



Red Hat OpenStack Services on OpenShift 18.0

Updating your environment to the latest maintenance release

Updating a Red Hat OpenStack Services on OpenShift environment to the latest
maintenance release

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Abstract

Update your Red Hat OpenStack Services on OpenShift environment with the latest packages and containers.

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PROVIDING FEEDBACK ON RED HAT DOCUMENTATION

We appreciate your input on our documentation. Tell us how we can make it better.

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Use the [Create Issue](#) form to provide feedback on the documentation for Red Hat OpenStack Services on OpenShift (RHOSO) or earlier releases of Red Hat OpenStack Platform (RHOSP). When you create an issue for RHOSO or RHOSP documents, the issue is recorded in the RHOSO Jira project, where you can track the progress of your feedback.

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1. Click the following link to open a **Create Issue** page: [Create Issue](#)
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CHAPTER 1. PREPARING FOR A MINOR UPDATE

Keep your Red Hat OpenStack Services on OpenShift (RHOSO) 18.0 environment updated with the latest packages and containers on the control plane and data plane.

1.1. PREREQUISITES

- You have the **oc** command line tool installed on your workstation.
- You are authorized to access the Red Hat OpenShift Container Platform (RHOCP) cluster.
- You have updated your Red Hat OpenStack Services on OpenShift (RHOSO) Operators by using the Operator Lifecycle Manager. For more information, see [Updating installed Operators](#) in the RHOCP 4.16 documentation.
- You enabled the repositories for your data plane nodes. For more information, see [Creating a set of data plane nodes](#) in the *Deploying Red Hat OpenStack Services on OpenShift* guide.
- You backed up your current environment with your preferred third-party backup and recovery tool. For more information about certified backup and recovery tools, see the [Red Hat Ecosystem Catalog](#).
- Your Compute nodes are running either Red Hat Enterprise Linux (RHEL) 9.2 or RHEL 9.4.

1.2. CREATING THE FILES FOR THE DATA PLANE UPDATE

You can apply an update to one or more sets of data plane nodes. For example, you can update specific nodes within one maintenance window while workloads run on other nodes. Before you update the data plane, decide which data plane nodes that you want to update, and then specify them by creating two files that include a set of **OpenStackDataPlaneNodeSet** custom resources (CRs):

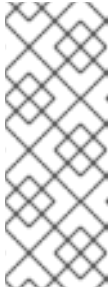
- **openstack-edpm-update-ovn.yaml** - You use this file to update your OVN services. You must update OVN services before the OpenStack Operator can begin the automatic update of the remaining control plane services.
- **openstack-edpm-update-services.yaml** - You use this file to update the remaining control plane packages, services, and container images on the data plane nodes.

Procedure

1. Create a file named **openstack-edpm-update-ovn.yaml** file on your workstation and include the following content:

```
apiVersion: dataplane.openstack.org/v1beta1
kind: OpenStackDataPlaneDeployment
metadata:
  name: edpm-deployment-ipam-ovn-update
spec:
  nodeSets:
    - <nodeSet_name>
    - <nodeSet_name>
    - ...
    - <nodeSet_name>
  servicesOverride:
    - ovn
```


- Replace `<nodeSet_name>` with the names of the **OpenStackDataPlaneNodeSet** CRs that you want to include in your data plane minor update, for example, **preprovisioned_node_set**.

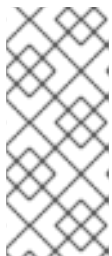


NOTE

The **servicesOverride** field is set to include only **ovn** because the **ovn** service must be updated first in isolation. If you are using a custom service to manage OVN, use the custom service name instead of **ovn** in the **servicesOverride** field. Additionally, if you must update other custom services at the same time as OVN, you can include them in the **servicesOverride** field.

2. Save the **openstack-edpm-update-ovn.yaml** deployment file.
3. Create a file named **openstack-edpm-update-services.yaml** on your workstation and include the following content:

```
apiVersion: dataplane.openstack.org/v1beta1
kind: OpenStackDataPlaneDeployment
metadata:
  name: edpm-deployment-ipam-update-dataplane-services
spec:
  nodeSets:
    - <nodeSet_name>
    - <nodeSet_name>
    - ...
    - <nodeSet_name>
  servicesOverride:
    - update
```



NOTE

The **servicesOverride** field is set to include only **update**. The **update** service applies only the tasks that are needed to update the packages and containers on the data plane nodes. If you are using custom services, include them in the **servicesOverride** field as well, or their equivalent custom services that apply the needed update tasks.

4. Save the **openstack-edpm-update-services.yaml** deployment file.

CHAPTER 2. PERFORMING A MINOR UPDATE

To update your Red Hat OpenStack Services on OpenShift (RHOSO) 18.0 environment to the latest maintenance release, perform the following tasks:

1. Update OVN services on the control plane.
2. Update OVN services on the data plane.
3. Wait for the OpenStack Operator to complete the automatic update of the remaining control plane packages, services, and container images.
4. Update the remaining services on the data plane.

