



Red Hat Decision Manager 7.8

Deploying a Red Hat Decision Manager
immutable server environment on Red Hat
OpenShift Container Platform

Red Hat Decision Manager 7.8 Deploying a Red Hat Decision Manager immutable server environment on Red Hat OpenShift Container Platform

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Abstract

This document describes how to deploy a Red Hat Decision Manager 7.8 immutable server environment on Red Hat OpenShift Container Platform.

Table of Contents

PREFACE	4
CHAPTER 1. OVERVIEW OF RED HAT DECISION MANAGER ON RED HAT OPENSIFT CONTAINER PLATFORM	5
CHAPTER 2. PREPARING TO DEPLOY RED HAT DECISION MANAGER IN YOUR OPENSIFT ENVIRONMENT	7
2.1. ENSURING THE AVAILABILITY OF IMAGE STREAMS AND THE IMAGE REGISTRY	7
2.2. CREATING THE SECRETS FOR KIE SERVER	8
2.3. CREATING THE SECRET FOR THE ADMINISTRATIVE USER	9
2.4. EXTRACTING THE SOURCE CODE FROM BUSINESS CENTRAL FOR USE IN AN S2I BUILD	9
2.5. PREPARING A MAVEN MIRROR REPOSITORY FOR OFFLINE USE	10
CHAPTER 3. ENVIRONMENT WITH IMMUTABLE SERVERS	12
3.1. DEPLOYING AN IMMUTABLE KIE SERVER USING AN S2I BUILD	12
3.1.1. Starting configuration of the template for an immutable KIE Server using S2I	12
3.1.2. Setting required parameters for an immutable KIE Server using S2I	13
3.1.3. Configuring the image stream namespace for an immutable KIE Server using S2I	14
3.1.4. Configuring information about a Business Central instance for an immutable KIE Server using S2I	15
3.1.5. Setting an optional Maven repository for an immutable KIE Server using S2I	15
3.1.6. Configuring access to a Maven mirror in an environment without a connection to the public Internet for an immutable KIE Server using S2I	16
3.1.7. Configuring communication with an AMQ server for an immutable KIE Server using S2I	17
3.1.8. Setting parameters for RH-SSO authentication for an immutable KIE Server using S2I	18
3.1.9. Setting parameters for LDAP authentication for an immutable KIE Server using S2I	19
3.1.10. Enabling Prometheus metric collection for an immutable KIE Server using S2I	20
3.1.11. Completing deployment of the template for an immutable KIE Server using S2I	20
3.2. DEPLOYING AN IMMUTABLE KIE SERVER FROM KJAR SERVICES	21
3.2.1. Starting configuration of the template for an immutable KIE Server from KJAR services	21
3.2.2. Setting required parameters for an immutable KIE Server from KJAR services	21
3.2.3. Configuring the image stream namespace for an immutable KIE Server from KJAR services	23
3.2.4. Configuring information about a Business Central instance for an immutable KIE Server from KJAR services	23
3.2.5. Configuring access to a Maven mirror in an environment without a connection to the public Internet for an immutable KIE Server from KJAR services	24
3.2.6. Setting parameters for RH-SSO authentication for an immutable KIE Server from KJAR services	25
3.2.7. Setting parameters for LDAP authentication for an immutable KIE Server from KJAR services	26
3.2.8. Enabling Prometheus metric collection for an immutable KIE Server from KJAR services	27
3.2.9. Completing deployment of the template for an immutable KIE Server from KJAR services	28
3.3. (OPTIONAL) PROVIDING A TRUSTSTORE FOR ACCESSING HTTPS SERVERS WITH SELF-SIGNED CERTIFICATES	28
3.4. (OPTIONAL) PROVIDING THE LDAP ROLE MAPPING FILE	29
CHAPTER 4. RED HAT DECISION MANAGER ROLES AND USERS	31
CHAPTER 5. OPENSIFT TEMPLATE REFERENCE INFORMATION	32
5.1. RHDM78-PROD-IMMUTABLE-KIESERVER.YAML TEMPLATE	32
5.1.1. Parameters	32
5.1.2. Objects	45
5.1.2.1. Services	45
5.1.2.2. Routes	45
5.1.2.3. Build Configurations	45
5.1.2.4. Deployment Configurations	46

5.1.2.4.1. Triggers	46
5.1.2.4.2. Replicas	46
5.1.2.4.3. Pod Template	46
5.1.2.4.3.1. Service Accounts	46
5.1.2.4.3.2. Image	46
5.1.2.4.3.3. Readiness Probe	46
5.1.2.4.3.4. Liveness Probe	47
5.1.2.4.3.5. Exposed Ports	47
5.1.2.4.3.6. Image Environment Variables	47
5.1.2.4.3.7. Volumes	56
5.1.2.5. External Dependencies	56
5.1.2.5.1. Secrets	56
5.2. RHDM78-PROD-IMMUTABLE-KIESERVER-AMQ.YAML TEMPLATE	56
5.2.1. Parameters	56
5.2.2. Objects	71
5.2.2.1. Services	71
5.2.2.2. Routes	71
5.2.2.3. Build Configurations	72
5.2.2.4. Deployment Configurations	72
5.2.2.4.1. Triggers	72
5.2.2.4.2. Replicas	73
5.2.2.4.3. Pod Template	73
5.2.2.4.3.1. Service Accounts	73
5.2.2.4.3.2. Image	73
5.2.2.4.3.3. Readiness Probe	73
5.2.2.4.3.4. Liveness Probe	73
5.2.2.4.3.5. Exposed Ports	74
5.2.2.4.3.6. Image Environment Variables	74
5.2.2.4.3.7. Volumes	86
5.2.2.5. External Dependencies	86
5.2.2.5.1. Secrets	86
5.3. OPENSIFT USAGE QUICK REFERENCE	86
APPENDIX A. VERSIONING INFORMATION	88

PREFACE

As a system engineer, you can deploy a Red Hat Decision Manager immutable server environment on Red Hat OpenShift Container Platform to provide an infrastructure to execute services and other business assets. You can use standard integration tools to manage the immutable KIE Server image. You can create new server images to add and update the business assets.

Prerequisites

- Red Hat OpenShift Container Platform version 3.11 is deployed.
- At least two gigabytes of memory are available in the OpenShift cluster/namespace.
- The OpenShift project for the deployment is created.
- You are logged in to the project using the **oc** command. For more information about the **oc** command-line tool, see the OpenShift [CLI Reference](#). If you want to use the OpenShift Web console to deploy templates, you must also be logged on using the Web console.



NOTE

Since Red Hat Decision Manager version 7.5, images and templates for Red Hat OpenShift Container Platform 3.x are deprecated. These images and templates do not get new features, but remain supported until the end of full support for Red Hat OpenShift Container Platform version 3.x. For more information about the full support lifecycle phase for Red Hat OpenShift Container Platform version 3.x, see [Red Hat OpenShift Container Platform Life Cycle Policy \(non-current versions\)](#).



NOTE

Do not use Red Hat Decision Manager templates with Red Hat OpenShift Container Platform 4.x. To deploy Red Hat Decision Manager on Red Hat OpenShift Container Platform 4.x, see the instructions in [Deploying a Red Hat Decision Manager environment on Red Hat OpenShift Container Platform using Operators](#).

CHAPTER 1. OVERVIEW OF RED HAT DECISION MANAGER ON RED HAT OPENSIFT CONTAINER PLATFORM

You can deploy Red Hat Decision Manager into a Red Hat OpenShift Container Platform environment.

In this solution, components of Red Hat Decision Manager are deployed as separate OpenShift pods. You can scale each of the pods up and down individually to provide as few or as many containers as required for a particular component. You can use standard OpenShift methods to manage the pods and balance the load.

The following key components of Red Hat Decision Manager are available on OpenShift:

- KIE Server, also known as *Execution Server*, is the infrastructure element that runs decision services and other deployable assets (collectively referred to as *services*). All logic of the services runs on execution servers.

In some templates, you can scale up a KIE Server pod to provide as many copies as required, running on the same host or different hosts. As you scale a pod up or down, all of its copies run the same services. OpenShift provides load balancing and a request can be handled by any of the pods.

You can deploy a separate KIE Server pod to run a different group of services. That pod can also be scaled up or down. You can have as many separate replicated KIE Server pods as required.

- Business Central is a web-based interactive environment used for authoring services. It also provides a management console. You can use Business Central to develop services and deploy them to KIE Servers.

Business Central is a centralized application. However, you can configure it for high availability, where multiple pods run and share the same data.

Business Central includes a Git repository that holds the source for the services that you develop on it. It also includes a built-in Maven repository. Depending on configuration, Business Central can place the compiled services (KJAR files) into the built-in Maven repository or (if configured) into an external Maven repository.

You can arrange these and other components into various environment configurations within OpenShift.

The following environment types are typical:

- *Authoring or managed environment*: An environment architecture that can be used for creating and modifying services using Business Central and also for running services on KIE Servers. It consists of pods that provide Business Central for the authoring work and one or more KIE Servers for execution of the services. Each KIE Server is a pod that you can replicate by scaling it up or down as necessary. You can deploy and undeploy services on each KIE Server using Business Central. For instructions about deploying this environment, see [Deploying a Red Hat Decision Manager authoring or managed server environment on Red Hat OpenShift Container Platform](#).
- *Deployment with immutable servers*: An alternate environment for running existing services for staging and production purposes. In this environment, when you deploy a KIE Server pod, it builds an image that loads and starts a service or group of services. You cannot stop any service on the pod or add any new service to the pod. If you want to use another version of a service or modify the configuration in any other way, you deploy a new server image and displace the old one. In this system, the KIE Server runs like any other pod on the OpenShift environment; you

can use any container-based integration workflows and do not need to use any other tools to manage the pods. For instructions about deploying this environment, see [Deploying a Red Hat Decision Manager immutable server environment on Red Hat OpenShift Container Platform](#).

You can also deploy a *trial* or evaluation environment. This environment includes Business Central and a KIE Server. You can set it up quickly and use it to evaluate or demonstrate developing and running assets. However, the environment does not use any persistent storage, and any work you do in the environment is not saved. For instructions about deploying this environment, see [Deploying a Red Hat Decision Manager trial environment on Red Hat OpenShift Container Platform](#).

To deploy a Red Hat Decision Manager environment on OpenShift, you can use the templates that are provided with Red Hat Decision Manager.

CHAPTER 2. PREPARING TO DEPLOY RED HAT DECISION MANAGER IN YOUR OPENSIFT ENVIRONMENT

Before deploying Red Hat Decision Manager in your OpenShift environment, you must complete several tasks. You do not need to repeat these tasks if you want to deploy additional images, for example, for new versions of decision services or for other decision services

2.1. ENSURING THE AVAILABILITY OF IMAGE STREAMS AND THE IMAGE REGISTRY

To deploy Red Hat Decision Manager components on Red Hat OpenShift Container Platform, you must ensure that OpenShift can download the correct images from the Red Hat registry. To download the images, OpenShift requires *image streams*, which contain the information about the location of images. OpenShift also must be configured to authenticate with the Red Hat registry using your service account user name and password.

Some versions of the OpenShift environment include the required image streams. You must check if they are available. If image streams are available in OpenShift by default, you can use them if the OpenShift infrastructure is configured for registry authentication server. The administrator must complete the registry authentication configuration when installing the OpenShift environment.

Otherwise, you can configure registry authentication in your own project and install the image streams in that project.

Procedure

1. Determine whether Red Hat OpenShift Container Platform is configured with the user name and password for Red Hat registry access. For details about the required configuration, see [Configuring a Registry Location](#). If you are using an OpenShift Online subscription, it is configured for Red Hat registry access.
2. If Red Hat OpenShift Container Platform is configured with the user name and password for Red Hat registry access, enter the following commands:

```
$ oc get imagestreamtag -n openshift | grep rhdm78-decisioncentral-openshift
$ oc get imagestreamtag -n openshift | grep rhdm78-kieserver-openshift
```

If the outputs of both commands are not empty, the required image streams are available in the **openshift** namespace and no further action is required.

3. If the output of one or both of the commands is empty or if OpenShift is not configured with the user name and password for Red Hat registry access, complete the following steps:
 - a. Ensure you are logged in to OpenShift with the **oc** command and that your project is active.
 - b. Complete the steps documented in [Registry Service Accounts for Shared Environments](#). You must log in to the Red Hat Customer Portal to access the document and to complete the steps to create a registry service account.
 - c. Select the **OpenShift Secret** tab and click the link under **Download secret** to download the YAML secret file.
 - d. View the downloaded file and note the name that is listed in the **name:** entry.
 - e. Enter the following commands:

```
oc create -f <file_name>.yaml
oc secrets link default <secret_name> --for=pull
oc secrets link builder <secret_name> --for=pull
```

Replace **<file_name>** with the name of the downloaded file and **<secret_name>** with the name that is listed in the **name:** entry of the file.

- f. Download the **rhdm-7.8.0-openshift-templates.zip** product deliverable file from the [Software Downloads](#) page and extract the **rhdm78-image-streams.yaml** file.
- g. Enter the following command:

```
$ oc apply -f rhdm78-image-streams.yaml
```



NOTE

If you complete these steps, you install the image streams into the namespace of your project. In this case, when you deploy the templates, you must set the **IMAGE_STREAM_NAMESPACE** parameter to the name of this project.

2.2. CREATING THE SECRETS FOR KIE SERVER

OpenShift uses objects called *secrets* to hold sensitive information such as passwords or keystores. For more information about OpenShift secrets, see the [Secrets chapter](#) in the Red Hat OpenShift Container Platform documentation.

You must create an SSL certificate for HTTP access to KIE Server and provide it to your OpenShift environment as a secret.

Procedure

1. Generate an SSL keystore with a private and public key for SSL encryption for KIE Server. For more information on how to create a keystore with self-signed or purchased SSL certificates, see [Generate a SSL Encryption Key and Certificate](#).



NOTE

In a production environment, generate a valid signed certificate that matches the expected URL for KIE Server.

2. Save the keystore in a file named **keystore.jks**.
3. Record the name of the certificate. The default value for this name in Red Hat Decision Manager configuration is **jboss**.
4. Record the password of the keystore file. The default value for this name in Red Hat Decision Manager configuration is **mykeystorepass**.
5. Use the **oc** command to generate a secret named **kieserver-app-secret** from the new keystore file:

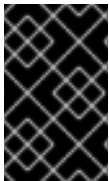
```
$ oc create secret generic kieserver-app-secret --from-file=keystore.jks
```

2.3. CREATING THE SECRET FOR THE ADMINISTRATIVE USER

You must create a generic secret that contains the user name and password for a Red Hat Decision Manager administrative user account. This secret is required for deploying Red Hat Decision Manager using any template except the trial template.

The secret must contain the user name and password as literals. The key name for the user name is **KIE_ADMIN_USER**. The key name for the password is **KIE_ADMIN_PWD**.

If you are using multiple templates to deploy components of Red Hat Decision Manager, use the same secret for all these deployments. The components utilize this user account to communicate with each other.



IMPORTANT

If you use RH-SSO or LDAP authentication, the same user with the same password must be configured in your authentication system with the **kie-server,rest-all,admin** roles for Red Hat Decision Manager.

Procedure

Use the **oc** command to generate a generic secret named **kie-admin-user-secret** from the user name and password:

```
$ oc create secret generic rhpam-credentials --from-literal=KIE_ADMIN_USER=adminUser --from-literal=KIE_ADMIN_PWD=adminPassword
```

In this command, replace *adminPassword* with the password for the administrative user. Optionally, you can replace *adminUser* with another user name for the administrative user.

2.4. EXTRACTING THE SOURCE CODE FROM BUSINESS CENTRAL FOR USE IN AN S2I BUILD

If you are planning to create immutable KIE servers using the source-to-image (S2I) process, you must provide the source code for your services in a Git repository. If you are using Business Central for authoring services, you can extract the source code for your service and place it into a separate Git repository, such as GitHub or an on-premise installation of GitLab, for use in the S2I build.

