

## ASSESSMENT 2

Q1) Configure 2 container , on one Backend container [database server] and other frontend container web server through which you should access backend container , give volume of your docker hosts to avoid loss of data

```
root@master:~  
local      bb40197f0c28ae03b77e7185a85ec1360e445f7291c92d089efdaa0f7d9af84e  
local      c38cb5b3b2e0977ac58cc179ede5df1aa208b310f10d71600f0c3ed3693d9268  
local      c6249890d2f4c54ede977b5ae04c2b54b6c90ee79b719e0d8ca04d5e939c7036  
local      f145a8d9c3606571d34789367296fa0ac6fa8fc5de2a9e30a3860b7a50a0e723  
local      vol1  
[root@master ~]# docker volume create vol2  
vol2  
[root@master ~]# docker run -d --name front -p 8080:80 -v vol2:/var/www/html frontend:v1  
0b870c0bb761e260b41e88d808554830f5fef9da9d855a64c66cede3e2d1d747  
[root@master ~]# docker exec -it front bash  
[root@0b870c0bb761 /]# cd var  
[root@0b870c0bb761 var]# cd www  
[root@0b870c0bb761 www]# cd html  
[root@0b870c0bb761 html]# ls  
[root@0b870c0bb761 html]# vi index.php  
[root@0b870c0bb761 html]# ls  
index.php  
[root@0b870c0bb761 html]# exit  
exit  
[root@master ~]# docker inspect back |grep -i ipaddr  
"SecondaryIPAddresses": null,  
"IPAddress": "172.17.0.2",  
"IPAddress": "172.17.0.2",  
[root@master ~]# docker ps  
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS  
0b870c0bb761        frontend:v1         "httpd -D FOREGROUND"   3 minutes ago      Up 3 mi  
nutes               0.0.0.0:8080->80/tcp
```

```
[root@master ~]# docker images
```

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
frontend	v1	b6ec4107ccfd	2 hours ago	902 MB
docker.io/calico/node	v3.21.0	f2ff8e948456	7 days ago	189 MB
docker.io/calico/pod2daemon-flexvol	v3.21.0	21bd0499378c	7 days ago	21.4 MB
docker.io/calico/cni	v3.21.0	19c5757ec6bb	7 days ago	239 MB
docker.io/calico/kube-controllers	v3.21.0	5235846386af	7 days ago	132 MB
k8s.gcr.io/kube-apiserver	v1.22.3	53224b502ea4	2 weeks ago	128 MB
k8s.gcr.io/kube-controller-manager	v1.22.3	05c905cef780	2 weeks ago	122 MB
k8s.gcr.io/kube-scheduler	v1.22.3	0aa9c7e31d30	2 weeks ago	52.7 MB
k8s.gcr.io/kube-proxy	v1.22.3	6120bd723dce	2 weeks ago	104 MB
docker.io/mysql	latest	ecac195d15af	3 weeks ago	516 MB
docker.io/centos	7	eeb6ee3f44bd	8 weeks ago	204 MB
k8s.gcr.io/etcd	3.5.0-0	004811815584	5 months ago	295 MB
k8s.gcr.io/coredns/coredns	v1.8.4	8d147537fb7d	5 months ago	47.6 MB
k8s.gcr.io/pause	3.5	ed210e3e4a5b	8 months ago	683 kB

```
[root@master ~]# ls
anaconda-ks.cfg  assessment  backend.df  createtable.sql  frontend.df  insertvalues.sql  original-ks.cfg
[root@master ~]# cat backend.df
FROM mysql
ENV MYSQL_DATABASE priar
COPY ./createtable.sql /docker-entrypoint-initdb.d/
COPY ./insertvalues.sql /docker-entrypoint-initdb.d/

[root@master ~]# cat insertvalues.sql
INSERT INTO assess (name,eid) VALUES ('sai',21);
INSERT INTO assess (name,eid) VALUES ('kiran',22);
INSERT INTO assess (name,eid) VALUES ('suresh',23);
INSERT INTO assess (name,eid) VALUES ('ram',24);
INSERT INTO assess (name,eid) VALUES ('ramesh',25);
INSERT INTO assess (name,eid) VALUES ('pavan',26);
[root@master ~]# clear

[root@master ~]# docker build . -f backend.df -t backend:v1
Sending build context to Docker daemon 3.34 MB
Step 1/4 : FROM mysql
--> ecac195d15af
Step 2/4 : ENV MYSQL_DATABASE priar
--> Running in f49668e5066f
--> 288b0875d872
Removing intermediate container f49668e5066f
Step 3/4 : COPY ./createtable.sql /docker-entrypoint-initdb.d/
--> 7765382ff8f3
Removing intermediate container c0eb312bd784
Step 4/4 : COPY ./insertvalues.sql /docker-entrypoint-initdb.d/
--> 9cd5cfe5808f
Removing intermediate container fc519184566a
Successfully built 9cd5cfe5808f
```

```

[root@master ~]# docker inspect back |grep -i ipaddr
    "SecondaryIPAddresses": null,
    "IPAddress": "172.17.0.2",
    "IPAddress": "172.17.0.2",

[root@master ~]# docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
0b870c0bb761	frontend:v1	"httpd -D FOREGROUND"	3 minutes ago	Up 3 minutes	0.0.0.0:8080->80/tcp	front
90f0222cbb97	backend:v1	"docker-entrypoint..."	10 minutes ago	Up 10 minutes	33060/tcp, 0.0.0.0:3310->3306/tcp	back

