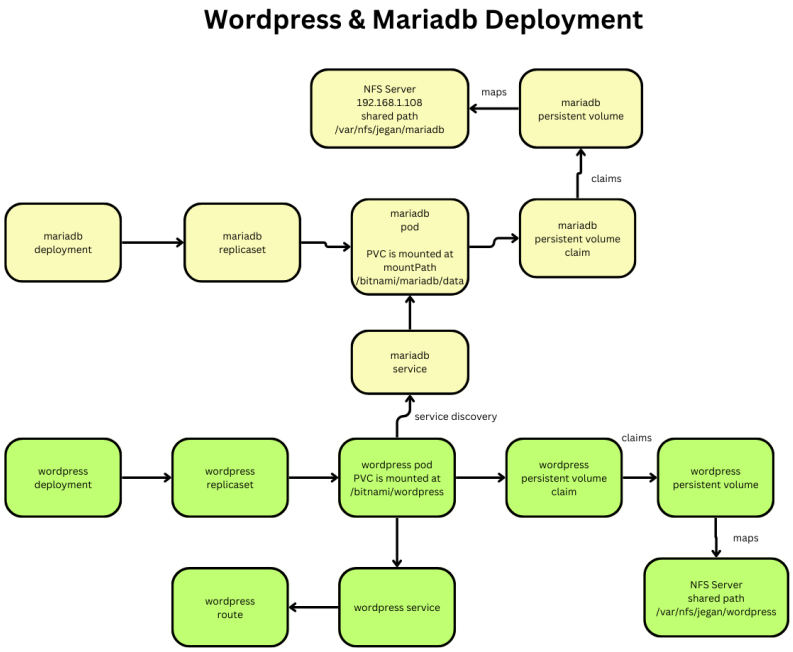
Day 3

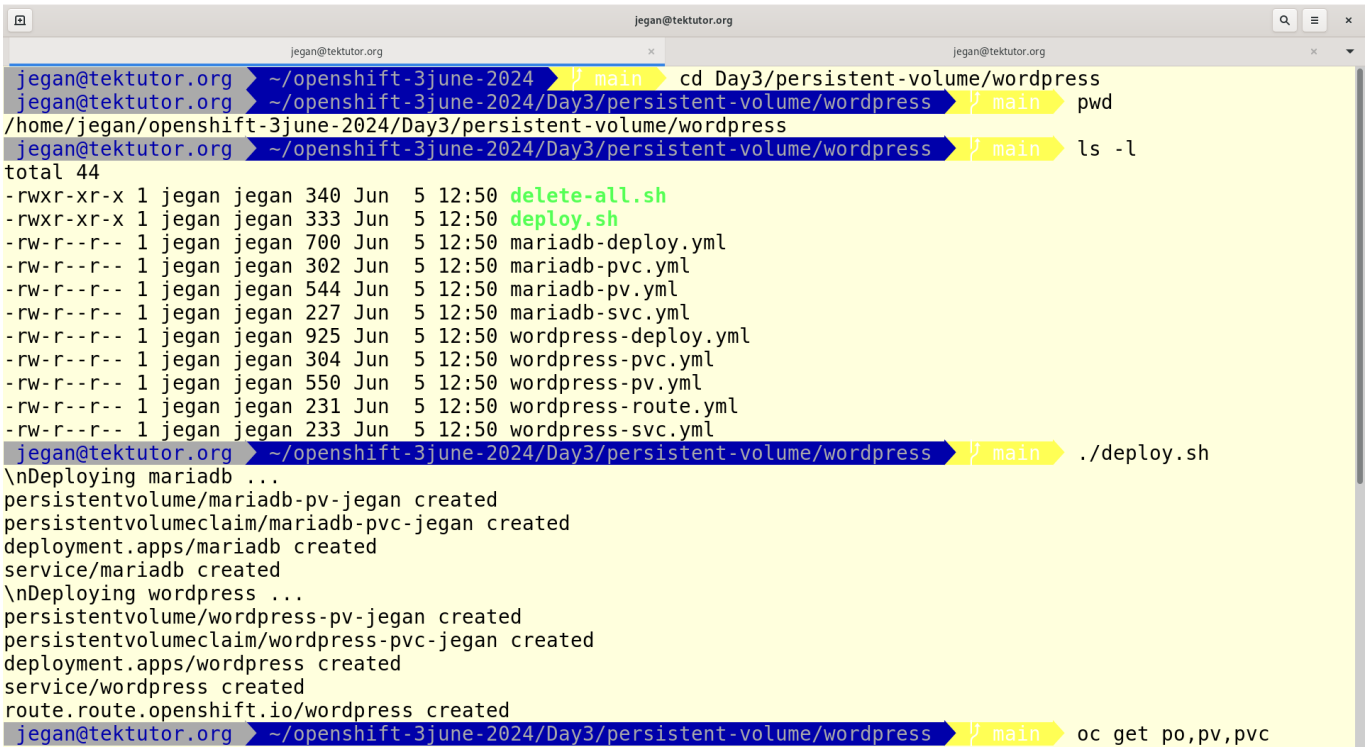
Lab - Deploying multi-pod(wordpress & mariadb) wordpress application

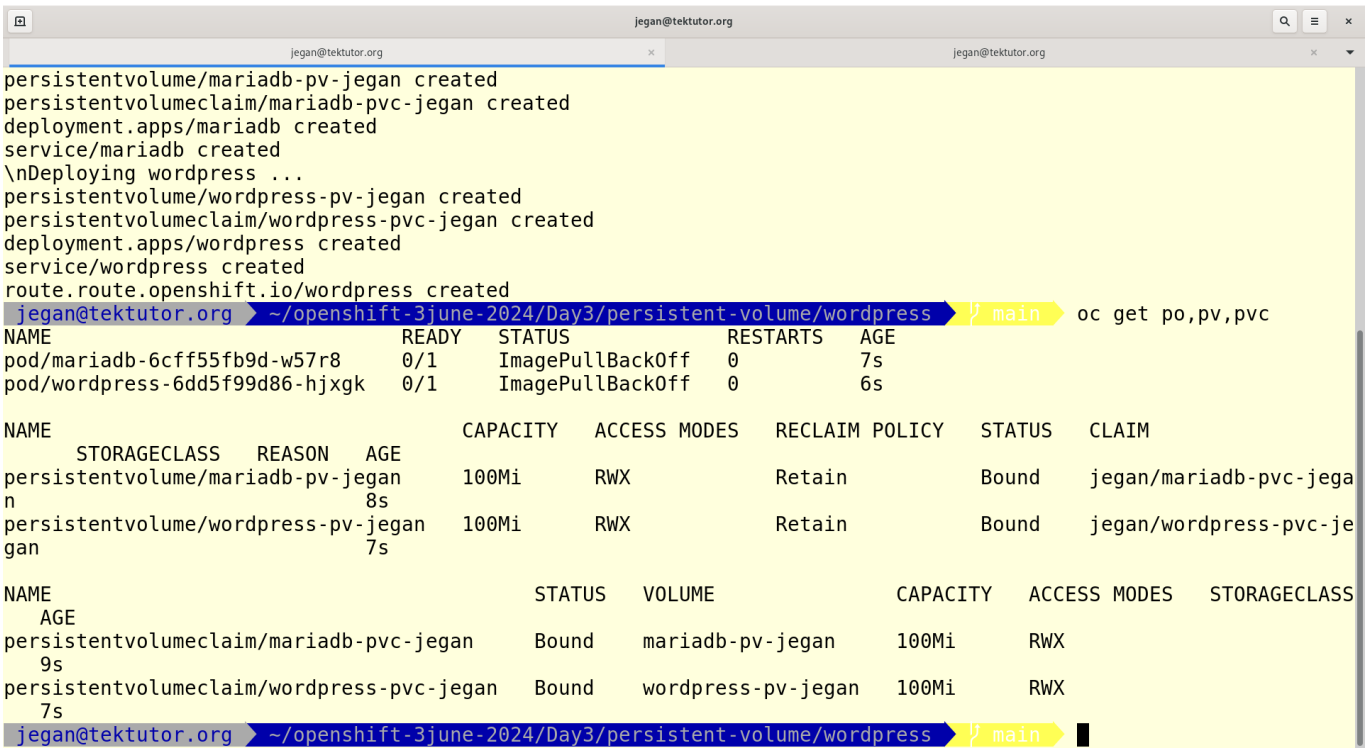


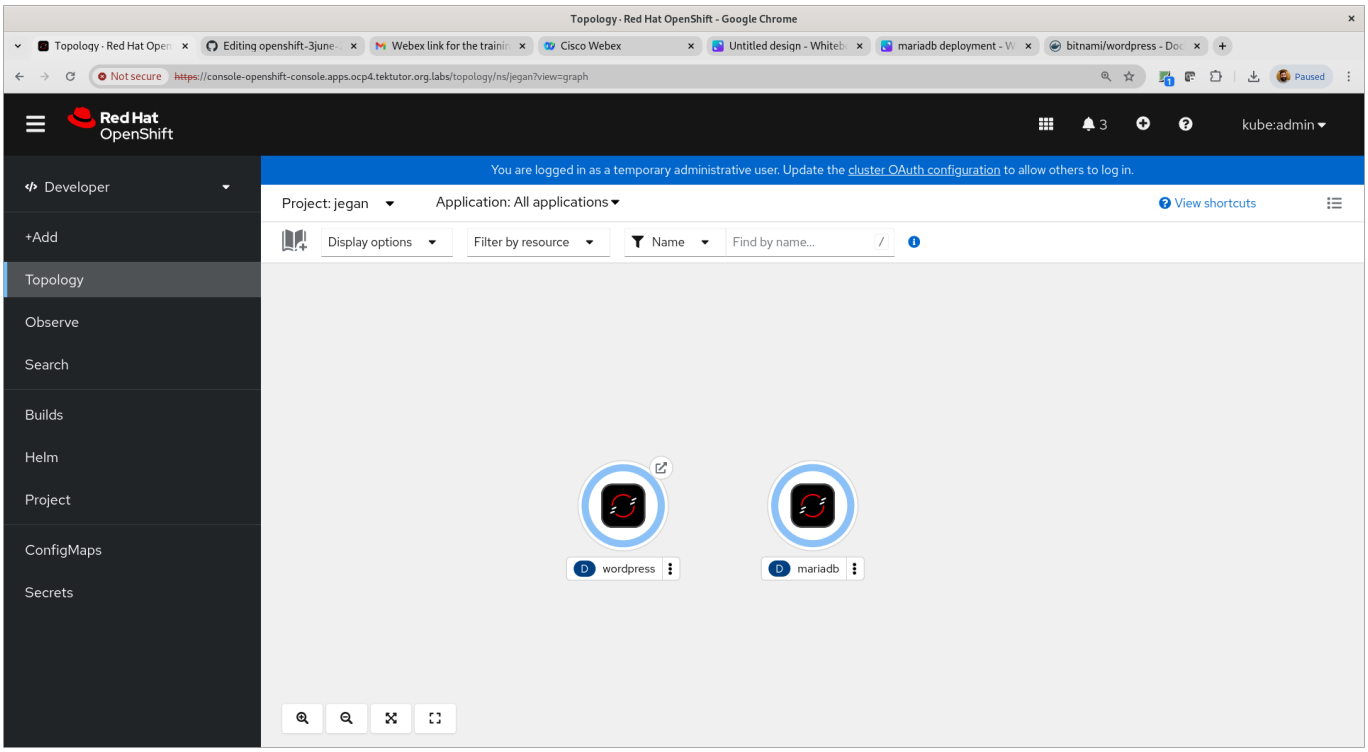
Let's deploy wordpress and mariadb

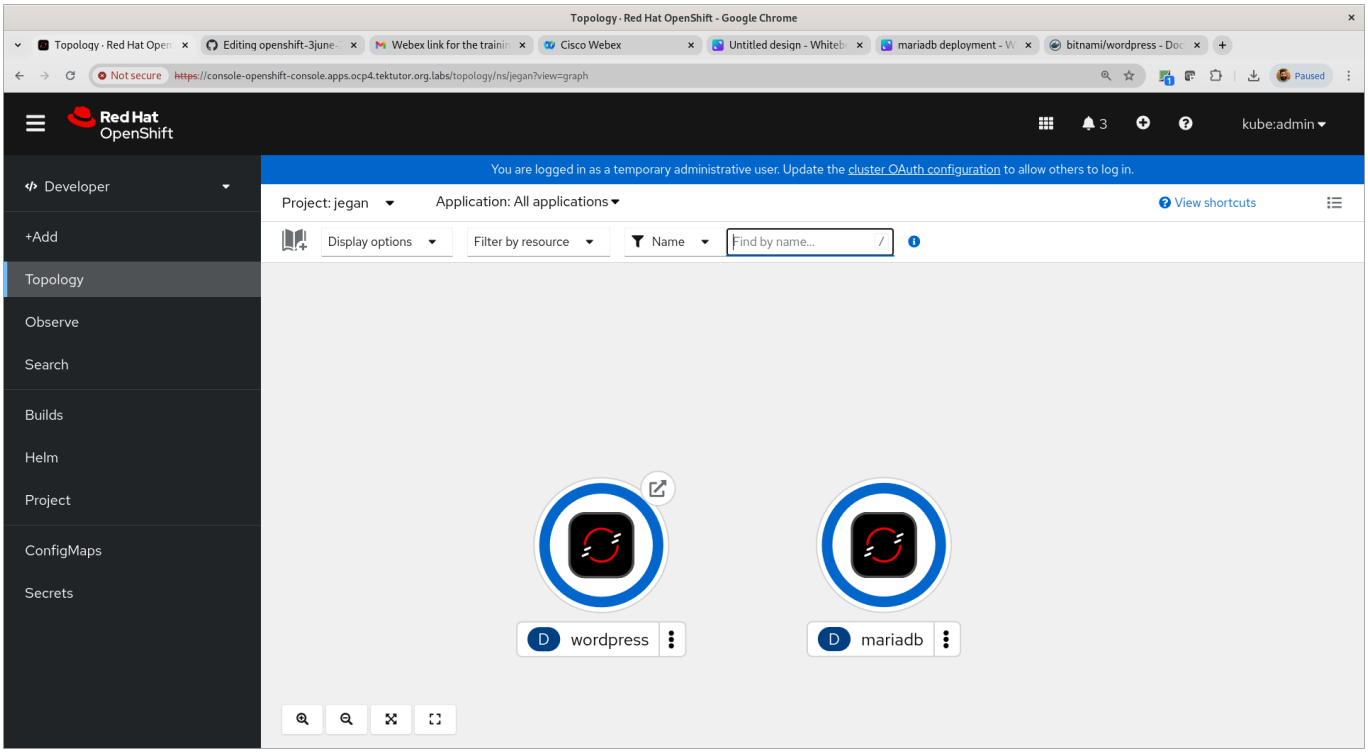
```
cd ~/openshift-3june-2024
git pull
cd Day3/persistent-volume/wordpress

./deploy.sh
```

Expected output






Topology - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
wordpress
mariadb


Topology - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
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Observe
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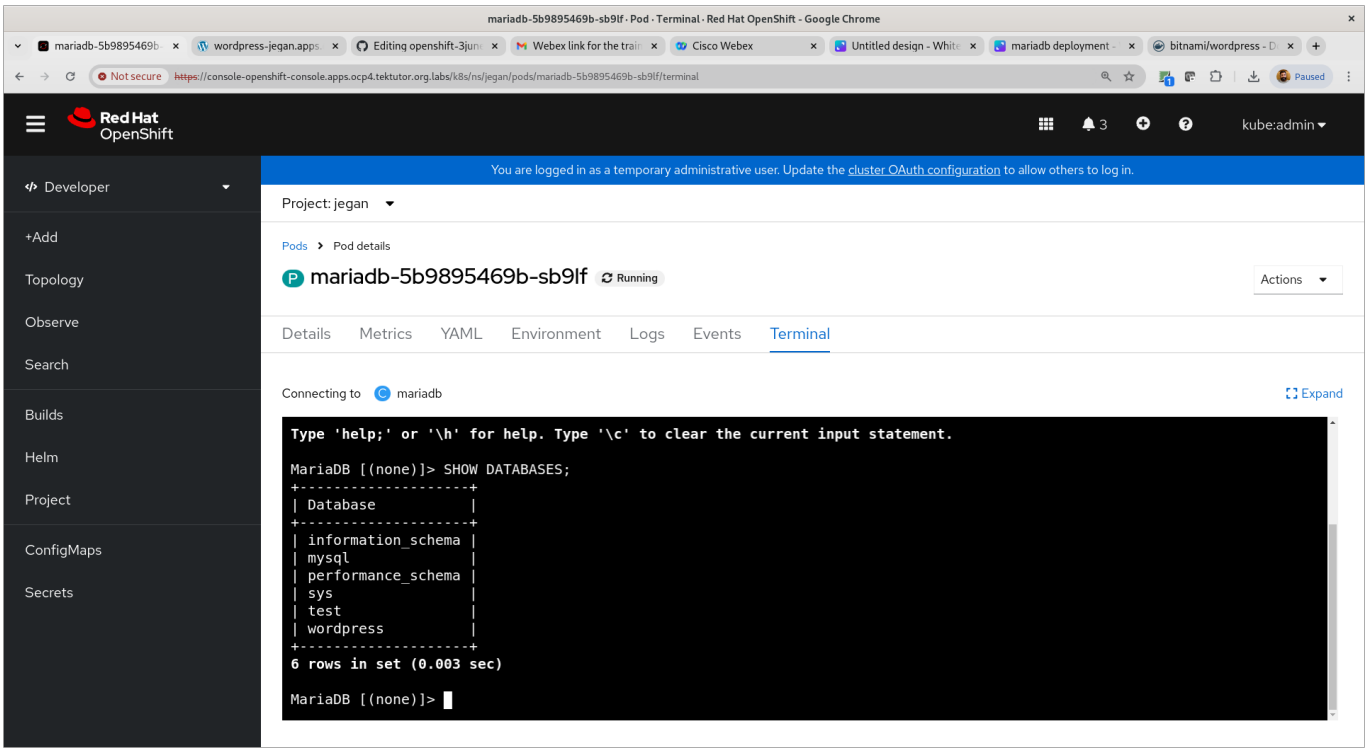
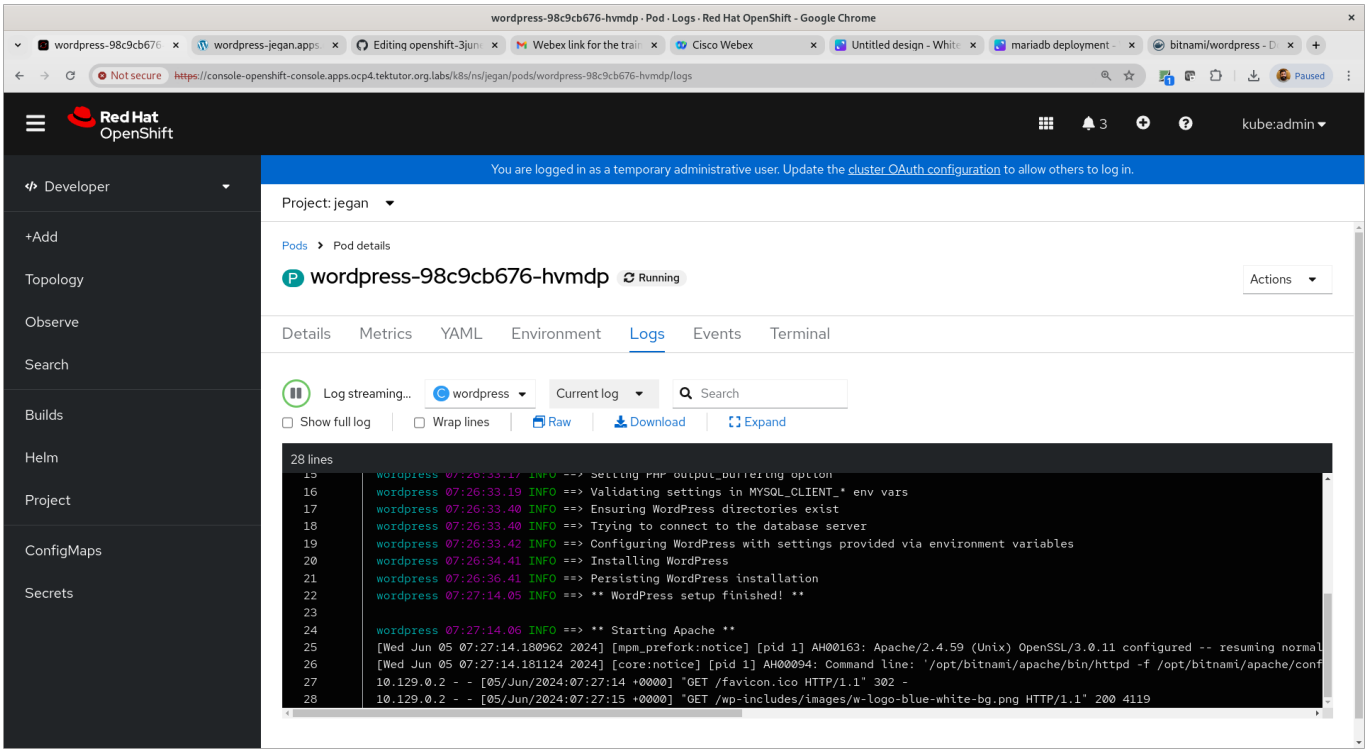
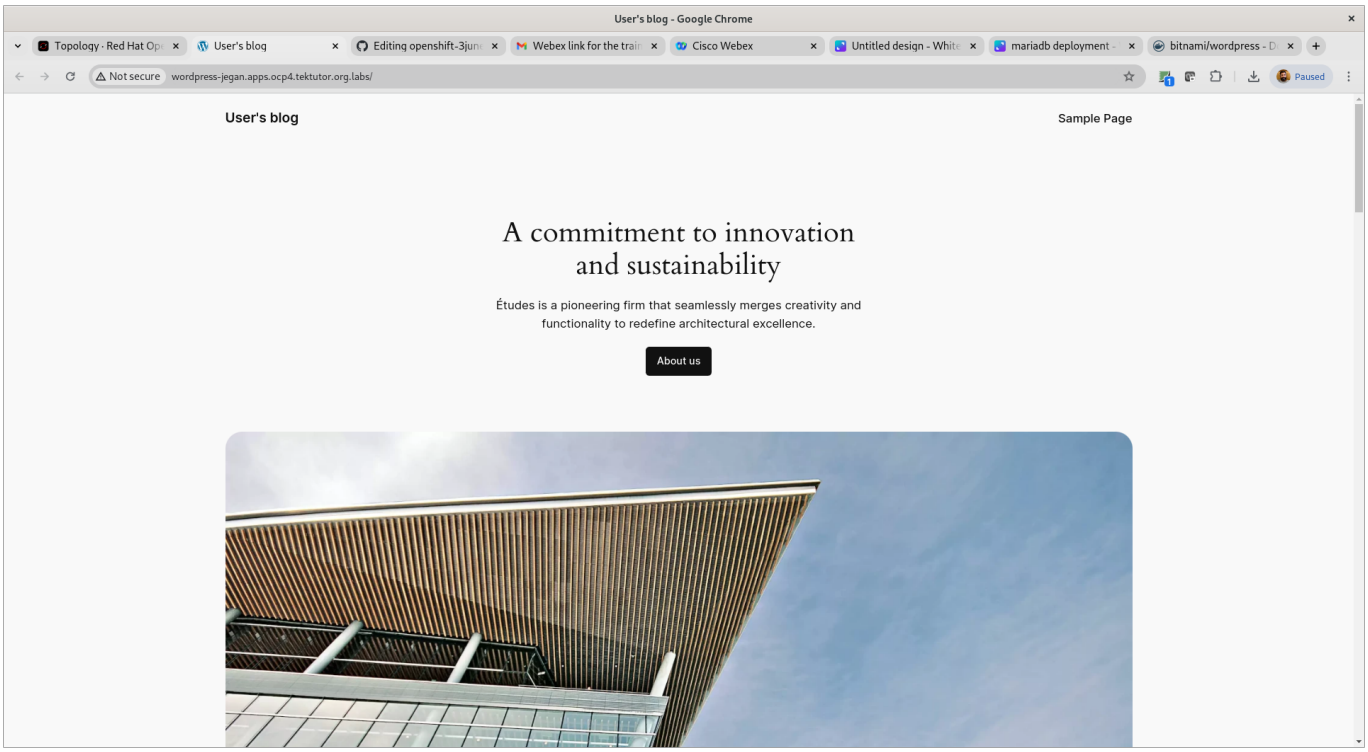
Builds
Helm
Project
ConfigMaps
Secrets
wordpress
mariadb


mariadb-5b9895469b-sb9lf · Pod · Terminal · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods › Pod details
mariadb-5b9895469b-sb9lf Running
Actions
Details Metrics YAML Environment Logs Events Terminal
Connecting to mariadb
Expand
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
MariaDB [(none)]> SHOW DATABASES;
+--------------------+
| Database |
+--------------------+
| information_schema |
| mysql |
| performance_schema |
| sys |
| test |
| wordpress |
+--------------------+
6 rows in set (0.003 sec)
MariaDB [(none)]>

