Red Hat Process Automation Manager 7.1

Configuring Business Central settings and properties

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Abstract

This document describes how to customize and manage the various features of Business Central in Red Hat Process Automation Manager 7.1.

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PREFACE

As an administrator, you can customize Business Central using the **Admin Settings**. You can use the **Admin Settings** to customize the following items:

- **`Roles`**: Set the home page, priority, and permissions of a role.
- **`Groups`**: Set the home page, priority, and permissions of a group as well as create and delete groups.
- **`Users`**: Create and delete users as well as add a group or role to a user and view its permissions.
- **`Artifacts`**: View M2 repository artifacts, upload artifacts, view, and download JAR files.
- **`Data Source`**: Add, update, or delete data sources and database drivers.
- **`Data Sets`**: Create, modify, or delete data sets.
- **`Projects`**: View and edit project preferences such as file export properties, space properties, default values, and advanced GAV properties.
- **`Artifact Repository`**: Manage artifact repository properties.
- **`Languages`**: Set the Business Central language.
- **`Process Designer`**: Set diagram editor properties.

Prerequisites

- Installed Red Hat JBoss Enterprise Application Platform 7.1.0. For more information, see *Red Hat JBoss EAP 7.1.0 Installation Guide*.
- Installed Red Hat Process Automation Manager. For more information, see the *Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.1*.
- Red Hat Process Automation Manager is running and you can log in to Business Central with the **`admin`** role.

CHAPTER 1. USER MANAGEMENT

Business Central defines three types of entities for security management - users, groups, and roles. Permissions can be assigned to both roles and groups. Business Central provides the following roles:

- process-admin
- manager
- admin
- analyst
- developer
- user

> **NOTE**
>
> If a role's identifier is present in the application's Role Registry only then it is considered a role otherwise its a group.

You can use Business Central to create and manage as many users and groups as you require. A user must be assigned at least one user-specific role to login to Business Central. User privileges depends on permissions from the groups and roles the user is a member of. Note that role or group priority is taken into account in case a user has several roles or groups assigned to it.

1.1. CREATING USERS

You can create as many Business Central users as you require. User privileges and settings are controlled by the roles assigned to a user and the groups that a user belongs to.

Procedure

1. Click the gear icon, and then click **Users**.
2. Click **New user**, enter a user name, and then click **Next**.
3. If desired, click the **Groups** tab, click **Add to groups**, and then select the groups that you want this user to belong to. Then click **Add to selected groups**.
4. Click the **Roles** tab, click **Add roles**, and then select the roles that you want to give this user. Then click **Add to selected roles**.
5. Click **Create**.
6. Click **Yes** to set a password for the user and click **Change**.

> **NOTE**
>
> The user must have at least one role to access Business Central.

1.2. EDITING USERS

You can edit the users of Business Central according to your needs. From the **Users** option in **Settings**, you can change the group and role of a user. All user permissions are based on the group and role permissions of the user. You can view the user permissions from the **Permissions** tab.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Users**.
3. From **All users**, click on the user you want to edit. All user details are displayed in the right pane.
4. Click **Edit**.
   - Complete the following steps to add groups to users:
     a. From **Groups**, click **Add to groups**. The **Group selection for user** window opens.
     b. Select or deselect the groups you want the user to be a part of.
     c. Click **Add to selected groups**.
   - Complete the following steps to add roles to users:
     a. From **Roles** tab, click **Add roles**. The **Role selection for user** window opens.
     b. Select or deselect the roles you want to assign to the user.
     c. Click **Add to selected roles**.
   - Complete the following step to view user permissions:
     a. Click on the **Permissions** tab and expand the attributes to view user permissions.
   - Complete the following steps to change the user's password,
     a. Click **Change Password**. The **Change password for user** window opens.
     b. Enter and confirm the new password and click **Change**.
   - Complete the following steps to delete the user,
     a. Click **Delete** and then click **Yes** to remove the user.
5. Click **Save** to apply the changes.

