

### **Red Hat Decision Manager 7.6**

Release notes for Red Hat Decision Manager 7.6

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# Red Hat Decision Manager 7.6 Release notes for Red Hat Decision Manager 7.6

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#### **Abstract**

This document contains release notes for Red Hat Decision Manager 7.6.

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### **PREFACE**

These release notes list new features, features in technology preview, known issues, and issues fixed in Red Hat Decision Manager 7.6.

#### **CHAPTER 1. PRODUCT OVERVIEW**

Red Hat Decision Manager is an open-source decision management platform that combines business rules management, complex event processing, Decision Model & Notation (DMN) execution, and Business Optimizer for solving planning problems. It automates business decisions and makes that logic available to the entire business.

Business assets such as rules, decision tables, and DMN models are stored in a central repository. This ensures consistency, transparency, and the ability to audit across the business. Business users can modify business logic without requiring assistance from IT personnel.

Red Hat Decision Manager 7.6 provides increased stability, several fixed issues, and new features.

Red Hat Decision Manager is fully supported on Red Hat OpenShift Container Platform and can be installed on various platforms.



#### NOTE

Red Hat Decision Manager requires Java 8 or later.

For information about the support policy for Red Hat Decision Manager, see the *Release maintenance* plan for Red Hat Decision Manager 7.x and Red Hat Process Automation Manager 7.x.

#### **CHAPTER 2. NEW FEATURES**

This section highlights new features in Red Hat Decision Manager 7.6.

#### 2.1. BUSINESS CENTRAL

#### 2.1.1. Change requests

You can now submit a change request from one branch to another branch of the same project.

#### 2.1.2. Test Scenarios

The test scenarios designer in Business Central is now available with the new features supported in Red Hat Decision Manager 7.6.

- If the same data is shared by multiple test scenarios, you can use the Background tab to define
  them once for rules-based as well as DMN-based test scenarios. You can add and define the
  GIVEN data, which is common for the dedicated test scenario simulation, based on the available
  data objects.
- In rule-based test scenarios, you can use the MVEL expression with the prefix # to call a java method to a property or instance header cell during test scenarios execution.

#### 2.1.3. Generic error dialog improvement in Business Central

A generic error dialog is a pop-up window that notifies users about different runtime errors that are produced in Business Central. The following list provides a summary of generic error dialog enhancements:

- When an error is generated, the error is logged in the server logs. You can fetch and retrieve the generated errors if required.
- You can see the stack trace of the generated error in the popup itself.
- To suppress the error notifications temporarily, select the **Don't show this message again for** checkbox and select the time duration from the drop-down list. However, the error messages are still logged in the server logs.
- It provides an error ID to fetch the error details if required.

#### 2.1.4. Decision Model and Notation (DMN) designer improvements

The Decision Model and Notation (DMN) designer in Business Central includes the following notable enhancements:

Automatic layout and decision service enhancements. You can now select Perform automatic layout in the DMN designer toolbar if a DMN model that you import into Business Central is not automatically formatted during the import. When automatic layout is applied to an imported DMN model, the DMN designer retains the height and width of each DMN node instead of using the default size of 100x50 pixels. Also, the nodes inside of an imported decision service node are not reordered outside of the decision service node as they were in previous releases. If you delete a decision service node from a decision requirements diagram (DRD), the nodes inside of the decision service are not deleted as they were in previous releases.

- Improved layout for data type rows in the **Data Types** tab. You can now drag data type elements between parent data types.
- Support for Business Central data objects as DMN data types. You can now import existing data
  objects in Business Central as DMN data types in the DMN designer. To import existing data
  objects as DMN data types, go to Data types → Import data object in the DMN designer.

For more information about DMN support in Red Hat Decision Manager 7.6, see the following resources:

- Designing a decision service using DMN models
- Getting started with decision services

#### 2.1.5. High-availability Business Central

High-availability (HA) deployment of Business Central is now supported on Red Hat OpenShift Container Platform version 3.11.

