



Red Hat Fuse 7.6

Release Notes for Red Hat Fuse 7.6

What's new in Red Hat Fuse

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Abstract

These notes provide an overview of the changes between Red Hat Fuse releases.

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CHAPTER 1. FUSE 7.6 PRODUCT OVERVIEW

1.1. FUSE DISTRIBUTIONS

Fuse 7.6 is provided in the form of three different distributions, as follows:

Fuse standalone

The classic distribution of Fuse, supported on multiple operating systems. This distribution is supported for the following container types:

- Apache Karaf
- JBoss Enterprise Application Platform (EAP)
- Spring Boot

Fuse on OpenShift

The distribution of Fuse for running integration applications on OpenShift (supported on the Red Hat Enterprise Linux operating system). In this case, the supported container types are provided in the form of docker-formatted container images:

- Java image (for Spring Boot)
- Apache Karaf image
- JBoss EAP image

Fuse Online

The distribution of Fuse for non-expert integrators with a simplified workflow accessed through a browser based UI. This distribution is available for the following kinds of deployment:

- Pre-installed on the OpenShift Online Professional tier
- On a [Red Hat Managed Integration](#) cluster
- For installation on an on-premises OpenShift cluster

1.2. NEW FEATURES

Fuse 7.6 includes several major component upgrades and a large selection of new features. For details, consult the *new features* sections for each of the Fuse distributions:

- [New features for Fuse Online](#)
- [New features for Fuse on OpenShift](#)
- [New features for Fuse standalone](#)

1.3. SUPPORTED CONFIGURATIONS

For information about supported configurations, standards, and components in version 7.6, see the following Customer Portal articles:

- [Red Hat Fuse Supported Configurations](#)
- [Red Hat Fuse Supported Standards](#)
- [Red Hat Fuse Component Details](#)

CHAPTER 2. FUSE ONLINE

Fuse Online provides a web browser interface that lets a business expert integrate two or more different applications or services without writing code. It also provides features that allow the addition of code if it is needed for complex use cases.

Fuse Online runs an integration on OpenShift as a Spring Boot application that uses Apache Camel. As a Technology Preview feature, Camel K is available as an additional runtime.

2.1. ABOUT FUSE ONLINE DISTRIBUTIONS

Fuse Online is Red Hat's web-based integration platform. [Synthesis](#) is the open source project for Fuse Online. Fuse Online runs in these OpenShift environments:

Host Environment	Installation
OpenShift Online OpenShift Dedicated	Red Hat installs and provisions Fuse Online on Red Hat infrastructure.
OpenShift Container Platform	Customer installs and manages.

2.2. NEW FEATURES IN FUSE ONLINE 7.6

Fuse Online 7.6 provides the following new features:

- The following connectors, which were Technology Preview features in the previous release, are now supported:
 - [Amazon DynamoDB](#) lets you retrieve data from an Amazon DynamoDB table, add data to a DynamoDB table, or remove data from a DynamoDB table.
 - [Box](#) lets you connect to a Box server to download or upload a file.
 - [MongoDB](#) lets you obtain content from a MongoDB database or update content in a MongoDB database.
- Fuse Online now provides enhanced activity tracking (based on Jaeger). Enhanced activity tracking is now enabled by default, when you install Fuse Online on OCP from the command line.
- OpenAPI 3.0 as well as OpenAPI 2.0 is now supported for creating REST API client connectors and API provider integrations.

2.3. CHANGES IN FUSE ONLINE 7.6

Fuse Online 7.6 changes Fuse Online 7.5 features as follows:

- Changes to the data mapper:
 - Mapping from or to a field in a nested collection is now supported. When a source field is nested in a number of collections you can map it to a target field that meets one of these conditions:
 - The target field is nested in the same number of collections as the source field.

- The target field is nested in only one collection.
- While a conditional expression in a data mapping continues to be a Technology Preview feature, a conditional expression can now:
 - Refer to a field that is in a collection.
 - Specify any transformation supported by the data mapper.
 - Specify the **LT()** (less than) function to obtain the smaller of two numbers or the **TOLOWER()** function to convert a string to lowercase.
- Changes for Fuse Online environments that run on OpenShift Container Platform on-site:
 - The Fuse Online installation download package now provides a default custom resource file, **default-cr.yml**, which you can edit before you install Fuse Online. Edits can enable add-on features and/or change default configuration values. You can install a default Fuse Online environment by running the installation script without editing **default-cr.yml**. For details, see [Installation of Fuse Online on OCP](#).
 - You can now enable automatic discovery of Kafka brokers (AMQ Streams instances), which makes configuring a Kafka connection easier because the UI can display the broker URL details. See [Enabling auto-discovery of Kafka brokers/AMQ Streams](#).
 - Procedures for backing up and restoring Fuse Online environments are now documented. See [Managing Fuse Online on OCP](#).

2.4. UPGRADING FUSE ONLINE INTEGRATIONS

The Fuse Online upgrade process depends on whether Fuse Online is installed on Red Hat OpenShift Online or on OpenShift Container Platform (OCP).

- **OpenShift Online** - When Fuse 7.6 is released, the Fuse Online infrastructure on OpenShift Online is automatically upgraded. You must republish any running integrations as described in [Upgrading Fuse Online integrations that are running on OpenShift Online](#).
- **OCP** - To upgrade a Fuse Online environment that is running on OpenShift Container Platform on-site, you must download the latest Fuse Online release, run the update script, and then republish any running integrations as described in [Upgrading Fuse Online on OCP](#).

2.5. IMPORTANT NOTES FOR FUSE ONLINE

Important notes for the Fuse 7.6 release of the Fuse Online distribution:

- The following limitations apply when the Camel K runtime is installed with Fuse Online:
 - Fuse Online extensions are not supported by the Camel K runtime.
 - Extensions are not displayed in the Fuse Online user interface under **Customizations**. Note that Camel K runtime is a Technology Preview feature.
- Enhanced activity tracking is not available, if you install Fuse Online from OperatorHub (see the [Fuse Online](#) section of Known Issues). To take advantage of enhanced activity tracking in this release, we recommend that you install Fuse Online using the command-line script instead. See [Installing Fuse Online on OCP](#) for details.

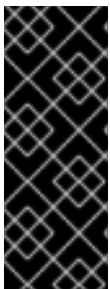
- In this release, connections to Kafka do not support SSL. It is expected that this will change in a future release.
- When Fuse Online is installed and provisioned on Red Hat infrastructure, the account is limited to a specific number of integrations that can be running at one time. For details, see the pricing plan. If you are using a Fuse Online evaluation account, then only one integration at a time can be running.
- An OpenAPI schema that you upload to Fuse Online might not define input/output types. When Fuse Online creates a custom API client from an OpenAPI schema that does not specify input/output types then it is not possible to create an integration that maps integration data to fields that the API client can process or from fields that the API client processed. If an integration requires data mapping to or from a custom API, then when you upload the OpenAPI schema, click **Review/Edit** to open API Designer, which is an API editing tool, and add input/output type specifications.
- An OpenAPI document that you use for a custom API client connector or for an API provider integration cannot have cyclic schema references. For example, a JSON schema that specifies a request or response body cannot reference itself as a whole nor reference any part of itself through any number of intermediate schemas.

2.6. OBTAINING TECHNICAL SUPPORT FOR FUSE ONLINE

To obtain technical support, in the Fuse Online console, in the left navigation panel, click **Support**. Use the **Support** page to download diagnostic information for all integrations or for one or more integrations that you choose. The page also provides a link for opening a support ticket and providing the diagnostic information that you downloaded.

2.7. TECHNOLOGY PREVIEW FEATURES IN FUSE ONLINE

This release includes the Technology Preview features that are listed below.



IMPORTANT

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 using them in 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, see [Red Hat Technology Preview features support scope](#).

- **Data virtualization**
For Fuse Online environments that run on OpenShift Container Platform on-site, data virtualization is a container-native service. It integrates data from multiple heterogeneous sources, including relational databases, files, web services, and SaaS repositories. In Fuse Online, developers can create a virtual database image that defines a custom, logical view of their source data. They can then deploy that image on OpenShift. Applications connect to the virtual database over a standard OData, REST, or JDBC interface, and can run SQL queries across all of the data sources, even those that do not support SQL.

