# 11_CVD RH ODS Deployment - copy 1

**References:**

1. https://docs.openshift.com/container-platform/4.13/authentication/identity_providers/configuring-htpasswd-identity-provider.html#identity-provider-creating-htpasswd-file-linux_configuring-htpasswd-identity-provider
2. https://access.redhat.com/documentation/en-us/openshift_container_platform/4.13/html/authentication_and_authorization/using-rbac#creating-cluster-admin_using-rbac
3. https://access.redhat.com/documentation/en-us/red_hat_openshift_data_science_self-managed/1-latest/html/installing_openshift_data_science_self-managed/index
4. Adding users for OpenShift Data Science
5. Adding Operators to a cluster
6. https://docs.openshift.com/container-platform/4.13/hardware_enablement/psap-node-feature-discovery-operator.html#create-nfd-cr-web-console_node-feature-discovery-operator

### High-level steps from Installation documentation:

```
Installing OpenShift Data Science involves the following high-level tasks:

1. Confirm that your OpenShift Container Platform cluster meets all requirements.
2. Configure an identity provider for OpenShift Container Platform.
3. Add administrative users for OpenShift Container Platform.
4. Install the OpenShift Data Science Operator.
5. Configure user and administrator groups to provide user access to OpenShift Data
Science.
6. Access the OpenShift Data Science dashboard.
7. Optionally, enable graphics processing units (GPUs) in OpenShift Data Science to
ensure that your data scientists can use compute-heavy workloads in their models.
```

### Step 1: Confirm that your OpenShift Container Platform cluster meets all requirements.

```
1. A subscription for Red Hat OpenShift Data Science self-managed
2. Red Hat OpenShift Container Platform cluster 4.11 or greater
```

```
3. Your cluster must have at least 2 worker nodes with at least 8 CPUs and 32 GiB
RAM available for OpenShift Data Science to use when you install the Operator.

The installation process fails to start and an error is displayed if this
requirement is not met. To ensure that OpenShift Data Science is usable, additional
cluster resources are required beyond the minimum requirements.

4. A default storage class that can be dynamically provisioned must be configured.

Confirm that a default storage class is configured by running the oc get
storageclass command. If no storage classes are noted with (default) beside the
name, follow the OpenShift Container Platform documentation to configure a default
storage class: Changing the default storage class. For more information about
dynamic provisioning, see Dynamic provisioning.

5. Open Data Hub must not be installed on the cluster.
```

1-2: For more information about managing the machines that make up an OpenShift cluster, see Overview of machine management.

1-4:  Identifying the default storage class - and changing it to use Portworx

```
oc get storageclass | grep default
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc get storageclass
NAME PROVISIONER RECLAIMPOLICY VOLUMEBINDINGMODE ALLOWVOLUMEEXPANSION AGE
px-csi-db pxd.portworx.com Delete Immediate true 127m
px-csi-db-cloud-snapshot pxd.portworx.com Delete Immediate true 127m
px-csi-db-cloud-snapshot-encrypted pxd.portworx.com Delete Immediate true 127m
px-csi-db-encrypted pxd.portworx.com Delete Immediate true 127m
px-csi-db-local-snapshot pxd.portworx.com Delete Immediate true 127m
px-csi-db-local-snapshot-encrypted pxd.portworx.com Delete Immediate true 127m
px-csi-replicated pxd.portworx.com Delete Immediate true 127m
px-csi-replicated-encrypted pxd.portworx.com Delete Immediate true 127m
px-db kubernetes.io/portworx-volume Delete Immediate true 127m
px-db-cloud-snapshot kubernetes.io/portworx-volume Delete Immediate true 127m
px-db-cloud-snapshot-encrypted kubernetes.io/portworx-volume Delete Immediate true
127m
px-db-encrypted kubernetes.io/portworx-volume Delete Immediate true 127m
px-db-local-snapshot kubernetes.io/portworx-volume Delete Immediate true 127m
px-db-local-snapshot-encrypted kubernetes.io/portworx-volume Delete Immediate true
127m
px-replicated kubernetes.io/portworx-volume Delete Immediate true 127m
px-replicated-encrypted kubernetes.io/portworx-volume Delete Immediate true 127m
stork-snapshot-sc stork-snapshot Delete Immediate true 127m
thin-csi (default) csi.vsphere.vmware.com Delete WaitForFirstConsumer true 2d11h
```

```
[administrator@FSV-AI-OCP-Installer AIML]$
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc get storageclass | grep default
thin-csi (default) csi.vsphere.vmware.com Delete WaitForFirstConsumer true 2d11h
```

