Abstract

This document describes how to integrate Red Hat Single Sign-On with Red Hat Process Automation Manager to provide a single secure authentication method.
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As a system administrator, you can integrate Red Hat Single Sign-On with Red Hat Process Automation Manager to secure your Red Hat Process Automation Manager browser applications with a single authentication method.

Prerequisites

- Red Hat Process Automation Manager is installed on Red Hat JBoss EAP 7.2. For information, see *Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2*. 
CHAPTER 1. INTEGRATION OPTIONS

Red Hat Single Sign-On (RH-SSO) is a single sign-on solution that you can use to secure your browser applications with your REST web services and Git access.


The following chapters describe how you can integrate RH-SSO with Red Hat Process Automation Manager:

- **Chapter 4, Authenticating Business Central through RH-SSO**
  To authenticate Red Hat Process Automation Manager through an RH-SSO server, you must secure both the Red Hat Process Automation Manager web client (Business Central) and remote services through RH-SSO. This integration enables you to connect to Red Hat Process Automation Manager through RH-SSO using either Business Central or a remote service consumer.

- **Chapter 5, Authenticating Process Server through RH-SSO**
  To authenticate Process Server through an RH-SSO server, you must secure the remote services provided by Process Server. Doing this enables any remote Red Hat Process Automation Manager service consumer (user or a service) to authenticate through RH-SSO. Note that Process Server does not have a web interface.

- **Chapter 6, Authenticating third-party clients through RH-SSO**
  If Business Central or Process Server are using RH-SSO, third-party clients must authenticate themselves using RH-SSO. After authentication, they can consume the remote service endpoints provided by Business Central and Process Server, such as the REST API or remote file system services.

To facilitate LDAP integration with Red Hat Process Automation Manager, consider using RH-SSO with LDAP. For information, see the “LDAP and Active Directory” chapter of the *Red Hat Single Sign-On Server Administration Guide*. 
A realm is a security policy domain defined for a web or application server. Security realms are used to restrict access for different application resources. You should create a new realm whether your RH-SSO instance is private or shared with other products. You can keep the master realm as a place for super administrators to create and manage the realms in your system. If you are integrating with an RH-SSO instance that is shared with other product installations to achieve single sign-on with those applications, all of those applications must use the same realm. To create an RH-SSO realm, download, install, and configure RH-SSO 7.3.

**NOTE**

If Business Central and Process Server are installed on different servers, complete this procedure on both servers.

### Procedure

1. Navigate to the Software Downloads page in the Red Hat Customer Portal (login required), and select the product and version from the drop-down options:
   - **Product:** Red Hat Single Sign-On
   - **Version:** 7.3

2. Download Red Hat Single Sign-on 7.3.0 Server (rh-sso-7.3.0-.zip).

3. To install and configure a basic RH-SSO standalone server, follow the instructions in the "Installing and Booting" chapter of the Red Hat Single Sign On Getting Started Guide. For advanced settings for production environments, see the Red Hat Single Sign On Server Administration Guide.

**NOTE**

If you want to run both RH-SSO and Red Hat Process Automation Manager servers on the same system, ensure that you avoid port conflicts, by doing one of the following:

- Update the $RHSSO_HOME/standalone/configuration/standalone-full.xml file and set a port offset to 100. For example:

  ```xml
  <socket-binding-group name="standard-sockets" default-interface="public" port-offset="${jboss.socket.binding.port-offset:100}"/>
  ```

- Use an environment variable to run the server:

  ```
  bin/standalone.sh -Djboss.socket.binding.port-offset=100
  ```
CHAPTER 3. RED HAT PROCESS AUTOMATION MANAGER

ROLES AND USERS

To access Business Central or Process Server, you must create users and assign them appropriate roles before the servers are started. This section describes available Red Hat Process Automation Manager user roles.

