-central-server.war/WEB-INF/classes/` directory. This `jbpm.console.properties` file allows users to configure the console host and port number, task server connectivity, and repository connectivity. Refer to the Business Central Console chapter of the *JBoss BRMS Business Process Management Guide*for further details.

3. Configure the process designer by editing the `jbpm.xml` file, which is located in the `designer.war/profiles/` directory. The `jbpm.xml` file allows users to set the host and port number, username and password. Refer to the Process Designer chapter of the *JBoss BRMS Business Process Management Guide* for further details.

Report a bug

2.9. STARTING THE SERVER

When installing to JBoss Enterprise Application Platform 5.x or JBoss Enterprise SOA Platform, start the server by running the `run.sh` command on a Unix or Linux system, or `run.bat` command on a Microsoft Windows system.

When installing to JBoss Enterprise Application Platform 6, start the server by running the `standalone.sh` command.

When installing to JBoss Enterprise Web server or Apache Tomcat, start the server by running the `startup.sh` command on a UNIX or Linux system or `startup.bat` command on a Microsoft Windows system.

Use the -c switch to specify which profile to use. i.e.,

```
[localhost ]$ ./run.sh -c default
```

After successfully starting, a message is displayed on the command line reporting how long it took the server to start.

Report a bug

2.10. CLUSTERING THE BUSINESS CENTRAL CONSOLE

The Business Central Console can be clustered so that multiple instances of the console and the process engine attached to the console can share the same data in a persisted database. Clustering the console makes it possible to spread the available processes across the cluster, and it also ensures failover if a node in the cluster fails.

The JBoss BRMS rule engine, repository, user interface, and process designer are installed on one host, and instances of the business central console and the process engine are installed on one or more other hosts.

Procedure 2.6. Installing the Business Central Console as a Cluster

1. Download the JBoss BRMS standalone package file from the Red Hat Customer Support Portal at https://access.redhat.com. Select **Downloads** → **Download your software** → **BRMS Platform** and then select the version.

2. Copy the downloaded archive onto the host where the JBoss BRMS engine, user interface, repository, and process designer will be installed. Extract the contents of the standalone zip archive to install the server. This creates the `brms-standalone-5.3.1` directory which includes an installation of JBoss Enterprise Application Platform with JBoss Enterprise BRMS Platform deployed.

3. Remove the following directories: `jbpm-console.war`, `business-central-server.war`, and `jbpm-human-task.war` from `jboss-as/server/default/deploy/` as they will be deployed on other hosts. If the `production` profile is being used, remove the directories from `jboss-as/server/production/deploy/`.

4. Edit the `preferences.properties` file located in `jboss-brms.war/WEB-INF/classes/` by replacing the word `localhost` with the host's IP address for both the `designer.url` and `guvnor.url` properties.

5. Edit the `jbpm.xml` file located in `designer.war/profiles` by replacing the word `localhost` with the host's IP address for the `externalloadurl` property.

6. Copy the downloaded JBoss BRMS standalone archive onto the hosts where the Business Central Console and engine will be installed. Extract the contents of the standalone zip archive.

7. Remove the following directories `jboss-brms.war` and `designer.war` from `jboss-as/server/default/deploy/` as they have already been installed on the first host and are not required. If the `production` profile is being used, remove the directories from `jboss-as/server/production/deploy/`.

8. Edit the `jbpm.console.properties` file, located in `business-central-server.war/WEB-INF/classes/`, by replacing the word localhost from the `guvnor.host` property with the IP address of the first host created in this procedure. This tells the current host where to locate the BRMS repository which is shared across the cluster.

9. Add the current host's IP address to the `jbpm.console.server.host` property. This should be done for each node in the cluster where the Business Central Console will be installed.

10. Update the `persistence.xml` file located in both `business-central-server/WEB-INF/classes/META-INF/` and `jbpm-human-task.war/WEB-INF/classes/META-INF/` to include the data source.

    ```
    <jta-data-source>java:/myDataSource</jta-data-source>
    ```

    Remove the following line from `persistence.xml` in both directories:

    ```
    <property name="hibernate.dialect"
    value="org.hibernate.dialect.HSQLDialect"/>
    ```

    Edit the following line to include the value **update**:

    ```
    <property name="hibernate.hbm2ddl.auto" value="update" />
    ```

11. Start each of the nodes in the cluster with the following command, remembering to provide the partition name, UDP multicast address address, and host IP address:

```
./run.sh -c node1 -g partitionName -Djboss.messaging.ServerPeerID=1
-u UDPMulticastAddress -b hostIPAddress
```

Report a bug

2.11. LOGGING ON

Log into the JBoss BRMS web user interface and Business Central Console after the server has successfully started.