In Red Hat Decision Manager version 7.6, HA deployment of Business Central is supported with certain limitations:

- If a Business Central instance fails while a user is using it, the user might receive an error message. In this case, the user is redirected to another pod. If Business Central is configured to use Red Hat Single Sign-on, logging on again is not required.
- If a Business Central instance fails during a user operation, data that was not committed (saved) might be lost.
- If a Business Central instance fails while the instance is creating a project, an unusable project might be created.
- If a Business Central instance fails while the instance is creating an asset, the asset might be created but not indexed so it cannot be used. To make the asset indexed, the user can open the asset in Business Central and save it again.

#### 2.2. PROCESS DESIGNER

#### 2.2.1. Process designer updates

The following list provides a summary of process designer updates:

- UI enhancements that guide first-time users on adding the first process nodes on the canvas
- Performance improvements, including improvements in load time, node selection, and copy and paste

#### 2.3. RED HAT BUSINESS OPTIMIZER

#### 2.3.1. Red Hat Business Optimizer updates

The following list provides a summary of Red Hat Business Optimizer updates:

 A script that deploys OptaWeb Vehicle Route Planning (VRP) to Red Hat OpenShift Container Platform from source.

- Move selectors that understand entity sequences.
- Support for ReactJs and SpringBoot with OptaWeb Employee Rostering.
- Constraint Streams API full support for the NQueens, Task assigning, and Flight Crew scheduling use cases. Note that other features of the API are still technology preview.

#### 2.4. RED HAT OPENSHIFT CONTAINER PLATFORM

### 2.4.1. Support for AMQ configuration in operator deployment

When deploying Red Hat Decision Manager on Red Hat OpenShift Container Platform using the operator user interface, you can now configure Decision Server to support the JMS API using an external AMQ message broker.

#### CHAPTER 3. DEPRECATED AND REMOVED COMPONENTS

The components listed in this section have been deprecated or removed.

## 3.1. INSTALLATION ON RED HAT OPENSHIFT CONTAINER PLATFORM USING THE AUTOMATION BROKER

The possibility to install Red Hat Decision Manager on Red Hat OpenShift Container Platform using the Automation Broker (Ansible Playbook) was removed from Red Hat Decision Manager 7.6.

#### 3.2. LEGACY TEST SCENARIOS TOOL

The legacy Test Scenarios tool was deprecated with Red Hat Decision Manager 7.3.0. It will be removed in a future Red Hat Decision Manager release. Use the new Test Scenarios designer instead.

#### 3.3. SUPPORT FOR RED HAT OPENSHIFT CONTAINER PLATFORM 3.X

Starting with the 7.5 release of Red Hat Decision Manager, support for Red Hat OpenShift Container Platform 3.x, including using all templates to install Red Hat Decision Manager, is deprecated. Support for Red Hat OpenShift Container Platform 3.x will be removed in a future Red Hat Decision Manager release. Consider deploying Red Hat Decision Manager using the operator on Red Hat OpenShift Container Platform 4.x.

#### **CHAPTER 4. TECHNOLOGY PREVIEW**

This section lists features that are in Technology Preview in Red Hat Decision Manager 7.6. Business Central includes an experimental features administration page that is disabled by default. To enable this page, set the value of the **appformer.experimental.features** property to **true**.



#### **IMPORTANT**

These features are for Technology Preview only. Technology Preview features are not supported with Red Hat production service level agreements (SLAs), might not be functionally complete, and Red Hat does not recommend to use them for production. These features provide early access to upcoming product features, enabling customers to test functionality and provide feedback during the development process.

For more information on Red Hat Technology Preview features, see Technology Preview Features Scope.

## 4.1. HIGH-AVAILABILITY AUTHORING ON RED HAT JBOSS EAP ON PREMISE

Configuration of Business Central for high availability on premise is currently a Technology Preview feature. Note that high-availability deployment of Business Central is now supported on Red Hat OpenShift Container Platform version 3.11.