To enable data virtualization, see [Installation of Fuse Online on OCP](#).

- **The Knative connector** lets you connect to a Knative channel to obtain or send messages, expose the integration as a Knative service, or call a Knative service.

- [Conditional expressions for mapping data fields](#)
In the data mapper, you can specify a conditional expression and apply it to one data mapping. For example, a conditional expression can specify evaluation of a source field and how to populate the target field if the source field is empty. The limited set of expressions that you can specify are similar to Microsoft Excel expressions.
- Camel K is available as an additional runtime.
To enable Camel K, see [Installation of Fuse Online on OCP](#).
- For a REST API client that uses OAuth, when you create an API client connector, you can change the default OAuth2 behavior of connections that you create from that connector. Fuse Online vendor extensions to the OpenAPI specification support the following:
 - Providing client credentials as parameters.
 - Obtaining a new access token based on HTTP response status codes.

CHAPTER 3. FUSE ON OPENSHIFT

Fuse on OpenShift enables you to deploy Fuse applications on OpenShift Container Platform.

3.1. SUPPORTED VERSION OF OPENSHIFT

Fuse on OpenShift is now supported on OpenShift Container Platform 4.x. For details of the supported version (or versions) of OpenShift Container Platform to use with Fuse on OpenShift, see the [Supported Configurations](#) page.

3.2. SUPPORTED IMAGES

Fuse on OpenShift provides the following Docker-formatted images:

- **fuse7/fuse-java-openshift** – Spring Boot
- **fuse7/fuse-karaf-openshift** – Apache Karaf
- **fuse7/fuse-eap-openshift** – Red Hat JBoss Enterprise Application Platform
- **fuse7/fuse-console** – Fuse console
- **fuse7/fuse-console-operator** – Fuse console operator
- **fuse7/fuse-apicurito** – Apicurito REST API editor
- **fuse7/fuse-apicurito-generator** – Apicurito REST application generator
- **fuse7-tech-preview/fuse-apicurito-operator** – API Designer Operator

3.3. NEW FEATURES IN FUSE 7.6 ON OPENSHIFT

Fuse on OpenShift provides following new features in version 7.6:

- Spring Boot 2 runtime is now supported on OpenShift.
- Fuse on OpenShift is now supported on OpenShift 4.x.
- Fuse Console operator
Fuse Console operator simplifies the procedures for installing, upgrading, and uninstalling the Fuse Console on OpenShift. For details of how to use the Fuse Console operator, see [Set up the Fuse Console](#).



NOTE

In order to keep the connection between the Fuse Console proxy and the Jolokia agent secure, it is necessary to generate, sign and deploy a client certificate. This must be done manually, as an admin procedure, after installing Fuse Console on OCP 4.x.

3.4. TECHNOLOGY PREVIEW FEATURES

The following features of Fuse on OpenShift are *Technology Preview* only and are not supported in Fuse 7.6:

Data Virtualization

Red Hat Data Virtualization is a container-native data virtualization service, based on the Teiid data virtualization project. Red Hat Data Virtualization combines data from multiple heterogeneous sources, such as relational databases, files, web services, and SaaS repositories. For more details, see [Using Data Virtualization](#).

API Designer operator installation

You can install the API Designer operator from the Operator Hub of OpenShift Container Platform 4.x. The API Designer operator provides you access to a Technology Preview of the API Designer operator for Fuse on OpenShift. The API Designer operator simplifies the procedures for installing, upgrading, and uninstalling API Designer on OpenShift. For details on how to install the API Designer operator, see [Installing Fuse Imagestreams and Templates on the OpenShift 4.x Server](#).



NOTE

Neither the API Designer operator nor the API Designer instance that it installs are supported. This technology preview feature is not suitable for testing on a production environment.

3.5. IMPORTANT NOTES

Important notes for the Fuse 7.6 release of the Fuse on OpenShift distribution:

Container Development Kit (CDK) 3.10 is the recommended version for use with Fuse 7.6 on OpenShift 3.11

We recommend that developers use CDK 3.10 to try out applications on OpenShift 3.11. CDK is not available for OpenShift 4.x.



NOTE

CDK is provided only as a convenience for developers and is not a supported OpenShift distribution.

CHAPTER 4. FUSE STANDALONE

4.1. SUPPORTED CONTAINERS

Fuse standalone 7.6 is supported on the following runtime containers:

- Spring Boot 1 and Spring Boot 2 (standalone)
- Apache Karaf
- Red Hat JBoss Enterprise Application Platform (JBoss EAP)

4.2. NEW FEATURES IN FUSE 7.6

The main new features of Fuse standalone in version 7.6 are:

Fuse is supported on EAP in domain mode

See the *Installing on JBoss EAP* guide for information on [starting JBoss EAP in domain mode](#).

Fuse on Apache Karaf supports dynamic<expression-filter> statements

For Fuse on Karaf, you can now use an expression-filter in your Undertow subsystem to restrict IP addresses for incoming connections for web applications.

For more information on how to restrict IP addresses for incoming connections for web applications, see this Red Hat solution: <https://access.redhat.com/solutions/3476101>

4.3. TECHNOLOGY PREVIEW FEATURES

The following features of Fuse standalone are *Technology Preview* only and are not supported in Fuse 7.6:

The Camel Pulsar component is not supported on all container types

For 7.6, the **camel-pulsar** component is a technology preview feature only. It is available for Spring Boot 1.x, Spring Boot 2.x, and Apache Karaf containers but *not* for JBoss EAP containers.

For more information, see the [Apache Pulsar component](#) section of the *Apache Camel Component Reference*.

Saga EIP

The Saga Enterprise Integration Pattern (EIP) is a technology preview feature and features only the *In-Memory* Saga service (which is not suitable for a production environments). The LRA Saga service is *not* supported. For more details, see section [Saga EIP](#) of the "Apache Camel Development Guide".

4.3.1. Fuse Tooling support for Apache Camel

Fuse Tooling provides a cross-platform, cross-IDE approach to Camel application development, with Apache Camel language support extensions or plugins for Visual Studio Code, Eclipse IDE, and Eclipse Che.

For Visual Studio Code, you can also add an extension that provides WSDL to Camel Rest DSL support.

Note: These features are already included by default with Fuse Tooling for Red Hat CodeReady Studio.

Visual Studio Code features

The [Language Support for Apache Camel](#) extension provides features for Camel URIs, such as the following:

For XML DSL and Java DSL:

- When you type, the editor provides code completion for Camel components, attributes, and the list of attribute values.
- When you hover over a Camel component, the editor shows a brief description of the component (from the [Apache Camel component reference](#)).
- As you edit the file, the editor performs an Apache Camel validation check on the Camel code.
- You can specify a specific Camel Catalog version by selecting **File → Preferences → Settings → Apache Camel Tooling → Camel catalog version**.
- You can use "Quick fix" features to address invalid enum values and unknown Camel URI component properties.

For XML DSL only:

- You can navigate to Camel contexts and routes in the VS Code **Outline** panel and in the **Go > Go to Symbol in File** navigation panel.
- When you type, the editor provides code completion for referenced IDs of **direct**, **direct VM**, **VM** and **SEDA** components.
- You can find references for **direct** and **direct VM** components in all open Camel files.

The [WSDL 2 Camel Rest DSL](#) extension ([wsdl2rest](#) implementation) provides WSDL to Camel Rest DSL support. By specifying an existing WSDL file, you can use this extension to generate a Camel Rest DSL + CXF solution for REST-style access. The WSDL file can be located either on your local file system or from an accessible web URL.

To access the **Language Support for Apache Camel** and **WSDL to Camel Rest DSL** features, you add one or more extensions.

The [Apache Camel Extension Pack](#) installs the following VS Code extensions:

- [Language Support for Apache Camel](#)
- [OpenShift Connector](#)
- [Java Extension Pack](#)
- [Spring Boot extension pack](#)
- [Project initializer by Red Hat](#)
- [WSDL 2 Camel Rest DSL](#)
- [XML Language Support](#)
- [AtlasMap Data Transformation editor](#)

Optionally, you can install the extensions individually.

