

1. Use the previous assignment's deployment
2. Deploy any 2 containers in a overlay network
3. Try pinging each of the containers from within the containers

To deploy two containers in an overlay network: create an overlay network in the Docker swarm:

```
sudo docker network create --driver=overlay demo
(network name is demo)
```

```
[ec2-user@ip-172-31-23-77 ~]$ sudo docker network create --driver=overlay demo
pcj6ktz2wp9fvja7c0ov7vc14
[ec2-user@ip-172-31-23-77 ~]$
```

I-022dc3c7a5a32ca23 (main)
PublicIPs: 54.172.136.126 PrivateIPs: 172.31.23.77

(.....Then, deploy two containers within the overlay network)

```
docker service create --name container1 --network my-overlay-network <image1>
docker service create --name container2 --network my-overlay-network <image2>
```

```
sudo docker service create --name containerA --network demo --replicas 1 httpd
```

```
[ec2-user@ip-172-31-23-77 ~]$ sudo docker service create --name containerA --network demo --replicas 1 httpd
10c2oclxz08u0i8p4d194uy5v
overall progress: 1 out of 1 tasks
1/1: running [=====>]
verify: Service converged
[ec2-user@ip-172-31-23-77 ~]$
```

I-022dc3c7a5a32ca23 (main)
PublicIPs: 54.172.136.126 PrivateIPs: 172.31.23.77

```
sudo docker service create --name containerB --network demo --replicas 1 httpd
```

```
[ec2-user@ip-172-31-23-77 ~]$ sudo docker service create --name containerB --network demo --replicas 1 httpd
kkzfdd7d0sygqcpnthkig74ck
overall progress: 1 out of 1 tasks
1/1: running [=====>]
verify: Service converged
[ec2-user@ip-172-31-23-77 ~]$
```

I-022dc3c7a5a32ca23 (main)
PublicIPs: 54.172.136.126 PrivateIPs: 172.31.23.77

Try pinging each of the containers from within the containers:

```
sudo docker exec -it $(sudo docker ps -qf "name=containerA") /bin/bash
```

apt-get update

apt-get install -y iputils-ping

sudo docker exec -it \$(sudo docker ps -qf "name=containerA") ping containerB.demo

```
[ec2-user@ip-172-31-23-77 ~]$ sudo docker exec -it $(sudo docker ps -qf "name=containerA") ping containerB.demo
PING containerB.demo (10.0.3.5) 56(84) bytes of data.
64 bytes from ip-10-0-3-5.ec2.internal (10.0.3.5): icmp_seq=1 ttl=127 time=0.090 ms
64 bytes from ip-10-0-3-5.ec2.internal (10.0.3.5): icmp_seq=2 ttl=127 time=0.061 ms
64 bytes from ip-10-0-3-5.ec2.internal (10.0.3.5): icmp_seq=3 ttl=127 time=0.062 ms
64 bytes from ip-10-0-3-5.ec2.internal (10.0.3.5): icmp_seq=4 ttl=127 time=0.059 ms
64 bytes from ip-10-0-3-5.ec2.internal (10.0.3.5): icmp_seq=5 ttl=127 time=0.083 ms
^C
--- containerB.demo ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 0.059/0.071/0.090/0.012 ms
[ec2-user@ip-172-31-23-77 ~]$
```

i-022dc3c7a5a32ca23 (main)