### Changing the default class to use Portworx:

See documentation: Changing default storageclass

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc patch storageclass px-csi-db -p
'{"metadata": {"annotations": {"storageclass.kubernetes.io/is-default-class":
"true"}}}'
storageclass.storage.k8s.io/px-csi-db patched
[administrator@FSV-AI-OCP-Installer AIML]$
[administrator@FSV-AI-OCP-Installer AIML]$
[administrator@FSV-AI-OCP-Installer AIML]$ oc get storageclass | grep default px-
csi-db (default) pxd.portworx.com Delete Immediate true 3h11m
thin-csi (default) csi.vsphere.vmware.com Delete WaitForFirstConsumer true 2d12h
[administrator@FSV-AI-OCP-Installer AIML]$
[administrator@FSV-AI-OCP-Installer AIML]$ oc patch storageclass thin-csi -p
'{"metadata": {"annotations": {"storageclass.kubernetes.io/is-default-class":
"false"}}}'
storageclass.storage.k8s.io/thin-csi patched
[administrator@FSV-AI-OCP-Installer AIML]$
[administrator@FSV-AI-OCP-Installer AIML]$ oc get storageclass | grep default px-
csi-db (default) pxd.portworx.com Delete Immediate true 3h12m
[administrator@FSV-AI-OCP-Installer AIML]$
```

---

### Step 2: An identity provider configured for OpenShift Container Platform

```
- Access to the cluster as a user with the cluster-admin role; the kubeadmin user is
not allowed.
- Red Hat OpenShift Data Science supports the same authentication systems as Red Hat
OpenShift Container Platform.
```

See Understanding identity provider configuration for more information on configuring identity providers.

```
OCP master includes a built-in OAuth server. Developers and administrators obtain
OAuth access tokens to authenticate themselves to the API.
```

```
As an administrator, you can configure OAuth to specify an identity provider after
you install your cluster.

By default, only a kubeadmin user exists on your cluster. To specify an identity
provider, you must create a custom resource (CR) that describes that identity
provider and add it to the cluster.
```

OCP supports several identity providers (IDPs) - including htpasswd, Basic Authentication, LDAP, Google, and others.

For lab setup, htpasswd is sufficient as an identity provider...

```
Identity provider htpasswd

Description Configure the htpasswd identity provider to validate user names and
passwords against a flat file generated using htpasswd.
```

The following custom resource (CR) shows the parameters and default values that you use to configure an identity provider. This example uses the htpasswd identity provider.

```
apiVersion: config.openshift.io/v1
kind: OAuth
metadata:
name: cluster
spec:
identityProviders:
- name: my_identity_provider
mappingMethod: claim
type: HTPasswd
htpasswd:
fileData:
name: htpass-secret
```

To Configure the **htpasswd** identity provider to allow users to log in to OpenShift Container Platform with credentials from an htpasswd file, complete the following:

```
0. Install httpd-tools to use the htpasswd utility if you don't have it already
1. Create an htpasswd file to store the user and password information.
2. Create a secret to represent the htpasswd file.
3. Define an htpasswd identity provider resource that references the secret.
4. Apply the resource to the default OAuth configuration to add the identity
provider.
```

[0]  htpasswd is part of httpd-tools:

```
sudo dnf install httpd-tools
```

[1]  Create an htpasswd file to store the user and password information.

```
[administrator@FSV-AI-OCP-Installer yum.repos.d]$ sudo htpasswd -c -B -b
users.htpasswd rhods-admin H1ghV0lt
Adding password for user rhods-admin
```

[2]   a secret to use the htpasswd identity provider using the htpasswd user file.

```
oc create secret generic htpass-secret --from-file=htpasswd=<path_to_users.htpasswd>
-n openshift-config
```

```
oc create secret generic htpass-secret --from-file=htpasswd=users.htpasswd -n
openshift-config
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc create secret generic htpass-secret --
from-file=htpasswd=users.htpasswd -n openshift-config
secret/htpass-secret created
[administrator@FSV-AI-OCP-Installer AIML]$
```

[3]  Define an **htpasswd** identity provider resource that references the secret. This is done by creating custom resource (CR) for your identity providers.

- htpasswd CR:

```
apiVersion: config.openshift.io/v1
kind: OAuth
metadata:
name: cluster
spec:
identityProviders:
- name: my_htpasswd_provider
mappingMethod: claim
type: HTPasswd
htpasswd:
fileData:
name: htpass-secret
```

```
apiVersion: config.openshift.io/v1
kind: OAuth
metadata:
name: cluster
spec:
identityProviders:
- name: custom_htpasswd_provider
mappingMethod: claim
type: HTPasswd
htpasswd:
fileData:
name: htpass-secret
```

Note:

- The provider name is prefixed to provider user names to form an identity name.
- Mapping Method: Controls how mappings are established between the above provider's identity and `User` objects.
- An existing secret containing a file generated using `htpasswd`.

Past the above htpasswd CR into the following file:

