1754405 - Assignment day -3

Initializing Docker-master VM and installing Docker in it

```
root@docker-master: ~ - Google Chrome
 ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0&hl=en_US&projectNu...
    mugha13@docker-master:~$
                                                                                                             ----- ☆ -
     nugha13@docker-master:~$
                    aster:~$ sudo -i
root@docker-master:~#
root@docker-master:~# systemctl status docker
 docker.service - Docker Application Container Engine
   Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled)
                           since Wed 2021-05-26 11:59:26 UTC; 4min 10s ago
     Docs: https://docs.docker.com
Main PID: 4015 (dockerd)
   Tasks: 10
  CGroup: /system.slice/docker.service
L4015 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
May 26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.163221184Z" level=warning msg="Your kernel d
May 26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.163232735Z" level=warning msg="Your kernel d
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.1632441332" level=warning msg="Your kernel d
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.1634858942" level=info msg="Loading containe
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.2946106892" level=info msg="Default bridge (
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.362514754Z" level=info msg="Loading containe
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.388217712Z" level=info msg="Docker daemon" c
May
   26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.388397758Z" level=info msg="Daemon has compl
May
May 26 11:59:26 docker-master systemd[1]: Started Docker Application Container Engine.
May 26 11:59:26 docker-master dockerd[4015]: time="2021-05-26T11:59:26.418894232Z" level=info msg="API listen on /v
root@docker-master:~#
root@docker-master:~#
root@docker-master:~# docker ps
CONTAINER ID IMAGE
                         COMMAND
                                   CREATED
                                              STATUS
                                                        PORTS
                                                                  NAMES
root@docker-master:~#
root@docker-master:~# docker ps -a
CONTAINER ID IMAGE
                        COMMAND CREATED
                                                        PORTS
                                                                  NAMES
root@docker-master:~# docker images
REPOSITORY TAG
                       IMAGE ID CREATED
root@docker-master:~#
root@docker-master:~#
```

My Dockerfile for build

```
root@docker-master:~# cat Dockerfile
FROM nginx:latest
MAINTAINER "Shanmugha13"
RUN apt-get update && apt-get -y install git

#Git
ENV GIT_REPO https://github.com/shubhamkushwah123/bootcamp10.git
ENV NGINX_HOME /usr/share/nginx/html

#Config
RUN cd /tmp && \
git clone $GIT_REPO && \
cd bootcamp10/ && \
mkdir -p $NGINX_HOME && \
cp index.html "$NGINX_HOME"/
EXPOSE 80

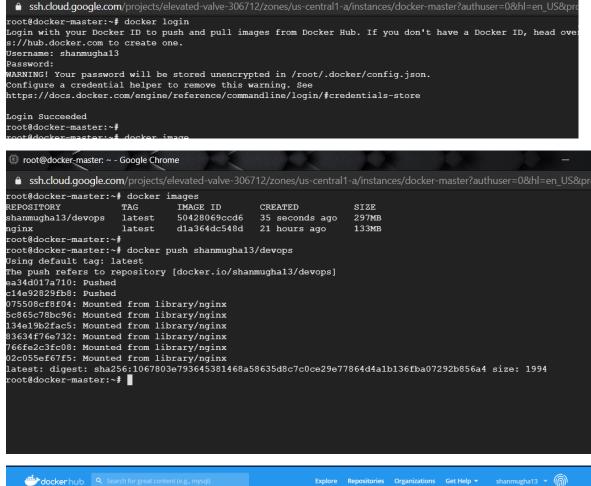
root@docker-master:~#
```