NOTE

The admin, analyst, developer, manager, process-admin, user, and rest-all roles are reserved for Business Central. The kie-server role is reserved for Process Server. For this reason, the available roles can differ depending on whether Business Central, Process Server, or both are installed.

- **admin**: Users with the admin role are the Business Central administrators. They can manage users and create, clone, and manage the repositories. They have full access to make required changes in the application. Users with the admin role have access to all areas within Red Hat Process Automation Manager.

- **analyst**: Users with the analyst role have access to all high-level features. They can model and execute their projects. However, these users cannot add contributors to spaces or delete spaces in the Design → Projects view. Access to the Deploy → Execution Servers view, which is intended for administrators, is not available to users with the analyst role. However, the Deploy button is available to these users when they access the Library perspective.

- **developer**: Users with the developer role have access to almost all features and can manage rules, models, process flows, forms, and dashboards. They can manage the asset repository, they can create, build, and deploy projects, and they can use Red Hat CodeReady Studio to view processes. Only certain administrative functions such as creating and cloning a new repository are hidden from users with the developer role.

- **manager**: Users with the manager role can view reports. These users are usually interested in statistics about the business processes and their performance, business indicators, and other business-related reporting. A user with this role has access only to process and task reports.

- **process-admin**: Users with the process-admin role are business process administrators. They have full access to business processes, business tasks, and execution errors. These users can also view business reports and have access to the Task Inbox list.

- **user**: Users with the user role can work on the Task Inbox list, which contains business tasks that are part of currently running processes. Users with this role can view process and task reports and manage processes.

- **rest-all**: Users with the rest-all role can access Business Central REST capabilities.

- **kie-server**: Users with the kie-server role can access Process Server (KIE Server) REST capabilities. This role is mandatory for users to have access to Manage and Track views in Business Central.

3.1. ADDING RED HAT PROCESS AUTOMATION MANAGER USERS

Before you can use RH-SSO to authenticate Business Central or Process Server, you must add users to the realm that you created. To add new users and assign them a role to access Red Hat Process Automation Manager, complete the following steps:
1. Log in to the RH-SSO Admin Console and open the realm that you want to add a user to.

2. Click the Users menu item under the Manage section.
   An empty user list appears on the Users page.

3. Click the Add User button on the empty user list to start creating your new user.
   The Add User page opens.

4. On the Add User page, enter the user information and click Save.

5. Click the Credentials tab and create a password.

6. Assign the new user one of the roles that allows access to Red Hat Process Automation Manager. For example, assign the admin role to access Business Central or assign the kie-server role to access Process Server.

   **NOTE**

   For projects that deploy from Business Central on OpenShift, create an RH-SSO user called mavenuser without any role assigned, then add this user to the BUSINESS_CENTRAL_MAVEN_USERNAME and BUSINESS_CENTRAL_MAVEN_PASSWORD in your OpenShift template.

7. Define the roles as realm roles in the Realm Roles tab under the Roles section.

8. Click the Role Mappings tab on the Users page to assign roles.
CHAPTER 4. AUTHENTICATING BUSINESS CENTRAL THROUGH RH-SSO

This chapter describes how to authenticate Business Central through RH-SSO. It includes the following sections:

- Section 4.1, “Creating the Business Central client for RH-SSO”
- Section 4.2, “Installing the RH-SSO client adapter for Business Central”
- Section 4.3, “Securing Business Central file system services using RH-SSO”

Prerequisites

- Business Central is installed in a Red Hat JBoss EAP 7.2 server, as described in Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2.
- RH-SSO is installed as described in Chapter 2, Installing and configuring RH-SSO.
- Business Central users have been added to RH-SSO as described in Section 3.1, “Adding Red Hat Process Automation Manager users”.

**NOTE**


4.1. CREATING THE BUSINESS CENTRAL CLIENT FOR RH-SSO

After the RH-SSO server starts, use the RH-SSO Admin Console to create the Business Central client for RH-SSO.

