

LAB OCP 1

What's new in OpenShift 4

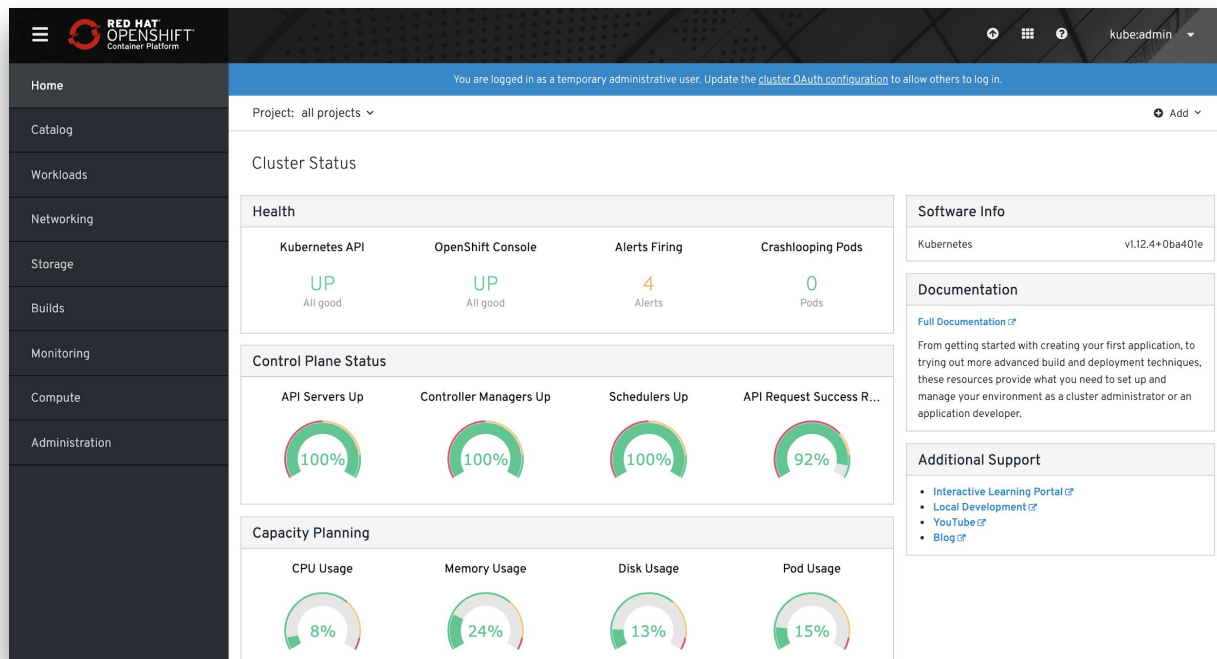
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Introduction in HandsOn Environment


OpenShift 4 / LAB 1

Introduction to the new web console

- Navigate the interface
- New usermanagement
- Cluster Settings



New User Management



Home

Catalog

Workloads

Networking

Storage

Builds

Monitoring

Compute

Administration

You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.

Overview

YAML

OAuth Overview

NAME

cluster

LABELS

No labels

ANNOTATIONS

0 Annotations

ACCESS TOKEN MAX AGE

24h 0m 0s

CREATED AT

May 28, 4:38 pm

Identity Providers

Identity providers determine how users log into the cluster.

Add

No Identity Providers Found

Cluster Settings

RED HAT
OPENSIFT
Container Platform

Home

Catalog

Workloads

Networking

Storage

Builds

Monitoring

Compute

Administration

Cluster Settings

Namespaces

Service Accounts

Roles

Role Bindings

Resource Quotas

Limit Ranges

Custom Resource Definitions

Cluster Settings

Overview Global Configuration Cluster Operators


You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.