```
[administrator@FSV-AI-OCP-Installer AIML]$ sudo vi htpasswd_cr.yaml
[sudo] password for administrator:
```

Apply the defined CR from above:

```
oc apply -f </path/to/CR>
```

```
oc apply -f htpasswd_cr.yaml
```

```


[administrator@FSV-AI-OCP-Installer AIML]$ oc apply -f htpasswd_cr.yaml
Warning: resource oauths/cluster is missing the kubectl.kubernetes.io/last-applied-
configuration annotation which is required by oc apply. oc apply should only be used
on resources created declaratively by either oc create --save-config or oc apply.
The missing annotation will be patched automatically.
oauth.config.openshift.io/cluster configured
[administrator@FSV-AI-OCP-Installer AIML]$
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc login -u rhods-admin
Authentication required for https://api.ocp3.fsv.local:6443 (openshift)
Console URL: https://api.ocp3.fsv.local:6443/console
Username: rhods-admin
Password:
Login successful.

You don't have any projects. You can try to create a new project, by running

oc new-project <projectname>

[administrator@FSV-AI-OCP-Installer AIML]$ oc whoami
rhods-admin
[administrator@FSV-AI-OCP-Installer AIML]$
```

---

### Step 3:  Internet Access

```
The following domains must be accessible during the installation of OpenShift Data
Science self-managed:

cdn.redhat.com
subscription.rhn.redhat.com
registry.access.redhat.com
registry.redhat.io
quay.io

For CUDA-based images, the following domains must be accessible:

ngc.download.nvidia.cn
developer.download.nvidia.com
```

---

### Step 4:OpenShift Pipelines Operator Installation

The Red Hat OpenShift Pipelines operator enables support for installation of pipelines in a self-managed environment. Before you use data science pipelines in OpenShift Data Science, you must install the Red Hat OpenShift Pipelines Operator.
For more information, see Installing OpenShift Pipelines.
You can store pipeline artifacts in

- Amazon Web Services (AWS) Simple Storage Service (S3) bucket

- Local storage.

**Step 5: Configure user with cluster-admin role**

Before you can install and configure OpenShift Data Science for your data scientist users, you must define administrative users. Only users with the `cluster-admin` role can install and configure OpenShift Data Science.

The `cluster-admin` role is required to perform administrator level tasks on the OpenShift Container Platform cluster, such as modifying cluster resources.

Configure the `<user>` as a **`cluster-admin`** ...role is cluster-admin.

```
oc adm policy add-cluster-role-to-user cluster-admin <user>
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ sudo htpasswd -B -b users.htpasswd rhods-
cluster-admin H1ghV0lt
Adding password for user rhods-cluster-admin
```

vi `users.htpasswd`

```
rhods-admin:$2y$05$Nk9LSjKJmEiyGFfw6ptlo.XiBUASG7d4IoFrFSkalGJ1Fa1i0AxsW
rhods-cluster-admin:$2y$05$7NKar3qsaYvti6X1AtacUOsOcSElvwrVRPLkpa8.I3xTljPfFCTjS
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc login -u kubeadmin
Authentication required for https://api.ocp3.fsv.local:6443 (openshift)
Console URL: https://api.ocp3.fsv.local:6443/console
Username: kubeadmin
Password:
Login successful.

You have access to 68 projects, the list has been suppressed. You can list all
projects with 'oc projects'

Using project "default".
[administrator@FSV-AI-OCP-Installer AIML]$ oc whoami
kube:admin
[administrator@FSV-AI-OCP-Installer AIML]$
```

Apply the new secret file - in this case was done form Web UI so was done from UI
Next apply the CR for HTPASSWD

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc apply -f htpasswd_cr.yaml
```

```
oauth.config.openshift.io/cluster unchanged
```

```
[administrator@FSV-AI-OCP-Installer AIML]$ oc adm policy add-cluster-role-to-user
cluster-admin rhods-cluster-admin
clusterrole.rbac.authorization.k8s.io/cluster-admin added: "rhods-cluster-admin"
[administrator@FSV-AI-OCP-Installer AIML]$
```

---

**Step 6: Install OpenShift Data Science on OpenShift Container Platform**
You can install the Red Hat OpenShift Data Science Operator to your Red Hat OpenShift Container Platform cluster using the OpenShift Container Platform web console.
Pre-requisites:

```
- Purchase entitlements for OpenShift Data Science self-managed.
- A running OpenShift Container Platform cluster, version 4.11 or greater,
configured with a default storage class that can be dynamically provisioned.
- Open Data Hub must not be installed on the same OpenShift cluster.
- Access to the OpenShift Container Platform cluster as a user with the cluster-
admin role.
```