Procedure

1. Enter `http://localhost:8180/auth/admin` in a web browser to open the RH-SSO Admin Console and log in using the admin credentials that you created while installing RH-SSO.

   **NOTE**

   If you are configuring RH-SSO with Red Hat OpenShift Container Platform, enter the URL that is exposed by the RH-SSO routes. Your OpenShift administrator can provide this URL if necessary.

   When you login for the first time, you can set up the initial user on the new user registration form.

2. In the RH-SSO Admin Console, click the **Realm Settings** menu item.

4. On the Add realm page, provide a name for the realm and click Create.

5. Click the Clients menu item and click Create. The Add Client page opens.

6. On the Add Client page, provide the required information to create a new client for your realm. For example:
   - Client ID: kie
   - Client protocol: openid-connect
   - Root URL: http://localhost:8080/business-central

   **NOTE**
   If you are configuring RH-SSO with Red Hat OpenShift Container Platform, enter the URL that is exposed by the Process Server routes. Your OpenShift administrator can provide this URL if necessary.

7. Click Save to save your changes.
   After you create a new client, its Access Type is set to public by default. Change it to confidential.

   The RH-SSO server is now configured with a realm with a client for Business Central applications and running and listening for HTTP connections at localhost:8180. This realm provides different users, roles, and sessions for Business Central applications.

4.2. INSTALLING THE RH-SSO CLIENT ADAPTER FOR BUSINESS CENTRAL

After you install RH-SSO, you must install the RH-SSO client adapter for Red Hat JBoss EAP and configure it for Business Central.

**Prerequisites**
- Business Central is installed in a Red Hat JBoss EAP 7.2 instance, as described in "Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2".
- RH-SSO is installed as described in Chapter 2, "Installing and configuring RH-SSO".
- A user with the admin role has been added to RH-SSO as described in Section 3.1, "Adding Red Hat Process Automation Manager users".

**Procedure**

1. Navigate to the Software Downloads page in the Red Hat Customer Portal (login required), and select the product and version from the drop-down options:
   - Product: Red Hat Single Sign-On
   - Version: 7.3
2. Download Red Hat Single Sign-on 7.3 Client Adapter for JBoss EAP 7 (rh-sso-7.3-eap7-adapter.zip).

3. Extract and install rh-sso-7.3-eap7-adapter.zip. For installation instructions, see the "JBoss EAP Adapter" section of the Red Hat Single Sign On Securing Applications and Services Guide.

**NOTE**

Install the adapter with the -Dserver.config=standalone-full.xml property.

4. Go to EAP_HOME/standalone/configuration and open the standalone-full.xml file.

5. Delete the <single-sign-on/> element from both of the files.

6. Navigate to the EAP_HOME/standalone/configuration directory in your Red Hat JBoss EAP installation and open the standalone-full.xml file in a text editor.

7. Add the system properties listed in the following example to <system-properties>:

```xml
<system-properties>
    <property name="org.jbpm.workbench.kie_server.keycloak" value="true"/>
    <property name="org.uberfire.ext.security.management.api.userManagementServices" value="KCAPIAdapterUserManagementService"/>
    <property name="org.uberfire.ext.security.management.keycloak.authServer" value="http://localhost:8180/auth"/>
    <system-properties/>
</system-properties>
```

8. Add the RH-SSO subsystem configuration. For example:

```xml
<subsystem xmlns="urn:jboss:domain:keycloak:1.1">
    <secure-deployment name="business-central.war">
        <realm>demo</realm>
        <realm-public-key>MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQCrVrCuTtArbgaZzL1hvhoxtL5mc7o0QnPvYNklvGmiC3BjalGw1tGEGoJaXDuSaRllobm53JHbjx33UJv+n5/UMG4ktytBWxheNVKnL6GgqNabMaFIFLPDFkAgKnis79NMo+n6KnSY8YeUmec/p2vO2NjsAVcWEQMVhJ31LwIDAQAB</realm-public-key>
        <auth-server-url>http://localhost:8180/auth</auth-server-url>
        <ssl-required>external</ssl-required>
        <enable-basic-auth>true</enable-basic-auth>
        <resource>kie</resource>
        <credential name="secret">759514d0-dbb1-46ba-b7e7-f76636c6891</credential>
        <principal-attribute>preferred_username</principal-attribute>
    </secure-deployment>
</subsystem>
```

