**To Start we will need an Ubuntu os and, install Docker, Docker-compose on Ubuntu with the following codes:**

sudo apt update

Sudo apt upgrade

sudo apt install apt-transport-https ca-certificates curl software-properties-common

curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo apt-key add –

sudo add-apt-repository "deb [arch=amd64] https://download.docker.com/linux/ubuntu focal stable"

sudo apt install docker-ce

Sudo apt install docker-compose

Installing MariaDB for client access:

Sudo apt install MariaDB-client

**For this project we need to clone the github repository so run the following command:**

Apt install git

**The repository will be cloned from Zak’s github, with the following code:**

git clone <https://github.com/Zohan/maxscale-docker.git>

**after we will direct to maxscale directory. “ /maxscale/maxscale-docker/maxscale# “ and run the following command:**

docker-compose up -d

**we should see the following:**

Text

Description automatically generated

**Then we will edit the docker-compose.yml in maxscale directory:**

nano docker-compose.yml

**then we will edit the example.cnf file inside the maxscale.cnf.d file:**

nano example.cnf

**Now it is time to create our SQL shard files inside the master directory:**

/maxscale/maxscale-docker/maxscale/sql/master#

**Then we will nano the shard1.sql inside the directory and place the codes inside.**

**The same process will be done for shard2.sql inside master2 directory.**

**After creating this, we will stop all the containers and again run the following command to pull the new settings**

Docker-compose up -d

**After this we will list the servers with the following command:**

docker-compose exec maxscale maxctrl list servers

A screenshot of a computer

Description automatically generated with medium confidence

**For connecting to DB:**

mariadb -umaxuser -pmaxpwd -h 127.0.0.1 -P 4000

Text

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**And the following is the result of show databases:**

A picture containing text

Description automatically generated

**For python to connect, we will install the pymysql interpreter.**

**The result fo the codes are as bellow:**

**The last 10 rows of zipcodes\_one are:**

A picture containing text

Description automatically generated

**The first 10 rows of zipcodes\_two are:**

Text

Description automatically generated

**And the largest and smallest zipcode is as follows:**

A computer screen capture

Description automatically generated with medium confidence

Resources:

https://docs.docker.com/compose/install/  
https://mariadb.com/kb/en/mariadb-maxscale-25-simple-sharding-with-two-servers/  
  
https://github.com/Zohan/maxscale-docker  
https://www.digitalocean.com/community/tutorials/how-to-install-and-use-docker-on-ubuntu-18-04

some of the project steps were helped by the TA, “Abdirizak”