For more details, see the following readme files:

- Readme for [Apache Camel Extension Pack](#)
- Readme for [Apache Camel Language Server Protocol for Visual Studio Code](#)
- Readme for [WSDL to Camel Rest DSL](#)

Eclipse IDE features

The **Language Support for Apache Camel** Eclipse plug-in provides the following features for Camel URIs:

In the generic Eclipse text editor for both XML DSL and Java DSL:

- When you type, the editor provides code completion for Camel components, attributes, and the list of attribute values.
- When you hover over a Camel component, the editor shows a brief description of the component (from the [Apache Camel component reference](#)).

When you use the Eclipse XML or Java editor, only the auto-completion feature is provided.

To access the **Language Support for Apache Camel** features, you install the Eclipse plug-in from the Eclipse Marketplace. For more details, see the [readme file](#) for Apache Camel Language Server Protocol for Eclipse IDE.

Eclipse Che features

The **Language Support for Apache Camel** plugin for Eclipse Che 7 provides features for Camel URIs in XML DSL and Java DSL.

- When you type, the editor provides code completion for Camel components, attributes, and the list of attribute values.
- When you hover over a Camel component, the editor shows a brief description of the component (from the [Apache Camel component reference](#)).
- When you save the file, the editor performs an Apache Camel validation check on the Camel code.

To activate this plugin for Eclipse Che, you can use the "Apache Camel based on Spring Boot" stack or edit your workspace configuration.

4.4. BOM FILES FOR FUSE 7.6

To configure your Maven projects to use the supported Fuse 7.6 artifacts, use the BOM versions documented in this section.

4.4.1. BOM File

To upgrade your Fuse standalone applications to use the 7.6 dependencies, edit the Maven **pom.xml** and change the versions of the BOMs and Maven plugins listed in the following table:

Table 4.1. Maven BOM and plugin versions for 7.6 using the BOM

Container Type	Maven BOM or Plugin Artifact groupId/artifactId	Version for Fuse 7.6
Spring Boot 1	org.jboss.redhat-fuse/fuse-springboot-bom	7.6.0.fuse-760027-redhat-00001
	org.jboss.redhat-fuse/fabric8-maven-plugin	7.6.0.fuse-760027-redhat-00001
	org.jboss.redhat-fuse/spring-boot-maven-plugin	7.6.0.fuse-760027-redhat-00001
Spring Boot 2	org.jboss.redhat-fuse/fuse-springboot-bom	7.6.0.fuse-sb2-760028-redhat-00001
	org.jboss.redhat-fuse/fabric8-maven-plugin	7.6.0.fuse-sb2-760028-redhat-00001
	org.jboss.redhat-fuse/spring-boot-maven-plugin	7.6.0.fuse-sb2-760028-redhat-00001
Apache Karaf	org.jboss.redhat-fuse/fuse-karaf-bom	7.6.0.fuse-760027-redhat-00001
	org.jboss.redhat-fuse/karaf-maven-plugin	7.6.0.fuse-760027-redhat-00001
JBoss EAP	org.jboss.redhat-fuse/fuse-eap-bom	7.6.0.fuse-760027-redhat-00001

For more details about using the BOM, see [Fuse Migration Guide](#).

4.5. IMPORTANT NOTES

Important notes for the Fuse 7.6 release of the Fuse standalone distribution:

Fuse on EAP is upgraded to use JBoss EAP 7.2.3 (from JBoss EAP 7.2)

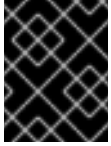
The Fuse 7.6 release runs on the JBoss Enterprise Application Platform (EAP) 7.2.3 container (upgraded from JBoss EAP 7.2 in the previous release of Fuse). For more details, see [JBoss EAP 7.2.0 Release Notes](#).

ENTESB-2344: Camel Jetty/Http4 producers should respect content-length/transfer-encoding:chunked headers

A client that sends a request to the Apache Camel proxy gateway expects that Apache Camel keeps the same chunking (or non-chunking) behavior that was specified in the original request. If the content-length is set incorrectly with chunking encoding, you may see undefined behavior.

ENTESB-10923: camel-linkedin quickstart is removed

The **camel-linkedin** component was removed in Fuse 7.5. The **camel-linkedin** quickstart was removed in Fuse 7.6.



IMPORTANT

Although removed from Fuse 7.5, the **camel-linkedin** component is likely to be restored in a later release.

CHAPTER 5. DEPRECATED AND REMOVED FEATURES

If you need any assistance or have any questions about the upcoming changes in Fuse 7, contact support@redhat.com.

5.1. DEPRECATED

The following features are deprecated in Fuse 7.6 and may be removed in a future release:

PHP, Python, and Ruby scripting languages are deprecated in Camel applications

The PHP, Python, and Ruby scripting languages are deprecated in Camel applications since Fuse 7.4 and will be removed in a future release. The Camel community has deprecated PHP, Python, and Ruby since Camel 2.19 (see [CAMEL-10973](#)). This applies to all Fuse containers types: Apache Karaf, JBoss EAP, and Spring Boot.

HP-UX OS is deprecated

The HP-UX operating system is deprecated since Fuse 7.2 and support for this operating system could be removed in a future release of Fuse. In particular, note that the JBoss EAP 7.2 container has already dropped support for HP-UX and, consequently, any future version of Fuse on JBoss EAP that runs on JBoss EAP 7.2 will *not* be supported on HP-UX.

Camel MQTT component is deprecated

The Camel MQTT component is deprecated in Fuse 7.0 and will be removed in a future release of Fuse. You can use the Camel Paho component instead, which supports the MQTT messaging protocol using the popular [Eclipse Paho](#) library.

Camel LevelDB component is deprecated on all operating systems except for Linux

Since Fuse 6.3, the Camel LevelDB (**camel-leveldb**) component is deprecated on all operating systems except for Red Hat Enterprise Linux. In future, the Camel LevelDB component will be supported only on Red Hat Enterprise Linux.

BatchMessage class from the Camel SJMS component is deprecated

The BatchMessage class from the Camel SJMS component is deprecated in Fuse 7 (deprecated in Apache Camel since version 2.17) and may be removed from a future version of Apache Camel and Fuse.

5.2. REMOVED IN FUSE 7.5

The following features were removed in Fuse 7.5:

Support for integration with MS SQL Server 2014 has been dropped in 7.5

MS SQL Server 2014 is no longer tested and supported for integrations with Fuse 7.5. We recommend that you use one of the more recent versions of MS SQL Server instead – for example, MS SQL Server 2016 or 2017.

Camel LinkedIn component has been removed in 7.5

The **camel-linkedin** component has been removed in Fuse 7.5.



IMPORTANT

Although removed from Fuse 7.5, the **camel-linkedin** component is likely to be restored in a later release.

5.3. REMOVED IN FUSE 7.3

The following features were removed in Fuse 7.3:

Camel YQL component has been removed in 7.3

The Camel YQL component has been removed in Fuse 7.3.

OpenJPA and OpenJPA3 Karaf features have been blacklisted in 7.3

The **openjpa** feature and the **openjpa3** feature have been blacklisted (removed) from the Apache Karaf container in 7.3. For a Java Persistence Architecture (JPA) implementation, use the supported **hibernate** feature instead.

camel-jetty Karaf feature has been blacklisted in 7.3

The **camel-jetty** feature has been blacklisted (removed) from the Apache Karaf container in 7.3, because it uses Jetty 8. Use the **camel-jetty9** feature instead.

pax-jms-oracleaq Karaf feature has been blacklisted in 7.3

The **pax-jms-oracleaq** feature has been blacklisted (removed) from the Apache Karaf container in 7.3, because it requires 3rd party, non-free Oracle AQ libraries.

camel-elasticsearch component has been removed from Fuse on EAP (Wildfly Camel) in 7.3

The **camel-elasticsearch** component has been removed from Fuse on EAP (Wildfly Camel) in 7.3. Use the newer **camel-elasticsearch-rest** component instead.

5.4. REMOVED IN FUSE 7.2

The following features were removed in Fuse 7.2:

Camel XMLRPC component has been removed in 7.2

The Camel XMLRPC component has been removed in Fuse 7.2.

Camel Netty component has been removed in 7.2

The Camel Netty component has been removed in Fuse 7.2. It is recommended that you use the Camel Netty4 component instead.