```
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| priar |
| sys |
+-----+
5 rows in set (0.01 sec)

mysql> use priar;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> show tables;
+-----+
| Tables_in_priar |
+-----+
| assess |
+-----+
1 row in set (0.00 sec)

mysql> select * from aseess;
ERROR 1146 (42S02): Table 'priar.aseess' doesn't exist
mysql> select * from assess;
+-----+-----+
| name | eid |
+-----+-----+
| sai | 21 |
| kiran | 22 |
| suresh | 23 |
| ram | 24 |
| ramesh | 25 |
| pavan | 26 |
+-----+-----+
6 rows in set (0.00 sec)
```

```
},
"Mounts": [
  {
    "Type": "volume",
    "Name": "vol2",
    "Source": "/var/lib/docker/volumes/vol2/_data",
    "Destination": "/var/www/html",
    "Driver": "local",
    "Mode": "z",
    "RW": true,
    "Propagation": ""
  }
],
}
```

← → ↻ ⚠ Not secure | 13.234.120.179:8080 ☆ ⚙ Y ⋮

Name: sai 21  
Name: kiran 22  
Name: suresh 23  
Name: ram 24  
Name: ramesh 25  
Name: pavan 26

```
root@master:~  
277e3e846ba1      k8s.gcr.io/pause:3.5      "/pause"      49 minutes ago      Up 49 m  
inutes      k8s_POD_etcd-master_kube-system_c77ce622294638  
ad95a2931651e7e04a_0  
[root@master ~]# docker exec -it back bash  
root@90f0222cdb97:/# mysql -u root -p  
Enter password:  
Welcome to the MySQL monitor.  Commands end with ; or \g.  
Your MySQL connection id is 10  
Server version: 8.0.27 MySQL Community Server - GPL  
  
Copyright (c) 2000, 2021, Oracle and/or its affiliates.  
  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> alter user 'root'@'localhost' identified with mysql_native_password by '123';  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> alter user 'root'@'%' identified with mysql_native_password by '123';  
Query OK, 0 rows affected (0.00 sec)  
  
mysql> exit  
Bye  
root@90f0222cdb97:/# exit  
exit
```

Q2) On kubernetes cluster configure POD and deployment with imperative and declarative method

Assign label to your POD , show auto healing ,auto scaling screenshot , assign NodePort To your pod.

