SCREENSHOTS OF EACH STEP:

Deploying mariadb pod:

```
[arshdeep@localhost ~]$ helm install my-mariadb bitnami/mariadb --set auth.rootPassword=ar
shdeep --set auth.database=testdb

NAME: my-mariadb
LAST DEPLOYED: Sat Nov 23 20:42:33 2024
NAMESPACE: default
STATUS: deployed
REVISION: 1
TEST SUITE: None
NOTES:
CHART NAME: mariadb
CHART VERSION: 20.0.0
APP VERSION: 11.4.4
```

Deploying Grafana pod:

```
[arshdeep@localhost ~]$ helm install my-grafana grafana/grafana --set adminPassword=arshde
ep
NAME: my-grafana
LAST DEPLOYED: Sat Nov 23 20:44:42 2024
NAMESPACE: default
STATUS: deployed
REVISION: 1
NOTES:
1. Get your 'admin' user password by running:

   kubectl get secret --namespace default my-grafana -o jsonpath="{.data.admin-password}"
| base64 --decode ; echo


2. The Grafana server can be accessed via port 80 on the following DNS name from within yo
```

Verifying the deployed pods:

```
[arshdeep@localhost ~]$ helm ls
NAME            NAMESPACE       REVISION        UPDATED                                 STATUS    CHART           APP VERSION
my-grafana      default         1               2024-11-23 20:44:42.048521816 +0530 IST deployed  grafana-8.6.0   11.3.0
my-mariadb      default         1               2024-11-23 20:42:33.878804745 +0530 IST deployed  mariadb-20.0.0  11.4.4
[arshdeep@localhost ~]$ kubectl get pods
NAME                          READY   STATUS    RESTARTS   AGE
my-grafana-56896fc78f-wgvjp   1/1     Running   0          71s
my-mariadb-0                  1/1     Running   0          3m19s
[arshdeep@localhost ~]$
```

Command to start minikube cluster using docker driver:

Checking the status of the pods – Grafana and mariadb:

```
[arshdeep@localhost ~]$ kubectl get pod
NAME                              READY   STATUS    RESTARTS      AGE
my-grafana-56896fc78f-6cv9d   1/1     Running   3 (21h ago)   29h
my-mariadb-0                      1/1     Running   4 (21h ago)   29h
```

Forwarding ports:

```
[arshdeep@localhost ~]$ kubectl port-forward svc/my-mariadb 3306:3306 &
[1] 11411
[arshdeep@localhost ~]$ Forwarding from 127.0.0.1:3306 -> 3306
Forwarding from [::1]:3306 -> 3306

[arshdeep@localhost ~]$ kubectl port-forward svc/my-grafana 3000:80 &
[2] 11573
[arshdeep@localhost ~]$ Forwarding from 127.0.0.1:3000 -> 3000
Forwarding from [::1]:3000 -> 3000
```

Checking that the database is up and running:

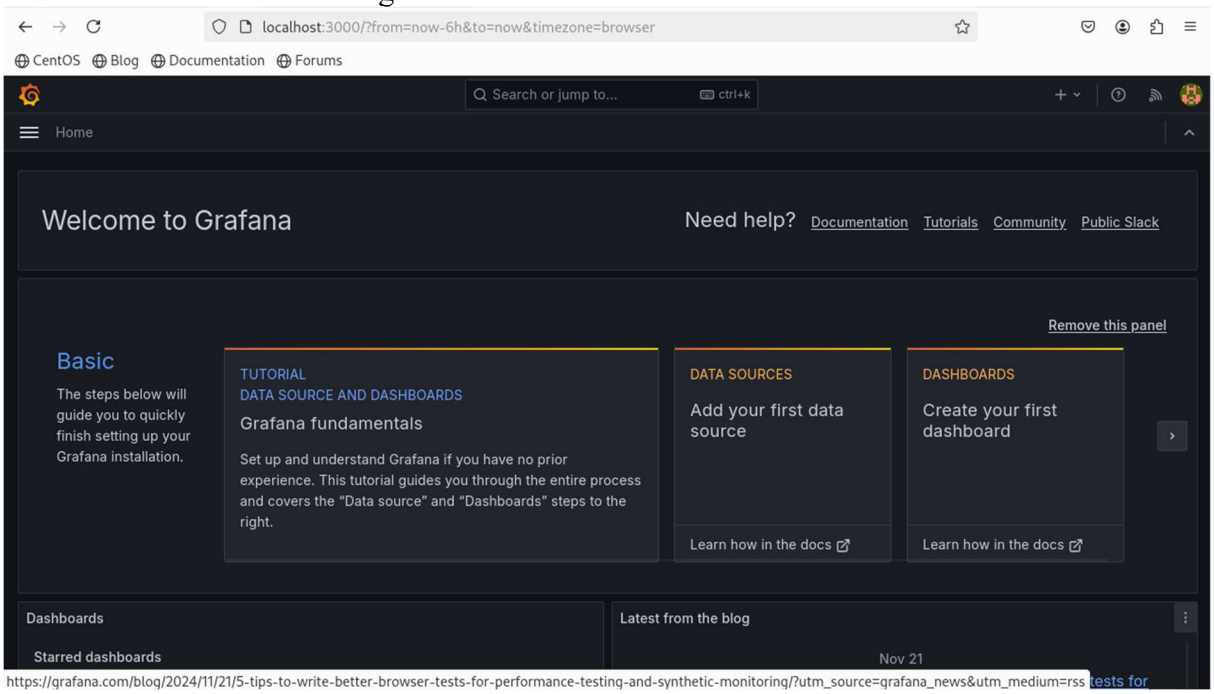
```
[arshdeep@localhost ~]$ kubectl run my-mariadb-client --rm --tty -i --restart='Never' --image  docker.io/bitnami/mariadb:11.4.
4-debian-12-r0 --namespace default --command -- bash
If you don't see a command prompt, try pressing enter.
I have no name!@my-mariadb-client:/$
I have no name!@my-mariadb-client:/$ mysql -h my-mariadb.default.svc.cluster.local -uroot -p testdb
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 76
Server version: 11.4.4-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 [testdb]>
```

Connection of Grafana through localhost:



Running the robotframe work to create a table in the database:

```
[arshdeep@localhost k8s-automation]$ robot tests/database.robot
==============================================================================
Database
==============================================================================
Create Table and Load Data                                            | PASS |
------------------------------------------------------------------------------
Database                                                              | PASS |
1 test, 1 passed, 0 failed
==============================================================================
Output:  /home/arshdeep/k8s-automation/output.xml
Log:     /home/arshdeep/k8s-automation/log.html
Report:  /home/arshdeep/k8s-automation/report.html
[arshdeep@localhost k8s-automation]$
```

Verifying the database and checking the tables:

```
MariaDB [testdb]> use testdb;
Database changed
MariaDB [testdb]> show tables;
+------------------+
| Tables_in_testdb |
+------------------+
| metrics          |
+------------------+
1 row in set (0.001 sec)

MariaDB [testdb]>
MariaDB [testdb]> select * from metrics;
+----+---------------------+-------+
| id | timestamp           | value |
+----+---------------------+-------+
|  1 | 2024-11-21 19:10:34 |  10.5 |
|  2 | 2024-11-21 19:10:34 |  20.7 |
|  3 | 2024-11-21 19:10:34 |  30.1 |
+----+---------------------+-------+
3 rows in set (0.004 sec)

MariaDB [testdb]>
```

s

Running the command to create datasource and dashboard on Grafana:

```
[arshdeep@localhost k8s-automation]$ robot tests/grafana.robot
==============================================================================
Grafana
==============================================================================
Configure Grafana                                                     | PASS |
------------------------------------------------------------------------------
Grafana                                                               | PASS |
1 test, 1 passed, 0 failed
==============================================================================
Output:  /home/arshdeep/k8s-automation/output.xml
Log:     /home/arshdeep/k8s-automation/log.html
Report:  /home/arshdeep/k8s-automation/report.html
[arshdeep@localhost k8s-automation]$
```