



1. List the docker network.

```
# docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
82f0e82e8a52       bridge             bridge             local
2f29f6c3dc07       host              host              local
0ee77fd0eaf6       none              null              local
```

2. List the bridge's address.

```
# ifconfig docker0 | grep "inet "
    inet 172.17.0.1 netmask 255.255.0.0 broadcast 0.0.0.0
```

3. Create two containers.

```
# docker run -d -it --name=container1 net/centos
# docker run -d -it --name=container2 net/centos
```

4. List the address of container1.

```
# docker exec container1 ifconfig eth0 | grep "inet "
    inet 172.17.0.2 netmask 255.255.0.0 broadcast 0.0.0.0
```

5. Create a new network.

```
# docker network create -d bridge --subnet 172.25.0.0/16 \
isolated_nw
```

6. Connect container2 to the new network.

```
# docker network connect isolated_nw container2
```

7. List the addresses of container2.

```
# docker exec container2 ifconfig | grep "inet "
    inet 172.17.0.3 netmask 255.255.0.0 broadcast 0.0.0.0
    inet 172.25.0.2 netmask 255.255.0.0 broadcast 0.0.0.0
    inet 127.0.0.1 netmask 255.0.0.0
```

8. Create a third container and connect it to the new network.

```
# docker run --network=isolated_nw --ip=172.25.3.3 -itd \  
--name=container3 net/centos
```

9. Check connectivity from container2 to container3.

```
# docker exec container2 ping -w 1 172.25.3.3  
PING 172.25.3.3 (172.25.3.3) 56(84) bytes of data.  
64 bytes from 172.25.3.3: icmp_seq=1 ttl=64 time=0.088 ms  
64 bytes from 172.25.3.3: icmp_seq=2 ttl=64 time=0.072 ms
```

10 Check connectivity from container3 to container1.

```
# docker exec container3 ping -w 1 172.17.0.2  
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.  
--- 172.17.0.2 ping statistics ---  
2 packets transmitted, 0 received, 100% packet loss, time 999ms
```

11. Clean up.

```
# docker rm -f container1 container2 container3  
container1  
container2  
container3
```

```
# docker network rm isolated_nw  
isolated_nw
```