```

[root@master assessment]# vi pod1.yaml
[root@master assessment]# kubectl create -f pod1.yaml
pod/pod1 created
[root@master assessment]# vi pod2.yaml
[root@master assessment]# kubectl create -f pod2.yaml
pod/pod2 created
[root@master assessment]# kubectl get pods
NAME      READY   STATUS    RESTARTS   AGE
pod1      1/1     Running   0           93s
pod2      1/1     Running   0           20s
[root@master assessment]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP             NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   0           103s   192.168.189.69 worker2    <none>            <none>
pod2      1/1     Running   0           30s    192.168.189.70 worker2    <none>            <none>
[root@master assessment]# kubectl run pod3 --image=httpd
pod/pod3 created
[root@master assessment]# kubectl run pod4 --image=nginx
pod/pod4 created
[root@master assessment]# kubectl get pod -o wide
NAME      READY   STATUS    RESTARTS   AGE   IP             NODE      NOMINATED NODE   READINESS GATES
pod1      1/1     Running   0           2m47s  192.168.189.69 worker2    <none>            <none>
pod2      1/1     Running   0           94s    192.168.189.70 worker2    <none>            <none>
pod3      1/1     Running   0           21s    192.168.235.143 worker1    <none>            <none>
pod4      1/1     Running   0           9s     192.168.235.144 worker1    <none>            <none>
[root@master assessment]# kubectl create deployment dep1 --image=httpd
deployment.apps/dep1 created
[root@master assessment]# kubectl get deploy
NAME      READY   UP-TO-DATE   AVAILABLE   AGE
dep1      1/1     1             1            13s
[root@master assessment]# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
dep1-849f46f8bd-8c49b               1/1     Running   0           3m46s
pod1                                 1/1     Running   0           15m
pod2                                 1/1     Running   0           14m
pod3                                 1/1     Running   0           13m
pod4                                 1/1     Running   0           13m
[root@master assessment]# kubectl delete pod dep1-849f46f8bd-8c49b
pod "dep1-849f46f8bd-8c49b" deleted
[root@master assessment]# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
dep1-849f46f8bd-s7v7h               1/1     Running   0           12s
pod1                                 1/1     Running   0           16m
pod2                                 1/1     Running   0           15m
pod3                                 1/1     Running   0           13m
pod4                                 1/1     Running   0           13m
[root@master assessment]# kubectl delete pod dep1-849f46f8bd-s7v7h
pod "dep1-849f46f8bd-s7v7h" deleted
[root@master assessment]# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
dep1-849f46f8bd-srbnz               1/1     Running   0           8s
pod1                                 1/1     Running   0           16m
pod2                                 1/1     Running   0           15m
pod3                                 1/1     Running   0           14m
pod4                                 1/1     Running   0           14m
[root@master assessment]#

```

```
[root@master assessment]# vi dep2.yaml
[root@master assessment]# kubectl create -f dep2.yaml
deployment.apps/dep2 created
[root@master assessment]# kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
dep1-849f46f8bd-25tqc	1/1	Running	0	94m
dep1-849f46f8bd-7r8gc	1/1	Running	0	92m
dep1-849f46f8bd-r8qff	1/1	Running	0	92m
dep1-849f46f8bd-srbnz	1/1	Running	0	98m
dep2-7b6794856f-fz628	2/2	Running	0	8s
pod1	1/1	Running	0	115m
pod2	1/1	Running	0	114m
pod3	1/1	Running	0	113m
pod4	1/1	Running	0	112m

```
[root@master assessment]# kubectl get deploy
```

NAME	READY	UP-TO-DATE	AVAILABLE	AGE
dep1	4/4	4	4	103m
dep2	1/1	1	1	23s

```
[root@master assessment]# kubectl delete pod dep2-7b6794856f-fz628
pod "dep2-7b6794856f-fz628" deleted
[root@master assessment]# kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
dep1-849f46f8bd-25tqc	1/1	Running	0	96m
dep1-849f46f8bd-7r8gc	1/1	Running	0	95m
dep1-849f46f8bd-r8qff	1/1	Running	0	95m
dep1-849f46f8bd-srbnz	1/1	Running	0	101m
dep2-7b6794856f-qv5t5	2/2	Running	0	20s
pod1	1/1	Running	0	118m
pod2	1/1	Running	0	117m
pod3	1/1	Running	0	115m
pod4	1/1	Running	0	115m

