

# Day 3

## Lab - Deploying mariadb db server into openshift

Let's generate the mariadb deployment manifest file

```
oc create deployment mariadb --image=bitnami/mariadb:latest -o yaml --dry-run=client > mariadb-deploy.yml  
oc apply -f mariadb-deploy.yml  
oc get deploy,po
```

To troubleshoot why the pod is crashing, you could check the pod logs

```
oc logs mariadb-f5b894b56-2q8k8
```

As we can see, we didn't provide the root password, mariadb is crashing and deployment controller seem to attempt repair the issue by restarting the pod. But the whole thing repeats again and it crashes. So unless we fix the root cause openshift won't be able to run the mariadb pod.

Let's ensure the mariadb-deploy.yml supplies the MARIADB\_ROOT\_PASSWORD as an environment as shown below

```
apiVersion: apps/v1  
kind: Deployment  
metadata:  
  labels:  
    app: mariadb  
    name: mariadb  
spec:  
  replicas: 1  
  selector:  
    matchLabels:  
      app: mariadb  
  template:  
    metadata:  
      labels:  
        app: mariadb  
    spec:  
      containers:  
        - image: bitnami/mariadb:latest  
          name: mariadb  
          env:  
            - name: MARIADB_ROOT_PASSWORD  
              value: root@123
```

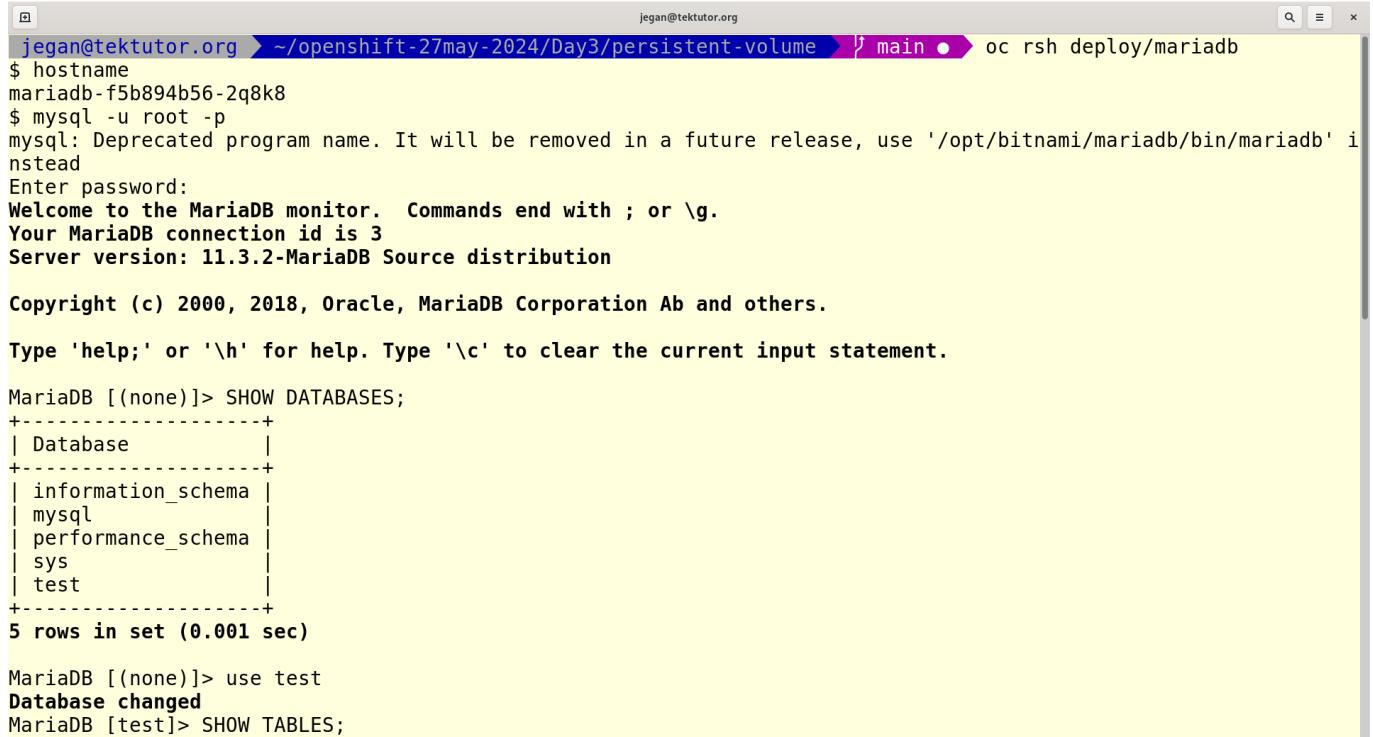
Now you may deploy mariadb into openshift

```
oc apply -f mariadb-deploy.yml  
oc get deploy,rs,po
```

Getting inside the mariadb pod container shell. When it prompts for password, type 'root@123' without the quotes.

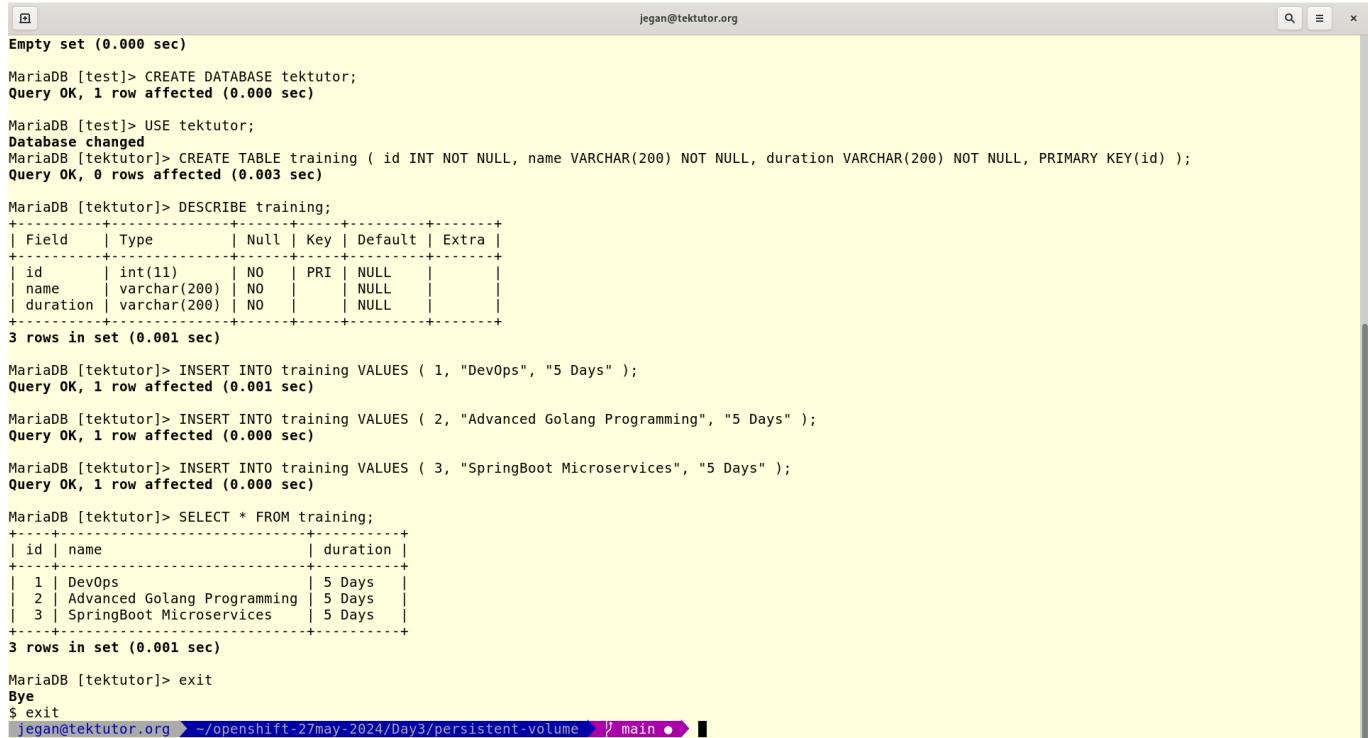
```
oc rsh deploy/mariadb  
mysql -u root -p  
SHOW DATABASES;  
CREATE DATABASE tektutor;  
USE tektutor;  
CREATE TABLE training ( id INT NOT NULL, name VARCHAR(200) NOT NULL,  
duration VARCHAR(200) NOT NULL, PRIMARY KEY(id) );  
INSERT INTO training VALUES ( 1, "DevOps", "5 Days" );  
INSERT INTO training VALUES ( 2, "Developing Linux Device Drivers", "5  
Days" );  
INSERT INTO training VALUES ( 3, "Advanced OpenShift Administration", "5  
Days" );  
SELECT INTO training;  
exit  
exit
```