CONFIGURATION RESOURCE

| | |
|--------------------------------|-----------|
| Authentication | Edit YAML |
| ClusterVersion | Edit YAML |
| Console | Edit YAML |
| DNS | Edit YAML |
| Image | Edit YAML |
| Infrastructure | Edit YAML |
| Ingress | Edit YAML |
| Network | Edit YAML |
| OAuth | Edit YAML |

<https://console-openshift-console.apps.cluster-c846.sandbox135.opentlc.com/settings/cluster/globalconfig>

Compute Overview

RED HAT
OPENSIFT
Container Platform

Home

Catalog

Workloads

Networking

Storage

Builds

Monitoring

Compute

Nodes

Machines

Machine Sets

Machine Configs

Machine Config Pools

Administration

Cluster Settings

Namespaces

Service Accounts



















You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.

Nodes

Compact Expand

Filter Nodes by name...

6 Ready 0 Not Ready Select All Filters 6 Items

| NODE NAME ↑ | STATUS | MACHINE | NODE ADDRESSES |
|--|---|--|---------------------------|
|  ip-10-0-133-101.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-master-0 | Internal IP: 10.0.133.101 |
|  ip-10-0-140-161.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-worker-eu-west-1a-jqwv8 | Internal IP: 10.0.140.161 |
|  ip-10-0-156-38.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-worker-eu-west-1b-tn8p4 | Internal IP: 10.0.156.38 |
|  ip-10-0-159-115.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-master-1 | Internal IP: 10.0.159.115 |
|  ip-10-0-167-141.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-master-2 | Internal IP: 10.0.167.141 |
|  ip-10-0-171-68.eu-west-1.compute.internal |  Ready |  cluster-c846-zrm6x-worker-eu-west-1c-n8mn2 | Internal IP: 10.0.171.68 |

Lab: „Manage OpenShift”

OpenShift 4 / LAB 2

Click to add subtitle

- Create a project
- Manage storage
- Manage networking
- Add features from operator hub
- Monitoring
- Logging

The screenshot shows the OpenShift console interface. On the left is a dark sidebar with navigation links: Home, Projects, Status, Search, Events, Catalog, Workloads, Networking, Storage, Builds, Monitoring, and Compute. The main area displays the 'Projects' page. At the top of this page is a blue banner with a message: 'You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.' Below the banner is a 'Create Project' button and a search bar labeled 'Filter Projects by name...'. A table lists the existing projects with columns for NAME, STATUS, REQUESTER, and LABELS. Each row includes a 'PR' icon and a three-dot menu icon. The URL at the bottom of the console is <https://console-openshift-console.apps.cluster-c846.sandbox135.opentlc.com/#>.

| NAME ↑ | STATUS | REQUESTER | LABELS |
|------------------------|--------|--------------|---------------------------------|
| PR default | Active | No requester | No labels |
| PR istio-operator | Active | No requester | No labels |
| PR istio-system | Active | No requester | istio.openshift.com/ig...=ig... |
| PR istio-tutorial | Active | No requester | No labels |
| PR kube-public | Active | No requester | No labels |
| PR kube-system | Active | No requester | No labels |
| PR labguide | Active | No requester | No labels |
| PR openshift | Active | No requester | No labels |
| PR openshift-apiserver | Active | No requester | openshift.io/run-level=1 |

Create a project

Create a project

Log in to your OCP Console, open the Home Tab and click on Projects

Click on the create „Projects Button“

Name your Project according to your User Number /testX

Click on „Browse Catalog“

Choose whatever environment you want and push the „Create Application“ Button

Use the prepared Sample Repository by clicking on Try Sample

Checkmark the „Create route“ box

Press the „create“ button

The screenshot shows the Red Hat OpenShift Container Platform console interface. On the left is a dark sidebar with a menu containing: Home, Projects (selected), Status, Search, Events, Catalog, Workloads, Networking, Storage, Builds, Monitoring, and Compute. The main content area has a top header with the Red Hat OpenShift logo, navigation icons, and the user 'kube:admin'. A blue banner below the header states: 'You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.' The 'Projects' section features a 'Create Project' button and a search bar labeled 'Filter Projects by name...'. Below is a table of projects:

| NAME ↑ | STATUS | REQUESTER | LABELS |
|------------------------|--------|--------------|---------------------------------|
| PR default | Active | No requester | No labels |
| PR istio-operator | Active | No requester | No labels |
| PR istio-system | Active | No requester | istio.openshift.com/ig...=ig... |
| PR istio-tutorial | Active | No requester | No labels |
| PR kube-public | Active | No requester | No labels |
| PR kube-system | Active | No requester | No labels |
| PR labguide | Active | No requester | No labels |
| PR openshift | Active | No requester | No labels |
| PR openshift-apiserver | Active | No requester | openshift.io/run-level=1 |