5.5. REMOVED IN FUSE 7.0

The following features were removed in Fuse 7.0:

Support for Red Hat JBoss Operations Network (JON) has been removed in 7.0

Since Fuse 7.0, Fuse on Karaf no longer supports JON and no longer provides JON plugins for integrating with the JON runtime.

Embedded ActiveMQ broker has been removed in 7.0

Since Fuse 7.0, Fuse on Karaf no longer provides an embedded ActiveMQ Broker. Customers should connect to a supported remote broker directly. For more information on our supported brokers, refer to the "Supported Messaging Providers" section of the [Red Hat Fuse Supported Configurations page](#).

Fuse integration pack has been removed in 7.0

Support for running rules and processes is provided by components shipped with Red Hat JBoss BPM Suite and Red Hat JBoss BRMS.

Karaf console commands for child container administration have been removed in 7.0

Since Fuse 7.0, the Karaf console commands for child container administration are *not* supported. That is, the console commands prefixed by **instance:** (Karaf 4.x syntax) and the console commands prefixed by **admin:** (Karaf 2.x syntax) are not supported.



NOTE

In the Fuse 7.0 GA release, the **instance:** commands are not blacklisted. This is a known issue.

SwitchYard has been removed in 7.0

Since Fuse 7.0, SwitchYard has been removed, and you should use Apache Camel directly instead. For more detailed information, see the knowledge base article, [SwitchYard Support Plan After Releasing Fuse 7](#).

Support for Fabric8 1.x has been removed in 7.0

Since Fuse 7.0, Fabric8 v1 has been replaced by Fuse on OpenShift (previously, Fuse Integration Services), which includes components of Fabric8 v2 technology. Fuse on OpenShift provides a set of tools and Docker-formatted images that enable development, deployment, and management of integration microservices within OpenShift.

Although Fuse on OpenShift has a different architecture, it fulfills the same provisioning, automation, central configuration and management requirements that Fabric8 v1 provides. For more information, see [Fuse on OpenShift Guide](#).

Camel components for Google App Engine have been removed in 7.0

The Camel components for Google App Engine (**camel-gae**) have been removed in Fuse 7.0.

Camel jBPM component has been removed in 7.0

The Camel jBPM component (**camel-jbpm**) has been removed in Fuse 7.0.

Tanuki based wrapper for installing Fuse as a service has been removed in 7.0

The Tanuki based wrapper scripts – generated using the **wrapper:install** Karaf console command – for installing Fuse as a service have been removed in Fuse 7.0. To install the Apache Karaf container as a service, it is recommended that you use the new **karaf-service-*.sh** scripts from the **bin/contrib** directory instead.

Smooks has been removed in 7.0

Since Fuse 7.0, the Smooks component for SwitchYard has been removed.

BPEL has been removed in 7.0

BPEL (based on the [Riftsaw](#) project) has been removed from Fuse 7.0. If you are currently using BPEL, it is recommended that you consider migrating to the Red Hat JBoss BPM Suite.

Design Time Governance has been removed in 7.0

The Design Time Governance component has been removed in 7.0.

Runtime Governance has been removed in 7.0

Since Fuse 7.0, the Runtime Governance (RTGov) component has been removed.

S-RAMP has been removed in 7.0

The SOA Repository Artifact Model and Protocol (S-RAMP) component has been removed in Fuse 7.0.

bin/patch script has been removed in 7.0

The **bin/patch** script (**bin\patch.bat** on Windows O/S) has been removed in a Fuse 7.0.

Spring Dynamic Modules (Spring-DM) is not supported in 7.0

Spring-DM (which integrates Spring XML with the OSGi service layer in Apache Karaf) is not

supported in Fuse 7.0 and you should use the Blueprint framework instead. Using Blueprint XML does not prevent you from using the Java libraries from the Spring framework: the latest version of Spring is compatible with Blueprint.

Apache OpenJPA is not supported in 7.0

The [Apache OpenJPA](#) implementation of the Java Persistence API (JPA) is not supported in Fuse7.0. It is recommended that you use the [Hibernate](#) implementation instead.

5.6. REPLACED IN FUSE 7.0

The following features were replaced in Fuse 7.0:

Geronimo transaction manager has been replaced in 7.0

In Fuse 7.0, the Geronimo transaction manager in the Karaf container has been replaced by [Narayana](#).

Jetty container has been replaced in 7.0

In Fuse 7.0, the Jetty container has been replaced by [Undertow](#). Initially, this change applies only to internal use of the Jetty container (for example, in the Karaf container). Other Jetty components might be removed in a future release.

CHAPTER 6. UNSUPPORTED FEATURES IN FUSE 7.6

The following features are unsupported in Red Hat Fuse 7.6.

Apache Karaf EclipseLink feature is unsupported

The Apache Karaf EclipseLink feature is **not** supported in Fuse, because this feature depends on JPA 2.2, while the Karaf container for Fuse 7.2 is aligned with JPA 2.1.

Apache Aries Blueprint Web module is unsupported

The Apache Aries [Blueprint Web](#) module is **not** supported in Fuse. The presence of an example featuring Blueprint Web in the community edition of Apache Camel (provided as a separate download) does **not** imply that this feature is supported in Fuse.

The PHP scripting language is not supported in Apache Camel on Apache Karaf

The PHP scripting language is **not** supported in Camel applications on the Apache Karaf container, because there is no OSGi bundle available for PHP. The PHP scripting language is deprecated in Camel applications on the JBoss EAP container and on the Spring Boot container.

The Python scripting language is not supported in Apache Camel on Apache Karaf

The Python scripting language is **not** supported in Camel applications on the Apache Karaf container, because there is no OSGi bundle available for Python. The Python scripting language is deprecated in Camel applications on the JBoss EAP container and on the Spring Boot container.

CHAPTER 7. KNOWN ISSUES

The following subsections describe the known issues in version 7.6.

7.1. CVE SECURITY VULNERABILITIES

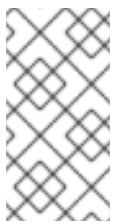
As a middleware integration platform, Fuse can potentially be integrated with a large number of third-party components. It is not always possible to exclude the possibility that some third-party dependencies of Fuse could have security vulnerabilities. This section documents known security vulnerabilities affecting third-party dependencies of Fuse 7.6.

[ENTESB-12489 CVE-2019-9827](#) - Fuse Console standalone on Amazon Web Services

Due to security concerns, you should not deploy a standalone Fuse application to Amazon Web Services (AWS). This restriction applies to all supported standalone environments (Spring Boot 1.x and 2.x, Karaf, and Red Hat JBoss Enterprise Application Platform). If you want to deploy the Fuse Console standalone on AWS, it is highly recommended that you upgrade to Fuse 7.7 or later and disable the Fuse Console's proxy servlet by setting the **hawtio.disableProxy** system property to **true**.

[CVE-2017-12629](#) Solr/Lucene -security bypass to access sensitive data - CVE-2017-12629

Apache Solr is a popular open source search platform that uses the Apache Lucene search engine. If your application uses a combination of Apache Solr with Apache Lucene (for example, when using the Camel Solr component), it could be affected by this security vulnerability. Please consult the linked security advisory for more details of this vulnerability and the mitigation steps to take.



NOTE

The Fuse runtime does *not* use Apache Solr or Apache Lucene directly. The security risk only arises, if you are using Apache Solr and Apache Lucene together in the context of an integration application (for example, when using the Camel Solr component).

[Multiple CVEs](#) Multiple CVEs related to jackson-databind security vulnerability

Applications that use the FasterXML **jackson-databind** library to instantiate Java objects by deserializing JSON content are potentially vulnerable to a *remote code execution* attack. The vulnerability is not automatic, however, and it can be avoided if you take the appropriate mitigation steps.