Follow the steps outlined in this section to deploy ODS as an operator from Operator Hub:
https://access.redhat.com/documentation/en-us/red_hat_openshift_data_science_self-managed/1-latest/html/installing_openshift_data_science_self-managed/installing-openshift-data-science-on-openshift-container-platform_install

Verify the installation was successful:

- In the OpenShift Container Platform web console , click **Operators** → **Installed Operators** and confirm that the Red Hat OpenShift Data Science Operator shows one of the following statuses:

  `Installing` - installation is in progress

  `Succeeded` - installation is successful

- In OpenShift Container Platform, click **Home** → **Projects** and confirm that the following project namespaces are visible and listed as **Active**:
  - `redhat-ods-applications`
  - `redhat-ods-monitoring`
  - `redhat-ods-operator`
  - `rhods-notebooks`

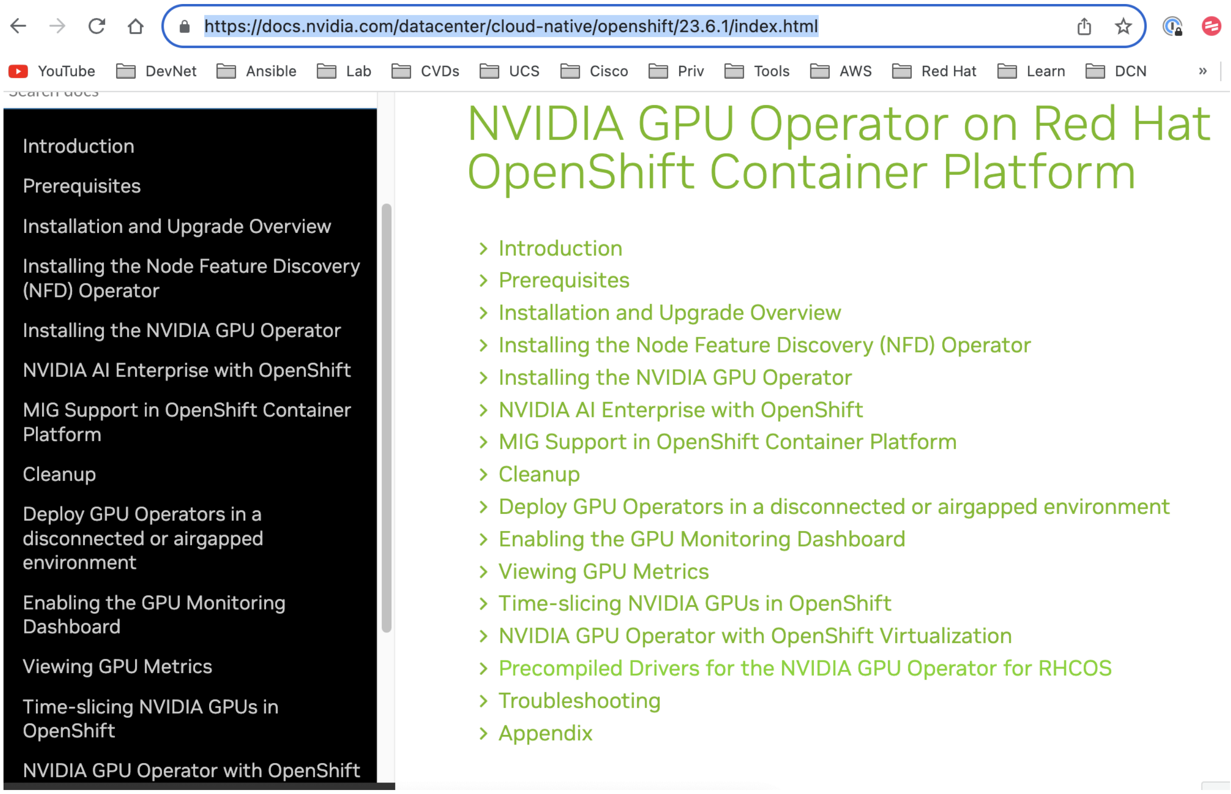
---

### Step 7:  Accessing ODS Dashboard from OCP console

---

### Step 8:  Enabling GPU support in OpenShift Data Science

Optionally, to ensure that your data scientists can use compute-heavy workloads in their models, you can enable graphics processing units (GPUs) in OpenShift Data Science. To enable GPUs on OpenShift, you must install the NVIDIA GPU Operator. As a prerequisite to installing the NVIDIA GPU Operator, you must install the Node Feature Discovery (NFD) Operator. For information about how to install these operators, see GPU Operator on OpenShift.
https://docs.nvidia.com/datacenter/cloud-native/openshift/23.6.1/index.html


https://docs.nvidia.com/datacenter/cloud-native/openshift/23.6.1/index.html
YouTube
DevNet
Ansible
Lab
CVDs
UCS
Cisco
Priv
Tools
AWS
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Introduction
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NVIDIA AI Enterprise with OpenShift
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Cleanup
Deploy GPU Operators in a disconnected or airgapped environment
Enabling the GPU Monitoring Dashboard
Viewing GPU Metrics
Time-slicing NVIDIA GPUs in OpenShift
NVIDIA GPU Operator with OpenShift

