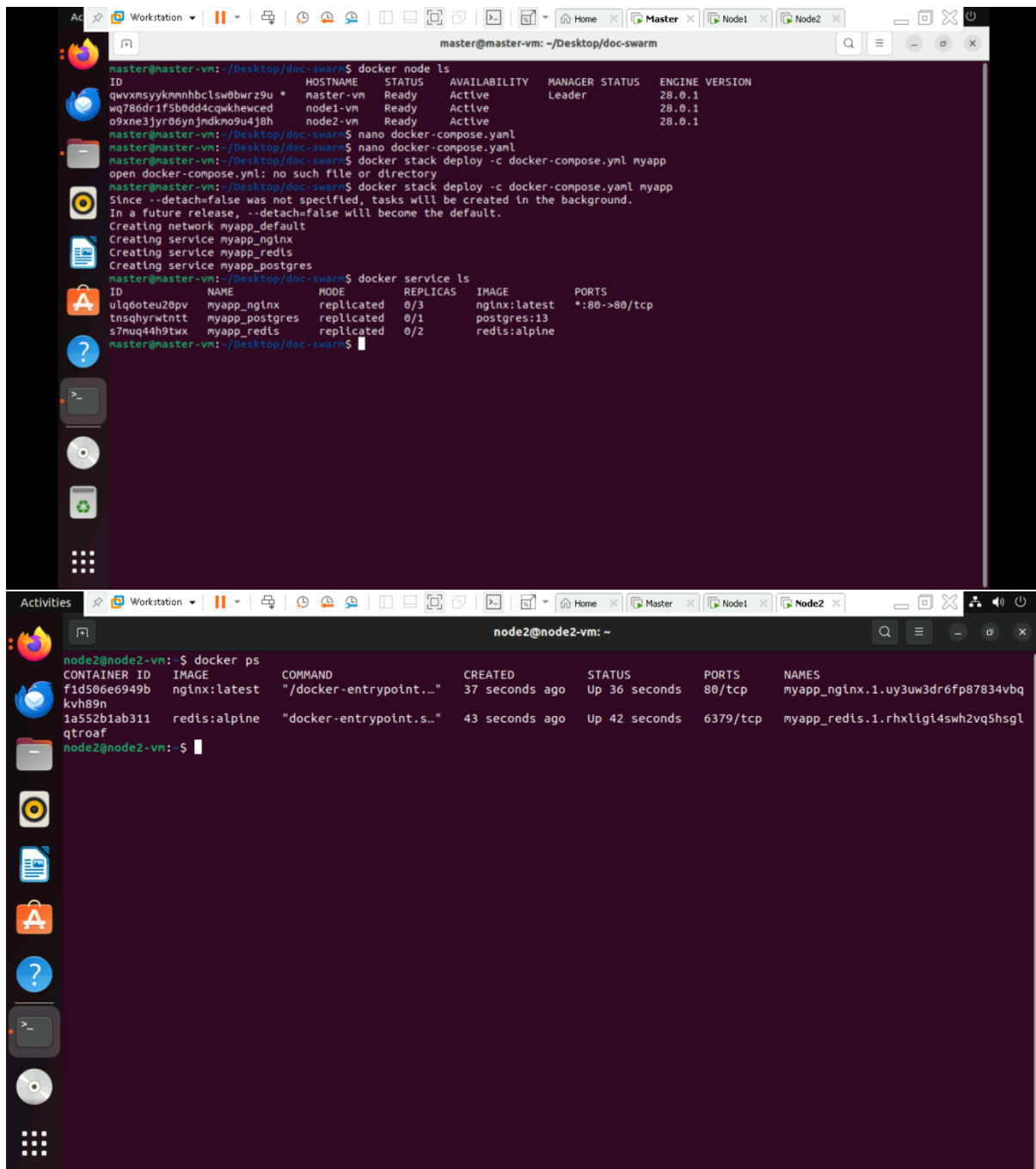


Q. Docker Swarm initialization and deployment to multiple nodes



The screenshot displays two terminal windows from a Linux workstation, illustrating the steps to initialize a Docker Swarm and deploy services to multiple nodes.

Top Terminal Window (Master Node):

```
master@master-vm: ~/Desktop/doc-swarm
master@master-vm:~/Desktop/doc-swarm$ docker node ls
ID                HOSTNAME        STATUS        AVAILABILITY    MANAGER STATUS   ENGINE VERSION
qvwxsyykmmnhbclsw0bwrz9u *  master-vm      Ready         Active           Leader            28.0.1
wq786dr1f5b0dd4cqwkhevcde  node1-vm      Ready         Active           -                 28.0.1
o9xne3jyr06ynjndkmo9u4j8h  node2-vm      Ready         Active           -                 28.0.1

master@master-vm:~/Desktop/doc-swarm$ nano docker-compose.yml
master@master-vm:~/Desktop/doc-swarm$ nano docker-compose.yml
master@master-vm:~/Desktop/doc-swarm$ docker stack deploy -c docker-compose.yml myapp
open docker-compose.yml: no such file or directory
master@master-vm:~/Desktop/doc-swarm$ docker stack deploy -c docker-compose.yml myapp
Since --detach=false was not specified, tasks will be created in the background.
In a future release, --detach=false will become the default.
Creating network myapp_default
Creating service myapp_nginx
Creating service myapp_redis
Creating service myapp_postgres
master@master-vm:~/Desktop/doc-swarm$ docker service ls
ID                NAME                MODE                REPLICAS        IMAGE            PORTS
ulq6oteu20pv     myapp_nginx         replicated           0/3              nginx:latest     *:80->80/tcp
tnsqhyrwtntt     myapp_postgres       replicated           0/1              postgres:13
s7nuq44h9twx     myapp_redis          replicated           0/2              redis:alpine
```