Expected output



The screenshot shows a terminal window with the following session:

```
jegan@tektutor.org ~/openshift-27may-2024/Day3/persistent-volume main ➜ oc rsh deploy/mariadb  
$ hostname  
mariadb-f5b894b56-2q8k8  
$ mysql -u root -p  
mysql: Deprecated program name. It will be removed in a future release, use '/opt/bitnami/mariadb/bin/mariadb' instead  
Enter password:  
Welcome to the MariaDB monitor. Commands end with ; or \g.  
Your MariaDB connection id is 3  
Server version: 11.3.2-MariaDB Source distribution  
  
Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.  
  
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 |  
+-----+  
5 rows in set (0.001 sec)  
  
MariaDB [(none)]> use test  
Database changed  
MariaDB [test]> SHOW TABLES;
```



```

Empty set (0.000 sec)

MariaDB [test]> CREATE DATABASE tektutor;
Query OK, 1 row affected (0.000 sec)

MariaDB [test]> USE tektutor;
Database changed
MariaDB [tektutor]> CREATE TABLE training ( id INT NOT NULL, name VARCHAR(200) NOT NULL, duration VARCHAR(200) NOT NULL, PRIMARY KEY(id) );
Query OK, 0 rows affected (0.003 sec)

MariaDB [tektutor]> DESCRIBE training;
+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra |
+-----+-----+-----+-----+
| id    | int(11) | NO   | PRI | NULL    |       |
| name  | varchar(200)| NO  |     | NULL    |       |
| duration | varchar(200) | NO  |     | NULL    |       |
+-----+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [tektutor]> INSERT INTO training VALUES ( 1, "DevOps", "5 Days" );
Query OK, 1 row affected (0.001 sec)

MariaDB [tektutor]> INSERT INTO training VALUES ( 2, "Advanced Golang Programming", "5 Days" );
Query OK, 1 row affected (0.000 sec)

MariaDB [tektutor]> INSERT INTO training VALUES ( 3, "SpringBoot Microservices", "5 Days" );
Query OK, 1 row affected (0.000 sec)

MariaDB [tektutor]> SELECT * FROM training;
+-----+-----+-----+
| id  | name        | duration |
+-----+-----+-----+
| 1  | DevOps      | 5 Days   |
| 2  | Advanced Golang Programming | 5 Days   |
| 3  | SpringBoot Microservices | 5 Days   |
+-----+-----+-----+
3 rows in set (0.001 sec)

MariaDB [tektutor]> exit
Bye
$ exit
jegan@tektutor.org ~ /openshift-27may-2024/Day3/persistent-volume ✓ main ●

```

## Lab - Deploying mariadb db server that uses external nfs storage

```

cd ~/openshift-27may-2024
git pull
cd Day3/persistent-volume
oc apply -f pv.yml

oc get pv

oc apply -f pvc.yml

oc get pv,pvc
oc apply -f mariadb-deploy.yml
oc get po

```

Getting inside the mariadb pod container shell. When it prompts for password, type 'root@123' without the quotes.

```

oc rsh deploy/mariadb
mysql -u root -p
SHOW DATABASES;
CREATE DATABASE tektutor;
USE tektutor;
CREATE TABLE training ( id INT NOT NULL, name VARCHAR(200) NOT NULL,
duration VARCHAR(200) NOT NULL, PRIMARY KEY(id) );
INSERT INTO training VALUES ( 1, "DevOps", "5 Days" );
INSERT INTO training VALUES ( 2, "Developing Linux Device Drivers", "5
Days" );
INSERT INTO training VALUES ( 3, "Advanced OpenShift Administration", "5

```

```
Days" );
SELECT INTO training;
exit
exit
```

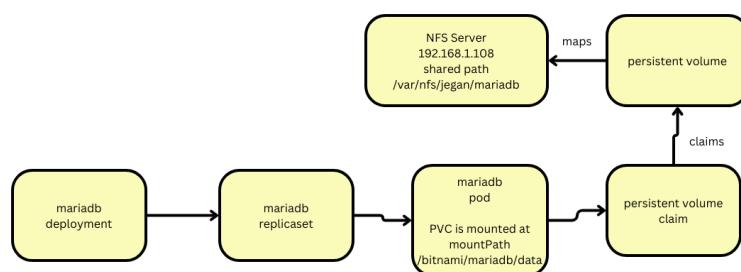
Let's delete the mariadb pod and observe that openshift automatically creates a new pod in the place of the old pod that we deleted.

Try to login to the new mariadb pod, mariadb root password is 'root@123'

```
oc rsh deploy/mariadb
mysql -u root -p
SHOW DATABASES;
USE tektutor;
SHOW TABLES;
SELECT * FROM training;
```

The expectation is, you should be able to see the tektutor database with training table. The records we inserted via the previous mariadb pod should be seen intact as we are using an external NFS storage.

### Persistent Volume and Claim



## Lab - Deploying a multi-pod wordpress with mariadb application

```
cd ~/openshift-27may-2024
git pull
cd Day3/persistent-volume/wordpress
./deploy.sh
```