Skip this procedure if you are not planning to use the S2I process or if you are not using Business Central for authoring services.

Procedure

1. Use the following command to extract the source code:

```
git clone https://<decision-central-host>:443/git/<MySpace>/<MyProject>
```

In this command, replace the following variables:

- **<decision-central-host>** with the host on which Business Central is running
- **<MySpace>** with the name of the Business Central space in which the project is located
- **<MyProject>** with the name of the project

**NOTE**

To view the full Git URL for a project in Business Central, click **Menu** → **Design** → **<MyProject>** → **Settings**.

**NOTE**

If you are using self-signed certificates for HTTPS communication, the command might fail with an **SSL certificate problem** error message. In this case, disable SSL certificate verification in **git**, for example, using the **GIT_SSL_NO_VERIFY** environment variable:

```
env GIT_SSL_NO_VERIFY=true git clone https://<decision-central-host>:443/git/<MySpace>/<MyProject>
```

2. Upload the source code to another Git repository, such as GitHub or GitLab, for the S2I build.

2.5. PREPARING A MAVEN MIRROR REPOSITORY FOR OFFLINE USE

If your Red Hat OpenShift Container Platform environment does not have outgoing access to the public Internet, you must prepare a Maven repository with a mirror of all the necessary artifacts and make this repository available to your environment.

**NOTE**

You do not need to complete this procedure if your Red Hat OpenShift Container Platform environment is connected to the Internet.

Prerequisites

- A computer that has outgoing access to the public Internet is available.

Procedure

1. Configure a Maven release repository to which you have write access. The repository must allow read access without authentication and your OpenShift environment must have network access to this repository. You can deploy a Nexus repository manager in the OpenShift environment. For instructions about setting up Nexus on OpenShift, see [Setting up Nexus](#). Use this repository as a mirror repository. If you are planning to create immutable servers from KJAR services, place your services in this repository as well. You must configure this repository as the external Maven repository. You cannot configure a separate mirror repository in an immutable environment.
2. On the computer that has an outgoing connection to the public Internet, complete the following steps:
 - a. Click **Red Hat Process Automation Manager 7.8.0 Offliner Content List** to download the **rhdm-7.8.0-offliner.zip** product deliverable file from the [Software Downloads](#) page of the Red Hat Customer Portal.
 - b. Extract the contents of the **rhdm-7.8.0-offliner.zip** file into any directory.
 - c. Change to the directory and enter the following command:

```
./offline-repo-builder.sh offliner.txt
```

-

This command creates a **repository** subdirectory and downloads the necessary artifacts into this subdirectory.

If a message reports that some downloads have failed, run the same command again. If downloads fail again, contact Red Hat support.

- d. Upload all artifacts from the **repository** subdirectory to the Maven mirror repository that you prepared. You can use the Maven Repository Provisioner utility, available from the [Maven repository tools](#) Git repository, to upload the artifacts.
3. If you developed services outside Business Central and they have additional dependencies, add the dependencies to the mirror repository. If you developed the services as Maven projects, you can use the following steps to prepare these dependencies automatically. Complete the steps on the computer that has an outgoing connection to the public Internet.
 - a. Create a backup of the local Maven cache directory (`~/.m2/repository`) and then clear the directory.
 - b. Build the source of your projects using the **mvn clean install** command.
 - c. For every project, enter the following command to ensure that Maven downloads all runtime dependencies for all the artifacts generated by the project:

```
mvn -e -DskipTests dependency:go-offline -f /path/to/project/pom.xml --batch-mode -Djava.net.preferIPv4Stack=true
```

Replace **/path/to/project/pom.xml** with the correct path to the **pom.xml** file of the project.

- d. Upload all artifacts from the local Maven cache directory (`~/.m2/repository`) to the Maven mirror repository that you prepared. You can use the Maven Repository Provisioner utility, available from the [Maven repository tools](#) Git repository, to upload the artifacts.

CHAPTER 3. ENVIRONMENT WITH IMMUTABLE SERVERS

You can deploy an environment that includes one or more pods running *immutable* KIE Server with preloaded services. Each KIE Server pod can be separately scaled as necessary.

On an immutable KIE Server, any services must be loaded onto the server at the time the image is created. You cannot deploy or undeploy services on a running immutable KIE Server. The advantage of this approach is that the KIE Server with the services in it runs like any other containerized service and does not require specialized management. The KIE Server runs like any other pod on the OpenShift environment; you can use any container-based integration workflows as necessary.

When you create a KIE Server image, you can build your services using S2I (Source to Image). Provide a Git repository with the source of your services and other business assets; if you develop the services or assets in Business Central, copy the source into a separate repository for the S2I build. OpenShift automatically builds the source, installs the services into the KIE Server image, and starts the containers with the services.

If you are using Business Central for authoring services, you can extract the source for your process and place it into a separate Git repository (such as GitHub or an on-premise installation of GitLab) for use in the S2I build.

Alternatively, you can create a similar KIE Server deployment using services that are already built as KJAR files. In this case, you must provide the services in a Maven repository. You can use the built-in repository of the Business Central or your own repository (for example, a Nexus deployment). When the server pod starts, it retrieves the KJAR services from the Maven repository. Services on the pod are never updated or changed. At every restart or scaling of the pod, the server retrieves the files from the repository, so you must ensure they do not change on the Maven repository to keep the deployment immutable.

With both methods of creating immutable images, no further management of the image is required. If you want to use a new version of a service, you can build a new image.

3.1. DEPLOYING AN IMMUTABLE KIE SERVER USING AN S2I BUILD

You can deploy an immutable KIE Server using an S2I build. When you deploy the server, the deployment procedure retrieves the source code for any services that must run on this server, builds the services, and includes them in the server image.

You cannot deploy or undeploy services on a running immutable KIE Server. You can use Business Central to view monitoring information. The KIE Server runs like any other pod on the OpenShift environment; you can use any container-based integration workflows as necessary.

You can enable JMS capabilities of the immutable KIE Server. With JMS capabilities you can interact with the server through JMS API using an external AMQ message broker.

If a Business Central is deployed in the same namespace, it discovers the immutable KIE Server automatically. You can use Business Central to start and stop (but not deploy) services on the immutable KIE Server.

3.1.1. Starting configuration of the template for an immutable KIE Server using S2I

To deploy an immutable KIE Server using an S2I build, use the **rhdm78-prod-immutable-kieserver-amq.yaml** template file if you want to enable JMS capabilities. Otherwise, use the **rhdm78-prod-immutable-kieserver.yaml** template file.

Procedure

1. Download the **rhdm-7.8.0-openshift-templates.zip** product deliverable file from the [Software Downloads](#) page of the Red Hat Customer Portal.
2. Extract the required template file.
3. Use one of the following methods to start deploying the template:
 - To use the OpenShift Web UI, in the OpenShift application console select **Add to Project** → **Import YAML / JSON** and then select or paste the **<template-file-name>.yaml** file. In the **Add Template** window, ensure **Process the template** is selected and click **Continue**.
 - To use the OpenShift command line console, prepare the following command line:

```
oc new-app -f <template-path>/<template-file-name>.yaml -p
KIE_SERVER_HTTPS_SECRET=kieserver-app-secret -p PARAMETER=value
```

In this command line, make the following changes:

- Replace **<template-path>** with the path to the downloaded template file.
- Replace **<template-file-name>** with the name of the template file.
- Use as many **-p PARAMETER=value** pairs as needed to set the required parameters.

Next steps

Set the parameters for the template. Follow the steps in [Section 3.1.2, “Setting required parameters for an immutable KIE Server using S2I”](#) to set common parameters. You can view the template file to see descriptions for all parameters.

3.1.2. Setting required parameters for an immutable KIE Server using S2I

When configuring the template to deploy an immutable KIE Server using an S2I build, you must set the following parameters in all cases.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

1. Set the following parameters:
 - **Credentials secret (CREDENTIALS_SECRET)**: The name of the secret containing the administrative user credentials, as created in [Section 2.3, “Creating the secret for the administrative user”](#).
 - **KIE Server Keystore Secret Name (KIE_SERVER_HTTPS_SECRET)**: The name of the secret for KIE Server, as created in [Section 2.2, “Creating the secrets for KIE Server”](#).
 - **KIE Server Certificate Name (KIE_SERVER_HTTPS_NAME)**: The name of the certificate in the keystore that you created in [Section 2.2, “Creating the secrets for KIE Server”](#).

- **KIE Server Keystore Password (KIE_SERVER_HTTPS_PASSWORD):** The password for the keystore that you created in [Section 2.2, “Creating the secrets for KIE Server”](#).
- **Application Name (APPLICATION_NAME):** The name of the OpenShift application. It is used in the default URLs for Business Central Monitoring and KIE Server. OpenShift uses the application name to create a separate set of deployment configurations, services, routes, labels, and artifacts. You can deploy several applications using the same template into the same project, as long as you use different application names. Also, the application name determines the name of the server configuration (server template) that the KIE Server joins on Business Central. If you are deploying several KIE Servers, you must ensure each of the servers has a different application name.
- **KIE Server Container Deployment (KIE_SERVER_CONTAINER_DEPLOYMENT):** The identifying information of the decision service (KJAR file) that the deployment must pull from the local or external repository after building your source. The format is `<containerId>=<groupid>:<artifactId>:<version>` or, if you want to specify an alias name for the container, `<containerId>(<aliasId>)=<groupid>:<artifactId>:<version>`. You can provide two or more KJAR files using the | separator, as illustrated in the following example:

```
containerId=groupid:artifactId:version|c2(alias2)=g2:a2:v2
```

To avoid duplicate container IDs, the artifact ID must be unique for each artifact built or used in your project.

- **Git Repository URL (SOURCE_REPOSITORY_URL):** The URL for the Git repository that contains the source for your services.
- **Git Reference (SOURCE_REPOSITORY_REF):** The branch in the Git repository.
- **Context Directory (CONTEXT_DIR):** The path to the source within the project downloaded from the Git repository.
- **Artifact Directory (ARTIFACT_DIR):** The path within the project that contains the required binary files (KJAR files and any other necessary files) after a successful Maven build. Normally this directory is the target directory of the build. However, you can provide prebuilt binaries in this directory in the Git repository.
- **ImageStream Namespace (IMAGE_STREAM_NAMESPACE):** The namespace where the image streams are available. If the image streams were already available in your OpenShift environment (see [Section 2.1, “Ensuring the availability of image streams and the image registry”](#)), the namespace is **openshift**. If you have installed the image streams file, the namespace is the name of the OpenShift project.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

3.1.3. Configuring the image stream namespace for an immutable KIE Server using S2I

If you created image streams in a namespace that is not **openshift**, you must configure the namespace in the template.

If all image streams were already available in your Red Hat OpenShift Container Platform environment, you can skip this procedure.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

If you installed an image streams file according to instructions in [Section 2.1, “Ensuring the availability of image streams and the image registry”](#), set the **ImageStream Namespace** (**IMAGE_STREAM_NAMESPACE**) parameter to the name of your OpenShift project.

3.1.4. Configuring information about a Business Central instance for an immutable KIE Server using S2I

If you want to enable a connection from a Business Central instance in the same namespace to the KIE Server, you must configure information about the Business Central instance.

The Business Central instance must be configured with the same credentials secret (**CREDENTIALS_SECRET**) as the KIE Server.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

1. Set the following parameters:
 - **Name of the Business Central service**(**DECISION_CENTRAL_SERVICE**): The OpenShift service name for the Business Central.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

3.1.5. Setting an optional Maven repository for an immutable KIE Server using S2I

When configuring the template to deploy an immutable KIE Server using an S2I build, if your source build includes dependencies that are not available on the public Maven tree and require a separate custom Maven repository, you must set parameters to access the repository.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

To configure access to a custom Maven repository, set the following parameters:

- **Maven repository URL (MAVEN_REPO_URL):** The URL for the Maven repository.
- **Maven repository ID (MAVEN_REPO_ID):** An identifier for the Maven repository. The default value is **repo-custom**.
- **Maven repository username (MAVEN_REPO_USERNAME):** The user name for the Maven repository.
- **Maven repository password (MAVEN_REPO_PASSWORD):** The password for the Maven repository.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

3.1.6. Configuring access to a Maven mirror in an environment without a connection to the public Internet for an immutable KIE Server using S2I

When configuring the template to deploy an immutable KIE Server using an S2I build, if your OpenShift environment does not have a connection to the public Internet, you must configure access to a Maven mirror that you set up according to [Section 2.5, “Preparing a Maven mirror repository for offline use”](#).

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

To configure access to the Maven mirror, set the following parameters:

- **Maven mirror URL (MAVEN_MIRROR_URL):** The URL for the Maven mirror repository that you set up in [Section 2.5, “Preparing a Maven mirror repository for offline use”](#). This URL must be accessible from a pod in your OpenShift environment.
- **Maven mirror of (MAVEN_MIRROR_OF):** The value that determines which artifacts are to be retrieved from the mirror. For instructions about setting the **mirrorOf** value, see [Mirror Settings](#) in the Apache Maven documentation. The default value is **external:***. With this value, Maven retrieves every required artifact from the mirror and does not query any other repositories.
 - If you configure an external Maven repository (**MAVEN_REPO_URL**), change **MAVEN_MIRROR_OF** to exclude the artifacts in this repository from the mirror, for example, **external:*,!repo-custom**. Replace **repo-custom** with the ID that you configured in **MAVEN_REPO_ID**.
 - If you configure a built-in Business Central Maven repository (**DECISION_CENTRAL_MAVEN_SERVICE**), change **MAVEN_MIRROR_OF** to exclude the artifacts in this repository from the mirror: **external:*,!repo-rhdmcentr**.
 - If you configure both repositories, change **MAVEN_MIRROR_OF** to exclude the artifacts in both repositories from the mirror: **external:*,!repo-rhdmcentr,!repo-custom**. Replace **repo-custom** with the ID that you configured in **MAVEN_REPO_ID**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

3.1.7. Configuring communication with an AMQ server for an immutable KIE Server using S2I

If you use the `rhdm78-prod-immutable-kieserver-amq.yaml` template file, JMS capabilities of the KIE Server are enabled. You can interact with the server through JMS API, using an external AMQ message broker.

If necessary for your environment, you can modify the JMS configuration.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#), using the `rhdm78-prod-immutable-kieserver-amq.yaml` template file.

Procedure

Set any of the following parameters as required for your environment:

- **AMQ Username (AMQ_USERNAME)** and **AMQ Password (AMQ_PASSWORD)**: The user name and password of a standard broker user, if user authentication in the broker is required in your environment.
- **AMQ Role (AMQ_ROLE)**: The user role for the standard broker user. The default role is `admin`.
- **AMQ Queues (AMQ_QUEUES)**: AMQ queue names, separated by commas. These queues are automatically created when the broker starts and are accessible as JNDI resources in the JBoss EAP server. If you use custom queue names, you must also set the same queue names in the `KIE_SERVER_JMS_QUEUE_RESPONSE`, `KIE_SERVER_JMS_QUEUE_REQUEST`, `KIE_SERVER_JMS_QUEUE_SIGNAL`, `KIE_SERVER_JMS_QUEUE_AUDIT`, and `KIE_SERVER_JMS_QUEUE_EXECUTOR` parameters.
- **AMQ Global Max Size (AMQ_GLOBAL_MAX_SIZE)**: The maximum amount of memory that message data can consume. If no value is specified, half of the memory available in the pod is allocated.
- **AMQ Protocols (AMQ_PROTOCOL)**: Broker protocols that the KIE Server can use to communicate with the AMQ server, separated by commas. Allowed values are `openwire`, `amqp`, `stomp`, and `mqtt`. Only `openwire` is supported by JBoss EAP. The default value is `openwire`.
- **AMQ Broker Image (AMQ_BROKER_IMAGESTREAM_NAME)**: The image stream name for the AMQ broker image.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

3.1.8. Setting parameters for RH-SSO authentication for an immutable KIE Server using S2I

If you want to use RH-SSO authentication, complete the following additional configuration when configuring the template to deploy an immutable KIE Server using an S2I build.