At a minimum, the following prerequisites must all be satisfied before an attack becomes possible:

1. You have enabled polymorphic type handling for deserialization of JSON content in **jackson-databind**. There are two alternative ways of enabling polymorphic type handling in Jackson JSON:
 - a. Using a combination of the **@JsonTypeInfo** and **@JsonSubTypes** annotations.
 - b. By calling the **ObjectMapper.enableDefaultTyping()** method. This option is particularly dangerous, as it effectively enables polymorphic typing globally.
2. There are one or more *gadget classes* in your Java classpath, which have not yet been blacklisted by the current version of **jackson-databind**. A gadget class is defined as any class that performs a sensitive (potentially exploitable) operation as a side effect of executing a constructor or a setter method (which are the methods that can be called during a deserialization). The gadget blacklist maintained by the Jackson JSON library is the last line of defence against the remote code execution vulnerability.

It is the existence of a large number of gadget classes which explains why there are many individual CVEs related to the **jackson-databind** vulnerability. There are different CVEs related to different kinds of gadget class.

If you do need to use the **jackson-databind** library in your application, the most important measure you can take to mitigate the risk is this: *avoid polymorphic type handling in Jackson JSON and on no account should you call the **ObjectMapper.enableDefaultTyping()** method.*

ENTESB-12539 CVE-2019-10086 commons-beanutils: apache-commons-beanutils: does not suppresses the class property in PropertyUtilsBean by default [fuse-7.4.0]

The Camel Dozer, **camel-dozer**, component and the Camel Shiro, **camel-shiro**, component depend on a version of the **commons-beanutils** library that has a CVE security vulnerability. Your application could potentially be affected by this security vulnerability, if you deploy the Camel Dozer or Camel Shiro component in one of the following containers:

- Spring Boot 1 container
- Spring Boot 2 container
- JBoss EAP container

For the Spring Boot 1 and Spring Boot 2 container types, you can work around this security vulnerability by customizing the dependencies in your project's Maven POM file.

For the JBoss EAP container type, **no workaround is available** at this time and we therefore recommend that you do not use the Camel Dozer or Camel Shiro components with Fuse on EAP. After Fuse 7.6.0 is released, a patch will be made available to fix the **common-beanutils** dependency in Fuse on EAP. Contact Red Hat Support for details of the patch.

To work around the dependency issue on Spring Boot 1 and Spring Boot 2, modify the Maven POM file for the application, as follows. For example, given a dependency on the **camel-dozer-starter** artifact, like this:

```
<dependency>
  <groupId>org.apache.camel</groupId>
  <artifactId>camel-dozer-starter</artifactId>
</dependency>
```

Modify the preceding dependency, replacing it with the following lines:

```
<dependency>
  <groupId>org.apache.camel</groupId>
  <artifactId>camel-dozer-starter</artifactId>
  <exclusions>
    <exclusion>
      <groupId>commons-beanutils</groupId>
      <artifactId>commons-beanutils</artifactId>
    </exclusion>
  </exclusions>
</dependency>

<dependency>
  <groupId>commons-beanutils</groupId>
```

```
<artifactId>commons-beanutils</artifactId>
<version>1.9.4.redhat-00002</version>
</dependency>
```



NOTE

The Apache Karaf container is not affected by this issue, because it already uses a secure version of the **commons-beanutils** library by default, and Fuse Online is not affected, because it does not use the Camel Dozer or the Camel Shiro component.

7.2. FUSE ONLINE

The Fuse Online distribution has the following known issues:

ENTESB-13276 OperatorHub overview doesn't contain information about all addons

In Fuse 7.6, the OperatorHub overview does not describe all of the add-ons available for the Fuse Online operator. For full details about the available add-ons, see [Descriptions of custom resource attributes that configure Fuse Online](#).

ENTESB-13272 Jaeger is disabled by default on OperatorHub

In Fuse 7.6, if you install Fuse Online from OperatorHub, enhanced activity tracking (which depends on Jaeger) is disabled and cannot be re-enabled after installation, because of the related issue, [ENTESB-13275](#). To work around this issue, install Fuse Online using the command-line script, as described in [Installing Fuse Online on OCP](#).

ENTESB-13275 Missing Jaeger resources after OperatorHub installation

In Fuse 7.6, it is not possible to enable enhanced activity tracking (which depends on Jaeger) after installing Fuse Online from OperatorHub. To work around this issue, install Fuse Online using the command-line script, as described in [Installing Fuse Online on OCP](#).

ENTESB-12072 Missing part of first activity records on OCP 4.2. in case the activity contains error

In Fuse 7.6, if you install Fuse Online from OperatorHub (which causes Fuse Online to revert to an older implementation of activity tracking), there can be missing log records in first activity logged by an integration running on Fuse Online. To work around this issue, install Fuse Online using the command-line script, as described in [Installing Fuse Online on OCP](#).

ENTESB-11407 [1.7.8] No activities after small load (~80000 messages in 20hours)

In Fuse 7.6, if you install Fuse Online from OperatorHub (which causes Fuse Online to revert to an older implementation of activity tracking), the activity tracking logic can result in an exceptionally high number of dead tuples in the database used by Fuse Online to track activities. This issue causes a general slowdown in any operation that requires reads from the database, most notably accessing the list of integrations from the UI or refreshing the activities of an integration. To work around this issue, install Fuse Online using the command-line script, as described in [Installing Fuse Online on OCP](#).

ENTESB-12854 Fuse online scripts break with space in path

In Fuse 7.6, the **install_ocp.sh** script does not work with filesystem paths that have spaces in them. Ensure that the Fuse Online install directory does not have any spaces in its path.

ENTESB-12923 Sometimes some of the pods do not come up after upgrade

In Fuse 7.6, after upgrading, it can happen that some of the Kubernetes pods are not restarted automatically. If this happens, restart the pods manually instead.

ENTESB-13074 Upgrade db fails with sampledb integration active

In Fuse 7.6, the upgrade procedure fails, if an integration using the sampleDB is currently active. To work around this problem, stop the integration before performing the upgrade procedure.

ENTESB-13110 Postgres version check runs on each reconcile even without upgrade

In Fuse 7.6, the Postgres version check is performed during a fresh install, although it is only required during an upgrade. This causes spurious error messages in the log, like the following, which can be safely ignored:

```
{ "level": "error", "ts": 1583164580.847065, "logger": "configuration", "msg": "Unable to determine current version of PostgreSQL running in syndesis-db pod", "error": "dial tcp: lookup syndesis-db on 10.0.145.81:53: no such host" }
```

ENTESB-12175 Camel-k integrations stay deployed even when deleted in UI

In Fuse 7.5, if Camel K is enabled and you delete an integration in the UI, the Camel K integration continues to run, but isn't displayed in Fuse Online. To work around this issue, first stop the integration in the UI and then delete it with the **kamel delete** command.

ENTESB-12174 API Provider running on camel-k has empty parameters

In Fuse 7.5, if Camel K is enabled and you create an API Provider action that uses query parameters, the parameters are empty.

ENTESB-12181 Operator tries to update outdated Syndesis resource

When installing Fuse Online using the operator, the following error occurs multiple times, but it can be ignored as it has no significant effect on the installation:

```
{ "level": "error", "ts": 1558617960.2453232, "logger": "controller", "msg": "Error reconciling", "action": "*action.startupAction", "phase": "Starting", "error": "Operation cannot be fulfilled on syndesises.syndesis.io \"app\": the object has been modified; please apply your changes to the latest version and try again", "stacktrace": "github.com/syndesisio/syndesis/install/operator/vendor/github.com/go-logr/zapr.(*zapLogger).Error\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/github.com/go-logr/zapr/zapr.go:128\ngithub.com/syndesisio/syndesis/install/operator/pkg/controller/syndesis.(*ReconcileSyndesis).Reconcile\n\t/go/src/github.com/syndesisio/syndesis/install/operator/pkg/controller/syndesis/syndesis_controller.go:120\ngithub.com/syndesisio/syndesis/install/operator/vendor/sigs.k8s.io/controller-runtime/pkg/internal/controller.(*Controller).processNextWorkItem\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/sigs.k8s.io/controller-runtime/pkg/internal/controller/controller.go:215\ngithub.com/syndesisio/syndesis/install/operator/vendor/sigs.k8s.io/controller-runtime/pkg/internal/controller.(*Controller).Start.func1\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/sigs.k8s.io/controller-runtime/pkg/internal/controller/controller.go:158\ngithub.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait.JitterUntil.func1\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait/wait.go:133\ngithub.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait.JitterUntil\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait/wait.go:134\ngithub.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait.Until\n\t/go/src/github.com/syndesisio/syndesis/install/operator/vendor/k8s.io/apimachinery/pkg/util/wait/wait.go:88" }
```

ENTESB-10577 Apicurito does not support YAML Open API spec files

In Fuse 7.4 on OpenShift, Apicurito generates OpenAPI specification files in YAML format *by default*, but is not capable of re-importing the generated YAML file. Only JSON format can be imported into Apicurito at the moment.