2.1. UPDATING OVN SERVICES ON THE CONTROL PLANE

Update the target version in the **OpenStackVersion** custom resource (CR) to point to the version that you want to install. After you update the target version, the OVN service update on the control plane begins automatically.

Procedure

1. Create a patch file for the **OpenStackVersion** CR on your workstation, for example, **openstackversionpatch.yaml**.
2. Set the **targetVersion** to the release that you want to install:

```
$ cat <<EOF >openstackversionpatch.yaml
"spec": {
  "targetVersion": <openstack_version>
  customContainerImages:
    cinderApilimage: <custom_image>
    cinderVolumelimages:
      netapp: <custom_image>
      dell: <custom_image>
}
EOF
```

- Replace **<openstack_version>** with the target version you want to install, for example, **1.0.1**.
 - Replace **<custom_image>** with the location of the latest custom image for the service. You must update the image location for any custom images and the target version at the same time to ensure that the correct custom image is used after the minor update is complete.
3. Patch the **OpenStackVersion** CR:

```
$ oc patch <openstack_version_CR_name> --type=merge --patch-file
openstackversionpatch.yaml
```

- Replace **<openstack_version_CR_name>** with the name of your **OpenStackVersion** resource, for example, **openstackversion/openstack**.
4. Verify that the OVN services are updated on the control plane:

```
$ oc wait openstackversion <openstack_version_CR_name> --
for=condition=MinorUpdateOVNControlplane --timeout=20m
```

The following example output shows that the OVN services are updated:

```
openstackversion.core.openstack.org/<openstack_version_CR_name>
condition met
```

2.2. UPDATING OVN SERVICES ON THE DATA PLANE

Update the OVN services on the data plane.

Prerequisites

- Create the **openstack-edpm-update-ovn.yaml** file. For more information, see [Creating the files for the data plane update](#).

Procedure

1. To update OVN services on the data plane, create an **OpenStackDataPlaneDeployment** custom resource (CR) with the **openstack-edpm-update-ovn.yaml** file:

```
$ oc create -f openstack-edpm-update-ovn.yaml
```

2. Verify that the data plane update deployment succeeded:

```
$ oc wait openstackversion <openstack_version_CR_name> --
for=condition=MinorUpdateOVNDataplane --timeout=20m
```

```
$ oc get openstackdataplannedeployment
NAME                                STATUS MESSAGE
edpm-deployment-ipam                True Setup Complete
edpm-deployment-ipam-ovn-update     True Setup Complete
```

- Replace **<openstack_version_CR_name>** with the name of your **OpenStackVersion** resource, for example, **openstackversion/openstack**. If the deployment fails, see [Troubleshooting data plane creation and deployment](#) in the *Deploying Red Hat OpenStack Services on OpenShift* guide.

IMPORTANT

If the update fails, you can re-run the procedure. Before you re-run the procedure, you must edit the **name:** parameter in the **openstack-edpm-update-ovn.yaml** file to avoid conflicts in the CR name. For example:

```
apiVersion: dataplane.openstack.org/v1beta1
kind: OpenStackDataPlaneDeployment
metadata:
  name: <ovn-update-new-name>
...
```

- Replace **<ovn-update-new-name>** with a unique name for the CR.

2.3. UPDATING THE REMAINING SERVICES ON THE DATA PLANE

When the OVN service is updated on the control plane and data plane, and the OpenStack Operator has completed the automatic update of the remaining control plane packages, services, and container images, you must update the remaining services on the data plane.

Prerequisites

- Create the **openstack-edpm-update-services.yaml** file. For more information, see [Creating the files for the data plane update](#).
- The OVN service is updated on the control plane. For more information, see [Updating OVN services on the control plane](#).
- The OVN service is updated on the data plane. For more information, see [Updating OVN services on the data plane](#).

Procedure

1. Wait until all control plane services are updated:

```
$ oc wait openstackversion <openstack_version_CR_name> --
for=condition=MinorUpdateControlplane --timeout=20m
```

- Replace **<openstack_version_CR_name>** with the name of the **OpenStackVersion** resource, for example, **openstackversion/openstack**.

The command returns the following output when all the control plane services are updated:

```
openstackversion.core.openstack.org/<openstack_version_CR_name>
condition met
```

2. To update the remaining services on the data plane, create an **OpenStackDataPlaneDeployment** custom resource (CR) with the **openstack-edpm-update-services.yaml** file:

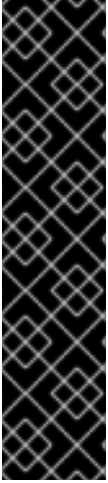
```
$ oc create -f openstack-edpm-update-services.yaml
```

3. Verify that the data plane update deployment succeeded:

```
$ oc wait openstackversion <openstack_version_CR_name> --
for=condition=MinorUpdateDataplane --timeout=20m
```

```
$ oc get openstackdataplanedeployment
NAME                                STATUS MESSAGE
edpm-deployment-ipam                True Setup Complete
edpm-deployment-ipam-update         True Setup Complete
edpm-deployment-ipam-update-dataplane-services True Setup Complete
```

If the deployment fails, see [Troubleshooting data plane creation and deployment](#) in the *Deploying Red Hat OpenStack Services on OpenShift* guide.



