



Red Hat Integration 2019-12

Release Notes for Red Hat Integration 2019-12

What's new in Red Hat Integration

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What's new in Red Hat Integration

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Abstract

Describes the Red Hat Integration platform and includes the latest details on what's new in this release.

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CHAPTER 1. RED HAT INTEGRATION

Red Hat Integration is a unified platform for cloud-native integration and application development with end-to-end API lifecycle support. It provides a set of agile and flexible integration and messaging technologies that include:

- API connectivity
- Data transformation
- Service composition and orchestration
- Real-time messaging
- Cross-datacenter message streaming
- API management

Red Hat Integration connects applications, data, and devices across hybrid cloud architectures and delivers API-centric business services.

CHAPTER 2. NEW FEATURES

This section provides a summary of the key new features in Red Hat Integration 2019-12 and provides links to more detailed information on new features available in components.

2.1. KEY FEATURES

APIs as a Product

Scale APIs to a large number of microservices APIs and enable users to manage these as a product. For details, see [Getting started with 3scale API Management](#).

Apache Kafka enhancements

- HTTP proxy in [AMQ Streams Kafka Bridge](#) (General Availability)
- [3scale management of AMQ Streams Kafka Bridge](#)
- Kafka schema registry in [Service Registry](#) (Technology Preview)

API policy extensibility

Extend the power and flexibility of Apache Camel routes in Fuse on OpenShift to enrich, transform, and control API requests in 3scale. See [Transforming 3scale message content using policy extensions in Fuse](#).

Data integration

- [Data Change Capture](#) (Technology Preview)
- [Data virtualization enhancements](#) (Technology Preview)

2.2. DETAILED INFORMATION

For more details on what's new in Red Hat Integration 2019-12 components:

- [Red Hat Fuse 7.5 Release Notes](#)
- [Red Hat 3scale API Management 2.7 Release Notes](#)
- [Red Hat AMQ 7.5 Product Documentation](#)

CHAPTER 3. CHANGE DATA CAPTURE

Red Hat Integration 2019-12 includes a Technology Preview of Change Data Capture based on the [Debezium](#) open source project. Change Data Capture is a distributed platform that monitors databases and creates change event streams. Change Data Capture is built on Apache Kafka and is deployed and integrated with AMQ Streams.

Change Data Capture captures row-level changes to a database table and passes corresponding change events to AMQ Streams. Applications can read these *change event streams* and access the change events in the order in which they occurred.



IMPORTANT

Technology Preview features are not supported with Red Hat production service-level agreements (SLAs) and might not be functionally complete. Red Hat does not recommend implementing any Technology Preview features in production environments. This Technology Preview feature provides early access to upcoming product innovations, enabling you to test functionality and provide feedback during the development process. For more information about support scope, see [Technology Preview Features Support Scope](#).

3.1. DATABASE CONNECTORS

Change Data Capture provides connectors based on Kafka Connect for the following common databases:

- MySQL
- PostgreSQL
- SQL Server
- MongoDB

When trying out the database connectors, the following database versions are recommended for this Technology Preview release:

Table 3.1. Recommended database versions for Change Data Capture

Database	Version(s)
MySQL	5.7, 8.0
PostgreSQL	10, 11, 12
MongoDB	3.6, 4.0, 4.2
SQL Server	2017



NOTE

For PostgreSQL deployments, you can use the **pgoutput** logical decoding output plugin, which is the default for PostgreSQL versions 10 and later.

Additional resources

- [Change Data Capture User Guide](#).

3.2. INSTALLATION OPTIONS

You can deploy the Change Data Capture technology preview with AMQ Streams on OpenShift or RHEL:

- [Installing Change Data Capture on OpenShift](#)
- [Installing Change Data Capture on RHEL](#)

CHAPTER 4. DATA VIRTUALIZATION

Data virtualization is available as a Technology Preview feature in Red Hat Integration 2019-12. Data virtualization is a container-native service, based on the [Teiid](#) open source project, that provides integrated access to a range of data sources, including relational databases, MongoDB, and Salesforce, through a single uniform API.

Applications and users connect to a virtual database over standard interfaces (OData REST, or JDBC/ODBC) and can use SQL to interact with the integrated data in the same way that they would interact with a single relational database.



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4.1. DATA VIRTUALIZATION ENHANCEMENTS

Red Hat Integration 2019-12 provides the following enhancements for Data virtualization:

- Data Virtualization Operator to deploy virtual databases
- MongoDB and REST-based data sources (OData, OpenAPI, and REST)

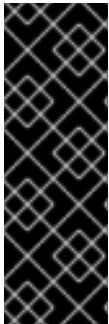
Additional resources

- [Data Virtualization Guide](#).

CHAPTER 5. SERVICE REGISTRY

Service Registry is available as a Technology Preview feature in Red Hat Integration 2019-12. Service Registry is a datastore for standard event schemas and API designs that is based on the [Apicurio Registry](#) open source community project. Service Registry enables developers to manage and share the structure of their data using a REST interface. For example, client applications can dynamically push/pull the latest updates to/from the registry without needing to redeploy.

Service Registry also enables developers to create rules to govern how registry content can evolve over time. For example, this includes rules for content validation and version compatibility.



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5.1. SUPPORTED ARTIFACT TYPES

Service Registry supports the following artifact types:

- Apache Avro schema
- Google Protocol buffers (Protobuf) schema
- JSON Schema
- OpenAPI specification
- AsyncAPI specification

5.2. SERVICE REGISTRY REST API

The Registry REST API enables client applications to manage the artifacts in the registry. It provides create, read, update, and delete operations for the following:

- Schema and API artifacts
- Versions
- Metadata
- Global and artifact rules

The Registry REST API is also compatible with the Confluent Schema Registry REST API. This means that applications using Confluent client libraries can use Service Registry instead.

Additional resources

- [Getting Started with Service Registry](#)

CHAPTER 6. RED HAT INTEGRATION OPERATORS

Red Hat Integration provides operators to enable you to automate the deployment of Red Hat Integration components on OpenShift. This section provides links to detailed information on how to use operators for different components.

6.1. FUSE OPERATORS

Fuse on OpenShift

- [Samples Operator](#)
- [API Designer Operator](#)

Fuse Online

- [Fuse Online Operator](#)
- [Data Virtualization Operator in Fuse Online \(Technology Preview\)](#)

6.2. 3SCALE OPERATORS

- [3scale Operator](#)

6.3. AMQ OPERATORS

- [AMQ Broker Operator](#)
- [AMQ Interconnect Operator](#)
- [AMQ Streams Cluster Operator](#)
- [AMQ Online Operator](#)

6.4. DATA OPERATORS

- [Data Virtualization Operator \(Technology Preview\)](#)

6.5. ADDITIONAL RESOURCES

For more details on operators:

- [Understanding operators in the OpenShift documentation](#)
- [OpenShift tech topic on operators](#)