## NVIDIA GPU Operator on Red Hat OpenShift Container Platform

- Introduction
- Prerequisites
- Installation and Upgrade Overview
- Installing the Node Feature Discovery (NFD) Operator
- Installing the NVIDIA GPU Operator
- NVIDIA AI Enterprise with OpenShift
- MIG Support in OpenShift Container Platform
- Cleanup
- Deploy GPU Operators in a disconnected or airgapped environment
- Enabling the GPU Monitoring Dashboard
- Viewing GPU Metrics
- Time-slicing NVIDIA GPUs in OpenShift
- NVIDIA GPU Operator with OpenShift Virtualization
- Precompiled Drivers for the NVIDIA GPU Operator for RHCOS
- Troubleshooting
- Appendix

**Enable Node Feature Discovery Operator**

The Node Feature Discovery Operator (NFD) manages the detection of hardware features and configuration in an OpenShift Container Platform cluster by labeling the nodes with hardware-specific information. NFD labels the host with node-specific attributes, such as PCI cards, kernel, operating system version, and so on.

```
Procedure
In the OpenShift Container Platform web console, click Operators → OperatorHub.

Choose Node Feature Discovery from the list of available Operators, and then click
Install.

On the Install Operator page, select: A specific namespace on the cluster, and then
click Install. You do not need to create a namespace because it is created for you.
```

Verify NFDO is deployed:

```


[administrator@FSV-AI-OCP-Installer ~]$ oc get pods -n openshift-nfd
NAME READY STATUS RESTARTS AGE
nfd-controller-manager-68bcf69df8-r2bnr 2/2 Running 0 60m
[administrator@FSV-AI-OCP-Installer ~]$
```

Create an instance of Node Feature Discovery

```
When the Node Feature Discovery is installed, create an instance of Node Feature
Discovery using the NodeFeatureDiscovery tab.

Click Operators > Installed Operators from the side menu.
Find the Node Feature Discovery entry.
Click NodeFeatureDiscovery under the Provided APIs field.
Click Create NodeFeatureDiscovery.
Click Create again in the subsequent screen. This starts the Node Feature Discovery
Operator that proceeds to label the nodes in the cluster that have GPUs.
```

Note: The values pre-populated by the OperatorHub are valid for the GPU Operator.

## Verify that the Node Feature Discovery Operator is functioning correctly

The Node Feature Discovery Operator uses vendor PCI IDs to identify hardware in a node. NVIDIA uses the PCI ID 10de. Use the OpenShift Container Platform web console or the CLI to verify that the Node Feature Discovery Operator is functioning correctly.

```
1. In the OpenShift Container Platform web console, click Compute > Nodes from the
side menu.
2. Select a worker node that you know contains a GPU.
3. Click the Details tab.
4. Under Node labels verify that the following label is present:
```

Check for NVIDIA GPU - Compute > Details Tab, Label:

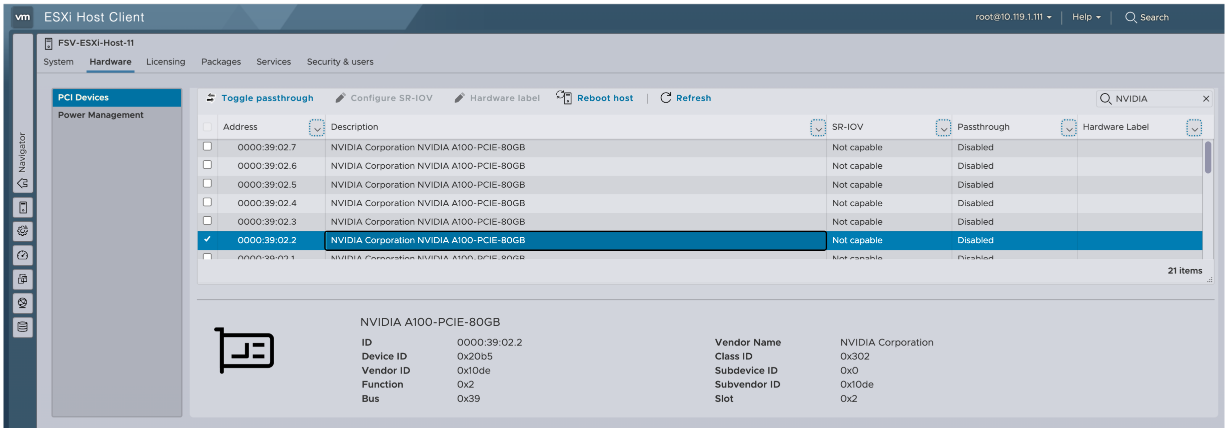
```
feature.node.kubernetes.io/pci-10de.present=true
```

