Create a Custom Docker Bridge Network

By default Docker uses a bridge network (bridge) to connect containers. However, a user can create a custom bridge network to isolate containers and improve network security.

By using following commands, we can create a custom network and our container in that network.

List all network

$ docker network ls

Creating new network

$ docker network create --driver bridge my-network

$ docker network ls

$ docker inspect my-network

Creating a container with custom network

$ docker run -d --name ngx1 --network my-network nginx

```
┌──(kali㉿kali)-[~/Desktop]
└─$ docker run -d --name ngx1 --network my-network nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
dad67da3f26b: Pull complete
4eb3a9835b30: Pull complete
021db26e13de: Pull complete
397cc88dcd41: Pull complete
5f4a88bd8474: Pull complete
66467f827546: Pull complete
f05e87039331: Pull complete
Digest: sha256:dc53c8f25a10f9109190ed5b59bda2d707a3bde0e45857ce9e1efaa32ff9cb
c1
Status: Downloaded newer image for nginx:latest
1ade55e81deb48274baa701d44842a2514fc4c03500bd83f956179d81ecbed0b

┌──(kali㉿kali)-[~/Desktop]
└─$ docker inspect my-network
[
    {
        "Name": "my-network",
        "Id": "203c42b06943412a593146a2db166dd3aca9b157b3696d2443d233b27df977
3b",
        "Created": "2025-06-30T03:45:06.145233354-04:00",
        "Scope": "local",
        "Driver": "bridge",
        "EnableIPv6": false,
        "IPAM": {
            "Driver": "default",
            "Options": {},
            "Config": [
                {
                    "Subnet": "172.18.0.0/16",
                    "Gateway": "172.18.0.1"
```

Connecting an existing container to network

$ docker run -dit --name alnet1 alpine

$ docker run -dit --name alnet2 alpine

$ docker network connect my-network alnet1

```
┌──(kali㊉kali)-[~/Desktop]
└─$ docker run -dit --name alnet1 alpine
Unable to find image 'alpine:latest' locally
latest: Pulling from library/alpine
fe07684b16b8: Already exists
Digest: sha256:8a1f59ffb675680d47db6337b49d22281a139e9d709335b492be023728e117
15
Status: Downloaded newer image for alpine:latest
3be33ba650864eb064a159868efc6b4dd327bfdc6f9a9800028706bcfbb6e5f6

┌──(kali㊉kali)-[~/Desktop]
└─$ docker network connect my-network alnet1

┌──(kali㊉kali)-[~/Desktop]
└─$ docker inspect my-network
[
    {
        "Name": "my-network",
        "Id": "203c42b06943412a593146a2db166dd3aca9b157b3696d2443d233b27df977
3b",
```



```
        "ConfigOnly": false,
        "Containers": {
            "1ade55e81deb48274baa701d44842a2514fc4c03500bd83f956179d81ecbed0b
": {
                "Name": "ngx1",
                "EndpointID": "5e2478d414eec0b075aa7c44175631a8baa1617c81ad7c
409aa1c885f06db28f",
                "MacAddress": "02:42:ac:12:00:02",
                "IPv4Address": "172.18.0.2/16",
                "IPv6Address": ""
            },
            "3be33ba650864eb064a159868efc6b4dd327bfdc6f9a9800028706bcfbb6e5f6
": {
                "Name": "alnet1",
                "EndpointID": "8b82e193dbe20956f3c35843ca1504af4c33f304cb80dc
c6980a3eaaec95c237",
                "MacAddress": "02:42:ac:12:00:03",
                "IPv4Address": "172.18.0.3/16",
                "IPv6Address": ""
            }
        },
        "Options": {},
        "Labels": {}
    }
]
```

Removing network

$ docker network disconnect my-network alnet1

$ docker network rm my-network

$ docker network ls

```
┌──(kali㉿kali)-[~/Desktop]
└─$ docker ps
CONTAINER ID  IMAGE        COMMAND              CREATED            ST
ATUS          PORTS                            NAMES
3be33ba65086  alpine       "/bin/sh"            37 seconds ago     Up
 35 seconds                                     alnet1
1ade55e81deb  nginx        "/docker-entrypoint.…"  About a minute ago  Up
 About a minute   80/tcp                        ngx1
7c233af1b631  welcomepage  "/docker-entrypoint.…"  16 hours ago       Up
 16 hours         0.0.0.0:8080→80/tcp, :::8080→80/tcp   reverent_jennings

┌──(kali㉿kali)-[~/Desktop]
└─$ docker ps
CONTAINER ID  IMAGE        COMMAND              CREATED            STATUS              PORTS                                 NAMES
3be33ba65086  alpine       "/bin/sh"            53 seconds ago     Up 51 seconds                                             alnet1
1ade55e81deb  nginx        "/docker-entrypoint.…"  About a minute ago  Up About a minute   80/tcp                                ngx1
7c233af1b631  welcomepage  "/docker-entrypoint.…"  16 hours ago       Up 16 hours         0.0.0.0:8080→80/tcp, :::8080→80/tcp   reverent_jennings

┌──(kali㉿kali)-[~/Desktop]
└─$ docker network rm my-network
Error response from daemon: error while removing network: network my-network id 203c42b06943412a593146a2db166dd3aca9b157b3696d2443d233b27df9773b has active e
ndpoints

┌──(kali㉿kali)-[~/Desktop]
└─$ docker network disconnect my-network alnet1

┌──(kali㉿kali)-[~/Desktop]
└─$ docker network disconnect my-network ngx1

┌──(kali㉿kali)-[~/Desktop]
└─$ docker network rm my-network
my-network

┌──(kali㉿kali)-[~/Desktop]
└─$ docker network ls
NETWORK ID    NAME     DRIVER   SCOPE
6a7dac2b25ff  bridge   bridge   local
36287b26d9ea  host     host     local
28019eeddeee  none     null     local
```

Now we have created a custom network 'my-network' and added containers and remove from that.