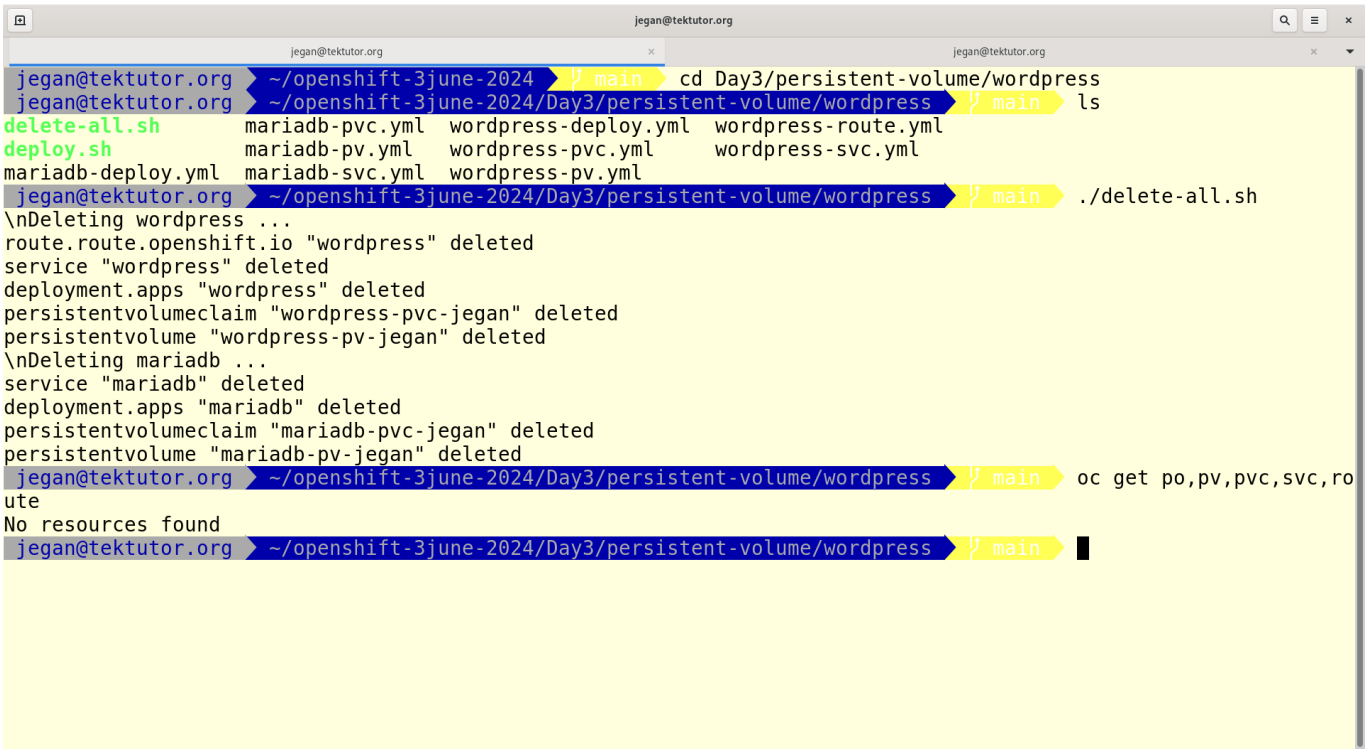

wordpress-98c9cb676-hvmdp · Pod · Logs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods › Pod details
wordpress-98c9cb676-hvmdp Running
Actions
Details Metrics YAML Environment Logs Events Terminal
Log streaming... wordpress Current log Search
Show full log Wrap lines Raw Download Expand
28 lines
wordpress 07:26:33.19 INFO ==> Validating settings in MYSQL_CLIENT_* env vars
wordpress 07:26:33.40 INFO ==> Ensuring WordPress directories exist
wordpress 07:26:33.40 INFO ==> Trying to connect to the database server
wordpress 07:26:33.42 INFO ==> Configuring WordPress with settings provided via environment variables
wordpress 07:26:34.41 INFO ==> Installing WordPress
wordpress 07:26:36.41 INFO ==> Persisting WordPress installation
wordpress 07:27:14.05 INFO ==> ** WordPress setup finished! **
wordpress 07:27:14.06 INFO ==> ** Starting Apache **
[Wed Jun 05 07:27:14.180962 2024] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.59 (Unix) OpenSSL/3.0.11 configured -- resuming normal
[Wed Jun 05 07:27:14.181124 2024] [core:notice] [pid 1] AH00094: Command line: '/opt/bitnami/apache/bin/httpd -f /opt/bitnami/apache/conf
10.129.0.2 - - [05/Jun/2024:07:27:14 +0000] "GET /favicon.ico HTTP/1.1" 302 -
10.129.0.2 - - [05/Jun/2024:07:27:15 +0000] "GET /wp-includes/images/w-logo-blue-white-bg.png HTTP/1.1" 200 4119



Once you are done with this exercise, you may clean up the resources

```
cd ~/openshift-3june-2024
cd Day3/persistent-volume/wordpress

./delete-all.sh
```

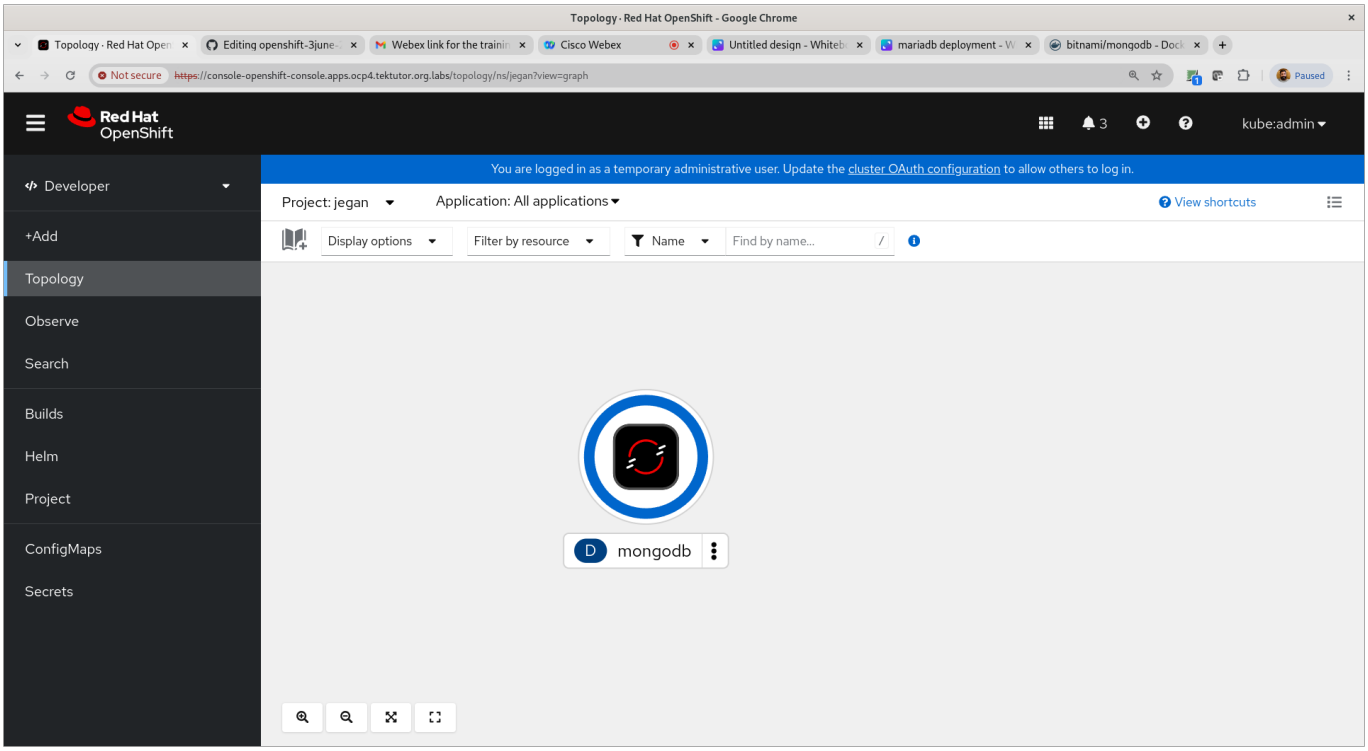
Expected output

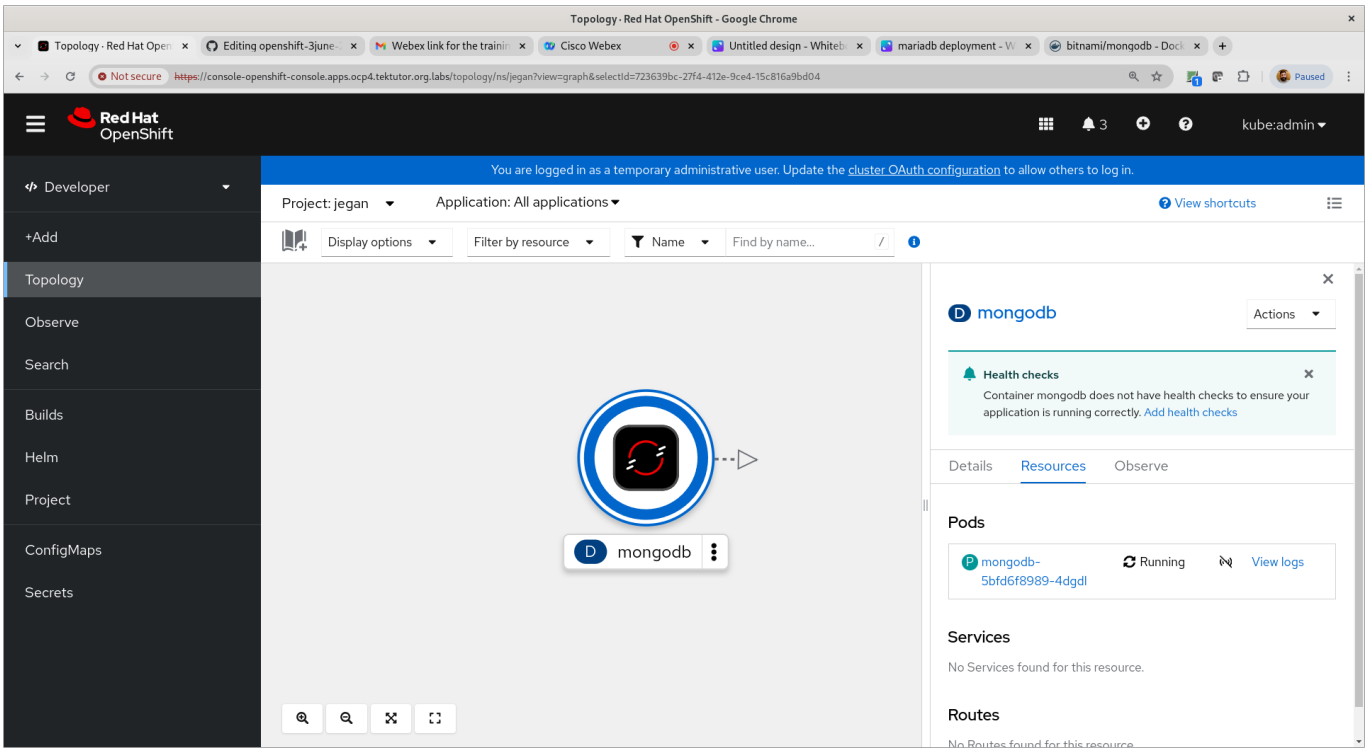


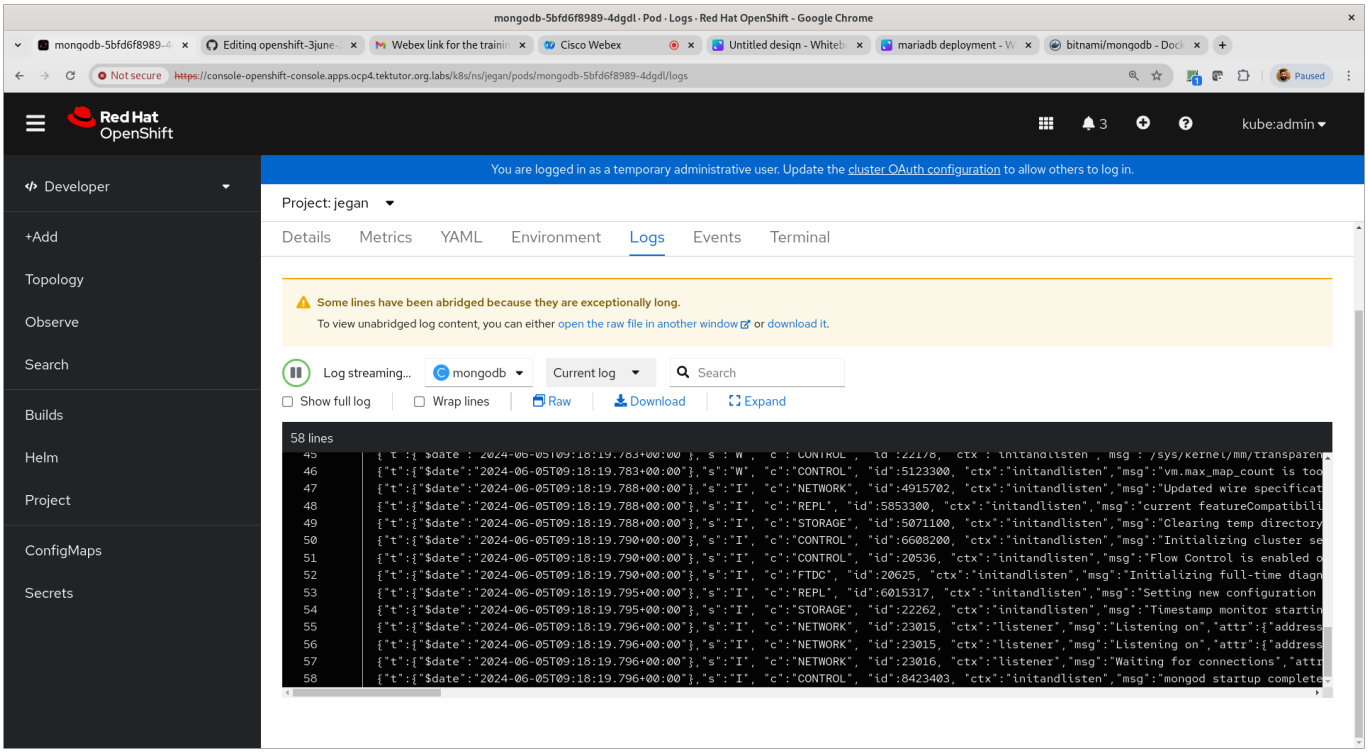
Lab - Deploying mongodb with Persistent volume

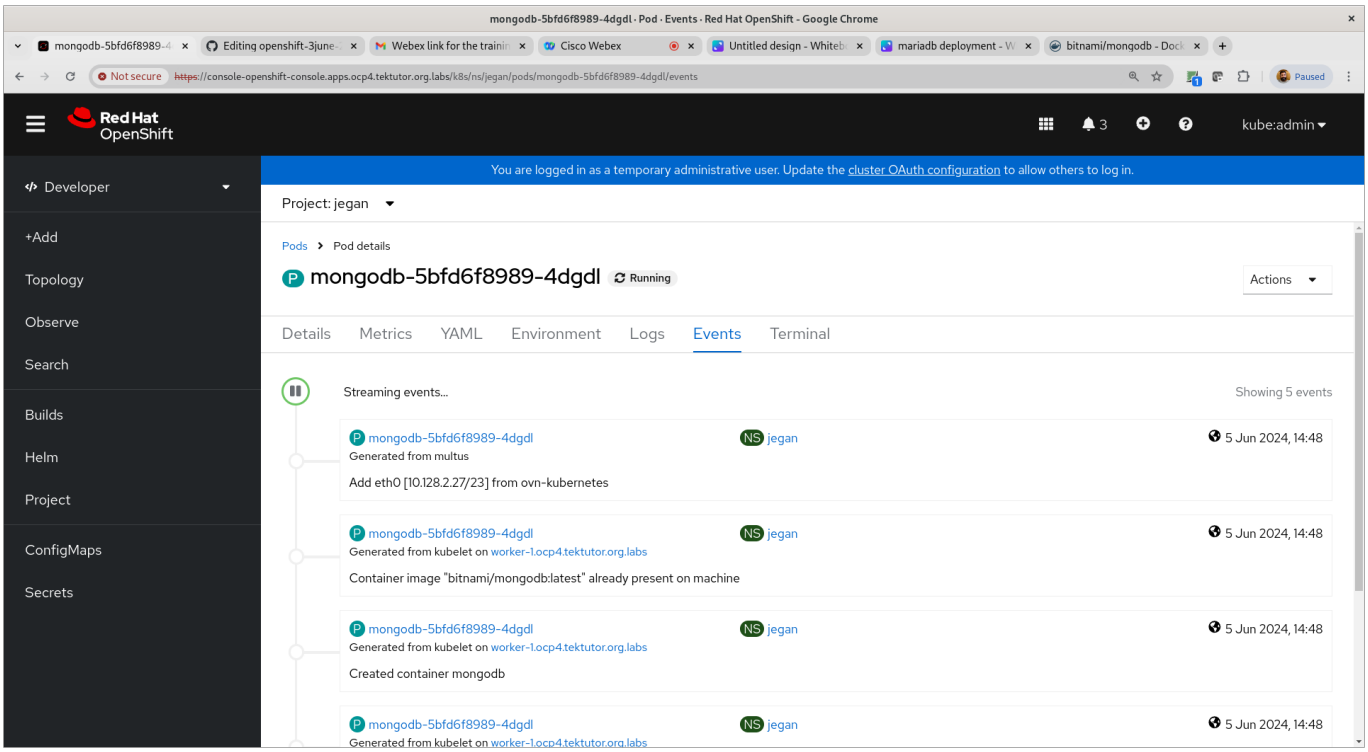
```
cd ~/openshift-3june-2024
git pull
cd Day3/persistent-volume/mongodb

oc apply -f mongodb-pv.yml
oc apply -f mongodb-pvc.yml
oc apply -f mongodb-deploy.yml
```

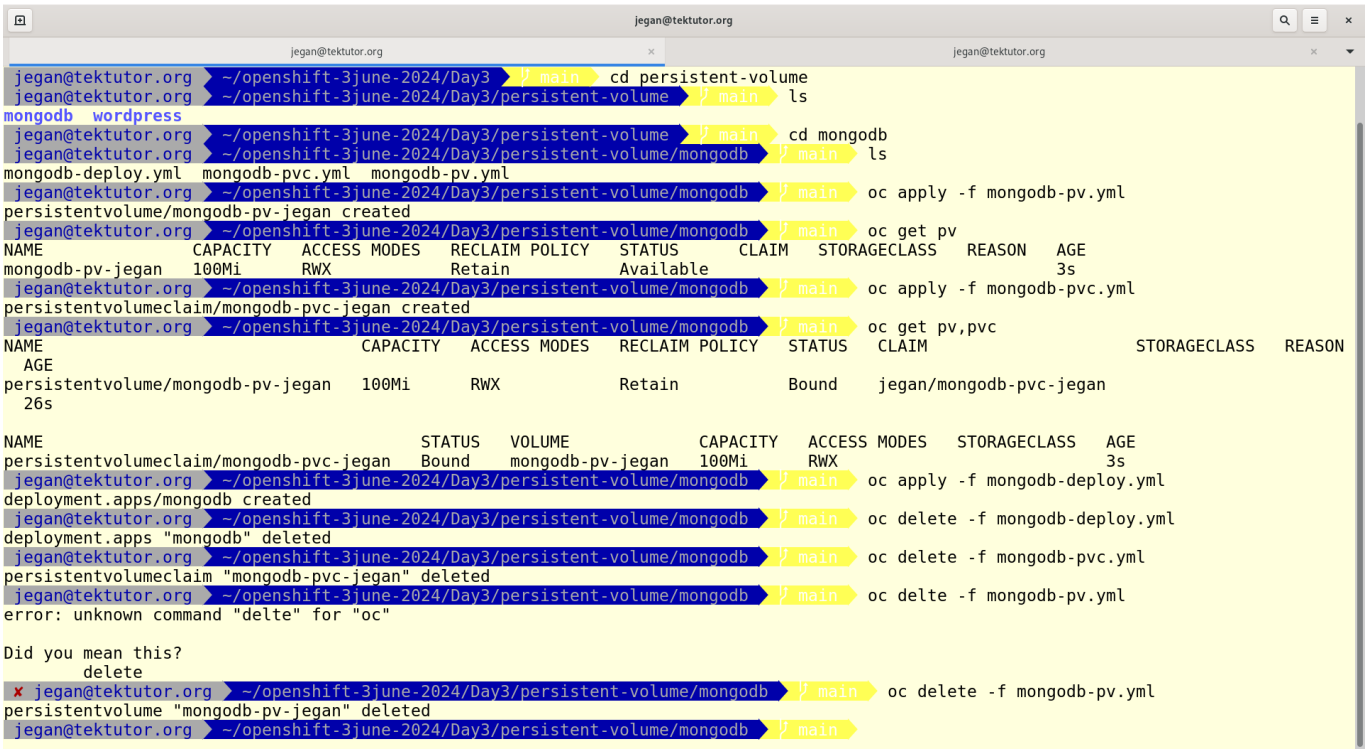
Expected output




Topology · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
mongodb
Actions
Health checks
Container mongodb does not have health checks to ensure your application is running correctly. Add health checks
Details
Resources
Observe
Pods
mongodb-5bfd6f8989-4dgdl
Running
View logs
Services
No Services found for this resource.
Routes


mongodb-5bfd6f8989-4dgdl · Pod · Logs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Details
Metrics
YAML
Environment
Logs
Events
Terminal
Some lines have been abridged because they are exceptionally long.
To view unabridged log content, you can either open the raw file in another window or download it.
Log streaming...
mongodb
Current log
Search
Show full log
Wrap lines
Raw
Download
Expand
58 lines

