Red Hat build of Apache Camel 4.0

Release Notes for Red Hat build of Apache Camel for Quarkus

What's new in Red Hat build of Apache Camel
Red Hat build of Apache Camel 4.0 Release Notes for Red Hat build of Apache Camel for Quarkus

What's new in Red Hat build of Apache Camel
Abstract

Describes the Red Hat build of Apache Camel product and provides the latest details on what’s new in this release.
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CHAPTER 1. RED HAT BUILD OF APACHE CAMEL FOR QUARKUS 3.2 RELEASE NOTES

1.1. RED HAT BUILD OF APACHE CAMEL FOR QUARKUS FEATURES

Fast startup and low RSS memory

Using the optimized build-time and ahead-of-time (AOT) compilation features of Quarkus, your Camel application can be pre-configured at build time resulting in fast startup times.

Application generator

Use the Quarkus application generator to bootstrap your application and discover its extension ecosystem.

Highly configurable

All the important aspects of a Red Hat build of Apache Camel for Quarkus application can be set up programmatically with CDI (Contexts and Dependency Injection) or by using configuration properties. By default, a CamelContext is configured and automatically started for you. Check out the Configuring your Quarkus applications by using a properties file guide for more information on the different ways to bootstrap and configure an application.

Integrates with existing Quarkus extensions

Red Hat build of Apache Camel for Quarkus provides extensions for libraries and frameworks that are used by some Camel components which inherit native support and configuration options.

1.2. SUPPORTED PLATFORMS, CONFIGURATIONS, DATABASES, AND EXTENSIONS

- For information about supported platforms, configurations, and databases in Red Hat build of Apache Camel for Quarkus version 3.2, see the Supported Configuration page on the Customer Portal (login required).

- For a list of Red Hat Red Hat build of Apache Camel for Quarkus extensions and the Red Hat support level for each extension, see the Extensions Overview chapter of the Red Hat build of Apache Camel for Quarkus Reference (login required).

1.3. BOM FILES FOR RED HAT BUILD OF APACHE CAMEL FOR QUARKUS

- To configure your Red Hat Red Hat build of Apache Camel for Quarkus version 3.2 projects to use the supported extensions, use the latest Bill Of Materials (BOM) version 3.2.6.SP1_redhat_00001 or newer, from the Redhat Maven Repository.

For more information about BOM dependency management, see Developing Applications with Red Hat build of Apache Camel for Quarkus

1.4. TECHNOLOGY PREVIEW EXTENSIONS

Items designated as Technology Preview in the Extensions Overview chapter of the Red Hat build of Apache Camel for Quarkus Reference have limited supportability, as defined by the Technology Preview Features Support Scope.
1.5. KNOWN ISSUES

1.5.1. SAP Extension Camel Quarkus limitations

The SAP extension does not support the packaging type **uber-jar**, which causes the application to throw a runtime exception similar to this:

```java
Caused by: java.lang.ExceptionInInitializerError: JCo initialization failed with java.lang.ExceptionInInitializerError: Illegal JCo archive "sap-1.0.0-SNAPSHOT-runner.jar". It is not allowed to rename or repackage the original archive "sapjco3.jar".
```

1.5.2. JVM-only support tag missing

Currently, [http://code.quarkus.redhat.com](http://code.quarkus.redhat.com) does not list the correct support information for the following extensions:

<table>
<thead>
<tr>
<th>Extension</th>
<th>Artifact</th>
<th>JVM Support Level</th>
<th>Native Support Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Azure-servicebus</td>
<td>camel-quarkus-azure-servicebus</td>
<td>Technology Preview</td>
<td>None</td>
<td>Send and receive messages to/from Azure Service Bus.</td>
</tr>
<tr>
<td>SAP</td>
<td>camel-quarkus-sap</td>
<td>Production Support</td>
<td>None</td>
<td>Provides SAP Camel Component.</td>
</tr>
<tr>
<td>SNMP</td>
<td>camel-quarkus-snmp</td>
<td>Production Support</td>
<td>None</td>
<td>Receive traps and poll SNMP (Simple Network Management Protocol) capable devices.</td>
</tr>
</tbody>
</table>

1.5.3. Other known issues

**CEQ-6085** Support extension: camel-quarkus-micrometer

If you are migrating to **micrometer** from **smallrye-metrics**, you may need to manually define some beans as scoped.

In **smallrye-metrics**, classes that are registered for metrics (for example with **@COUNTED**, **@METRIC**), but not registered as scoped beans, are registered automatically. This does not happen in **micrometer**.