IMPORTANT

Do not configure LDAP authentication and RH-SSO authentication in the same deployment.

Prerequisites

- A realm for Red Hat Decision Manager is created in the RH-SSO authentication system.
- User names and passwords for Red Hat Decision Manager are created in the RH-SSO authentication system. For a list of the available roles, see [Chapter 4, Red Hat Decision Manager roles and users](#).
You must create a user with the username and password configured in the secret for the administrative user, as described in [Section 2.3, “Creating the secret for the administrative user”](#). This user must have the **kie-server,rest-all,admin** roles.
- Clients are created in the RH-SSO authentication system for all components of the Red Hat Decision Manager environment that you are deploying. The client setup contains the URLs for the components. You can review and edit the URLs after deploying the environment. Alternatively, the Red Hat Decision Manager deployment can create the clients. However, this option provides less detailed control over the environment.
- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

1. Set the following parameters:
 - **RH-SSO URL (SSO_URL)**: The URL for RH-SSO.
 - **RH-SSO Realm name (SSO_REALM)**: The RH-SSO realm for Red Hat Decision Manager.
 - **RH-SSO Disable SSL Certificate Validation (SSO_DISABLE_SSL_CERTIFICATE_VALIDATION)**: Set to **true** if your RH-SSO installation does not use a valid HTTPS certificate.
2. Complete one of the following procedures:
 - a. If you created the client for Red Hat Decision Manager within RH-SSO, set the following parameters in the template:
 - **Business Central RH-SSO Client name (DECISION_CENTRAL_SSO_CLIENT)**: The RH-SSO client name for Business Central.
 - **KIE Server RH-SSO Client name (KIE_SERVER_SSO_CLIENT)**: The RH-SSO client name for KIE Server.
 - **KIE Server RH-SSO Client Secret (KIE_SERVER_SSO_SECRET)**: The secret string that is set in RH-SSO for the client for KIE Server.

b. To create the clients for Red Hat Decision Manager within RH-SSO, set the following parameters in the template:

- **KIE Server RH-SSO Client name**(**KIE_SERVER_SSO_CLIENT**): The name of the client to create in RH-SSO for KIE Server.
- **KIE Server RH-SSO Client Secret**(**KIE_SERVER_SSO_SECRET**): The secret string to set in RH-SSO for the client for KIE Server.
- **RH-SSO Realm Admin Username**(**SSO_USERNAME**) and **RH-SSO Realm Admin Password** (**SSO_PASSWORD**): The user name and password for the realm administrator user for the RH-SSO realm for Red Hat Decision Manager. You must provide this user name and password in order to create the required clients.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, “Completing deployment of the template for an immutable KIE Server using S2I”](#).

After completing the deployment, review the URLs for components of Red Hat Decision Manager in the RH-SSO authentication system to ensure they are correct.

3.1.9. Setting parameters for LDAP authentication for an immutable KIE Server using S2I

If you want to use LDAP authentication, complete the following additional configuration when configuring the template to deploy an immutable KIE Server using an S2I build.



IMPORTANT

Do not configure LDAP authentication and RH-SSO authentication in the same deployment.

Prerequisites

- You created user names and passwords for Red Hat Decision Manager in the LDAP system. For a list of the available roles, see [Chapter 4, Red Hat Decision Manager roles and users](#) . You must create a user with the username and password configured in the secret for the administrative user, as described in [Section 2.3, “Creating the secret for the administrative user”](#). This user must have the **kie-server,rest-all,admin** roles.
- You started the configuration of the template, as described in [Section 3.1.1, “Starting configuration of the template for an immutable KIE Server using S2I”](#).

Procedure

1. Set the **AUTH_LDAP*** parameters of the template. These parameters correspond to the settings of the **LdapExtended** Login module of Red Hat JBoss EAP. For instructions about using these settings, see [LdapExtended login module](#) .

If the LDAP server does not define all the roles required for your deployment, you can map LDAP groups to Red Hat Decision Manager roles. To enable LDAP role mapping, set the following parameters:

- **RoleMapping rolesProperties file path**

(**AUTH_ROLE_MAPPER_ROLES_PROPERTIES**): The fully qualified path name of a file that defines role mapping, for example, `/opt/eap/standalone/configuration/rolemapping/rolemapping.properties`. You must provide this file and mount it at this path in all applicable deployment configurations; for instructions, see [Section 3.4, "\(Optional\) Providing the LDAP role mapping file"](#).

- **RoleMapping replaceRole property (AUTH_ROLE_MAPPER_REPLACE_ROLE)**: If set to **true**, mapped roles replace the roles defined on the LDAP server; if set to **false**, both mapped roles and roles defined on the LDAP server are set as user application roles. The default setting is **false**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, "Completing deployment of the template for an immutable KIE Server using S2I"](#).

3.1.10. Enabling Prometheus metric collection for an immutable KIE Server using S2I

If you want to configure your KIE Server deployment to use Prometheus to collect and store metrics, enable support for this feature in KIE Server at deployment time.

Prerequisites

- You started the configuration of the template, as described in [Section 3.1.1, "Starting configuration of the template for an immutable KIE Server using S2I"](#).

Procedure

To enable support for Prometheus metric collection, set the **Prometheus Server Extension Disabled (PROMETHEUS_SERVER_EXT_DISABLED)** parameter to **false**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.1.11, "Completing deployment of the template for an immutable KIE Server using S2I"](#).

For instructions about configuring Prometheus metrics collection, see [Managing and monitoring KIE Server](#).

3.1.11. Completing deployment of the template for an immutable KIE Server using S2I

After setting all the required parameters in the OpenShift Web UI or in the command line, complete deployment of the template.

Procedure

Depending on the method that you are using, complete the following steps:

- In the OpenShift Web UI, click **Create**.
 - If the **This will create resources that may have security or project behavior implications** message appears, click **Create Anyway**.
- Complete the command line and press Enter.

3.2. DEPLOYING AN IMMUTABLE KIE SERVER FROM KJAR SERVICES

You can deploy an immutable KIE Server using services that are already built as KJAR files.

You must provide the services in a Maven repository. You can use the built-in repository of the Business Central or your own repository (for example, a Nexus deployment). When the server pod starts, it retrieves the KJAR services from the Maven repository. Services on the pod are never updated or changed. At every restart or scaling of the pod, the server retrieves the files from the repository, so you must ensure they do not change on the Maven repository to keep the deployment immutable.

You cannot deploy or undeploy services on a running immutable KIE Server. You can use Business Central to view monitoring information. The KIE Server runs like any other pod on the OpenShift environment; you can use any container-based integration workflows as necessary.

If a Business Central is deployed in the same namespace, it discovers the immutable KIE Server automatically. You can use Business Central to start and stop (but not deploy) services on the immutable KIE Server and to view monitoring data.

3.2.1. Starting configuration of the template for an immutable KIE Server from KJAR services

To deploy an immutable KIE Server from KJAR services, use the **rhdm78-kieserver.yaml** template file.

Procedure

1. Download the **rhdm-7.8.0-openshift-templates.zip** product deliverable file from the [Software Downloads](#) page of the Red Hat Customer Portal.
2. Extract the **rhdm78-kieserver.yaml** template file.
3. Use one of the following methods to start deploying the template:
 - To use the OpenShift Web UI, in the OpenShift application console select **Add to Project** → **Import YAML / JSON** and then select or paste the **rhdm78-kieserver.yaml** file. In the **Add Template** window, ensure **Process the template** is selected and click **Continue**.
 - To use the OpenShift command line console, prepare the following command line:

```
oc new-app -f <template-path>/rhdm78-kieserver.yaml -p
KIE_SERVER_HTTPS_SECRET=kieserver-app-secret -p PARAMETER=value
```

In this command line, make the following changes:

- Replace **<template-path>** with the path to the downloaded template file.
- Use as many **-p PARAMETER=value** pairs as needed to set the required parameters.

Next steps

Set the parameters for the template. Follow the steps in [Section 3.2.2, "Setting required parameters for an immutable KIE Server from KJAR services"](#) to set common parameters. You can view the template file to see descriptions for all parameters.

3.2.2. Setting required parameters for an immutable KIE Server from KJAR services

When configuring the template to deploy an immutable KIE Server from KJAR services, you must set the following parameters in all cases.

Prerequisites

- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

1. Set the following parameters:

- **Credentials secret (CREDENTIALS_SECRET)**: The name of the secret containing the administrative user credentials, as created in [Section 2.3, “Creating the secret for the administrative user”](#).
- **KIE Server Keystore Secret Name (KIE_SERVER_HTTPS_SECRET)**: The name of the secret for KIE Server, as created in [Section 2.2, “Creating the secrets for KIE Server”](#).
- **KIE Server Certificate Name (KIE_SERVER_HTTPS_NAME)**: The name of the certificate in the keystore that you created in [Section 2.2, “Creating the secrets for KIE Server”](#).
- **KIE Server Keystore Password (KIE_SERVER_HTTPS_PASSWORD)**: The password for the keystore that you created in [Section 2.2, “Creating the secrets for KIE Server”](#).
- **Application Name (APPLICATION_NAME)**: The name of the OpenShift application. It is used in the default URLs for Business Central Monitoring and KIE Server. OpenShift uses the application name to create a separate set of deployment configurations, services, routes, labels, and artifacts. You can deploy several applications using the same template into the same project, as long as you use different application names. Also, the application name determines the name of the server configuration (server template) that the KIE Server joins on Business Central. If you are deploying several KIE Servers, you must ensure each of the servers has a different application name.
- **Maven repository URL (MAVEN_REPO_URL)**: A URL for a Maven repository. You must upload all the processes (KJAR files) that are to be deployed on the KIE Server into this repository.
- **Maven repository ID (MAVEN_REPO_ID)**: An identifier for the Maven repository. The default value is **repo-custom**.
- **Maven repository username (MAVEN_REPO_USERNAME)**: The user name for the Maven repository.
- **Maven repository password (MAVEN_REPO_PASSWORD)**: The password for the Maven repository.
- **KIE Server Container Deployment (KIE_SERVER_CONTAINER_DEPLOYMENT)**: The identifying information of the decision services (KJAR files) that the deployment must pull from the Maven repository. The format is **<containerId>=<groupId>:<artifactId>:<version>** or, if you want to specify an alias name for the container, **<containerId> (<aliasId>)=<groupId>:<artifactId>:<version>**. You can provide two or more KJAR files using the | separator, as illustrated in the following example:

```
containerId=groupId:artifactId:version|c2(alias2)=g2:a2:v2
```

- **KIE Server Mode (KIE_SERVER_MODE)**: In the `rhdm78-kieserver-*.yaml` templates the default value is **PRODUCTION**. In **PRODUCTION** mode, you cannot deploy **SNAPSHOT** versions of KJAR artifacts on the KIE Server and cannot change versions of an artifact in an existing container. To deploy a new version with **PRODUCTION** mode, create a new container on the same KIE Server. To deploy **SNAPSHOT** versions or to change versions of an artifact in an existing container, set this parameter to **DEVELOPMENT**.
- **ImageStream Namespace (IMAGE_STREAM_NAMESPACE)**: The namespace where the image streams are available. If the image streams were already available in your OpenShift environment (see [Section 2.1, “Ensuring the availability of image streams and the image registry”](#)), the namespace is **openshift**. If you have installed the image streams file, the namespace is the name of the OpenShift project.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, “Completing deployment of the template for an immutable KIE Server from KJAR services”](#).

3.2.3. Configuring the image stream namespace for an immutable KIE Server from KJAR services

If you created image streams in a namespace that is not **openshift**, you must configure the namespace in the template.

If all image streams were already available in your Red Hat OpenShift Container Platform environment, you can skip this procedure.

Prerequisites

- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

If you installed an image streams file according to instructions in [Section 2.1, “Ensuring the availability of image streams and the image registry”](#), set the **ImageStream Namespace (IMAGE_STREAM_NAMESPACE)** parameter to the name of your OpenShift project.

3.2.4. Configuring information about a Business Central instance for an immutable KIE Server from KJAR services

If you want to enable a connection from a Business Central instance in the same namespace to the KIE Server, you must configure information about the Business Central instance.

The Business Central instance must be configured with the same credentials secret (**CREDENTIALS_SECRET**) as the KIE Server.

Prerequisites

- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

1. Set the following parameters:
 - **Name of the Business Central service(`DECISION_CENTRAL_SERVICE`):** The OpenShift service name for the Business Central.
2. Ensure that the following settings are set to the same value as the same settings for the Business Central:
 - **Maven repository URL (`MAVEN_REPO_URL`):** A URL for the external Maven repository from which services must be deployed.
 - **Maven repository username (`MAVEN_REPO_USERNAME`):** The user name for the Maven repository.
 - **Maven repository password (`MAVEN_REPO_PASSWORD`):** The password for the Maven repository.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, "Completing deployment of the template for an immutable KIE Server from KJAR services"](#).

3.2.5. Configuring access to a Maven mirror in an environment without a connection to the public Internet for an immutable KIE Server from KJAR services

When configuring the template to deploy an immutable KIE Server from KJAR services, if your OpenShift environment does not have a connection to the public Internet, you must configure access to a Maven mirror that you set up according to [Section 2.5, "Preparing a Maven mirror repository for offline use"](#).

Prerequisites

- You started the configuration of the template, as described in [Section 3.2.1, "Starting configuration of the template for an immutable KIE Server from KJAR services"](#).

Procedure

To configure access to the Maven mirror, set the following parameters:

- **Maven mirror URL (`MAVEN_MIRROR_URL`):** The URL for the Maven mirror repository that you set up in [Section 2.5, "Preparing a Maven mirror repository for offline use"](#). This URL must be accessible from a pod in your OpenShift environment.
- **Maven mirror of (`MAVEN_MIRROR_OF`):** The value that determines which artifacts are to be retrieved from the mirror. For instructions about setting the **mirrorOf** value, see [Mirror Settings](#) in the Apache Maven documentation. The default value is **external:***. With this value, Maven retrieves every required artifact from the mirror and does not query any other repositories.
 - If you configure an external Maven repository (**`MAVEN_REPO_URL`**), change **`MAVEN_MIRROR_OF`** to exclude the artifacts in this repository from the mirror, for example, **`external:*,!repo-custom`**. Replace **`repo-custom`** with the ID that you configured in **`MAVEN_REPO_ID`**.

- If you configure a built-in Business Central Maven repository (**DECISION_CENTRAL_MAVEN_SERVICE**), change **MAVEN_MIRROR_OF** to exclude the artifacts in this repository from the mirror: **external:*,!repo-rhdmcentr**.
- If you configure both repositories, change **MAVEN_MIRROR_OF** to exclude the artifacts in both repositories from the mirror: **external:*,!repo-rhdmcentr,!repo-custom**. Replace **repo-custom** with the ID that you configured in **MAVEN_REPO_ID**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, “Completing deployment of the template for an immutable KIE Server from KJAR services”](#).

3.2.6. Setting parameters for RH-SSO authentication for an immutable KIE Server from KJAR services

If you want to use RH-SSO authentication, complete the following additional configuration when configuring the template to deploy an immutable KIE Server from KJAR services.



IMPORTANT

Do not configure LDAP authentication and RH-SSO authentication in the same deployment.