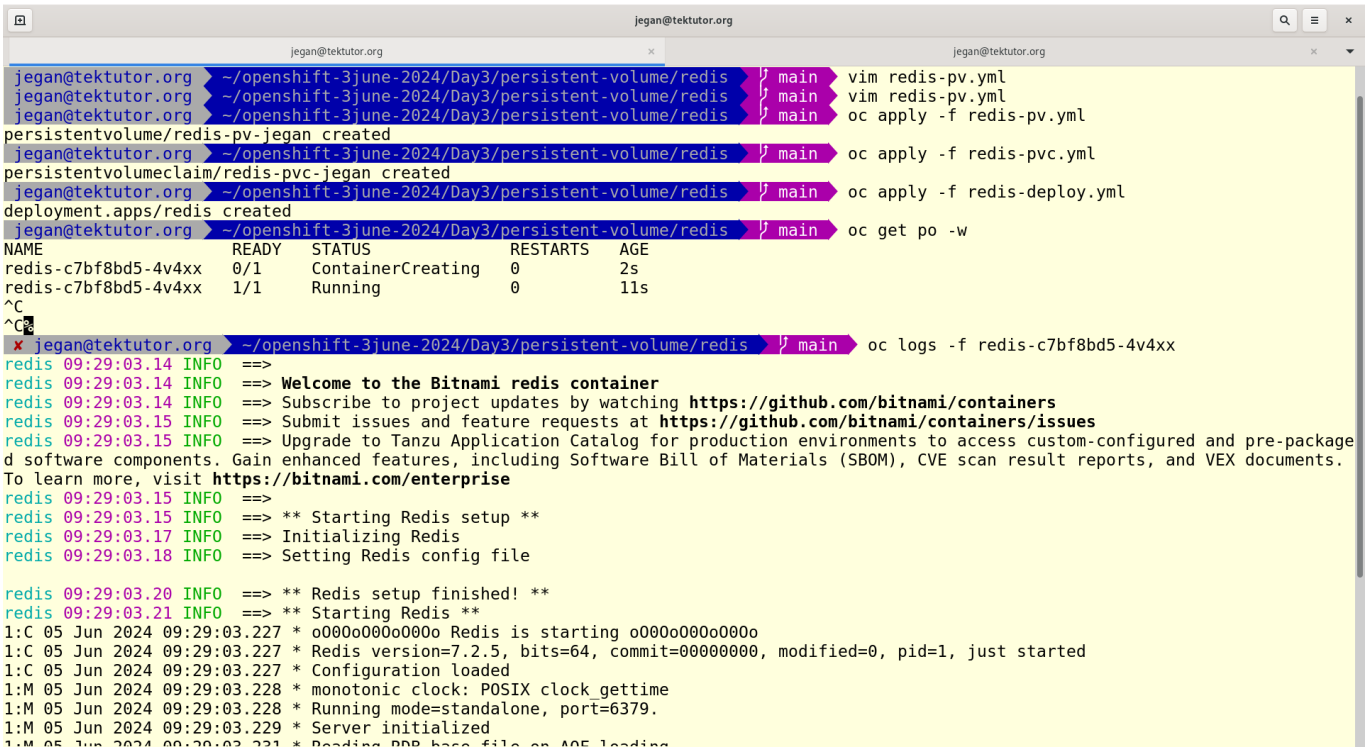


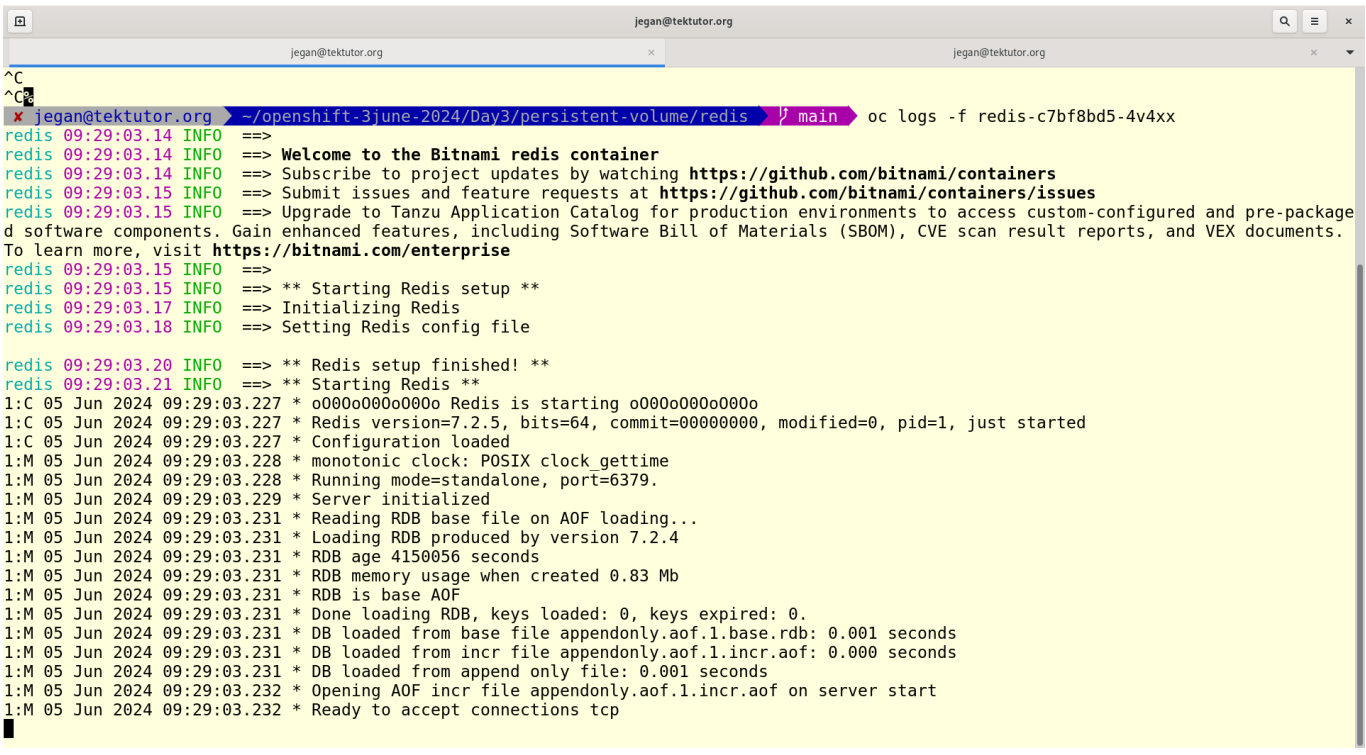


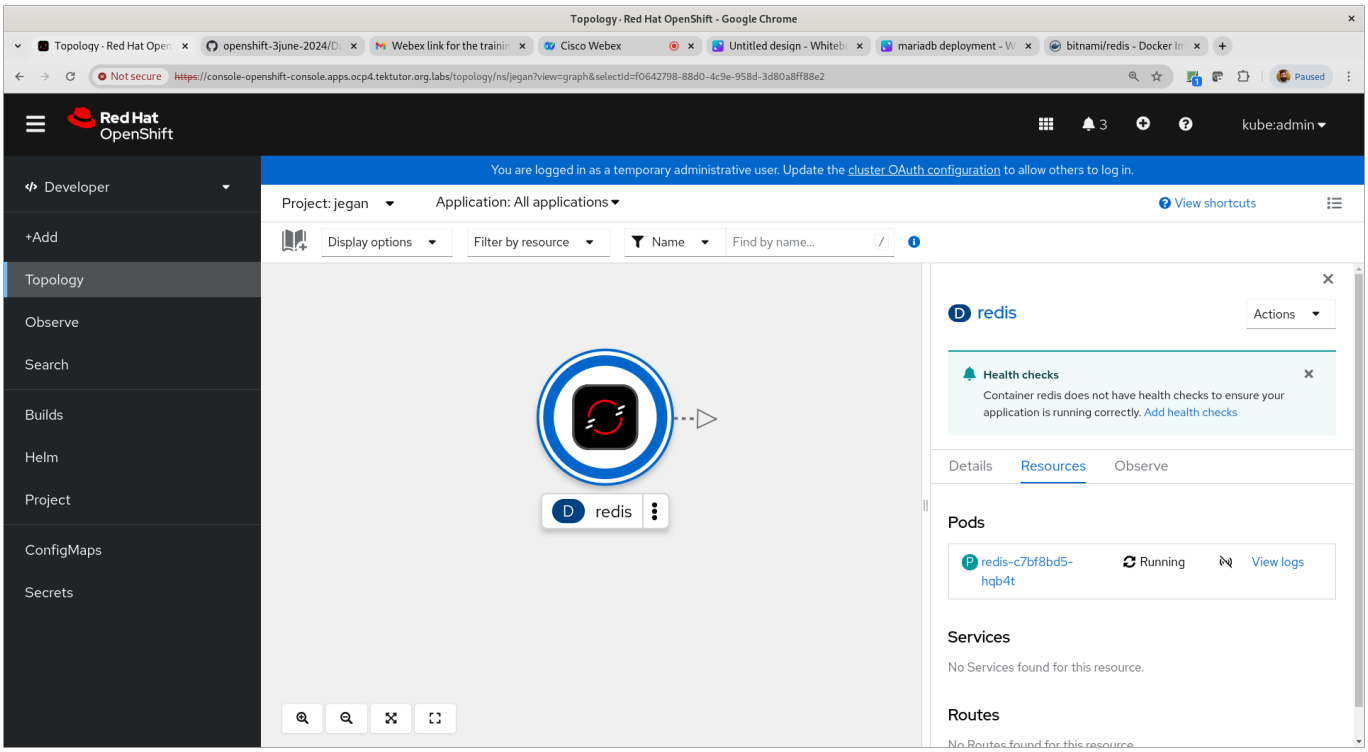
Lab - Deploying redis database with persistent volume

```
cd ~/openshift-3june-2024
git pull
cd Day3/persistent-volume/redis

oc apply -f redis-pv.yml
oc apply -f redis-pvc.yml
oc apply -f redis-deploy.yml
```

Expectd output



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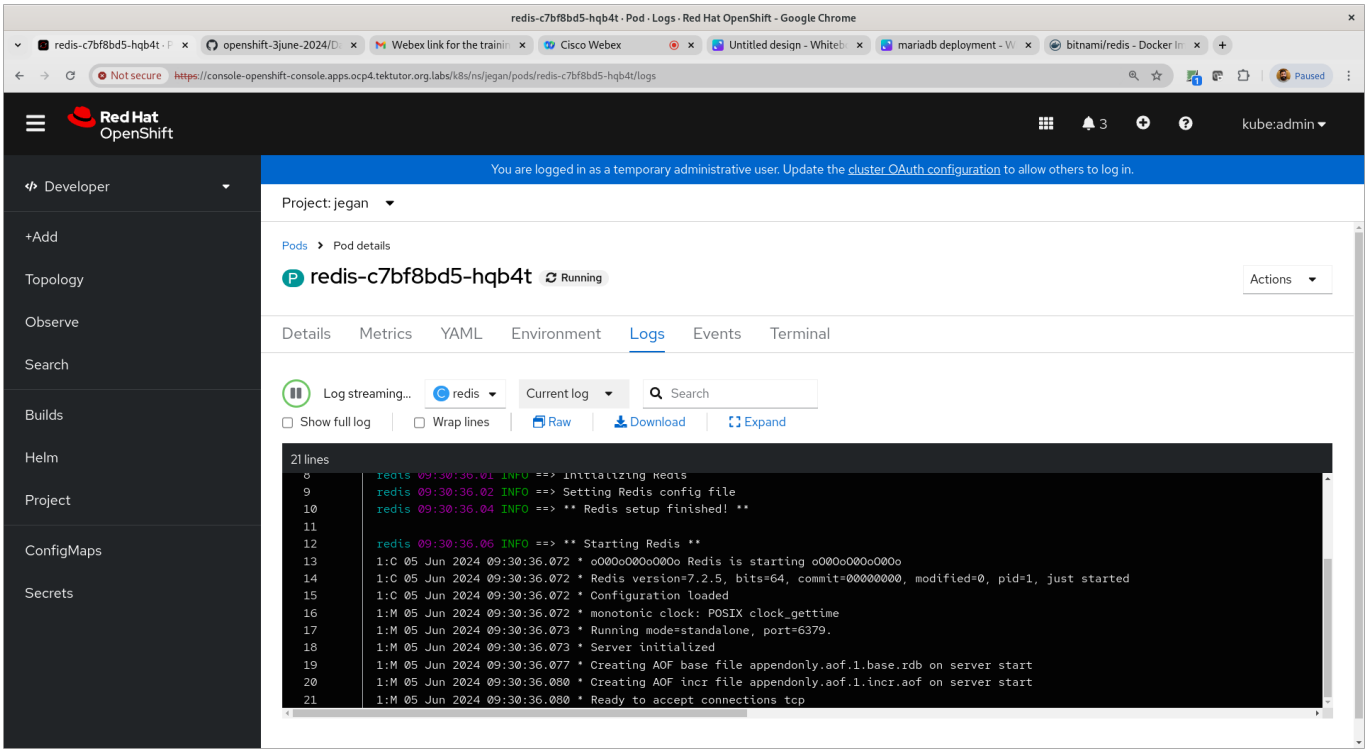
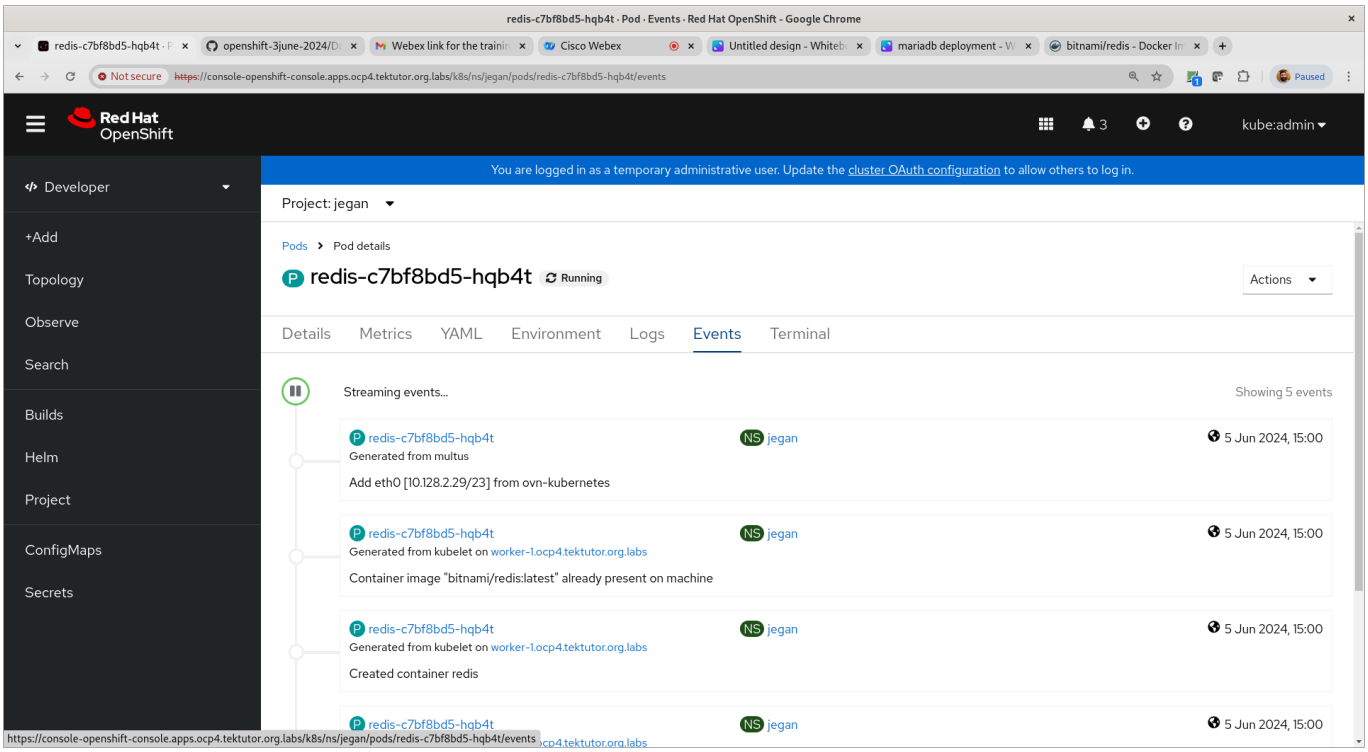
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
redis
Actions
Health checks
Container redis does not have health checks to ensure your application is running correctly. Add health checks
Details
Resources
Observe
Pods
redis-c7bf8bd5-hqb4t
Running
View logs
Services
No Services found for this resource.
Routes


redis-c7bf8bd5-hqb4t · Pod · Logs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods
Pod details
redis-c7bf8bd5-hqb4t
Running
Actions
Details
Metrics
YAML
Environment
Logs
Events
Terminal
Log streaming...
redis
Current log
Search
Show full log
Wrap lines
Raw
Download
Expand
21 lines
redis 09:30:36.02 INFO ==> Setting Redis config file
redis 09:30:36.04 INFO ==> ** Redis setup finished! **
redis 09:30:36.06 INFO ==> ** Starting Redis **
1:C 05 Jun 2024 09:30:36.072 * oO0OoO0OoO0Oo Redis is starting oO0OoO0OoO0Oo
1:C 05 Jun 2024 09:30:36.072 * Redis version=7.2.5, bits=64, commit=00000000, modified=0, pid=1, just started
1:C 05 Jun 2024 09:30:36.072 * Configuration loaded
1:M 05 Jun 2024 09:30:36.072 * monotonic clock: POSIX clock_gettime
1:M 05 Jun 2024 09:30:36.073 * Running mode=standalone, port=6379.
1:M 05 Jun 2024 09:30:36.073 * Server initialized
1:M 05 Jun 2024 09:30:36.077 * Creating AOF base file appendonly.aof.1.base.rdb on server start
1:M 05 Jun 2024 09:30:36.080 * Creating AOF incr file appendonly.aof.1.incr.aof on server start
1:M 05 Jun 2024 09:30:36.080 * Ready to accept connections tcp



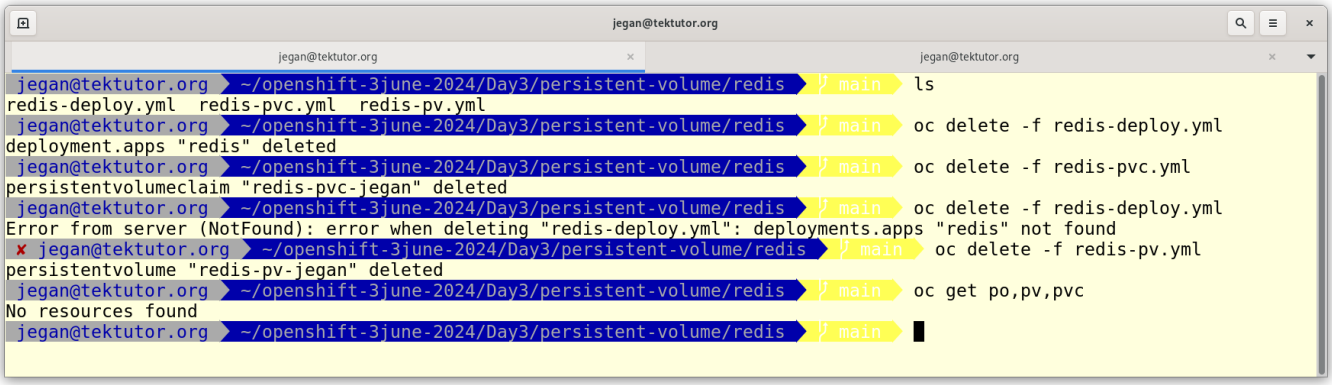
You may delete the redis deployment once you are done with this exercise.

```
cd ~/openshift-3june-2024
cd Day3/persistent-volume/redis

oc delete -f redis-deploy.yml
oc delete -f redis-pvc.yml
oc delete -f redis-pv.yml

oc get po,pv,pvc
```

Expected output



Lab - Using configmap and secrets to store configuration data and credentials in secrets

Things to note

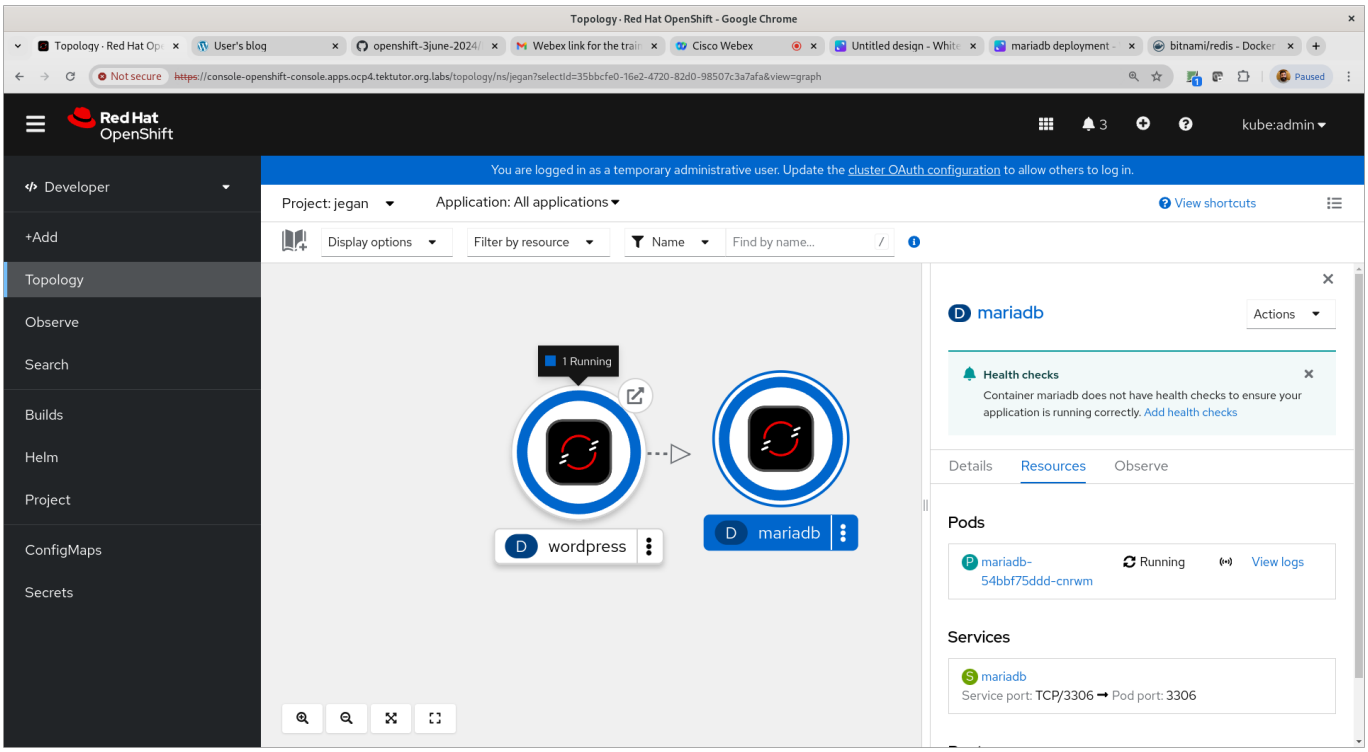
```
- config map is used to store non-sensitive data
- config map can store many key/value pairs
- For example
  - We can store the JAVA_HOME=/usr/lib/jdk11 path
  - We can store application log path
- secret is also a map that can store several key pairs
- the only difference between configmap and secret is , the values stores
in secrets is opaque, hence we can securely store passwords, retrieve them
on need basis and use them in our application
```

Let's understand how to practically use configmap and secrets in the wordpress & mariadb deployments

```
cd ~/openshift-3june-2024
git pull
cd Day3/configs-and-secrets/wordpress

./deploy.sh
oc get po,pv,pvc,svc,route
```