Procedure 2.7. Logging on

1. Log on to the BRMS user interface by pointing a web browser to http://localhost:8080/jboss-brms and entering the user credentials created when enabling users.

   If this is the first log on, a prompt will ask if a sample repository should be installed. The sample rules are useful for training, testing and demonstrative proposes.

2. Log on to Business Central Console by pointing a web browser to http://localhost:8080/business-central and entering the user credentials created when enabling users. The Business Central Console allows users to manage business processes.

Report a bug

CHAPTER 3. USER AUTHORIZATION

3.1. ENABLING ROLE-BASED AUTHORIZATION

JBoss BRMS uses role-based authorization to assign user permissions. Role-based authorization is disabled by default and all users have full administrative permissions.

Procedure 3.1. Enable Role-Based Authorization

1. Before enabling role-based authorization, it is necessary to assign one trusted user the admin role.

   1. From the JBoss Enterprise BRMS web user interface navigation panel, select **Administration** → **User Permissions**.

   2. Click `Create new user mapping` and enter the name of the user to be granted Admin permissions. Note, this user must already exist in the `brms-users.properties` file.

   3. Click **Open** next to the username whose permissions are being changed.

   4. Click the plus icon to add permissions, and select `admin`, click **OK**, and click **Save changes**.

      After the system has saved the changes `Yes` will be displayed under `Administrator`.

2. Shut down the application server before making these changes.

3. Open the `jboss-as/server/production/deploy/jboss-brms.war/WEB-INF/components.xml` file in a text editor.

4. In the default `components.xml` file, locate the following `code` and replace `false` with true:

   ```
   <component
   name="org.jboss.seam.security.roleBasedPermissionResolver">
       <property name="enableRoleBasedAuthorization">false</property>
   </component>
   ```

   > **NOTE**
   >
   > In versions 5.1 and earlier, locate and edit the following XML replacing false with true:
   >
   > ```
   > <security:role-based-permission-resolver enable-role-based-authorization="false"/<
   > ```

5. Restart the application server.

6. Log back into the BRMS web user interface. From the navigation panel, select **Administration** → **User Permissions** and assign users roles as required.

7. Click **Open** next to the username whose permissions are being changed. Select the required role for the user, click **OK**, and click **Save changes**.
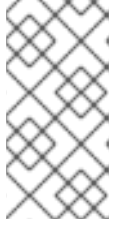
NOTE

Users can be assigned more than one role.

Users assigned the admin role can modify the roles and permissions of other users.

Report a bug

CHAPTER 4. JBOSS DEVELOPER STUDIO

4.1. JBOSS DEVELOPER STUDIO

JBoss Developer Studio is the JBoss Integrated Development Environment available from the Red Hat customer support portal at https://access.redhat.com. JBoss Developer Studio provides tools and interfaces for developers working with JBoss Enterprise BRMS.

Please refer to the *JBoss Developer Studio 5.0 Getting Started Guide* for installation instructions.

Report a bug

4.2. INSTALLING THE JBOSS DEVELOPER STUDIO PLUG-INS

The Drools and jBPM plug-ins for JBoss Developer Studio are available via the update site and can be installed from JBoss Central.