#### 4.2. CONSTRAINT STREAMS API

You can use the Constraint Streams API as an alternative to the Drools Rules Language (DRL) to program incremental score calculations in plain Java. The Constraint Streams API is fast, scalable, and debuggable. You can use any IDE to develop and debug solvers using the Constraint Streams API. It uses deltas that enable the engine to redo only necessary calculations. It also supports justifications, so you can review the reason a solution was reached in order to debug the solver. Note that the Constraint Streams API fully supports the NQueens, Task assigning, and Flight Crew Scheduling use cases.

#### 4.3. OPENSHIFT OPERATOR INSTALLER WIZARD

An installer wizard is provided in the OpenShift operator for Red Hat Decision Manager. You can use the wizard to deploy a Red Hat Decision Manager environment on Red Hat OpenShift Container Platform with the Operator.

#### 4.4. RED HAT JBOSS DATA GRID REPLACES ELASTICSEARCH

Red Hat JBoss Data Grid replaces Elasticsearch as the distributed highly scalable full-text search and analytics engine for Red Hat Decision Manager.

Red Hat Data Grid is built from the Infinispan open-source software project and contains indexing capabilities that enable you to store, search, and analyze high volumes of data quickly and in near-real time. In a Red Hat Decision Manager clustered environment, it enables you to perform complex and efficient searches across cluster nodes.

#### **CHAPTER 5. KNOWN ISSUES**

This section lists known issues with Red Hat Decision Manager 7.6.

#### **5.1. BUSINESS CENTRAL**

When you add a deployment unit and manually enter GAV values, the runtime strategy is not set to the configured default value [RHPAM-2623]

Issue: In Business Central, you can configure a default runtime strategy. However, when you add a new deployment unit and enter the group, artifact, and version (GAV) values manually, the runtime strategy is not set to this configured default.

#### Steps to reproduce:

- 1. Import the **Evaluation\_Process** sample project into Business Central.
- 2. In the project window, click **Settings** and then select **Deployments** → **General Settings**.
- 3. Change Runtime Strategy to Per Process Instance.
- 4. Click the drop-down list next to the Build button and select Build & Install
- 5. In the main menu, select **Deploy** → **Execution Servers** and then click **Add Deployment Unit**.
- 6. Enter the values in the following list into the corresponding fields:
  - Name: evaluation:evaluation:1.0.0-SNAPSHOT
  - Group Name: evaluation
  - Artifact Id: evaluation
  - Version: 1.0.0-SNAPSHOT
- 7. Click **Next**. If you click **Finish** at this stage, the result will not be changed.
- 8. In the window that appears, note that the runtime strategy is **Singleton**.
- 9. Click Finish.
- 10. Start the deployment.
- When the deployment has completed, click the deployment link, for example http://localhost:8080/kieserver/services/rest/server/containers/evaluation:evaluation:1.0.0-SNAPSHOT.
- 12. View the runtime strategy in the XML information displayed at the link, for example:

```
<config-items>
    <itemName>RuntimeStrategy</itemName>
    <itemValue>SINGLETON</itemValue>
    <itemType>BPM</itemType>
</config-items>
```

Expected result: The runtime strategy is **Per Process Instance**.

Actual result: The runtime strategy is **Singleton**.

Workaround: When you create a new deployment unit, select the artifact from the list without entering GAV values manually. Alternatively, manually select the runtime strategy when creating a new deployment unit.

#### You cannot start a task if the Elytron adapter is installed [RHPAM-2450]

Issue: If Business Central on Red Hat JBoss EAP is integrated with RH-SSO using the Elytron adapter, errors are displayed after a task is started.

#### Steps to reproduce:

- 1. Install Red Hat Decision Manager on Red Hat JBoss EAP.
- 2. Configure Business Central with RH-SSO using the Elytron adapter.
- 3. Import a process sample.
- 4. Start the process.
- 5. Start a task.

Expected result: The task starts correctly.

Actual result: The task does not start and an error is displayed.