7.3. FUSE ON OPENSIFT

This section lists issues that affect the deployment of Fuse applications on OpenShift. For details of issues affecting specific containers, see also the sections for Spring Boot, Fuse on Apache Karaf, and Fuse on JBoss EAP. The Fuse on OpenShift distribution has the following known issues:

[ENTESB-13867](#) Quickstarts fails on Openshift 4.4

In Fuse 7.6.0 on OpenShift Container Platform (OCP) 4.4, the quickstarts for Fuse on OpenShift fail to deploy, because the deployment YAML files are using an older version of the deployment API that is incompatible with OpenShift 4.4. This is happening because OpenShift 4.4 has been upgraded to Kubernetes 1.17, which no longer accepts the older version of the deployment API (that is, **extensions/v1beta1**) and requires deployment API version **apps/v1** instead (which is documented in [Deployment v1 apps](#)).

[ENTESB-12224](#) Fuse console - Select a container dropdown vague behaviour

In Fuse 7.5.0 on OCP 4 and on OCP 3, after connecting to an application through the Fuse Console, the **Select a container** dropdown menu behaves unreliably, sometimes showing other deployed Fuse containers and sometimes not.

[ENTESB-12238](#) [SB2] Quickstarts arquillian test fail

In Fuse 7.5.0, some of the Spring Boot 2 quickstarts (generated either from Maven archetypes or quickstart templates) fail to build and deploy to OpenShift. The following Spring Boot 2 Maven archetypes are affected:

- **spring-boot-camel-archetype**
- **spring-boot-camel-infinspan-archetype**
- **spring-boot-cxf-jaxrs-archetype**
- **spring-boot-cxf-jaxws-archetype**

And the following Spring Boot 2 templates:

- **spring-boot-2-camel-template**
- **spring-boot-2-camel-infinspan-template**
- **spring-boot-2-cxf-jaxrs-template**
- **spring-boot-2-cxf-jaxws-template**

To work around this issue, after generating a Maven project for one of these quickstarts, edit the project's Maven **pom.xml** file to add the following dependency:

```
<dependency>
  <groupId>org.assertj</groupId>
  <artifactId>assertj-core</artifactId>
  <version>2.4.1</version>
  <scope>test</scope>
</dependency>
```

[ENTESB-10577](#) Apicurito does not support YAML Open API spec files

In Fuse 7.4 on OpenShift, Apicurito generates OpenAPI specification files in YAML format *by default*, but is not capable of re-importing the generated YAML file. Only JSON format can be imported into Apicurito at the moment.

7.4. FUSE ON SPRING BOOT

Fuse on Spring Boot has the following known issues:

[ENTESB-12539](#) CVE-2019-10086 commons-beanutils: apache-commons-beanutils: does not suppresses the class property in PropertyUtilsBean by default [fuse-7.4.0]

In Fuse 7.6, the Camel Dozer, **camel-dozer**, component and the Camel Shiro, **camel-shiro**, component depend on a version of the **commons-beanutils** library that has a CVE security vulnerability. Your application could potentially be affected by this security vulnerability, if you deploy the Camel Dozer or Camel Shiro component in a Spring Boot 1 container, a Spring Boot 2 container, or a JBoss EAP container. You can fix this security vulnerability by customizing the dependencies in your project's Maven POM file – for details, see [CVE for ENTESB-12539](#).

[ENTESB-13210](#) Different version of artemis-jms-client on SB2, SB1, Karaf

In Fuse 7.6, the version of **artemis-jms-client** for the Spring Boot 2 container (**2.11.0.redhat-00005**) is different from the version of **artemis-jms-client** for the Spring Boot 2 container and the Apache Karaf container (**2.11.0.redhat-00004**). Both of these client versions are compatible with AMQ Broker 7.6, so this difference can be safely ignored.

[ENTESB-13211](#) Unproductised version of Hawtio in Spring Boot 2 Bom

In Fuse 7.6, the Spring Boot 2 bill of materials (BOM) file references an unproductised version of Fuse Console (Hawtio). To work around this problem, in the Maven POM file for your Spring Boot 2 project, add the following lines to the dependency management section of the POM:

```
<dependencyManagement>
  <dependency>
    <groupId>io.hawt</groupId>
    <artifactId>hawtio-springboot</artifactId>
    <version>2.0.0.fuse-sb2-760022-redhat-00001</version>
  </dependency>
</dependencyManagement>
```

7.5. FUSE ON APACHE KARAF

Fuse on Apache Karaf has the following known issues:

[ENTESB-11189](#) Fuse Camel elasticsearch-rest component - ClassNotFoundException and IllegalAccessError

In Fuse 7.6, the **camel-elasticsearch-rest** component does not work in the Apache Karaf container, because the corresponding feature is not correctly packaged.

[ENTESB-13135](#) Automatic encryption of users2.properties on windows makes you unable to login

In Fuse 7.6, if you enable Jasypt encryption for **etc/users2.properties** on Windows, it becomes impossible to login, even with the correct credentials.

[ENTESB-8140](#) Start level of hot deploy bundles is 80 by default

In the Fuse 7.0 GA release, in the Apache Karaf container the start level of hot deployed bundles is 80 by default. This can cause problems for the hot deployed bundles, because there are many system bundles and features that have the same start level. To work around this problem and ensure that hot deployed bundles start reliably, edit the **etc/org.apache.felix.fileinstall-deploy.cfg** file and change the **felix.fileinstall.start.level** setting as follows:

```
felix.fileinstall.start.level = 90
```


ENTESB-7664 Installing framework-security feature kills karaf

The **framework-security** OSGi feature must be installed using the **--no-auto-refresh** option, otherwise this feature will shut down the Apache Karaf container. For example:

```
feature:install -v --no-auto-refresh framework-security
```

7.6. FUSE ON JBOSS EAP

Fuse on JBoss EAP has the following known issues:

ENTESB-12539 CVE-2019-10086 commons-beanutils: apache-commons-beanutils: does not suppresses the class property in PropertyUtilsBean by default [fuse-7.4.0]

In Fuse 7.6, the Camel Dozer, **camel-dozer**, component and the Camel Shiro component depend on a version of the **commons-beanutils** library that has a CVE security vulnerability. Your application could potentially be affected by this security vulnerability, if you deploy the Camel Dozer or Camel Shiro component in a Spring Boot 1 container, a Spring Boot 2 container, or a JBoss EAP container. For the JBoss EAP container type, **no workaround is available** at this time and we therefore recommend that you do not use the Camel Dozer or Camel Shiro components with Fuse on EAP. After Fuse 7.6.0 is released, a patch will be made available to fix the **common-beanutils** dependency in Fuse on EAP. See [CVE for ENTESB-12539](#).

ENTESB-13168 Camel deployment on EAP domain mode is not working on Windows

In Fuse 7.6.0, for Fuse on JBoss EAP, the Camel subsystem cannot be deployed on JBoss EAP in domain mode on Windows OS.

7.7. APACHE CAMEL

Apache Camel has the following known issues:

ENTESB-11060 [camel-linkedin] V1 API is no longer supported

Since Fuse 7.4.0, the Camel LinkedIn component is no longer able to communicate with the LinkedIn server, because it is implemented using the LinkedIn Version 1.0 API, which is no longer supported by LinkedIn. The Camel LinkedIn component will be updated to use the Version 2 API in a future release of Fuse.

ENTESB-7469 Camel Docker component cannot use Unix socket connections on EAP

Since Fuse 7.0, the **camel-docker** component can connect to Docker only through its REST API, not through UNIX sockets.

ENTESB-5231 PHP script language does not work

The PHP scripting language is **not** supported in Camel applications on the Apache Karaf container, because there is no OSGi bundle available for PHP.