Procedure 4.1. Install the Drools and jBPM JBoss Developer Studio Plug-in

1. Start JBoss Developer Studio.

2. From the welcome page, select `Get started with JBoss Central`.
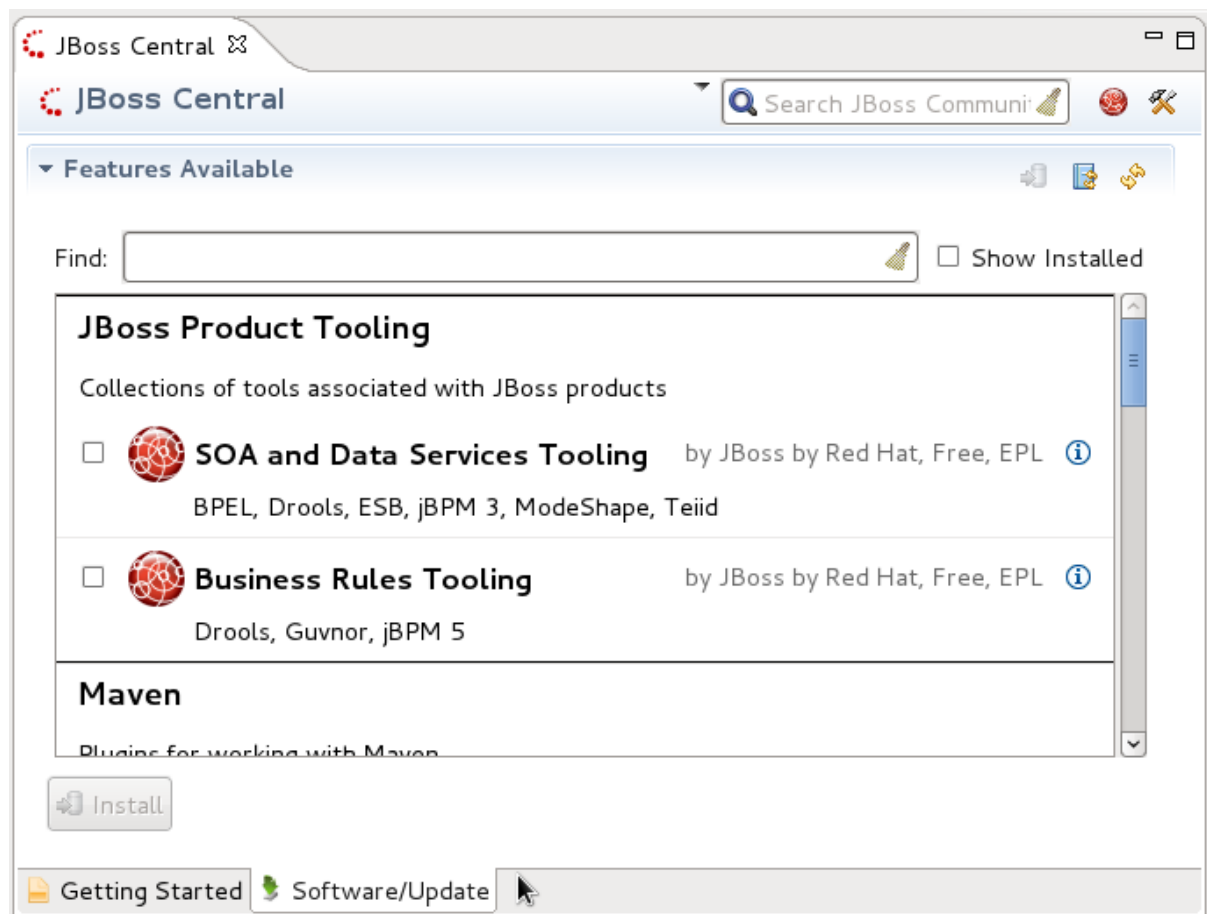
3. Select `Software/Update` from JBoss Central.

Figure 4.1. JBoss Central Software/Update

4. Select `Business Rules Tooling` and click `Install`.

5. Review the installation details and click **Next** and then **Next** again.

6. Read the license and accept it by selecting the appropriate radio button, and click **Finished**.

7. After installation of the plug-ins has completed, restart JBoss Developer Studio.

Report a bug

4.3. SETTING THE DROOLS AND JBPM RUNTIMES

In order to use the Drools and jBPM plug-ins with JBoss Developer Studio, it is necessary to set up the Drools and jBPM runtimes.

A runtime is a collection of jar files that represent a specific release of the software.

Procedure 4.2. Configure Drools Runtime

1. From the JBoss Developer Studio menu, select **Preferences**.

2. Select **Drools → installed Drools Runtimes**.

3. Click **Add...**; provide a name for the new runtime, and click **Browse** to navigate to the directory where the drools runtime is located. For instance, in the BRMS 5.3.1 standalone installation, the drools runtime is located **brms-standalone-5.3.1/jboss-as/client/drools/**.