Bottom Terminal Window (Node2):

```
node2@node2-vm: ~
node2@node2-vm:~$ docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED             STATUS              PORTS               NAMES
f1d506e6949b      nginx:latest       "/docker-entrypoint..." 37 seconds ago     Up 36 seconds      80/tcp              myapp_nginx.1.uy3uw3dr6fp87834vbq
kvh89n
1a552b1ab311      redis:alpine       "docker-entrypoint.s..." 43 seconds ago     Up 42 seconds      6379/tcp            myapp_redis.1.rhxlgl4swh2vq5hsgl
qtroaf
```

```
node1@node1-vm: ~  
node1@node1-vm:~$ docker ps  
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES  
d0124aa21abf   nginx:latest   "/docker-entrypoint..." 23 seconds ago Up 22 seconds 80/tcp         myapp_nginx.2.6qfn28y7xzsin85  
1xny8wctr      postgres:latest "docker-entrypoint.s..." 34 seconds ago Up 32 seconds 5432/tcp       myapp_postgres.1.qmynvo8h5x5bo  
qab0s4kj0dbt  
node1@node1-vm:~$
```

```
master@master-vm: ~/Desktop/doc-swarm  
master@master-vm:~/Desktop/doc-swarm$ docker node ps  
ID            NAME            MODE            REPLICAS    IMAGE          PORTS  
kdyyaajt7dvw  myapp_nginx     replicated      2/3          nginx:latest   *:80->80/tcp  
nocg0nrs1jkt  myapp_postgres  replicated      0/1          postgres:latest  
l8s1wg9d7nzh  myapp_redis     replicated      1/2          redis:alpine  
master@master-vm:~/Desktop/doc-swarm$ docker node ps  
ID            NAME            MODE            DESIRED STATE  CURRENT STATE    ERROR    PORTS  
it6emmhjo0b  myapp_nginx.2   nginx:latest    master-vn      Running          Running 32 seconds ago  
ck1z3lutya70 myapp_nginx.3   nginx:latest    master-vn      Running          Running about a minute ago  
lwprgrfgxwo4 myapp_redis.1   redis:alpine    master-vn      Running          Running 8 seconds ago  
m5m9doh0o7l7 myapp_redis.2   redis:alpine    master-vn      Running          Running about a minute ago  
master@master-vm:~/Desktop/doc-swarm$ nano docker-compose.yml  
master@master-vm:~/Desktop/doc-swarm$ docker stack rm myapp  
Removing service myapp_nginx  
Removing service myapp_postgres  
Removing service myapp_redis  
Removing network myapp_my_network  
master@master-vm:~/Desktop/doc-swarm$ docker stack deploy -c docker-compose.yml myapp  
Since --detach=false was not specified, tasks will be created in the background.  
In a future release, --detach=false will become the default.  
Creating network myapp_my_network  
Creating service myapp_redis  
Creating service myapp_postgres  
Creating service myapp_nginx  
master@master-vm:~/Desktop/doc-swarm$ docker node ps  
ID            NAME            MODE            DESIRED STATE  CURRENT STATE    ERROR    PORTS  
37qabyprg29  myapp_nginx.3   nginx:latest    master-vn      Running          Running 8 seconds ago  
mqp1u22uk9pl myapp_redis.2   redis:alpine    master-vn      Running          Running 17 seconds ago  
master@master-vm:~/Desktop/doc-swarm$ docker service ls  
ID            NAME            MODE            REPLICAS    IMAGE          PORTS  
g3nu7z8gmqt  myapp_nginx     replicated      3/3          nginx:latest   *:80->80/tcp  
p90kyvelszq4 myapp_postgres  replicated      1/1          postgres:latest  
n42o2ckvsatu myapp_redis     replicated      2/2          redis:alpine  
master@master-vm:~/Desktop/doc-swarm$ docker node ps  
ID            NAME            MODE            DESIRED STATE  CURRENT STATE    ERROR    PORTS  
37qabyprg29  myapp_nginx.3   nginx:latest    master-vn      Running          Running 16 seconds ago  
mqp1u22uk9pl myapp_redis.2   redis:alpine    master-vn      Running          Running 25 seconds ago  
master@master-vm:~/Desktop/doc-swarm$
```