FUJITSU

Fujitsu Enterprise Postgres for Kubernetes

Bug fix guide

Preface

Purpose of this document

This document is the guide to update a container image to new tag version and apply bug fixes for Fujitsu Enterprise Postgres client.

Target of correction

- Operator Container
- Database Server Container
- Backup Container
- PGPool2 Container
- Exporter Container
- Fluentd Container
- Fluentbit Container
- Cronjob Container
- Utils Container (V15 or later)
- Fujitsu Enterprise Postgres client

  - FJSVfsep-CL
  - FJSVfsep-JDBC
  - FJSVfsep-ODBC
  - FJSVfsep-ADMIN4
  - FJSVfsep-DOTNET
  - FJSVfsep-Npgsql

Structure of this document

This document is structured as follows:

Updating the container image using the OperatorHub

This section describes how to update a container image to new tag version using the OperatorHub.

Updating the container image using the Helm Chart

This section describes how to update a container image to new version using the Helm Chart.

Updating the container image using the Helm Chart for AWS Marketplace

This section describes how to update a container image to new version using the Helm Chart for AWS Marketplace.

Applying Bug Fixes for Fujitsu Enterprise Postgres client

This section describes how to apply a product package.

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Issue date and version

Edition 9.0: March 2025

Edition 8.0: October 2024

Edition 7.0: June 2024

Edition 6.0: August 2023

Edition 5.0: November 2022

Edition 4.0: September 2022

Edition 3.0: June 2022

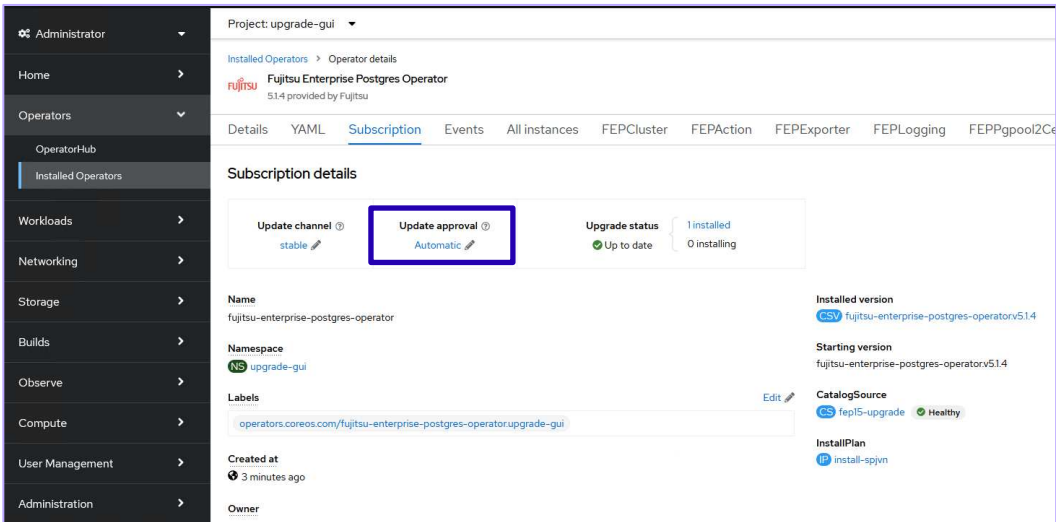Edition 2.0: May 2022

Edition 1.0: March 2022

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1. Updating the container image using the OperatorHub

1.1. Updating the Operator container image

- **Automatic update**: If automatic update is set, it is updated automatically.

- **Manual update**: If you want to update manually, you can do so using the following Red Hat procedure.

  - https://docs.openshift.com/container-platform/4.14/operators/admin/olm-upgrading-operators.html

  - https://docs.openshift.com/container-platform/4.15/operators/admin/olm-upgrading-operators.html

  - https://docs.openshift.com/container-platform/4.16/operators/admin/olm-upgrading-operators.html

1.2. Updating the server, backup, fluentbit, cronjob, and utils container image

The upgrade process is performed by updating the image in the CR. Follow the steps below to upgrade Fujitsu Enterprise Postgres Server, Backup, Fluentbit, Cronjob, and Utils.
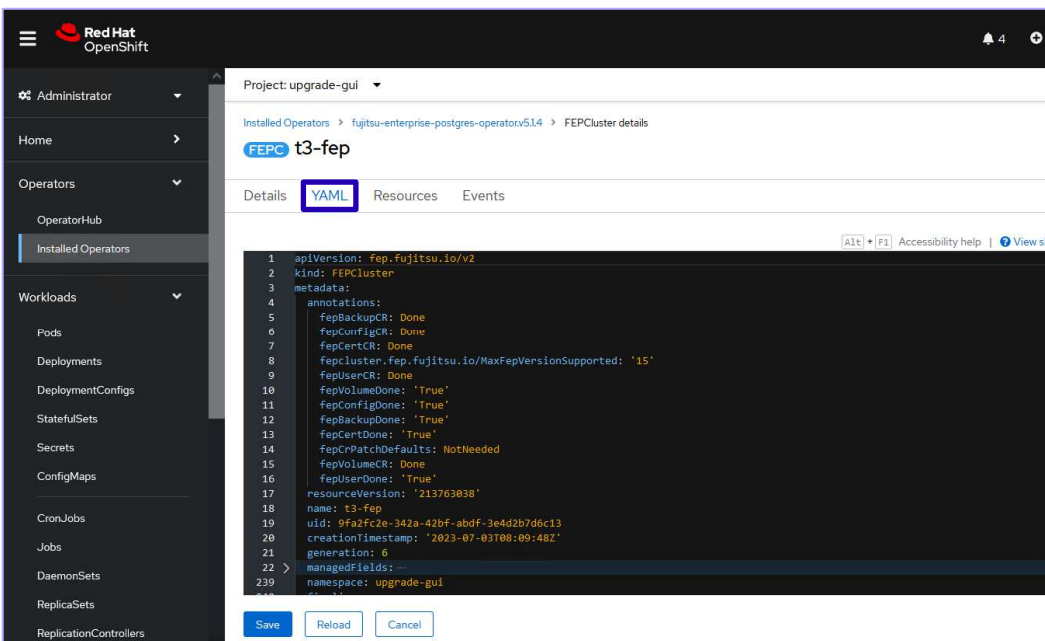
1.2.1. Using OpenShift Console

