Red Hat Decision Manager 7.1

Deploying a Red Hat Decision Manager trial environment on Red Hat OpenShift Container Platform

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Abstract

This document describes how to deploy a Red Hat Decision Manager 7.1 trial environment on Red Hat OpenShift Container Platform.

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PREFACE

As a system engineer, you can deploy a Red Hat Decision Manager trial environment on Red Hat OpenShift Container Platform to evaluate or demonstrate development and use of rules and other business assets.

Prerequisites

- At least three gigabytes of memory must be available in the OpenShift cluster/namespace.
- The OpenShift project for the deployment must be created.
- You must be 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.

CHAPTER 1. OVERVIEW OF RED HAT DECISION MANAGER ON RED HAT OPENSHIFT 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, providing as few or as many containers as necessary 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:

- Decision Server, also known as *Execution Server* or *KIE 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.
  You can freely scale up a Decision Server pod, providing as many copies as necessary, running on the same host or different hosts. As you scale a pod up or down, all 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 Decision 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 Decision Server pods as necessary.

- Decision Central is a web-based interactive environment for authoring services. It also provides a management console. You can use Decision Central to develop services and deploy them to Decision Servers.
  Decision Central is a centralized application. However, you can configure it for high availability, where multiple pods run and share the same data.

  Decision 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, Decision Central can place the compiled services (KJAR files) into the built-in Maven repository or (if configured) into an external Maven repository.

IMPORTANT

In the current version, high-availability Decision Central functionality is a technology preview.

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 Decision Central and also for running services on Decision Servers. It consists of pods that provide Decision Central for the authoring work and one or more Decision Servers for execution of the services. Each Decision Server is a pod that you can replicate by scaling it up or down as necessary. You can deploy and undeploy services on each Decision Server using Decision 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 Decision 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 Decision 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 Decision Central and a Decision 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. ENSURING THE AVAILABILITY OF IMAGE STREAMS

You must ensure that the image streams that are required for the deployment are available in your OpenShift environment. Some versions of the OpenShift environment include the necessary image streams. You must check if they are available. If they are not available, you must install the **`rhdm71-image-streams.yaml`** file.

Procedure

1. Run the following commands:

```
$ oc get imagestreamtag -n openshift | grep rhdm71-decisioncentral-openshift
$ oc get imagestreamtag -n openshift | grep rhdm71-kieserver-openshift
```

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

2. If the output of one or both of the commands is empty, download the **`rhdm-7.1.0-openshift-templates.zip`** product deliverable file from the Software Downloads page. Extract the **`rhdm71-image-streams.yaml`** file from it. Complete one of the following actions:

   - Run the following command:

```
$ oc create -f rhdm71-image-streams.yaml
```

   - Using the OpenShift Web UI, select **Add to Project** → **Import YAML / JSON**, then choose the file or paste its contents.

CHAPTER 3. DEPLOYING A TRIAL ENVIRONMENT

You can deploy a trial (evaluation) Red Hat Decision Manager environment. It consists of Decision Central for authoring or managing services and Decision Server for test execution of services.

This environment does not include permanent storage. Assets that you create or modify in a trial environment are not saved.

The procedure is minimal. There are no required settings and all passwords are set to a single value (the default password is **`RedHat`**).

To deploy a single authoring environment, use the **`rhdm71-trial-ephemeral.yaml`** template file. You can extract this file from the **`rhdm-7.1.0-openshift-templates.zip`** product deliverable file. You can download the file from the Software Downloads page.

Procedure

1. Use one of the following methods to deploy the template:
   - In the OpenShift Web UI, select **Add to Project** → **Import YAML / JSON** and then select or paste the **`rhdm71-trial-ephemeral.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>/rhdm71-trial-ephemeral.yaml
     ```

     In this command line, replace **`<template-path>`** with the path to the downloaded template file.
2. Optionally, set any parameters as described in the template. However, a typical trial deployment does not require any parameters.
3. Complete the creation of the environment, depending on the method that you are using:
   - In the OpenShift Web UI, click **Create**.
   - Complete and run the command line.

APPENDIX A. VERSIONING INFORMATION

Documentation last updated on Friday, October 12, 2018.