ENTESB-5232 Python language does not work

The Python scripting language is **not** supported in Camel applications on the Apache Karaf container, because there is no OSGi bundle available for Python.

ENTESB-2443 Google Mail API - Sending of messages and drafts is not synchronous

When you send a message or draft, the response contains a Message object with an ID. It may not be possible to immediately get this message via another call to the API. You may have to wait and retry the call.

ENTESB-2332 Google Drive API JSON response for changes returns bad count of items for the first page

Google Drive API JSON response for changes returns bad count of items for the first page. Setting **maxResults** for a list operation may not return all the results in the first page. You may have to go through several pages to get the complete list (that is by setting **pageToken** on new requests).

CHAPTER 8. FIXED ISSUES IN FUSE 7.6

The following sections list the issues that have been fixed in Fuse 7.6:

- [Section 8.1, “Enhancements in Fuse 7.6”](#)
- [Section 8.2, “Feature requests in Fuse 7.6”](#)
- [Section 8.3, “Bugs resolved in Fuse 7.6”](#)

8.1. ENHANCEMENTS IN FUSE 7.6

The following table lists the enhancements in Fuse 7.6.

Table 8.1. Fuse 7.6 Enhancements

Issue	Description
ENTESB-10647	Refactor <code>org.apache.camel.processor.aggregate.jdbc.JdbcAggregationRepository</code> to make it easy to extend
ENTESB-12945	Reinstate maven archetypes for SB2
ENTESB-12909	Update to productised Jaeger
ENTESB-12617	Upgrade operator-sdk for syndesis operator
ENTESB-12588	Backport CAMEL-14307 - allow empty routing key when declaring RabbitMQ dead letter exchange
ENTESB-12546	Backport CAMEL-14292: Remove unwanted dependency to google-http-client library
ENTESB-12293	Backport CAMEL-13841 - Pulsar: Add the ability to manually acknowledge a message consumed from Pulsar
ENTESB-12184	Remove useless option form camel-box Readme
ENTESB-12262	Fuse Online: unable to configure syntesis-db pvc type
ENTESB-12169	Add Karaf feature definition for camel-as2 component
ENTESB-12292	"Backport CAMEL-14184 - Allow setting Pulsar Message headers (properties
ENTESB-12197	Camel exec component's option to mask argument values in log
ENTESB-12333	Update operator metrics endpoint to include version information

Issue	Description
ENTESB-12330	Add an option to the installation script to supply a custom CR at install time
ENTESB-12324	Consolidate operator configuration options (CRD)
ENTESB-12323	Move to Camel 2.23
ENTESB-12094	Runtime nested collection support
ENTESB-12076	APICurito operator should have a default operand version
ENTESB-12067	Camel-Pulsar: Increase the configuration options
ENTESB-12068	Backport CAMEL-14047
ENTESB-12077	"Nomenclature around ""Import Data Source"" in DV"
ENTESB-11680	Edit API provider edit flow - edit button would be much more useful
ENTESB-11675	Syndesis DB connector - raise error when trying to insert duplicate ID
ENTESB-11470	[Conditional Flow] moving a condition changes layout based on help message under it
ENTESB-12468	Verify the ops addon works as expected and update the documentation
ENTESB-10696	Fuse 7: Requirement for CXF-WS(soap webservice) springboot quickstart with spring XML based configuration.
ENTESB-9963	'Set Values' Step That Just Fills In The Values Needed According To The Subsequent Data Shape
ENTESB-12570	Provide a config option to replace Jaeger in-memory with external Jaeger backend
ENTESB-13171	Align to latest AMQ Streams (kafka-clients-2.4.0.redhat-00005)

8.2. FEATURE REQUESTS IN FUSE 7.6

The following table lists the features requests in Fuse 7.6.

Table 8.2. Fuse 7.6 Feature Requests

Issue	Description
ENTESB-10638	Fuse 7 (On OpenShift) logging support for Elasticsearch

Issue	Description
ENTESB-10507	Import/Export of Virtualization
ENTESB-10461	provide configuration for customization of login page text (banner)
ENTESB-12816	Collection Support for Conditional Mapping - 7.6
ENTESB-12645	Extend upgrade/backup/restore to cover an external database
ENTESB-12325	UX: Make editing a more obvious choice in the Integration list
ENTESB-12100	Automate regression test coverage for 18 Fuse customer issues
ENTESB-12090	Move to jaeger based activity tracking
ENTESB-11964	Support versioning of the Virtualization
ENTESB-12114	Operator Backup and Restore
ENTESB-12108	Apicurio Undo doesn't Undo in Syndesis and leaves you in a deadend state
ENTESB-11952	Autodiscovery of AMQ Streams
ENTESB-11541	Support OpenAPI 3.0
ENTESB-11585	""initialsize"" option for narayana connection pool like the one for org.apache.commons.dbcp2.BasicDataSource"
ENTESB-11573	[operator] external database connection string option in syndesis custom resource
ENTESB-11500	Suppress extension when Camel K is used in Syndesis
ENTESB-11694	[Syndesis] MongoDB connector - GA features
ENTESB-11641	Update org.apache.commons/commons-text version
ENTESB-10911	Request to support Fuse 7 on EAP domain mode
ENTESB-12526	Validate that the Red Hat font changes don't break the UI
ENTESB-12530	Validate that the dark background is working correctly
ENTESB-10697	Camel-Pulsar component support on Fuse 7.x

8.3. BUGS RESOLVED IN FUSE 7.6

The following table lists the resolved bugs in Fuse 7.6.

Table 8.3. Fuse 7.6 Resolved Bugs

Issue	Description
ENTESB-10494	pax-jdbc-db2: No setter in class com.ibm.db2.jcc.DB2SimpleDataSource for property url
ENTESB-10330	[camel-as2] Integration tests are not working
ENTESB-10189	[Hawtio] It is possible to create an endpoint with name made up of most special signs
ENTESB-13015	spring-boot-cxf-jaxrs vs spring-boot-cxf-jaxrs-xml
ENTESB-13019	DB backups are created by incorrect postgres version
ENTESB-12944	Remove FuseK operator from operatorhub
ENTESB-12957	Dynamo DB connector can't insert and delete records
ENTESB-12954	Operatorhub manifest file contained in the Fuse Online CR1 operator references 7.5.0.
ENTESB-12941	prometheus doesn't work with OCP 4.4
ENTESB-12969	Provide a default custom-resource.yml (file) to fuse-online-install
ENTESB-12960	The build of the integration with MongoDB fails
ENTESB-12951	Invalid date and time for steps in the activity log with Jaeger addon
ENTESB-12967	[7.6.CR1] Wrong postgresql image used by syndesis operator
ENTESB-12935	netty-all dependency not available
ENTESB-12921	Custom API Client - API key doesn't use the key's name
ENTESB-12982	Install cluster doesnt install additional stuff when the CRD is present
ENTESB-12738	AWS S3 component copy operation doesn't work
ENTESB-12661	Apicurito ER1 operator image has 7.5.0 version everywhere
ENTESB-12659	Fix new Red Hat font misalignment

Issue	Description
ENTESB-12774	AWS dynamo Db - unable to insert multiple records using integration
ENTESB-12703	Allow users to supply syndesis CR to install_ocp script
ENTESB-12793	OpenAPI 3.x not supported issues are ignored without warning
ENTESB-12792	Old version of Atlasmap in Fuse Online ER1
ENTESB-12736	Servers field cannot be used in OpenAPI specification
ENTESB-12785	ClassNotFoundException in the integration with Mongo connection
ENTESB-12735	Maven Central now requires HTTPS
ENTESB-12868	Update release number in links from Fuse Online console to customer portal
ENTESB-12851	Camel: Master component URI with RAW() let parameter value to be partially encoded
ENTESB-12888	Blank screen when user edits a step extension with no propertyDefinitionSteps
ENTESB-12848	[SB2] spring-boot-camel quickstart using different camel version
ENTESB-12856	Google Calendar time → GC time data mapping throws 'Invalid date/time format: ...'
ENTESB-12852	[SB1] and [SB2] quickstart spring-boot-camel-xa is not productized
ENTESB-12846	Upgrade cant get jobs.batch when using non-admin user
ENTESB-12883	""Extensions"" page is still displayed when using Camel K"
ENTESB-12860	[SB2] spring-boot-cxf-jaxws is using different version of fabric8
ENTESB-12599	Collection on last level of XML document in Atlasmap identified as an object instead of collection
ENTESB-12608	Check of the integration state via Public API endpoint causes Internal Server Exception
ENTESB-12598	The order of steps in the activity log is not in order in which the steps are defined.