## Expected output

```
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ pwd
/home/jegan/openshift-27may-2024/Day3/persistent-volume/wordpress
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ pwd
/home/jegan/openshift-27may-2024/Day3/persistent-volume/wordpress
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ ./deploy.sh
persistentvolume/mariadb-pv-jegan created
persistentvolumeclaim/mariadb-pvc-jegan created
deployment.apps/mariadb created
service/mariadb created
persistentvolume/wordpress-pv-jegan created
persistentvolumeclaim/wordpress-pvc-jegan created
deployment.apps/wordpress created
service/wordpress created
route.route.openshift.io/wordpress created
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ oc get po
NAME           READY   STATUS    RESTARTS   AGE
mariadb-7fc9b965fd-h2llc  1/1     Running   0          6s
wordpress-5b46556bc9-tq6cr 0/1     ContainerCreating   0          4s
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ oc get po -w
NAME           READY   STATUS    RESTARTS   AGE
mariadb-7fc9b965fd-h2llc  1/1     Running   0          10s
wordpress-5b46556bc9-tq6cr 1/1     Running   0          8s
^C
x jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ oc logs -f pod/wordpress-5b46556bc9-tq6cr
wordpress 08:51:10.97 INFO  ==>
wordpress 08:51:10.97 INFO  ==> Welcome to the Bitnami wordpress container
wordpress 08:51:10.97 INFO  ==> Subscribe to project updates by watching https://github.com/bitnami/containers
wordpress 08:51:10.97 INFO  ==> Submit issues and feature requests at https://github.com/bitnami/containers/issues
wordpress 08:51:10.97 INFO  ==> Upgrade to Tanzu Application Catalog for production environments to access custom-configured and pre-packaged software components. Gain enhanced features, including Software Bill of Materials (SBOM), CVE scan result reports, and VEX documents. To learn more, visit https://bitnami.com/enterprise
wordpress 08:51:10.97 INFO  ==>
wordpress 08:51:10.97 INFO  ==> ** Starting WordPress setup **
wordpress 08:51:11.00 INFO  ==> Generating sample certificates
Certificate request self-signature ok
subject=CN = example.com

jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ oc get po -w
NAME           READY   STATUS    RESTARTS   AGE
mariadb-7fc9b965fd-h2llc  1/1     Running   0          10s
wordpress-5b46556bc9-tq6cr 1/1     Running   0          8s
^C
x jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤ oc logs -f pod/wordpress-5b46556bc9-tq6cr
wordpress 08:51:10.97 INFO  ==>
wordpress 08:51:10.97 INFO  ==> Welcome to the Bitnami wordpress container
wordpress 08:51:10.97 INFO  ==> Subscribe to project updates by watching https://github.com/bitnami/containers
wordpress 08:51:10.97 INFO  ==> Submit issues and feature requests at https://github.com/bitnami/containers/issues
wordpress 08:51:10.97 INFO  ==> Upgrade to Tanzu Application Catalog for production environments to access custom-configured and pre-packaged software components. Gain enhanced features, including Software Bill of Materials (SBOM), CVE scan result reports, and VEX documents. To learn more, visit https://bitnami.com/enterprise
wordpress 08:51:10.97 INFO  ==>
wordpress 08:51:10.97 INFO  ==> ** Starting WordPress setup **
wordpress 08:51:11.00 INFO  ==> Generating sample certificates
Certificate request self-signature ok
subject=CN = example.com
realpath: /bitnami/apache/conf: No such file or directory
wordpress 08:51:12.31 INFO  ==> Configuring Apache ServerTokens directive
wordpress 08:51:12.33 INFO  ==> Configuring PHP options
wordpress 08:51:12.34 INFO  ==> Setting PHP expose_php option
wordpress 08:51:12.35 INFO  ==> Setting PHP output_buffering option
wordpress 08:51:12.36 INFO  ==> Validating settings in MYSQL_CLIENT * env vars
wordpress 08:51:12.57 INFO  ==> Restoring persisted WordPress installation
wordpress 08:51:13.09 INFO  ==> Trying to connect to the database server
wordpress 08:51:13.92 INFO  ==> ** WordPress setup finished! **

wordpress 08:51:13.94 INFO  ==> ** Starting Apache **
[Wed May 29 08:51:14.037532 2024] [mpm_prefork:notice] [pid 1] AH00163: Apache/2.4.59 (Unix) OpenSSL/3.0.11 configured -- resuming normal operations
[Wed May 29 08:51:14.037628 2024] [core:notice] [pid 1] AH00094: Command line: '/opt/bitnami/apache/bin/httpd -f /opt/bitnami/apache/conf/httpd.conf -D FOREGROUND'
^C
x jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress ▶ main • ➤
```

```
jegan@tektutor.org
jegan@tektutor.org

f/httpd.conf -D FOREGROUND
^C
x jegan@tektutor.org > ./openshift-27may-2024/Day3/persistent-volume/wordpress ↵ main ➔ oc logs -f mariadb-7fc9b965fd-h2llc
mariadb 08:51:09.51 INFO ==>
mariadb 08:51:09.51 INFO ==> Welcome to the Bitnami mariadb container
mariadb 08:51:09.51 INFO ==> Subscribe to project updates by watching https://github.com/bitnami/containers
mariadb 08:51:09.51 INFO ==> Submit issues and feature requests at https://github.com/bitnami/containers/issues
mariadb 08:51:09.51 INFO ==> Upgrade to Tanzu Application Catalog for production environments to access custom-configured and pre-packed software components. Gain enhanced features, including Software Bill of Materials (SBOM), CVE scan result reports, and VEX documents
. To learn more, visit https://bitnami.com/enterprise
mariadb 08:51:09.51 INFO ==>
mariadb 08:51:09.52 INFO ==> ** Starting MariaDB setup **
mariadb 08:51:09.53 INFO ==> Validating settings in MYSQL_*/*MARIADB_* env vars
mariadb 08:51:09.54 INFO ==> Initializing mariadb database
mariadb 08:51:09.55 INFO ==> Updating 'my.cnf' with custom configuration
mariadb 08:51:09.55 INFO ==> Setting slow_query_log option
mariadb 08:51:09.56 INFO ==> Setting long_query_time option
mariadb 08:51:09.57 INFO ==> Using persisted data
/opt/bitnami/mariadb/bin/mysql: Deprecated program name. It will be removed in a future release, use '/opt/bitnami/mariadb/bin/mariadb'
instead
/opt/bitnami/mariadb/bin/mysql: Deprecated program name. It will be removed in a future release, use '/opt/bitnami/mariadb/bin/mariadb'
instead
/opt/bitnami/mariadb/bin/mysql: Deprecated program name. It will be removed in a future release, use '/opt/bitnami/mariadb/bin/mariadb'
instead
mariadb 08:51:09.60 INFO ==> Running mysql_upgrade
mariadb 08:51:09.60 INFO ==> Starting mariadb in background
2024-05-29 8:51:09 0 [Note] Starting MariaDB 11.3.2-MariaDB source revision 068a6819eb63bcb01fdfa037c9bf3bf63c33ee42 as process 61
2024-05-29 8:51:09 0 [Note] InnoDB: Compressed tables use zlib 1.2.13
2024-05-29 8:51:09 0 [Note] InnoDB: Number of transaction pools: 1
2024-05-29 8:51:09 0 [Note] InnoDB: Using crc32 + pclmulqdq instructions
2024-05-29 8:51:09 0 [Note] mysqld: O_TMPFILE is not supported on /opt/bitnami/mariadb/tmp (disabling future attempts)
2024-05-29 8:51:09 0 [Note] InnoDB: Using Linux native AIO
2024-05-29 8:51:09 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MiB, chunk size = 2.000MiB
2024-05-29 8:51:09 0 [Note] InnoDB: Completed initialization of buffer pool
2024-05-29 8:51:09 0 [Note] InnoDB: Buffered log writes (block size=512 bytes)
2024-05-29 8:51:09 0 [Note] InnoDB: End of log at 15N-7092231
```

```
jegan@tektutor.org
jegan@tektutor.org

2024-05-29 8:51:11 0 [Note] InnoDB: Buffer pool(s) dump completed at 240529  8:51:11
2024-05-29 8:51:11 0 [Note] InnoDB: Removed temporary tablespace data file: "./ibtmp1"
2024-05-29 8:51:11 0 [Note] InnoDB: Shutdown completed; log sequence number 788221; transaction id 509
2024-05-29 8:51:11 0 [Note] /opt/bitnami/mariadb/sbin/mysqld: Shutdown complete

mariadb 08:51:12.67 INFO  ==> ** MariaDB setup finished! **
mariadb 08:51:12.70 INFO  ==> ** Starting MariaDB **

/opt/bitnami/mariadb/sbin/mysqld: Deprecated program name. It will be removed in a future release, use '/opt/bitnami/mariadb/sbin/mariadb' instead
2024-05-29 8:51:12 0 [Note] Starting MariaDB 11.3.2-MariaDB source revision 068a6819eb63bcb01fd0a037c9bf3bf63c33ee42 as process 1
2024-05-29 8:51:12 0 [Note] InnoDB: Compressed tables use zlib 1.2.13
2024-05-29 8:51:12 0 [Note] InnoDB: Number of transaction pools: 1
2024-05-29 8:51:12 0 [Note] InnoDB: Using crc32 + pclmulqdq instructions
2024-05-29 8:51:12 0 [Note] mysqld: O_TMPFILE is not supported on /opt/bitnami/mariadb/tmp (disabling future attempts)
2024-05-29 8:51:12 0 [Note] InnoDB: Using Linux native AIO
2024-05-29 8:51:12 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MiB, chunk size = 2.000MiB
2024-05-29 8:51:12 0 [Note] InnoDB: Completed initialization of buffer pool
2024-05-29 8:51:12 0 [Note] InnoDB: Buffered log writes (block size=512 bytes)
2024-05-29 8:51:12 0 [Note] InnoDB: End of log at LSN=788221
2024-05-29 8:51:12 0 [Note] InnoDB: Opened 3 undo tablespaces
2024-05-29 8:51:12 0 [Note] InnoDB: 128 rollback segments in 3 undo tablespaces are active.
2024-05-29 8:51:12 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MiB. Physically writing the file full; Please wait ...
2024-05-29 8:51:12 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MiB.
2024-05-29 8:51:12 0 [Note] InnoDB: log sequence number 788221; transaction id 508
2024-05-29 8:51:12 0 [Note] Plugin 'FEEDBACK' is disabled.
2024-05-29 8:51:12 0 [Note] Plugin 'wsrep-provider' is disabled.
2024-05-29 8:51:12 0 [Note] InnoDB: Loading buffer pool(s) from /bitnami/mariadb/data/ib_buffer_pool
2024-05-29 8:51:12 0 [Note] Server socket created on IP: '0.0.0.0'.
2024-05-29 8:51:12 0 [Warning] 'proxies_priv' entry '@% root@mariadb-7fc9b965fd-8pv7h' ignored in --skip-name-resolve mode.
2024-05-29 8:51:12 0 [Note] mysqld: Event Scheduler: Loaded 0 events
2024-05-29 8:51:12 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
2024-05-29 8:51:12 0 [Note] InnoDB: Buffer pool(s) load completed at 240529  8:51:12
```