The URL at the bottom of the console is: <https://console-openshift-console.apps.cluster-c846.sandbox135.opentlc.com/#>

Manage Storage

Manage Storage

Click on „Projects“ under the „Home Tab“

Search for your App (e.g. test1) and click on it

click on the „Actions“ Button right

Choose „add storage“

Create a new claim

Look at Storage class -> gp2

Name the Claim with „test<X>“

Single user access

Storage size

Type „/files“ into Mount Path

The screenshot shows the Red Hat OpenShift console interface. On the left is a dark sidebar with a menu. The 'Storage' section is expanded, showing 'Persistent Volumes' as the selected option. The main content area is titled 'Persistent Volumes' and includes a 'Create Persistent Volume' button and a search filter 'Filter Persistent Volumes by name...'. Below this is a table with one entry: 'example' with 'No labels' and a creation time of 'May 28, 5:31 pm'. The top of the console shows the user is logged in as 'kube:admin' and a message about temporary administrative access.

| NAME ↑ | LABELS | CREATED |
|-------------------------|-----------|--------------------------------|
| PV example | No labels | 🕒 May 28, 5:31 pm |

Manage Networking

Open the „Networking tab“

Click on Routes

Find the Route for our App

Click on Network policies

Create Network Policy

Discover the Samples on the

The screenshot displays the Red Hat OpenShift Container Platform console. The left sidebar shows the navigation menu with 'Networking' selected. The main panel is titled 'Create Network Policy' and contains a YAML editor with the following content:

```
1 apiVersion: networking.k8s.io/v1
2 kind: NetworkPolicy
3 metadata:
4   name: example
5   namespace: default
6 spec:
7   podSelector:
8     matchLabels:
9       role: db
10  ingress:
11    - from:
12      - namespaceSelector:
13        matchLabels:
14          project: myproject
15      - podSelector:
16        matchLabels:
17          role: somerole
18  ports:
19    - protocol: TCP
20      port: 6379
21
```

Below the editor are 'Create' and 'Cancel' buttons. To the right, there is a 'Network Policy Samples' section with a diagram illustrating a policy that limits access to the current namespace. The diagram shows three pods in the 'target-ns' namespace (labeled 'app = foo', 'app = web', and 'app = bar') and a pod in another namespace (labeled 'Any pods'). Arrows indicate traffic flow, with a red 'X' over the arrow from the other namespace to the 'app = web' pod, signifying denied traffic.

1. LIMIT access to the current namespace

Deny traffic from other namespaces while allowing all traffic from the namespaces the Pod is living in.