In **micrometer** you need to manually register beans accessed via CDI, by for example adding a **@Dependent** annotation.

**CEQ-5705** Camel-quarkus-snmp not supported in Native

In Red Hat build of Apache Camel for Quarkus we support the **camel-quarkus-snmp** component in JVM mode only.
1.6. KNOWN CXF ISSUES

The following issues remain with CXF for this release.

1.6.1. Supported extensions

Currently, **only** these quarkus-cxf extensions are supported:

Implicitly, as transitive dependencies of **camel-quarkus-cxf-soap**:

- quarkus-cxf
- quarkus-cxf-rt-features-logging

Further, you can add the following supported extensions if you need WS-Security or other associated functionality:

- quarkus-cxf-rt-ws-security
- quarkus-cxf-services-sts
- quarkus-cxf-xjc-plugins

1.6.1.1. WS-ReliableMessaging

Full support for CXF WS-ReliableMessaging is currently unavailable, and it remains in Technology Preview in version 3.2.

1.6.2. Possible DoS attack vector with `java.net.http.HttpClient` and CXF client

Due to a **CXF issue**, the application may crash if many clients are created, as their threads do not terminate.

The problem occurs with **java.net.http.HttpClient** when the CXF client is created repeatedly, for example per request. If you keep the client throughout the whole lifespan of the application, this issue does not occur.

1.6.2.1. Mitigation of the DoS attack vector

For Red Hat build of Apache Camel for Quarkus 3.2.0 and Camel Quarkus CXF 2.2.3:

- Only use the JDK HTTP client **java.net.http.HttpClient** if you are absolutely certain clients are only created **once** during the lifespan of the application

For versions older than Red Hat build of Apache Camel for Quarkus 3.2.0 and Camel Quarkus CXF 2.2.2:

- Create CXF clients infrequently, avoid creating them per request.
- Use a HTTP client implementation such as **HC5** or other alternative.
- Configure the CXF Bus via the setting **HTTPConduitFactory.class** to use to use **org.apache.cxf.transport.http.URLConnectionHTTPConduit**

1.6.3. Problems when receiving large requests over HTTP
If HTTP/2 clients are sending large requests (larger than 100kB) over plain HTTP, your CXF service may fail to read the request properly.

1.6.3.1. Background

HTTP/2 has HTTPS built-in, and a HTTPs-less session requires h2c ("HTTP/2 clean") in the message sequence. If the message bodies are large enough, this may cause Vert.x (the HTTP layer of Quarkus) to fail.

1.6.3.2. Workarounds

These are some possible workarounds:

- Do not let your services serve plain HTTP at all: Enforce HTTPS by setting `quarkus.http.insecure-requests=disabled`
- Disable HTTP/2 on the server: Set `quarkus.http.http2=false`

1.7. IMPORTANT NOTES

1.7.1. The javax to jakarta Package Namespace Change

The Java EE move to the Eclipse Foundation and the establishment of Jakarta EE, since Jakarta EE 9, packages used for all EE APIs have changed to `jakarta.*`

Code snippets in documentation have been updated to use the `jakarta.*` namespace, but you of course need to take care and review your own applications.

NOTE

This change does not affect javax packages that are part of Java SE.

When migrating applications to EE 10, you need to:

- Update any import statements or other source code uses of EE API classes from the `javax` package to `jakarta`.
- Change any EE-specified system properties or other configuration properties whose names begin with `javax.` to begin with `jakarta.`.
- Use the `META-INF/services/jakarta.[rest_of_name]` name format to identify implementation classes in your applications that use the implement EE interfaces or abstract classes bootstrapped with the `java.util.ServiceLoader` mechanism.

1.7.1.1. Migration tools

- Source code migration: How to use Red Hat Migration Toolkit for Auto-Migration of an Application to the Jakarta EE 10 Namespace
- Bytecode transforms: For cases where source code migration is not an option, the open source Eclipse Transformer

Additional resources
1.7.2. Java

Minimum Java version - JDK 17

Red Hat build of Apache Camel for Quarkus version 3.2 requires JDK 17 or newer.

Support for AdoptiumJDK

Red Hat build of Apache Camel for Quarkus version 3.2 includes support for AdoptiumJDK 17.