PersistentVolumes - Red Hat OpenShift - Google Chrome

Not secure https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/cluster/core-v1~PersistentVolume

Red Hat OpenShift

kube:admin

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

## PersistentVolumes

Create PersistentVolume

Name	Status	Claim	Capacity	Labels	Created
PV mariadb-pv-jegan	Bound	PVC mariadb-pvc-jegan	100Mi	name=jegan tier=be	29 May 2024, 14:21
PV wordpress-pv-jegan	Bound	PVC wordpress-pvc-jegan	100Mi	name=jegan tier=fe	29 May 2024, 14:21

Administrator

Home Operators Workloads Serverless Networking Storage Builds

PersistentVolumes PersistentVolumeClaims StorageClasses VolumeSnapshots VolumeSnapshotClasses VolumeSnapshotContents

PersistentVolumeClaims - Red Hat OpenShift - Google Chrome

Not secure https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/core-v1~PersistentVolumeClaim

Red Hat OpenShift

kube:admin

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

Project: jegan

## PersistentVolumeClaims

Create PersistentVolumeClaim

Name	Status	PersistentVolumes	Capacity	Used	StorageClass
PVC mariadb-pvc-jegan	Bound	PV mariadb-pv-jegan	100 MiB	230.9 GiB	-
PVC wordpress-pvc-jegan	Bound	PV wordpress-pv-jegan	100 MiB	230.9 GiB	-

Administrator

Home Operators Workloads Serverless Networking Storage Builds

PersistentVolumes PersistentVolumeClaims StorageClasses VolumeSnapshots VolumeSnapshotClasses VolumeSnapshotContents

Topology - Red Hat OpenShift - Google Chrome

Not secure https://console-openshift-console.apps.ocp4.tektutor.org.labs/topology/ns/jegan?view=graph

Red Hat OpenShift

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

Developer

+Add

Topology

Observe

Search

Functions

Builds

Helm

Project

ConfigMaps

Secrets

Display options Filter by resource Name Find by name... /

wordpress mariadb

This screenshot shows the Red Hat OpenShift Topology interface. The left sidebar contains navigation links for Developer, Topology, Observe, Search, Functions, Builds, Helm, Project, ConfigMaps, and Secrets. The main area displays two circular icons representing pods: one for 'wordpress' and one for 'mariadb'. Below each icon is a blue button labeled 'D' and the pod name, followed by a vertical ellipsis menu.

User's blog - Google Chrome

Not secure wordpress-jegan.apps.ocp4.tektutor.org.labs/

User's blog Sample Page

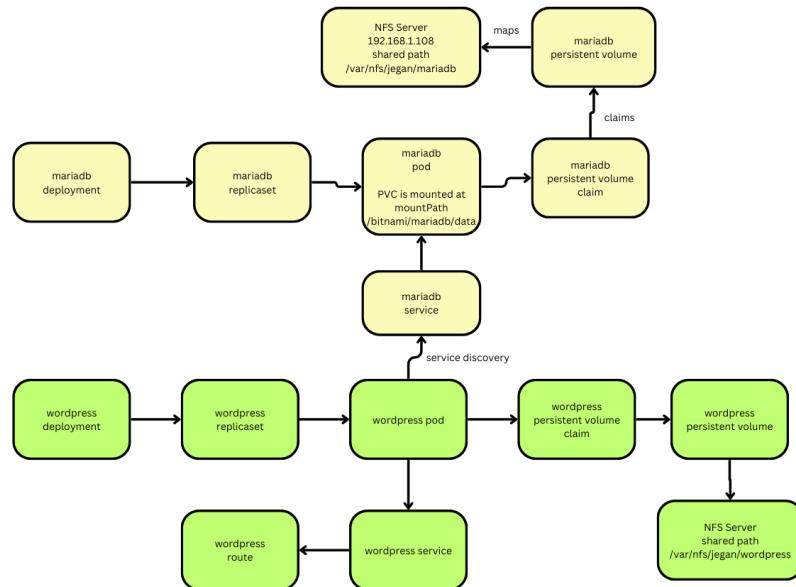
A commitment to innovation and sustainability

Études is a pioneering firm that seamlessly merges creativity and functionality to redefine architectural excellence.

About us

This screenshot shows a web browser window titled 'User's blog'. The URL is 'wordpress-jegan.apps.ocp4.tektutor.org.labs/'. The page features a large image of a modern building with a curved, ribbed facade. Above the image, the text 'A commitment to innovation and sustainability' is displayed. Below the image, a paragraph reads: 'Études is a pioneering firm that seamlessly merges creativity and functionality to redefine architectural excellence.' A 'About us' button is visible at the bottom of the page.