Try it Download YAML

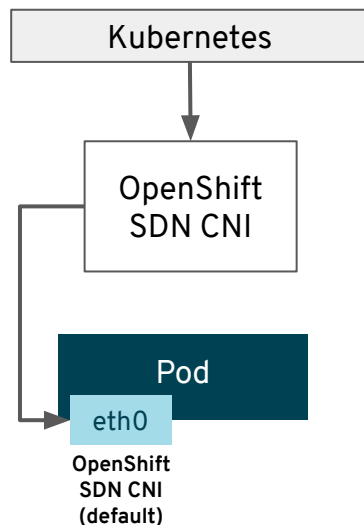
Networking Plug-ins

Multus Enables Multiple Networks & New Functionality to Existing Networking

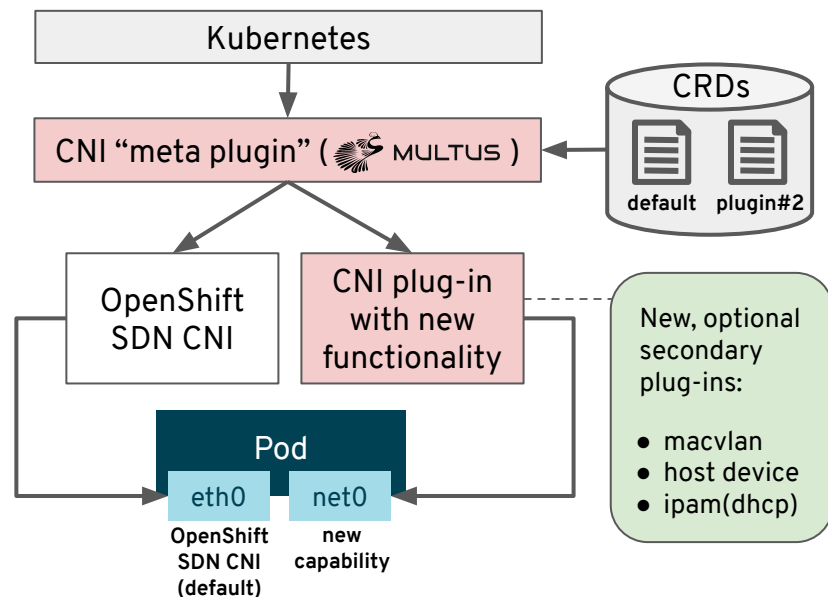
The Multus CNI “meta plugin” for Kubernetes enables one to create multiple network interfaces per pod, and assign a CNI plugin to each interface created.

1. Create pod annotation(s) to call out a list of intended network attachments...
2. ...each pointing to CNI network configurations packed inside CRD objects

3.x Capability...



4.x Capability...



Add features

Open the Catalog Tab

Click on Operator Hub

Discover the content

Search for the MongoDB
Operator

Click on it

And install it to your
project

The screenshot shows the Red Hat OpenShift Container Platform console. The left sidebar contains a navigation menu with the following items: Events, Catalog (selected), Developer Catalog, Installed Operators, OperatorHub, Operator Management, Workloads, Networking, Services, Routes, Ingress, Network Policies, Storage, and Persistent Volumes. The main content area displays the OperatorHub page. At the top, a blue banner states: "You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in." Below this, the "Project" is set to "all projects". The "OperatorHub" section includes a description: "Discover Operators from the Kubernetes community and Red Hat partners, curated by Red Hat. Operators can be installed on your clusters to provide optional add-ons and shared services to your developers. Once installed, the capabilities provided by the Operator appear in the [Developer Catalog](#), providing a self-service experience." A list of operators is shown, with "All Items" selected, displaying 55 items. Three operators are visible in the grid: AMQ Streams (provided by Red Hat, Inc.), Anchore Engine Operator (provided by Anchore Inc.), and AppDynamics ClusterAgent (provided by AppDynamics LLC). Each operator card includes its logo, name, provider, and a brief description of its capabilities.

Logging

Open the Monitoring tab
and have a look at the
Alerts

The screenshot displays the Red Hat OpenShift Container Platform monitoring interface. The left sidebar contains navigation links: Home, Projects, Status, Search, Events (selected), Catalog, Developer Catalog, Installed Operators, OperatorHub, Operator Management, Workloads, Networking, Services, Routes, Ingress, Network Policies, and Storage. The main content area shows the 'Events' page for the 'test' project. It includes a filter bar with 'All Types' and 'All Categories' dropdowns, and a search box labeled 'Filter Events by name or message...'. Below the filter bar, there is a 'Streaming events...' section with a pause icon and a 'Showing 36 events' indicator. The events list shows four entries, all generated from the 'operator-lifecycle-manager' or 'kubelet' on the 'ip-10-0-140-161.eu-west-1.compute.internal' node, all occurring 8 minutes ago. The events are: 1. 'install strategy completed with no errors' (CSV type), 2. 'Successfully pulled image "registry.connect.redhat.com/nuodb/nuodb-ce-operator:0.0.2-1"' (P type), 3. 'Created container nuodb-ce-operator' (P type), and 4. 'Started container nuodb-ce-operator' (P type). All events are associated with the 'test' namespace.