In this example:

- **secure-deployment name** is the name of your application’s WAR file.
- **realm** is the name of the realm that you created for the applications to use.
- **realm-public-key** is the public key of the realm you created. You can find the key in the Keys tab in the Realm settings page of the realm you created in the RH-SSO Admin Console. If you do not provide a value for realm-public-key, the server retrieves it.
automatically.

- **auth-server-url** is the URL for the RH-SSO authentication server.
- **enable-basic-auth** is the setting to enable basic authentication mechanism, so that the clients can use both token-based and basic authentication approaches to perform the requests.
- **resource** is the name for the client that you created.
- **credential name** is the secret key for the client you created. You can find the key in the Credentials tab on the Clients page of the RH-SSO Admin Console.
- **principal-attribute** is the login name of the user. If you do not provide this value, your User Id is displayed in the application instead of your user name.

**NOTE**

The RH-SSO server converts the user names to lower case. Therefore, after integration with RH-SSO, your user name will appear in lower case in Red Hat Process Automation Manager. If you have user names in upper case hard coded in business processes, the application might not be able to identify the upper case user.

9. Navigate to the **EAP_HOME/standalone/configuration** directory in your Red Hat JBoss EAP installation. Locate the Elytron and undertow subsystem configurations in the **standalone.xml** and **standalone-full.xml** files and enable JACC. For example:

```
<subsystem xmlns="urn:wildfly:elytron:4.0" ...>
    ....
    <policy><jacc-policy/></policy>
</subsystem>

<subsystem xmlns="urn:jboss:domain:undertow:7.0" ...>
    ....
    <application-security-domains>
        <application-security-domain name="other" http-authentication-factory="keycloak-http-authentication" enable-jacc="true"/>
    </application-security-domains>
</subsystem>
```

10. Navigate to **EAP_HOME/bin/** and enter the following command to start the Red Hat JBoss EAP server:

```
./standalone.sh -c standalone-full.xml
```

**NOTE**

You can also configure the RH-SSO adapter for Business Central by updating your application’s WAR file to use the RH-SSO security subsystem. However, Red Hat recommends that you configure the adapter through the RH-SSO subsystem. Doing this updates the Red Hat JBoss EAP configuration instead of applying the configuration on each WAR file.
4.3. SECURING BUSINESS CENTRAL FILE SYSTEM SERVICES USING RH-SSO

To consume other remote services such as file systems (for example, a remote GIT service), you must specify the correct RH-SSO login module.

Procedure

1. Generate a JSON configuration file:
   b. Click Clients.
   c. Create a new client with the following settings:
      - Set Client ID as kie-git.
      - Set Access Type as confidential.
      - Disable the Standard Flow Enabled option.
      - Enable the Direct Access Grants Enabled option.
   d. Click Save.
   e. Click the Installation tab at the top of the client configuration screen and choose Keycloak OIDC JSON as a Format Option.
   f. Click Download.
2. Move the downloaded JSON file to an accessible directory in the server’s file system or add it to the application class path.

3. Specify the correct RH-SSO login module in the `EAP_HOME/standalone/configuration/standalone-full.xml` file. By default, the security domain in Red Hat Process Automation Manager is set to `other`. Replace the default values of the `login-module` in this security domain with the values in the following example:

```xml
<security-domain name="other" cache-type="default">
  <authentication>
    <login-module code="org.keycloak.adapters.jaas.DirectAccessGrantsLoginModule" flag="required">
      <module-option name="keycloak-config-file" value="$EAP_HOME/kie-git.json"/>
    </login-module>
  </authentication>
</security-domain>
```

4. The JSON file specified in the `module-option` element contains a client used for securing the remote services. Replace the `$EAP_HOME/kie-git.json` value of the `module-option` element with the absolute path or the class path (classpath:/EXAMPLE_PATH/kie-git.json) to this JSON configuration file.