1.3. CREATING GROUPS

In Business Central, groups allow you to control permissions for a collection of users. You can create as many groups as you want but a group must have at least one user.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Groups**.
3. Click **New group**, enter a group name, and then click **Next**.

4. Select the users that you want to belong to this group, and then click **Add selected users**. The newly created group is listed under **All groups**.

1.4. EDITING GROUPS

You can edit a group's attributes such as home page, priority, and permissions according to your requirements. From the **Groups** option in **Settings**, you can modify or delete a group.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Groups**.
3. From **All groups**, click on the group you want to edit. All user details are displayed in the right pane.
4. Select the home page from the **Home Page** list.
5. Select the priority from the **Priority** list.
6. From the **Permissions** section, expand the resource attribute and change its permission.

    NOTE

    You can add exceptions to **Pages**, **Editor**, **Spaces**, and **Projects** permissions.

7. Click **Save** to apply the changes.

    NOTE

    Use **Delete** to remove a group from Business Central.

CHAPTER 2. MANAGING ARTIFACTS

You can manage artifacts from the **Artifacts** page in Business Central. The artifact repository is a local Maven repository and there is only one Maven repository for each installation. Business Central recommends using Maven repository solutions like *Sonatype Nexus™*, *Apache Archiva™*, or *JFrog Artifactory™*.

The **Artifacts** page lists all the artifacts in the Maven repository. You can also upload a new artifact to the Maven repository using the **Upload** button.

NOTE

Only **.jar*, **.kjar*, or *pom.xml* files can be uploaded to the Artifacts repository.

2.1. VIEWING AN ARTIFACT

You can view all the content of the local maven repository from the **Artifacts** page.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Artifacts**.
3. Click **Open** to view the artifact details.
4. Click **Ok** to go back to the **Artifacts** page.

2.2. DOWNLOADING AN ARTIFACT

You can download and save an artifact from Business Central's repository to a project's local storage.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Artifacts**.
3. Click **Download**.
4. Browse to the directory where you want to save the artifact and click **Save**.

2.3. UPLOADING AN ARTIFACT

You can upload an artifact from the local storage to a project in Business Central.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Artifacts**.
3. Click **Upload**.

4. Click **Choose File** and browse to the directory from where you want to upload the artifact.
5. Click **Upload**.

NOTE

In case you are using a non-maven artifact, first deploy the artifact to the maven repository using `mvn deploy` command and then refresh the artifact list in Business Central.

CHAPTER 3. MANAGING DATA SOURCES

Business Central provides data source management which gives you the ability of defining data sources for accessing a database. These data sources are then used by other Business Central components such as the data sets. A database driver, on the other hand, is used for enabling communication between a data source and the targeted database.

From the **Data Source Authoring** page you can add data sources and database drivers to Business Central.

NOTE

Business Central provides a default data source that can can be used but can neither be edited nor deleted.

3.1. ADDING A DATABASE DRIVER

You can add a new database driver to Business Central according to your requirements.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, click **Add Driver**. The **New driver** window opens.
4. In the **New driver** window, enter the **Name**, **Driver Class Name**, **Group Id**, **Artifact Id**, and the **Version** of the database driver.
5. Click **Finish** to add the driver to Business Central.

3.2. EDITING A DATABASE DRIVER

You can update the properties of a database driver from the **Driver Definition** pane.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, select the driver you want to edit. The **Driver Definition** pane lists the driver details.
4. In the **Driver Definition** pane, make the necessary changes to the **Name**, **Driver Class Name**, **Group Id**, **Artifact Id**, and the **Version** fields.
5. Click **Update**.
6. Click **Yes** to save the changes to the driver.

3.3. DELETING A DATABASE DRIVER

You can remove database drivers from the **Data Source Definition** pane of Business Central.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, select the driver you want to delete. The **Data Source Definition** pane lists the driver details.
4. Click **Remove**.
5. Click **Delete** to delete the driver.