RED HAT OPENSIFT
Container Platform

Home ▾
Projects
Status
Search
Events
Catalog ▾
Developer Catalog
Installed Operators
OperatorHub
Operator Management
Workloads
Networking ▾
Services
Routes
Ingress
Network Policies
Storage ▾

You are logged in as a temporary administrative user. Update the [cluster OAuth configuration](#) to allow others to log in.

Project: test ▾ Add ▾

Events

All Types ▾ All Categories ▾

Filter Events by name or message...

Streaming events... Showing 36 events

CSV nuodb-ce-operator.v0.0.2 NS test 8 minutes ago
Generated from operator-lifecycle-manager
install strategy completed with no errors
2 times in the last 8 minutes

P nuodb-ce-operator-85bfd48896-v859z NS test 8 minutes ago
Generated from kubelet on ip-10-0-140-161.eu-west-1.compute.internal
Successfully pulled image "registry.connect.redhat.com/nuodb/nuodb-ce-operator:0.0.2-1"

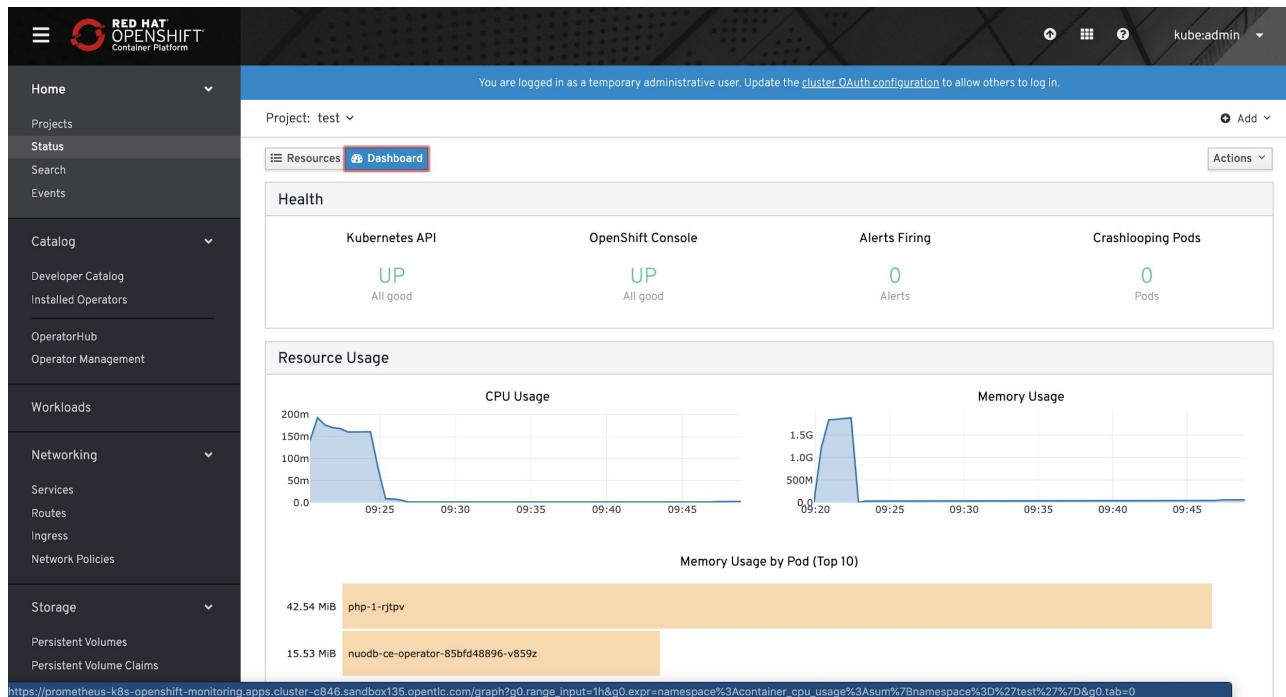
P nuodb-ce-operator-85bfd48896-v859z NS test 8 minutes ago
Generated from kubelet on ip-10-0-140-161.eu-west-1.compute.internal
Created container nuodb-ce-operator