Prerequisites

- A realm for Red Hat Decision Manager is created in the RH-SSO authentication system.
- User names and passwords for Red Hat Decision Manager are created in the RH-SSO authentication system. For a list of the available roles, see [Chapter 4, Red Hat Decision Manager roles and users](#).
You must create a user with the username and password configured in the secret for the administrative user, as described in [Section 2.3, “Creating the secret for the administrative user”](#). This user must have the **kie-server,rest-all,admin** roles.
- Clients are created in the RH-SSO authentication system for all components of the Red Hat Decision Manager environment that you are deploying. The client setup contains the URLs for the components. You can review and edit the URLs after deploying the environment. Alternatively, the Red Hat Decision Manager deployment can create the clients. However, this option provides less detailed control over the environment.
- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

1. Set the following parameters:
 - **RH-SSO URL (SSO_URL)**: The URL for RH-SSO.
 - **RH-SSO Realm name (SSO_REALM)**: The RH-SSO realm for Red Hat Decision Manager.

- **RH-SSO Disable SSL Certificate Validation** (**SSO_DISABLE_SSL_CERTIFICATE_VALIDATION**): Set to **true** if your RH-SSO installation does not use a valid HTTPS certificate.
2. Complete one of the following procedures:
- a. If you created the client for Red Hat Decision Manager within RH-SSO, set the following parameters in the template:
 - **Business Central RH-SSO Client name**(**DECISION_CENTRAL_SSO_CLIENT**): The RH-SSO client name for Business Central.
 - **KIE Server RH-SSO Client name**(**KIE_SERVER_SSO_CLIENT**): The RH-SSO client name for KIE Server.
 - **KIE Server RH-SSO Client Secret**(**KIE_SERVER_SSO_SECRET**): The secret string that is set in RH-SSO for the client for KIE Server.
 - b. To create the clients for Red Hat Decision Manager within RH-SSO, set the following parameters in the template:
 - **KIE Server RH-SSO Client name**(**KIE_SERVER_SSO_CLIENT**): The name of the client to create in RH-SSO for KIE Server.
 - **KIE Server RH-SSO Client Secret**(**KIE_SERVER_SSO_SECRET**): The secret string to set in RH-SSO for the client for KIE Server.
 - **RH-SSO Realm Admin Username**(**SSO_USERNAME**) and **RH-SSO Realm Admin Password** (**SSO_PASSWORD**): The user name and password for the realm administrator user for the RH-SSO realm for Red Hat Decision Manager. You must provide this user name and password in order to create the required clients.

Next steps

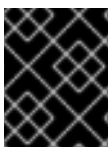
If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, “Completing deployment of the template for an immutable KIE Server from KJAR services”](#).

After completing the deployment, review the URLs for components of Red Hat Decision Manager in the RH-SSO authentication system to ensure they are correct.

3.2.7. Setting parameters for LDAP authentication for an immutable KIE Server from KJAR services

If you want to use LDAP authentication, complete the following additional configuration when configuring the template to deploy an immutable KIE Server from KJAR services.



IMPORTANT

Do not configure LDAP authentication and RH-SSO authentication in the same deployment.

Prerequisites

- You created user names and passwords for Red Hat Decision Manager in the LDAP system. For a list of the available roles, see [Chapter 4, Red Hat Decision Manager roles and users](#) .

You must create a user with the username and password configured in the secret for the administrative user, as described in [Section 2.3, “Creating the secret for the administrative user”](#). This user must have the **kie-server,rest-all,admin** roles.

- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

1. Set the **AUTH_LDAP*** parameters of the template. These parameters correspond to the settings of the **LdapExtended** Login module of Red Hat JBoss EAP. For instructions about using these settings, see [LdapExtended login module](#).

If the LDAP server does not define all the roles required for your deployment, you can map LDAP groups to Red Hat Decision Manager roles. To enable LDAP role mapping, set the following parameters:

- **RoleMapping rolesProperties file path (AUTH_ROLE_MAPPER_ROLES_PROPERTIES)**: The fully qualified path name of a file that defines role mapping, for example, **/opt/eap/standalone/configuration/rolemapping/rolemapping.properties**. You must provide this file and mount it at this path in all applicable deployment configurations; for instructions, see [Section 3.4, “\(Optional\) Providing the LDAP role mapping file”](#).
- **RoleMapping replaceRole property (AUTH_ROLE_MAPPER_REPLACE_ROLE)**: If set to **true**, mapped roles replace the roles defined on the LDAP server; if set to **false**, both mapped roles and roles defined on the LDAP server are set as user application roles. The default setting is **false**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, “Completing deployment of the template for an immutable KIE Server from KJAR services”](#).

3.2.8. Enabling Prometheus metric collection for an immutable KIE Server from KJAR services

If you want to configure your KIE Server deployment to use Prometheus to collect and store metrics, enable support for this feature in KIE Server at deployment time.

Prerequisites

- You started the configuration of the template, as described in [Section 3.2.1, “Starting configuration of the template for an immutable KIE Server from KJAR services”](#).

Procedure

To enable support for Prometheus metric collection, set the **Prometheus Server Extension Disabled (PROMETHEUS_SERVER_EXT_DISABLED)** parameter to **false**.

Next steps

If necessary, set additional parameters.

To complete the deployment, follow the procedure in [Section 3.2.9, “Completing deployment of the template for an immutable KIE Server from KJAR services”](#).

For instructions about configuring Prometheus metrics collection, see [Managing and monitoring KIE Server](#).

3.2.9. Completing deployment of the template for an immutable KIE Server from KJAR services

After setting all the required parameters in the OpenShift Web UI or in the command line, complete deployment of the template.

Procedure

Depending on the method that you are using, complete the following steps:

- In the OpenShift Web UI, click **Create**.
 - If the **This will create resources that may have security or project behavior implications** message appears, click **Create Anyway**.
- Complete the command line and press Enter.

3.3. (OPTIONAL) PROVIDING A TRUSTSTORE FOR ACCESSING HTTPS SERVERS WITH SELF-SIGNED CERTIFICATES

Components of your Red Hat Decision Manager infrastructure might need to use HTTPS access to servers that have a self-signed HTTPS certificate. For example, KIE Server might need to interact with an internal Nexus repository that uses a self-signed HTTPS server certificate.

In this case, to ensure that HTTPS connections complete successfully, you must provide client certificates for these services using a truststore.

Skip this procedure if you do not need Red Hat Decision Manager components to communicate with servers that use self-signed HTTPS server certificates.



NOTE

In Red Hat Decision Manager 7.8, this procedure is not effective for an immutable deployment that uses an S2I build.

Procedure

1. Prepare a truststore with the certificates. Use the following command to create a truststore or to add a certificate to an existing truststore. Add all the necessary certificates to one truststore.

```
keytool -importcert -file certificate-file -alias alias -keyalg algorithm -keysize size -
trustcacerts -noprompt -storetype JKS -keypass truststore-password -storepass truststore-
password -keystore keystore-file
```

Replace the following values:

- ***certificate-file***: The pathname of the certificate that you want to add to the truststore.
- ***alias***: The alias for the certificate in the truststore. If you are adding more than one certificate to the truststore, every certificate must have a unique alias.
- ***algorithm***: The encryption algorithm used for the certificate, typically **RSA**.

- **size**: The size of the certificate key in bytes, for example, **2048**.
- **truststore-password**: The password for the truststore.
- **keystore-file**: The pathname of the truststore file. If the file does not exist, the command creates a new truststore.

The following example command adds a certificate from the `/var/certs/nexus.cer` file to a truststore in the `/var/keystores/custom-truststore.jks` file. The truststore password is **mykeystorepass**.

```
keytool -importcert -file /var/certs/nexus.cer -alias nexus-cert -keyalg RSA -keysize 2048
-trustcacerts -noprompt -storetype JKS -keypass mykeystorepass -storepass
mykeystorepass -keystore /var/keystores/custom-truststore.jks
```

2. Create a secret with the truststore file using the **oc** command, for example:

```
oc create secret generic truststore-secret --from-file=/var/keystores/custom-truststore.jks
```

3. In the deployment for the necessary components of your infrastructure, mount the secret and then set the **JAVA_OPTS_APPEND** option to enable the Java application infrastructure to use the trust store, for example:

```
oc set volume dc/myapp-kieserver --add --overwrite --name=custom-truststore-volume --
mount-path /etc/custom-secret-volume --secret-name=custom-secret
```

```
oc set env dc/myapp-kieserver JAVA_OPTS_APPEND='-
Djavax.net.ssl.trustStore=/etc/custom-secret-volume/custom-truststore.jks -
Djavax.net.ssl.trustStoreType=jks -Djavax.net.ssl.trustStorePassword=mykeystorepass'
```

Replace **myapp** with the application name that you set when configuring the template.

3.4. (OPTIONAL) PROVIDING THE LDAP ROLE MAPPING FILE

If you configure the **AUTH_ROLE_MAPPER_ROLES_PROPERTIES** parameter, you must provide a file that defines the role mapping. Mount this file on all affected deployment configurations.

Procedure

1. Create the role mapping properties file, for example, **my-role-map**. The file must contain entries in the following format:

```
ldap_role = product_role1, product_role2...
```

For example:

```
admins = kie-server,rest-all,admin
```

2. Create an OpenShift configuration map from the file by entering the following command:

```
oc create configmap ldap-role-mapping --from-file=<new_name>=<existing_name>
```

Replace **<new_name>** with the name that the file is to have on the pods (it must be the same as the name specified in the **AUTH_ROLE_MAPPER_ROLES_PROPERTIES** file) and **<existing_name>** with the name of the file that you created. Example:

```
oc create configmap ldap-role-mapping --from-file=rolemapping.properties=my-role-map
```

3. Mount the configuration map on every deployment configuration that is configured for role mapping.

The following deployment configurations can be affected in this environment:

- **myapp-kieserver**: KIE Server

Replace **myapp** with the application name. Sometimes, several KIE Server deployments can be present under different application names.

For every deployment configuration, run the command:

```
oc set volume dc/<deployment_config_name> --add --type configmap --configmap-name ldap-role-mapping --mount-path=<mapping_dir> --name=ldap-role-mapping
```

Replace **<mapping_dir>** with the directory name (without file name) set in the **AUTH_ROLE_MAPPER_ROLES_PROPERTIES** parameter, for example, **/opt/eap/standalone/configuration/rolemapping**.

CHAPTER 4. RED HAT DECISION MANAGER ROLES AND USERS

To access Business Central or KIE Server, you must create users and assign them appropriate roles before the servers are started.

The Business Central and KIE Server use Java Authentication and Authorization Service (JAAS) login module to authenticate the users. If both Business Central and KIE Server are running on a single instance, then they share the same JAAS subject and security domain. Therefore, a user, who is authenticated for Business Central can also access KIE Server.

However, if Business Central and KIE Server are running on different instances, then the JAAS login module is triggered for both individually. Therefore, a user, who is authenticated for Business Central, needs to be authenticated separately to access the KIE Server (for example, to view or manage process definitions in Business Central). In case, the user is not authenticated on the KIE Server, then 401 error is logged in the log file, displaying **Invalid credentials to load data from remote server. Contact your system administrator.** message in Business Central.

This section describes available Red Hat Decision Manager user roles.



NOTE

The **admin**, **analyst**, and **rest-all** roles are reserved for Business Central. The **kie-server** role is reserved for KIE Server. For this reason, the available roles can differ depending on whether Business Central, KIE 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 Decision Manager.
- **analyst**: Users with the **analyst** role have access to all high-level features. They can model 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.
- **rest-all**: Users with the **rest-all** role can access Business Central REST capabilities.
- **kie-server**: Users with the **kie-server** role can access KIE Server (KIE Server) REST capabilities.

CHAPTER 5. OPENSIFT TEMPLATE REFERENCE INFORMATION

Red Hat Decision Manager provides the following OpenShift templates. To access the templates, download and extract the **rhdm-7.8.0-openshift-templates.zip** product deliverable file from the [Software Downloads](#) page of the Red Hat customer portal.

- **rhdm78-prod-immutable-kieserver.yaml** provides an immutable KIE Server. Deployment of this template includes a source-to-image (S2I) build for one or several services that are to run on the KIE Server. For details about this template, see [Section 5.1, “rhdm78-prod-immutable-kieserver.yaml template”](#).
- **rhdm78-prod-immutable-kieserver-amq.yaml** provides an immutable KIE Server. Deployment of this template includes a source-to-image (S2I) build for one or several services that are to run on the KIE Server. This version of the template includes JMS integration. For details about this template, see [Section 5.2, “rhdm78-prod-immutable-kieserver-amq.yaml template”](#).

5.1. RHDM78-PROD-IMMUTABLE-KIESERVER.YAML TEMPLATE

Application template for an immutable KIE server in a production environment, for Red Hat Decision Manager 7.8 - Deprecated

5.1.1. Parameters

Templates allow you to define parameters that take on a value. That value is then substituted wherever the parameter is referenced. References can be defined in any text field in the objects list field. See the [Openshift documentation](#) for more information.

Variable name	Image Environment Variable	Description	Example value	Required
APPLICATION_NAME	–	The name for the application.	myapp	True
CREDENTIALS_SECRET	–	Secret containing the KIE_ADMIN_USER and KIE_ADMIN_PWD values.	rhpm-credentials	True

Variable name	Image Environment Variable	Description	Example value	Required
IMAGE_STREAM_NAMESPACE	–	Namespace in which the ImageStreams for Red Hat Decision Manager images are installed. These ImageStreams are normally installed in the openshift namespace. You need to modify this parameter only if you installed the ImageStreams in a different namespace/project.	openshift	True
KIE_SERVER_IMAGE_STREAM_NAME	–	The name of the image stream to use for KIE server. Default is "rhdm-kieserver-rhel8".	rhdm-kieserver-rhel8	True
IMAGE_STREAM_TAG	–	A named pointer to an image in an image stream. Default is "7.8.0".	7.8.0	True
KIE_MBEANS	KIE_MBEANS	KIE server mbeans enabled/disabled. (Sets the kie.mbeans and kie.scanner.mbeans system properties)	enabled	False
DROOLS_SERVER_FILTER_CLASSES	DROOLS_SERVER_FILTER_CLASSES	KIE server class filtering. (Sets the org.drools.server.filter.classes system property)	true	False

Variable name	Image Environment Variable	Description	Example value	Required
PROMETHEUS_SERVER_EXT_DISABLED	PROMETHEUS_SERVER_EXT_DISABLED	If set to false, the prometheus server extension will be enabled. (Sets the org.kie.prometheus.server.ext.disabled system property)	false	False
KIE_SERVER_HOSTNAME_HTTP	HOSTNAME_HTTP	Custom hostname for http service route. Leave blank for default hostname, e.g.: insecure-<application-name>-kieserver-<project>.<default-domain-suffix>	–	False
KIE_SERVER_HOSTNAME_HTTPS	HOSTNAME_HTTPS	Custom hostname for https service route. Leave blank for default hostname, e.g.: <application-name>-kieserver-<project>.<default-domain-suffix>	–	False
KIE_SERVER_HTTPS_SECRET	–	The name of the secret containing the keystore file.	kieserver-app-secret	True
KIE_SERVER_HTTPS_KEYSTORE	HTTPS_KEYSTORE	The name of the keystore file within the secret.	keystore.jks	False
KIE_SERVER_HTTPS_NAME	HTTPS_NAME	The name associated with the server certificate.	jboss	False
KIE_SERVER_HTTPS_PASSWORD	HTTPS_PASSWORD	The password for the keystore and certificate.	mykeystorepass	False