Expected output


Topology · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
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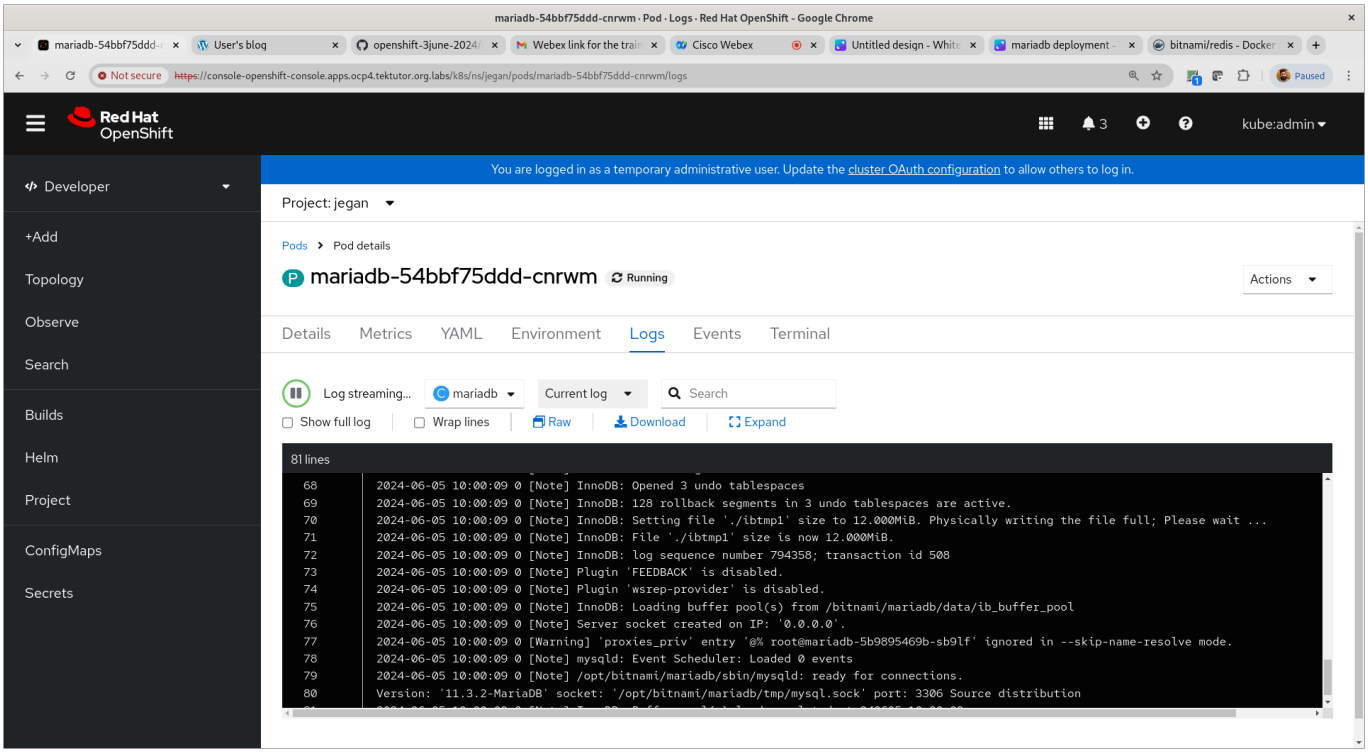
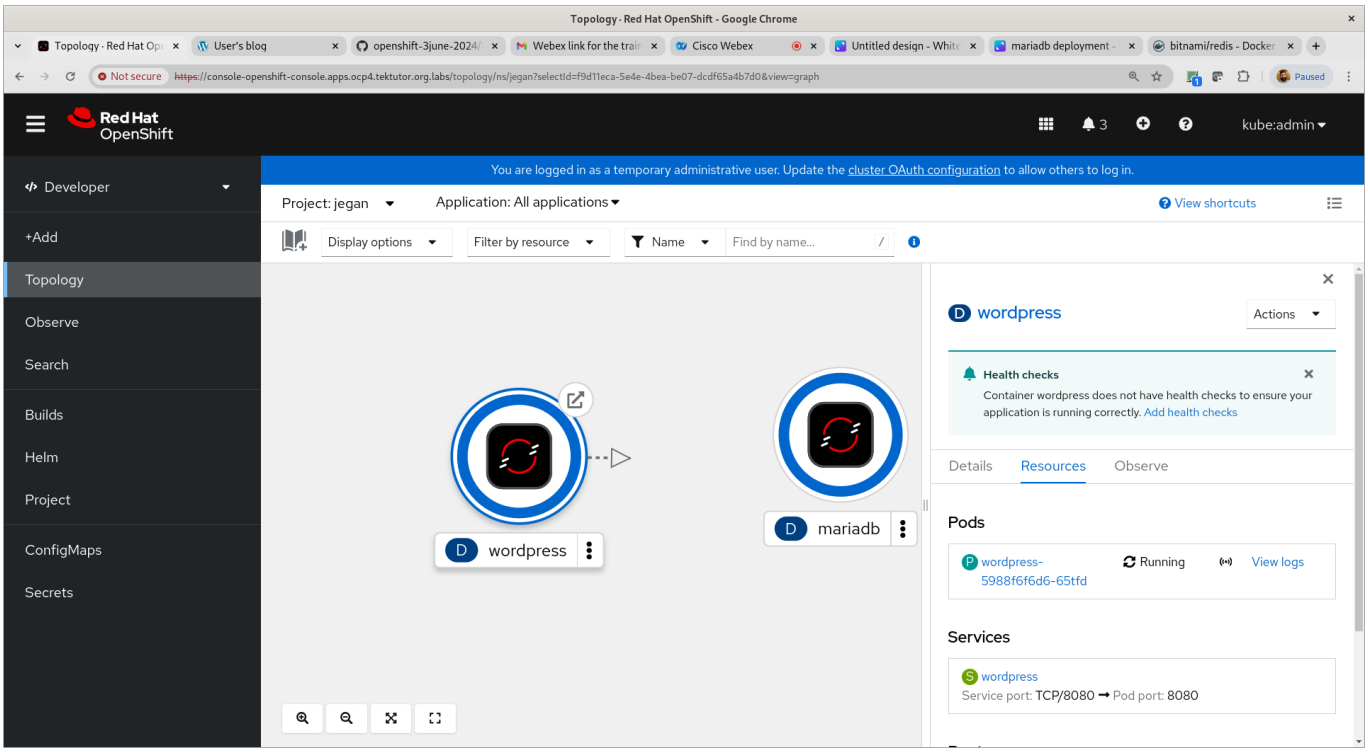
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
1 Running
wordpress
mariadb
mariadb
Actions
Health checks
Container mariadb does not have health checks to ensure your application is running correctly. Add health checks
Details
Resources
Observe
Pods
mariadb-54bbf75ddd-cnrwm
Running
View logs
Services
mariadb
Service port: TCP/3306 → Pod port: 3306


mariadb-54bbf75ddd-cnrwm · Pod · Logs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods
Pod details
mariadb-54bbf75ddd-cnrwm
Running
Actions
Details
Metrics
YAML
Environment
Logs
Events
Terminal
Log streaming...
mariadb
Current log
Search
Show full log
Wrap lines
Raw
Download
Expand
81 lines
2024-06-05 10:00:09 0 [Note] InnoDB: Opened 3 undo tablespaces
2024-06-05 10:00:09 0 [Note] InnoDB: 128 rollback segments in 3 undo tablespaces are active.
2024-06-05 10:00:09 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MiB. Physically writing the file full; Please wait ...
2024-06-05 10:00:09 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MiB.
2024-06-05 10:00:09 0 [Note] InnoDB: log sequence number 794358; transaction id 508
2024-06-05 10:00:09 0 [Note] Plugin 'FEEDBACK' is disabled.
2024-06-05 10:00:09 0 [Note] Plugin 'wsrep-provider' is disabled.
2024-06-05 10:00:09 0 [Note] InnoDB: Loading buffer pool(s) from /bitnami/mariadb/data/ib_buffer_pool
2024-06-05 10:00:09 0 [Note] Server socket created on IP: '0.0.0.0'.
2024-06-05 10:00:09 0 [Warning] 'proxies_priv' entry '@% root@mariadb-5b9895469b-sb9lf' ignored in --skip-name-resolve mode.
2024-06-05 10:00:09 0 [Note] mysqld: Event Scheduler: Loaded 0 events
2024-06-05 10:00:09 0 [Note] /opt/bitnami/mariadb/sbin/mysqld: ready for connections.
Version: '11.3.2-MariaDB' socket: '/opt/bitnami/mariadb/tmp/mysql.sock' port: 3306 Source distribution


Topology · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
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ConfigMaps
Secrets
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Project: jegan
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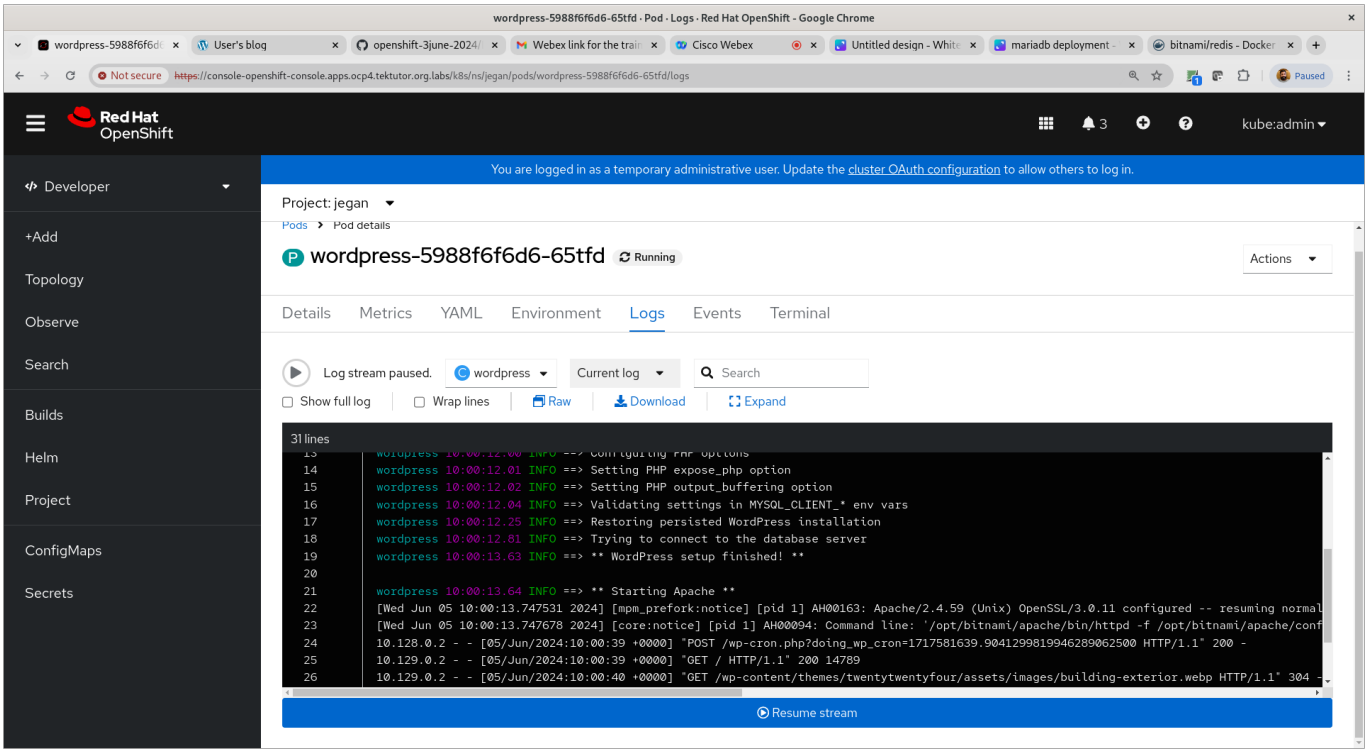
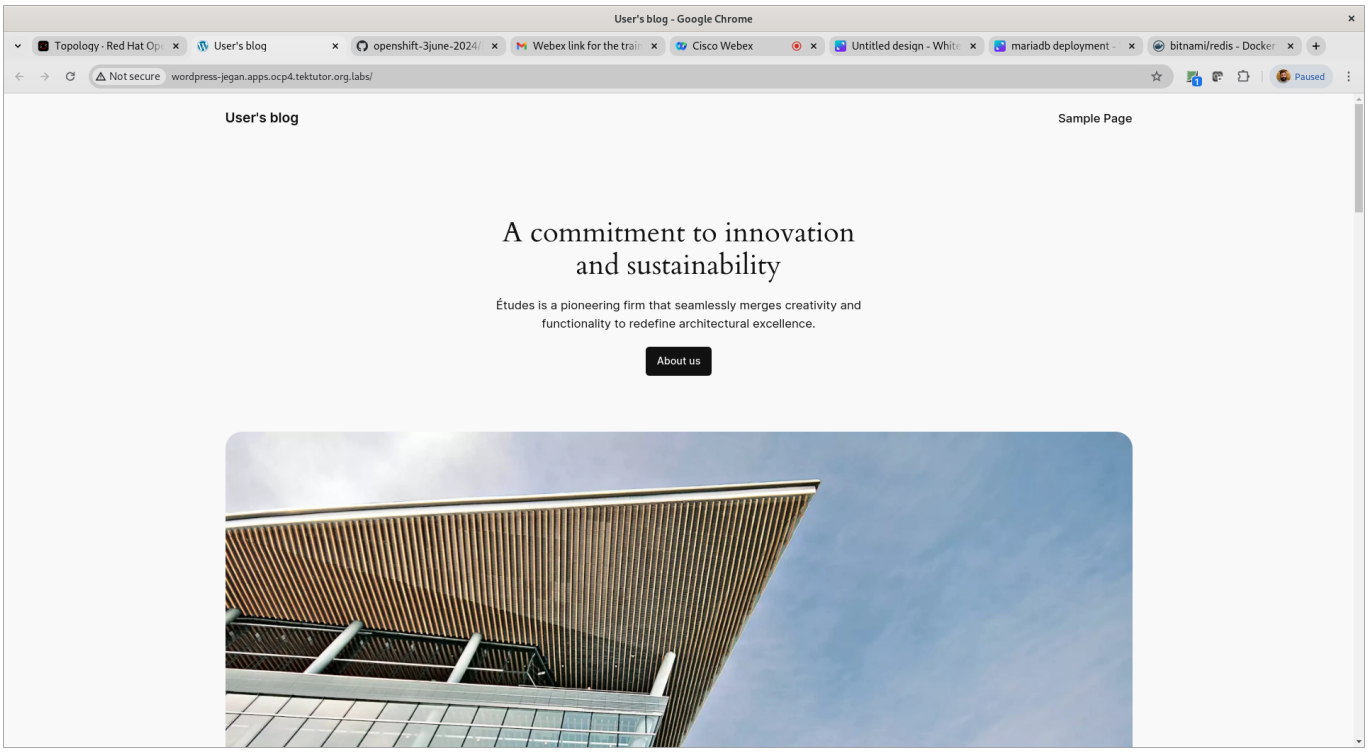
View shortcuts
Display options
Filter by resource
Name
Find by name...
wordpress
mariadb
Actions
Health checks
Container wordpress does not have health checks to ensure your application is running correctly. Add health checks
Details
Resources
Observe
Pods
wordpress-5988f6f6d6-65tfd
Running
View logs
Services
wordpress
Service port: TCP/8080 → Pod port: 8080


wordpress-5988f6f6d6-65tfd · Pod · Logs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods
Pod details
wordpress-5988f6f6d6-65tfd
Running
Actions
Details
Metrics
YAML
Environment
Logs
Events
Terminal
Log stream paused.
wordpress
Current log
Search
Show full log
Wrap lines
Raw
Download
Expand
31 lines
wordpress 10:00:12.01 INFO ==> Setting PHP expose_php option
wordpress 10:00:12.02 INFO ==> Setting PHP output_buffering option
wordpress 10:00:12.04 INFO ==> Validating settings in MYSQL_CLIENT_* env vars
wordpress 10:00:12.25 INFO ==> Restoring persisted WordPress installation
wordpress 10:00:12.81 INFO ==> Trying to connect to the database server
wordpress 10:00:13.63 INFO ==> ** WordPress setup finished! **
wordpress 10:00:13.64 INFO ==> ** Starting Apache **
[Wed Jun 05 10:00:13.747531 2024] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.59 (Unix) OpenSSL/3.0.11 configured -- resuming normal
[Wed Jun 05 10:00:13.747678 2024] [core:notice] [pid 1] AH00094: Command line: '/opt/bitnami/apache/bin/httpd -f /opt/bitnami/apache/conf
10.128.0.2 - - [05/Jun/2024:10:00:39 +0000] "POST /wp-cron.php?doing_wp_cron=1717581639.9041299819946289062500 HTTP/1.1" 200 -
10.129.0.2 - - [05/Jun/2024:10:00:39 +0000] "GET / HTTP/1.1" 200 14789
10.129.0.2 - - [05/Jun/2024:10:00:40 +0000] "GET /wp-content/themes/twentytwentyfour/assets/images/building-exterior.webp HTTP/1.1" 304 -
Resume stream

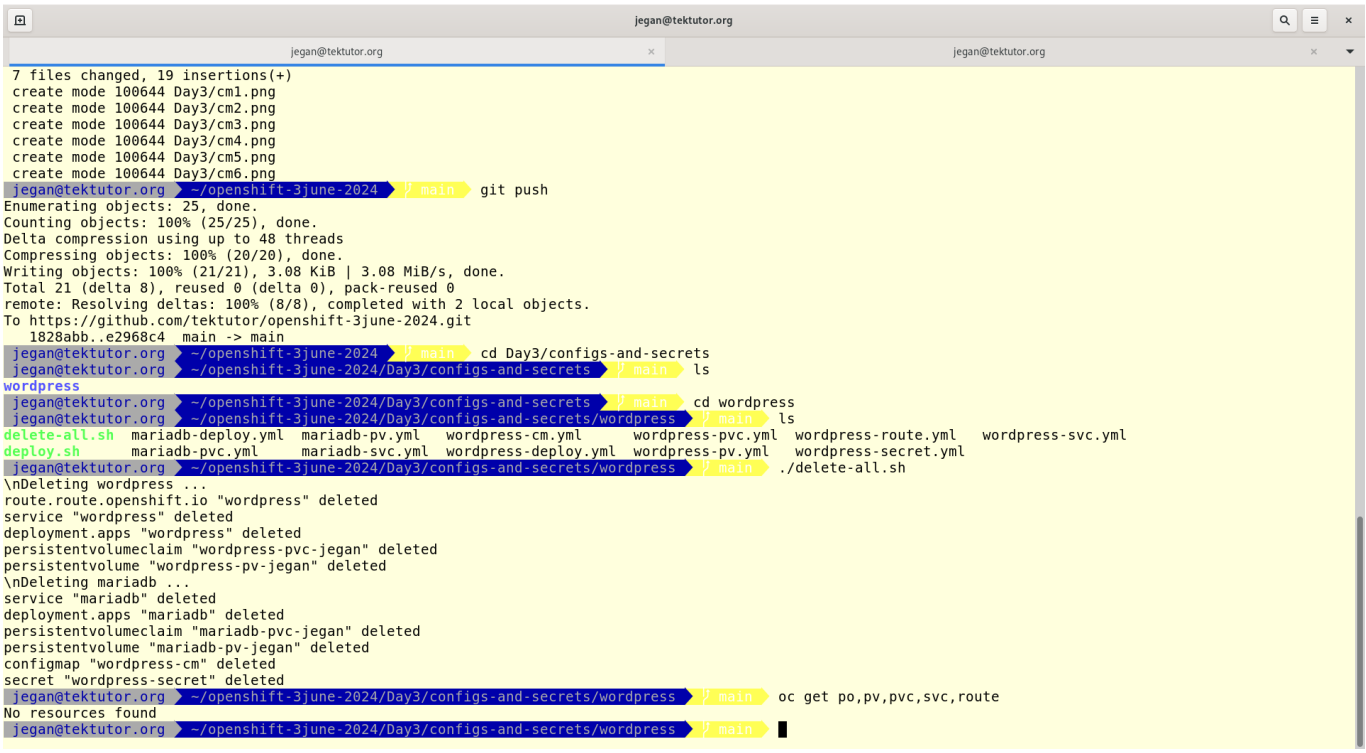


Once you are done with this lab exercise, you may clean up the resources as shown below

```
cd ~/openshift-3june-2024
cd Day3/configs-and-secrets/wordpress

./delete-all.sh
oc get po,pv,pvc,svc,route
```

Expected output



Info - Helm Overview

```
- Helm is a package manager that can be used to package your
kubernetes/openshift cloud native applications
- Just like package managers like apt(apt-get), yum, rpm, dnf, npm, pip are
used to install,uninstall, update/upgrade softwares, we can use Helm
package manager to install/uninstall/upgrade applications into
Kubernetes/Openshift
- Helm is also intergrated with Openshift
- Helm packaged applications are called Charts
- Helm chart is a tar.gz compressed that follows a specific folder
structure within the compressed file
```

Lab - Creating a custom helm chart for our wordpress application deployment

```
cd ~/openshift-3june-2024
git pull
cd Day3/helm

helm version
helm create wordpress
tree wordpress

cd wordpress/templates
rm -rf *
cd ../..
cp manifest-scripts/*.yml wordpress/templates
cp values.yaml wordpress
tree wordpress
```

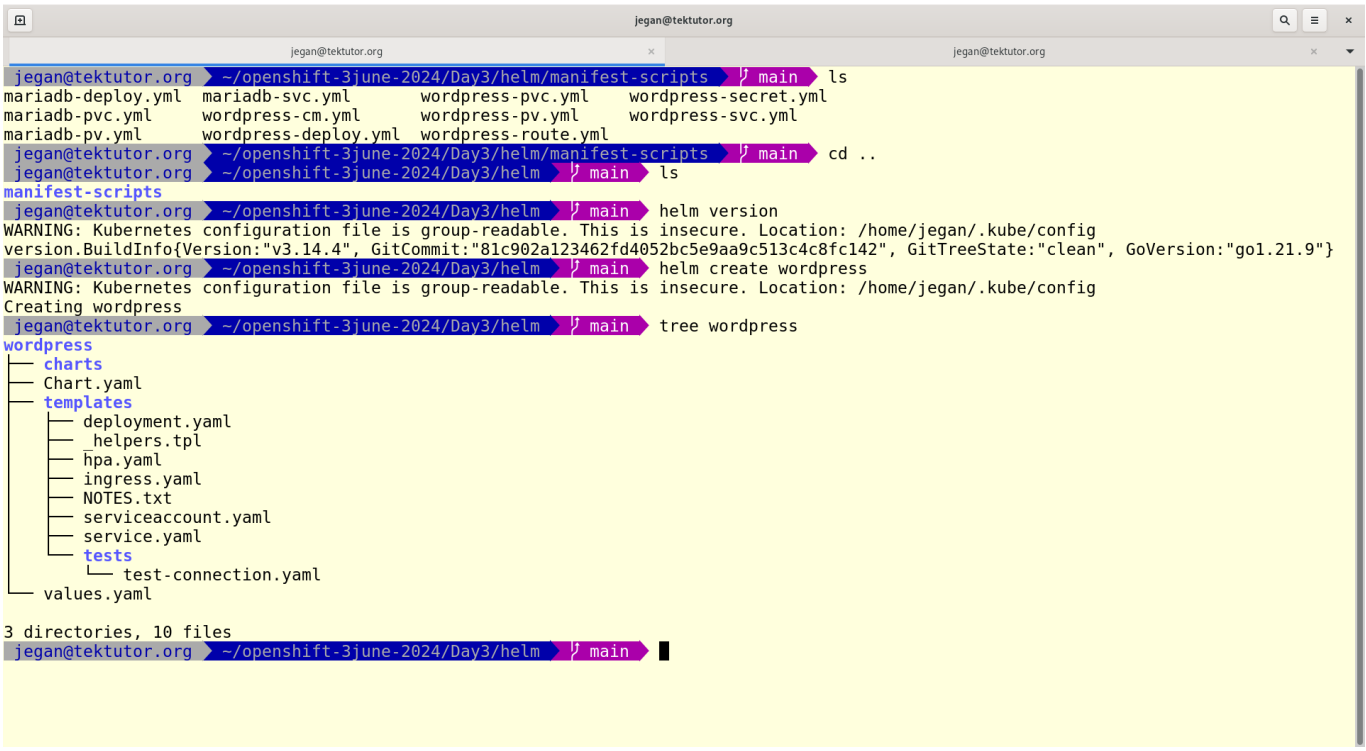
Let's create a wordpress helm chart package

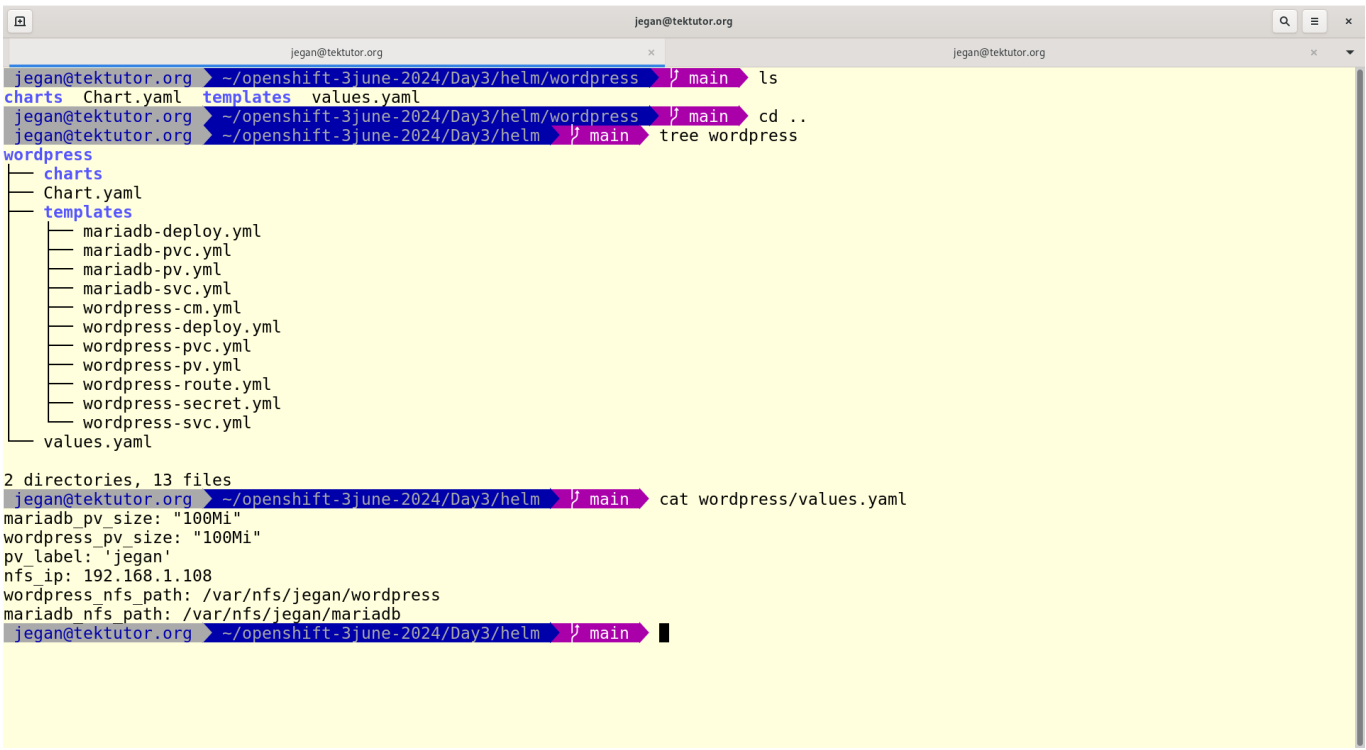
```
cd ~/openshift-3june-2024
cd Day3/helm
ls
helm package wordpress
ls
```