P nuodb-ce-operator-85bfd48896-v859z NS test 8 minutes ago
Generated from kubelet on ip-10-0-140-161.eu-west-1.compute.internal
Started container nuodb-ce-operator

Monitoring 1/2

Open the Monitoring tab
and have a look at the
Alerts

Click on the „metric“ and
log in to graphana with „
OpenShift“ and discover
the option there



Monitoring 2/2

Grafana

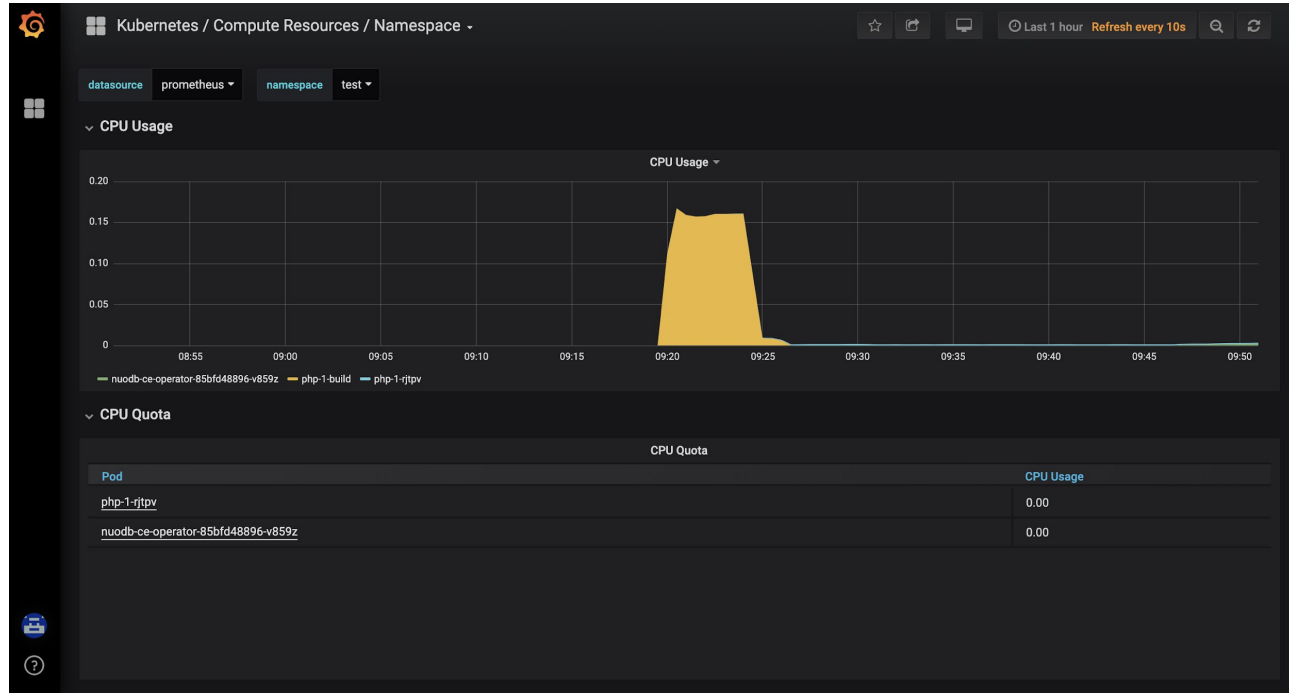
Finally open
„Dashboards“

Accept the insecure
connection

Log in with OpenShift
again

Allow selected
permissions

And explore the cluster
with Grafana





Red Hat