3.4. ADDING A DATA SOURCE

You can add a new data source to Business Central from the **Data Sources Authoring** page.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, click **Add DataSource**. The **New data source** window opens.
4. In the **New data source** window, enter the data source **Name**, database **Connection URL**, **User** and **Password**, and **Driver**.
5. Click **Test Connection** to verify the connection to the database.
6. Click **Finish** to add the data source to Business Central.

3.5. EDITING A DATA SOURCE

You can edit the properties of a data source and also test its connection to the database in Business Central.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, click on the data source you want to edit. The **Data Source Definition** pane lists the data source details.
4. In the **Data Source Definition** pane, make the necessary changes to the **Name**, **Connection URL**, **User**, **Password**, and the **Driver** fields.
5. Click **Test Connection** to verify the connection to the database.
6. Click **Update**.

7. Click **Save** to confirm the changes to the data source.

3.6. DELETING A DATA SOURCE

You can delete an existing data source from the **DataSource Explorer** pane in Business Central.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Data Sources**. The **Data Sources Authoring** page opens.
3. In the **DataSource Explorer** pane, click on the data source you want to delete. The **Data Source Definition** pane lists the data source details.
4. Click **Remove**.
5. Click **Delete** to confirm the deletion of the data source.

CHAPTER 4. DATA SETS AUTHORING

A data set is a collection of related sets of information. It can be stored in many ways, such as in a database, in a Microsoft Excel file, in memory, and so on. A data set definition instructs Business Central how to access, read, and parse a data set. Business Central does not store data. It enables you to define access to a data set regardless of where the data is stored.

For example, if data is stored in a database, a valid data set could contain the entire database or a subset of the database as a result of an SQL query. In both cases, the data is used as input for the reporting components of Business Central which then displays the information.

To access a data set, you must create and register a data set definition, which will define where the data set is stored, how it can be accessed, read, and parsed, and what columns it contains.

> **NOTE**
>
> The **Data Sets** page is visible only to users with **admin** role.

4.1. ADDING DATA SETS

You can create a new data set to fetch data from an external data source and use that data for the reporting components.

Procedure

1. Log in to Business Central and click the gear icon.
2. Click **Data Sets** → **Data Set Explorer** → **New Data Set**.
3. Select one of the following the provider types:
    - **Bean:** Use to generate a data set from a Java class
    - **CSV:** Use to generate a data set from a remote or local CSV file
    - **SQL:** Use to generate a data set from an ANSI-SQL compliant database
    - **Elastic Search:** Use to generate a data set from Elastic Search nodes
    - **Execution Server:** Use to generate a data set using the custom query feature of an Execution Server

    > **NOTE**
    >
    > **KIE Server** must be configured with this option.

4. Complete the **Data Set Creation Wizard** and click **Test**.

    > **NOTE**
    >
    > Depending on the provider you chose, the configuration steps will differ.

5. Click **Save**.

4.2. EDITING DATA SETS

You can edit existing data sets to ensure that the data fetched to the reporting components is up-to-date.

Procedure

1. Log in to Business Central, click the gear icon, and then click **Data Sets**.
2. In the **Data Set Explorer** pane, search for the data set you want to edit and click **Edit**.
3. In the **Data Set Editor** pane, use the appropriate tab to edit the data as required. The tabs will differ based on the data set provider type you chose.
   For example, the following changes are applicable for editing a **CSV** data provider.
   - **CSV Configuration:** Enables you to change the name of the data set definition, the source file, the separator, and other properties.
   - **Preview:** Enables you to preview the data. After you click **Test** in the **CSV Configuration** tab, the system executes the data set lookup call and if the data is available, a preview appears. Note that the **Preview** tab has two sub-tabs:
     - **Data columns:** Enables you to specify what columns are part of your data set definition.
     - **Filter:** Enables you to add a new filter.
   - **Advanced:** Enables you to manage:
     - **Caching:** See Section 4.4, “Caching” for more information.
     - **Cache life-cycle** See Section 4.3, “Data refresh” for more information.
4. After making the required changes, click **Validate**.
5. Click **Save**.