4. Click **OK** and select the new runtime. A dialogue box will indicate JBDS must be restarted to update the Runtime.

Procedure 4.3. Configure jBPM Runtime

1. From the JBoss Developer Studio menu, select **Preferences**.

2. Select **jBPM → installed jBPM Runtimes**.

3. Click **Add...**, provide a name for the new runtime, and click **Browse** to navigate to the directory where the jBPM runtime is located. For instance, in the BRMS 5.3 standalone installation the jBPM runtime is located **brms-standalone-5.3.1/jboss-as/client/jbpm/**.

4. Click **OK** and select the new runtime. A dialogue box will indicate JBDS must be restarted to update the Runtime.

Report a bug

4.4. CONFIGURING THE JBOSS BRMS SERVER

JBoss Developer Studio can be configured to run the JBoss Enterprise BRMS server.

Procedure 4.4. Configure the Server

1. Open the Drools view by selecting **Window → Open Perspective → Other** and select **Drools** and click **OK**.

2. Add the server view by selecting **Window** → **Show View** → **Other...** and select **Server** → **Servers**.

3. Open the server menu by right clicking the Servers panel and select **New** → **Server**.

4. Define the server by selecting **JBoss Enterprise Middleware** → **JBoss Enterprise Application Platform 5.x.**

5. Set the home directory by clicking the `Add...` link next to `Server runtime environment`.

   Provide a name for the server in the **Name** field.

   Click `Browse` to set the `Home Directory`; navigate to the BRMS installation and select the `jboss-as` directory.

   Select the server profile `Production` from the configuration options and click `Finish` and then `Finish` again.

Report a bug

4.5. JBOSS DEVELOPER STUDIO PERSPECTIVES

JBoss Developer Studio provides perspectives designed for working on different kinds of projects. A perspective populates the workbench with the windows and palettes typically needed for that type of project.

The perspectives of interest to JBoss Enterprise BRMS users are the following:

- Drools

- Guvnor Repository Exploring

- jBPM

To open a perspective select **Window** → **Open Perspective** → **Other** and select the required perspective.

Report a bug

4.6. CONNECTING JBOSS DEVELOPER STUDIO TO THE ASSET REPOSITORY

Procedure 4.5. Connect JBDS to the Asset Repository

1. Start the JBoss BRMS server by selecting the server from the server tab and click the start icon.

2. Open the Guvnor repository by selecting **Window** → **Show View** → **Other**.

   Select **Guvnor** → **Guvnor Repository** and click **OK.**

3. Add the Guvnor connection by selecting `Add a Guvnor repository connection` icon from the Guvnor Repository view.

4. Confirm the repository details displayed are correct.

Enter the Guvnor username and password and click **Finish**.

Guvnor Preferences

The JBoss Developer Studio preferences for the Guvnor plug-ins allows user to choose whether or not to save authentication information when connecting to a Guvnor repository, and it allows users to define a Guvnor URL template for creating new connections.

The Guvnor preferences are set by accessing the preferences menu. Select **Window** → **Preferences** → **Guvnor** to access the preferences.

Report a bug

4.7. WORKING WITH GUVNOR FILES LOCALLY

Resources stored in the Guvnor repository can be copied to JBoss Developer Studio allowing developers to work with files locally.

Use the `Resources from Guvnor` wizard to copy files from the Guvnor repository to the local workspace.

Importing Guvnor Repository Resources

- Select **File** → **Import** → **Guvnor** → **Resources from Guvnor**.

- Select the repository connection.

- Select the resources to be copied.

- Select the target location in the local workspace.

When local copies of Guvnor repository files are created, JBoss Developer Studio sets an association between the local copy and the master file in the repository. This information is kept in the (normally) hidden .guvnorinfo folder in the local project and, like all metadata, should not be changed by end users.

The association allows for operations such as update and commit in synchronization with the master copy held in the Guvnor repository.

The following actions can be performed though the Guvnor context menus in JBoss Developer Studio:

Update Action:

The Update action is available for one or more Guvnor resources that are not synchronized with the Guvnor repository master copies. These files would be out of synchronization due to one or both of the following conditions:

- There are local changes to the resources.

- The master copies have been changed in the Guvnor repository.

Performing the Update action replaces the contents of the local file with the contents of the associated master copies in the Guvnor repository.

Add Action:

The Add action adds a local file that is not associated with a Guvnor repository master copy to the Guvnor repository.

Commit Action:

The Commit action is enabled for one or more Guvnor repository associated files that have local changes. The Commit action will write the local changes back to the associated Guvnor repository files and update the association for the new revision.