At this point, all users authenticated through the RH-SSO server can clone internal GIT repositories. In the following command, change `USER_NAME` to a RH-SSO user, for example `admin`:

```bash
git clone ssh://USER_NAME@localhost:8001/system
```
CHAPTER 5. AUTHENTICATING PROCESS SERVER THROUGH RH-SSO

Process Server provides a REST API for third-party clients. If you integrate Process Server with RH-SSO, you can delegate third-party client identity management to the RH-SSO server.

After you create a realm client for Red Hat Process Automation Manager and set up the RH-SSO client adapter for Red Hat JBoss EAP, you can set up RH-SSO authentication for Process Server.

Prerequisites

- RH-SSO is installed as described in Chapter 2, Installing and configuring RH-SSO .
- At least one user with the kie-server role has been added to RH-SSO as described in Section 3.1, “Adding Red Hat Process Automation Manager users”.
- Process Server is installed in a Red Hat JBoss EAP 7.2 instance, as described in Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2.

This chapter contains the following sections:

- Section 5.1, “Creating the Process Server client on RH-SSO”
- Section 5.2, “Installing and configuring Process Server with the client adapter”
- Section 5.3, “Process Server token-based authentication”

**NOTE**


5.1. CREATING THE PROCESS SERVER CLIENT ON RH-SSO

Use the RH-SSO Admin Console to create a Process Server client in an existing realm.

Prerequisites

- Process Server is installed in a Red Hat JBoss EAP 7.2 server, as described in Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2.
- RH-SSO is installed as described in Chapter 2, Installing and configuring RH-SSO .
- At least one user with the kie-server role has been added to RH-SSO as described in Section 3.1, “Adding Red Hat Process Automation Manager users”.

Procedure
1. In the RH-SSO Admin Console, open the security realm that you created in Chapter 2, *Installing and configuring RH-SSO*.

2. Click **Clients** and click **Create**. The **Add Client** page opens.

3. On the **Add Client** page, provide the required information to create a Process Server client for your realm, then click **Save**. For example:
   - **Client ID**: `kie-execution-server`
   - **Root URL**: `http://localhost:8080/kie-server`
   - **Client protocol**: `openid-connect`

   **NOTE**
   If you are configuring RH-SSO with Red Hat OpenShift Container Platform, enter the URL that is exposed by the Process Server routes. Your OpenShift administrator can provide this URL if necessary.

4. The new client **Access Type** is set to public by default. Change it to confidential and click **Save** again.

5. Navigate to the **Credentials** tab and copy the secret key. The secret key is required to configure the `kie-execution-server` client.

### 5.2. INSTALLING AND CONFIGURING PROCESS SERVER WITH THE CLIENT ADAPTER

After you install RH-SSO, you must install the RH-SSO client adapter for Red Hat JBoss EAP and configure it for Process Server.

**Prerequisites**

- Process Server is installed in a Red Hat JBoss EAP 7.2 server, as described in *Installing and configuring Red Hat Process Automation Manager on Red Hat JBoss EAP 7.2*.
- RH-SSO is installed as described in Chapter 2, *Installing and configuring RH-SSO*.
- At least one user with the `kie-server` role has been added to RH-SSO as described in Section 3.1, “Adding Red Hat Process Automation Manager users”.

**NOTE**
If you deployed Process Server to a different application server than Business Central, install and configure RH-SSO on your second server as well.