1.7.3. Upgrades

Camel upgraded from version 3.14.2 to version 3.18.6

Red Hat build of Apache Camel for Quarkus version 3.2 has been upgraded from Camel version 3.18.6 to Camel version 4.0.0. For additional information about each intervening Camel patch release, refer to the following:

- Apache Camel 3.18.7 Release Notes
- Apache Camel 3.18.8 Release Notes
- Apache Camel 3.19.0 Release Notes
- Apache Camel 3.20.0 Release Notes
- Apache Camel 3.20.1 Release Notes
- Apache Camel 3.20.2 Release Notes
- Apache Camel 3.20.3 Release Notes
- Apache Camel 3.20.4 Release Notes
- Apache Camel 3.20.5 Release Notes
- Apache Camel 3.20.6 Release Notes
- Apache Camel 3.20.7 Release Notes
- Apache Camel 3.20.8 Release Notes
- Apache Camel 3.21.0 Release Notes
- Apache Camel 3.21.1 Release Notes
- Apache Camel 3.21.2 Release Notes
- Apache Camel 4.0.0 Release Notes

Camel Quarkus upgraded from version 2.7 to version 2.13
Red Hat build of Apache Camel for Quarkus version 3.2 has been upgraded from Camel Quarkus version 2.13 to Camel Quarkus version 3.2. For additional information about each intervening Camel Quarkus patch release, refer to the following:

- Apache Camel Quarkus 2.13.0 Release Notes
- Apache Camel Quarkus 2.13.1 Release Notes
- Apache Camel Quarkus 2.13.2 Release Notes
- Apache Camel Quarkus 2.13.3 Release Notes
- Apache Camel Quarkus 2.14.0 Release Notes
- Apache Camel Quarkus 2.15.0 Release Notes
- Apache Camel Quarkus 2.16.0 Release Notes
- Apache Camel Quarkus 3.2.0 Release Notes

### 1.8. RESOLVED ISSUES

The following table lists known issues that were affecting Red Hat build of Apache Camel for Quarkus, which have been fixed in Red Hat build of Apache Camel for Quarkus version 3.2.

**Resolved issues**

- **CEQ-7086**
  - CEQ Getting Started Guide does not tell users what Maven repositories to configure
- **CEQ-6604**
  - Update CEQ migration instructions with camel-cxf-soap namespace changes
- **CEQ-6217**
  - Templated route fails if it is processed before route template
- **CEQ-6263**
  - OpenTelemetry traces not being generated in sequence
- **CEQ-6203**
  - CQ with CXF on OpenShift requires quarkus.cxf.path property
- **CEQ-4878**
  - JMS components connection pooling (generic client, full support)
- **CEQ-1203**
  - Platform Support: KNative/Serverless deployments

#### 1.8.1. Previous releases

For details of issues resolved between Camel Quarkus 2.13 and Camel Quarkus 3.2, see the [Release Notes](#) for each patch release.

### 1.9. DEPRECATED FEATURES IN RED HAT BUILD OF APACHE CAMEL FOR QUARKUS VERSION 3.2
There are no deprecated features in Red Hat build of Apache Camel for Quarkus version Red Hat build of Apache Camel for Quarkus.

### 1.10. EXTENSIONS REMOVED IN RED HAT BUILD OF APACHE CAMEL FOR QUARKUS VERSION 3.2

The following table lists the extensions added in this release of Red Hat build of Apache Camel for Quarkus version Red Hat build of Apache Camel for Quarkus.

**Table 1.1. Removed extensions**

<table>
<thead>
<tr>
<th>Extension</th>
<th>Artifact</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>MicroProfile Metrics</td>
<td>camel-quarkus-microprofile-metrics</td>
<td>Expose metrics from Camel routes.</td>
<td></td>
</tr>
</tbody>
</table>

### 1.11. EXTENSIONS ADDED IN RED HAT BUILD OF APACHE CAMEL FOR QUARKUS VERSION 3.2

The following table lists the extensions added in this release of Red Hat build of Apache Camel for Quarkus version Red Hat build of Apache Camel for Quarkus.