No NVIDIA GPU found

```

[administrator@FSV-AI-OCP-Installer ~]$ oc get nodes -l
feature.node.kubernetes.io/pci-10de.present
No resources found
[administrator@FSV-AI-OCP-Installer ~]$
```

White list NFD Instance:



| | Address | Description | SR-IOV | Passthrough | Hardware Label |
|---|---|---|---|---|---|
| □ | 0000:39:02.7 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| □ | 0000:39:02.6 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| □ | 0000:39:02.5 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| □ | 0000:39:02.4 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| □ | 0000:39:02.3 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| ☑ | 0000:39:02.2 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |
| □ | 0000:39:02.1 | NVIDIA Corporation NVIDIA A100-PCIE-80GB | Not capable | Disabled | |

21 items

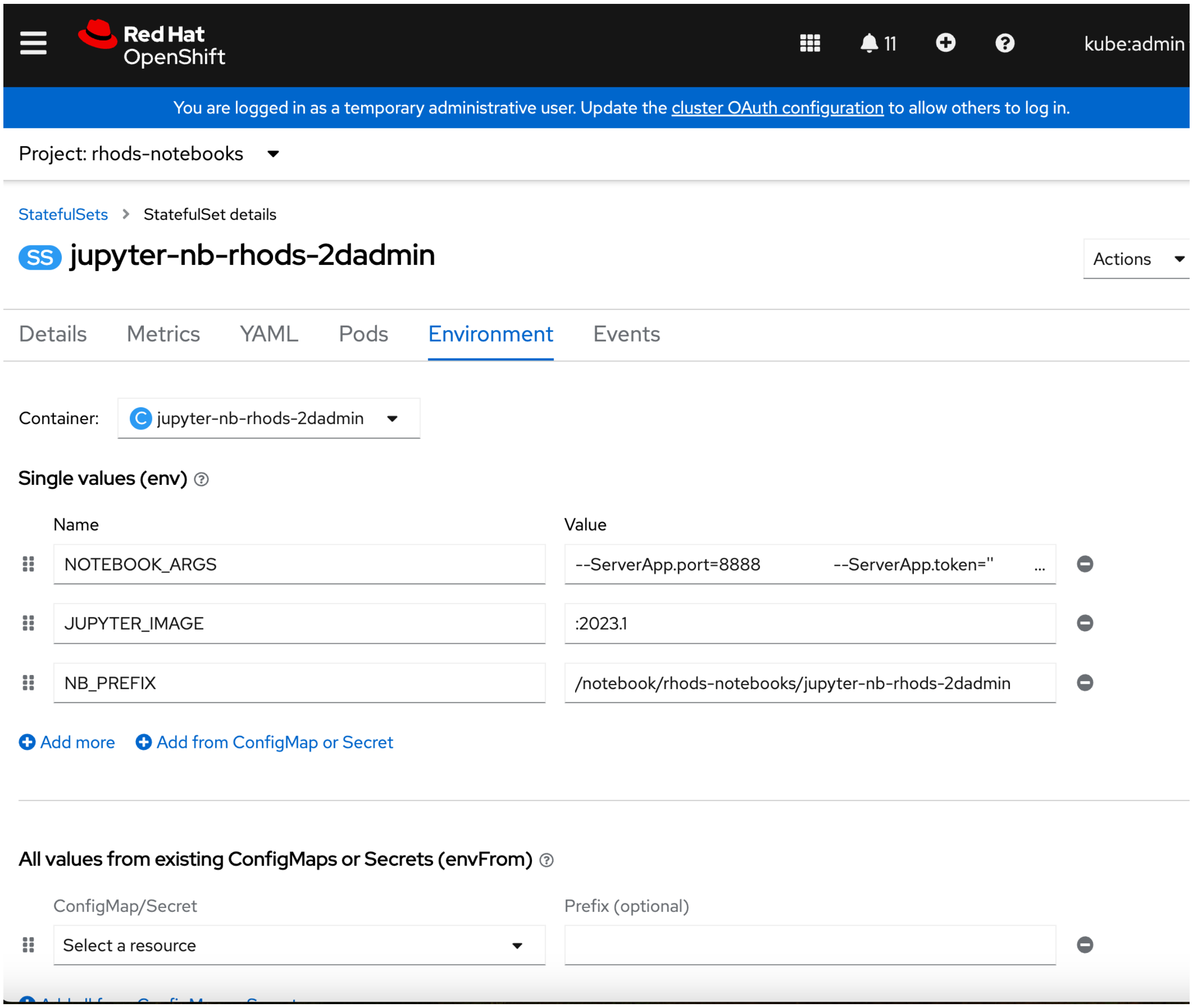
NVIDIA A100-PCIE-80GB

| | | | |
|---|---|---|---|
| **ID** | 0000:39:02.2 | **Vendor Name** | NVIDIA Corporation |
| **Device ID** | 0x20b5 | **Class ID** | 0x302 |
| **Vendor ID** | 0x10de | **Subdevice ID** | 0x0 |
| **Function** | 0x2 | **Subvendor ID** | 0x10de |
| **Bus** | 0x39 | **Slot** | 0x2 |

```
[administrator@FSV-AI-OCP-Installer ~]$ oc get pods,daemonsets
NAME READY STATUS RESTARTS AGE
pod/cuda-vectoradd 0/1 Completed 0 3h21m
pod/gpu-feature-discovery-7psnh 1/1 Running 0 4h9m
pod/gpu-feature-discovery-vbqct 1/1 Running 0 4h9m
pod/gpu-feature-discovery-z86vv 1/1 Running 0 4h9m
```

```
pod/nvidia-container-toolkit-daemonset-55cdh 1/1 Running 0 4h9m
pod/nvidia-container-toolkit-daemonset-8c2n7 1/1 Running 0 4h9m
pod/nvidia-container-toolkit-daemonset-hb7j8 1/1 Running 0 4h9m
pod/nvidia-cuda-validator-dqjkv 0/1 Completed 0 4h6m
pod/nvidia-cuda-validator-w95v6 0/1 Completed 0 4h6m
pod/nvidia-cuda-validator-zsht6 0/1 Completed 0 4h6m
pod/nvidia-dcgm-exporter-jlttn 1/1 Running 0 4h9m
pod/nvidia-dcgm-exporter-mdnpn 1/1 Running 0 4h9m
pod/nvidia-dcgm-exporter-wb8tl 1/1 Running 0 4h9m
