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# ASSIGNMENT – 3

**MULTI NODE DOCKER SWARM CLUSTER:**

1. Initialize the docker swarm

```
master@master-vm:~$ docker swarm init --advertise-addr 192.168.219.137
Swarm initialized: current node (ngglfig5fgkvvjq93rvy2zium) is now a manager.

To add a worker to this swarm, run the following command:

    docker swarm join --token SWMTKN-1-20h8bsqnpxuwnwbf179hk5e83n2aonrt2qd2hdtwqe3bis32vc-0lablr95bwjwidlq4m71omgnx 192
2377

To add a manager to this swarm, run 'docker swarm join-token manager' and follow the instructions.
master@master-vm:~$ docker node ls
```

2. Run the token in the nodes

   Node1:

```
node1@node1-vm:~/Desktop$ sudo docker swarm join --token SWMTKN-1-3sz2rz5bwwgkqzgv8t3xoohfg2tc2xrzfjg4q2n1sgmivvzeui-9zn1z63npngf012
erja5fxffg 192.168.219.137:2377
[sudo] password for node1:
This node joined a swarm as a worker.
node1@node1-vm:~/Desktop$ sudo docker pull nginx
```

   Node2:

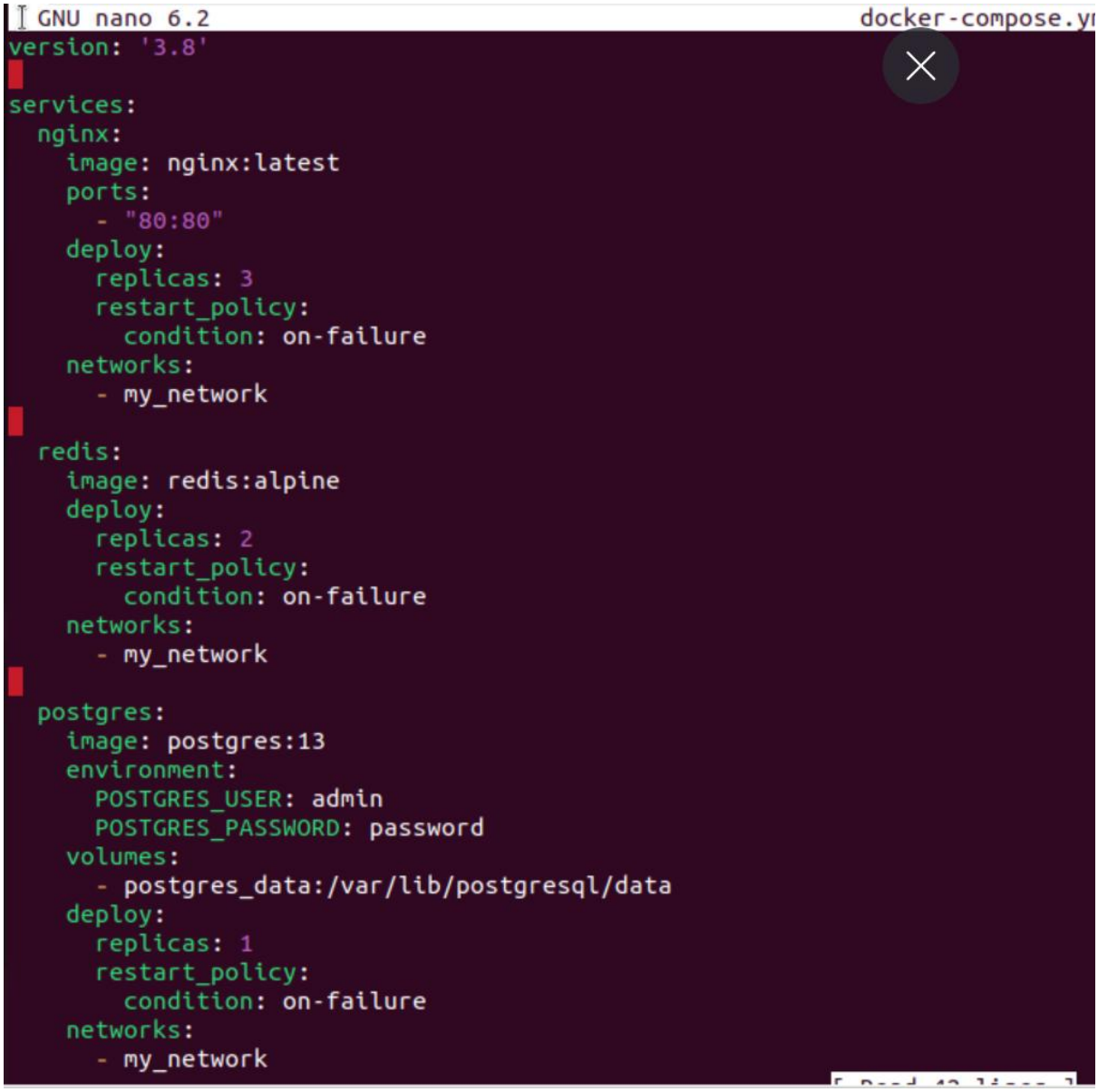
```
node2@node2-vm:~/Desktop$ sudo docker swarm join --token SWMTKN-1-3sz2rz5bwwgkqzgv8t3xoohfg2tc2xrzfjg4q2n1sgmivvzeui-9zn1z63npngf012
erja5fxffg 192.168.219.137:2377
This node joined a swarm as a worker.
node2@node2-vm:~/Desktop$ sudo chmod 666 /var/run/docker.sock
```