## Wordpress & Mariadb Deployment



Once you are done with the wordpress lab exercise, you can clean up the resources

```

cd ~/openshift-27may-2024
git pull
cd Day3/persistent-volume/wordpress
./delete-all.sh
  
```

Expected output

```

jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress [jegan@tektutor.org ~] ls
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress [jegan@tektutor.org ~] ./delete-all.sh
\Deleting wordpress resources ...
route.route.openshift.io "wordpress" deleted
service "wordpress" deleted
deployment.apps "wordpress" deleted
persistentvolumeclaim "wordpress-pvc-jegan" deleted
persistentvolume "wordpress-pv-jegan" deleted
\Deleting mariadb resources ...
service "mariadb" deleted
deployment.apps "mariadb" deleted
persistentvolumeclaim "mariadb-pvc-jegan" deleted
persistentvolume "mariadb-pv-jegan" deleted
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress [jegan@tektutor.org ~] oc get deploy,pv,pvc
No resources found
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/persistent-volume/wordpress [jegan@tektutor.org ~]
  
```

## Lab - Deploying mongodb with external NFS Storage

```

cd ~/openshift-27may-2024
git pull
cd Day3/persistent-volume/mongodb
./deploy.sh
  
```

## Expected output

```
jegan@tektutor.org ~ /openshift-27may-2024/Day3/persistent-volume/mongodb j main pwd
jegan@tektutor.org ~ /openshift-27may-2024/Day3/persistent-volume/mongodb j main ./deploy.sh
persistentvolume/mongodb-pv-jegan created
persistentvolumeclaim/mongodb-pvc-jegan created
deployment.apps/mongodb created
jegan@tektutor.org ~ /openshift-27may-2024/Day3/persistent-volume/mongodb j main oc get deploy,po,pv,pvc
NAME READY UP-TO-DATE AVAILABLE AGE
deployment.apps/mongodb 1/1 1 1 9s

NAME READY STATUS RESTARTS AGE
pod/mongodb-556597bb6c-87j8q 1/1 Running 0 9s

NAME CAPACITY ACCESS MODES RECLAIM POLICY STATUS CLAIM STORAGECLASS REASON
AGE
persistentvolume/mongodb-pv-jegan 100Mi RWO Retain Bound jegan/mongodb-pvc-jegan 10s

NAME STATUS VOLUME CAPACITY ACCESS MODES STORAGECLASS AGE
persistentvolumeclaim/mongodb-pvc-jegan Bound mongodb-pv-jegan 100Mi RWO 9s
jegan@tektutor.org ~ /openshift-27may-2024/Day3/persistent-volume/mongodb j main oc logs pod/mongodb-556597bb6c-87j8q
mongodb 09:35:08.73 INFO ===>
mongodb 09:35:08.74 INFO ==> Welcome to the Bitnami mongodb container
mongodb 09:35:08.74 INFO ==> Subscribe to project updates by watching https://github.com/bitnami/containers
mongodb 09:35:08.74 INFO ==> Submit issues and feature requests at https://github.com/bitnami/containers/issues
mongodb 09:35:08.74 INFO ==> Upgrade to Tanzu Application Catalog for production environments to access custom-configured and pre-packed software components. Gain enhanced features, including Software Bill of Materials (SBOM), CVE scan result reports, and VEX documents. To learn more, visit https://bitnami.com/enterprise
mongodb 09:35:08.74 INFO ===>
mongodb 09:35:08.74 INFO ==> ** Starting MongoDB setup ...
mongodb 09:35:08.76 INFO ==> Validating settings in MONGODB_* env vars...
mongodb 09:35:08.81 INFO ==> Initializing MongoDB...
mongodb 09:35:08.88 INFO ==> Enabling authentication...
mongodb 09:35:08.89 INFO ==> Deploying MongoDB with persisted data...
mongodb 09:35:08.90 INFO ==> ** MongoDB setup finished! **
```

```
jegan@tektutor.org ~ jegan@tektutor.org ~ jegan@tektutor.org ~
{
  "t": {"$date": "2024-05-29T09:35:10.030+00:00"}, "s": "I", "c": "NETWORK", "id": 4915702, "ctx": "initandlisten", "msg": "Updated wire specification", "attr": {"oldSpec": {"incomingExternalClient": {"minWireVersion": 0, "maxWireVersion": 21}, "incomingInternalClient": {"minWireVersion": 0, "maxWireVersion": 21}, "outgoing": {"minWireVersion": 6, "maxWireVersion": 21}, "isInternalClient": true}, "newSpec": {"incomingExternalClient": {"minWireVersion": 0, "maxWireVersion": 21}, "incomingInternalClient": {"minWireVersion": 21, "maxWireVersion": 21}, "outgoing": {"minWireVersion": 21, "maxWireVersion": 21}, "isInternalClient": true}}}
{
  "t": {"$date": "2024-05-29T09:35:10.030+00:00"}, "s": "I", "c": "REPL", "id": 5853300, "ctx": "initandlisten", "msg": "current featureCompatibilityVersion value", "attr": {"featureCompatibilityVersion": "7.0", "context": "startup"}}
{
  "t": {"$date": "2024-05-29T09:35:10.030+00:00"}, "s": "I", "c": "STORAGE", "id": 5071100, "ctx": "initandlisten", "msg": "Clearing temp directory"}
{
  "t": {"$date": "2024-05-29T09:35:10.032+00:00"}, "s": "I", "c": "CONTROL", "id": 6608200, "ctx": "initandlisten", "msg": "Initializing cluster server parameters from disk"}
{
  "t": {"$date": "2024-05-29T09:35:10.032+00:00"}, "s": "I", "c": "CONTROL", "id": 20536, "ctx": "initandlisten", "msg": "Flow Control is enabled on this deployment"}
{
  "t": {"$date": "2024-05-29T09:35:10.032+00:00"}, "s": "I", "c": "FTDC", "id": 20625, "ctx": "initandlisten", "msg": "Initializing full-time diagnostic data capture", "attr": {"dataDirectory": "/bitnami/mongodb/data/db/diagnostic.data"}}
{
  "t": {"$date": "2024-05-29T09:35:10.037+00:00"}, "s": "I", "c": "REPL", "id": 6015317, "ctx": "initandlisten", "msg": "Setting new configuration state", "attr": {"newState": "ConfigReplicationDisabled", "oldState": "ConfigPreStart"}}
{
  "t": {"$date": "2024-05-29T09:35:10.037+00:00"}, "s": "I", "c": "STORAGE", "id": 22262, "ctx": "initandlisten", "msg": "Timestamp monitor starting"}
{
  "t": {"$date": "2024-05-29T09:35:10.038+00:00"}, "s": "I", "c": "NETWORK", "id": 23015, "ctx": "listener", "msg": "Listening on", "attr": {"address": "/opt/bitnami/mongodb/tmp/mongodb-27017.sock"}}
{
  "t": {"$date": "2024-05-29T09:35:10.038+00:00"}, "s": "I", "c": "NETWORK", "id": 23015, "ctx": "listener", "msg": "Listening on", "attr": {"address": "0.0.0.0"}}
{
  "t": {"$date": "2024-05-29T09:35:10.038+00:00"}, "s": "I", "c": "NETWORK", "id": 23016, "ctx": "listener", "msg": "Waiting for connections", "attr": {"port": 27017, "ssl": "off"}}
{
  "t": {"$date": "2024-05-29T09:35:10.038+00:00"}, "s": "I", "c": "CONTROL", "id": 8423403, "ctx": "initandlisten", "msg": "mongod startup complete", "attr": {"Summary of time elapsed": {"Startup from clean shutdown": true, "Statistics": {"Transport layer setup": "0 ms", "Run initial syncer crash recovery": "0 ms", "Create storage engine lock file in the data directory": "0 ms", "Get metadata describing storage engine": "0 ms", "Validate options in metadata against current startup options": "0 ms", "Create storage engine": "1057 ms", "Write current PID to file": "0 ms", "Initialize FCV before rebuilding indexes": "5 ms", "Drop abandoned idents and get back indexes that need to be rebuilt or builds that need to be restarted": "0 ms", "Rebuild indexes for collections": "0 ms", "Load cluster parameters from disk for a standalone": "0 ms", "Build user and roles graph": "0 ms", "Verify indexes for admin.system.users collection": "0 ms", "Set up the background thread pool responsible for waiting for opTimes to be majority committed": "0 ms", "Initialize information needed to make a mongod instance shard aware": "0 ms", "Start up the replication coordinator": "1 ms", "Start transport layer": "0 ms", "initAndListen total elapsed time": "1082 ms"}}}
```