4.3. DATA REFRESH

The data refresh feature enables you to specify an interval of time after which a data set (or data) is refreshed. The **Refresh on stale data** feature refreshes the cached data when the back-end data changes.

4.4. CACHING

Business Central provides caching mechanisms for storing data sets and performing data operations using in-memory data. Caching data reduces network traffic, remote system payload, and processing time. To avoid performance issues, configure the cache settings in Business Central.

For any data lookup call that result in a data set, the caching technique will determine where the data lookup call is executed and where the resulting data set is stored. An example of a data lookup call would be all the mortgage applications whose locale parameter is set as "Urban".

Business Central data set functionality provides two cache levels:

- Client level
- Back end level

Client cache

When the cache is turned on, the data set is cached in a web browser during the lookup operation and further lookup operations do not perform requests to the back end. Data set operations like grouping, aggregations, filtering, and sorting are processed in the web browser. Enable client caching only if the data set size is small, for example, for data sets with less than 10 mb size. For large data sets, browser issues such as slow performance or intermittent freezing can occur. Client caching reduces the number of back end requests including requests to the storage system.

Back end cache

When the cache is enabled, the process engine caches the data set. This reduces the number of requests to the remote storage system. All data set operations are performed in the process engine using in-memory data. Enable back-end caching only if the data set size is not updated frequently and it can be stored and processed in memory. Using back-end caching is also useful in cases with low latency connectivity issues with the remote storage.

NOTE

Back end cache settings are not always visible in the **Advanced** tab of the **Data Set Editor** because Java and CSV data providers rely on back end caching (data set must be in the memory) in order to resolve any data lookup operation using the in-memory process engine.

CHAPTER 5. CUSTOMIZING PROJECT PREFERENCES

A project stores assets and is part of a space. A space can hold multiple projects.

For example, an organization has many departments, such as HR, Payroll, Engineering, R&D, and so on. Each department maps to a space. And every department can have their own projects.

You can create a new Project from scratch or clone projects from an existing Git repository.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Projects**. The **Projects** page opens.
3. **Project Preferences** has the following four options,
   - **File exporting** option. It has the following properties,

     Table 5.1. File exporting properties

Field	Description
PDF orientation	Determines whether the PDF orientation is portrait or landscape.
PDF units	Determines whether the PDF unit is *PT*, *MM*, *CN* or *IN*.
PDF page format	Determines whether the PDF page format is *A[0-10]*, *B[0-10]*, or *C[0-10]*.

   - **Spaces** option. It has the following properties,

     Table 5.2. Spaces properties

Field	Description
Name	The default name of the space that is created automatically if none exists.
Owner	The default owner of the space that is created automatically if none exists.
Group ID	The default group id of the space that is created automatically if none exists.
Alias (in singular)	Determines the customized alias (singular) of the space.
Alias (in plural)	Determines the customized alias (plural) of the space.

- **Default values** option. It has following properties,

  Table 5.3. Default values properties

Field	Description
Version	The default version number of a project when creating projects using the Quick setup option.
Description	The default description of a project when creating projects using the Quick setup option.
Branch	The default branch to be used when using a Git repository.

- **Default values** option. It has following properties,

  Table 5.4. Advanced GAV preference properties

Field	Description
Disable GAV conflict check?	Determines whether to enable or disable the GAV conflict check. Disabling this feature will allow projects to have the same GAV(Group ID, Artifact, Version).
Allow child GAV edition?	Determines whether to allow child/sub-projects to have GAV edition.

4. Click **Save**.

CHAPTER 6. CUSTOMIZING ARTIFACT REPOSITORY PROPERTIES

In some cases, projects need to resolve external dependencies to build domain model Jars. A repository contains the needed artifacts which has the following features:

- It’s a Maven repository.
- All snapshots are time stamped.
- Mostly stored in the local hard drive

By default, the artifact repository is in **`$WORKING_DIRECTORY/repositories/kie`**.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Artifact Repository**. The **Artifact Repository** page opens.
3. Make selections and enter information in the **Properties** section.
4. Click **Save**.

