Migration Toolkit for Runtimes 1.1

Release Notes

New features, known issues, and resolved issues

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Abstract

This document describes new features, known issues, and resolved issues for the Migration Toolkit for Runtimes.

Table of Contents

MAKING OPEN SOURCE MORE INCLUSIVE 3

CHAPTER 1. INTRODUCTION 4

CHAPTER 2. MTR 1.1.1 5
2.1. CONTAINER GRADE RELEASE 5
2.2. RESOLVED ISSUES 5

CHAPTER 3. MTR 1.1.0 6
3.1. NEW FEATURES 6
3.2. KNOWN ISSUES 7
3.3. RESOLVED ISSUES 7

CHAPTER 4. MTR 1.0.2 8
4.1. NEW FEATURES 8
4.2. KNOWN ISSUES 8
4.3. RESOLVED ISSUES 8

CHAPTER 5. MTR 1.0.1 9
5.1. NEW FEATURES 9
5.2. KNOWN ISSUES 9
5.3. RESOLVED ISSUES 9

CHAPTER 6. MTR 1.0.0 10
6.1. NEW FEATURES 10
6.2. KNOWN ISSUES 10
6.3. RESOLVED ISSUES 10

MAKING OPEN SOURCE MORE INCLUSIVE

Red Hat is committed to replacing problematic language in our code, documentation, and web properties. We are beginning with these four terms: master, slave, blacklist, and whitelist. Because of the enormity of this endeavor, these changes will be implemented gradually over several upcoming releases. For more details, see our CTO Chris Wright's message.

CHAPTER 1. INTRODUCTION

Migration Toolkit for Runtimes (MTR) provides an extensible and customizable rule-based tool that simplifies the migration and modernization of Java applications, such as migrating JBoss Enterprise Application Platform (EAP) 7 to 8 or migrating from any other application server towards EAP at scale. MTR provides the same migration solution as provided in the Migration Toolkit for Applications 5 releases.

These release notes cover all releases of MTR with the most recent release listed first.

CHAPTER 2. MTR 1.1.1

2.1. CONTAINER GRADE RELEASE

This release contains an upgrade to the container images.

2.2. RESOLVED ISSUES

For a complete list of all issues resolved in this release, see the list of MTR 1.1.1 resolved issues in Jira.

CHAPTER 3. MTR 1.1.0

3.1. NEW FEATURES

This section describes the new features of the Migration Toolkit for Runtimes (MTR) 1.1.0.

New reports

MTR generates rich reports using **PatternFly4**. The reports present the same content as in previous versions, but are easier to navigate and presented better, in the consistent Web Console user interface. You can still generate reports in the original format using the **legacyReports** advanced option.

New advanced options

- **exitCodes** ensures that MTR returns a zero return code with a successful analysis, and a non-zero return code with a failed analysis.
- **exportSummary** generates a JSON file in the output folder of each analyzed application. This file contains the story points and incident count (by category), along with the application's collection of technology tags.
- **exportZipReport** creates a **report.zip** file of all the analysis outputs - reports, **.csv** files and **.json** files, when requested.
- **legacyReports** generates reports in the original report format, instead of the newer PatternFly4 format (see above).
- **skipSourceCodeReports** The *Source Code* report shows migration issues within the context of the application's source code. Showing the source code of all analyzed applications may raise security concerns. This option generates all reports except the source code report.

New rulesets and targets

MTR contains a complete set of rules that supports EAP 8.0 Beta and Hibernate 6.2.

A new **discovery** target only executes the rules that identify technologies embedded within the application, informing the migration strategy for each application by efficiently showing its technology landscape.

Hibernate users now have a new **hibernate6** target *shortcut*. The analysis uses all the rulesets with a **hibernate:6** or **jakarta-ee** target.

Multiple targets can be mapped to a single target *shortcut*.

New technology tags

This version of MTR includes Java EE deployment descriptors-based technology tags, such as **EJB 3.2**. It generates enterprise Java EE technology tags for Jakarta EE applications.