1. From the OpenShift Web Console, Click **Operators > Installed Operators > Fujitsu Enterprise Postgres Operator**.
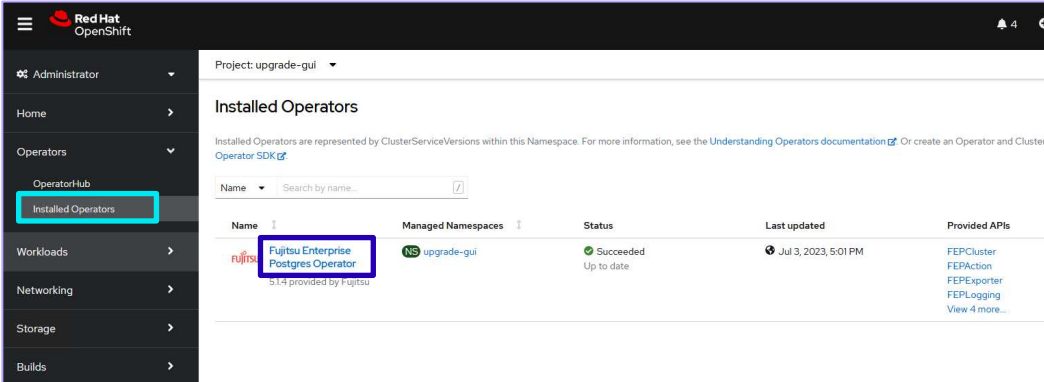
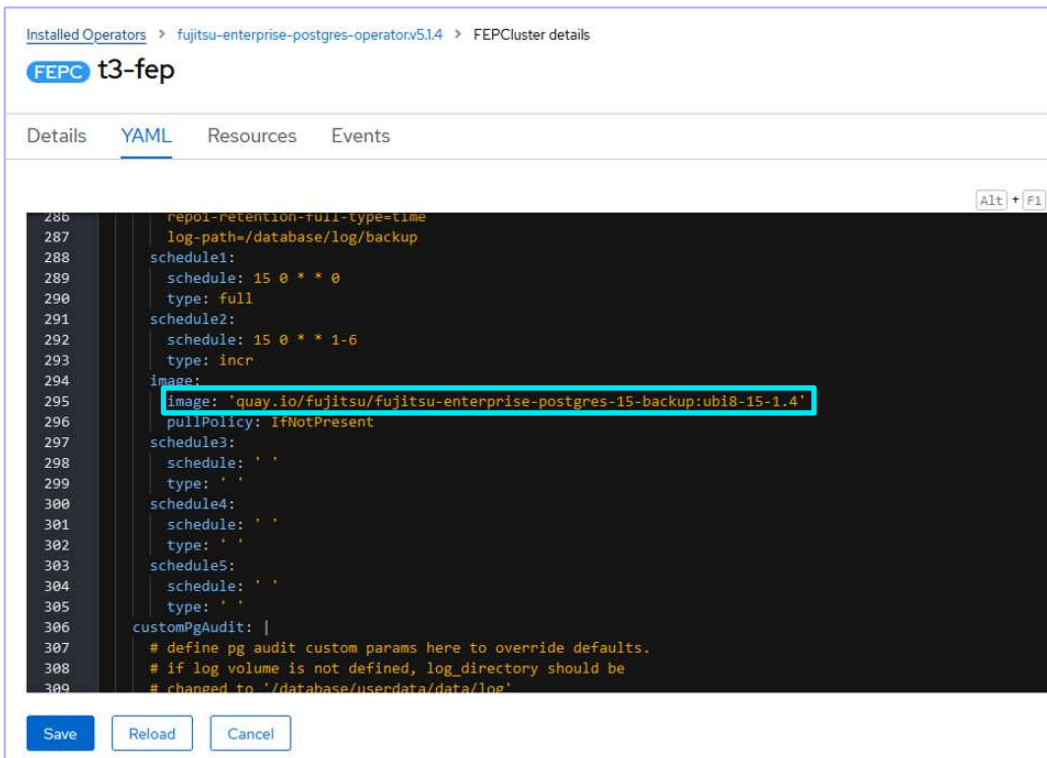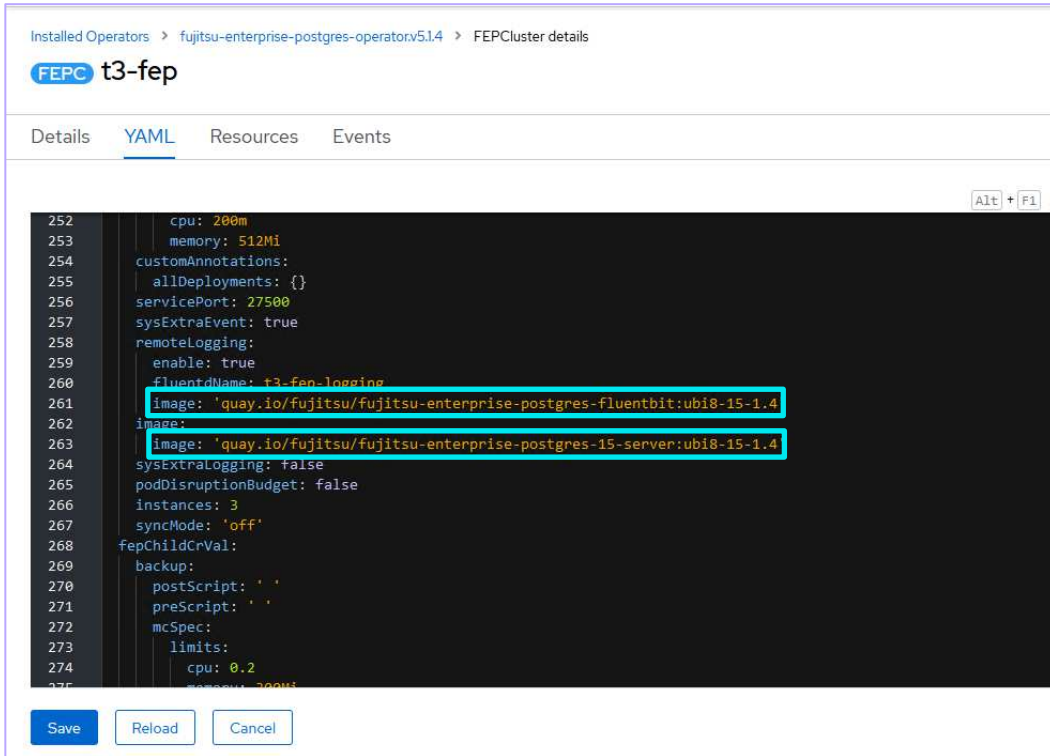2. Click the **FEPCluster** tab and select the FEPCluster name to be upgraded.
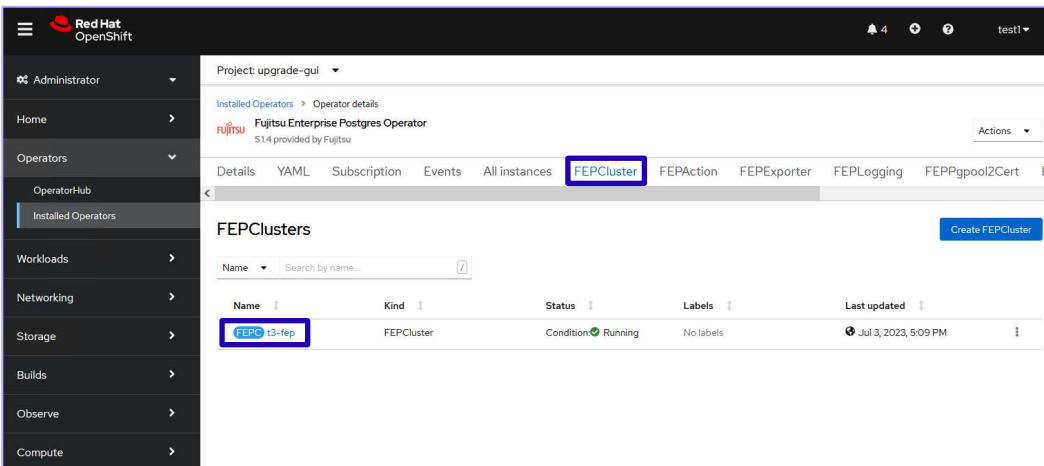
3. Click the **YAML** tab.