Variable name	Image Environment Variable	Description	Example value	Required
KIE_SERVER_BYPASS_AUTH_USER	KIE_SERVER_BYPASS_AUTH_USER	Allows the KIE server to bypass the authenticated user for task-related operations, for example, queries. (Sets the <code>org.kie.server.bypass.auth.user</code> system property)	false	False
KIE_SERVER_CONTAINER_DEPLOYMENT	KIE_SERVER_CONTAINER_DEPLOYMENT	KIE Server Container deployment configuration with optional alias. Format: <code>containerId=groupId:artifactId:version c2(alias2)=g2:a2:v2</code>	<code>rhdm-kieserver-hellorules=org.openshift.quickstarts:rhdm-kieserver-hellorules:1.6.0-SNAPSHOT</code>	True
SOURCE_REPOSITORY_URL	–	Git source URI for application.	<code>https://github.com/jboss-container-images/rhdm-7-openshift-image.git</code>	True
SOURCE_REPOSITORY_REF	–	Git branch/tag reference.	master	False
CONTEXT_DIR	–	Path within Git project to build; empty for root project directory.	<code>quickstarts/hellorules/hellorules</code>	False
GITHUB_WEBHOOK_SECRET	–	GitHub trigger secret.	–	True
GENERIC_WEBHOOK_SECRET	–	Generic build trigger secret.	–	True

Variable name	Image Environment Variable	Description	Example value	Required
MAVEN_MIRROR_URL	MAVEN_MIRROR_URL	Maven mirror that KIE server must use. If you configure a mirror, this mirror must contain all artifacts that are required for building and deploying your services.	–	False
MAVEN_MIRROR_OF	MAVEN_MIRROR_OF	Maven mirror configuration for KIE server.	external:*	False
MAVEN_REPOSITORY_ID	EXTERNAL_MAVEN_REPOSITORY_ID	The id to use for the maven repository. If set, it can be excluded from the optionally configured mirror by adding it to MAVEN_MIRROR_OF. For example: external:*,!repo-rhdmcentr,!repo-custom. If MAVEN_MIRROR_URL is set but MAVEN_MIRROR_ID is not set, an id will be generated randomly, but won't be usable in MAVEN_MIRROR_OF.	repo-custom	False
MAVEN_REPOSITORY_URL	EXTERNAL_MAVEN_REPOSITORY_URL	Fully qualified URL to a Maven repository.	–	False
MAVEN_REPOSITORY_USERNAME	EXTERNAL_MAVEN_REPOSITORY_USERNAME	User name for accessing the Maven repository, if required.	–	False

Variable name	Image Environment Variable	Description	Example value	Required
MAVEN_REPO_PASSWORD	EXTERNAL_MAVEN_REPO_PASSWORD	Password to access the Maven repository, if required.	–	False
DECISION_CENTRAL_SERVICE	WORKBENCH_SERVICE_NAME	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	myapp-rhdmcentr	False
ARTIFACT_DIR	–	List of directories from which archives will be copied into the deployment folder. If unspecified, all archives in /target will be copied.	–	False
KIE_SERVER_MEMORY_LIMIT	–	KIE server Container memory limit.	1Gi	False
KIE_SERVER_MGMT_DISABLED	KIE_SERVER_MGMT_DISABLED	Disable management api and don't allow KIE containers to be deployed/undeployed or started/stopped. Sets the property org.kie.server.management.api.disabled to true and org.kie.server.startup.strategy to LocalContainersStartupStrategy.	true	True
SSO_URL	SSO_URL	RH-SSO URL	https://rh-sso.example.com/auth	False

Variable name	Image Environment Variable	Description	Example value	Required
SSO_REALM	SSO_REALM	RH-SSO Realm name.	–	False
KIE_SERVER_SSO_CLIENT	SSO_CLIENT	KIE Server RH-SSO Client name.	–	False
KIE_SERVER_SSO_SECRET	SSO_SECRET	KIE Server RH-SSO Client Secret.	252793ed-7118-4ca8-8dab-5622fa97d892	False
SSO_USERNAME	SSO_USERNAME	RH-SSO Realm admin user name used to create the Client if it doesn't exist.	–	False
SSO_PASSWORD	SSO_PASSWORD	RH-SSO Realm Admin Password used to create the Client.	–	False
SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	RH-SSO Disable SSL Certificate Validation.	false	False
SSO_PRINCIPAL_ATTRIBUTE	SSO_PRINCIPAL_ATTRIBUTE	RH-SSO Principal Attribute to use as user name.	preferred_username	False
AUTH_LDAP_URL	AUTH_LDAP_URL	LDAP Endpoint to connect for authentication.	ldap://myldap.example.com	False
AUTH_LDAP_BIND_DN	AUTH_LDAP_BIND_DN	Bind DN used for authentication.	uid=admin,ou=users,ou=example,ou=com	False
AUTH_LDAP_BIND_CREDENTIAL	AUTH_LDAP_BIND_CREDENTIAL	LDAP Credentials used for authentication.	Password	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_JAAS_SECURITY_DOMAIN	AUTH_LDAP_JAAS_SECURITY_DOMAIN	The JMX ObjectName of the JaasSecurityDomain used to decrypt the password.	–	False
AUTH_LDAP_BASE_CTX_DN	AUTH_LDAP_BASE_CTX_DN	LDAP Base DN of the top-level context to begin the user search.	ou=users,ou=example,ou=com	False
AUTH_LDAP_BASE_FILTER	AUTH_LDAP_BASE_FILTER	LDAP search filter used to locate the context of the user to authenticate. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. A common example for the search filter is (uid={0}).	(uid={0})	False
AUTH_LDAP_SEARCH_SCOPE	AUTH_LDAP_SEARCH_SCOPE	The search scope to use.	SUBTREE_SCOPE	False
AUTH_LDAP_SEARCH_TIME_LIMIT	AUTH_LDAP_SEARCH_TIME_LIMIT	The timeout in milliseconds for user or role searches.	10000	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	The name of the attribute in the user entry that contains the DN of the user. This may be necessary if the DN of the user itself contains special characters, backslash for example, that prevent correct user mapping. If the attribute does not exist, the entry's DN is used.	distinguishedName	False
AUTH_LDAP_PARSE_USERNAME	AUTH_LDAP_PARSE_USERNAME	A flag indicating if the DN is to be parsed for the user name. If set to true, the DN is parsed for the user name. If set to false the DN is not parsed for the user name. This option is used together with <code>usernameBeginString</code> and <code>usernameEndString</code> .	true	False
AUTH_LDAP_USERNAME_BEGIN_STRING	AUTH_LDAP_USERNAME_BEGIN_STRING	Defines the String which is to be removed from the start of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	–	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_USERNAME_END_STRING	AUTH_LDAP_USERNAME_END_STRING	Defines the String which is to be removed from the end of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	–	False
AUTH_LDAP_ROLE_ATTRIBUTE_ID	AUTH_LDAP_ROLE_ATTRIBUTE_ID	Name of the attribute containing the user roles.	<code>memberOf</code>	False
AUTH_LDAP_ROLES_CTX_DN	AUTH_LDAP_ROLES_CTX_DN	The fixed DN of the context to search for user roles. This is not the DN where the actual roles are, but the DN where the objects containing the user roles are. For example, in a Microsoft Active Directory server, this is the DN where the user account is.	<code>ou=groups,ou=example,ou=com</code>	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_ROLE_FILTER	AUTH_LDAP_ROLE_FILTER	A search filter used to locate the roles associated with the authenticated user. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. The authenticated userDN is substituted into the filter anywhere a {1} is used. An example search filter that matches on the input username is (member={0}). An alternative that matches on the authenticated userDN is (member={1}).	(memberOf={1})	False
AUTH_LDAP_ROLE_RECURSION	AUTH_LDAP_ROLE_RECURSION	The number of levels of recursion the role search will go below a matching context. Disable recursion by setting this to 0.	1	False
AUTH_LDAP_DEFAULT_ROLE	AUTH_LDAP_DEFAULT_ROLE	A role included for all authenticated users.	user	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	Name of the attribute within the roleCtxDN context which contains the role name. If the roleAttributesDN property is set to true, this property is used to find the role object's name attribute.	name	False
AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	A flag indicating if the DN returned by a query contains the roleNameAttribute ID. If set to true, the DN is checked for the roleNameAttribute ID. If set to false, the DN is not checked for the roleNameAttribute ID. This flag can improve the performance of LDAP queries.	false	False
AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	Whether or not the roleAttributeID contains the fully-qualified DN of a role object. If false, the role name is taken from the value of the roleNameAttributeId attribute of the context name. Certain directory schemas, such as Microsoft Active Directory, require this attribute to be set to true.	false	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_REFERRAL_USE_R_ATTRIBUTE_ID_TO_CHECK	AUTH_LDAP_REFERRAL_USE_R_ATTRIBUTE_ID_TO_CHECK	If you are not using referrals, you can ignore this option. When using referrals, this option denotes the attribute name which contains users defined for a certain role, for example member, if the role object is inside the referral. Users are checked against the content of this attribute name. If this option is not set, the check will always fail, so role objects cannot be stored in a referral tree.	–	False
AUTH_ROLE_MAPPER_ROLES_PROPERTIES	AUTH_ROLE_MAPPER_ROLES_PROPERTIES	When present, the RoleMapping Login Module will be configured to use the provided file. This parameter defines the fully-qualified file path and name of a properties file or resource which maps roles to replacement roles. The format is original_role=role1,role2,role3	–	False
AUTH_ROLE_MAPPER_REPLACE_ROLE	AUTH_ROLE_MAPPER_REPLACE_ROLE	Whether to add to the current roles, or replace the current roles with the mapped ones. Replaces if set to true.	–	False

5.1.2. Objects

The CLI supports various object types. A list of these object types as well as their abbreviations can be found in the [Openshift documentation](#).

5.1.2.1. Services

A service is an abstraction which defines a logical set of pods and a policy by which to access them. See the [container-engine documentation](#) for more information.

Service	Port	Name	Description
\${APPLICATION_NAME}-kieserver	8080	http	All the KIE server web server's ports.
	8443	https	
\${APPLICATION_NAME}-kieserver-ping	8888	ping	The JGroups ping port for clustering.

5.1.2.2. Routes

A route is a way to expose a service by giving it an externally reachable hostname such as **www.example.com**. A defined route and the endpoints identified by its service can be consumed by a router to provide named connectivity from external clients to your applications. Each route consists of a route name, service selector, and (optionally) security configuration. See the [Openshift documentation](#) for more information.

Service	Security	Hostname
insecure- \${APPLICATION_NAME}-kieserver-http	none	\${KIE_SERVER_HOSTNAME_HTTP}
\${APPLICATION_NAME}-kieserver-https	TLS passthrough	\${KIE_SERVER_HOSTNAME_HTTPS}

5.1.2.3. Build Configurations

A **buildConfig** describes a single build definition and a set of triggers for when a new build should be created. A **buildConfig** is a REST object, which can be used in a POST to the API server to create a new instance. Refer to the [Openshift documentation](#) for more information.

S2I image	link	Build output	BuildTriggers and Settings
rhdm-kieserver-rhel8:7.8.0	rhpm-7/rhdm-kieserver-rhel8	\${APPLICATION_NAME}-kieserver:latest	GitHub, Generic, ImageChange, ConfigChange

5.1.2.4. Deployment Configurations

A deployment in OpenShift is a replication controller based on a user-defined template called a deployment configuration. Deployments are created manually or in response to triggered events. See the [Openshift documentation](#) for more information.

5.1.2.4.1. Triggers

A trigger drives the creation of new deployments in response to events, both inside and outside OpenShift. See the [Openshift documentation](#) for more information.

Deployment	Triggers
<code>\${APPLICATION_NAME}-kieserver</code>	ImageChange

5.1.2.4.2. Replicas

A replication controller ensures that a specified number of pod "replicas" are running at any one time. If there are too many, the replication controller kills some pods. If there are too few, it starts more. See the [container-engine documentation](#) for more information.

Deployment	Replicas
<code>\${APPLICATION_NAME}-kieserver</code>	2

5.1.2.4.3. Pod Template

5.1.2.4.3.1. Service Accounts

Service accounts are API objects that exist within each project. They can be created or deleted like any other API object. See the [Openshift documentation](#) for more information.

Deployment	Service Account
<code>\${APPLICATION_NAME}-kieserver</code>	<code>\${APPLICATION_NAME}-kieserver</code>

5.1.2.4.3.2. Image

Deployment	Image
<code>\${APPLICATION_NAME}-kieserver</code>	<code>\${APPLICATION_NAME}-kieserver</code>

5.1.2.4.3.3. Readiness Probe

`${APPLICATION_NAME}-kieserver`

Http Get on `http://localhost:8080/services/rest/server/readycheck`

5.1.2.4.3.4. Liveness Probe

\${APPLICATION_NAME}-kieserverHttp Get on `http://localhost:8080/services/rest/server/healthcheck`

5.1.2.4.3.5. Exposed Ports

Deployments	Name	Port	Protocol
\${APPLICATION_NAME}-kieserver	jolokia	8778	TCP
	http	8080	TCP
	https	8443	TCP
	ping	8888	TCP

5.1.2.4.3.6. Image Environment Variables

Deployment	Variable name	Description	Example value
\${APPLICATION_NAME}-kieserver	WORKBENCH_SERVICE_NAME	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	\${DECISION_CENTRAL_SERVICE}
	KIE_ADMIN_USER	Admin user name	Set according to the credentials secret
	KIE_ADMIN_PWD	Admin user password	Set according to the credentials secret
	KIE_SERVER_MODE	–	DEVELOPMENT
	KIE_MBEANS	KIE server mbeans enabled/disabled. (Sets the kie.mbeans and kie.scanner.mbeans system properties)	\${KIE_MBEANS}
	DROOLS_SERVER_FILTER_CLASSES	KIE server class filtering. (Sets the org.drools.server.filter.classes system property)	\${DROOLS_SERVER_FILTER_CLASSES}

Deployment	Variable name	Description	Example value
	PROMETHEUS_SERVER_EXT_DISABLED	If set to false, the prometheus server extension will be enabled. (Sets the org.kie.prometheus.server.ext.disabled system property)	\${PROMETHEUS_SERVER_EXT_DISABLED}
	KIE_SERVER_BYPASS_AUTH_USER	Allows the KIE server to bypass the authenticated user for task-related operations, for example, queries. (Sets the org.kie.server.bypass.auth.user system property)	\${KIE_SERVER_BYPASS_AUTH_USER}
	KIE_SERVER_ID	–	–
	KIE_SERVER_ROUTE_NAME	–	\${APPLICATION_NAME}-kieserver
	KIE_SERVER_CONTAINER_DEPLOYMENT	KIE Server Container deployment configuration with optional alias. Format: containerId=groupId:artifactId:version c2(alias2)=g2:a2:v2	\${KIE_SERVER_CONTAINER_DEPLOYMENT}
	MAVEN_MIRROR_URL	Maven mirror that KIE server must use. If you configure a mirror, this mirror must contain all artifacts that are required for building and deploying your services.	\${MAVEN_MIRROR_URL}
	MAVEN_MIRROR_OFF	Maven mirror configuration for KIE server.	\${MAVEN_MIRROR_OFF}
	MAVEN_REPOS	–	RHDMCENTR,EXTERNAL
	RHDMCENTR_MAVEN_REPO_ID	–	repo-rhdmcentr

Deployment	Variable name	Description	Example value
	RHDMCENTR_MAVEN_REPO_SERVICE	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	\${DECISION_CENTRAL_SERVICE}
	RHDMCENTR_MAVEN_REPO_PATH	–	/maven2/
	RHDMCENTR_MAVEN_REPO_USERNAME	–	Set according to the credentials secret
	RHDMCENTR_MAVEN_REPO_PASSWORD	–	Set according to the credentials secret
	EXTERNAL_MAVEN_REPO_ID	The id to use for the maven repository. If set, it can be excluded from the optionally configured mirror by adding it to MAVEN_MIRROR_OF. For example: external:*,!repo-rhdmcentr,!repo-custom. If MAVEN_MIRROR_URL is set but MAVEN_MIRROR_ID is not set, an id will be generated randomly, but won't be usable in MAVEN_MIRROR_OF.	\${MAVEN_REPO_ID}
	EXTERNAL_MAVEN_REPO_URL	Fully qualified URL to a Maven repository.	\${MAVEN_REPO_URL}
	EXTERNAL_MAVEN_REPO_USERNAME	User name for accessing the Maven repository, if required.	\${MAVEN_REPO_USERNAME}
	EXTERNAL_MAVEN_REPO_PASSWORD	Password to access the Maven repository, if required.	\${MAVEN_REPO_PASSWORD}