**Procedure**

1. Navigate to the **Software Downloads** page in the Red Hat Customer Portal (login required), and select the product and version from the drop-down options:
   - **Product**: Red Hat Single Sign-On
2. Download Red Hat Single Sign-on 7.3.0 Client Adapter for JBoss EAP 7 (rh-sso-7.3.0-eap7-adapter.zip).

3. Extract and install rh-sso-7.3.0-eap7-adapter.zip. For installation instructions, see the "JBoss EAP Adapter" section of the Red Hat Single Sign On Securing Applications and Services Guide.

4. Go to EAP_HOME/standalone/configuration and open the standalone-full.xml file.

5. Delete the <single-sign-on/> element from both of the files.

6. Navigate to EAP_HOME/standalone/configuration directory in your Red Hat JBoss EAP installation and edit the standalone-full.xml file to add the RH-SSO subsystem configuration. For example:

   <subsystem xmlns="urn:jboss:domain:realm:1.0">
     <secure-deployment name="kie-execution-server.war">
       <realm>demo</realm>
       <realm-public-key>MIGfMA0GCSqGSIb3DQEBAQUAA4GNADCBiQKBgQCrVTbTArbgAzL1hvh0xtL5mc7o0NqPVnYXkLvgcwC3BiLgw1tGEoJaXDuSaRllobm53JBhjx33UNv+5z/UMG4ktylBWxheNVKnL6YqqINabMaFtPLPCF8kAgKns79NMo+n6KnSY8YeUmec/p2vO2NjsSAVcWEQMVhJ31LwIDAQAB</realm-public-key>
       <auth-server-url>http://localhost:8180/auth</auth-server-url>
       <ssl-required>external</ssl-required>
       <resource>kie-execution-server</resource>
       <enable-basic-auth>true</enable-basic-auth>
       <credential name="secret">03c2b267-7f64-4647-8566-572be673f5fa</credential>
       <principal-attribute>preferred_username</principal-attribute>
     </secure-deployment>
   </subsystem>

   <system-properties>
     <property name="org.kie.server.sync.deploy" value="false"/>
   </system-properties>

In this example:

- **secure-deployment name** is the name of your application WAR file.
- **realm** is the name of the realm that you created for the applications to use.
- **realm-public-key** is the public key of the realm you created. You can find the key in the Keys tab in the Realm settings page of the realm you created in the RH-SSO Admin Console. If you do not provide a value for this public key, the server retrieves it automatically.
- **auth-server-url** is the URL for the RH-SSO authentication server.
- **resource** is the name for the server client that you created.
• **enable-basic-auth** is the setting to enable basic authentication mechanism, so that the clients can use both token-based and basic authentication approaches to perform the requests.

• **credential name** is the secret key of the server client you created. You can find the key in the Credentials tab on the Clients page of the RH-SSO Admin Console.

• **principal-attribute** is the login name of the user. If you do not provide this value, your UserId is displayed in the application instead of your user name.

8. Save your configuration changes.

9. Use the following command to restart the Red Hat JBoss EAP server and run Process Server.

```bash
EXEC_SERVER_HOME/bin/standalone.sh -c standalone-full.xml -Dorg.kie.server.id=<ID> -Dorg.kie.server.user=<USER> -Dorg.kie.server.pwd=<PWD> -Dorg.kie.server.location=<LOCATION_URL> -Dorg.kie.server.controller.user=<CONTROLLER_USER> -Dorg.kie.server.controller.pwd=<CONTROLLER_PASSWORD>
```

For example:

```bash
```

10. When Process Server is running, enter the following command to check the server status, where `<KIE_SERVER_USER>` is a user with the **kie-server** role and `<PASSWORD>` is the password for that user:

```bash
curl http://<KIE_SERVER_USER>:<PASSWORD>@localhost:8080/kie-execution-server/services/rest/server/
```

### 5.3. PROCESS SERVER TOKEN-BASED AUTHENTICATION

You can also use token-based authentication for communication between Red Hat Process Automation Manager and Process Server. You can use the complete token as a system property of your application server, instead of the user name and password, for your applications. However, you must ensure that the token will not expire while the applications are interacting because the token is not automatically refreshed. To get the token, see Section 6.2, "Token-based authentication".