4. Change the following parameters to the new version of the image specifications as shown below for the server, backup, fluentbit, cronjob, and utils image sections in the YAML. Refer to "image tag name" in the readme.

```
.spec.fep.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-server:<image tag name>'
.spec.fepChildCrVal.backup.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-backup:<image tag name>'
.spec.fep.remoteLogging.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentbit:<image tag name>'
.spec.fep.pgBadger.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-cronjob:<image tag name>'
.spec.fep.feputils.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-utils:<image tag name>'
```

5. Click **Save**.

6. Check the state of the FEPCluster and verify that the status is Running.

1.2.2. Using the CLI

1. Edit the FEPCluster resource using the kubectl command.

```
kubectl edit fepcluster <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the server, backup, fluentbit, cronjob and Utils image sections in the YAML.

```
.spec.fep.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-server:<image tag name>'
.spec.fepChildCrVal.backup.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-backup:<image tag name>'
.spec.fep.remoteLogging.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentbit:<image tag name>'
.spec.fep.pgBadger.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-cronjob:<image tag name>'
.spec.fep.feputils.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-utils:<image tag name>'
```

3. Check the state of the FEPCluster and verify that the status is Running. The output will be like displayed below.

```
$ kubectl get po
NAME                                     READY  STATUS    RESTARTS  AGE
fep-ansible-operator-7dc5fd9bf7-4smzk    1/1    Running   0         20m
t3-fep-sts-0                             3/3    Running   0         17m
t3-fep-sts-1                             3/3    Running   0         15m
t3-fep-sts-2                             3/3    Running   0         13m
```
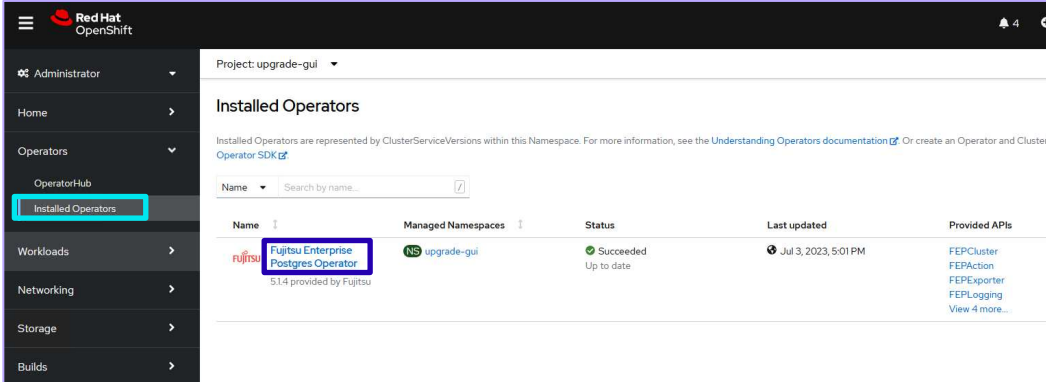
1.3. Updating the PGPool2 container image

The upgrade process is performed by updating the image in the CR of FEPPGPool2. Follow the steps below to upgrade pgpool2.

1.3.1. Using OpenShift Console

1. From the OpenShift Web Console, Click **Operators > Installed Operators > Fujitsu Enterprise Postgres Operator**.

2. Click the **FEPPgpool2** tab and select the FEPPgpool2 name to be upgraded.
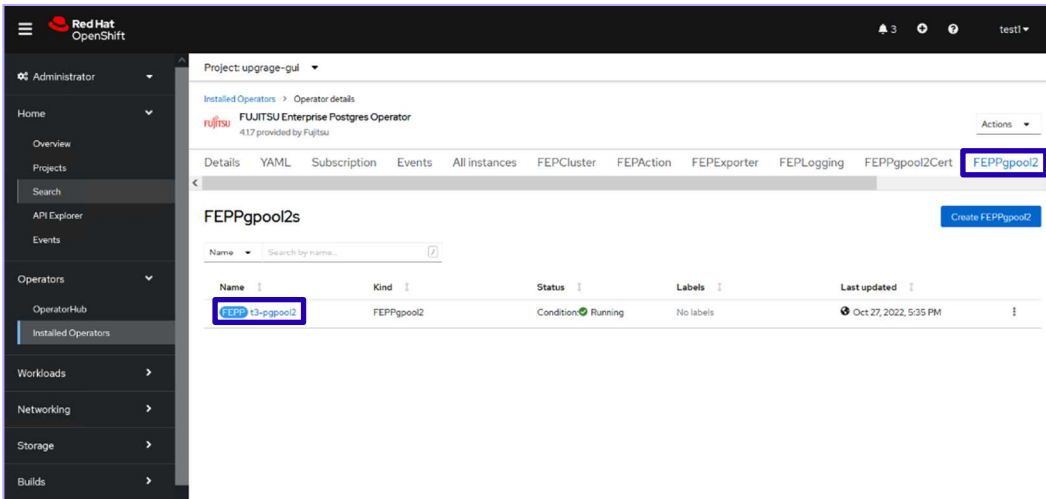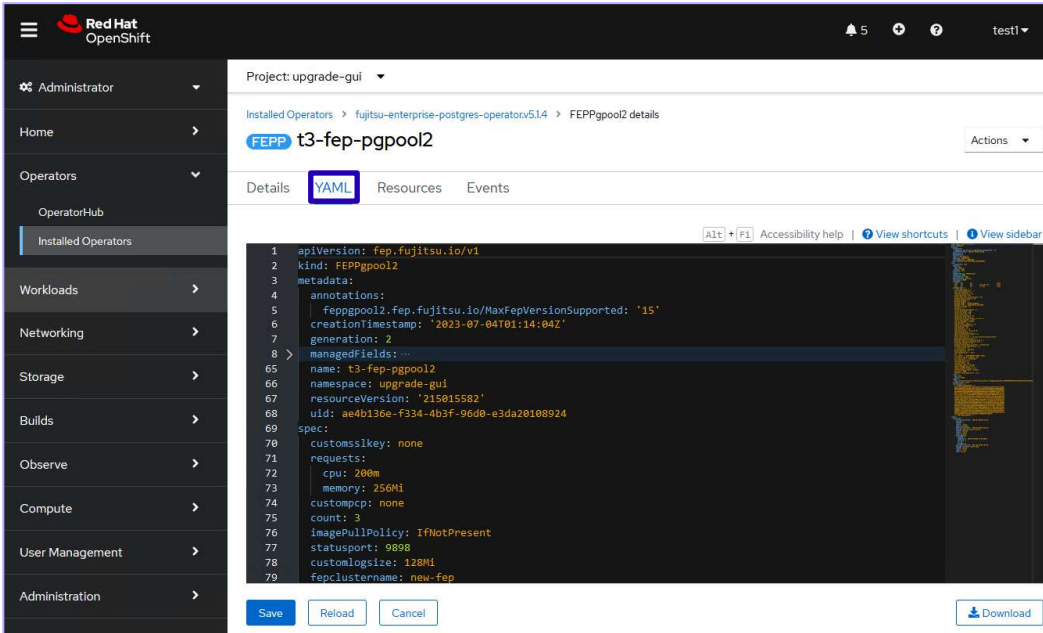
3. Click the **YAML** tab.

4. Change the following parameters to the new version of the image specifications. Refer to "image tag name" in the readme.