PersistentVolumes - Red Hat OpenShift - Google Chrome

Not secure https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/cluster/core-v1~PersistentVolume

kube:admin

## PersistentVolumes

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

Create PersistentVolume

Name	Status	Claim	Capacity	Labels	Created
PV mongodb-pv-jegan	Bound	PVC mongodb-pvc-jegan	100Mi	name=jegan tier=be	29 May 2024, 15:05

Name Search by name... /

Administrator Home Operators Workloads Serverless Networking Storage PersistentVolumes PersistentVolumeClaims StorageClasses VolumeSnapshots VolumeSnapshotClasses VolumeSnapshotContents Builds Observe Compute

PersistentVolumeClaims - Red Hat OpenShift - Google Chrome

Not secure https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/core-v1~PersistentVolumeClaim

kube:admin

## PersistentVolumeClaims

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

Create PersistentVolumeClaim

Name	Status	PersistentVolumes	Capacity	Used	StorageClass
PVC mongodb-pvc-jegan	Bound	PV mongodb-pv-jegan	100 MiB	230.8 GiB	-

Filter Name Search by name... /

Project: jegan

Administrator Home Operators Workloads Serverless Networking Storage PersistentVolumes PersistentVolumeClaims StorageClasses VolumeSnapshots VolumeSnapshotClasses VolumeSnapshotContents Builds Observe Compute

The screenshot shows the Red Hat OpenShift Topology interface. The left sidebar has a 'Topology' section selected. In the main area, there is a single pod named 'mongodb' represented by a blue circle with a white icon. Below the icon is a button labeled 'D mongodb' and three vertical dots. At the bottom of the screen are several small navigation icons.

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

```
cd ~/openshift-27may-2024
git pull
cd Day3/persistent-volume/mongodb
./delete-all.sh
```

Expected output

The terminal window shows the execution of the `./delete-all.sh` script. The output indicates that 8 files were changed and 26 insertions were made. It then lists the creation of various MongoDB files and finally shows the execution of `git push` which pushes changes to a GitHub repository. The final command shown is `cd Day3/persistent-volume/mongodb`.

```
Merge made by the 'ort' strategy.
Day3/README.md | 26 ++++++=====
Day3/mongodb1.png | Bin 0 -> 321083 bytes
Day3/mongodb2.png | Bin 0 -> 355870 bytes
Day3/mongodb3.png | Bin 0 -> 133424 bytes
Day3/mongodb4.png | Bin 0 -> 137766 bytes
Day3/mongodb5.png | Bin 0 -> 118015 bytes
Day3/wordpress.png | Bin 0 -> 116471 bytes
Day3/wordpress9.png | Bin 0 -> 145851 bytes
8 files changed, 26 insertions(+)
create mode 100644 Day3/mongodb1.png
create mode 100644 Day3/mongodb2.png
create mode 100644 Day3/mongodb3.png
create mode 100644 Day3/mongodb4.png
create mode 100644 Day3/mongodb5.png
create mode 100644 Day3/wordpress.png
create mode 100644 Day3/wordpress9.png
jegan@tektutor.org ~ ~/openshift-27may-2024 ➜ main ➜ git push
Enumerating objects: 19, done.
Counting objects: 100% (18/18), done.
Delta compression using up to 48 threads
Compressing objects: 100% (13/13), done.
Writing objects: 100% (13/13), 1.85 KiB | 1.85 MiB/s, done.
Total 13 (delta 4), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (4/4), completed with 2 local objects.
To https://github.com/tektutor/openshift-27may-2024.git
   3a27938..05e129b main -> main
jegan@tektutor.org ~ ~/openshift-27may-2024 ➜ main ➜ cd Day3/persistent-volume/mongodb
jegan@tektutor.org ~ ~/openshift-27may-2024/Day3/persistent-volume/mongodb ➜ main ➜ ls
delete-all.sh deploy.sh mongodb-deploy.yaml mongodb-pvc.yaml mongodb-pv.yaml
jegan@tektutor.org ~ ~/openshift-27may-2024/Day3/persistent-volume/mongodb ➜ main ➜ ./delete-all.sh
deployment.apps "mongodb" deleted
persistentvolumeclaim "mongodb-pvc-jegan" deleted
persistentvolume "mongodb-pv-jegan" deleted
jegan@tektutor.org ~ ~/openshift-27may-2024/Day3/persistent-volume/mongodb ➜ main ➜
```

## Lab - Wordpress with mysql database

```
cd ~/openshift-27may-2024  
git pull  
cd Day3/persistent-volume/mongodb  
.deploy.sh
```

## Lab - Deploying redis with persistence volume

```
cd ~/openshift-27may-2024  
git pull  
cd Day3/persistent-volume/redis  
.deploy.sh
```

## Info - What is ConfigMap?

- helps storing key/value pairs
- you could store configuration data
- environments
- developers can use it to store any non-sensitive data
- the values stored inside the configmap can be seen by anyone as it is stored in plain text

## Info - What is Secret?

- helps storing key/value pairs
- you could store sensitive data like certificates, login credentials, etc
- environments
- the values stored inside the secrets can't be seen by everyone

## Lab - Using ConfigMap and Secrets to store configurable information, retrieve them securely and use it in deployments

```
cd ~/openshift-27may-2024  
git pull  
cd Day3/configmap-and-secrets  
.deploy.sh
```

## Demo - Install helm package manager

```
curl -fsSL -o get_helm.sh  
https://raw.githubusercontent.com/helm/helm/main/scripts/get-helm-3
```

```
chmod +x ./get_helm.sh  
./get_helm.sh
```

## Lab - Using helm package manager to package our wordpress multi-pod application and deploy our custom wordpress helm chart

```
cd ~/openshift-27may-2024  
git pull  
cd Day3/helm  
  
helm create wordpress  
cd wordpress/templates  
rm -rf *  
cd ../../  
cp manifest-scripts/*.yml wordpress/templates  
cp values.yaml wordpress
```

Make sure you values.yaml file looks as shown below

```
nfs_server_ip: "192.168.1.108"  
nfs_wordpress_path: /var/nfs/jegan/wordpress  
nfs_mariadb_path: /var/nfs/jegan/mariadb  
pv_label: jegan
```

Let's create the helm wordpress chart(package)

```
cd ~/openshift-27may-2024  
git pull  
cd Day3/helm  
helm package wordpress  
ls -l
```

Let's install the wordpress helm chart into the Openshift cluster

```
helm install wordpress-0.1.0.tgz  
helm list
```