**Procedure**

1. To configure Business Central to manage Process Server using tokens:
   a. Set the **org.kie.server.token** property.
   b. Make sure that the **org.kie.server.user** and **org.kie.server.pwd** properties are not set. Red Hat Process Automation Manager will then use the **Authorization: Bearer $TOKEN** authentication method.

2. To use the REST API using the token-based authentication:
a. Set the `org.kie.server.controller.token` property.

b. Make sure that the `org.kie.server.controller.user` and `org.kie.server.controller.pwd` properties are not set.

**NOTE**

Because Process Server is unable to refresh the token, use a high-lifespan token. A token’s lifespan must not exceed January 19 2038. Check with your security best practices to see whether this is a suitable solution for your environment.
CHAPTER 6. AUTHENTICATING THIRD-PARTY CLIENTS THROUGH RH-SSO

To use the different remote services provided by Business Central or by Process Server, your client, such as curl, wget, web browser, or a custom REST client, must authenticate through the RH-SSO server and have a valid token to perform the requests. To use the remote services, the authenticated user must have the following roles:

- **rest-all** for using Business Central remote services.
- **kie-server** for using the Process Server remote services.

Use the RH-SSO Admin Console to create these roles and assign them to the users that will consume the remote services.

Your client can authenticate through RH-SSO using one of these options:

- Basic authentication, if it is supported by the client
- Token-based authentication

### 6.1. BASIC AUTHENTICATION

If you enabled basic authentication in the RH-SSO client adapter configuration for both Business Central and Process Server, you can avoid the token grant and refresh calls and call the services as shown in the following examples:

- For web based remote repositories endpoint:
  
  curl http://admin:password@localhost:8080/business-central/rest/repositories

- For Process Server:
  
  curl http://admin:password@localhost:8080/kie-execution-server/services/rest/server/

### 6.2. TOKEN-BASED AUTHENTICATION

If you want a more secure option of authentication, you can consume the remote services from both Business Central and Process Server by using a granted token provided by RH-SSO.

**Procedure**

1. In the RH-SSO Admin Console, click the **Clients** menu item and click **Create** to create a new client.
   The **Add Client** page opens.

2. On the **Add Client** page, provide the required information to create a new client for your realm. For example:
   - **Client ID**: kie-remote
   - **Client protocol**: openid-connect

3. Click **Save** to save your changes.
4. Change the token settings in **Realm Settings**:
   a. In the RH-SSO Admin Console, click the **Realm Settings** menu item.
   b. Click the **Tokens** tab.
   c. Change the value for **Access Token Lifespan** to **15 minutes**.
      This gives you enough time to get a token and invoke the service before it expires.
   d. Click **Save** to save your changes.

5. After a public client for your remote clients is created, you can now obtain the token by making an HTTP request to the RH-SSO server’s token endpoint using:

   ```bash
   RESULT=`curl --data "grant_type=password&client_id=kie-
   remote&username=admin&password=password"
   http://localhost:8180/auth/realms/demo/protocol/openid-connect/token`
   
   The user in this command is a Business Central RH-SSO user. For more information, see
   Section 3.1, “Adding Red Hat Process Automation Manager users”.

6. To view the token obtained from the RH-SSO server, use the following command:

   ```bash
   TOKEN=`echo $RESULT | sed 's/\.*access_token":"//g' | sed 's/"\.*//g'`
   
   You can now use this token to authorize the remote calls. For example, if you want to check the internal
   Red Hat Process Automation Manager repositories, use the token as shown below:

   ```bash
   ```
APPENDIX A. VERSIONING INFORMATION

Documentation last updated on Thursday, January 16, 2020.