```
.spec.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-pgpool2:<image tag name>'
```
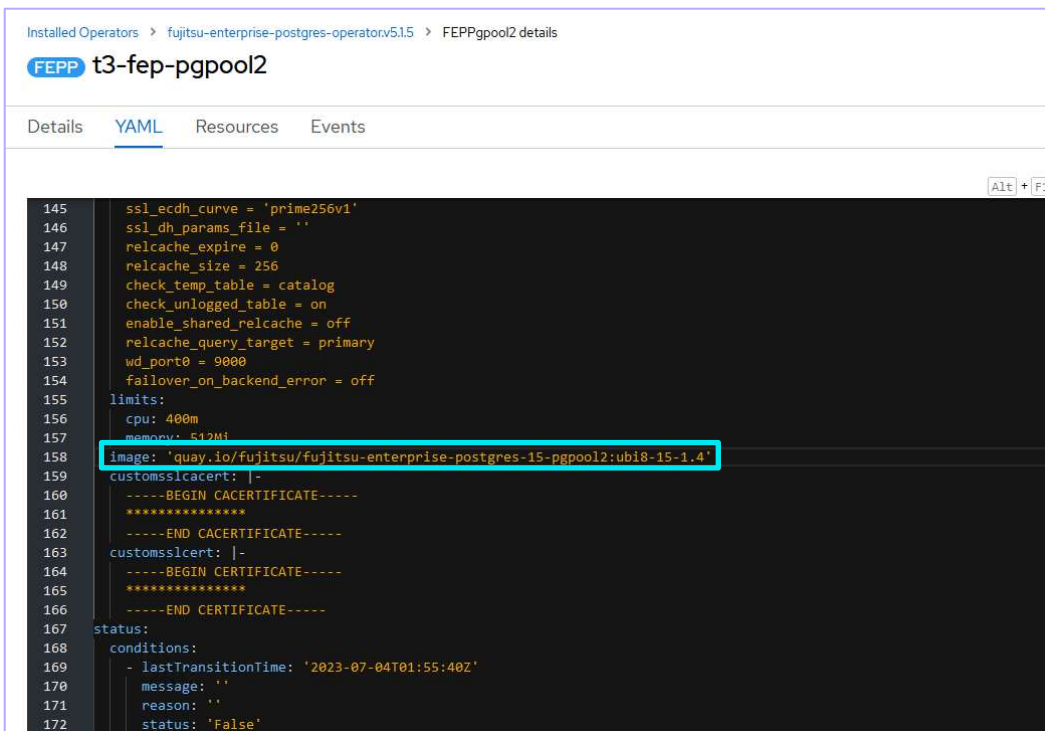
5. Click **Save**.
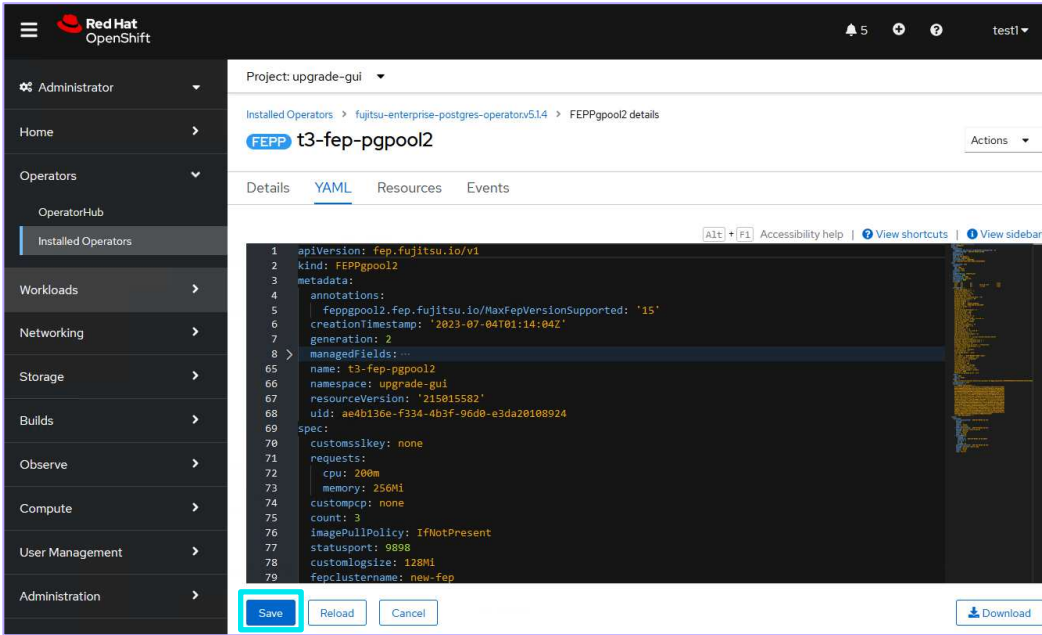
6. Check the state of the FEPPgpool2 and verify that the status is Running.

1.3.2. Using the CLI

1. Edit the FEPPGPool2 resource using the kubectl command.

```
kubectl edit feppgpool2 <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPPGPool2 image sections in the YAML.

```
.spec.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-pgpool2:<image tag name>'
```

3. Check the state of the FEPPGPool2 and verify that the status is Running.

```
$ kubectl get po
NAME                                      READY  STATUS    RESTARTS  AGE
fep-ansible-operator-7dc5fd9bf7-4smzk     1/1    Running   0         1d1h
t3-fep-sts-0                              3/3    Running   0         1d1h
t3-fep-sts-1                              3/3    Running   0         1d1h
t3-fep-sts-2                              3/3    Running   0         1d1h
t3-pgpool2-feppgpool2-0                   1/1    Running   0         1d1h
t3-pgpool2-feppgpool2-1                   1/1    Running   0         1d1h
t3-pgpool2-feppgpool2-2                   1/1    Running   0         1d1h
```