```
[root@master assessment]#
```

```
[root@master assessment]# kubectl scale deployment/dep1 --replicas=2
deployment.apps/dep1 scaled
[root@master assessment]# kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
dep1-849f46f8bd-25tqc	1/1	Running	0	63s
dep1-849f46f8bd-srbnz	1/1	Running	0	5m56s
pod1	1/1	Running	0	22m
pod2	1/1	Running	0	21m
pod3	1/1	Running	0	20m
pod4	1/1	Running	0	19m

```
[root@master assessment]# kubectl scale deployment /dep1 --replicas=4
error: there is no need to specify a resource type as a separate argument when passing arguments in
n resource/name form (e.g. 'kubectl get resource/<resource_name>' instead of 'kubectl get resource
resource/<resource_name>')
[root@master assessment]# kubectl scale deployment/dep1 --replicas=4
deployment.apps/dep1 scaled
[root@master assessment]# kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
dep1-849f46f8bd-25tqc	1/1	Running	0	96s
dep1-849f46f8bd-7r8gc	0/1	ContainerCreating	0	4s
dep1-849f46f8bd-r8qff	0/1	ContainerCreating	0	4s
dep1-849f46f8bd-srbnz	1/1	Running	0	6m29s
pod1	1/1	Running	0	23m
pod2	1/1	Running	0	21m
pod3	1/1	Running	0	20m
pod4	1/1	Running	0	20m

```
[root@master assessment]# kubectl get pods
```

NAME	READY	STATUS	RESTARTS	AGE
dep1-849f46f8bd-25tqc	1/1	Running	0	3m10s
dep1-849f46f8bd-7r8gc	1/1	Running	0	98s
dep1-849f46f8bd-r8qff	1/1	Running	0	98s
dep1-849f46f8bd-srbnz	1/1	Running	0	8m3s
pod1	1/1	Running	0	24m
pod2	1/1	Running	0	23m
pod3	1/1	Running	0	22m
pod4	1/1	Running	0	21m

## It works!

```
root@master:~/assessment

[root@master assessment]# kubectlcreate namespace assess
bash: kubectlcreate: command not found
[root@master assessment]# kubectl create namespace assess
namespace/assess created
[root@master assessment]# kubectl create deployment dep -n assess --image=httpd
deployment.apps/dep created
[root@master assessment]# kubectl get pods
NAME                                READY   STATUS    RESTARTS   AGE
dep1-849f46f8bd-25tqc               1/1     Running   0           3h14m
dep1-849f46f8bd-7r8gc               1/1     Running   0           3h13m
dep1-849f46f8bd-r8qff               1/1     Running   0           3h13m
dep1-849f46f8bd-srbnz               1/1     Running   0           3h19m
dep2-7b6794856f-qv5t5              2/2     Running   0            98m
pod1                                1/1     Running   0           3h36m
pod2                                1/1     Running   0           3h34m
pod3                                1/1     Running   0           3h33m
pod4                                1/1     Running   0           3h33m
[root@master assessment]# kubectl get pod -n assess
NAME                                READY   STATUS    RESTARTS   AGE
dep-68f8f9fd47-njnxp               1/1     Running   0            61s
[root@master assessment]# kubectl expose deployment/dep --type=NodePort --port=80 -n assess
service/dep exposed
[root@master assessment]# kubectl get svc -n assess
NAME    TYPE        CLUSTER-IP    EXTERNAL-IP    PORT(S)          AGE
dep     NodePort    10.104.201.87 <none>         80:30692/TCP    43s
[root@master assessment]#
```

Q3) In your Git account create 1.txt ,2.txt ,3.txt ,4.java ,5.doc file only txt files push it into central repository,

```
[root@git1 centos]# mkdir assessment
[root@git1 centos]# cd assessment
[root@git1 assessment]# git init
Initialized empty Git repository in /home/centos/assessment/.git/
[root@git1 assessment]# touch 1.txt 2.txt 3.txt 4.java 5.doc
[root@git1 assessment]# ls
1.txt 2.txt 3.txt 4.java 5.doc
[root@git1 assessment]# vi .gitignore
[root@git1 assessment]# git stats
git: 'stats' is not a git command. See 'git --help'.