PublicIPs: 54.172.136.126 PrivateIPs: 172.31.23.77

CONTAINER B is in one of the slave : sudo docker ps

We go inside the containerB, so as to install ping

sudo docker exec -it \$(sudo docker ps -qf "name=containerB") /bin/bash

apt-get update

apt-get install -y iputils-ping

```
[ec2-user@ip-172-31-23-31 ~]$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS        NAMES
804ca3339cac   httpd:latest   "httpd-foreground"      2 hours ago   Up 2 hours   80/tcp       containerB.1.gzsimdvccviff0mkkn832mcci
ff7c229fffdc   httpd:latest   "httpd-foreground"      7 hours ago   Up 7 hours   80/tcp       apache.2.nohmroqlcw7ng60ikldwq0v2
8ffa29036b29   httpd:latest   "httpd-foreground"      7 hours ago   Up 7 hours   80/tcp       apache.3.be6koaz39bd75514poilqw411
[ec2-user@ip-172-31-23-31 ~]$ sudo docker exec -it $(sudo docker ps -qf "name=containerB") /bin/bash
root@804ca3339cac:/usr/local/apache2# apt-get update
Get:1 http://deb.debian.org/debian bookworm InRelease [151 kB]
Get:2 http://deb.debian.org/debian bookworm-updates InRelease [52.1 kB]
Get:3 http://deb.debian.org/debian-security bookworm-security InRelease [48.0 kB]
Get:4 http://deb.debian.org/debian bookworm/main amd64 Packages [8787 kB]
Get:5 http://deb.debian.org/debian bookworm-updates/main amd64 Packages [12.7 kB]
Get:6 http://deb.debian.org/debian-security bookworm-security/main amd64 Packages [135 kB]
Fetched 9186 kB in 2s (5856 kB/s)
Reading package lists... Done
root@804ca3339cac:/usr/local/apache2# apt-get install -y iputils-ping
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcap2-bin libpam-cap
The following NEW packages will be installed:
```

```

root@804ca3339cac:/usr/local/apache2# apt-get install -y iputils-ping
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcap2-bin libpam-cap
The following NEW packages will be installed:
  iputils-ping libcap2-bin libpam-cap
0 upgraded, 3 newly installed, 0 to remove and 4 not upgraded.
Need to get 96.2 kB of archives.
After this operation, 311 kB of additional disk space will be used.
Get:1 http://deb.debian.org/debian bookworm/main amd64 libcap2-bin amd64 1:2.66-4 [34.7 kB]
Get:2 http://deb.debian.org/debian bookworm/main amd64 iputils-ping amd64 3:20221126-1 [47.1 kB]
Get:3 http://deb.debian.org/debian bookworm/main amd64 libpam-cap amd64 1:2.66-4 [14.5 kB]
Fetched 96.2 kB in 0s (4673 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libcap2-bin.
(Reading database ... 8502 files and directories currently installed.)
Preparing to unpack .../libcap2-bin_1%3a2.66-4_amd64.deb ...
Unpacking libcap2-bin (1:2.66-4) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20221126-1_amd64.deb ...
Unpacking iputils-ping (3:20221126-1) ...
Selecting previously unselected package libpam-cap:amd64.

```

i-095020cc44bc32bc4 (other1)

PublicIPs: 54.152.139.84 PrivateIPs: 172.31.23.31

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sudo docker exec -it \$(sudo docker ps -qf "name=containerB") ping containerA.demo

```

debconf: falling back to frontend: Readline
debconf: unable to initialize frontend: Readline
debconf: (Can't locate Term/ReadLine.pm in @INC (you may need to install the Term::ReadLine module) (@INC contains: /etc/perl /usr/local/
lib/x86_64-linux-gnu/perl/5.36.0 /usr/local/share/perl/5.36.0 /usr/lib/x86_64-linux-gnu/perl5/5.36 /usr/share/perl5 /usr/lib/x86_64-linux
-gnu/perl-base /usr/lib/x86_64-linux-gnu/perl/5.36 /usr/share/perl/5.36 /usr/local/lib/site_perl) at /usr/share/perl5/Debconf/FrontEnd/Re
adline.pm line 7.)
debconf: falling back to frontend: Teletype
Setting up iputils-ping (3:20221126-1) ...
root@804ca3339cac:/usr/local/apache2# exit
exit
[ec2-user@ip-172-31-23-31 ~]$ sudo docker exec -it $(sudo docker ps -qf "name=containerB") ping containerA.demo
PING containerA.demo (10.0.3.2) 56(84) bytes of data.
64 bytes from ip-10-0-3-2.ec2.internal (10.0.3.2): icmp_seq=1 ttl=127 time=0.092 ms
64 bytes from ip-10-0-3-2.ec2.internal (10.0.3.2): icmp_seq=2 ttl=127 time=0.064 ms
64 bytes from ip-10-0-3-2.ec2.internal (10.0.3.2): icmp_seq=3 ttl=127 time=0.066 ms
64 bytes from ip-10-0-3-2.ec2.internal (10.0.3.2): icmp_seq=4 ttl=127 time=0.068 ms
64 bytes from ip-10-0-3-2.ec2.internal (10.0.3.2): icmp_seq=5 ttl=127 time=0.069 ms
^C
--- containerA.demo ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 0.064/0.071/0.092/0.010 ms
[ec2-user@ip-172-31-23-31 ~]$

```

i-095020cc44bc32bc4 (other1)

PublicIPs: 54.152.139.84 PrivateIPs: 172.31.23.31

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AND CONTAINER B IN SLAVE SERVER CAN PING CONTAINER A IN MASTER SERVER