1.4. Updating the FEPExporter container image

The upgrade process is performed by updating the image in the CR of FEPExporter. Follow the steps below to upgrade FEPExporter.
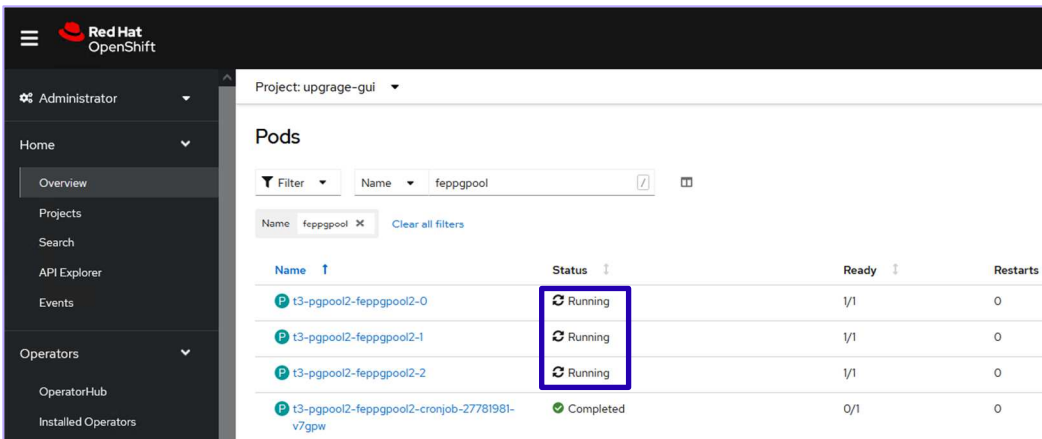
1.4.1. Using OpenShift Console

1. From the OpenShift Web Console, Click **Operators > Installed Operators > Fujitsu Enterprise Postgres Operator**.
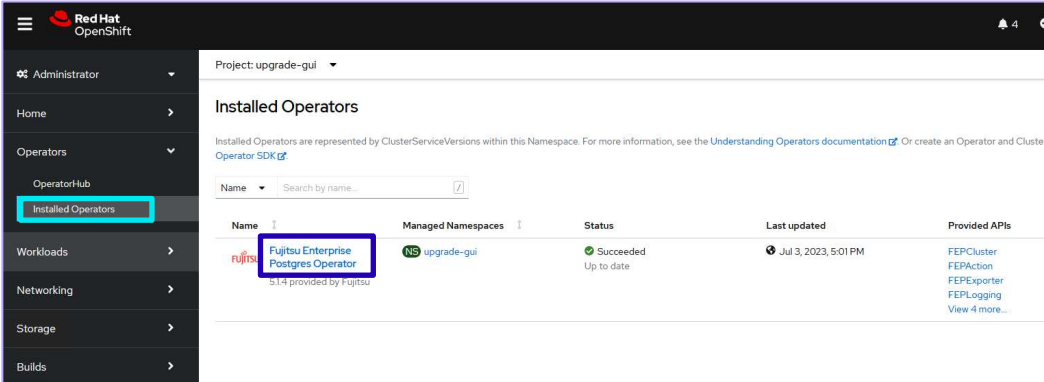
2. Click the **FEPExporter** tab and select the FEPExporter name to be upgraded.
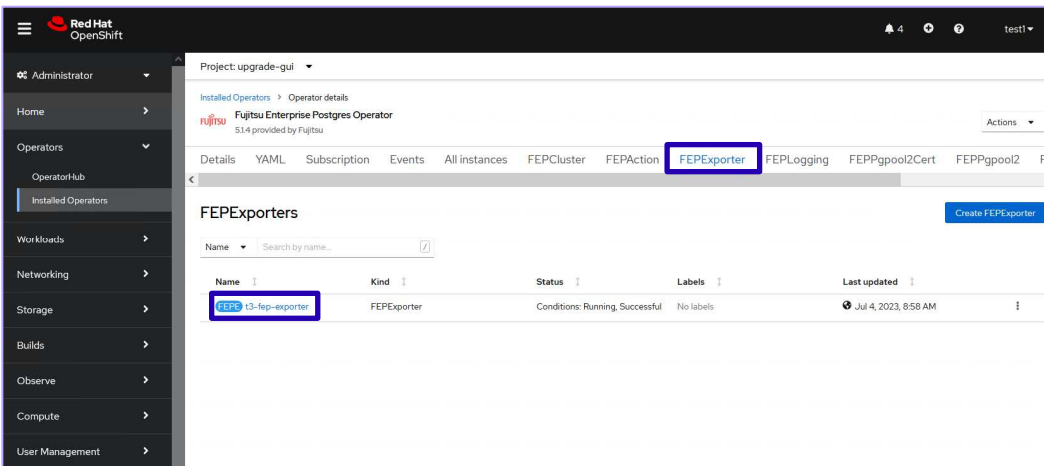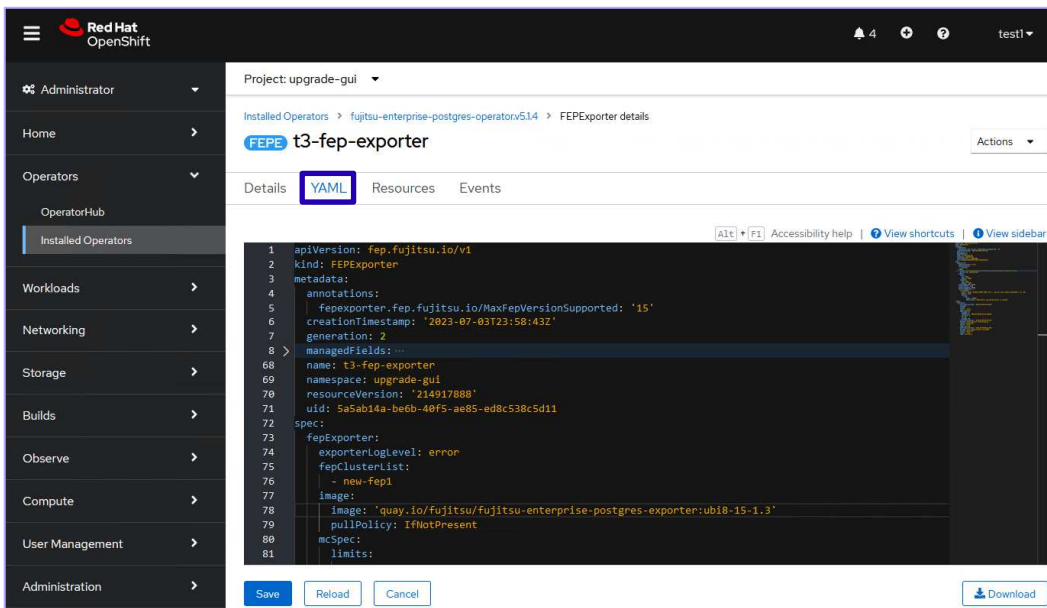
3. Click the **YAML** tab.

4. Change the following parameters to the new version of the image specifications. Refer to "image tag name" in the readme.

```
.spec.fepExporter.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-exporter:<image tag name>'
```


5. Click **Save**.

6. Check the state of the FEPExporter and verify that the status is Running.

1.4.2. Using the CLI

1. Edit the FEPExporter resource using the kubectl command.

```
kubectl edit fepexporter <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPExporter image sections in the YAML.

```
.spec.fepExporter.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-exporter:<image tag name>'
```

3. Check the state of the FEPExporter and verify that the status is Running.