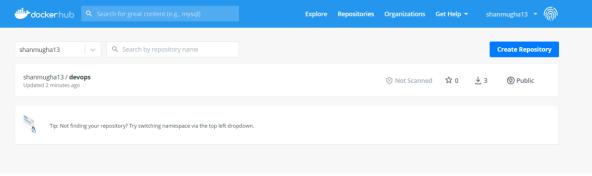
Docker image build

```
root@docker-master: ~ - Google Chrome
        \^{\textbf{a}} \quad \textbf{ssh.cloud.google.com/} projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&plances/docker-master?authuser=0.00\% and the standard stand
  root@docker-master:~# docker build . -t shanmugha13/devops
Sending build context to Docker daemon 13.31kB
Step 1/7 : FROM nginx:latest
  latest: Pulling from library/nginx
69692152171a: Pull complete
  30afc0b18f67: Pull complete
596b1d696923: Pull complete
  febe5bd23e98: Pull complete
8283eee92e2f: Pull complete
351ad75a6cfa: Pull complete
   Digest: sha256:6d75c99af15565a301e48297fa2d121e15d80ad526f8369c526324f0f7ccb750
   Status: Downloaded newer image for nginx:latest
               -> d1a364dc548d
   Step 2/7 : MAINTAINER "Shanmugha13"
   ---> Running in 8b371ec74100
Removing intermediate container 8b371ec74100
                  > b521ddcdfe21
 ---> D52100c01e21
Step 3/7: RDN apt-get update && apt-get -y install git
---> Running in 6f9a7d73ed42
Get:1 http://security.debian.org/debian-security buster/updates InRelease [65.4 kB]
Get:2 http://deb.debian.org/debian buster InRelease [121 kB]
Get:3 http://deb.debian.org/debian buster-updates InRelease [51.9 kB]
   Get:4 http://security.debian.org/debian-security buster/updates/main amd64 Packages [290 kB]
Get:5 http://deb.debian.org/debian buster/main amd64 Packages [7907 kB]
  Get:6 http://deb.debian.org/debian buster-updates/main amd64 Packages [10.9 kB]
Fetched 8447 kB in 2s (4555 kB/s)
    Reading package lists...
      root@docker-master: ~ - Google Chrome
ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/in debconf: (TERM is not set, so the dialog frontend is not usable.) debconf: falling back to frontend: Readline Setting up libxext6:amd64 (2:1.3.3-1+b2) ... setting up libxext6:amd64 (7.64.0-4+deb10u2) ... setting up patch (2.7.6-3+deb10u1) ... setting up patch (2.7.6-3+deb10u1) ... setting up git-man (1:2.20.1-2+deb10u3) ... setting up git-man (1:2.20.1-2+deb10u3) ... setting up netbase (5.6) ... setting up libxmuu1:amd64 (2:1.1.2-2+b3) ... setting up libxmuu1:amd64 (1:18.1-4) ... setting up openssh-client (1:7.9p1-10+deb10u2) ... setting up libgdbmc:amd64 (1:18.1-4) ... setting up libgdbmc:amd64 (5:28.1-6+deb10u1) ... setting up xauth (1:1.0.10-1) ... setting up part (5:28.1-6+deb10u1) ... setting up piberror-perl (0.17027-2) ... setting up git (1:2.20.1-2+deb10u3) ... Processing triggers for libc-bin (2.28-10) ... Removing intermediate container 6f9a7d73ed42 ... 150d349ed2f step 4/7 : ENV GIT REPO https://github.com/shubhamkushwah123/boote
         \^{\textbf{a}} \quad \textbf{ssh.cloud.google.com}/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en_User-like all the project of the project o
  ---> 15003496042F
Step 4/7: ENV GIT_REPO https://github.com/shubhamkushwah123/bootcamp10.git
---> Running in 1cef20fbadbc
Removing intermediate container 1cef20fbadbc
---> e31b840d637e
   Step 5/7 : ENV NGINX_HOME /usr/share/nginx/html
    ---> Running in a810b086c178
Removing intermediate container a810b086c178
  Nemoving intermediate container assubusecins
---> cd49e71fba90
Step 6/7 : RUN cd /tmp && git clone $GIT_REPO && cd bootcamp10/ && mkdir -p $NGINX_HOME && cp index.ht
                 -> Running in 6dc36b6d4398
      demoving intermediate container 6dc36b6d4398
          --> 0e399eb72640
   Step 7/7 : EXPOSE 80
---> Running in 07a79aaf2c1c
Removing intermediate container 07a79aaf2c1c
               -> 50428069ccd6
 Successfully built 50428069ccd6
Successfully tagged shanmugha13/devops:latest
root@docker-master:~#
      root@docker-master: ~ - Google Chrome
           ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/
  root@docker-master:~# docker images
  REPOSITORY
                                                                                                                     TAG
                                                                                                                                                                            IMAGE ID
                                                                                                                                                                                                                                                                CREATED
  shanmugha13/devops
                                                                                                                                                                             50428069ccd6
                                                                                                                                                                                                                                                               41 minutes ago
                                                                                                                                                                                                                                                                                                                                                               297MB
                                                                                                                      latest
   nginx
                                                                                                                      latest
                                                                                                                                                                            d1a364dc548d
                                                                                                                                                                                                                                                                22 hours ago
                                                                                                                                                                                                                                                                                                                                                               133MB
  root@docker-master:~#
  root@docker-master:~#
```