CHAPTER 7. CUSTOMIZING LANGUAGE SETTINGS

You can change the language settings of Business Central from the **Settings** page. Business Central supports seven languages - *English*, *German*, *Spanish*, *French*, *Japanese*, *Portuguese*, and *Chinese(Simplified)*. The default language is *English*.

Procedure

1. Log in to Business Central.
2. Go to **Admin** → **Languages**. The **Language Selector** window opens.
3. Select the desired language from the **Language** list.
4. Click **Ok**.

CHAPTER 8. CUSTOMIZING THE PROCESS DESIGNER

You can customize the process designer in Business Central by editing the properties of the diagram editor from the **Settings** page.

Procedure

1. Log in to Business Central.

2. Go to **Admin** → **Process Designer**.

3. From the **Properties** section, update any of the following properties and click **Save**.

    - Select the **Auto hide category panel** check box to automatically hide a category toolbar panel.

    - In the **Drawing area width** field, enter an integer value between *2800* and *5600* to set the width of the drawing area.

    - In the **Drawing area height** field, enter an integer value between *1400* and *2800* to set the height of the drawing area.

    - Select the **Enable HiDPI** check box if you are using a high resolution display and are seeing blurry text and objects. This option is disabled by default.

CHAPTER 9. LDAP CONNECTION

Business Central provides a dedicated **`UserGroupCallback`** implementation for LDAP servers with Red Hat Process Automation Manager to enable the user task service to retrieve information on users, groups, and roles directly from an LDAP service.

You can configure the following LDAP **`UserGroupCallback`** implementation properties:

Table 9.1. LDAP UserGroupCallback properties

Property	Description
`ldap.bind.user`	User name for connecting to the LDAP server (*optional* if the LDAP server accepts anonymous access).
`ldap.bind.pwd`	Password for connecting to the LDAP server (*optional* if the LDAP server accepts anonymous access).
`ldap.user.ctx`	Context in LDAP with user information (*mandatory*).
`ldap.role.ctx`	Context in LDAP with group and role information (*mandatory*).
`ldap.user.roles.ctx`	Context in LDAP with user group and role membership information (*optional* if not specified and **`ldap.role.ctx`** property is used instead).
`ldap.user.filter`	Filter for searching user information; usually contains substitution keys {0}, which are replaced with parameters (*mandatory*).
`ldap.role.filter`	Filter for searching group and role information, usually contains substitution keys {0}, which are replaced with parameters (*mandatory*).
`ldap.user.roles.filter`	Filter for searching user group and role membership information, usually contains substitution keys {0}, which are replaced with parameters (*mandatory*).
`ldap.user.attr.id`	Attribute name of the user ID in LDAP (*optional*; if not specified, **`uid`** property is used instead).
`ldap.roles.attr.id`	Attribute name of the group and role ID in LDAP (*optional*; if not specified, **`cn`** property is used instead).
`ldap.user.id.dn`	User ID in a DN, instructs the callback to query for user DN before searching for roles (*optional*; is **`false`** by default).

`java.naming.factory.initial`	Initial context factory class name; is **`com.sun.jndi.ldap.LdapCtxFactory`** by default.
`java.naming.security.authentication`	Authentication type (possible values are **`none`**, **`simple`**, and **`strong`**; is **`simple`** by default).
`java.naming.security.protocol`	Security protocol to be used, for example, **`ssl`**.
`java.naming.provider.url`	LDAP url (by default **`ldap://localhost:389`**; if the protocol is set to *ssl* then **`ldap://localhost:636`**)

9.1. USING LDAP USERGROUPCALLBACK IMPLEMENTATION

You can use the LDAP **`UserGroupCallback`** implementation by configuring the respective LDAP properties in one of the following ways:

- Programatically: build a properties object with the respective **`LDAPUserGroupCallbackImpl`** properties and create **`LDAPUserGroupCallbackImpl`** with the properties object as its parameter.

```
import org.kie.api.PropertiesConfiguration;
import org.kie.api.task.UserGroupCallback;
...
Properties properties = new Properties();
properties.setProperty(LDAPUserGroupCallbackImpl.USER_CTX,
"ou=People,dc=my-domain,dc=com");
properties.setProperty(LDAPUserGroupCallbackImpl.ROLE_CTX,
"ou=Roles,dc=my-domain,dc=com");
properties.setProperty(LDAPUserGroupCallbackImpl.USER_ROLES_CTX,
"ou=Roles,dc=my-domain,dc=com");
properties.setProperty(LDAPUserGroupCallbackImpl.USER_FILTER, "(uid=
{0})");
properties.setProperty(LDAPUserGroupCallbackImpl.ROLE_FILTER, "(cn=
{0})");
properties.setProperty(LDAPUserGroupCallbackImpl.USER_ROLES_FILTER,
"(member={0})");

UserGroupCallback ldapUserGroupCallback = new
LDAPUserGroupCallbackImpl(properties);

UserGroupCallbackManager.getInstance().setCallback(ldapUserGroupCall
back);
```

- Declaratively: create the **`jbpm.usergroup.callback.properties`** file in the root of your application or specify the file location as a system property: **`-Djbpm.usergroup.callback.properties=FILE_LOCATION_ON_CLASSPATH`**
Ensure that you register the LDAP callback when starting the user task server.

```
#ldap.bind.user=
#ldap.bind.pwd=
```

```
ldap.user.ctx=ou\=People,dc\=my-domain,dc\=com
ldap.role.ctx=ou\=Roles,dc\=my-domain,dc\=com
ldap.user.roles.ctx=ou\=Roles,dc\=my-domain,dc\=com
ldap.user.filter=(uid\={0})
ldap.role.filter=(cn\={0})
ldap.user.roles.filter=(member\={0})
#ldap.user.attr.id=
#ldap.roles.attr.id=
```

Additional resources

- *Roles and users*.
- *Red Hat Single Sign-On Server Administration Guide*.
- *Defining LDAP login domain*.
- *LDAP login module*.
- *LDAPExtended login module*.
- *AdvancedLDAP login module*.
- *AdvancedAdLDAP login module*.
- *LDAP connectivity options*.
- *LDAPUsers login module*.

CHAPTER 10. CONFIGURING MAVEN USING SETTINGS.XML FILE

Java application development uses the Apache Maven build automation tool to build and manage software projects. Maven uses Project Object Model (POM) configuration XML files to define both, the project properties and the build process.

Maven uses repositories to store Java libraries, plug-ins, and other build artifacts. Repositories can be either local or remote. A local repository is a download of artifacts from a remote repository cached on a local machine. A remote repository is any other repository accessed using common protocols, such as **`http://`** when located on an HTTP server, or **`file://`** when located on a file server. The default repository is the public remote Maven 2 Central Repository. Configuration of Maven is performed by modifying the settings.xml file. You can either configure global Maven settings in the **`M2_HOME/conf/settings.xml`** file, or user-level settings in the **`USER_HOME/.m2/settings.xml`** file.

Additional resources

- *Configuring an external Maven repository for Business Central*
- *Packaging and deploying a project in Maven*
- *Setting Maven dependencies in your project*
- *System integration with Maven*
- *Welcome to Apache Maven*
- *Apache Maven Project - Introduction to Repositories*
- *Apache Maven Project POM Reference*.

CHAPTER 11. MANAGING GAV CHECKS

In Business Central, projects are identified using Maven naming convention or GAV (group Id, artifact, and version) data. GAV values differentiate projects and project versions as well as identify dependencies with particular projects.

By default, Business Central detects duplicate GAVs. This feature can be disabled by users with the *admin* role.

