

Problem 1:

- Create bridge network with subnet 192.168.0.0/24.
- Run 2 containers and attach containers to this network.
- Create another bridge network with subnet 10.5.0.0/24.
- Run any container and attach it to the new network.
- Make sure that the containers at different network can't ping each other

Solution:

```
[root@localhost mohamed]# docker network create first-net --driver=bridge --subnet=192.168.0.0/24
7f32513b474d2554fcd53e141f32ad70b96ae538d975159affbb8355d2fcacf2
[root@localhost mohamed]# docker run -d --network=first-net nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
025c56f98b67: Already exists
ca9c7f45d396: Pull complete
ed6bd111fc08: Pull complete
e25b13a5f70d: Pull complete
9bbabac55ab6: Pull complete
e5c9ba265ded: Pull complete
Digest: sha256:ab589a2c466e347b1c0573be23356676df90cd7ce2dbf6ec332a5f0a8b5e59db
Status: Downloaded newer image for nginx:latest
e45ad7118f5923767b018dbb71be4d89add5c67681e48168530a1702f38dd3d
[root@localhost mohamed]# docker run -d --network=first-net redis
Unable to find image 'redis:latest' locally
latest: Pulling from library/redis
025c56f98b67: Already exists
060e65aed679: Pull complete
b95291e865b7: Pull complete
7b879d654837: Pull complete
4538782c407f: Pull complete
ec5078f7c4e4: Pull complete
Digest: sha256:dfeb5451fce377ab47c5bb6b6826592eea534279354bbfc3890c0b5e9b57c763
Status: Downloaded newer image for redis:latest
2340d01a69dabc13fe707a3a3c7939aea49e56cfe7190aff860db8a1e43b5673
[root@localhost mohamed]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
2340d01a69da   redis    "docker-entrypoint.s..." About a minute ago Up About a minute 6379/tcp       affectionate_chatterjee
e45ad7118f59   nginx    "/docker-entrypoint...." 2 minutes ago Up 2 minutes    80/tcp         xenodochial_poitras
7e26d3cb6de7   httpd    "httpd-foreground"       3 minutes ago Up 3 minutes    80/tcp         quirky_lewin
[root@localhost mohamed]# docker inspect e45ad7118f59 | grep IPAddress
"SecondaryIPAddresses": null,
"IPAddress": "",
"IPAddress": "192.168.0.2",
[root@localhost mohamed]# docker inspect 2340d01a69da | grep IPAddress
"SecondaryIPAddresses": null,
"IPAddress": "",
"IPAddress": "192.168.0.3",
[root@localhost mohamed]#
```

```
root@localhost:/home/mohamed
[root@localhost mohamed]# docker network create second-net --driver=bridge --subnet=10.5.0.0/24
8847eb00f97532ff4f570f4a37bfad2eeffba1b36d584920a40064274a640a1b
[root@localhost mohamed]# docker run -d --network=second-net httpd
Unable to find image 'httpd:latest' locally
latest: Pulling from library/httpd
025c56f98b67: Pull complete
94efcc2978ca: Pull complete
f06194b937dc: Pull complete
e8f73658d652: Pull complete
0a22f1af035b: Pull complete
Digest: sha256:550274cfad1e6ab57cd5009b22a2d97946bdae50989db350a222dae93babc723
Status: Downloaded newer image for httpd:latest
7e26d3cb6de7c30775945db8cdab28bc60f1cec195becd6627007e2e3913de62
[root@localhost mohamed]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
7e26d3cb6de7   httpd    "httpd-foreground"       21 seconds ago Up 19 seconds    80/tcp         quirky_lewin
[root@localhost mohamed]# docker inspect 7e26d3cb6de7 | grep IPAddress
"SecondaryIPAddresses": null,
"IPAddress": "",
"IPAddress": "10.5.0.2",
[root@localhost mohamed]#
```

```
root@localhost:/home/mohamed
[root@localhost mohamed]# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS          NAMES
2340d01a69da   redis    "docker-entrypoint.s..." 5 minutes ago Up 5 minutes    6379/tcp       affectionate_chatterjee
e45ad7118f59   nginx    "/docker-entrypoint...." 6 minutes ago Up 6 minutes    80/tcp         xenodochial_poitras
7e26d3cb6de7   httpd    "httpd-foreground"       8 minutes ago Up 8 minutes    80/tcp         quirky_lewin
[root@localhost mohamed]# docker exec -it e45ad7118f59 /bin/sh
# ping 10.5.0.2
PING 10.5.0.2 (10.5.0.2) 56(84) bytes of data.
```