Workaround: Use the legacy adapter instead of the Elytron adapter. Enter the following command to install the legacy adapter:

./bin/jboss-cli.sh -c --file=bin/adapter-install.cli

## In the guided rule editor, you cannot use the is contained in comma separated list constraint in combination with complex values [RHPAM-2457]

Issue: In the guided rule editor, you cannot use the **is contained in comma separated list** constraint in combination with complex values. Complex values are values that contain a comma or are wrapped by brackets

Workaround: None.

### The state of a Decision Server is not updated in the server template n Business Central after the server disconnects and reconnects to Business Central [RHPAM-2544]

Issue: After a Decision Server disconnects and reconnects to Business Central, the state of this server in the server template in Business Central is not updated. For example, if the Decision Server is switched from development mode into production mode, Business Central does not recognize the change.

#### Steps to reproduce:

- 1. Ensure a Decision Server is connected to Business Central and set to development mode.
- 2. Shut down the Decision Server.
- 3. Reconfigure the Decision Server to use production mode. Do not change other configuration settings.
- 4. Start the Decision Server.

5. Deploy a service with a **SNAPSHOT** version onto the server template.

Expected result: Business Central displays a message that the server is in production mode and the service can not be deployed.

Actual result: The deployment starts and fails.

Workaround: Manually delete the server template in Business Central before restarting the server. Alternatively, change the name of the server when you reconfigure it.

### In scenario simulation, the right-hand Test Tools panel displays the name of a field instead of the type [RHDM-1153]

Issue: In come cases, instead of the type of a field, the right-hand **Test Tools** panel displays the name of the field.

#### Steps to reproduce:

- 1. Open an existing DMN file in Business Central.
- 2. Add a new structure, for example, **Vacation**.
- 3. Add a new field to **Vacation**, for example, **Price** of type **number**.
- 4. Start editing the **Price** field.
- 5. Click **Add Constraints** and enter some constraints for the **Price** field.
- 6. Save all changes to the DMN file and close the file.
- 7. Create a new test scenario for the DMN file.
- 8. Select a column.
- 9. Expand the right-hand panel.
- 10. Click the **Test Tools** panel.

Expected result: The panel displays the name and type of the field: Price[number].

Actual result: The panel displays the name of the field twice: Price[Price].

Workaround: none.

#### 5.2. HIGH AVAILABILITY

In a high-availability authoring environment, when one user imports a project, another user is unable to see it [RHPAM-2470]

Issue: When multiple users connect to a high-availability Business Central and one user creates a project, another user cannot see the project.

#### Steps to reproduce:

1. Log in to Business Central as two different users (A and B) from two different hosts or browsers.

- 2. As user A and as user B, open the same space.
- 3. As user A, import a project using an external Git repository URL.

Expected result: As user B, you can see the imported project in the space.

Actual result: As user B, you cannot see the imported project in the space.

Workaround: As user B, reload the space.

### In a high-availability authoring environment, project creation fails when a Business Central node is down [RHPAM-2475]

Issue: When you create a project, the project creation does not complete. The cause is one Business Central node in a high-availability authoring environment going down.

Workaround: Create the project again.

## In a high-availability authoring environment, asset creation is not completed when a Business Central node is down [RHPAM-2476]

Issue: When you create an asset, the asset is not indexed. It is displayed in Business Central but you cannot use it. The cause is one Business Central node in a high-availability authoring environment going down.

Workaround: In the **Project Explorer** view, open the asset and click **Save**.

#### 5.3. DMN DESIGNER

### When you import a data object from a Java class, fields that have the Java Date type are not converted to the DMN date type [RHDM-1145]

Issue: When you use DMN designer to import a data object from a Java class and the class has a field of type **Date**, the resulting DMN field does not have the DMN **date** type.

Steps to reproduce:

- 1. Open a project in Business Central.
- 2. Add a Java data object.
- 3. Create a **java.util.Date** field in this object.
- 4. Save and close the Java class.
- 5. Open a DMN file.
- 6. Select the **Data Types** tab.
- 7. Click Import Data Object.
- 8. Select the Java class that you created.
- 9. Click **Import**.
- 10. Check the type of the field into which the **java.util.Date** field was converted.