Enabling GAV checks and child GAV edition

Procedure

1. Log in to Business Central.
2. Go to **Menu** → **Design** → **Projects**.
3. Double-click the project to open it.
4. In the **Project Editor** window, click the **Settings** tab.
5. Make the following selections from the **General Settings** tab.
   a. Select **Disable GAV conflict check** to enable other projects to have the same GAV.
   b. Select **Allow child GAV edition** to enable child projects to have GAV edition.
6. Click **Save**.

   NOTE

   Click **Reset** to undo all changes.

7. Click **Save** again to confirm the changes.

NOTE

You can disable the duplicate GAV detection feature by setting the **`org.guvnor.project.gav.check.disabled`** system property to *true* when you start Business Central.

```
$ ~/EAP_HOME/bin/standalone.sh -c standalone-full.xml
-Dorg.guvnor.project.gav.check.disabled=true
```

CHAPTER 12. REPOSITORY HOOKS

In Business Central, you can use scripts, known as hooks, to configure the repository to trigger a specified action every time a particular event happens.

12.1. CONFIGURING GIT HOOKS

Business Central can automatically push changes to a remote repository using Git hooks. After you configure the post-commit hook, Business Central automatically pushes your changes to the remote repository.

> **NOTE**
>
> Currently only post-commit hooks are supported. Post-commit hooks are triggered after the commit process finishes.

Prerequisites

- Red Hat Process Automation Manager projects exist in an external Git repository.
- Credentials required for read access to that external Git repository are available.

Procedure

1. Log in to Business Central.
2. Go to **Menu** → **Projects**.
3. Select or create the space into which you want to import the projects.
4. Click ⋮ on the right side of the screen and select **Import Project**.
5. In the **Import Project** window, enter the URL (for example, `https://github.com/USERNAME/REPOSITORY_NAME.git`) and credentials for the Git repository that contains the project that you want to import and click **Import**.
   The project is added to the Business Central Git repository and is available in the created or default space.

   > **IMPORTANT**
   >
   > Use the HTTPS or Git protocol instead of a SCP-style SSH URL. Business Central does not support the basic SSH URL and an error appears if you use this URL.

6. In a terminal window, change to the created repository.

   ```
   cd JBOSS_HOME/bin/.niogit/REPOSITORY_NAME.git
   ```

7. Create the **`post-commit`** file in the **`JBOSS_HOME/bin/.niogit/REPOSITORY_NAME.git/hooks`** directory, set the permissions to **`rwxr—r--`** and add the following content:

```
#!/bin/sh
git push origin master
```

8. Make sure that the configuration was successful by creating a new guided rule in Business Central:

   a. Go to **Menu** → **Projects** → **Add Asset** → **Guided Rule**.

   b. Fill in the required information in the displayed **Create new Guided Rule** window.

   c. Click **Ok**.
   Business Central automatically pushes all changes to the remote repository.

You can also specify the **`org.uberfire.nio.git.hooks`** system property. Specify a directory with default hook files as the value for this property. This directory will be copied to the newly created Git repositories. See the following example of a **`standalone.xml`** file with this setting below:

```
<system-properties>
  <property name="org.uberfire.nio.git.hooks" value="/opt/jboss-as/git-
hooks">
  </property>
  ...
</system-properties>
```

Additional resources

- *Customizing Git Hooks*

CHAPTER 13. VIEWING PROCESS INSTANCE LOGS

You can view all the process events of an instance from its **Logs** tab. The instance logs list all the current and previous process states. Business Central has two types of logs for process instances, **Business** and **Technical** logs.

Procedure

1. Log in to Business Central.
2. Go to **Menu** → **Manage** → **Process Instances**.
3. On the **Manage Process Instances** page, click on the process instance whose log you want to view.
4. Select the **Logs** tab:
   - Click **Business** to view the business events log.
   - Click **Technical** to view the technical events log.
   - Click **Asc** or **Desc** to change the order of the log files.

APPENDIX A. VERSIONING INFORMATION

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