Deployment	Variable name	Description	Example value
	HTTPS_KEYSTORE_DIR	–	/etc/kieserver-secret-volume
	HTTPS_KEYSTORE	The name of the keystore file within the secret.	`\${KIE_SERVER_HTTPS_KEYSTORE}`
	HTTPS_NAME	The name associated with the server certificate.	`\${KIE_SERVER_HTTPS_NAME}`
	HTTPS_PASSWORD	The password for the keystore and certificate.	`\${KIE_SERVER_HTTPS_PASSWORD}`
	KIE_SERVER_MGMT_DISABLED	Disable management api and don't allow KIE containers to be deployed/undeployed or started/stopped. Sets the property <code>org.kie.server.mgmt.api.disabled</code> to true and <code>org.kie.server.startup.strategy</code> to <code>LocalContainersStartupStrategy</code> .	`\${KIE_SERVER_MGMT_DISABLED}`
	KIE_SERVER_STARTUP_STRATEGY	–	OpenShiftStartupStrategy
	JGROUPS_PING_PROTOCOL	–	openshift.DNS_PING
	OPENSIFT_DNS_PING_SERVICE_NAME	–	`\${APPLICATION_NAME}`-kieserver-ping
	OPENSIFT_DNS_PING_SERVICE_PORT	–	8888
	SSO_URL	RH-SSO URL	`\${SSO_URL}`
	SSO_OPENIDCONNECT_DEPLOYMENTS	–	ROOT.war
	SSO_REALM	RH-SSO Realm name.	`\${SSO_REALM}`

Deployment	Variable name	Description	Example value
	SSO_SECRET	KIE Server RH-SSO Client Secret.	`\${KIE_SERVER_SSO_SECRET}`
	SSO_CLIENT	KIE Server RH-SSO Client name.	`\${KIE_SERVER_SSO_CLIENT}`
	SSO_USERNAME	RH-SSO Realm admin user name used to create the Client if it doesn't exist.	`\${SSO_USERNAME}`
	SSO_PASSWORD	RH-SSO Realm Admin Password used to create the Client.	`\${SSO_PASSWORD}`
	SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	RH-SSO Disable SSL Certificate Validation.	`\${SSO_DISABLE_SSL_CERTIFICATE_VALIDATION}`
	SSO_PRINCIPAL_ATTRIBUTE	RH-SSO Principal Attribute to use as user name.	`\${SSO_PRINCIPAL_ATTRIBUTE}`
	HOSTNAME_HTTP	Custom hostname for http service route. Leave blank for default hostname, e.g.: insecure-<application-name>-kieserver-<project>.<default-domain-suffix>	`\${KIE_SERVER_HOSTNAME_HTTP}`
	HOSTNAME_HTTPS	Custom hostname for https service route. Leave blank for default hostname, e.g.: <application-name>-kieserver-<project>.<default-domain-suffix>	`\${KIE_SERVER_HOSTNAME_HTTPS}`
	AUTH_LDAP_URL	LDAP Endpoint to connect for authentication.	`\${AUTH_LDAP_URL}`
	AUTH_LDAP_BIND_DN	Bind DN used for authentication.	`\${AUTH_LDAP_BIND_DN}`
	AUTH_LDAP_BIND_CREDENTIAL	LDAP Credentials used for authentication.	`\${AUTH_LDAP_BIND_CREDENTIAL}`

Deployment	Variable name	Description	Example value
	AUTH_LDAP_JAAS_SECURITY_DOMAIN	The JMX ObjectName of the JaasSecurityDomain used to decrypt the password.	`\${AUTH_LDAP_JAAS_SECURITY_DOMAIN}`
	AUTH_LDAP_BASE_CTX_DN	LDAP Base DN of the top-level context to begin the user search.	`\${AUTH_LDAP_BASE_CTX_DN}`
	AUTH_LDAP_BASE_FILTER	LDAP search filter used to locate the context of the user to authenticate. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. A common example for the search filter is (uid={0}).	`\${AUTH_LDAP_BASE_FILTER}`
	AUTH_LDAP_SEARCH_SCOPE	The search scope to use.	`\${AUTH_LDAP_SEARCH_SCOPE}`
	AUTH_LDAP_SEARCH_TIME_LIMIT	The timeout in milliseconds for user or role searches.	`\${AUTH_LDAP_SEARCH_TIME_LIMIT}`
	AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	The name of the attribute in the user entry that contains the DN of the user. This may be necessary if the DN of the user itself contains special characters, backslash for example, that prevent correct user mapping. If the attribute does not exist, the entry's DN is used.	`\${AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE}`

Deployment	Variable name	Description	Example value
	AUTH_LDAP_PARSE_USERNAME	A flag indicating if the DN is to be parsed for the user name. If set to true, the DN is parsed for the user name. If set to false the DN is not parsed for the user name. This option is used together with <code>usernameBeginString</code> and <code>usernameEndString</code> .	<code>\${AUTH_LDAP_PARSE_USERNAME}</code>
	AUTH_LDAP_USERNAME_BEGIN_STRING	Defines the String which is to be removed from the start of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	<code>\${AUTH_LDAP_USERNAME_BEGIN_STRING}</code>
	AUTH_LDAP_USERNAME_END_STRING	Defines the String which is to be removed from the end of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	<code>\${AUTH_LDAP_USERNAME_END_STRING}</code>
	AUTH_LDAP_ROLE_ATTRIBUTE_ID	Name of the attribute containing the user roles.	<code>\${AUTH_LDAP_ROLE_ATTRIBUTE_ID}</code>
	AUTH_LDAP_ROLE_S_CTX_DN	The fixed DN of the context to search for user roles. This is not the DN where the actual roles are, but the DN where the objects containing the user roles are. For example, in a Microsoft Active Directory server, this is the DN where the user account is.	<code>\${AUTH_LDAP_ROLE_S_CTX_DN}</code>

Deployment	Variable name	Description	Example value
	AUTH_LDAP_ROLE_FILTER	A search filter used to locate the roles associated with the authenticated user. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. The authenticated userDN is substituted into the filter anywhere a {1} is used. An example search filter that matches on the input username is (member={0}). An alternative that matches on the authenticated userDN is (member={1}).	`\${AUTH_LDAP_ROLE_FILTER}`
	AUTH_LDAP_ROLE_RECURSION	The number of levels of recursion the role search will go below a matching context. Disable recursion by setting this to 0.	`\${AUTH_LDAP_ROLE_RECURSION}`
	AUTH_LDAP_DEFAULT_ROLE	A role included for all authenticated users.	`\${AUTH_LDAP_DEFAULT_ROLE}`
	AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	Name of the attribute within the roleCtxDN context which contains the role name. If the roleAttributesDN property is set to true, this property is used to find the role object's name attribute.	`\${AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID}`

Deployment	Variable name	Description	Example value
	AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	A flag indicating if the DN returned by a query contains the roleNameAttributeID. If set to true, the DN is checked for the roleNameAttributeID. If set to false, the DN is not checked for the roleNameAttributeID. This flag can improve the performance of LDAP queries.	`\${AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN}`
	AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	Whether or not the roleAttributeID contains the fully-qualified DN of a role object. If false, the role name is taken from the value of the roleNameAttributeID attribute of the context name. Certain directory schemas, such as Microsoft Active Directory, require this attribute to be set to true.	`\${AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN}`
	AUTH_LDAP_REFERRAL_USER_ATTRIBUTE_ID_TO_CHECK	If you are not using referrals, you can ignore this option. When using referrals, this option denotes the attribute name which contains users defined for a certain role, for example member, if the role object is inside the referral. Users are checked against the content of this attribute name. If this option is not set, the check will always fail, so role objects cannot be stored in a referral tree.	`\${AUTH_LDAP_REFERRAL_USER_ATTRIBUTE_ID_TO_CHECK}`

Deployment	Variable name	Description	Example value
	AUTH_ROLE_MAPPER_ROLES_PROPERTIES	When present, the RoleMapping Login Module will be configured to use the provided file. This parameter defines the fully-qualified file path and name of a properties file or resource which maps roles to replacement roles. The format is original_role=role1,role2,role3	\${AUTH_ROLE_MAPPER_ROLES_PROPERTIES}
	AUTH_ROLE_MAPPER_REPLACE_ROLE	Whether to add to the current roles, or replace the current roles with the mapped ones. Replaces if set to true.	\${AUTH_ROLE_MAPPER_REPLACE_ROLE}

5.1.2.4.3.7. Volumes

Deployment	Name	mountPath	Purpose	readOnly
\${APPLICATION_NAME}-kieserver	kieserver-keystore-volume	/etc/kieserver-secret-volume	ssl certs	True

5.1.2.5. External Dependencies

5.1.2.5.1. Secrets

This template requires the following secrets to be installed for the application to run.

kieserver-app-secret

5.2. RHDM78-PROD-IMMUTABLE-KIESERVER-AMQ.YAML TEMPLATE

Application template for an immutable KIE server in a production environment integrated with ActiveMQ, for Red Hat Decision Manager 7.8 - Deprecated

5.2.1. Parameters

Templates allow you to define parameters that take on a value. That value is then substituted wherever the parameter is referenced. References can be defined in any text field in the objects list field. See the [OpenShift documentation](#) for more information.

Variable name	Image Environment Variable	Description	Example value	Required
APPLICATION_NAME	–	The name for the application.	myapp	True
CREDENTIALS_SECRET	–	Secret containing the KIE_ADMIN_USER and KIE_ADMIN_PWD values.	rhpm-credentials	True
IMAGE_STREAM_NAMESPACE	–	Namespace in which the ImageStreams for Red Hat Decision Manager images are installed. These ImageStreams are normally installed in the openshift namespace. You need to modify this parameter only if you installed the ImageStreams in a different namespace/project.	openshift	True
KIE_SERVER_IMAGE_STREAM_NAME	–	The name of the image stream to use for KIE server. Default is "rhdm-kieserver-rhel8".	rhdm-kieserver-rhel8	True
IMAGE_STREAM_TAG	–	A named pointer to an image in an image stream. Default is "7.8.0".	7.8.0	True
KIE_MBEANS	KIE_MBEANS	KIE server mbeans enabled/disabled. (Sets the kie.mbeans and kie.scanner.mbeans system properties)	enabled	False

Variable name	Image Environment Variable	Description	Example value	Required
DROOLS_SERVER_FILTER_CLASSES	DROOLS_SERVER_FILTER_CLASSES	KIE server class filtering (Sets the org.drools.server.filter.classes system property)	true	False
PROMETHEUS_SERVER_EXT_DISABLED	PROMETHEUS_SERVER_EXT_DISABLED	If set to false, the prometheus server extension will be enabled. (Sets the org.kie.prometheus.server.ext.disabled system property)	false	False
KIE_SERVER_HOSTNAME_HTTP	HOSTNAME_HTTP	Custom hostname for http service route. Leave blank for default hostname, e.g.: insecure-<application-name>-kieserver-<project>.<default-domain-suffix>	–	False
KIE_SERVER_HOSTNAME_HTTPS	HOSTNAME_HTTPS	Custom hostname for https service route. Leave blank for default hostname, e.g.: <application-name>-kieserver-<project>.<default-domain-suffix>	–	False
KIE_SERVER_HTTPS_SECRET	–	The name of the secret containing the keystore file	kieserver-app-secret	True
KIE_SERVER_HTTPS_KEYSTORE	HTTPS_KEYSTORE	The name of the keystore file within the secret	keystore.jks	False
KIE_SERVER_HTTPS_NAME	HTTPS_NAME	The name associated with the server certificate	jboss	False

Variable name	Image Environment Variable	Description	Example value	Required
KIE_SERVER_HTTPS_PASSWORD	HTTPS_PASSWORD	The password for the keystore and certificate	mykeystorepass	False
KIE_SERVER_BYPASS_AUTH_USER	KIE_SERVER_BYPASS_AUTH_USER	Allows the KIE server to bypass the authenticated user for task-related operations, for example, queries. (Sets the org.kie.server.bypass.auth.user system property)	false	False
KIE_SERVER_CONTAINER_DEPLOYMENT	KIE_SERVER_CONTAINER_DEPLOYMENT	KIE Server Container deployment configuration with optional alias. Format: containerId=groupId:artifactId:version c2(alias2)=g2:a2:v2	rhdm-kieserver-hellorules=org.openshift.quickstarts:rhdm-kieserver-hellorules:1.6.0-SNAPSHOT	True
SOURCE_REPOSITORY_URL	–	Git source URI for application	https://github.com/jboss-container-images/rhdm-7-openshift-image.git	True
SOURCE_REPOSITORY_REF	–	Git branch/tag reference	master	False
CONTEXT_DIR	–	Path within Git project to build; empty for root project directory.	quickstarts/hello-rules/hellorules	False
GITHUB_WEBHOOK_SECRET	–	GitHub trigger secret	–	True
GENERIC_WEBHOOK_SECRET	–	Generic build trigger secret	–	True

Variable name	Image Environment Variable	Description	Example value	Required
MAVEN_MIRROR_URL	–	Maven mirror to use for S2I builds	–	False
MAVEN_REPO_ID	EXTERNAL_MAVEN_REPO_ID	The id to use for the maven repository, if set. Default is generated randomly.	my-repo-id	False
MAVEN_REPO_URL	EXTERNAL_MAVEN_REPO_URL	Fully qualified URL to a Maven repository.	–	False
MAVEN_REPO_USERNAME	EXTERNAL_MAVEN_REPO_USERNAME	User name for accessing the Maven repository, if required.	–	False
MAVEN_REPO_PASSWORD	EXTERNAL_MAVEN_REPO_PASSWORD	Password to access the Maven repository, if required.	–	False
DECISION_CENTRAL_SERVICE	WORKBENCH_SERVICE_NAME	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	myapp-rhdmcentr	False
ARTIFACT_DIR	–	List of directories from which archives will be copied into the deployment folder. If unspecified, all archives in /target will be copied.	–	False

Variable name	Image Environment Variable	Description	Example value	Required
KIE_SERVER_MEMORY_LIMIT	–	KIE server Container memory limit	1Gi	False
KIE_SERVER_MGMT_DISABLE	KIE_SERVER_MGMT_DISABLE	Disable management api and don't allow KIE containers to be deployed/undeployed or started/stopped. Sets the property org.kie.server.management.api.disabled to true and org.kie.server.startup.strategy to LocalContainersStartupStrategy.	true	True
KIE_SERVER_JMS_QUEUE_REQUEST	KIE_SERVER_JMS_QUEUE_REQUEST	JNDI name of request queue for JMS. The default value is queue/KIE.SERVER.REQUEST	queue/KIE.SERVER.REQUEST	False
KIE_SERVER_JMS_QUEUE_RESPONSE	KIE_SERVER_JMS_QUEUE_RESPONSE	JNDI name of response queue for JMS. The default value is queue/KIE.SERVER.RESPONSE	queue/KIE.SERVER.RESPONSE	False
AMQ_USERNAME	AMQ_USERNAME	User name for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	–	False