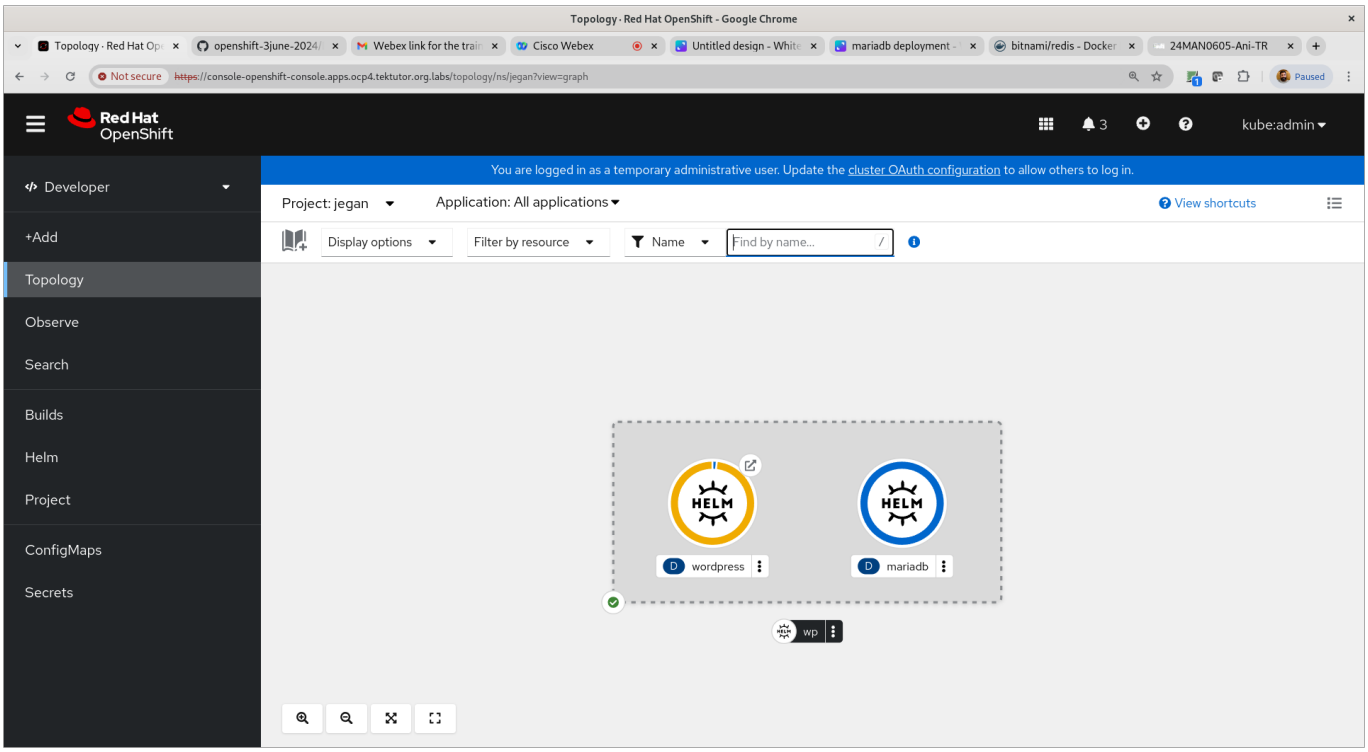
Installing helm wordpress chart into openshift

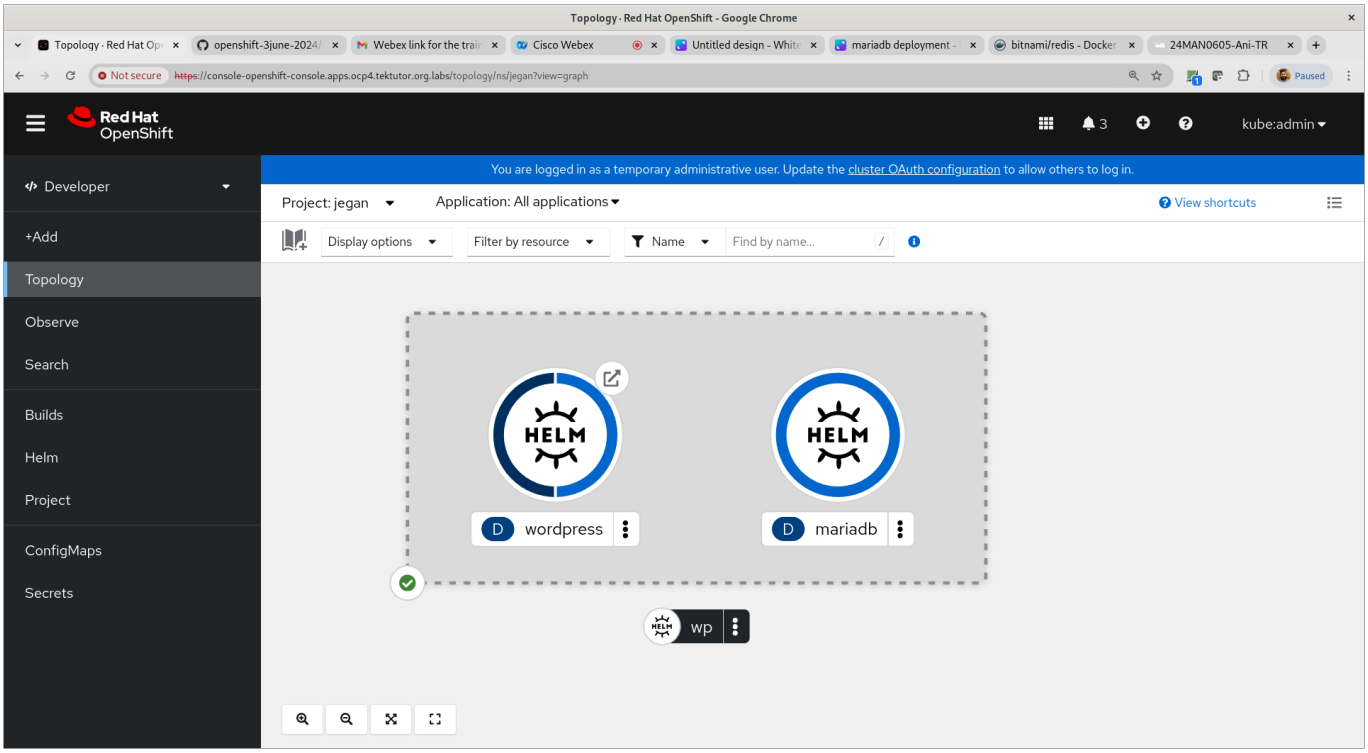
```
cd ~/openshift-3june-2024
cd Day3/helm
ls
helm install wp wordpress-0.1.0.tgz
helm list
```

Expected output






Topology - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
wordpress
mariadb
wp


Topology - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
Observe
Search
Builds
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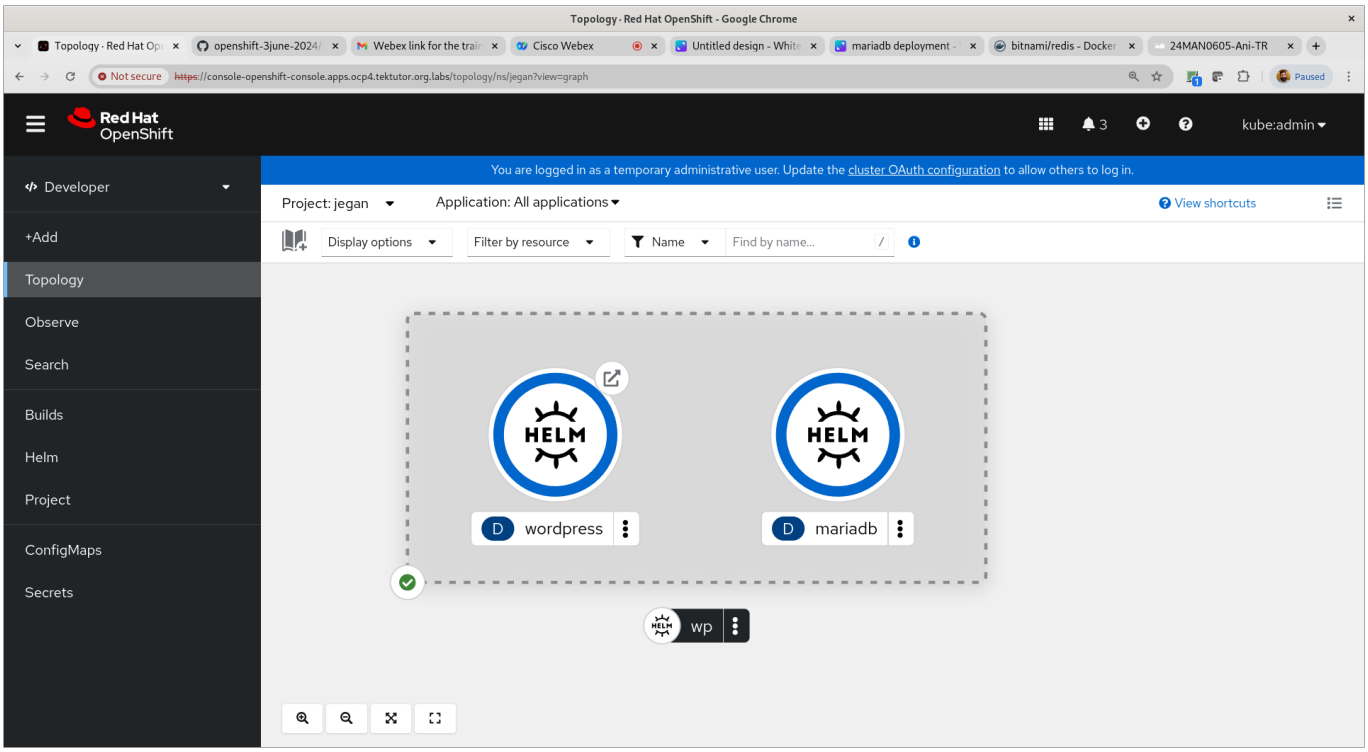
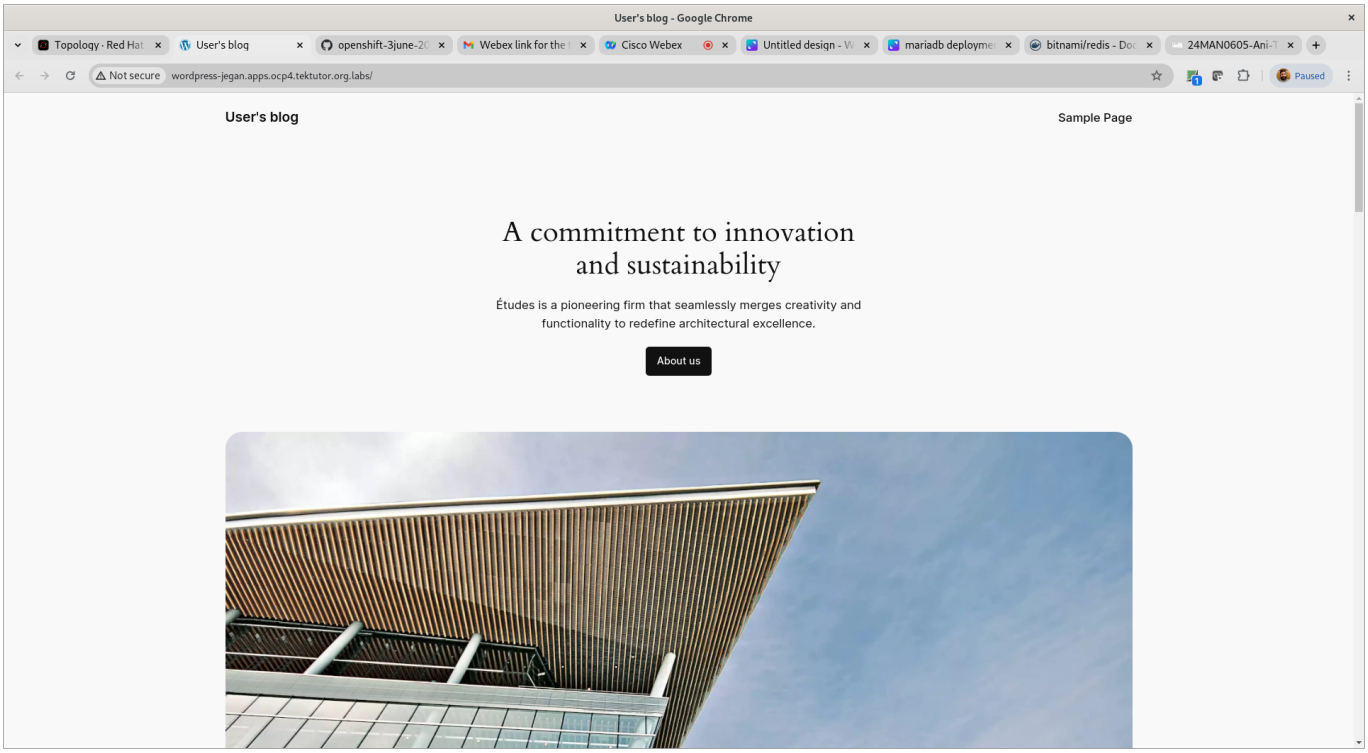
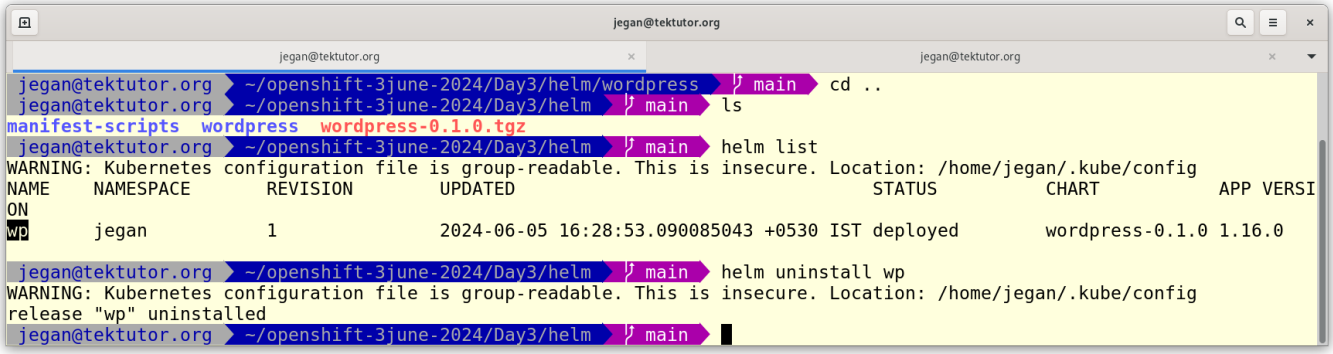
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
wordpress
mariadb
wp







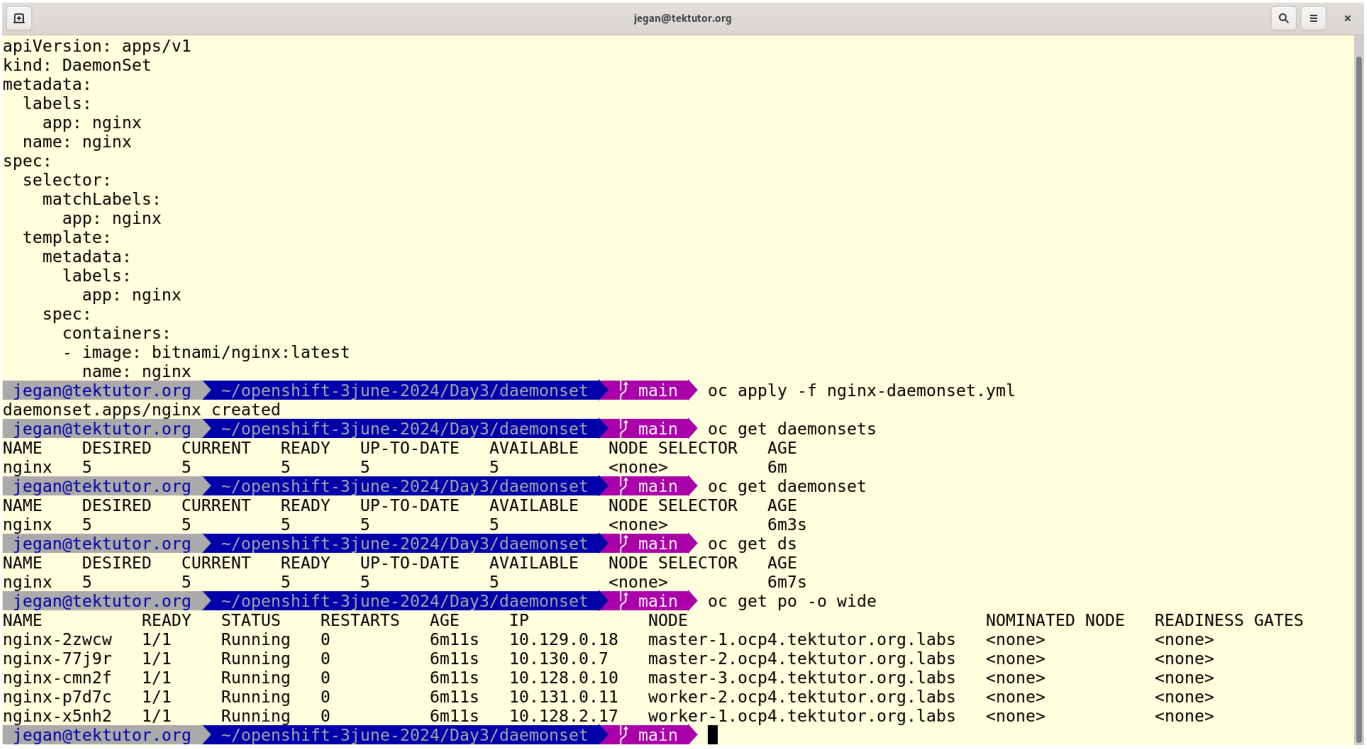
Info - DaemonSet Overview

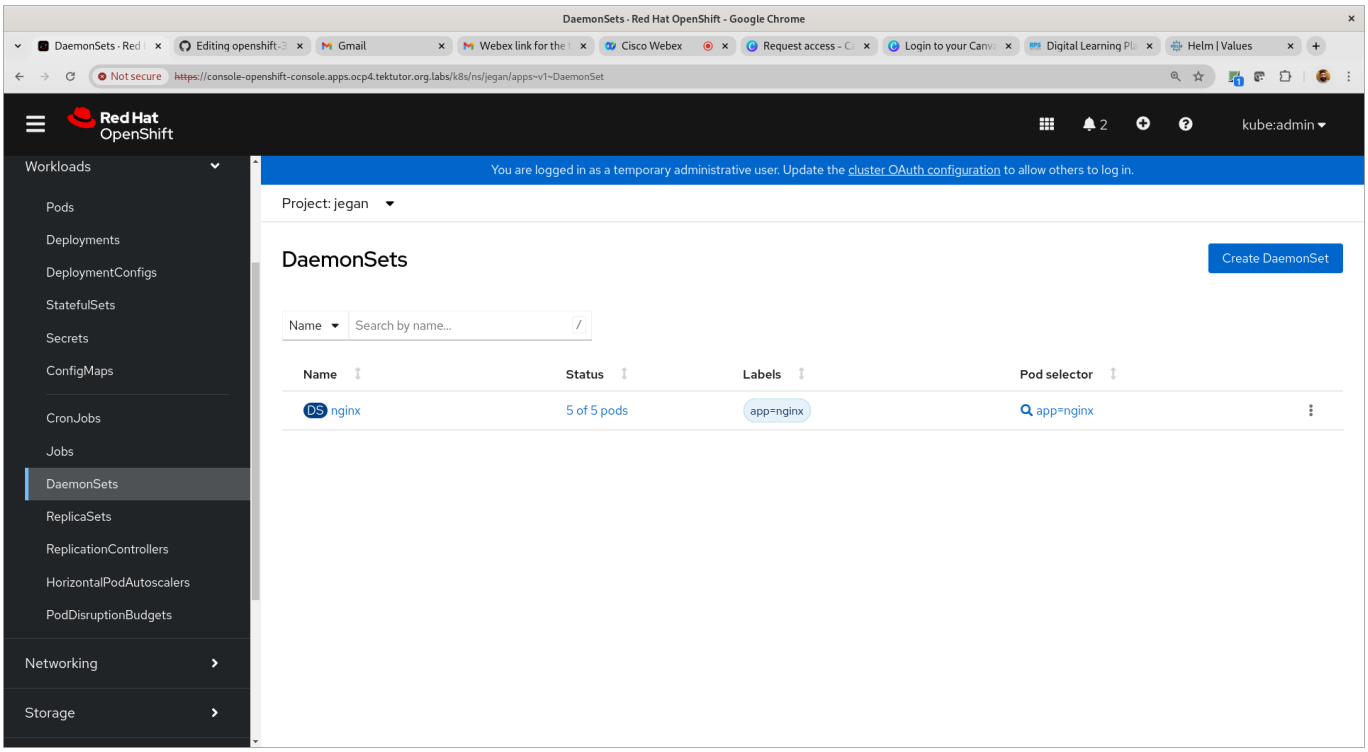
```
- In case, we need one Pod deployed in every node we can choose to deploy
the application as a DaemonSet
- The DaemonSet controller, check the number of nodes available in the
openshift cluster accordingly it will create so many Pods and deploy them
one Pod per node
- In case new nodes join the openshift cluster, the DaemonSet controller
automatically add one Pod on that new node as well
- On the similar line, in case when nodes are removed from the openshift
cluster, the Pods on those nodes are removed automatically
- We can't manually scale up/down a DaemonSet
- Examples
  - One kube-proxy Pod runs in every node which is a DaemonSet
  - default-dns Pod runs in every node, which is a DaemonSet
```