## Expected output

```
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > ls -l
total 8
drwxr-xr-x 2 jegan jegan 4096 May 29 17:35 manifest-scripts
-rw-r--r-- 1 jegan jegan 133 May 29 17:59 values.yaml
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > helm version
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
version.BuildInfo{Version:"v3.14.4", GitCommit:"81c902a123462fd4052bc5e9aa9c513c4c8fc142", GitTreeState:"clean", GoVersion:"go1.21.9"}
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > helm create wordpress
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
Creating wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > ls -l
total 8
drwxr-xr-x 2 jegan jegan 4096 May 29 17:35 manifest-scripts
-rw-r--r-- 1 jegan jegan 133 May 29 17:59 values.yaml
drwxr-xr-x 4 jegan jegan 93 May 30 10:12 wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > tree wordpress
wordpress
├── charts
├── Chart.yaml
└── templates
    ├── deployment.yaml
    ├── helpers.tpl
    ├── hpa.yaml
    ├── ingress.yaml
    ├── NOTES.txt
    ├── serviceaccount.yaml
    ├── service.yaml
    └── tests
        └── test-connection.yaml
values.yaml

3 directories, 10 files
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main >
```

```
manifest-scripts values.yaml wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > cat values.yaml
nfs_server_ip: "192.168.1.108"
nfs_wordpress_path: /var/nfs/jegan/wordpress
nfs_mariadb_path: /var/nfs/jegan/mariadb
pv_label: jegan
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > cp values.yaml wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > ls
manifest-scripts values.yaml wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > cd wordpress
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress > main > ls
charts Chart.yaml templates values.yaml
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress > main > cd templates
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress/templates > main > ls
deployment.yaml helpers.tpl hpa.yaml ingress.yaml NOTES.txt serviceaccount.yaml service.yaml tests
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress/templates > main > rm -rf *
zsh: sure you want to delete all 8 files in /home/jegan/openshift-27may-2024/Day3/helm/wordpress/templates [yn]? y
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress/templates > main > ls -lha
total 0
drwxr-xr-x 2 jegan jegan 6 May 30 10:12 .
drwxr-xr-x 4 jegan jegan 93 May 30 10:12 ..
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress/templates > main > cd ..
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress > main > ls
charts Chart.yaml templates values.yaml
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm/wordpress > main > cd ..
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > cp manifest-scripts/*.yaml wordpress/templates
jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm > main > tree wordpress
wordpress
├── charts
├── Chart.yaml
└── templates
    ├── mariadb-deploy.yaml
    ├── mariadb-pvc.yaml
    ├── mariadb-pv.yaml
    ├── mariadb-svc.yaml
    ├── wordpress-cm.yaml
    ├── wordpress-deploy.yaml
    ├── wordpress-pvc.yaml
    ├── wordpress-pv.yaml
    ├── wordpress-route.yaml
    ├── wordpress-secret.yaml
    └── wordpress-svc.yaml
values.yaml
```



```
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● ls
manifest-scripts values.yaml wordpress
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● ls -l
total 8
drwxr-xr-x 2 jegan jegan 4096 May 30 10:19 manifest-scripts
-rw-r--r-- 1 jegan jegan 133 May 30 10:22 values.yaml
drwxr-xr-x 4 jegan jegan 93 May 30 10:12 wordpress
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● helm package wordpress
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
Successfully packaged chart and saved it to: /home/jegan/openshift-27may-2024/Day3/helm/wordpress-0.1.0.tgz
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● ls -l
total 12
drwxr-xr-x 2 jegan jegan 4096 May 30 10:19 manifest-scripts
-rw-r--r-- 1 jegan jegan 133 May 30 10:22 values.yaml
drwxr-xr-x 4 jegan jegan 93 May 30 10:12 wordpress
-rw-r--r-- 1 jegan jegan 1707 May 30 10:22 wordpress-0.1.0.tgz
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● helm install wordpress wordpress-0.1.0.tgz
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
NAME: wordpress
LAST DEPLOYED: Thu May 30 10:22:47 2024
NAMESPACE: jegan
STATUS: deployed
REVISION: 1
TEST SUITE: None
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● helm list
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
NAME NAMESPACE REVISION UPDATED STATUS CHART APP VERSION
wordpress jegan 1 2024-05-30 10:22:47.905282435 +0530 IST deployed wordpress-0.1.0 1.16.0
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● oc get deploy,route
NAME READY UP-TO-DATE AVAILABLE AGE
deployment.apps/mariadb 0/1 1 0 14s
deployment.apps/wordpress 0/1 1 0 14s

NAME HOST/PORT PATH SERVICES PORT TERMINATION WILDCARD
route.route.openshift.io/wordpress wordpress-jegan.apps.ocp4.tektutor.org.labs wordpress 8080 None
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ● oc get po
NAME READY STATUS RESTARTS AGE
mariadb-7879b46867-m5qg4 0/1 ContainerCreating 0 17s
wordpress-5d64d44c45-vhv5p 0/1 ContainerCreating 0 17s
jegan@tektutor.org ~ -/openshift-27may-2024/Day3/helm $ main ●
```

Topology - Red Hat OpenShift - Google Chrome

Inbox (35,525) - mail2j... webex link - jegan@tektutor.org Cisco Webex Gmail Login to your Canva account Login to your Canva account Login to your Canva account Topology - Red Hat OpenShift - Google Chrome

Not secure https://console.openshift-console.apps.ocp4.tektutor.org.labs/topology/ns/jegan?view=graph

Red Hat OpenShift

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

+Add Display options Filter by resource Name Find by name... /

Topology

Observe

Search

Functions

Builds

Helm

Project

ConfigMaps

Secrets

Topology diagram showing a Helm icon connected to a wordpress icon, which is connected to a mariadb icon. A green checkmark icon is at the bottom left of the diagram.

jegan@tektutor.org ~ /openshift-27may-2024/Day3/helm main ● sudo -i

```
[sudo] password for jegan:  
[root@tektutor.org ~]# cd /var/nfs/jegan/mariadb/  
[root@tektutor.org mariadb]# rm -rf *  
[root@tektutor.org mariadb]# cd ../../wordpress/  
[root@tektutor.org wordpress]# rm -rf *  
[root@tektutor.org wordpress]# showmount -e  
Export list for tektutor.org:  
/var/nfs/jegan/awx *  
/var/nfs/jegan/test *  
/var/nfs/nfs-storage-class *  
/var/nfs/jegan/redis *  
/var/nfs/jegan/wordpress *  
/var/nfs/jegan/mongodb *  
/var/nfs/jegan/mysql *  
/var/nfs/jegan/mariadb *  
[root@tektutor.org wordpress]# cat /etc/exports  
/var/nfs/jegan/mariadb *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/mysql *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/mongodb *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/wordpress *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/redis *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/nfs-storage-class *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/test *(rw,sync,no_subtree_check,no_root_squash)  
/var/nfs/jegan/awx *(rw,sync,no_subtree_check,no_root_squash)  
[root@tektutor.org wordpress]# systemctl stop firewalld  
[root@tektutor.org wordpress]#
```

<https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/pods/mariadb-7879b46867-m5gq4/events>

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

Project: jegan

**mariadb-7879b46867-m5gq4** Running

Actions

Details Metrics YAML Environment Logs **Events** Terminal

Showing 9 events

Streaming events...