**Table 1.2. Added extensions**

<table>
<thead>
<tr>
<th>Extension</th>
<th>Artifact</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMQP</td>
<td>camel-quarkus-amqp</td>
<td>Messaging with AMQP protocol using Apache QPID Client.</td>
<td></td>
</tr>
<tr>
<td>Azure Service Bus</td>
<td>camel-quarkus-azure-servicebus</td>
<td>Send and receive messages to/from Azure Service Bus.</td>
<td></td>
</tr>
<tr>
<td>CLI-connector</td>
<td>camel-quarkus-cli-connector</td>
<td>Runtime adapter connecting with Camel CLI</td>
<td></td>
</tr>
<tr>
<td>Crypto</td>
<td>camel-quarkus-crypto</td>
<td>Sign and verify exchanges using the Signature Service of the Java Cryptographic Extension (JCE).</td>
<td></td>
</tr>
<tr>
<td>GRPC</td>
<td>camel-quarkus-grpc</td>
<td>Expose gRPC endpoints and access external gRPC endpoints.</td>
<td></td>
</tr>
<tr>
<td>Extension</td>
<td>Artifact</td>
<td>Description</td>
<td>Note</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------</td>
<td>---------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>JDBC</td>
<td><code>camel-quarkus-jdbc</code></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language</td>
<td><code>camel-quarkus-language</code></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDAP</td>
<td><code>camel-quarkus-ldap</code></td>
<td>Perform searches on LDAP servers.</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td><code>camel-quarkus-management</code></td>
<td>JMX management strategy and associated managed resources.</td>
<td></td>
</tr>
<tr>
<td>Mapstruct</td>
<td><code>camel-quarkus-mapstruct</code></td>
<td>Type Conversion using Mapstruct</td>
<td></td>
</tr>
<tr>
<td>Micrometer</td>
<td><code>camel-quarkus-micrometer</code></td>
<td>Collect various metrics directly from Camel routes using the Micrometer library.</td>
<td></td>
</tr>
<tr>
<td>Minio</td>
<td><code>camel-quarkus-minio</code></td>
<td>Store and retrieve objects from Minio Storage Service using Minio SDK.</td>
<td></td>
</tr>
<tr>
<td>Mybatis</td>
<td><code>camel-quarkus-mybatis</code></td>
<td>Performs a query, poll, insert, update or delete in a relational database using MyBatis.</td>
<td></td>
</tr>
<tr>
<td>SAP</td>
<td><code>camel-quarkus-sap</code></td>
<td>Provides SAP Camel Component.</td>
<td></td>
</tr>
<tr>
<td>Saxon</td>
<td><code>camel-quarkus-saxon</code></td>
<td>Query and/or transform XML payloads using XQuery and Saxon.</td>
<td></td>
</tr>
<tr>
<td>Splunk</td>
<td><code>camel-quarkus-splunk</code></td>
<td>Publish or search for events in Splunk.</td>
<td></td>
</tr>
</tbody>
</table>
### 1.12. EXTENSIONS WITH CHANGED SUPPORT IN RED HAT BUILD OF APACHE CAMEL FOR QUARKUS VERSION 3.2

The following table lists the extensions that have changed support levels in this release of Red Hat build of Apache Camel for Quarkus version Red Hat build of Apache Camel for Quarkus.

**Table 1.3. Extensions with changed support**

<table>
<thead>
<tr>
<th>Extension</th>
<th>Artifact</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertx-http</td>
<td>camel-quarkus-vertx-http</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vertx-websocket</td>
<td>camel-quarkus-vertx-websocket</td>
<td>Camel WebSocket support with Vert.x</td>
<td></td>
</tr>
<tr>
<td>AWS2-CW</td>
<td>camel-quarkus-aws2-cw</td>
<td>Sending metrics to AWS CloudWatch using AWS SDK version 2.x.</td>
<td></td>
</tr>
<tr>
<td>CXF-soap</td>
<td>camel-quarkus-cxf-soap</td>
<td>Expose SOAP WebServices using Apache CXF or connect to external WebServices using CXF WS client.</td>
<td></td>
</tr>
<tr>
<td>Telegram</td>
<td>camel-quarkus-telegram</td>
<td>Send and receive messages acting as a Telegram Bot Telegram Bot API.</td>
<td></td>
</tr>
<tr>
<td>XML IO DSL</td>
<td>camel-quarkus-xslt-saxon</td>
<td>An XML stack for parsing XML route definitions.</td>
<td></td>
</tr>
<tr>
<td>Yaml-dsl</td>
<td>camel-quarkus-yaml-dsl</td>
<td>An YAML stack for parsing YAML route definitions</td>
<td></td>
</tr>
</tbody>
</table>
NOTE

For information about support levels, see Red Hat build of Apache Camel for Quarkus Reference

1.13. DATA FORMATS ADDED IN RED HAT BUILD OF APACHE CAMEL FOR QUARKUS VERSION 3.2

The following table lists the data formats that have been added in this release of Red Hat build of Apache Camel for Quarkus version 3.2.

Table 1.4. Added data formats

<table>
<thead>
<tr>
<th>Extension</th>
<th>Artifact</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>JAXP</td>
<td>camel-quarkus-jaxp</td>
<td>XML JAXP type converters and parsers</td>
</tr>
</tbody>
</table>