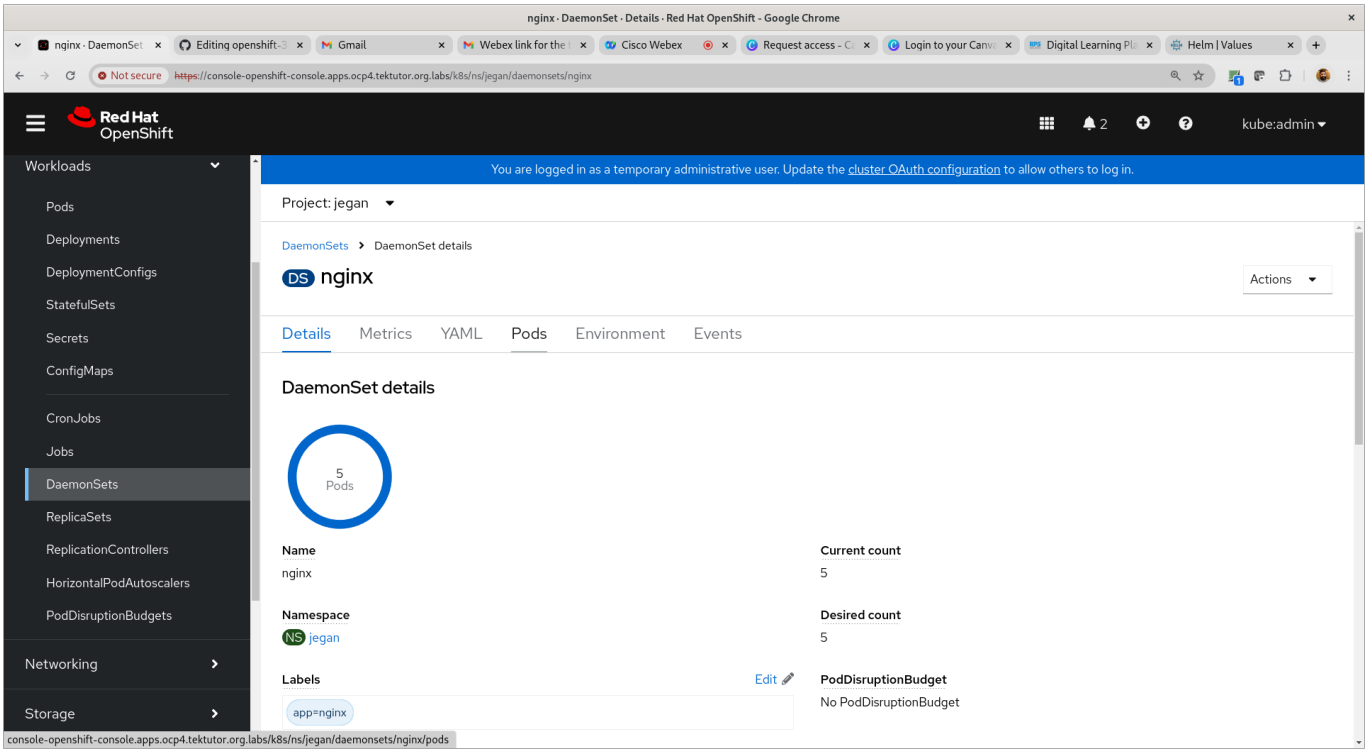
Lab - Deploying nginx as a daemonset

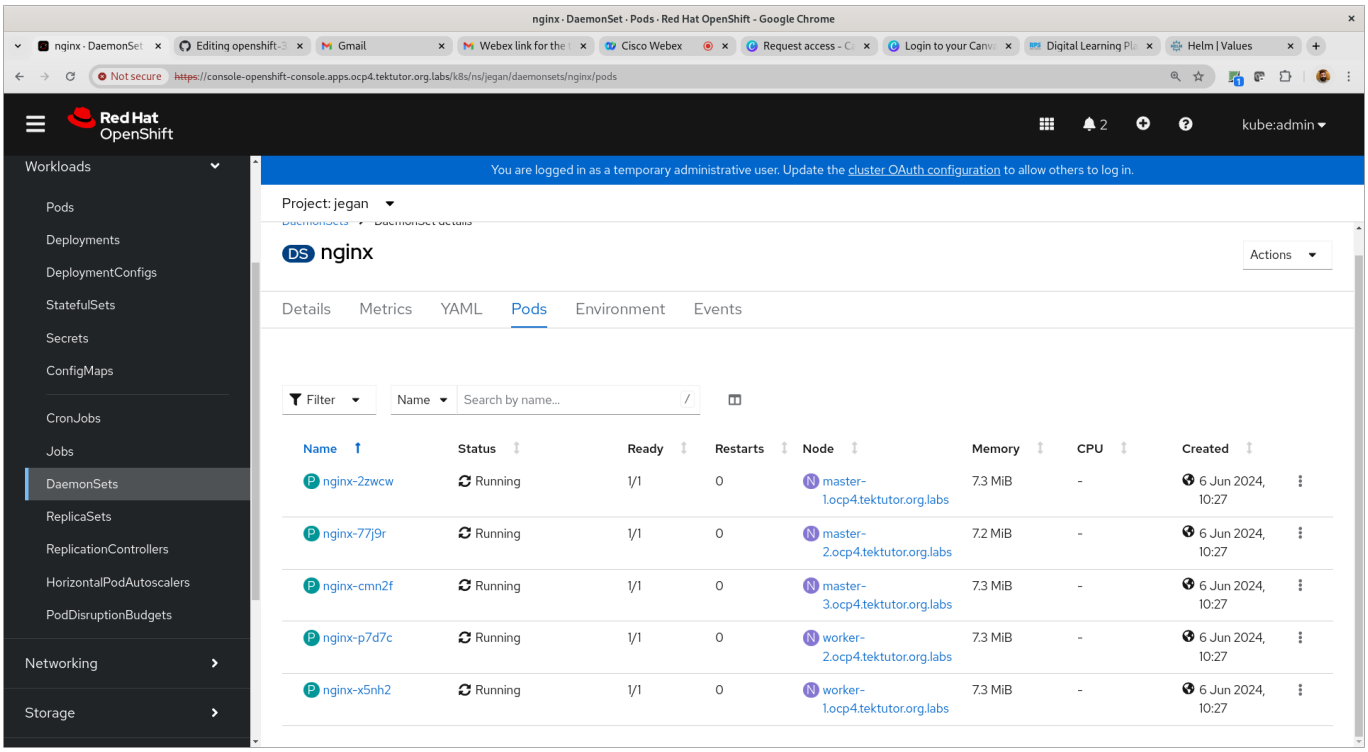
```
cd ~/openshift-3june-2024
git pull
cd Day3/daemonset
oc apply -f nginx-daemonset.yml
oc get pod -o wide
```

Expected output




DaemonSets - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
HorizontalPodAutoscalers
PodDisruptionBudgets
Networking
Storage
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
DaemonSets
Create DaemonSet
Name
Search by name...
Name
Status
Labels
Pod selector
nginx
5 of 5 pods
app=nginx
app=nginx


nginx · DaemonSet · Details - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
HorizontalPodAutoscalers
PodDisruptionBudgets
Networking
Storage
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
DaemonSets
DaemonSet details
nginx
Actions
Details
Metrics
YAML
Pods
Environment
Events
DaemonSet details
5
Pods
Name
nginx
Current count
5
Namespace
jegan
Desired count
5
Labels
Edit
app=nginx
PodDisruptionBudget
No PodDisruptionBudget
console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/daemonsets/nginx/pods



Lab - Creating a Job to do an onetime activity

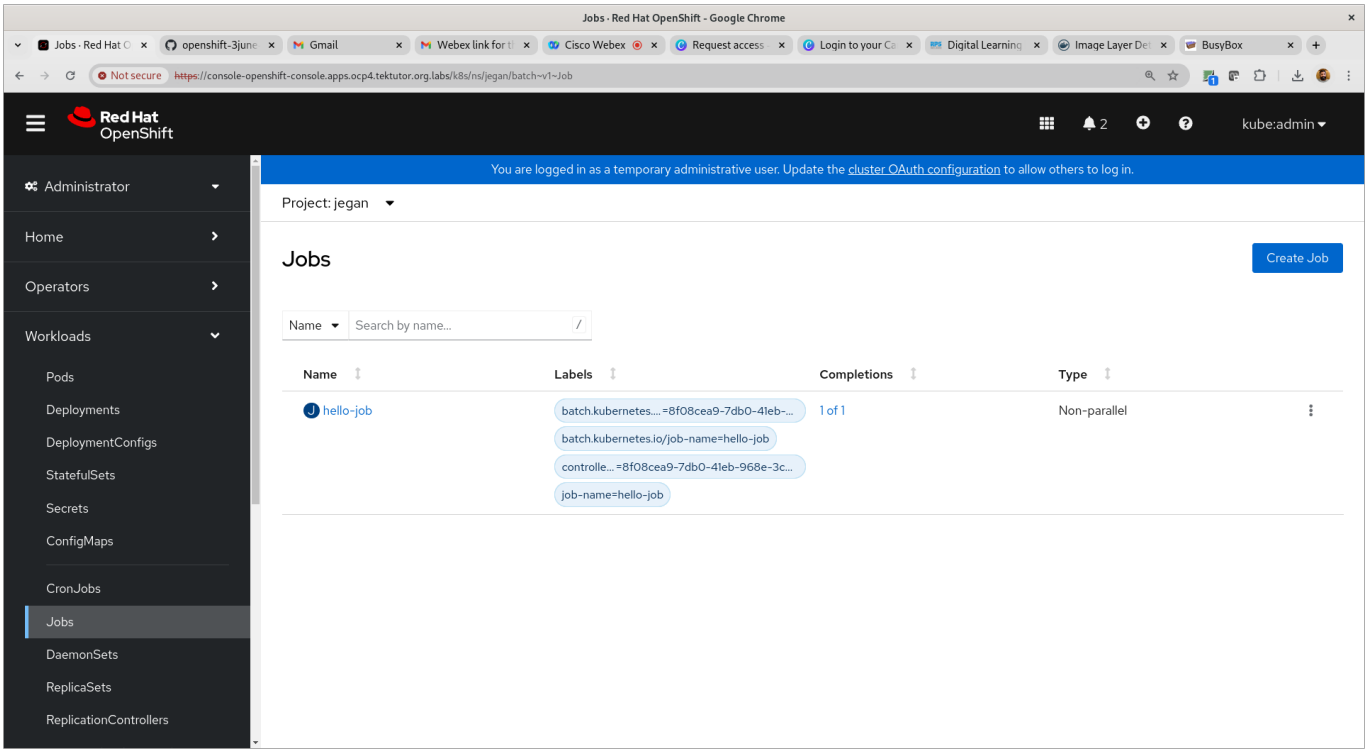
For details, you may refer the official documentation

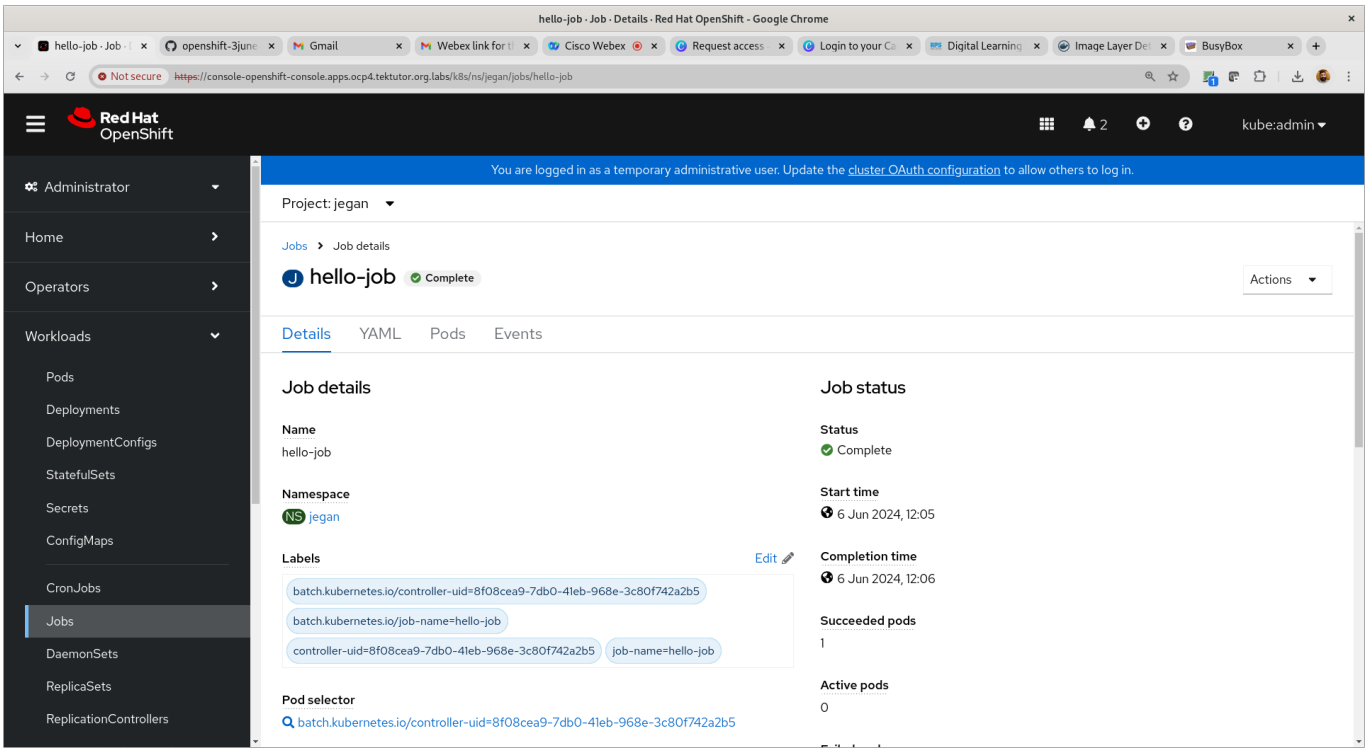
```
https://docs.openshift.com/container-platform/4.15/rest_api/workloads_apis/job-batch-v1.html
```

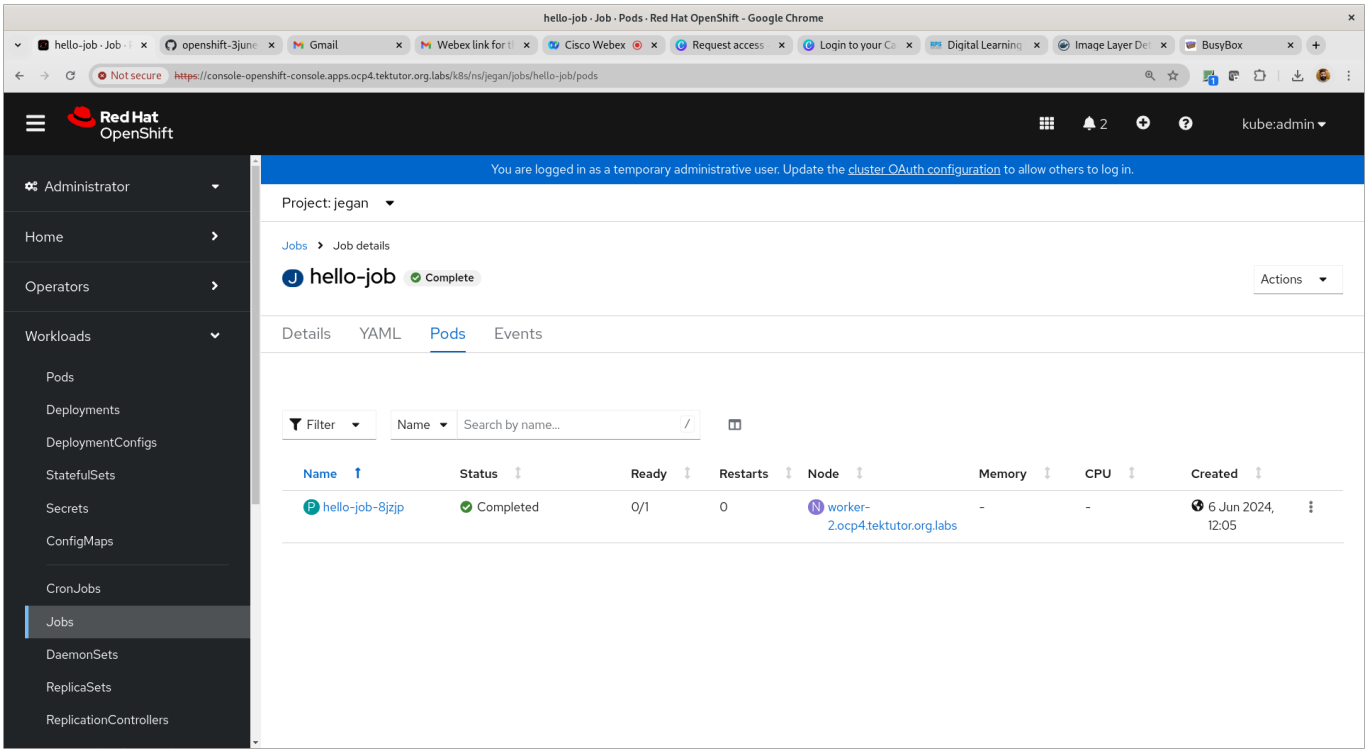
```
cd ~/openshift-3june-2024
git pull
cd Day3/job
ls
oc apply -f job.yml
oc get jobs
oc get po -w
oc logs hello-job-8jzjp
```

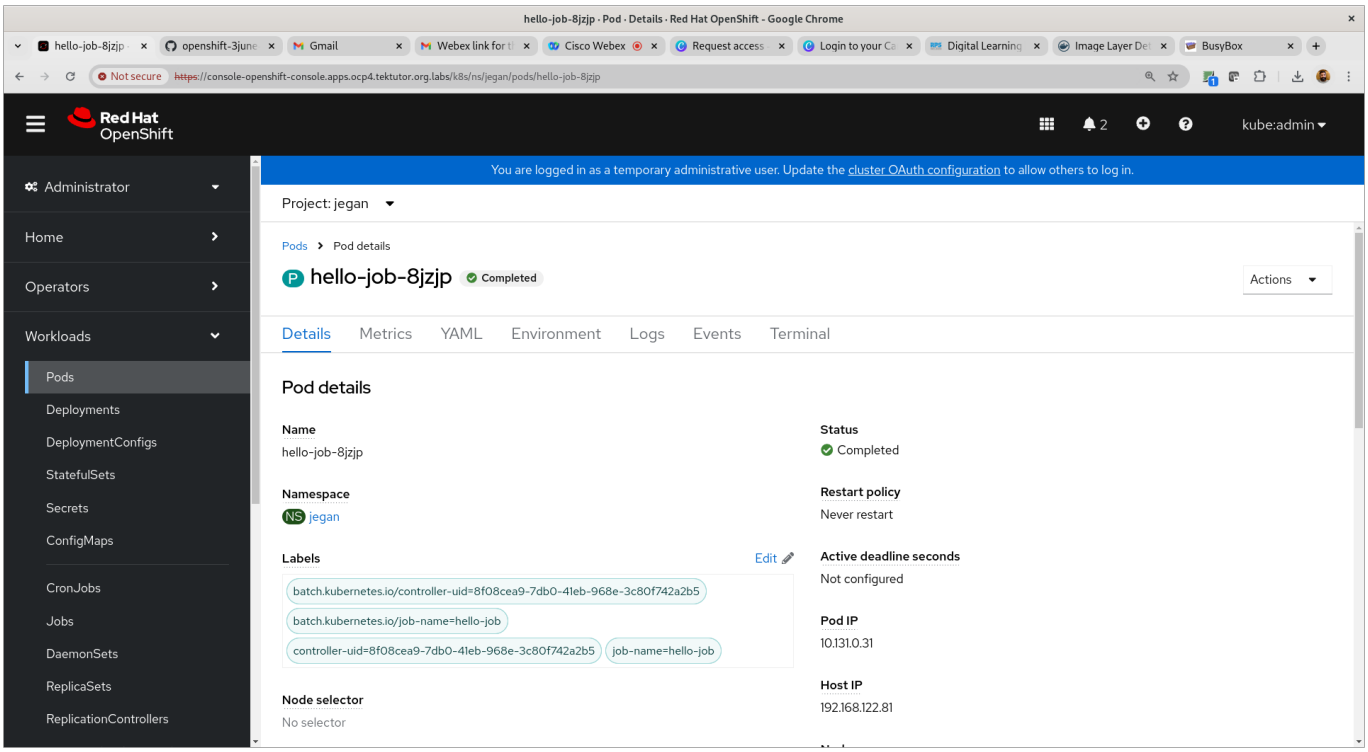
Expected output

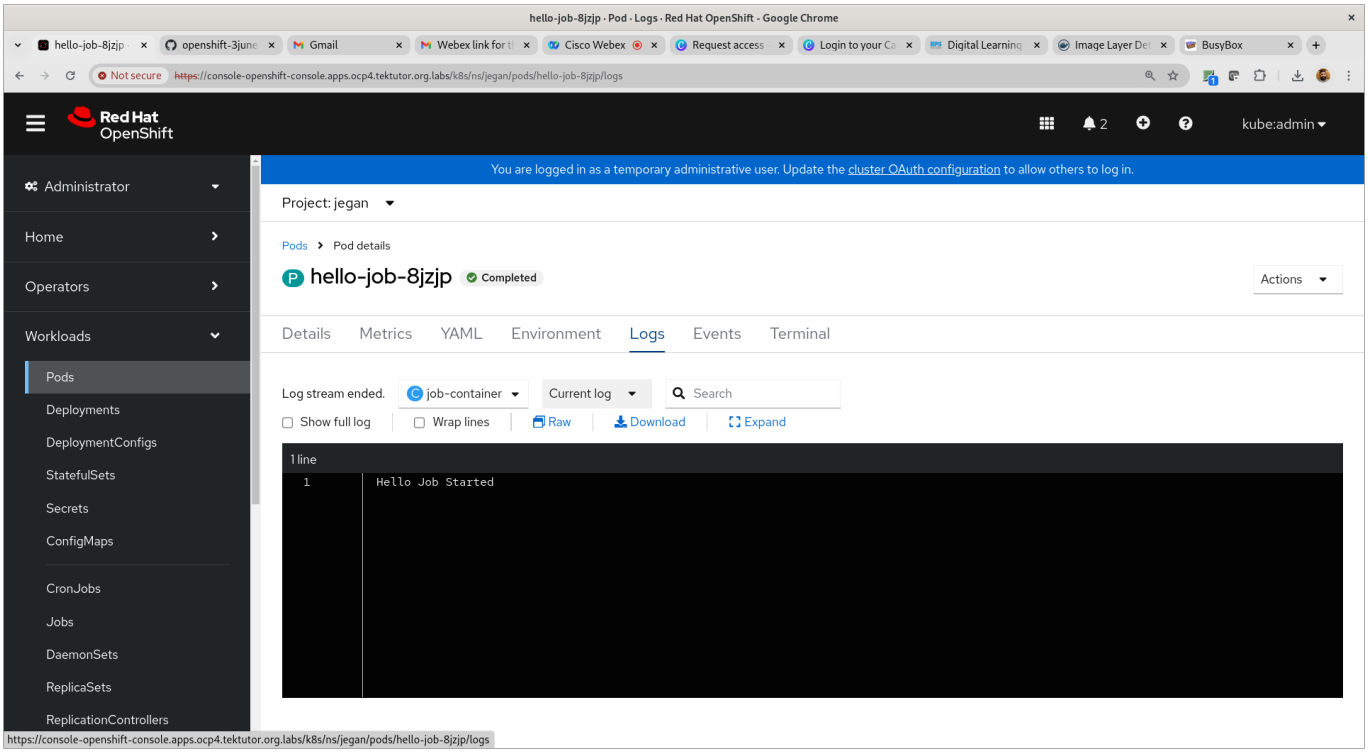
```
jegan@tektutor.org
 jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main  ls
job.yml
 jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main  oc apply -f job.yml
job.batch/hello-job created
 jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main  oc get jobs
NAME        COMPLETIONS   DURATION   AGE
hello-job   0/1           3s         3s
 jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main  oc get po -w
NAME              READY   STATUS    RESTARTS   AGE
hello-job-8jzjp   1/1     Running   0          7s
hello-job-8jzjp   0/1     Completed   0          23s
hello-job-8jzjp   0/1     Completed   0          24s
chello-job-8jzjp   0/1     Completed   0          25s
hello-job-8jzjp   0/1     Completed   0          25s
^C%
 ✘ jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main  oc logs hello-job-8jzjp
Hello Job Started
 jegan@tektutor.org  ~/openshift-3june-2024/Day3/job  main
```




hello-job · Job · Details · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Jobs › Job details
hello-job
Complete
Actions
Details
YAML
Pods
Events
Job details
Name
hello-job
Namespace
jegan
Labels
Edit
batch.kubernetes.io/controller-uid=8f08cea9-7db0-41eb-968e-3c80f742a2b5
batch.kubernetes.io/job-name=hello-job
controller-uid=8f08cea9-7db0-41eb-968e-3c80f742a2b5
job-name=hello-job
Pod selector
batch.kubernetes.io/controller-uid=8f08cea9-7db0-41eb-968e-3c80f742a2b5
Job status
Status
Complete
Start time
6 Jun 2024, 12:05
Completion time
6 Jun 2024, 12:06
Succeeded pods
1
Active pods
0


hello-job · Job · Pods · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Jobs › Job details
hello-job
Complete
Actions
Details
YAML
Pods
Events
Filter
Name
Search by name...
Name
Status
Ready
Restarts
Node
Memory
CPU
Created
hello-job-8jzjp
Completed
0/1
0
worker-2.ocp4.tektutor.org.labs
-
-
6 Jun 2024, 12:05