If a local change is based on an older revision of a file than is currently in the Guvnor repository (for example, someone else changed the same file), then the Commit action will ask whether you wish to overwrite the current version in the Guvnor repository with the local content. When such conflicts occur, you should use the Eclipse Guvnor version tools, along with Eclipse standard tools, to determine the differences and merge content based on the current version in the Guvnor repository.

Show History Action:

The Show History action shows a file's revision history.

Compare with Version Action:

The Compare With Version action opens a wizard that allows versions of a file to be compared for changes.

Switch to Version Action:

The Switch to Version action replaces the current version of a file with the selected version from the revision history.

Delete Action:

The Delete action removes the files in the Guvnor repository and deletes local metadata for the Guvnor repository association.

Disconnect Action:

The Disconnect action is enabled for one or more Guvnor repository associated files, and it removes local metadata for the Guvnor repository association.

Guvnor Preferences

The JBoss Developer Studio preferences for the Guvnor plug-ins allows user to set decoration preferences for local Guvnor resources to identify changes to local files.

The Guvnor preferences are set by accessing the preferences menu. Select **Window** → **Preferences** → **Guvnor** to access the preferences.

Report a bug

CHAPTER 5. JBOSS DEVELOPER STUDIO AND JBOSS BRMS EXAMPLES

5.1. CREATING A NEW PACKAGE

Knowledge bases are used as a central repository for knowledge packages. Knowledge packages contain the rules, facts, and process definitions that provide applications with the business logic.

Procedure 5.1. Creating a New Package

1. Start the server if it is not already running.

2. Log on to the user interface at http://localhost:8080/jboss-brms/org.drools.guvnor.Guvnor/Guvnor.html

3. From the navigation panel, select **Knowledge Bases** and then select **Create New → New Package**.

4. Enter a name and a description for the new package and click **Create Package**.

The new package can be seen under **Knowledge Bases** by expanding the packages menu.

Report a bug

5.2. JBOSS CENTRAL

When JBoss Developer Studio 5.0 is first started, JBoss Central is displayed in the main window of the workbench. From JBoss Central it is possible to create new projects by selecting the menu options under **Create Projects**. Example projects can be started by selecting the links under **JBoss Quickstarts**.
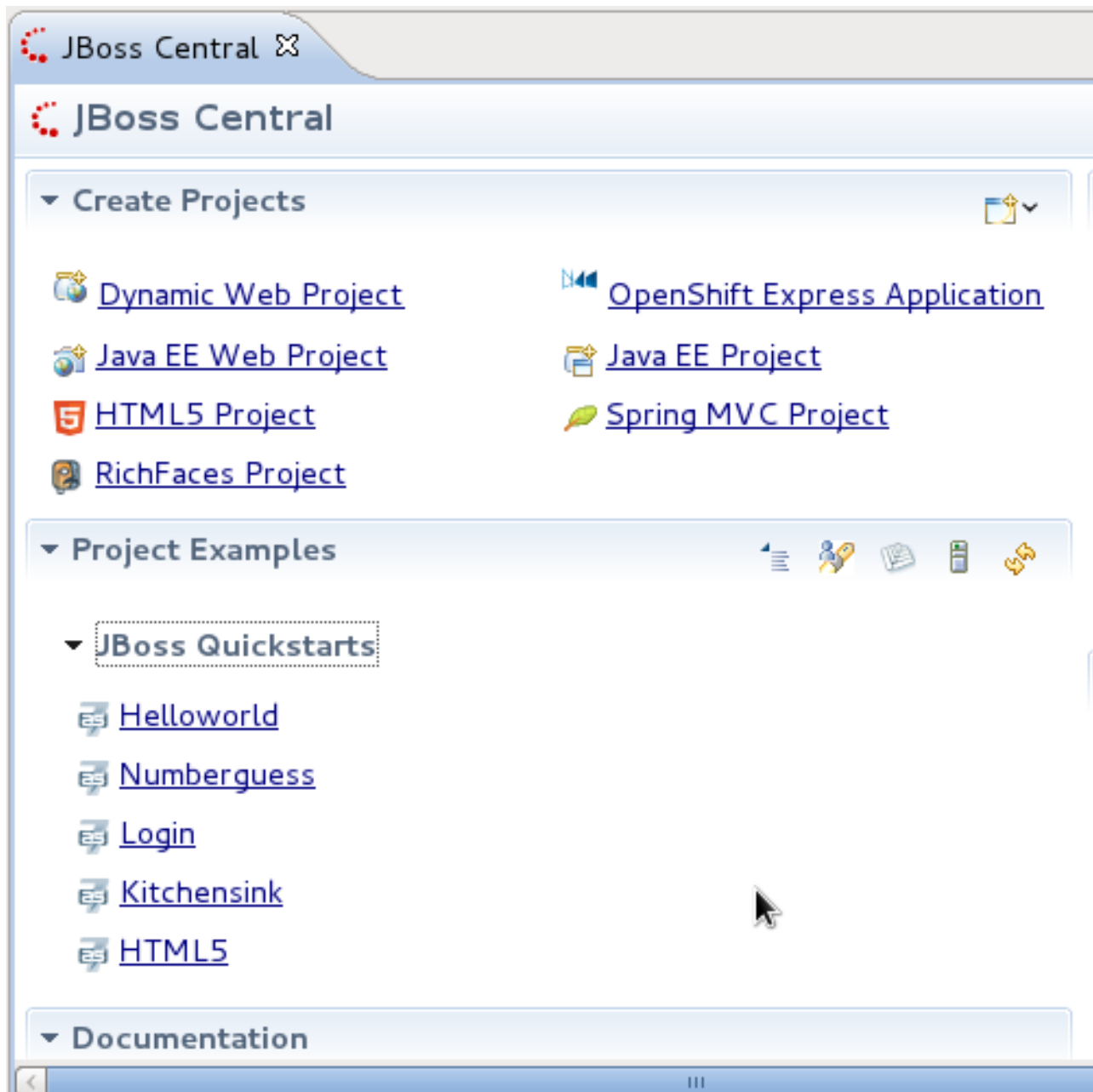
Figure 5.1. JBoss Central