Web UI package selection

A new package selection step requires you to activate package selection to include a list of packages for the analysis. This change aligns the Web UI with CLI behavior.

Java compatibility

MTR CLI, Web UI, and Maven now support the following versions of Java:

- OpenJDK 11
- Oracle JDK 11
- Eclipse Temurin JDK 11
- OpenJDK 17
- Oracle JDK 17
- Eclipse Temurin JDK 17

Future releases are planned to include IDE plugins and extensions that support Java 17. These releases require Oracle JDK 11 or OpenJDK 11.

Updated Nexus index of known software artifacts

Last update 21 March 2023.

3.2. KNOWN ISSUES

For a complete list of all known issues, see the list of MTR 1.1.0 known issues in Jira.

3.3. RESOLVED ISSUES

For a complete list of all issues resolved in this release, see the list of MTR 1.1.0 resolved issues in Jira.

CHAPTER 4. MTR 1.0.2

4.1. NEW FEATURES

This section describes the new features of the Migration Toolkit for Runtimes (MTR) 1.0.2.

New Rulesets

MTR includes new rulesets that support migration to EAP 8 and Hibernate 6.

4.2. KNOWN ISSUES

For a complete list of all known issues, see the list of MTR 1.0.2 known issues in Jira.

4.3. RESOLVED ISSUES

For a complete list of all issues resolved in this release, see the list of MTR 1.0.2 resolved issues in Jira.

CHAPTER 5. MTR 1.0.1

5.1. NEW FEATURES

This section describes the new features of the Migration Toolkit for Runtimes (MTR) 1.0.1.

New ruleset for Jakarta Faces 4.0

MTR includes a new ruleset for Jakarta Faces 4.0 to improve support for migrating to JBoss EAP 8.

5.2. KNOWN ISSUES

For a complete list of all known issues, see the list of MTR 1.0.1 known issues in Jira.

5.3. RESOLVED ISSUES

For a complete list of all issues resolved in this release, see the list of MTR 1.0.1 resolved issues in Jira.

CHAPTER 6. MTR 1.0.0

6.1. NEW FEATURES

This section describes the new features of the Migration Toolkit for Runtimes (MTR) 1.0.0 as compared to the Migration Toolkit for Applications (MTA) 5.3.

Additional Migration paths

New transformation targets are available in MTR 1.1.1:

- OpenJDK 11 to OpenJDK 17
- EAP and Spring Boot applications to Azure App Service
- Java EE 8 to Jakarta EE 9
- EAP 7 to EAP 8 (Beta)

Openrewrite recipes to automate the Java EE 8 to Jakarta EE 9 transformations

The Openrewrite recipes automate the following:

- Replacing dependencies declared in **pom.xml** files
- Replacing package import statements
- Updating XML deployment descriptors
- Updating configuration properties
- Renaming SPI files

Improved pom.xml analysis

MTR can search for artifacts within the parent, dependencyManagement, dependencies, pluginManagement and plugin blocks.

YAML file source code report

The Source Code Report is compatible with YAML files, so migration issues can be highlighted in the context of the YAML file in which they were discovered.

Transaction Report (Tech Preview)

A new transaction report is now available in the application analysis reports. This new option analyzes the application data layer and provides detailed information about how transactions propagate across different layers. The report presents the information as a sequence of service entries, call graphs and SQL statements.

6.2. KNOWN ISSUES

For a complete list of all known issues, see the list of MTR 1.0.0 known issues in Jira.

6.3. RESOLVED ISSUES

At the time of the release, the following resolved issues have been identified as major issues worth highlighting:

Table 6.1. Major resolved issues

ID	Component	Summary
WINDUP-3227	MTR CLI	Tag-related CLI arguments, **--includeTags** and **--excludeTags**, do not work properly.
WINDUP-3482	MTR web console	The web console is unable to discover packages present in the application and does not allow the user to create a project.
WINDUP-3312	None	**DiscoverHardcodedIPAddressRuleProvider.java** does not detect hardcoded IP addresses in Java classes.

For a complete list of all issues resolved in this release, see the list of MTR 1.0.0 resolved issues in Jira.