3. Verify the nodes that are part of swarm

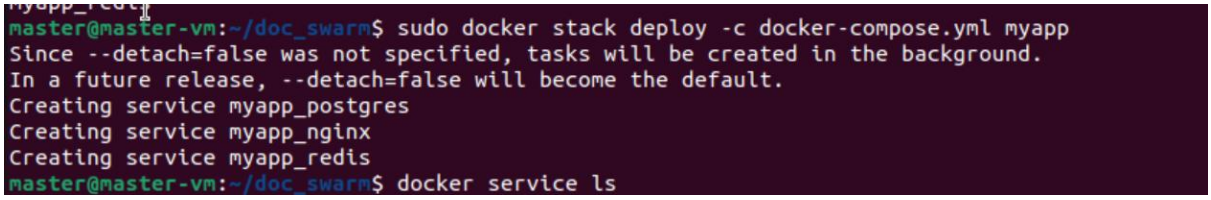
```
master@master-vm:~/doc_swarm$ docker node ls
ID                            HOSTNAME    STATUS    AVAILABILITY   MANAGER STATUS   ENGINE VERSION
v7h2rzxg5333jpoozb03l9dam *   master-vm   Ready     Active         Leader           26.1.3
nh1asoac7tgc2ewv0h5y7gssx     node1-vm    Ready     Active                          26.1.3
cbt4otd4vh90fgb756kly0uzy     node2-vm    Ready     Active                          26.1.3
```

PRATHEEK U B
289226

4. Create a directory and create docker-compose.yml file




5. Run the compose file



PRATHEEK U B
289226

6. See the list of services running in multiple nodes

```
master@master-vm:~/doc_swarm$ docker images
REPOSITORY   TAG       IMAGE ID       CREATED        SIZE
postgres     13        6c774c1ad2b9   11 days ago    423MB
nginx        latest    b52e0b094bc0   4 weeks ago    192MB
redis        alpine    8f5c54441eb9   2 months ago   41.4MB
master@master-vm:~/doc_swarm$ docker service ls
ID             NAME             MODE         REPLICAS   IMAGE          PORTS
y9rs9l5x1k7c   myapp_nginx      replicated   3/3        nginx:latest   *:80->80/tcp
z6jaxhg21cop   myapp_postgres   replicated   1/1        postgres:13
5vfrxm66kesc   myapp_redis      replicated   2/2        redis:alpine
master@master-vm:~/doc_swarm$
```

MASTER NODE:

```
master@master-vm:~/doc_swarm$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS      NAMES
7a31aca111e8   nginx:latest   "/docker-entrypoint.…"   19 minutes ago   Up 19 minutes   80/tcp     myapp_nginx.3.wl5w0zfpmujnk78j87ise25y3
7fcab59f4e2a   postgres:13    "docker-entrypoint.s…"   20 minutes ago   Up 20 minutes   5432/tcp   myapp_postgres.1.md321qwzqumpfd3aj6esymgct
```

NODE 1:

```
node1@node1-vm:~/Desktop$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED          STATUS          PORTS      NAMES
4abab2dd08f8   redis:alpine   "docker-entrypoint.s…"   20 minutes ago   Up 20 minutes   6379/tcp   myapp_redis.2.j26asjwgk9tts8e9966mac7d6
b71878cf2353   nginx:latest   "/docker-entrypoint.…"   21 minutes ago   Up 20 minutes   80/tcp     myapp_nginx.1.8g86iekoab3yrk3qwibeuqwqk
node1@node1-vm:~/Desktop$
```

NODE 2:

```
node2@node2-vm:~/Desktop$ docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED              STATUS              PORTS      NAMES
ab8cbdfe77c1   redis:alpine   "docker-entrypoint.s…"   About a minute ago   Up About a minute   6379/tcp   myapp_redis.1.o8yx0xm6tq78j5i5pe8i6nmna
d063b6b97024   nginx:latest   "/docker-entrypoint.…"   About a minute ago   Up About a minute   80/tcp     myapp_nginx.2.l55a5bp045008kkeve9kbs927
node2@node2-vm:~/Desktop$
```