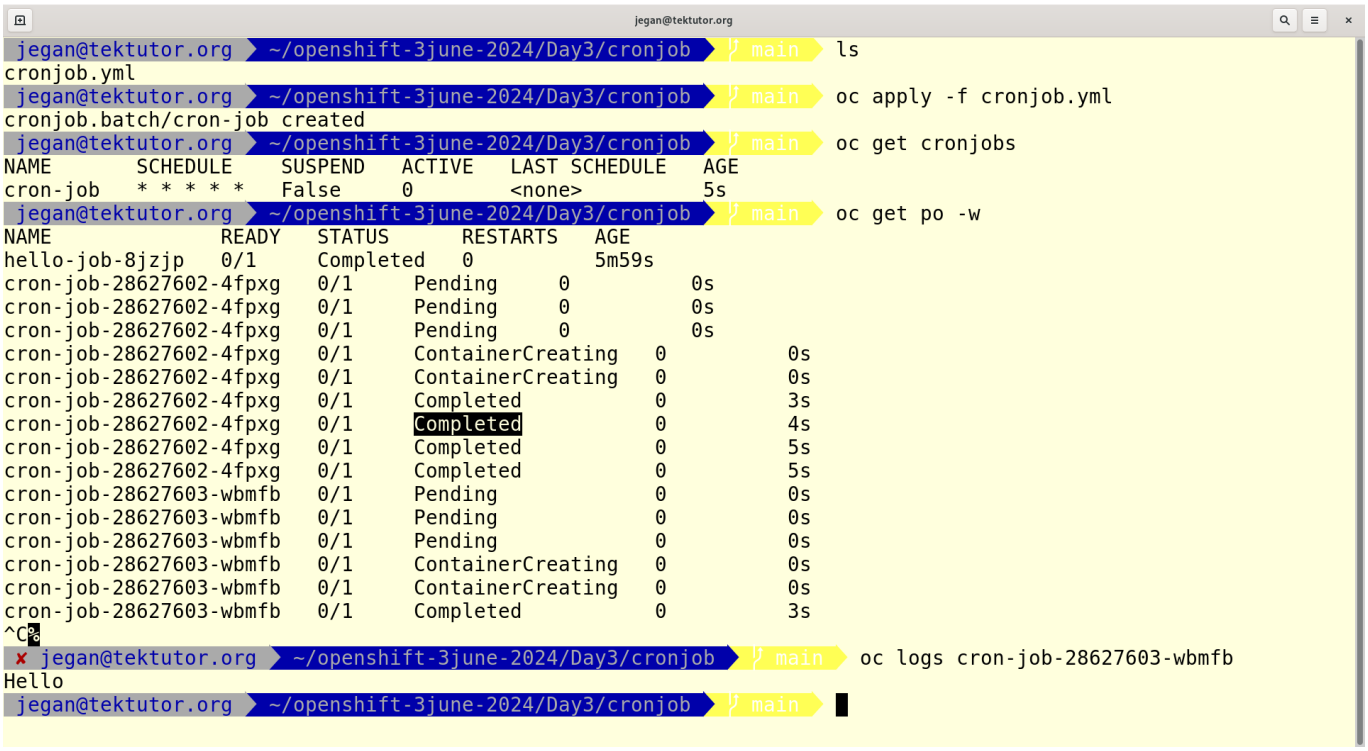


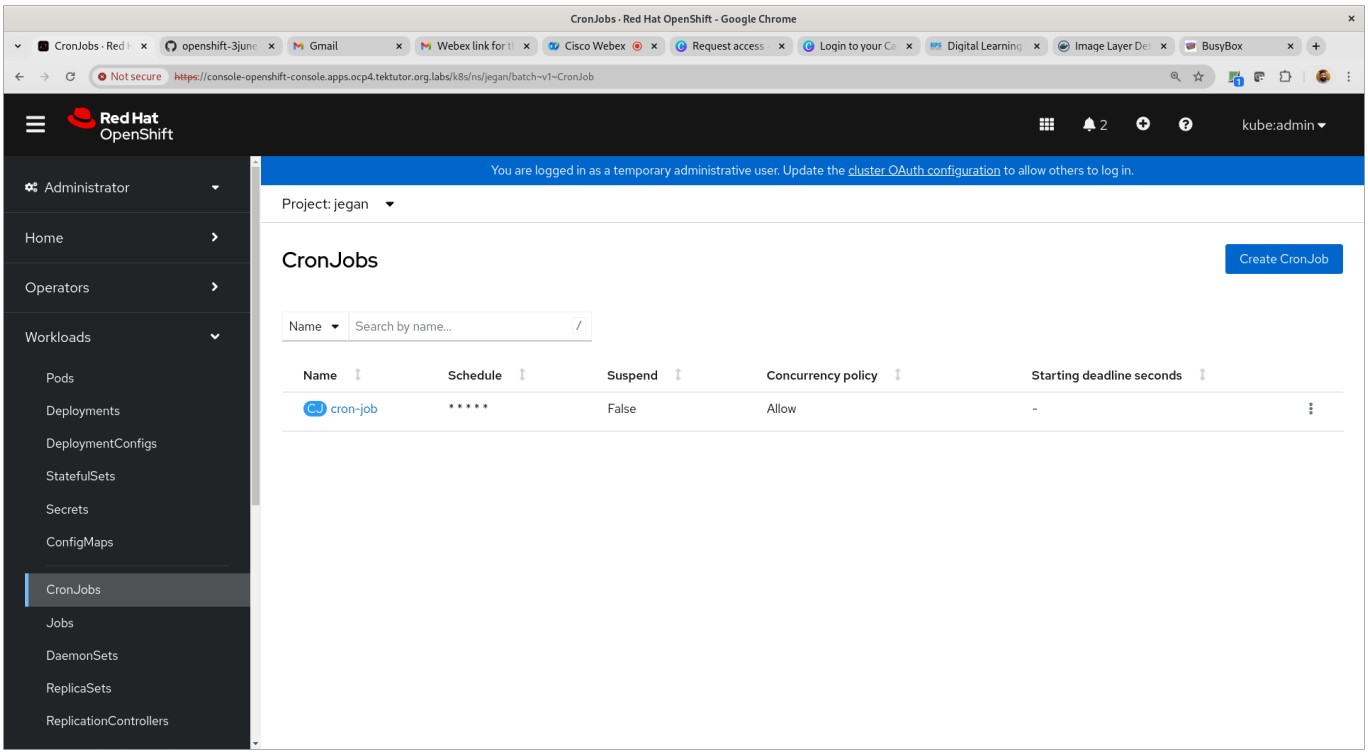


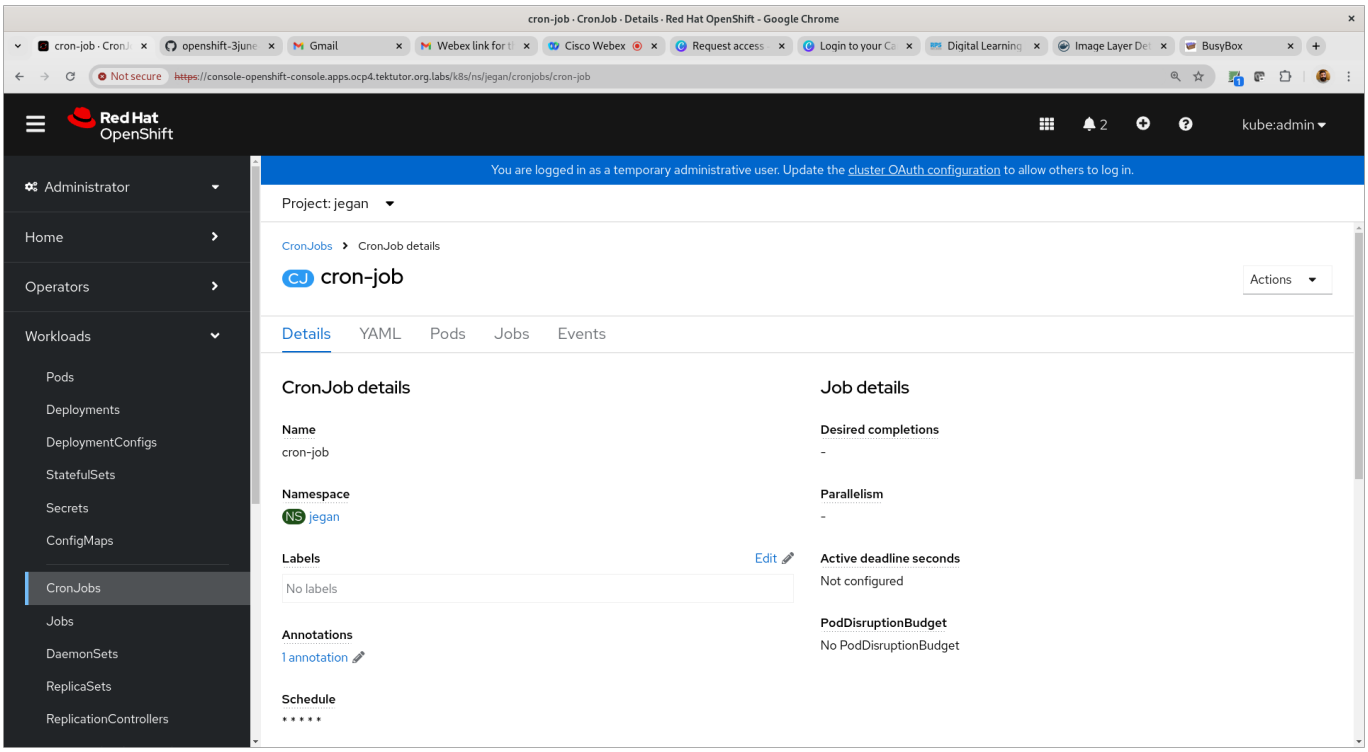
Lab - Creating a recurring job using cronjob that be scheuled

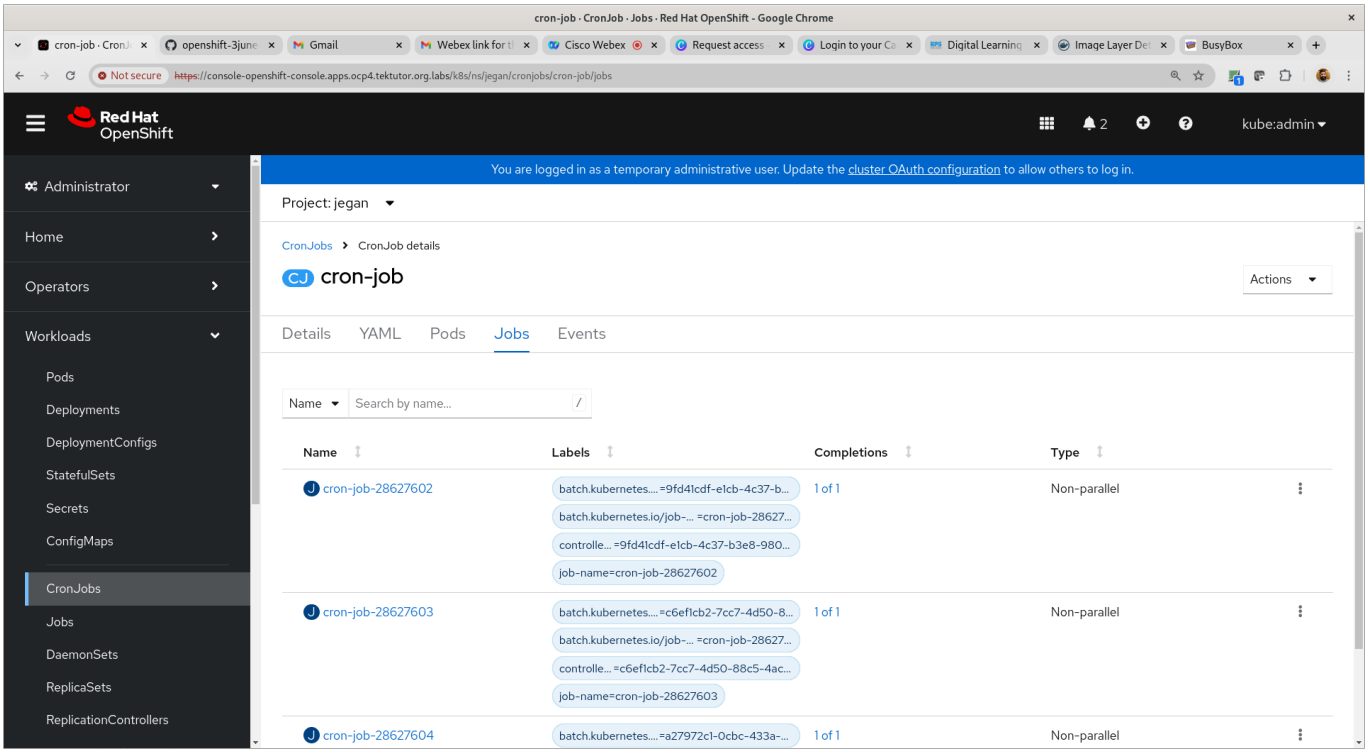
```
cd ~/openshift-3june-2024
git pull
cd Day3/cronjob
ls
oc apply -f cronjob.yml
oc get cronjobs
oc get po -w
oc logs cron-job-28627603-wbmfb
```

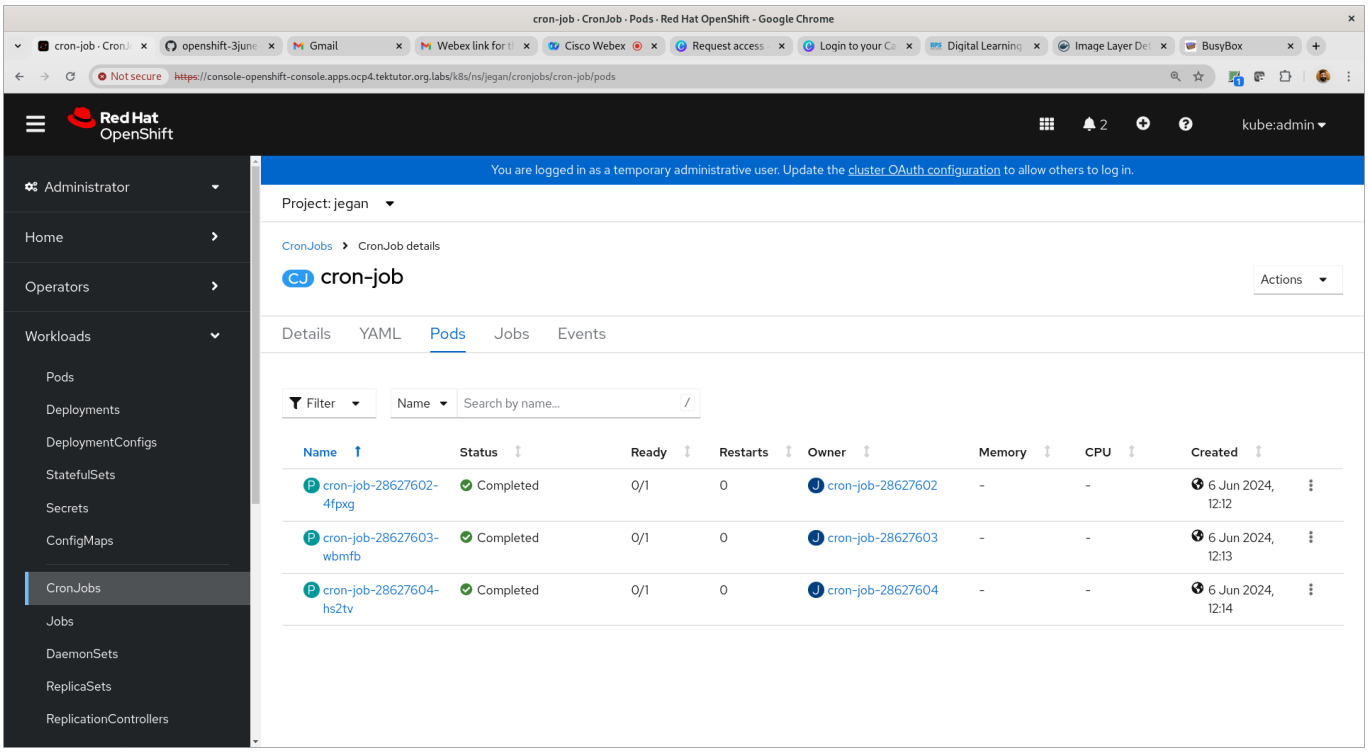
Expected output

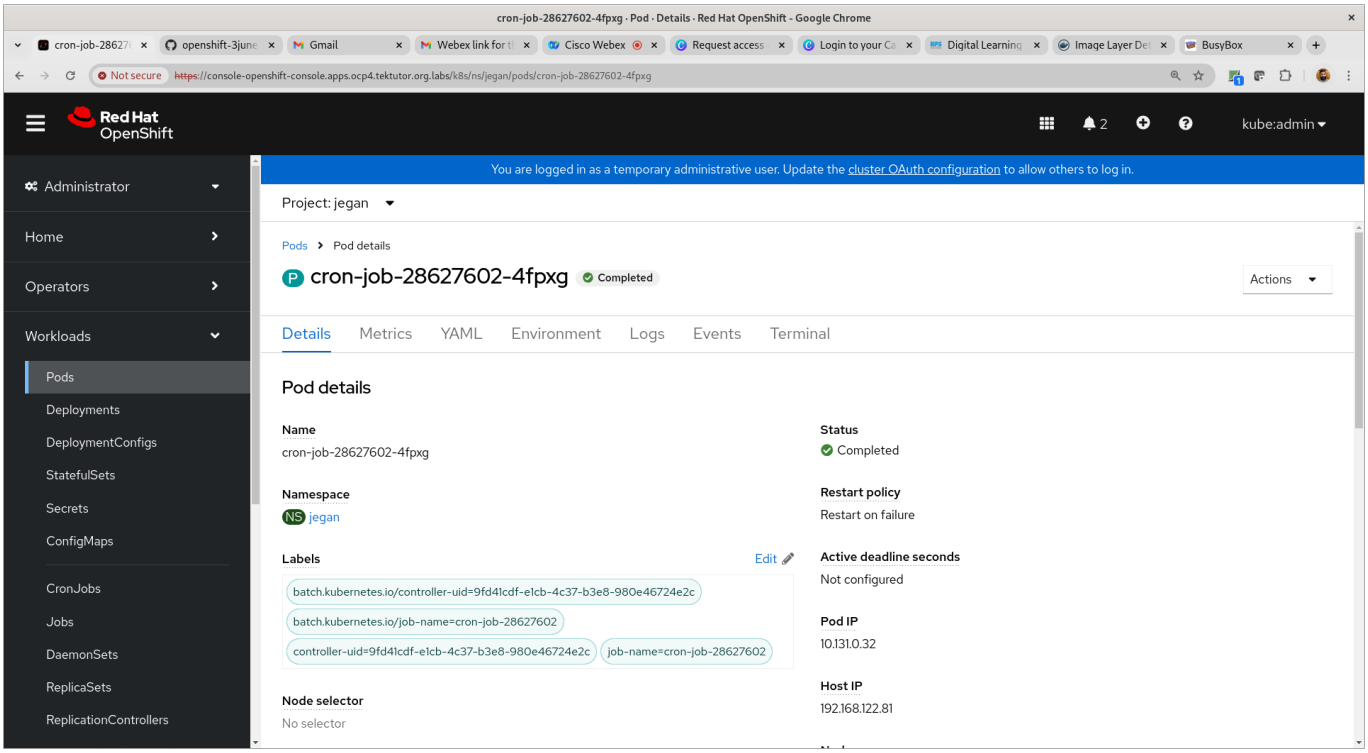


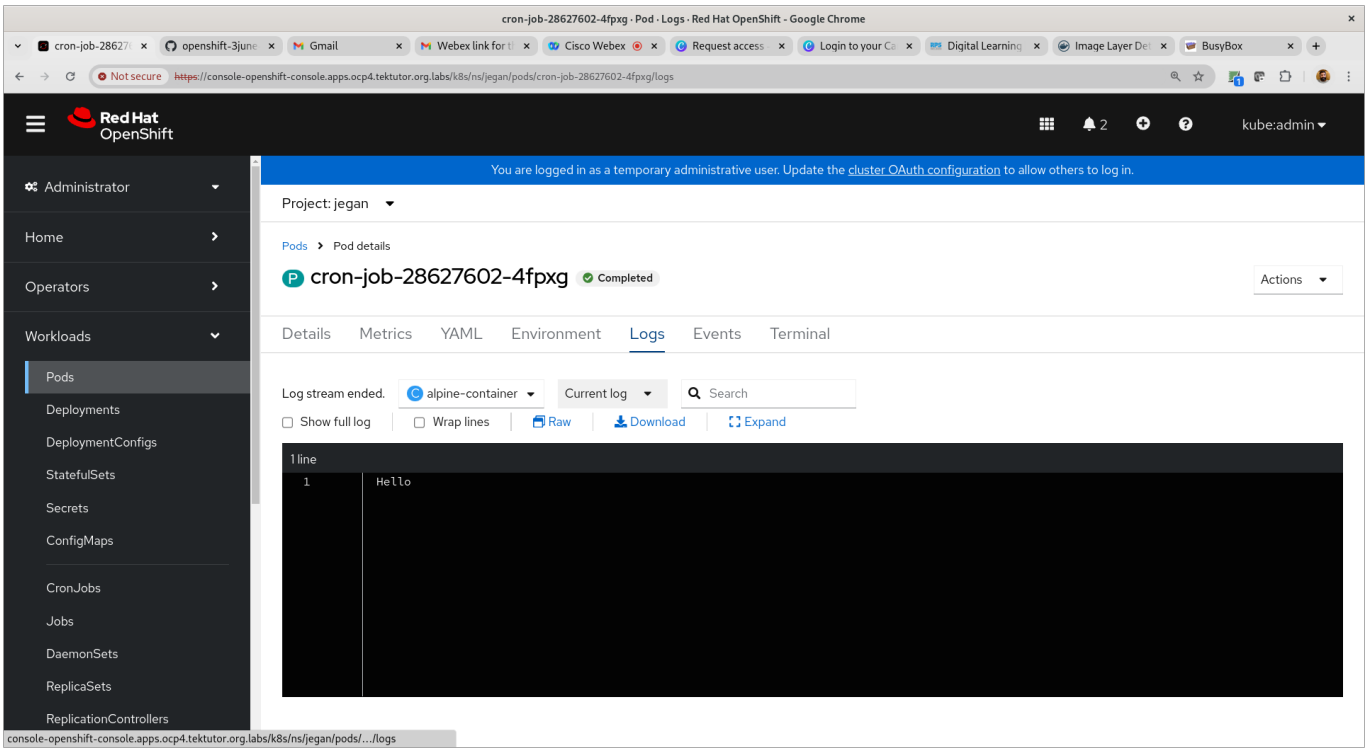



cron-job · CronJob · Details · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
CronJobs › CronJob details
cron-job
Actions
Details
YAML
Pods
Jobs
Events
CronJob details
Name
cron-job
Namespace
jegan
Labels
Edit
No labels
Annotations
1 annotation
Schedule
* * * * *
Job details
Desired completions
-
Parallelism
-
Active deadline seconds
Not configured
PodDisruptionBudget
No PodDisruptionBudget


cron-job · CronJob · Jobs · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
CronJobs › CronJob details
cron-job
Actions
Details
YAML
Pods
Jobs
Events
Name
Search by name...
Name
Labels
Completions
Type
cron-job-28627602
batch.kubernetes.... =9fd41cdf-e1cb-4c37-b...
batch.kubernetes.io/job-... =cron-job-28627...
controlle... =9fd41cdf-e1cb-4c37-b3e8-980...
job-name=cron-job-28627602
1 of 1
Non-parallel
cron-job-28627603
batch.kubernetes.... =c6ef1cb2-7cc7-4d50-8...
batch.kubernetes.io/job-... =cron-job-28627...
controlle... =c6ef1cb2-7cc7-4d50-88c5-4ac...
job-name=cron-job-28627603
1 of 1
Non-parallel
cron-job-28627604
batch.kubernetes.... =a27972c1-0cbc-433a-...
1 of 1
Non-parallel


cron-job · CronJob · Pods · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
CronJobs › CronJob details
CJ cron-job
Actions
Details YAML Pods Jobs Events
Filter Name Search by name...
Name Status Ready Restarts Owner Memory CPU Created
cron-job-28627602-4fpxg Completed 0/1 0 cron-job-28627602 - - 6 Jun 2024, 12:12
cron-job-28627603-wbmfb Completed 0/1 0 cron-job-28627603 - - 6 Jun 2024, 12:13
cron-job-28627604-hs2tv Completed 0/1 0 cron-job-28627604 - - 6 Jun 2024, 12:14


cron-job-28627602-4fpxg · Pod · Details · Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Administrator
Home
Operators
Workloads
Pods
Deployments
DeploymentConfigs
StatefulSets
Secrets
ConfigMaps
CronJobs
Jobs
DaemonSets
ReplicaSets
ReplicationControllers
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Pods › Pod details
cron-job-28627602-4fpxg Completed
Actions
Details Metrics YAML Environment Logs Events Terminal
Pod details
Name
cron-job-28627602-4fpxg
Namespace
NS jegan
Labels
Edit
batch.kubernetes.io/controller-uid=9fd41cdf-e1cb-4c37-b3e8-980e46724e2c
batch.kubernetes.io/job-name=cron-job-28627602
controller-uid=9fd41cdf-e1cb-4c37-b3e8-980e46724e2c
job-name=cron-job-28627602
Node selector
No selector
Status
Completed
Restart policy
Restart on failure
Active deadline seconds
Not configured
Pod IP
10.131.0.32
Host IP
192.168.122.81