- Generated from kubelet on worker-1.ocp4.tektutor.org.labs jegan 30 May 2024, 10:27
- Successfully pulled image "bitnami/mariadb:latest" in 25.71s (25.71s including waiting)
- Generated from kubelet on worker-1.ocp4.tektutor.org.labs jegan 30 May 2024, 10:27
- Created container mariadb
- Generated from kubelet on worker-1.ocp4.tektutor.org.labs jegan 30 May 2024, 10:27
- Started container mariadb
- Generated from multus jegan 30 May 2024, 10:26
- Add eth0 [10.131.0.1/23] from ovn-kubernetes
- Generated from kubelet on worker-1.ocp4.tektutor.org.labs jegan 30 May 2024, 10:26

<https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/pods/mariadb-7879b46867-m5gq4/logs>

<https://console-openshift-console.apps.ocp4.tektutor.org.labs/k8s/ns/jegan/pods/mariadb-7879b46867-m5gq4/logs>

Log streaming... mariadb Current log Search

Show full log | Wrap lines | Raw | Download | Expand

```

87 lines
69 2024-05-30 4:57:06 0 [Note] InnoDB: Using Linux native AIO
70 2024-05-30 4:57:06 0 [Note] InnoDB: Initializing buffer pool, total size = 128.000MIB, chunk size = 2.000MIB
71 2024-05-30 4:57:06 0 [Note] InnoDB: Completed initialization of buffer pool
72 2024-05-30 4:57:06 0 [Note] InnoDB: Buffered log writes (block size=512 bytes)
73 2024-05-30 4:57:06 0 [Note] InnoDB: End of log at LSN=47811
74 2024-05-30 4:57:06 0 [Note] InnoDB: Opened 3 undo tablespaces
75 2024-05-30 4:57:06 0 [Note] InnoDB: 128 rollback segments in 3 undo tablespaces are active.
76 2024-05-30 4:57:06 0 [Note] InnoDB: Setting file './ibtmp1' size to 12.000MIB. Physically writing the file full; Please wait ...
77 2024-05-30 4:57:06 0 [Note] InnoDB: File './ibtmp1' size is now 12.000MIB.
78 2024-05-30 4:57:06 0 [Note] InnoDB: log sequence number 47811; transaction id 14
79 2024-05-30 4:57:06 0 [Note] Plugin 'FEEDBACK' is disabled.
80 2024-05-30 4:57:06 0 [Note] Plugin 'wsrep-provider' is disabled.
81 2024-05-30 4:57:06 0 [Note] InnoDB: Loading buffer pool(s) from /bitnami/mariadb/data/ib_buffer_pool
82 2024-05-30 4:57:06 0 [Note] InnoDB: Buffer pool(s) load completed at 240530 4:57:06
83 2024-05-30 4:57:06 0 [Note] Server socket created on IP: '0.0.0.0'.
84 2024-05-30 4:57:06 0 [Warning] 'proxies_priv' entry '% root@mariadb-7879b46867-m5gq4' ignored in --skip-name-resolve mode.
85 2024-05-30 4:57:06 0 [Note] mysqld: Event Scheduler: Loaded 0 events
86 2024-05-30 4:57:06 0 [Note] /opt/bitnami/mariadb/sbin/mysqld: ready for connections.
87 Version: '11.3.2-MariaDB' socket: '/opt/bitnami/mariadb/tmp/mysql.sock' port: 3306 Source distribution

```

The screenshot shows the Red Hat OpenShift Events page for a pod named "wordpress-5d64d44c45-vhv5p". The pod is listed as "Running". The "Events" tab is selected, showing a list of 9 events. The events detail the pod's creation process, including pulling the image, starting the container, and adding an interface.

Event	Timestamp
Successfully pulled image "bitnami/wordpress:latest" in 24.29s (24.29s including waiting)	30 May 2024, 10:27
Created container wordpress	30 May 2024, 10:27
Started container wordpress	30 May 2024, 10:27
Add eth0 [10.131.0.10/23] from ovn-kubernetes	30 May 2024, 10:26
Generated from multus	30 May 2024, 10:26
Generated from kubelet on worker-1.loc4.tektutor.org.labs	30 May 2024, 10:27
Generated from kubelet on worker-1.loc4.tektutor.org.labs	30 May 2024, 10:27
Generated from kubelet on worker-1.loc4.tektutor.org.labs	30 May 2024, 10:27
Generated from kubelet on worker-1.loc4.tektutor.org.labs	30 May 2024, 10:27

The screenshot shows the Red Hat OpenShift Logs page for the same pod. The "Logs" tab is selected, and the log stream is displayed. The logs show the WordPress setup process, including configuration of Apache, PHP, and MySQL, and the final persisting of the WordPress installation.

```
wordpress 04:57:01.30 INFO ==> Subscribe to project updates by watching https://github.com/bitnami/containers
wordpress 04:57:01.30 INFO ==> Submit issues and feature requests at https://github.com/bitnami/containers/issues
wordpress 04:57:01.30 INFO ==> Upgrade to Tanzu Application Catalog for production environments to access custom-configured and pre-packaged software components. Gain
wordpress 04:57:01.30 INFO ==>
wordpress 04:57:01.31 INFO ==> ** Starting WordPress setup **
wordpress 04:57:01.33 INFO ==> Generating sample certificates
Certificate request self-signature ok
subject=CN = example.com
realpath: /bitnami/apache/conf: No such file or directory
wordpress 04:57:03.12 INFO ==> Configuring Apache ServerTokens directive
wordpress 04:57:03.14 INFO ==> Configuring PHP options
wordpress 04:57:03.15 INFO ==> Setting PHP expose_php option
wordpress 04:57:03.16 INFO ==> Setting PHP output_buffering option
wordpress 04:57:03.18 INFO ==> Validating settings in MYSQL_CLIENT_* env vars
wordpress 04:57:03.41 INFO ==> Ensuring WordPress directories exist
wordpress 04:57:03.43 INFO ==> Trying to connect to the database server
wordpress 04:57:08.46 INFO ==> Configuring WordPress with settings provided via environment variables
wordpress 04:57:09.52 INFO ==> Installing WordPress
wordpress 04:57:11.90 INFO ==> Persisting WordPress installation
```

Topology - Red Hat OpenShift - Google Chrome

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

Topology

Developer

+Add

Display options Filter by resource Name Find by name... /

D mariadb

Health checks Container mariadb does not have health checks to ensure your application is running correctly. [Add health checks](#)

Details Resources Observe

1 Pod

Name mariadb Update strategy RollingUpdate

Namespace NS jegan Max unavailable 25% of 1 pod

Labels app=mariadb Max surge 25% greater than 1 pod

User's blog - Google Chrome

Inbox (35,525) - mail2... webex link - jegan@tektutor.org Cisco Webex Gmail Login to your Canva Login to your Canva Login to your Canva Topology - Red Hat User's blog

User's blog Sample Page

## A commitment to innovation and sustainability

Études is a pioneering firm that seamlessly merges creativity and functionality to redefine architectural excellence.

About us

Once you are done with this lab exercise, you may delete the wordpress deployment via helm

```
jegan@tektutor.org ~ -/openshift-27may-2024/Day3 [jegan@tektutor.org ~] ls
configmap-and-secrets helm13.png helm4.png helm9.png mongoDB2.png persistent-volume wordpress4.png wordpress9.png
helm helm14.png helm5.png mariadb1.png mongoDB3.png README.md wordpress5.png wordpress.png
helm10.png helm1.png helm6.png mariadb2.png mongoDB4.png wordpress1.png wordpress6.png
helm11.png helm2.png helm7.png mariadb-deployment.png mongoDB5.png wordpress2.png wordpress7.png
helm12.png helm3.png helm8.png mongoDB1.png mongoDB6.png wordpress3.png wordpress8.png
jegan@tektutor.org ~ -/openshift-27may-2024/Day3 [jegan@tektutor.org ~] helm list
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
NAME      NAMESPACE     REVISION      UPDATED             STATUS      CHART          APP VERSION
wordpress   jegan        1            2024-05-30 10:22:47.905282435 +0530 IST deployed    wordpress-0.1.0 1.16.0
jegan@tektutor.org ~ -/openshift-27may-2024/Day3 [jegan@tektutor.org ~] helm uninstall wordpress
WARNING: Kubernetes configuration file is group-readable. This is insecure. Location: /home/jegan/.kube/config
release "wordpress" uninstalled
jegan@tektutor.org ~ -/openshift-27may-2024/Day3 [jegan@tektutor.org ~] oc get deploy,pv,pvc,svc,route
No resources found
jegan@tektutor.org ~ -/openshift-27may-2024/Day3 [jegan@tektutor.org ~]
```