Issue	Description
ENTESB-12619	Collection on 2nd level of XML document in Atlasmap can't be mapped to same level in different types (json/java) collections
ENTESB-12618	Unable to set memory limits for syndesis components in CR
ENTESB-12610	API client description mentions only OpenAPI 2.0
ENTESB-12597	application-templates are using non-productized eap quickstarts
ENTESB-12620	Apicurito ER1 image contains older version than upstream
ENTESB-12545	Camel BOMs missing camel-rest-openapi
ENTESB-12567	Graceful shutdown doesn't work with Karaf camel undertow
ENTESB-12554	Inconsistent naming for Amazon DynamoDB connector
ENTESB-12544	Syndesis step extension fails when included in an integration with an API endpoint
ENTESB-12533	Selecting PV for DB with labels doesn't work
ENTESB-2344	Camel Jetty/Http4 producers should respect Content-Length/Transfer-Encoding:Chunked headers
ENTESB-12172	Thread leak in camel-jetty component if maxThreads or minThreads property is set
ENTESB-12317	Remove image stream for database
ENTESB-12336	Backport CAMEL-14194 - Invalid JID is generated for private chat in XMPP component
ENTESB-12318	Remove AMQ broker from productized bits
ENTESB-12200	Backport CAMEL-14129
ENTESB-12201	Backport CAMEL-14143
ENTESB-12170	Integration metrics don't work
ENTESB-12329	The time of assembling increases linearly according to the integration name
ENTESB-12280	[Operator] Some configuration can't be changed from its default value

Issue	Description
ENTESB-12179	"Camel Undertow does not provide an option to use the producer as the ""Host"" header when bridging two http endpoints"
ENTESB-12178	Missing image stream for Public Oauth proxy
ENTESB-12287	Verify Documentation is Live - findings
ENTESB-12205	"Camel-dozer error shown on Fuse
ENTESB-12192	An integration pod with a gmail oauth connection is not able to start
ENTESB-12191	UI doesn't show a Google Calendar step
ENTESB-12348	Divergence in camel-aws-sqs component
ENTESB-12177	Unable to deploy with Camel-K
ENTESB-12176	Daily build is using latest images
ENTESB-12268	Integration uptime doesn't contain any data
ENTESB-12210	XPath evaluation fails with null body using Saxon-HE-9.8.0-8_1
ENTESB-12312	Problem with Olingo2 and authenticated metadata
ENTESB-12310	API Provider methods display regression
ENTESB-12340	pax-web could not parse envEntryType Element in hawtio-war/WEB-INF/web.xml
ENTESB-11912	Camel file's tempPrefix does not work correctly if the target is Windows UNC path
ENTESB-11856	Mongo Consumer form has undefined tooltips
ENTESB-12085	Camel defines invalid version of okhttp for pubnub and influxdb
ENTESB-11958	bin/contrib/karaf-service.sh does not work until executed from bin/contrib folder
ENTESB-11882	Import process should include Return Codes
ENTESB-12038	credentials of a connector attached to a connection are plain text
ENTESB-11973	Click to refresh doesn't refresh and leads to black screen + product logo

Issue	Description
ENTESB-11852	[karaf-maven-plugin] client goal + script execution not working correctly
ENTESB-12139	Fuse Online: Data Mapper to REST call: ignore collection parameter
ENTESB-12005	NullPointerException when saving an oauth connection description
ENTESB-11976	Usage of Middle steps as the Final step
ENTESB-12002	ServiceVdbGenerator has problem if view does not end in semicolon
ENTESB-11971	Unable to put/query/remove records into and from DynamoDb
ENTESB-12099	[Operator] ImageStreamNamespace doesn't provide much value
ENTESB-12070	Unable to activate Knative connector
ENTESB-11998	NoSuchMethodError okhttp3.HttpUrl.get(String)
ENTESB-11961	Conditional Flows - breadcrumbs - select flow: Make it scrollable
ENTESB-11767	AWS dynamo Db - query action output with Atlasmap - AtlasException: Errors: [Cannot read a field '/email' of JSON document
ENTESB-11725	Google sheets are unreachable for Validation
ENTESB-11634	AWS dynamoDB - add unique icon for the new connector
ENTESB-11600	"Non-unique connection name - ""Bad request"" error message"
ENTESB-11701	Incorrect font type and styling for definition list on multiple pages
ENTESB-11740	The AWS dynamoDB no update or error response when trying to insert item with same ID
ENTESB-11684	React Error on Syndesis customisation
ENTESB-11601	No warning when creating integration with non-unique name
ENTESB-11791	Dropbox upload mode looks initialized in the UI but isn't
ENTESB-11633	Increase the default time on SQL queries
ENTESB-11444	[Connections] Invalid credentials lead to Something is wrong page
ENTESB-11447	[OAuth] Twitter connector validation unreadable error message

Issue	Description
ENTESB-11396	[Upgrade] Rebuilding integration after upgrade results in Failure executing: PATCH
ENTESB-11433	Box - no property for fileName in upload action
ENTESB-11438	[Upgrade] Operator throws errors in log related to upgrade pvc
ENTESB-11405	"Validate reconnecting Twitter OAuth connection shows ""Could not authenticate you."""
ENTESB-11418	No confirmation dialog shows up when leaving the integration
ENTESB-11430	[Rollback] syndesis-db-metrics causes db rollback to fail
ENTESB-12497	API client connectors don't use edited specification
ENTESB-12493	Unable to recreate integration with the same name on OCP 3.11
ENTESB-12471	Backport CAMEL-14267: Fix a NullPointerException in convertIfRequired
ENTESB-12470	Backport CAMEL-14224: Fix camel-websocket sendToAll to be faster
ENTESB-12459	Edits to DV strings in data-translations.en.json to comply with style guidelines
ENTESB-12444	fuse-online-install delete project after creating secret with credentials
ENTESB-12441	The activity log doesn't show error step
ENTESB-12417	Unable to validate box
ENTESB-12416	Unable to validate anything with AWS
ENTESB-12418	DV Addon uses non-existing image
ENTESB-12424	Unable to specify external DB for syndesis
ENTESB-12423	Error message on deploying war with spring-ws-core on Fuse over EAP
ENTESB-12415	Unable to use stored procedures
ENTESB-12380	Webhook step in activity log causes NPE on the server when Jaeger addon is enabled
ENTESB-12363	Back-off pulling image of Camel-K runtime (TP)

Issue	Description
ENTESB-12355	Unable to upgrade from 1.8 to 1.9.100-20191202 because of change in syndesis CR
ENTESB-12353	API Provider specification ignores data type in reponses
ENTESB-12352	API Provider finish integration step can be replaced
ENTESB-9985	"Route irc→irc cycles the message because of ""irc.target"" header"
ENTESB-13111	Todo buildconfig breaks upgrade process
ENTESB-13127	Operator subcommand install requires /conf/config.yaml to be present
ENTESB-13073	Upgrade tries to upgrade postgres even if the version is the same
ENTESB-12534	Sort out upgrade cases related to postgres
ENTESB-13086	Operator doesn't react on changes in Syndesis CR
ENTESB-13158	Cannot install Fuse Online
ENTESB-12849	Fuse On OpenShift eap quickstarts are using non-ga repositories
ENTESB-13103	Regular user cant patch syndesis object
ENTESB-13089	Build of S2I quickstart on OCP 4.2 fails with OOMKilled
ENTESB-11151	spring-boot-camel-amq-archetype missing arquillian integration steps on README.adoc
ENTESB-13077	Fuse Online install scripts reference old operator image tag
ENTESB-12972	[7.6.CRI] Todo pod does not deploy on OCP 4.4
ENTESB-13117	spring-boot-camel-amq quickstart doesn't work
ENTESB-12633	Enable the jaeger addon by default in fuse-online-install
ENTESB-13190	S2I Quickstarts contain wrong BOM