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**UNIVERSITY OF PETROLEUM & ENERGY STUDIES**  
**Dehradun**

**APPLICATION**  
**CONTAINERIZATION**

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# Experiment-3

## Docker Network

### Step-1: Create a network

```
rakshit@rakshit-virtual-machine:~$ docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
69b53f707000        bridge             bridge              local
50795c4d4756        host               host                local
66a3ac5bf6fb        none              null                local
rakshit@rakshit-virtual-machine:~$ docker network create nw1
b9848b6c3ed927888c9cdc5a52a7ea3d672eba17dfa43778c4080386b12e257d
```

### Step-2: Create a container and assign the created network to container.

```
rakshit@rakshit-virtual-machine:~$ docker run -d --name=cnt1 --net=nw1 redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
45b42c59be33: Pull complete
5ce2e937bf62: Pull complete
2a031498ff58: Pull complete
78f77a50d3fe: Pull complete
60553ab7cb08: Pull complete
68240431d2fc: Pull complete
Digest: sha256:f29bcfb891678a0c6a0fc5da0b32ce1ac685af87c0f3aa9327e562da8d3f3b88
Status: Downloaded newer image for redis:latest
250ba3529de19101d0855f938bf3b369ef34124f9d022c9903e040d8ed0efea8
```

### Step-3: Use docker ps to check the running containers.

```
rakshit@rakshit-virtual-machine:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS    NAMES
250ba3529de1   redis    "docker-entrypoint.s..." 18 seconds ago    Up 11 seconds    6379/tcp    cnt1
```

## Step-4: Create another container on same network and verify the connectivity using ping command.

```
rakshit@rakshit-virtual-machine:~$ docker run --name=cnt4 --net=nw1 alpine ping cnt1
PING cnt1 (172.18.0.2): 56 data bytes
64 bytes from 172.18.0.2: seq=0 ttl=64 time=4.534 ms
64 bytes from 172.18.0.2: seq=1 ttl=64 time=0.145 ms
64 bytes from 172.18.0.2: seq=2 ttl=64 time=0.109 ms
64 bytes from 172.18.0.2: seq=3 ttl=64 time=0.158 ms
64 bytes from 172.18.0.2: seq=4 ttl=64 time=0.100 ms
64 bytes from 172.18.0.2: seq=5 ttl=64 time=0.147 ms
64 bytes from 172.18.0.2: seq=6 ttl=64 time=0.125 ms
64 bytes from 172.18.0.2: seq=7 ttl=64 time=0.148 ms
64 bytes from 172.18.0.2: seq=8 ttl=64 time=0.115 ms
64 bytes from 172.18.0.2: seq=9 ttl=64 time=0.120 ms
64 bytes from 172.18.0.2: seq=10 ttl=64 time=0.112 ms
64 bytes from 172.18.0.2: seq=11 ttl=64 time=0.136 ms
64 bytes from 172.18.0.2: seq=12 ttl=64 time=0.115 ms
64 bytes from 172.18.0.2: seq=13 ttl=64 time=0.111 ms
64 bytes from 172.18.0.2: seq=14 ttl=64 time=0.109 ms
64 bytes from 172.18.0.2: seq=15 ttl=64 time=0.122 ms
64 bytes from 172.18.0.2: seq=16 ttl=64 time=0.205 ms
64 bytes from 172.18.0.2: seq=17 ttl=64 time=0.112 ms
64 bytes from 172.18.0.2: seq=18 ttl=64 time=0.103 ms
64 bytes from 172.18.0.2: seq=19 ttl=64 time=0.111 ms
64 bytes from 172.18.0.2: seq=20 ttl=64 time=0.116 ms
64 bytes from 172.18.0.2: seq=21 ttl=64 time=0.132 ms
64 bytes from 172.18.0.2: seq=22 ttl=64 time=0.113 ms
64 bytes from 172.18.0.2: seq=23 ttl=64 time=0.113 ms
64 bytes from 172.18.0.2: seq=24 ttl=64 time=0.134 ms
^C
--- cnt1 ping statistics ---
25 packets transmitted, 25 packets received, 0% packet loss
round-trip min/avg/max = 0.100/0.301/4.534 ms
```