Docker image pushed to Docker Hub

root@docker-master: ~ - Google Chrome





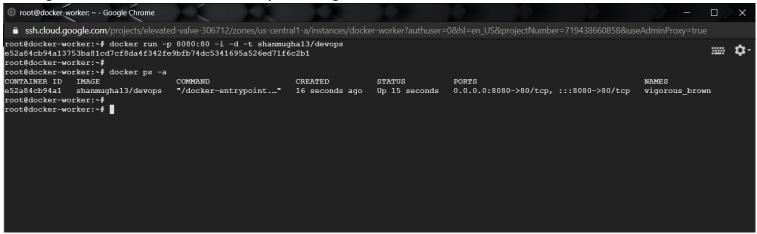
Initializing a worker VM to pull the image from Docker Hub:

```
shanmugha13@docker-worker: ~ - Google Chrome
  ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-worker?authuser=0&hl=en_US&projectNu...
                                         er:~$ sudo systemctl status docker
   docker.service - Docker Application Container Engine
     Loaded: loaded (/lib/systemd/system/docker.service; enabled; vendor preset: enabled) Active: active (running) since Wed 2021-05-26 13:09:08 UTC; 1min 37s ago
         Docs: https://docs.docker.com
  Main PID: 4051 (dockerd)
       Tasks: 10
     CGroup: /system.slice/docker.service 4051 /usr/bin/dockerd -H fd:// --containerd=/run/containerd/containerd.sock
 4ay 26 13:09:07 docker-worker dockerd[4051]: time="2021-05-26T13:09:07.979141267Z" level=warning msg="Your kernel d
      26 13:09:07 docker-worker dockerd[4051]: time="2021-05-26T13:09:07.979362573Z" level-warning msg="Your kernel d 26 13:09:07 docker-worker dockerd[4051]: time="2021-05-26T13:09:07.97950830Z" level-warning msg="Your kernel d 26 13:09:07 docker-worker dockerd[4051]: time="2021-05-26T13:09:07.979838612Z" level-warning msg="Loading containe
                                                                                                                                                                                Loading containe
      26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26113:09:08.1160003672" level=info msg="Default bridge (
26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26113:09:08.1936308462" level=info msg="Loading containe
May 26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26713:09:08.1936308462" level=info msg="Loading containe
May 26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26713:09:08.2191744232" level=info msg="Docker daemon" c
May 26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26713:09:08.2196114812" level=info msg="Daemon has compl
May 26 13:09:08 docker-worker systemd[1]: Started Docker Application Container Engine.
May 26 13:09:08 docker-worker dockerd[4051]: time="2021-05-26713:09:08.2586015322" level=info msg="API listen on /v
 lines 1-19/19 (END)
                                    orker:~$ sudo docker ps -a
COMMAND CREATED STATUS PORTS
CONTAINER ID IMAGE
                                                                                                                    NAMES
                     docker-worker:~$
                                             :~$ sudo docker image:
REPOSITORY
                     TAG
                                        IMAGE ID CREATED SIZE
           gha13@docker-worker:~$
```