Did you mean this?
    status
[root@git1 assessment]# git status
# On branch master
#
# Initial commit
#
# Untracked files:
#   (use "git add <file>..." to include in what will be committed)
#
#       .gitignore
#       1.txt
#       2.txt
#       3.txt
nothing added to commit but untracked files present (use "git add" to track)
[root@git1 assessment]# ls -altr
total 4
drwx-----. 4 centos centos 113 Nov 13 06:17 ..
-rw-r--r--. 1 root root 0 Nov 13 06:23 5.doc
-rw-r--r--. 1 root root 0 Nov 13 06:23 4.java
-rw-r--r--. 1 root root 0 Nov 13 06:23 3.txt
-rw-r--r--. 1 root root 0 Nov 13 06:23 2.txt
-rw-r--r--. 1 root root 0 Nov 13 06:23 1.txt
-rw-r--r--. 1 root root 13 Nov 13 06:25 .gitignore
drwxr-xr-x. 3 root root 102 Nov 13 06:25 .
drwxr-xr-x. 7 root root 119 Nov 13 06:25 .git
[root@git1 assessment]# git add .
[root@git1 assessment]# git status
# On branch master
#
# Initial commit
#
# Changes to be committed:
#   (use "git rm --cached <file>..." to unstage)
#
#       new file:   .gitignore
#       new file:   1.txt
#       new file:   2.txt
#       new file:   3.txt
#
```



```
#
[root@git1 assessment]# git commit -m "for asessment"
[master (root-commit) d425de1] for asessment
4 files changed, 2 insertions(+)
create mode 100644 .gitignore
create mode 100644 1.txt
create mode 100644 2.txt
create mode 100644 3.txt
[root@git1 assessment]# git status
# On branch master
nothing to commit, working directory clean
[root@git1 assessment]# git log
commit d425de18fdee8dd88882364523ad10d306c87ad9
Author: saikiran <saikiranypv@gmail.com>
Date: Sat Nov 13 06:27:39 2021 +0000

    for asessment
[root@git1 assessment]# git show d425de18fdee8dd88882364523ad10d306c87ad9
commit d425de18fdee8dd88882364523ad10d306c87ad9
Author: saikiran <saikiranypv@gmail.com>
Date: Sat Nov 13 06:27:39 2021 +0000


    for asessment

diff --git a/.gitignore b/.gitignore
new file mode 100644
index 0000000..235b2e2
--- /dev/null
+++ b/.gitignore
@@ -0,0 +1,2 @@
+*.java
+*.doc
diff --git a/1.txt b/1.txt
new file mode 100644
index 0000000..e69de29
diff --git a/2.txt b/2.txt
new file mode 100644
index 0000000..e69de29
diff --git a/3.txt b/3.txt
new file mode 100644
index 0000000..e69de29
[root@git1 assessment]# git remote add origin https://github.com/saikiran2103/assessment
[root@git1 assessment]# git push -u origin master
Username for 'https://github.com': saikiran2103
Password for 'https://saikiran2103@github.com':
Counting objects: 4, done.
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 274 bytes | 0 bytes/s, done.
Total 4 (delta 0), reused 0 (delta 0)
To https://github.com/saikiran2103/assessment
 * [new branch]      master -> master
Branch master set up to track remote branch master from origin.
[root@git1 assessment]#
```

 [saikiran2103 / assessment](#) Public

[Unwatch](#) 1 [Star](#) 0 [Fork](#) 0

[Code](#) [Issues](#) [Pull requests](#) [Actions](#) [Projects](#) [Wiki](#) [Security](#) [...](#)







 master

[Go to file](#)[Add file](#)[Code](#)

## About



No description, website, or topics provided.

	saikiran2103 for asesment	...	7 minutes ago	 1
	.gitignore	for asesment	7 minutes ago	
	1.txt	for asesment	7 minutes ago	
	2.txt	for asesment	7 minutes ago	
	3.txt	for asesment	7 minutes ago	

## Releases

No releases published  
[Create a new release](#)

Help people interested in this repository understand your project by adding a README.

[Add a README](#)

## Packages

No packages published  
[Publish your first package](#)