Lab - Deploying stateful application using StatefulSet

For more details, you may refer my medium blog article here

```
https://medium.com/tektutor/deploying-stateful-applications-in-kubernetes-8ffd46920b55
```

```
cd ~/openshift-3june-2023
git pull
cd Day3/statefulset

oc apply -f mongodb-pv.yml
oc apply -f mongodb-pvc.yml
oc apply -f mongodb-statefulset.yml
```

Expected output statefulset

Info - S2I (Source to Image)

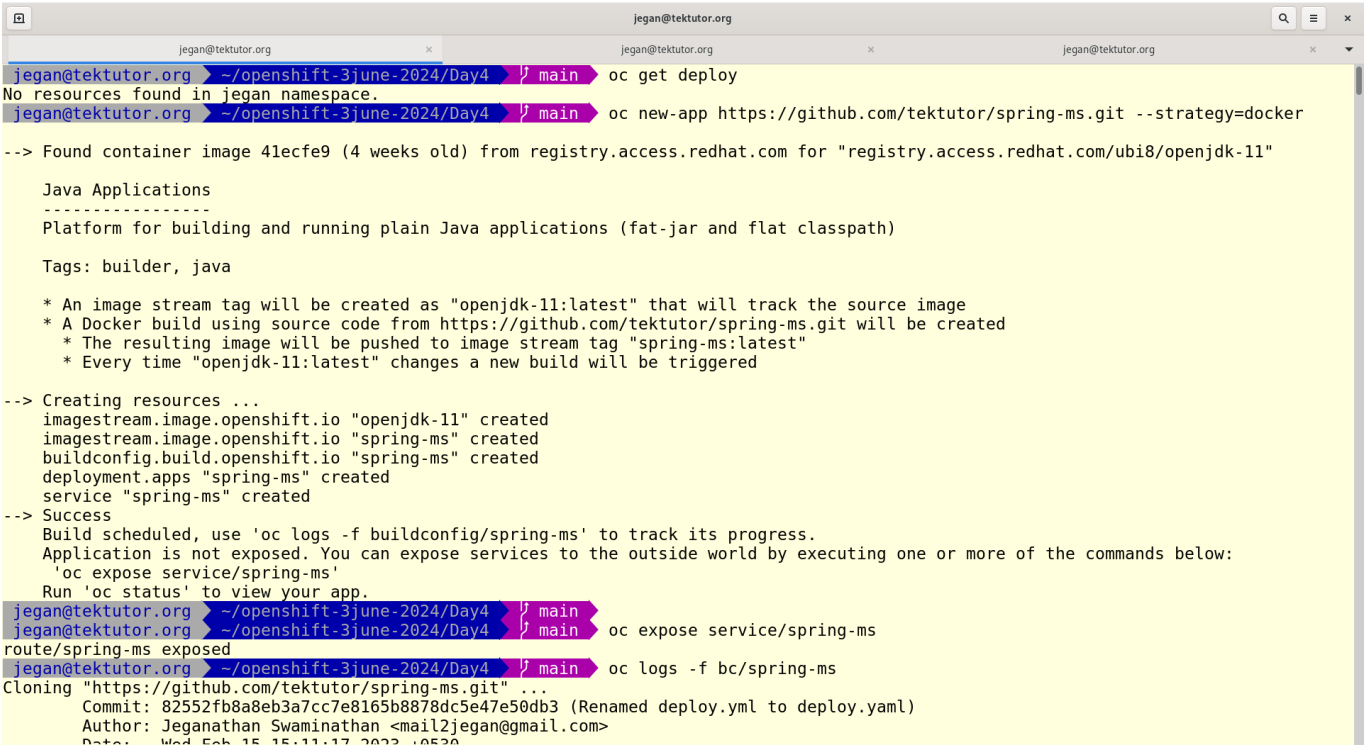
```
- S2I is a new feature added in OpenShift
- S2I is not supported in Kubernetes
- In case of S2I, we can provide a GitHub, BitBucket or any version control url for openshift to clone/download the source code
- Once the source code is cloned
- In case, our GitHub repo also has a Dockerfile or a Containerfile
- atleast 3 strategies are supported, source strategy, docker strategy and pipeline strategy
```

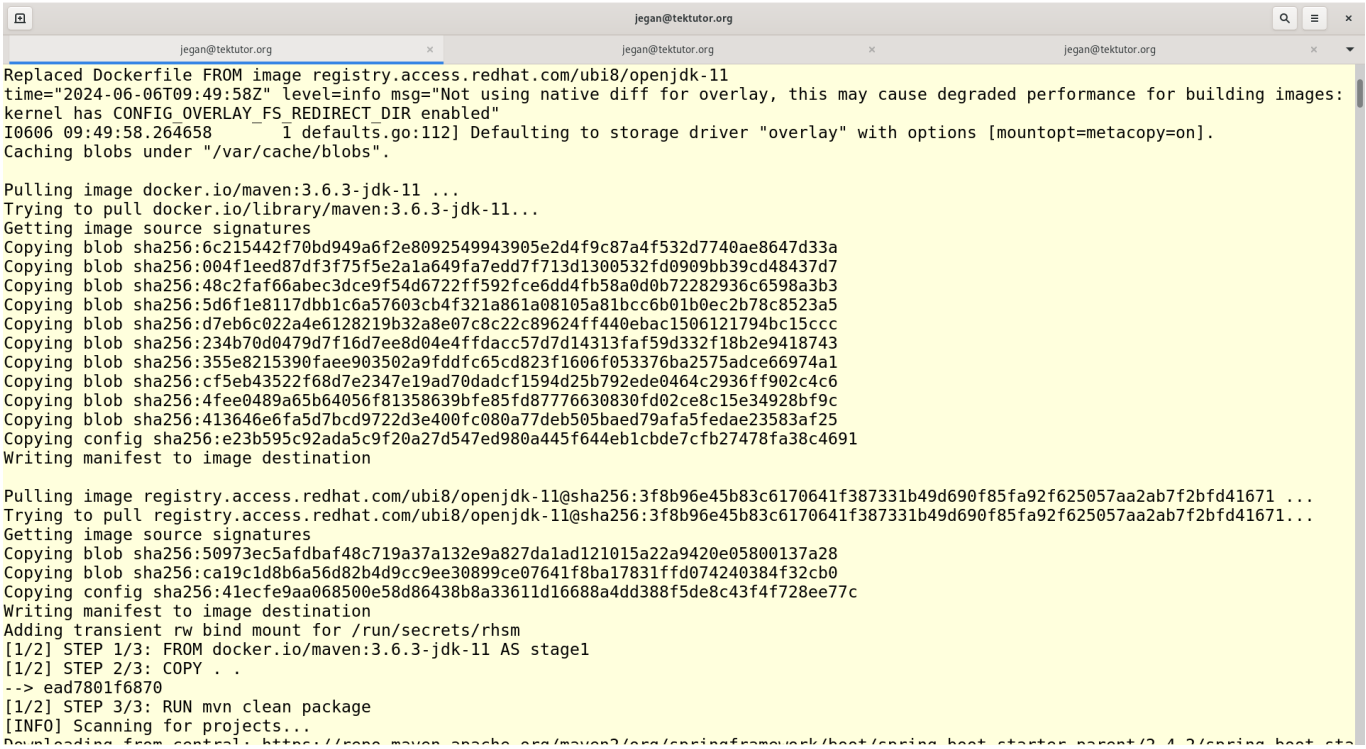
```
- in case of source strategy, we just need to provide our application code
without (Dockerfile, devfile.yaml, deploy.yaml)
- in case of source strategy, we need to mention the container image that
will have all the tools required to build our application
- in case of docker strategy, we need to provide a Dockerfile or
Containerfile as part of our GitHub repo along with our appliaction code
```

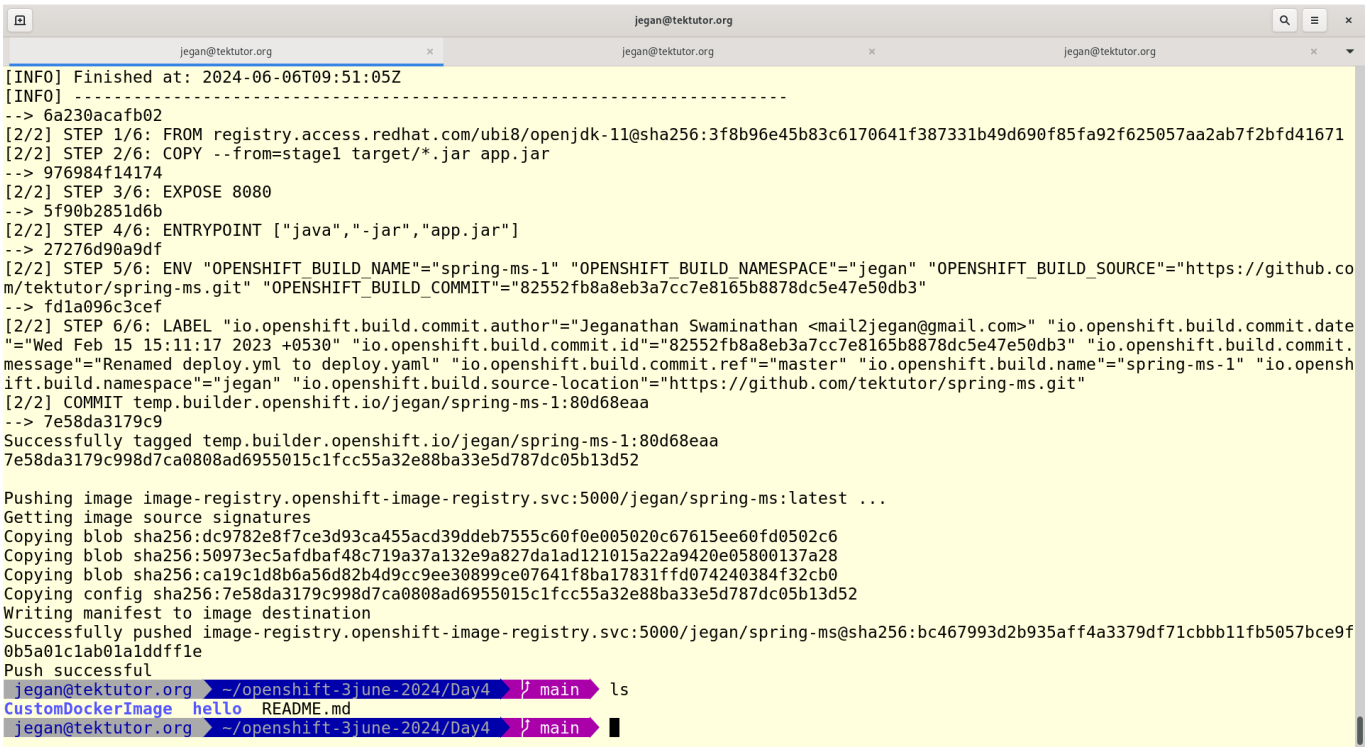
Lab - Deploying a spring-boot hello microservice using S2I docker strategy

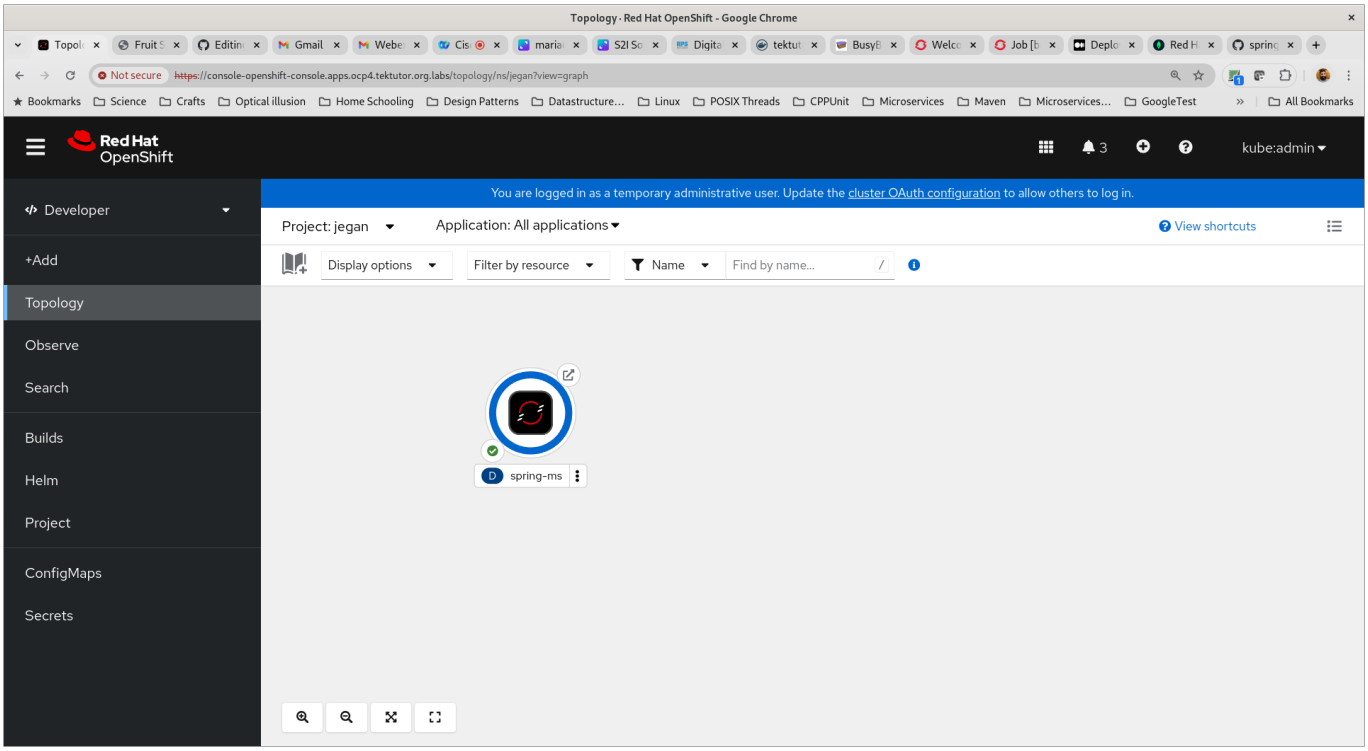
```
oc new-app https://github.com/tektutor/spring-ms.git --strategy=docker
```

Expected output




jegan@tektutor.org
jegan@tektutor.org
jegan@tektutor.org
jegan@tektutor.org
Replaced Dockerfile FROM image registry.access.redhat.com/ubi8/openjdk-11
time="2024-06-06T09:49:58Z" level=info msg="Not using native diff for overlay, this may cause degraded performance for building images: kernel has CONFIG_OVERLAY_FS_REDIRECT_DIR enabled"
I0606 09:49:58.264658 1 defaults.go:112] Defaulting to storage driver "overlay" with options [mountopt=metacopy=on].
Caching blobs under "/var/cache/blobs".
Pulling image docker.io/maven:3.6.3-jdk-11 ...
Trying to pull docker.io/library/maven:3.6.3-jdk-11...
Getting image source signatures
Copying blob sha256:6c215442f70bd949a6f2e8092549943905e2d4f9c87a4f532d7740ae8647d33a
Copying blob sha256:004f1eed87df3f75f5e2a1a649fa7edd7f713d1300532fd0909bb39cd48437d7
Copying blob sha256:48c2faf66abec3dce9f54d6722ff592fce6dd4fb58a0d0b72282936c6598a3b3
Copying blob sha256:5d6f1e8117dbb1c6a57603cb4f321a861a08105a81bcc6b01b0ec2b78c8523a5
Copying blob sha256:d7eb6c022a4e6128219b32a8e07c8c22c89624ff440ebac1506121794bc15ccc
Copying blob sha256:234b70d0479d7f16d7ee8d04e4ffdacc57d7d14313faf59d332f18b2e9418743
Copying blob sha256:355e8215390faee903502a9fddfc65cd823f1606f053376ba2575adce66974a1
Copying blob sha256:cf5eb43522f68d7e2347e19ad70dadcf1594d25b792ede0464c2936ff902c4c6
Copying blob sha256:4fee0489a65b64056f81358639bfe85fd87776630830fd02ce8c15e34928bf9c
Copying blob sha256:413646e6fa5d7bcd9722d3e400fc080a77deb505baed79afa5fedae23583af25
Copying config sha256:e23b595c92ada5c9f20a27d547ed980a445f644eb1cbde7cfb27478fa38c4691
Writing manifest to image destination
Pulling image registry.access.redhat.com/ubi8/openjdk-11@sha256:3f8b96e45b83c6170641f387331b49d690f85fa92f625057aa2ab7f2bfd41671 ...
Trying to pull registry.access.redhat.com/ubi8/openjdk-11@sha256:3f8b96e45b83c6170641f387331b49d690f85fa92f625057aa2ab7f2bfd41671...
Getting image source signatures
Copying blob sha256:50973ec5afdbaf48c719a37a132e9a827da1ad121015a22a9420e05800137a28
Copying blob sha256:ca19c1d8b6a56d82b4d9cc9ee30899ce07641f8ba17831ffd074240384f32cb0
Copying config sha256:41ecfe9aa068500e58d86438b8a33611d16688a4dd388f5de8c43f4f728ee77c
Writing manifest to image destination
Adding transient rw bind mount for /run/secrets/rhsm
[1/2] STEP 1/3: FROM docker.io/maven:3.6.3-jdk-11 AS stage1
[1/2] STEP 2/3: COPY . .
--> ead7801f6870
[1/2] STEP 3/3: RUN mvn clean package
[INFO] Scanning for projects...


jegan@tektutor.org
jegan@tektutor.org
jegan@tektutor.org
jegan@tektutor.org
[INFO] Finished at: 2024-06-06T09:51:05Z
[INFO] --
--> 6a230acafb02
[2/2] STEP 1/6: FROM registry.access.redhat.com/ubi8/openjdk-11@sha256:3f8b96e45b83c6170641f387331b49d690f85fa92f625057aa2ab7f2bfd41671
[2/2] STEP 2/6: COPY --from=stage1 target/*.jar app.jar
--> 976984f14174
[2/2] STEP 3/6: EXPOSE 8080
--> 5f90b2851d6b
[2/2] STEP 4/6: ENTRYPOINT ["java","-jar","app.jar"]
--> 27276d90a9df
[2/2] STEP 5/6: ENV "OPENSHIFT_BUILD_NAME"="spring-ms-1" "OPENSHIFT_BUILD_NAMESPACE"="jegan" "OPENSHIFT_BUILD_SOURCE"="https://github.com/tektutor/spring-ms.git" "OPENSHIFT_BUILD_COMMIT"="82552fb8a8eb3a7cc7e8165b8878dc5e47e50db3"
--> fd1a096c3cef
[2/2] STEP 6/6: LABEL "io.openshift.build.commit.author"="Jeganathan Swaminathan <mail2jegan@gmail.com>" "io.openshift.build.commit.date"="Wed Feb 15 15:11:17 2023 +0530" "io.openshift.build.commit.id"="82552fb8a8eb3a7cc7e8165b8878dc5e47e50db3" "io.openshift.build.commit.message"="Renamed deploy.yml to deploy.yaml" "io.openshift.build.commit.ref"="master" "io.openshift.build.name"="spring-ms-1" "io.openshift.build.namespace"="jegan" "io.openshift.build.source-location"="https://github.com/tektutor/spring-ms.git"
[2/2] COMMIT temp.builder.openshift.io/jegan/spring-ms-1:80d68eaa
--> 7e58da3179c9
Successfully tagged temp.builder.openshift.io/jegan/spring-ms-1:80d68eaa
7e58da3179c998d7ca0808ad6955015c1fcc55a32e88ba33e5d787dc05b13d52
Pushing image image-registry.openshift-image-registry.svc:5000/jegan/spring-ms:latest ...
Getting image source signatures
Copying blob sha256:dc9782e8f7ce3d93ca455acd39ddeb7555c60f0e005020c67615ee60fd0502c6
Copying blob sha256:50973ec5afdbaf48c719a37a132e9a827da1ad121015a22a9420e05800137a28
Copying blob sha256:ca19c1d8b6a56d82b4d9cc9ee30899ce07641f8ba17831ffd074240384f32cb0
Copying config sha256:7e58da3179c998d7ca0808ad6955015c1fcc55a32e88ba33e5d787dc05b13d52
Writing manifest to image destination
Successfully pushed image-registry.openshift-image-registry.svc:5000/jegan/spring-ms@sha256:bc467993d2b935aff4a3379df71cbbb11fb5057bce9f0b5a01c1ab01a1ddff1e
Push successful
jegan@tektutor.org ~/openshift-3june-2024/Day4 main ls
CustomDockerImage hello README.md
jegan@tektutor.org ~/openshift-3june-2024/Day4 main


Topology - Red Hat OpenShift - Google Chrome
Red Hat OpenShift
kube:admin
Developer
+Add
Topology
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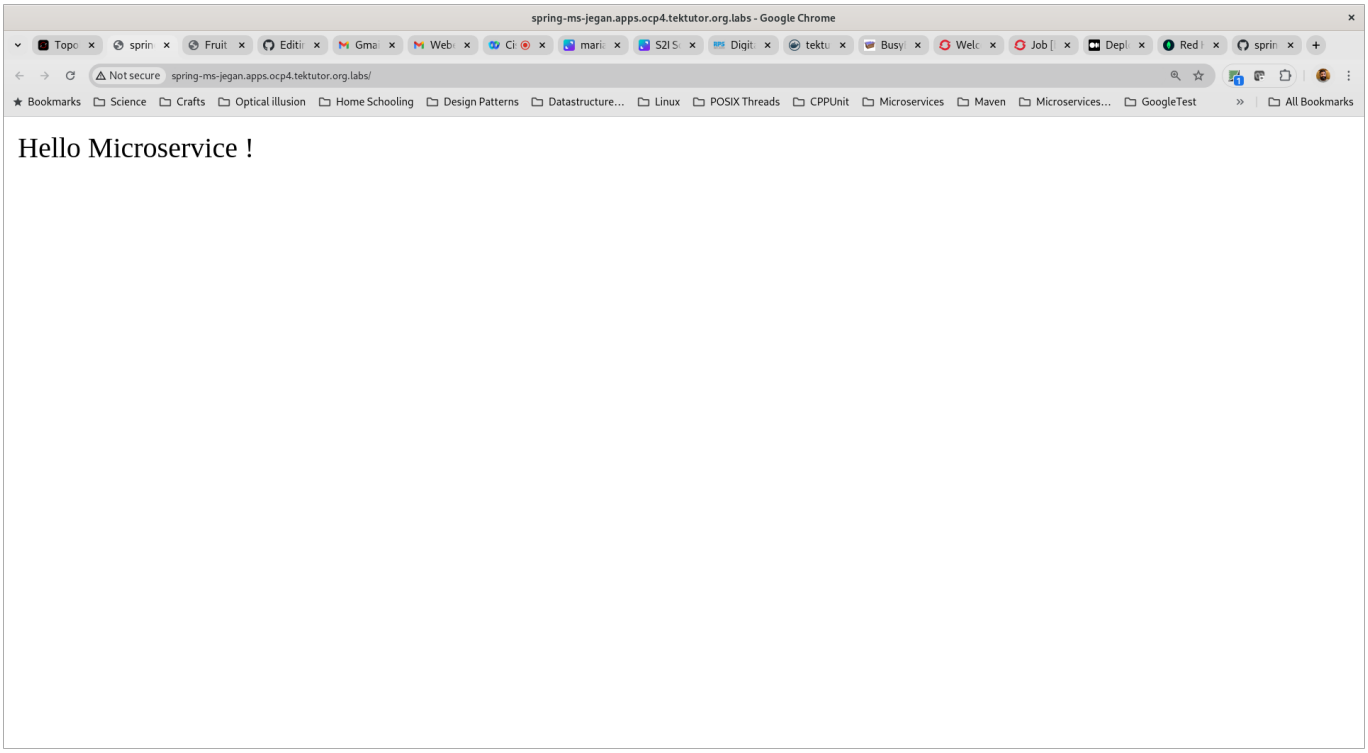
Search
Builds
Helm
Project
ConfigMaps
Secrets
You are logged in as a temporary administrative user. Update the cluster OAuth configuration to allow others to log in.
Project: jegan
Application: All applications
View shortcuts
Display options
Filter by resource
Name
Find by name...
spring-ms


spring-ms-jegan.apps.ocp4.tektutor.org.labs - Google Chrome
Not secure
spring-ms-jegan.apps.ocp4.tektutor.org.labs/
Hello Microservice !