Report a bug

5.3. CREATING A JBPM PROJECT

Procedure 5.2. Creating a New JBDS Project

1. From the main menu select **File → New → Project**.

   Select **jBPM → jBPM project**.

2. Enter a name for the project into the `Project name:` text box and click `Next`.

   NOTE

   JBDS provides the option to add a sample HelloWorld Process to the project. Accept this default to test the sample project in the next step.

3. To test the project, right click the Java file that contains the main method and select **Run** → **run as** → **Java Application**.

   The output will be displayed in the console tab.

Procedure 5.3. Add the jBPM Project to JBoss BRMS

1. From the navigation panel, locate the sample.bpmn file.

   The sample.bpmn file is located by opening the test jBPM projectv and navigating to `src/main/resources/`.

2. Right click the file and select **Guvnor** → **Add** and click **Next**; expand the repository displayed to locate the package the file should be added to and click **Finish**.

3. View the process or rule in BRMS by logging onto the BRMS user interface.

   From the navigation panel, select **Knowledge Bases** and expand the package explorer to locate the package.

   Select **Processes** and click **Open** from the list of processes.

Report a bug

5.4. CREATING A DROOLS PROJECT

Procedure 5.4. Creating a New JBDS Project

1. From the main menu, select **File** → **New** → **Project**.

   Select **Drools** → **Drools Project**.

2. Enter a name for the project into the `Project name:` text box and click **Next**.

   > **NOTE**
   >
   > JBDS provides the option to add a sample HelloWorld Rule file to the project. Accept this default to test the sample project in the next step.

3. To test the project, right click the Java file that contains the main method and select **Run** → **run as** → **Java Application**.

   The output will be displayed in the console tab.

1. From the navigation panel locate the sample.bpmn or sample.drl file.

   The sample.drl file is located by opening the test drools project and navigating to `src/main/rules/`.

2. Right click the file and select **Guvnor** → **Add** and click **Next**; expand the repository displayed to locate the package the file should be added to and click **Finish**.

3. View the process or rule by logging onto the BRMS user interface.

From the navigation panel, select **Knowledge Bases** and expand the package explorer to locate the package.

Select **Technical rule assets** and click **Open** from the list of rules.

Report a bug

APPENDIX A. REVISION HISTORY

Revision 5.3.1-24.400   **2013-10-31**   **Rüdiger Landmann**
   Rebuild with publican 4.0.0

Revision 5.3.1-24   **Tue Jun 11 2013**   **CS Builder Robot**
   Built from Content Specification: 11104, Revision: 458753