Variable name	Image Environment Variable	Description	Example value	Required
AMQ_PASSWORD	AMQ_PASSWORD	Password for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	–	False
AMQ_ROLE	AMQ_ROLE	User role for standard broker user.	admin	True
AMQ_QUEUES	AMQ_QUEUES	Queue names, separated by commas. These queues will be automatically created when the broker starts. Also, they will be made accessible as JNDI resources in EAP. These are the default queues needed by KIE Server. If using custom Queues, use the same values here as in the <code>KIE_SERVER_JMS_QUEUE_RESPONSE</code> and <code>KIE_SERVER_JMS_QUEUE_REQUEST</code> parameters.	queue/KIE.SERVER.REQUEST,queue/KIE.SERVER.RESPONSE	False
AMQ_GLOBAL_MAX_SIZE	AMQ_GLOBAL_MAX_SIZE	Specifies the maximum amount of memory that message data can consume. If no value is specified, half of the system's memory is allocated.	10 gb	False

Variable name	Image Environment Variable	Description	Example value	Required
AMQ_SECRET	–	The name of a secret containing AMQ SSL related files.	broker-app-secret	True
AMQ_TRUSTSTORE	AMQ_TRUSTSTORE	The name of the AMQ SSL Trust Store file.	broker.ts	False
AMQ_TRUSTSTORE_PASSWORD	AMQ_TRUSTSTORE_PASSWORD	The password for the AMQ Trust Store.	changeit	False
AMQ_KEYSTORE	AMQ_KEYSTORE	The name of the AMQ keystore file.	broker.ks	False
AMQ_KEYSTORE_PASSWORD	AMQ_KEYSTORE_PASSWORD	The password for the AMQ keystore and certificate.	changeit	False
AMQ_PROTOCOL	AMQ_PROTOCOL	Broker protocols to configure, separated by commas. Allowed values are: openwire , amqp , stomp and mqtt . Only openwire is supported by EAP.	openwire	False
AMQ_BROKER_IMAGESTREAM_NAME	–	AMQ Broker Image Stream Name	amq-broker:7.6	True

Variable name	Image Environment Variable	Description	Example value	Required
AMQ_IMAGE_STREAM_NAMESPACE	–	Namespace in which the ImageStreams for Red Hat AMQ images are installed. These ImageStreams are normally installed in the openshift namespace. You need to modify this parameter only if you installed the ImageStreams in a different namespace/project.	openshift	True
SSO_URL	SSO_URL	RH-SSO URL	https://rh-sso.example.com/auth	False
SSO_REALM	SSO_REALM	RH-SSO Realm name	–	False
KIE_SERVER_SSO_CLIENT	SSO_CLIENT	KIE Server RH-SSO Client name	–	False
KIE_SERVER_SSO_SECRET	SSO_SECRET	KIE Server RH-SSO Client Secret	252793ed-7118-4ca8-8dab-5622fa97d892	False
SSO_USERNAME	SSO_USERNAME	RH-SSO Realm admin user name used to create the Client if it doesn't exist	–	False
SSO_PASSWORD	SSO_PASSWORD	RH-SSO Realm Admin Password used to create the Client	–	False
SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	RH-SSO Disable SSL Certificate Validation	false	False

Variable name	Image Environment Variable	Description	Example value	Required
SSO_PRINCIPAL_ATTRIBUTE	SSO_PRINCIPAL_ATTRIBUTE	RH-SSO Principal Attribute to use as user name.	preferred_username	False
AUTH_LDAP_URL	AUTH_LDAP_URL	LDAP Endpoint to connect for authentication	ldap://myldap.example.com	False
AUTH_LDAP_BIND_DN	AUTH_LDAP_BIND_DN	Bind DN used for authentication	uid=admin,ou=users,ou=example,ou=com	False
AUTH_LDAP_BIND_CREDENTIAL	AUTH_LDAP_BIND_CREDENTIAL	LDAP Credentials used for authentication	Password	False
AUTH_LDAP_JAAS_SECURITY_DOMAIN	AUTH_LDAP_JAAS_SECURITY_DOMAIN	The JMX ObjectName of the JaasSecurityDomain used to decrypt the password.	–	False
AUTH_LDAP_BASE_CTX_DN	AUTH_LDAP_BASE_CTX_DN	LDAP Base DN of the top-level context to begin the user search.	ou=users,ou=example,ou=com	False
AUTH_LDAP_BASE_FILTER	AUTH_LDAP_BASE_FILTER	LDAP search filter used to locate the context of the user to authenticate. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. A common example for the search filter is (uid={0}).	(uid={0})	False
AUTH_LDAP_SEARCH_SCOPE	AUTH_LDAP_SEARCH_SCOPE	The search scope to use.	SUBTREE_SCOPE	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_SEARCH_TIME_LIMIT	AUTH_LDAP_SEARCH_TIME_LIMIT	The timeout in milliseconds for user or role searches.	10000	False
AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	The name of the attribute in the user entry that contains the DN of the user. This may be necessary if the DN of the user itself contains special characters, backslash for example, that prevent correct user mapping. If the attribute does not exist, the entry's DN is used.	distinguishedName	False
AUTH_LDAP_PARSE_USERNAME	AUTH_LDAP_PARSE_USERNAME	A flag indicating if the DN is to be parsed for the user name. If set to true, the DN is parsed for the user name. If set to false the DN is not parsed for the user name. This option is used together with <code>usernameBeginString</code> and <code>usernameEndString</code> .	true	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_USERNAME_BEGIN_STRING	AUTH_LDAP_USERNAME_BEGIN_STRING	Defines the String which is to be removed from the start of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	–	False
AUTH_LDAP_USERNAME_END_STRING	AUTH_LDAP_USERNAME_END_STRING	Defines the String which is to be removed from the end of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	–	False
AUTH_LDAP_ROLE_ATTRIBUTE_ID	AUTH_LDAP_ROLE_ATTRIBUTE_ID	Name of the attribute containing the user roles.	<code>memberOf</code>	False
AUTH_LDAP_ROLE_CONTEXT_DN	AUTH_LDAP_ROLE_CONTEXT_DN	The fixed DN of the context to search for user roles. This is not the DN where the actual roles are, but the DN where the objects containing the user roles are. For example, in a Microsoft Active Directory server, this is the DN where the user account is.	<code>ou=groups,ou=example,ou=com</code>	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_ROLE_FILTER	AUTH_LDAP_ROLE_FILTER	A search filter used to locate the roles associated with the authenticated user. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. The authenticated userDN is substituted into the filter anywhere a {1} is used. An example search filter that matches on the input username is (member={0}). An alternative that matches on the authenticated userDN is (member={1}).	(memberOf={1})	False
AUTH_LDAP_ROLE_RECURSION	AUTH_LDAP_ROLE_RECURSION	The number of levels of recursion the role search will go below a matching context. Disable recursion by setting this to 0.	1	False
AUTH_LDAP_DEFAULT_ROLE	AUTH_LDAP_DEFAULT_ROLE	A role included for all authenticated users	user	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	Name of the attribute within the roleCtxDN context which contains the role name. If the roleAttributesDN property is set to true, this property is used to find the role object's name attribute.	name	False
AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	A flag indicating if the DN returned by a query contains the roleNameAttribute ID. If set to true, the DN is checked for the roleNameAttribute ID. If set to false, the DN is not checked for the roleNameAttribute ID. This flag can improve the performance of LDAP queries.	false	False
AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	Whether or not the roleAttributeID contains the fully-qualified DN of a role object. If false, the role name is taken from the value of the roleNameAttributeId attribute of the context name. Certain directory schemas, such as Microsoft Active Directory, require this attribute to be set to true.	false	False

Variable name	Image Environment Variable	Description	Example value	Required
AUTH_LDAP_REFERRAL_USE_R_ATTRIBUTE_ID_TO_CHECK	AUTH_LDAP_REFERRAL_USE_R_ATTRIBUTE_ID_TO_CHECK	If you are not using referrals, you can ignore this option. When using referrals, this option denotes the attribute name which contains users defined for a certain role, for example member, if the role object is inside the referral. Users are checked against the content of this attribute name. If this option is not set, the check will always fail, so role objects cannot be stored in a referral tree.	–	False
AUTH_ROLE_MAPPER_ROLES_PROPERTIES	AUTH_ROLE_MAPPER_ROLES_PROPERTIES	When present, the RoleMapping Login Module will be configured to use the provided file. This property defines the fully-qualified file path and name of a properties file or resource which maps roles to replacement roles. The format is original_role=role1,role2,role3	–	False
AUTH_ROLE_MAPPER_REPLACE_ROLE	AUTH_ROLE_MAPPER_REPLACE_ROLE	Whether to add to the current roles, or replace the current roles with the mapped ones. Replaces if set to true.	–	False

5.2.2. Objects

The CLI supports various object types. A list of these object types as well as their abbreviations can be found in the [Openshift documentation](#).

5.2.2.1. Services

A service is an abstraction which defines a logical set of pods and a policy by which to access them. See the [container-engine documentation](#) for more information.

Service	Port	Name	Description
\${APPLICATION_NAME}-kieserver	8080	http	All the KIE server web server's ports.
	8443	https	
\${APPLICATION_NAME}-kieserver-ping	8888	ping	The JGroups ping port for clustering.
\${APPLICATION_NAME}-amq-jolokia	8161	amq-jolokia-console	The broker's console and Jolokia port.
\${APPLICATION_NAME}-amq-amqp	5672	amq-amqp	The broker's AMQP port.
\${APPLICATION_NAME}-amq-amqp-ssl	5671	amq-amqp-ssl	The broker's AMQP SSL port.
\${APPLICATION_NAME}-amq-mqtt	1883	amq-mqtt	The broker's MQTT port.
\${APPLICATION_NAME}-amq-mqtt-ssl	8883	amq-mqtt-ssl	The broker's MQTT SSL port.
\${APPLICATION_NAME}-amq-stomp	61613	amq-stomp	The broker's STOMP port.
\${APPLICATION_NAME}-amq-stomp-ssl	61612	amq-stomp-ssl	The broker's STOMP SSL port.
\${APPLICATION_NAME}-amq-tcp	61616	amq-tcp	The broker's OpenWire port.
\${APPLICATION_NAME}-amq-tcp-ssl	61617	amq-tcp-ssl	The broker's OpenWire (SSL) port.

5.2.2.2. Routes

A route is a way to expose a service by giving it an externally reachable hostname such as **www.example.com**. A defined route and the endpoints identified by its service can be consumed by a

router to provide named connectivity from external clients to your applications. Each route consists of a route name, service selector, and (optionally) security configuration. See the [OpenShift documentation](#) for more information.

Service	Security	Hostname
insecure- \${APPLICATION_NAME}- kieserver-http	none	\${KIE_SERVER_HOSTNAME}_HTTP
\${APPLICATION_NAME}- kieserver-https	TLS passthrough	\${KIE_SERVER_HOSTNAME}_HTTPS
\${APPLICATION_NAME}- amq-jolokia-console	TLS passthrough	<default>
\${APPLICATION_NAME}- amq-tcp-ssl	TLS passthrough	<default>

5.2.2.3. Build Configurations

A **buildConfig** describes a single build definition and a set of triggers for when a new build should be created. A **buildConfig** is a REST object, which can be used in a POST to the API server to create a new instance. Refer to the [OpenShift documentation](#) for more information.

S2I image	link	Build output	BuildTriggers and Settings
rhdm-kieserver- rhel8:7.8.0	rhpam-7/rhdm- kieserver-rhel8	\${APPLICATION_NAME}- kieserver:latest	GitHub, Generic, ImageChange, ConfigChange

5.2.2.4. Deployment Configurations

A deployment in OpenShift is a replication controller based on a user-defined template called a deployment configuration. Deployments are created manually or in response to triggered events. See the [OpenShift documentation](#) for more information.

5.2.2.4.1. Triggers

A trigger drives the creation of new deployments in response to events, both inside and outside OpenShift. See the [OpenShift documentation](#) for more information.

Deployment	Triggers
\${APPLICATION_NAME}-kieserver	ImageChange
\${APPLICATION_NAME}-amq	ImageChange

5.2.2.4.2. Replicas

A replication controller ensures that a specified number of pod "replicas" are running at any one time. If there are too many, the replication controller kills some pods. If there are too few, it starts more. See the [container-engine documentation](#) for more information.

Deployment	Replicas
<code>_\${APPLICATION_NAME}-kieserver</code>	2
<code>_\${APPLICATION_NAME}-amq</code>	1

5.2.2.4.3. Pod Template

5.2.2.4.3.1. Service Accounts

Service accounts are API objects that exist within each project. They can be created or deleted like any other API object. See the [Openshift documentation](#) for more information.

Deployment	Service Account
<code>_\${APPLICATION_NAME}-kieserver</code>	<code>_\${APPLICATION_NAME}-kieserver</code>

5.2.2.4.3.2. Image

Deployment	Image
<code>_\${APPLICATION_NAME}-kieserver</code>	<code>_\${APPLICATION_NAME}-kieserver</code>
<code>_\${APPLICATION_NAME}-amq</code>	<code>_\${AMQ_BROKER_IMAGESTREAM_NAME}</code>

5.2.2.4.3.3. Readiness Probe

`_${APPLICATION_NAME}-kieserver`

```
Http Get on http://localhost:8080/services/rest/server/readycheck
```

`_${APPLICATION_NAME}-amq`

```
/bin/bash -c /opt/amq/bin/readinessProbe.sh
```

5.2.2.4.3.4. Liveness Probe

`_${APPLICATION_NAME}-kieserver`

```
Http Get on http://localhost:8080/services/rest/server/healthcheck
```

5.2.2.4.3.5. Exposed Ports

Deployments	Name	Port	Protocol
\${APPLICATION_NAME}-kieserver	jolokia	8778	TCP
	http	8080	TCP
	https	8443	TCP
	ping	8888	TCP
\${APPLICATION_NAME}-amq	console-jolokia	8161	TCP
	amq-amqp	5672	TCP
	amqp-ssl	5671	TCP
	amq-mqtt	1883	TCP
	mqtt-ssl	8883	TCP
	amq-stomp	61613	TCP
	stomp-ssl	61612	TCP
	amq-tcp	61616	TCP
	amq-tcp-ssl	61617	TCP

5.2.2.4.3.6. Image Environment Variables

Deployment	Variable name	Description	Example value
\${APPLICATION_NAME}-kieserver	WORKBENCH_SERVICE_NAME	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	\${DECISION_CENTRAL_SERVICE}
	KIE_ADMIN_USER	Admin user name	Set according to the credentials secret
	KIE_ADMIN_PWD	Admin user password	Set according to the credentials secret

Deployment	Variable name	Description	Example value
	KIE_SERVER_MODE	–	DEVELOPMENT
	KIE_MBEANS	KIE server mbeans enabled/disabled. (Sets the kie.mbeans and kie.scanner.mbeans system properties)	\${KIE_MBEANS}
	DROOLS_SERVER_FILTER_CLASSES	KIE server class filtering (Sets the org.drools.server.filter.classes system property)	\${DROOLS_SERVER_FILTER_CLASSES}
	PROMETHEUS_SERVER_EXT_DISABLED	If set to false, the prometheus server extension will be enabled. (Sets the org.kie.prometheus.server.ext.disabled system property)	\${PROMETHEUS_SERVER_EXT_DISABLED}
	KIE_SERVER_BYPASS_AUTH_USER	Allows the KIE server to bypass the authenticated user for task-related operations, for example, queries. (Sets the org.kie.server.bypass.auth.user system property)	\${KIE_SERVER_BYPASS_AUTH_USER}
	KIE_SERVER_ID	–	–
	KIE_SERVER_ROUTE_NAME	–	\${APPLICATION_NAME}-kieserver
	KIE_SERVER_CONTAINER_DEPLOYMENT	KIE Server Container deployment configuration with optional alias. Format: containerId=groupId:artifactId:version c2(alias2)=g2:a2:v2	\${KIE_SERVER_CONTAINER_DEPLOYMENT}
	MAVEN_REPOS	–	RHDMCENTR,EXTERNAL