```
$ kubectl get po
NAME                                         READY   STATUS    RESTARTS   AGE
fep-ansible-operator-7dc5fd9bf7-4smzk        1/1     Running   0          1d3h
t3-fep-exporter-deployment-57b98f5799-5n6cp  1/1     Running   0          1d1h
t3-fep-sts-0                                 3/3     Running   0          1d3h
t3-fep-sts-1                                 3/3     Running   0          1d3h
t3-fep-sts-2                                 3/3     Running   0          1d3h
```

## 1.5. Updating the FEPFluentd container image

The upgrade process is performed by updating the image in the CR of FEPLogging. Follow the steps below to upgrade FEPLogging.
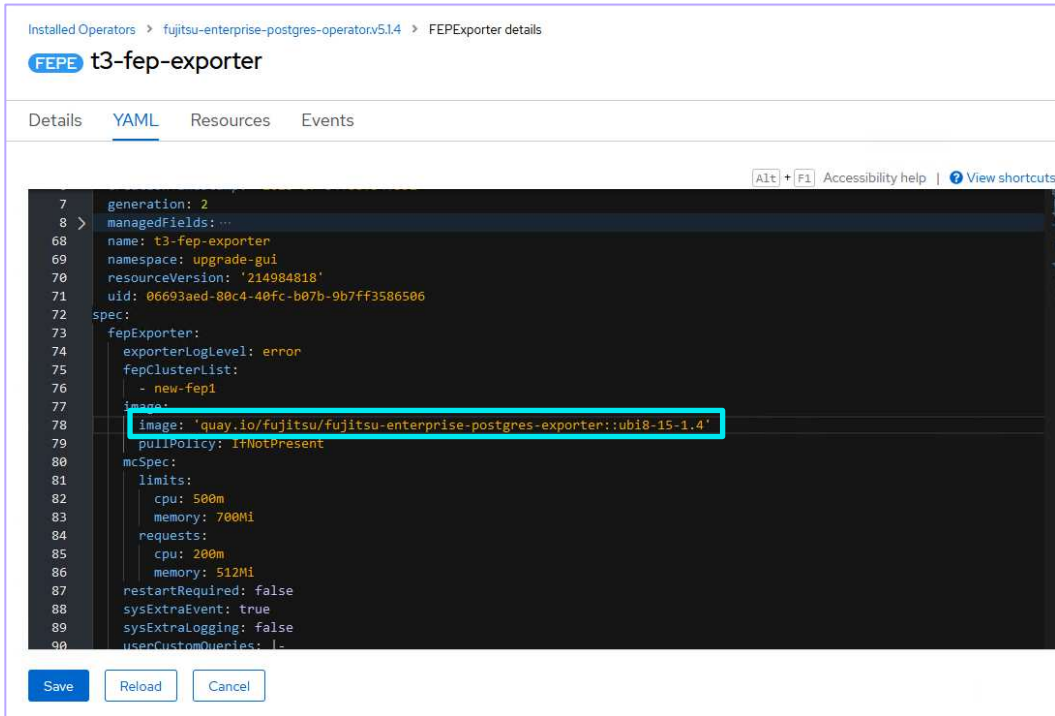
1.5.1. Using OpenShift Console

1. From the OpenShift Web Console, click **Operators > Installed Operators > Fujitsu Enterprise Postgres Operator**.
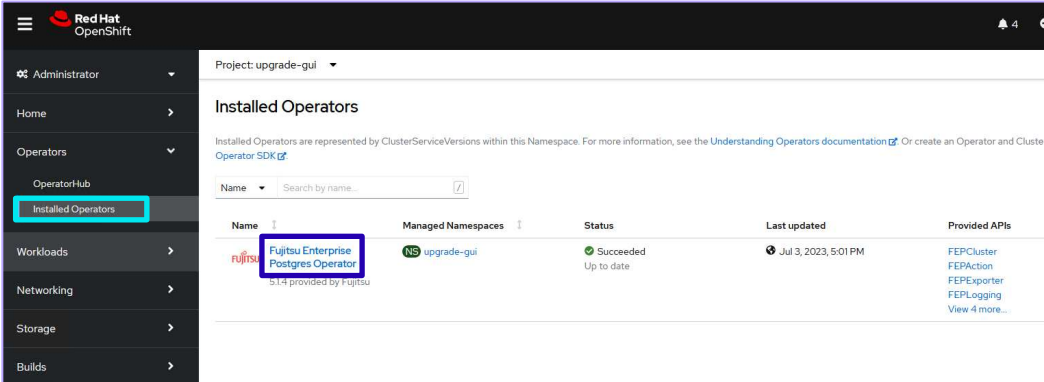
2. Click the **FEPLogging** tab and select the FEPLogging name to be upgraded.
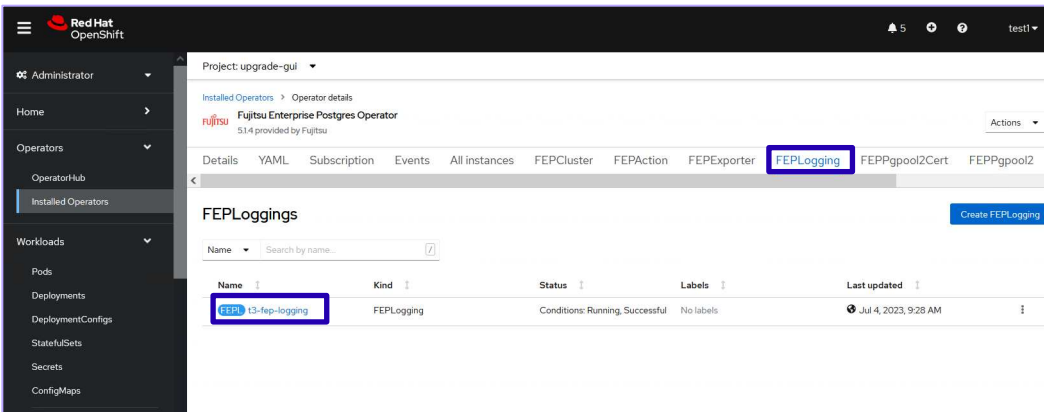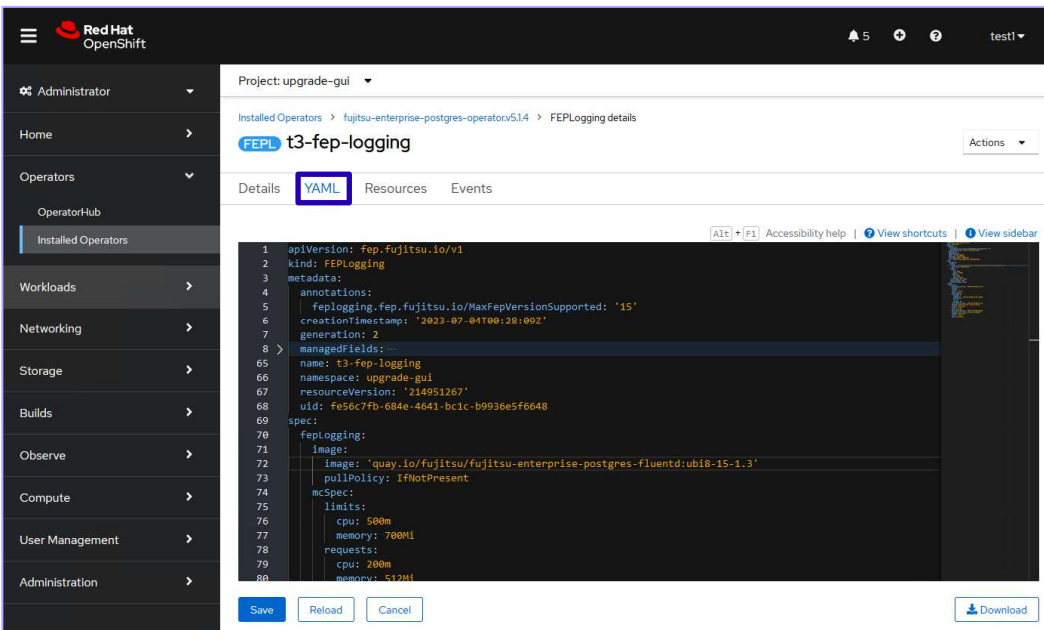
3. Click the **YAML** tab.

4. Change the following parameters to the new version of the image specifications. Refer to "image tag name" in the readme.