pod/nvidia-dcgm-hgqpd 1/1 Running 0 4h9m
pod/nvidia-dcgm-l9nng 1/1 Running 0 4h9m
pod/nvidia-dcgm-rvck8 1/1 Running 0 4h9m
pod/nvidia-device-plugin-daemonset-6tvgg 1/1 Running 0 4h9m
pod/nvidia-device-plugin-daemonset-kkb7p 1/1 Running 0 4h9m
pod/nvidia-device-plugin-daemonset-pnmzt 1/1 Running 0 4h9m
pod/nvidia-driver-daemonset-413.92.202309261804-0-7gf8m 2/2 Running 0 4h10m
pod/nvidia-driver-daemonset-413.92.202309261804-0-kkt7q 2/2 Running 0 4h10m
pod/nvidia-driver-daemonset-413.92.202309261804-0-ktz85 2/2 Running 0 4h10m
pod/nvidia-node-status-exporter-cshhk 1/1 Running 0 4h10m
pod/nvidia-node-status-exporter-rr5nz 1/1 Running 0 4h10m
pod/nvidia-node-status-exporter-zdl94 1/1 Running 0 4h10m
pod/nvidia-operator-validator-c9d9t 1/1 Running 0 4h9m
pod/nvidia-operator-validator-lbskm 1/1 Running 0 4h9m
pod/nvidia-operator-validator-vfgq9 1/1 Running 0 4h9m

NAME DESIRED CURRENT READY UP-TO-DATE AVAILABL E NODE SELECTOR AGE
daemonset.apps/gpu-feature-discovery 3 3 3 3 3 nvidia.com/gpu.deploy.gpu-feature-
discovery=true 4h10m
daemonset.apps/nvidia-container-toolkit-daemonset 3 3 3 3 3
nvidia.com/gpu.deploy.container-toolkit=true 4h10m
daemonset.apps/nvidia-dcgm 3 3 3 3 3 nvidia.com/gpu.deploy.dcgm=true 4h10m
daemonset.apps/nvidia-dcgm-exporter 3 3 3 3 3 nvidia.com/gpu.deploy.dcgm-
exporter=true 4h10m
daemonset.apps/nvidia-device-plugin-daemonset 3 3 3 3 3
nvidia.com/gpu.deploy.device-plugin=true 4h10m
daemonset.apps/nvidia-driver-daemonset-413.92.202309261804-0 3 3 3 3 3
feature.node.kubernetes.io/system-os_release.OSTREE_VERSION=413.92.202309261804-
0,nvidia.com/gpu.deploy.driv er=true 4h10m
daemonset.apps/nvidia-mig-manager 0 0 0 0 0 nvidia.com/gpu.deploy.mig-manager=true
4h10m
daemonset.apps/nvidia-node-status-exporter 3 3 3 3 3 nvidia.com/gpu.deploy.node-
status-exporter=true 4h10m
daemonset.apps/nvidia-operator-validator 3 3 3 3 3 nvidia.com/gpu.deploy.operator-
validator=true 4h10m
[administrator@FSV-AI-OCP-Installer ~]$
```



You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.