Expected result: The field has the type date or date and time.

Actual result: The field has the type Any.

Workaround: Manually change the type of the field to **date** or **date and time**.

### When you import a data object from a Java class, a field of the Java List type is not converted to the DMN collection type [RHDM-1144]

Issue: When you use DMN designer to import a data object from a Java class and the class has a field of type **List**, the resulting DMN field does not have the DMN **collection** type.

#### Steps to reproduce:

- 1. Open a project in Business Central.
- 2. Add a Java data object.
- 3. Create a **List** field in this object.
- 4. Save and close the Java class.
- 5. Open a DMN file.
- 6. Select the **Data Types** tab.
- 7. Click Import Data Object.
- 8. Select the Java class that you created.
- 9. Click Import.
- 10. Check the type of the field into which the **List** field was converted.

Expected result: The field has the type **collection**.

Actual result: The field has the type Any.

Workaround: Manually change the type of the field to **collection**.

### When you change a decision table header in the properties panel, the change is not saved [RHDM-1181]

Issue: In the DMN designer, when you edit a decision table you can click a header to view its properties panel. However, if you change settings for the header in the properties panel, the change is not saved.

#### Steps to reproduce:

- 1. Edit a decision table in an element in the DMN designer.
- 2. Click a header in the table.
- 3. Change a field, such as **Input expression**, in the properties panel on the right side of the screen.

Expected result: The change is reflected in the table.

Actual result: The change is not reflected in the table.

Workaround: Click the header to view the pop-up window next to the header. Edit the settings in this window.

### When you open a DMN diagram that does not contain layout information, nodes are all in the same position [RHDM-1150]

Issue: When you open a DMN model file and this file does not contain layout information, all DMN nodes are displayed in the same position.

Steps to reproduce:

- 1. Open or create a project in Business Central.
- 2. Import a DMN model file that does not contain layout information.

Expected result: The nodes are spread across the canvas.

Actual result: All nodes are in the same position.

Workaround: Click the **Automatic layout** button in the toolbar.

#### 5.4. RED HAT OPENSHIFT CONTAINER PLATFORM

Product environment fails to deploy on Amazon Web Services (AWS) with AWS Elastic Block Storage (EBS) because of AWS EBS volume plugin lack of support for ReadWriteMany (RWX) persistent volume access mode [RHPAM-2480]

Issue: Several templates used for installing Red Hat Decision Manager on Red Hat OpenShift Container Platform, as well as deployment of several environment types using the Business Automation operator, fail to deploy on AWS with EBS. The templates and environment types include persistent volume claims that require support for the **ReadWriteMany** access mode and the AWS EBS volume plugin does not provision persistent volumes with this access mode.

The **rhdm76-authoring-ha.yaml** template is affected.

Workaround: Deploy an NFS server and provision the persistent volumes using NFS. For information about provisioning persistent volumes using NFS, see one of the following guides:

- For Red Hat OpenShift Container Platform version 3, see the "Persistent storage using NFS" section of the OpenShift Container Platform 3.11 Installation and Configuration guide.
- For Red Hat OpenShift Container Platform version 4, see the "Persistent storage using NFS" section of the OpenShift Container Platform 4.2 Storage guide.

### OptaWeb Vehicle Routing tests fail due to different versions of dependencies [ RHDM-1129]

Issue: OptaWeb Vehicle Routing is distributed with the incorrect **package-lock.json** file. As a result, snapshot tests of the **optaweb-vehicle-routing-frontend** module fail because of changes in HTML code generated by different versions of dependencies.

#### Workaround:

- 1. Change directory to the **optaweb-vehicle-routing-frontend** module.
- 2. Enter the following command to download the required dependencies:

\$ npm install

3. Enter the following command to run the tests:

\$ npm test

4. Press the u key to update failing snapshots.

#### 5.5. OFFLINE MAVEN REPOSITORY

The offliner tool reports errors when it downloads artifacts for an offline Maven repository [RHPAM-2234]

Issue: When you run the **offliner** tool to download artifacts for an offline Maven repository, the tool reports that some artifacts failed to download. The error message is **The artifact was not found in any of the provided repositories**.