```
.spec.fepLogging.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentd:<image tag name>'
```
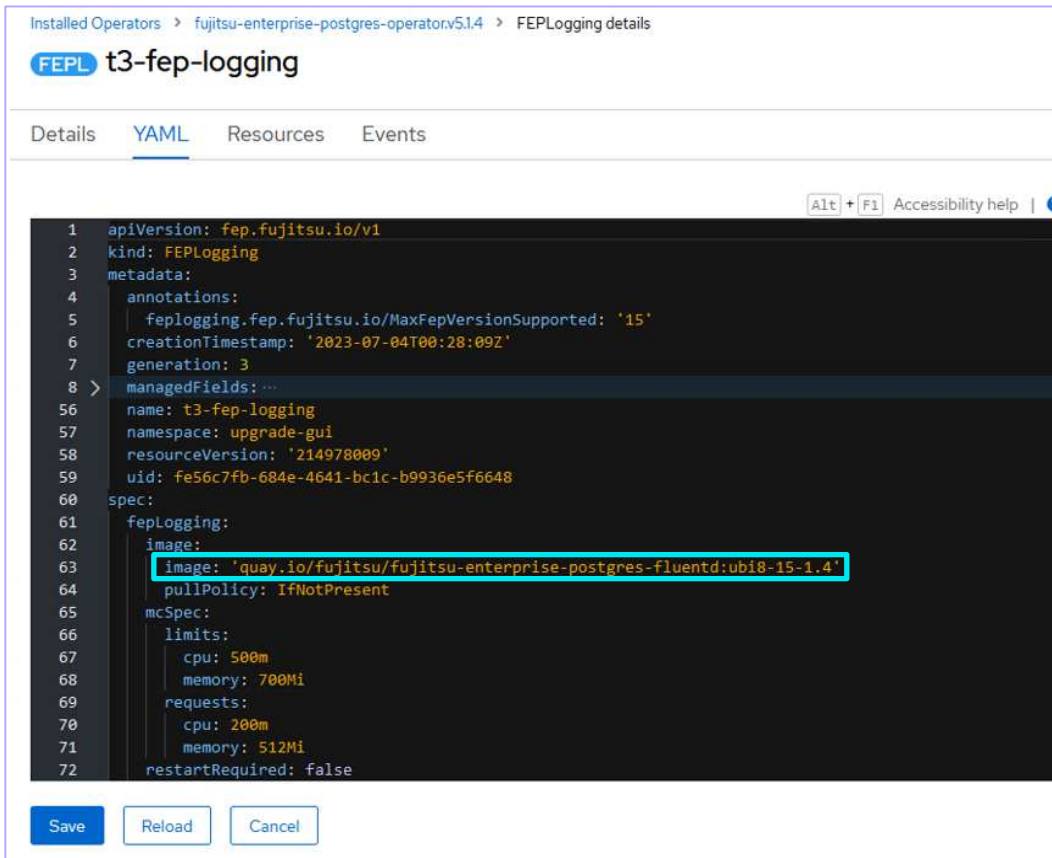

5. Click **Save**.
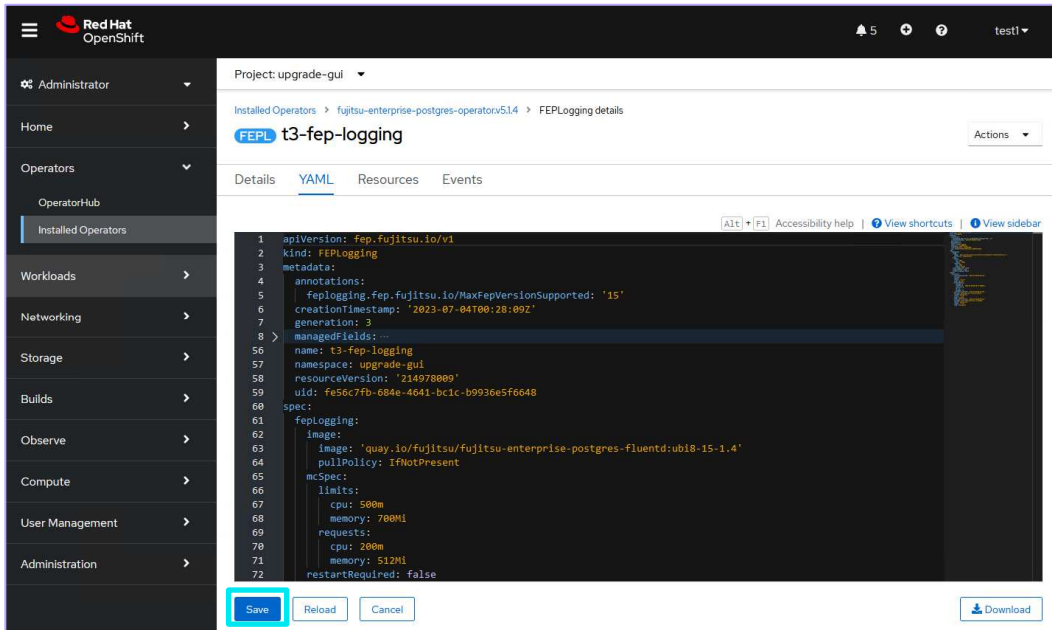
6. Check the state of the FEPLogging and verify that the status is Running.
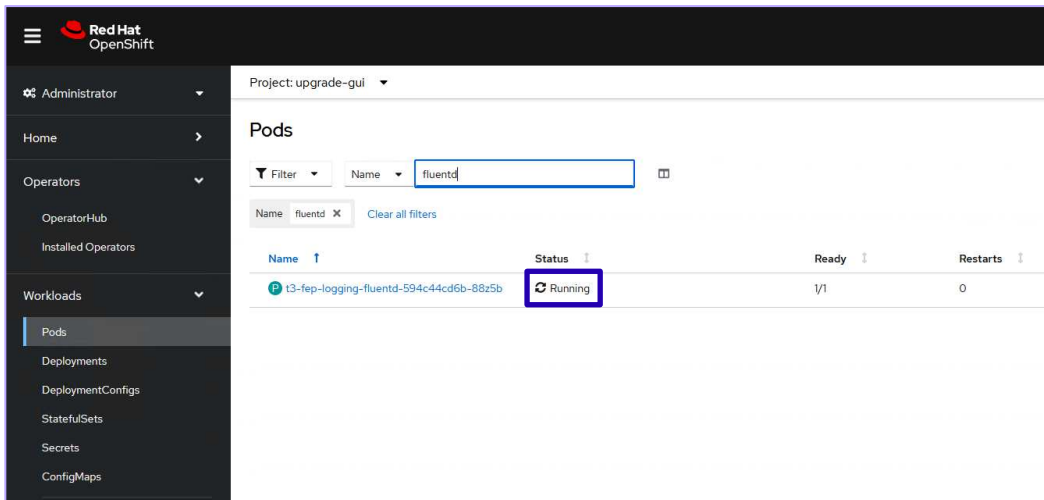
1.5.2. Using the CLI

1. Edit the FEPLogging resource using the kubectl command.