Deployment	Variable name	Description	Example value
	RHDMCENTR_MAVEN_REPO_SERVICE	The Service name for the optional Decision Central, where it can be reached, to allow service lookups (for example, maven repo usage), if required.	`\${DECISION_CENTRAL_SERVICE}`
	RHDMCENTR_MAVEN_REPO_PATH	–	<i>/maven2/</i>
	RHDMCENTR_MAVEN_REPO_USERNAME	–	Set according to the credentials secret
	RHDMCENTR_MAVEN_REPO_PASSWORD	–	Set according to the credentials secret
	EXTERNAL_MAVEN_REPO_ID	The id to use for the maven repository, if set. Default is generated randomly.	`\${MAVEN_REPO_ID}`
	EXTERNAL_MAVEN_REPO_URL	Fully qualified URL to a Maven repository.	`\${MAVEN_REPO_URL}`
	EXTERNAL_MAVEN_REPO_USERNAME	User name for accessing the Maven repository, if required.	`\${MAVEN_REPO_USERNAME}`
	EXTERNAL_MAVEN_REPO_PASSWORD	Password to access the Maven repository, if required.	`\${MAVEN_REPO_PASSWORD}`
	KIE_SERVER_JMS_QUEUE_REQUEST	JNDI name of request queue for JMS. The default value is queue/KIE.SERVER.REQUEST	`\${KIE_SERVER_JMS_QUEUE_REQUEST}`
	KIE_SERVER_JMS_QUEUE_RESPONSE	JNDI name of response queue for JMS. The default value is queue/KIE.SERVER.RESPONSE	`\${KIE_SERVER_JMS_QUEUE_RESPONSE}`
	MQ_SERVICE_PREFIX_MAPPING	–	`\${APPLICATION_NAME}-amq7=AMQ`

Deployment	Variable name	Description	Example value
	AMQ_USERNAME	User name for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	\${AMQ_USERNAME}
	AMQ_PASSWORD	Password for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	\${AMQ_PASSWORD}
	AMQ_PROTOCOL	Broker protocols to configure, separated by commas. Allowed values are: openwire , amqp , stomp and mqtt . Only openwire is supported by EAP.	tcp
	AMQ_QUEUES	Queue names, separated by commas. These queues will be automatically created when the broker starts. Also, they will be made accessible as JNDI resources in EAP. These are the default queues needed by KIE Server. If using custom Queues, use the same values here as in the <code>KIE_SERVER_JMS_QUEUE_RESPONSE</code> and <code>KIE_SERVER_JMS_QUEUE_REQUEST</code> parameters.	\${AMQ_QUEUES}
	HTTPS_KEYSTORE_DIR	–	/etc/kieserver-secret-volume
	HTTPS_KEYSTORE	The name of the keystore file within the secret	\${KIE_SERVER_HTTPS_KEYSTORE}

Deployment	Variable name	Description	Example value
	HTTPS_NAME	The name associated with the server certificate	\${KIE_SERVER_HTTPS_NAME}
	HTTPS_PASSWORD	The password for the keystore and certificate	\${KIE_SERVER_HTTPS_PASSWORD}
	KIE_SERVER_MGMT_DISABLED	Disable management api and don't allow KIE containers to be deployed/undeployed or started/stopped. Sets the property org.kie.server.mgmt.api.disabled to true and org.kie.server.startup.strategy to LocalContainersStartupStrategy.	\${KIE_SERVER_MGMT_DISABLED}
	KIE_SERVER_STARTUP_STRATEGY	–	OpenShiftStartupStrategy
	JGROUPS_PING_PROTOCOL	–	openshift.DNS_PING
	OPENSIFT_DNS_PING_SERVICE_NAME	–	\${APPLICATION_NAME}-kieserver-ping
	OPENSIFT_DNS_PING_SERVICE_PORT	–	8888
	SSO_URL	RH-SSO URL	\${SSO_URL}
	SSO_OPENIDCONNECT_DEPLOYMENTS	–	ROOT.war
	SSO_REALM	RH-SSO Realm name	\${SSO_REALM}
	SSO_SECRET	KIE Server RH-SSO Client Secret	\${KIE_SERVER_SSO_SECRET}
	SSO_CLIENT	KIE Server RH-SSO Client name	\${KIE_SERVER_SSO_CLIENT}

Deployment	Variable name	Description	Example value
	SSO_USERNAME	RH-SSO Realm admin user name used to create the Client if it doesn't exist	\${SSO_USERNAME}
	SSO_PASSWORD	RH-SSO Realm Admin Password used to create the Client	\${SSO_PASSWORD}
	SSO_DISABLE_SSL_CERTIFICATE_VALIDATION	RH-SSO Disable SSL Certificate Validation	\${SSO_DISABLE_SSL_CERTIFICATE_VALIDATION}
	SSO_PRINCIPAL_ATTRIBUTE	RH-SSO Principal Attribute to use as user name.	\${SSO_PRINCIPAL_ATTRIBUTE}
	HOSTNAME_HTTP	Custom hostname for http service route. Leave blank for default hostname, e.g.: insecure-<application-name>-kieserver-<project>.<default-domain-suffix>	\${KIE_SERVER_HOSTNAME_HTTP}
	HOSTNAME_HTTPS	Custom hostname for https service route. Leave blank for default hostname, e.g.: <application-name>-kieserver-<project>.<default-domain-suffix>	\${KIE_SERVER_HOSTNAME_HTTPS}
	AUTH_LDAP_URL	LDAP Endpoint to connect for authentication	\${AUTH_LDAP_URL}
	AUTH_LDAP_BIND_DN	Bind DN used for authentication	\${AUTH_LDAP_BIND_DN}
	AUTH_LDAP_BIND_CREDENTIAL	LDAP Credentials used for authentication	\${AUTH_LDAP_BIND_CREDENTIAL}
	AUTH_LDAP_JAAS_SECURITY_DOMAIN	The JMX ObjectName of the JaasSecurityDomain used to decrypt the password.	\${AUTH_LDAP_JAAS_SECURITY_DOMAIN}

Deployment	Variable name	Description	Example value
	AUTH_LDAP_BASE_CTX_DN	LDAP Base DN of the top-level context to begin the user search.	`\${AUTH_LDAP_BASE_CTX_DN}`
	AUTH_LDAP_BASE_FILTER	LDAP search filter used to locate the context of the user to authenticate. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. A common example for the search filter is (uid={0}).	`\${AUTH_LDAP_BASE_FILTER}`
	AUTH_LDAP_SEARCH_SCOPE	The search scope to use.	`\${AUTH_LDAP_SEARCH_SCOPE}`
	AUTH_LDAP_SEARCH_TIME_LIMIT	The timeout in milliseconds for user or role searches.	`\${AUTH_LDAP_SEARCH_TIME_LIMIT}`
	AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE	The name of the attribute in the user entry that contains the DN of the user. This may be necessary if the DN of the user itself contains special characters, backslash for example, that prevent correct user mapping. If the attribute does not exist, the entry's DN is used.	`\${AUTH_LDAP_DISTINGUISHED_NAME_ATTRIBUTE}`
	AUTH_LDAP_PARSE_USERNAME	A flag indicating if the DN is to be parsed for the user name. If set to true, the DN is parsed for the user name. If set to false the DN is not parsed for the user name. This option is used together with <code>usernameBeginString</code> and <code>usernameEndString</code> .	`\${AUTH_LDAP_PARSE_USERNAME}`

Deployment	Variable name	Description	Example value
	AUTH_LDAP_USER_NAME_BEGIN_STRING	Defines the String which is to be removed from the start of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	<code>\${AUTH_LDAP_USER_NAME_BEGIN_STRING}</code>
	AUTH_LDAP_USER_NAME_END_STRING	Defines the String which is to be removed from the end of the DN to reveal the user name. This option is used together with <code>usernameEndString</code> and only taken into account if <code>parseUsername</code> is set to true.	<code>\${AUTH_LDAP_USER_NAME_END_STRING}</code>
	AUTH_LDAP_ROLE_ATTRIBUTE_ID	Name of the attribute containing the user roles.	<code>\${AUTH_LDAP_ROLE_ATTRIBUTE_ID}</code>
	AUTH_LDAP_ROLE_S_CTX_DN	The fixed DN of the context to search for user roles. This is not the DN where the actual roles are, but the DN where the objects containing the user roles are. For example, in a Microsoft Active Directory server, this is the DN where the user account is.	<code>\${AUTH_LDAP_ROLE_S_CTX_DN}</code>

Deployment	Variable name	Description	Example value
	AUTH_LDAP_ROLE_FILTER	A search filter used to locate the roles associated with the authenticated user. The input username or userDN obtained from the login module callback is substituted into the filter anywhere a {0} expression is used. The authenticated userDN is substituted into the filter anywhere a {1} is used. An example search filter that matches on the input username is (member={0}). An alternative that matches on the authenticated userDN is (member={1}).	`\${AUTH_LDAP_ROLE_FILTER}`
	AUTH_LDAP_ROLE_RECURSION	The number of levels of recursion the role search will go below a matching context. Disable recursion by setting this to 0.	`\${AUTH_LDAP_ROLE_RECURSION}`
	AUTH_LDAP_DEFAULT_ROLE	A role included for all authenticated users	`\${AUTH_LDAP_DEFAULT_ROLE}`
	AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID	Name of the attribute within the roleCtxDN context which contains the role name. If the roleAttributesDN property is set to true, this property is used to find the role object's name attribute.	`\${AUTH_LDAP_ROLE_NAME_ATTRIBUTE_ID}`

Deployment	Variable name	Description	Example value
	AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN	A flag indicating if the DN returned by a query contains the roleNameAttributeID. If set to true, the DN is checked for the roleNameAttributeID. If set to false, the DN is not checked for the roleNameAttributeID. This flag can improve the performance of LDAP queries.	`\${AUTH_LDAP_PARSE_ROLE_NAME_FROM_DN}`
	AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN	Whether or not the roleAttributeID contains the fully-qualified DN of a role object. If false, the role name is taken from the value of the roleNameAttributeID attribute of the context name. Certain directory schemas, such as Microsoft Active Directory, require this attribute to be set to true.	`\${AUTH_LDAP_ROLE_ATTRIBUTE_IS_DN}`
	AUTH_LDAP_REFERRAL_USER_ATTRIBUTE_ID_TO_CHECK	If you are not using referrals, you can ignore this option. When using referrals, this option denotes the attribute name which contains users defined for a certain role, for example member, if the role object is inside the referral. Users are checked against the content of this attribute name. If this option is not set, the check will always fail, so role objects cannot be stored in a referral tree.	`\${AUTH_LDAP_REFERRAL_USER_ATTRIBUTE_ID_TO_CHECK}`

Deployment	Variable name	Description	Example value
	AUTH_ROLE_MAPPER_ROLES_PROPERTIES	When present, the RoleMapping Login Module will be configured to use the provided file. This property defines the fully-qualified file path and name of a properties file or resource which maps roles to replacement roles. The format is original_role=role1,role2,role3	\${AUTH_ROLE_MAPPER_ROLES_PROPERTIES}
	AUTH_ROLE_MAPPER_REPLACE_ROLE	Whether to add to the current roles, or replace the current roles with the mapped ones. Replaces if set to true.	\${AUTH_ROLE_MAPPER_REPLACE_ROLE}
\${APPLICATION_NAME}-amq	AMQ_USER	User name for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	\${AMQ_USERNAME}
	AMQ_PASSWORD	Password for standard broker user. It is required for connecting to the broker. If left empty, it will be generated.	\${AMQ_PASSWORD}
	AMQ_ROLE	User role for standard broker user.	\${AMQ_ROLE}
	AMQ_NAME	–	\${APPLICATION_NAME}-broker
	AMQ_TRANSPORTS	Broker protocols to configure, separated by commas. Allowed values are: openwire , amqp , stomp and mqtt . Only openwire is supported by EAP.	\${AMQ_PROTOCOL}

Deployment	Variable name	Description	Example value
	AMQ_QUEUES	Queue names, separated by commas. These queues will be automatically created when the broker starts. Also, they will be made accessible as JNDI resources in EAP. These are the default queues needed by KIE Server. If using custom Queues, use the same values here as in the KIE_SERVER_JMS_QUE UE_RESPONSE and KIE_SERVER_JMS_QUE UE_REQUEST parameters.	\${AMQ_QUEUES}
	AMQ_GLOBAL_MAX_SIZE	Specifies the maximum amount of memory that message data can consume. If no value is specified, half of the system's memory is allocated.	\${AMQ_GLOBAL_MAX_SIZE}
	AMQ_REQUIRE_LOGIN	–	true
	AMQ_ANYCAST_PREFIX	–	–
	AMQ_MULTICAST_PREFIX	–	–
	AMQ_KEYSTORE_TRUSTSTORE_DIR	–	/etc/amq-secret-volume
	AMQ_TRUSTSTORE	The name of the AMQ SSL Trust Store file.	\${AMQ_TRUSTSTORE}
	AMQ_TRUSTSTORE_PASSWORD	The password for the AMQ Trust Store.	\${AMQ_TRUSTSTORE_PASSWORD}
	AMQ_KEYSTORE	The name of the AMQ keystore file.	\${AMQ_KEYSTORE}

Deployment	Variable name	Description	Example value
	AMQ_KEYSTORE_PASSWORD	The password for the AMQ keystore and certificate.	\${AMQ_KEYSTORE_PASSWORD}

5.2.2.4.3.7. Volumes

Deployment	Name	mountPath	Purpose	readOnly
\${APPLICATION_NAME}-kieserver	kieserver-keystore-volume	/etc/kieserver-secret-volume	ssl certs	True
\${APPLICATION_NAME}-amq	broker-secret-volume	/etc/amq-secret-volume	ssl certs	True

5.2.2.5. External Dependencies

5.2.2.5.1. Secrets

This template requires the following secrets to be installed for the application to run.

kieserver-app-secret broker-app-secret

5.3. OPENSIFT USAGE QUICK REFERENCE

To deploy, monitor, manage, and undeploy Red Hat Decision Manager templates on Red Hat OpenShift Container Platform, you can use the OpenShift Web console or the **oc** command.

For instructions about using the Web console, see [Create and build an image using the Web console](#) .

For detailed instructions about using the **oc** command, see [CLI Reference](#). The following commands are likely to be required:

- To create a project, use the following command:

```
$ oc new-project <project-name>
```

For more information, see [Creating a project using the CLI](#) .

- To deploy a template (create an application from a template), use the following command:

```
$ oc new-app -f <template-name> -p <parameter>=<value> -p <parameter>=<value> ...
```

For more information, see [Creating an application using the CLI](#) .

- To view a list of the active pods in the project, use the following command:

```
$ oc get pods
```

- To view the current status of a pod, including information whether or not the pod deployment has completed and it is now in a running state, use the following command:

```
$ oc describe pod <pod-name>
```

You can also use the **oc describe** command to view the current status of other objects. For more information, see [Application modification operations](#).

- To view the logs for a pod, use the following command:

```
$ oc logs <pod-name>
```

- To view deployment logs, look up a **DeploymentConfig** name in the template reference and enter the following command:

```
$ oc logs -f dc/<deployment-config-name>
```

For more information, see [Viewing deployment logs](#).

- To view build logs, look up a **BuildConfig** name in the template reference and enter the command:

```
$ oc logs -f bc/<build-config-name>
```

For more information, see [Accessing build logs](#).

- To scale a pod in the application, look up a **DeploymentConfig** name in the template reference and enter the command:

```
$ oc scale dc/<deployment-config-name> --replicas=<number>
```

For more information, see [Manual scaling](#).

- To undeploy the application, you can delete the project by using the command:

```
$ oc delete project <project-name>
```

Alternatively, you can use the **oc delete** command to remove any part of the application, such as a pod or replication controller. For details, see [Application modification operations](#).

APPENDIX A. VERSIONING INFORMATION

Documentation last updated on Thursday, September 08, 2020.