Project: rhods-notebooks

SS jupyter-nb-rhods-2dadmin

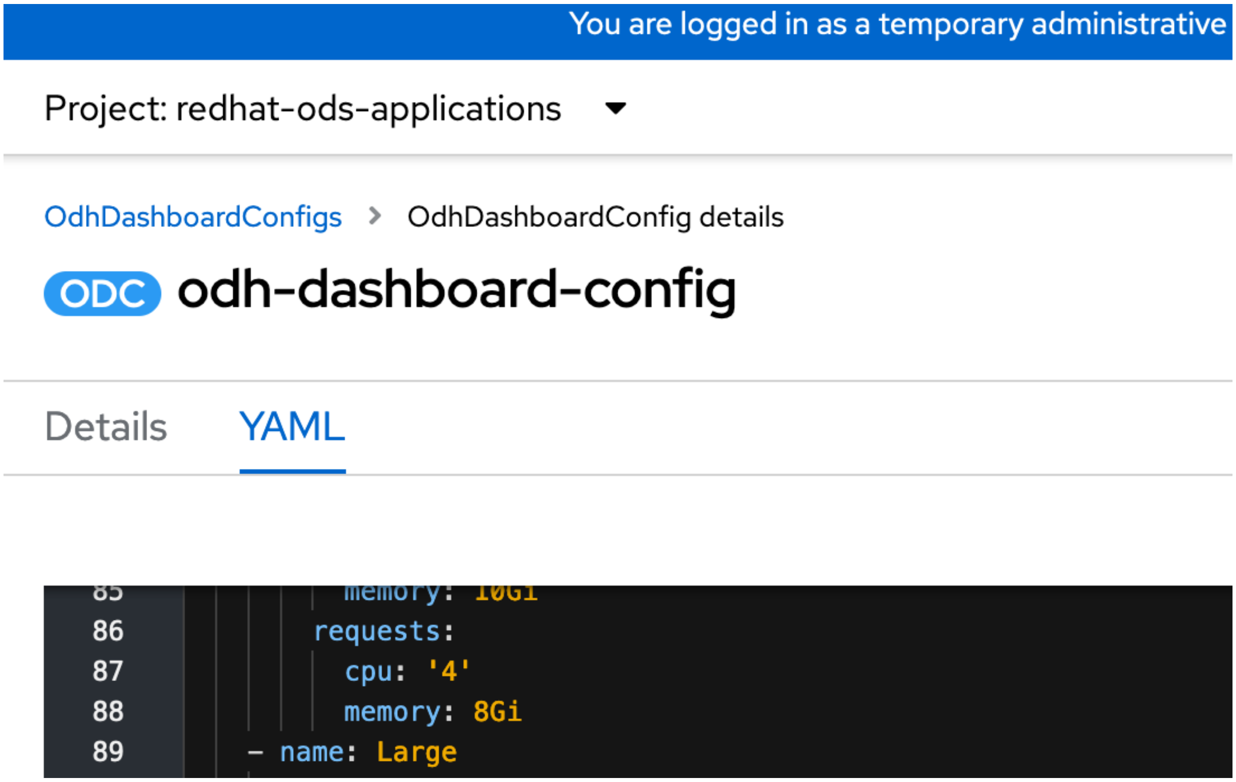
Container: C jupyter-nb-rhods-2dadmin

Single values (env)

| Name | Value |
|---|---|
| NOTEBOOK_ARGS | --ServerApp.port=8888 --ServerApp.token='' ... |
| JUPYTER_IMAGE | :2023.1 |
| NB_PREFIX | /notebook/rhods-notebooks/jupyter-nb-rhods-2dadmin |

All values from existing ConfigMaps or Secrets (envFrom)

| ConfigMap/Secret | Prefix (optional) |
|---|---|
| Select a resource | |



You are logged in as a temporary administrative
Project: redhat-ods-applications
OdhDashboardConfigs
OdhDashboardConfig details
ODC
Details
YAML

odh-dashboard-config

```
      memory: 10Gi
    requests:
      cpu: '4'
      memory: 8Gi
- name: Large
```

```
gpuSetting: '1'
```