IMPORTANT

If the update fails, you can re-run the procedure. Before you re-run the procedure, you must edit the **name:** parameter in the **openstack-edpm-update-services.yaml** file to avoid conflicts in the CR name. For example:

```
apiVersion: dataplane.openstack.org/v1beta1
kind: OpenStackDataPlaneDeployment
metadata:
  name: <services-update-new-name>
...
```

- Replace **<services-update-new-name>** with a unique name for the CR.

CHAPTER 3. REBOOTING COMPUTE NODES

You can reboot your Compute nodes any time after you complete the minor update. You check which updated nodes require a reboot first, and then specify them in an **OpenStackDatPlaneDeployment** custom resource (CR) to start the reboot. Until after the reboot, your environment still uses the old kernel and Open vSwitch (OVS) for data plane development kit (DPDK) implementations.

To ensure minimal downtime of instances in your Red Hat OpenStack Services on OpenShift (RHOSO) environment, you should migrate the instances from the Compute node that you need to reboot.

Prerequisites

- You have decided whether to migrate instances to another Compute node before you start the reboot.



NOTE

- If you have a Multi-RHEL environment, and you want to migrate virtual machines from a Compute node that is running RHEL 9.4 to a Compute node that is running RHEL 9.2, only cold migration is supported.
- If you cannot migrate the instances, you can set the **shutdown_timeout** configuration option to control the state of the instances after the Compute node reboots. This option determines the number of seconds to wait for an instance to perform a clean shutdown. The default value is **60**.

Procedure

1. Confirm which updated nodes need a reboot:

```
$ oc logs jobs/reboot-os-<deployment_name>-<nodeSet_name>
```

- Replace **<deployment_name>** with the name of the deployment that includes your Compute nodes.
- Replace **<nodeSet_name>** with the names of the node sets that you need to check. The command shows the following output if a reboot is required: **Reboot is required but was not started. Edpm_reboot_strategy is set to never or this is already deployed machine. Reboot has to be planned. To start reboot set edpm_reboot_strategy to force.**

2. Open a remote shell connection to the **OpenStackClient** pod:

```
$ oc rsh -n openstack openstackclient
```

3. Retrieve a list of your Compute nodes to identify the host name of the nodes that require a reboot:

```
$ openstack compute service list
```

4. Disable the Compute service on the Compute node that you need to reboot:

```
$ openstack compute service set <hostname> nova-compute --disable
```

- Replace **<hostname>** with the host name of the Compute node on which you are disabling the service.

5. List all instances on the Compute node:

```
$ openstack server list --host <hostname> --all-projects
```

6. Optional: If you decide to migrate the instances to another Compute node, for example, if you plan to reboot nodes that include running workloads, run the following command:

```
$ openstack server migrate --live-migration --host <target_host> --wait <instance_id>
```

- Replace **<instance_id>** with your instance ID.
- Replace **<target_host>** with the host that you are migrating the instance to.
 - a. Wait until migration completes.
 - b. Confirm that the migration was successful:

```
$ openstack server list --host <hostname> --all-projects
```

- c. Continue to migrate instances until none remain on the Compute node.

7. Exit the **OpenStackClient** pod:

```
$ exit
```

8. Create an **OpenStackDataPlaneDeployment** CR to reboot the nodes:

```
apiVersion: dataplane.openstack.org/v1beta1
kind: OpenStackDataPlaneDeployment
metadata:
  name: openstack-edpm-ipam-reboot
  namespace: openstack
spec:
  nodeSets: 1
  - <nodeSet_name>
  servicesOverride: 2
  - reboot-os
  ansibleExtraVars: 3
  edpm_reboot_strategy: force
  ansibleLimit: 4
  - <node_hostname_1>
  - <node_hostname_2>
```

1 Lists the **OpenStackDataPlaneNodeSet** CRs that contain the nodes that you are rebooting.

2 Specifies the **reboot-os** as the only service to execute.

3 Reboots all the nodes in the node set at the same time.

4

Optional: Lists the individual nodes in the node set to reboot. If not set, all the nodes in the node set are rebooted at the same time.

9. Verify that the **openstack-edpm-ipam-reboot** deployment completed:

```
$ oc get openstackdataplanedeployment
NAME                                STATUS  MESSAGE
openstack-edpm-deployment-ipam-reboot  True   Setup complete
```

If the deployment fails, see [Troubleshooting data plane creation and deployment](#) in the *Deploying Red Hat OpenStack Services on OpenShift* guide.

10. Re-enable the Compute node:

```
$ oc rsh openstackclient -n openstack
$ openstack compute service set <hostname> nova-compute --enable
```

11. Check that the Compute node is enabled:

```
$ openstack compute service list
```