```
kubectl edit feplogging <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPFluentd image sections in the YAML.

```
.spec.fepLogging.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentd:<image tag name>'
```

3. Check the state of the FEPLogging and verify that the status is Running.

```
$ kubectl get po
NAME                                          READY  STATUS   RESTARTS  AGE
fep-ansible-operator-7675487b97-dwm9p         1/1    Running  0          45h
t3-fep-fepexporter-deployment-859877f7d4-xdk2f 1/1    Running  0         119m
t3-fep-logging-fluentd-c69b48c4d-pwp7x        1/1    Running  0         113m
t3-fep-sts-0                                  3/3    Running  0         119m
t3-fep-sts-1                                  3/3    Running  0         118m
t3-fep-sts-2                                  3/3    Running  0         116m
```

2. Updating the container image using the Helm Chart

2.1. Updating Operator

1. Refresh Helm Chart repository information.

```
helm repo update
```

2. Check the Helm Chart version of the latest operator.

```
helm search repo fujitsu-enterprise-postgres-operator
```

3. Run the helm command to upgrade the operator.

```
helm upgrade fep-operator-release fep-repo/fujitsu-enterprise-postgres-operator --namespace fepoperator
```

2.2. Updating the server, backup, fluentbit, cronjob, and utils container image

1. Edit the resource using the kubectl command.

```
kubectl edit fepcluster <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the server, backup, fluentbit, cronjob and Utils image sections in the YAML.

```
.spec.fep.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-server:<image tag name>'
.spec.fepChildCrVal.backup.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-backup:
<image tag name>'
.spec.fep.remoteLogging.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentbit:<image tag name>'
.spec.fep.pgBadger.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-cronjob:<image tag name>'
.spec.fep.feputils.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-utils:<image tag name>'
```

3. Check the state of the FEPCluster and verify that the status is Running. The output will be like displayed below.

```
$ kubectl get po
NAME                                    READY  STATUS    RESTARTS  AGE
fep-ansible-operator-7dc5fd9bf7-4smzk   1/1    Running  0          20m
t3-fep-sts-0                            3/3    Running  0          17m
t3-fep-sts-1                            3/3    Running  0          15m
t3-fep-sts-2                            3/3    Running  0          13m
```

2.3. Updating the PGPool2 container image

1. Edit the FEPPGPool2 resource using the kubectl command.

```
kubectl edit feppgpool2 <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPPGPool2 image sections in the YAML.

```
.spec.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-<version>-pgpool2:<image tag name>'
```

3. Check the state of the FEPPGPool2 and verify that the status is Running.

```
$ kubectl get po
NAME                                    READY  STATUS    RESTARTS  AGE
fep-ansible-operator-7dc5fd9bf7-4smzk   1/1    Running  0          1d1h
t3-fep-sts-0                            3/3    Running  0          1d1h
t3-fep-sts-1                            3/3    Running  0          1d1h
t3-fep-sts-2                            3/3    Running  0          1d1h
t3-pgpool2-feppgpool2-0                 1/1    Running  0          1d1h
t3-pgpool2-feppgpool2-1                 1/1    Running  0          1d1h
t3-pgpool2-feppgpool2-2                 1/1    Running  0          1d1h
```

2.4. Updating the FEPExporter container image

1. Edit the FEPExporter resource using the kubectl command.

```
kubectl edit fepexporter <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPExporter image sections in the YAML.

```
.spec.fepExporter.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-exporter:<image tag name>'
```

3. Check the state of the FEPExporter and verify that the status is Running.

```
$ kubectl get po
NAME                                         READY   STATUS    RESTARTS   AGE
fep-ansible-operator-7dc5fd9bf7-4smzk        1/1     Running   0          1d3h
t3-fep-exporter-deployment-57b98f5799-5n6cp  1/1     Running   0          1d1h
t3-fep-sts-0                                 3/3     Running   0          1d3h
t3-fep-sts-1                                 3/3     Running   0          1d3h
t3-fep-sts-2                                 3/3     Running   0          1d3h
```

2.5. Updating the FEPFluentd container image

1. Edit the FEPLogging resource using the kubectl command.

```
kubectl edit feplogging <CR name> -n <namespace>
```

2. Change the following parameters to the new version of the image specifications as shown below for the FEPFluentd image sections in the YAML.

```
.spec.fepLogging.image.image: 'quay.io/fujitsu/fujitsu-enterprise-postgres-fluentd:<image tag name>'
```

3. Check the state of the FEPLogging and verify that the status is Running.

```
$ kubectl get po
NAME                                           READY   STATUS    RESTARTS   AGE
fep-ansible-operator-7675487b97-dwm9p          1/1     Running   0          45h
t3-fep-fepexporter-deployment-859877f7d4-xdk2f 1/1     Running   0          119m
t3-fep-logging-fluentd-c69b48c4d-pwp7x         1/1     Running   0          113m
t3-fep-sts-0                                   3/3     Running   0          119m
t3-fep-sts-1                                   3/3     Running   0          118m
t3-fep-sts-2                                   3/3     Running   0          116m
```

3. Updating the container image using the Helm Chart for AWS Marketplace

3.1. Updating Operator

1. Check the information before the upgrade.

```
helm list
```

2. Run the helm command to upgrade the operator.

```
helm upgrade fep-operator-release oci://709825985650.dkr.ecr.us-east-1.amazonaws.com/fujitsu/fep-operator-
helm --version <version>
```

3. Check that the information is updated.

```
helm list
```

3.2. Updating the other container images

The procedure is the same as using the Helm Chart in Chapter 2. Refer to **Chapter 2.2 and later**.

4. Applying Bug Fixes for Fujitsu Enterprise Postgres client

This section describes how to update a package.

4.1. Download a package

Download the package from the following website:

- https://www.postgresql.fastware.com/fujitsu-enterprise-postgres-client-download

4.2. Update a package to a specific version

- **Use as Container**: If you are creating a container image for the client, replace the package.

- **Use in VM environments**: If you are using the client in a VM environment, update the package from the downloaded RPM or MSI to a specific version.

  - To update a package using a downloaded RPM or MSI, refer to chapter 1.3.3 or 2.1.2 of the "FUJITSU Software Enterprise Postgres Bug Fix Guide".