Pulling the Image from DockerHub:

```
root@docker-worker: ~ - Google Chrome
   ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-worker?authus
root@docker-worker:~#
root@docker-worker:~# docker images
                       IMAGE ID CREATED
REPOSITORY
           TAG
                                            SIZE
root@docker-worker:~#
root@docker-worker:~# docker pull shanmugha13/devops
Using default tag: latest
latest: Pulling from shanmugha13/devops
69692152171a: Pull complete
30afc0b18f67: Pull complete
596b1d696923: Pull complete
febe5bd23e98: Pull complete
8283eee92e2f: Pull complete
351ad75a6cfa: Pull complete
d28ec28042f5: Pull complete
8a75af68f727: Pull complete
Digest: sha256:1067803e793645381468a58635d8c7c0ce29e77864d4a1b136fba07292b856a4
Status: Downloaded newer image for shanmugha13/devops:latest
docker.io/shanmugha13/devops:latest
root@docker-worker:~#
root@docker-worker:~# docker images
REPOSITORY
                    TAG
                              IMAGE ID
                                              CREATED
                                                                SIZE
                               50428069ccd6
shanmugha13/devops
                     latest
                                               23 minutes ago
                                                                297MB
root@docker-worker:~#
root@docker-worker:~#
```

Building container in worker node with the pulled image:



OUTPUT from worker node via worker IP , port 8080 :



INST	ANCES	INSTANCE SCHEDULE									
〒 Filter Enter property name or value											
	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP				
	0	devops-docker	us-central1-a			10.128.0.15 (nic0)	34.122.102.9 🗗				
	0	devops-git	us-central1-a			10.128.0.4 (nic0)	None				
	0	devops-jenkins-mavens	us-central1-a			10.128.0.9 (nic0)	35.223.83.168 🗷				
	0	devops-tomcat-server	us-central1-a			10.128.0.10 (nic0)	35.225.159.34 🗷				
	Ø	docker-master	us-central1-a			10.128.0.19 (nic0)	35.222.12.44 🖆				
	Ø	docker-worker	us-central1-a			10.128.0.20 (nic0)	35.226.88.109 🖸				
	Ø	github-bootcamp	us-central1-a			10.128.0.17 (nic0)	34.123.136.32 🖸				
	0	jenkins-bootcamp	us-central1-a			10.128.0.18 (nic0)	34.136.116.164 🗹				

DOCKER COMPOSE:

I am configuring compose in my master node

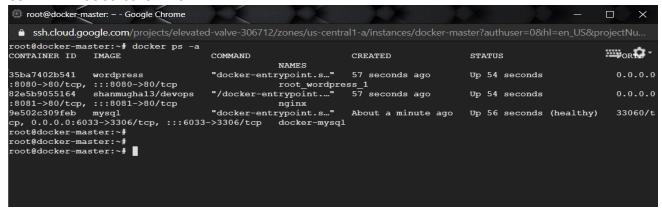
```
root@docker-master: ~ - Google Chrome
 a ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0&hl=en_US&projectl
root@docker-master:~# cat docker-compose.yml
version: '3'
services:
  wordpress_db:
    restart: always
    container_name: docker-mysql
    image: mysql
environment:
       MYSQL_DATABASE: wordpress_data
      MYSQL_ROOT_PASSWORD: root
MYSQL_ROOT_HOST: root13
    volumes:
        - ./sql:/docker-entrypoint-initdb.d
    ports:
- "6033:3306"
    healthcheck:
test: "/usr/bin/mysql --user=root --password=root --execute \"SHOW DATABASES;\""
       interval: 2s
       timeout: 20s
retries: 10
  phpmyadmin:
     image: shanmugha13/devops
    container_name: nginx links:
      wordpress_db:mysql
      8080:80
    environment:
   MYSQL_USERNAME: root
       MYSQL_ROOT_PASSWORD: root
root@docker-master:~#
```

Container build using compose:

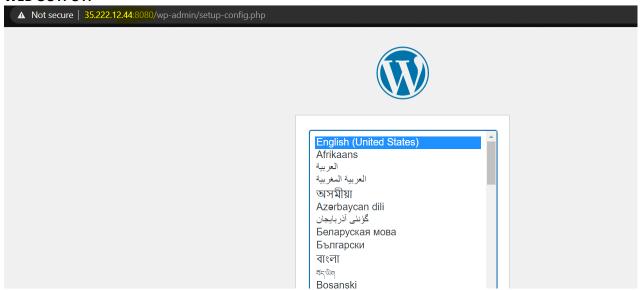
```
root@docker-master: ~ - Google Chrome
     \color{red} \color{blue} \textbf{sh.cloud.google.com/} projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authuser=0\&hl=en\_US\&projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master)
 root@docker-master:~# docker-compose up -d
Creating network "root_default" with the default driver
Pulling wordpress_db (mysql:latest)...
latest: Pulling from library/mysql
69692152171a: Already exists
1651b0be3df3: Pull complete
951da7386bc8: Pull complete
0f86c95aa242: Pull complete
37ba2d8bd4fe: Pull complete
6d278bb05e94: Pull complete
497efbd93a3e: Pull complete
f7fddf10c2c2: Pull complete
 16415d159dfb: Pull complete
0e530ffc6b73: Pull complete
b0a4a1a77178: Pull complete
cd90f92aa9ef: Pull complete
cd90f92aa9ef: Pull complete
Digest: sha256:d50098d7fcb25b1fcb24e2d3247cae3fc55815d64fec640dc395840f8fa80969
Status: Downloaded newer image for mysql:latest
Pulling wordpress (wordpress:latest)...
latest: Pulling from library/wordpress
69692152171a: Already exists
2040822db325: Pull complete
9b4ca5ae9dfa: Pull complete
ac1fe7c6d966: Pull complete
8b26fc9ce300: Pull complete
acife/cod966: Pull complete
5b26fc9ce030: Pull complete
3492f4769444: Pull complete
1dec05775a74: Pull complete
9ed895bcea33: Pull complete
    cc491c2ddc4: Pull complete
8469abe55c17: Pull complete
d74704ab90e5: Pull complete
2f6f8b7d4ce2: Pull complete
3407998a353d: Pull complete
310682739bc5: Pull complete
c82f18ace11b: Pull complete
la3b9d474dbe: Pull complete
97060a6e7f08: Pull complete
61f5c6c4243b: Pull complete
9d18afd88d98: Pull complete
 2c0d01114559: Pull complete
 2791c3bb8577: Pull complete
 Digest: sha256:7dc456dfd78ead6f519e90d0631ecb6dd819570905b104bac59a4bde5921985e
Status: Downloaded newer image for wordpress:latest
 Creating docker-mysql ..
latest: Pulling from library/wordpress
 2040822db325: Pull complete
```

```
9b4ca5ae9dfa: Pull complete
ac1fe7c6d966: Pull complete
5b26fc9ce030: Pull complete
3492f4769444: Pull complete
1dec05775a74: Pull complete
9ed895bcea33: Pull complete
bcc491c2ddc4: Pull complete
8469abe55c17: Pull complete
d74704ab90e5: Pull complete
2f6f8b7d4ce2: Pull complete
3407998a353d: Pull complete
310682739bc5: Pull complete
c82f18ace11b: Pull complete
1a3b9d474dbe: Pull complete
97060a6e7f08: Pull complete
61f5c6c4243b: Pull complete
9d18afd88d98: Pull complete
2c0d01114559: Pull complete
2791c3bb8577: Pull complete
Digest: sha256:7dc456dfd78ead6f519e90d0631ecb6dd819570905b104bac59a4bde5921985e
Status: Downloaded newer image for wordpress:latest
Creating docker-mysql ...
Creating docker-mysql ...
Creating nginx ..
Creating root_wordpress_1 ...
Creating nginx
Creating root_wordpress_1 ... done
root@docker-master:~#
 coot@docker-master:~#
```

CONTAINER SUCCESSFULLY CREATED:



WEB OUTPUT:



IP VERIFICATION FOR MASTER NODE:

INOTANOE COLIEDIUS

INSTANCES		INSTANCE SCHEDULE													
∓F	₹ Filter Enter property name or value														
	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect							
	0	devops-docker	us-central1-a			10.128.0.15 (nic0)	34.122.102.9 🗗	SSH ▼							
	0	devops-git	us-central1-a			10.128.0.4 (nic0)	None	SSH ▼							
	0	devops-jenkins-mavens	us-central1-a			10.128.0.9 (nic0)	35.223.83.168 🗷	SSH ▼							
	0	devops-tomcat-server	us-central1-a			10.128.0.10 (nic0)	35.225.159.34 🗷	SSH ▼							
	•	docker-master	us-central1-a			10.128.0.19 (nic0)	35.222.12.44 [2]	SSH ▼							
	•	docker-worker	us-central1-a			10.128.0.20 (nic0)	35.226.88.109 🗷	SSH ▼							
	•	github-bootcamp	us-central1-a			10.128.0.17 (nic0)	34.123.136.32 🗷	SSH ▼							
	0	jenkins-bootcamp	us-central1-a			10.128.0.18 (nic0)	34.136.116.164 🖸	SSH ▼							

Container is successfully created using compose //

.

SQL Database in container: Created mydb1 database in container:

```
root@docker-master: ~ - Google Chrome
                                                                                                     X
 🌲 ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/instances/docker-master?authu... 🗔
root@docker-master:~# docker ps -a
                                                                                               ------ *
CONTAINER ID IMAGE
                                                                CREATED
  PORTS
                                                             NAMES
d14ae198c9fb shanmugha13/devops
                                    "/docker-entrypoint..." 2 minutes ago
                                                                                 Up 2 minutes
  0.0.0.0:8081->80/tcp, :::8081->80/tcp
                                                             root_phpmyadmin_1
                                      "docker-entrypoint.s..."
                                                                2 minutes ago
7f9efe547cee
              wordpress
                                                                                 Up 2 minutes
                                      "docker-entrypoint.s.." 2 minutes ago
  0.0.0.0:8080->80/tcp, :::8080->80/tcp
7b613f54c9ce mysql "docker-entrypoint.s..." 2 minutes
33060/tcp, 0.0.0.6033->3306/tcp, :::6033->3306/tcp docker-mysql
                                                              2 minutes ago
                                                                                 Up 2 minutes (healthy)
root@docker-master:~#
root@docker-master:~#
root@docker-master:~# docker exec -it 7b613f54c9ce sh
# mysql -u root -p
Enter password:
Welcome to the MySQL monitor. Commands end with ; or \gray{g}.
Your MySQL connection id is 85
Server version: 8.0.25 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
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.
mysql>
```

```
mysql> show databases;
| Database
 information_schema
 mysql
 performance_schema
  sys
 wordpress_data
5 rows in set (0.00 sec)
mysql> create database mydb1
mysql> create database mydb1;
Query OK, 1 row affected (0.01 sec)
mysql> show databases;
| Database
 information_schema
 mydb1
 mvsal
 performance_schema
 wordpress_data
6 rows in set (0.00 sec)
mysql>
```

```
root@docker-master: ~ - Google Chrome
  ssh.cloud.google.com/projects/elevated-valve-306712/zones/us-central1-a/insta
mysql> create table dbtable (id INT(3), name VARCHAR(13), age INT(2)
Query OK, 0 rows affected, 2 warnings (0.02 sec)
mysql> show tables;
| Tables_in_mydb1 |
| dbtable
1 row in set (0.00 sec)
mysql> show columns from dbtable
   -> ^c
mysql> show columns from dbtable;
| Field | Type | | Null | Key | Default | Extra |
| id | int | YES | | NULL
| name | varchar(13) | YES | | NULL
| age | int | YES | | NULL
3 rows in set (0.00 sec)
mysql> exit
Вуе
# ^C
```

root@docker-master:~#