Workaround: If the failed artifacts relate to **installer**, ignore the error messages. These artifacts are not required for the offline Maven repository.

In other cases, for example, for **maven-compiler-plugin** or **docbook** artifacts, specify an additional repository and run the **offliner** command again:

java -jar offliner-<version>.jar -r https://maven.repository.redhat.com/ga/ -r https://repo1.maven.org/maven2/ -r https://repository.jboss.org/nexus/content/groups/public/ -d /home/user/temp rhdm-7.6.0-offliner.txt

## CHAPTER 6. FIXED ISSUES IN RED HAT DECISION MANAGER 7.6.0

Red Hat Decision Manager 7.6.0 provides increased stability and fixed issues listed in this section.

#### 6.1. DECISION ENGINE

- A newline within the rule cell of a spreadsheet is incorrectly included as a value [RHDM-1147]
- The decision engine does not promote an **int** value to **double** when necessary to invoke a method in the left-hand side of a rule [RHDM-1135]
- The decision engine must support a consequence of up to 24 parameters [RHDM-1133]
- Issues exist with **STREAM** mode, expired events, and **instanceof** [RHDM-1126]
- Issue exists with rules sharing the same constraint involving expired events and mvel [RHDM-1124]
- If you insert events that are already expired, the collect operation in the first **fireAllRules** does not take them into account [RHDM-1112]

#### 6.2. BUSINESS CENTRAL

- Cloning from a remote Git repostory that requires credentials does not work [RHPAM-2531]
- An error dialog appears when you import a sample project twice [RHPAM-2434]
- You cannot upload or download files that contain spaces or ampersands (&) in the name [RHPAM-2368]
- Performance issues occur when you open assets with the project explorer [RHPAM-2359]
- Roles permissions do not persist and can reset after some time [RHPAM-2342]
- A JavaScript error occurs when you try to modify action columns in guided decision table [RHPAM-2286]
- Set the default runtime strategy in the new deployment unit wizard as it is set in kiedeployment-descriptor.xml file [RHPAM-2119]
- In the DMN designer, validation does not report a non-existing operator [RHDM-1119]
- Suggested values for DMN context expressions in test scenarios are wrong [RHDM-1116]
- When you attempt to modify action columns of a guided decision table, a JavaScript error occurs [RHDM-1036]
- On Windows, when the user name contains special characters an error occurs during log in [RHDM-813]

#### 6.3. HIGH AVAILABILITY

 Indexing in high-availability Business Central repeatedly creates threads that cause a Business Central pod to fail [RHPAM-2477]

- Business Central imports a sample project several times [RHPAM-2372]
- A **TimeoutException** occurs when you log in to clustered Business Central [ RHPAM-1749]

#### 6.4. DECISION SERVER

• Creation of a **KieContainer** fails without a helpful error message if the content of the **kmodule.xml** file is invalid [RHDM-1118]

### 6.5. DECISION MODEL AND NOTATION (DMN)

• When you delete a decision service, all associated decisions are also deleted [RHDM-970]

#### 6.6. RED HAT OPENSHIFT CONTAINER PLATFORM

- The Decision Server pod fails to start after a user updates the BusyBox image on Red Hat OpenShift Container Platform [RHPAM-2431]
- It is not possible to build a high-availability complex image processing image because of a **microdnf** bug [RHPAM-2500]
- Add AMQ support to the operator installer UI [RHPAM-2205]
- Increase the AMQ broker version to 7.5 in OpenShift templates [RHDM-1122]
- Add the missing environment variable for the Red Hat Business Optimizer thread pool size [RHDM-1096]

### APPENDIX A. VERSIONING INFORMATION

Documentation last updated on Friday, May 22, 2020.