



UNIVERSIDAD EUROPEA

DESPLIEGUE DE APLICACIONES

Docker

Tarea 4.3 - Networking

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Networking

- Paso 1

```
root@dani:/home/dani# docker run -d -P --name web httpd
5eeafd7370a48284157b0e1f0674224c7fe27b358791e726cec2908e5d7cc44f
root@dani:/home/dani# _
```

```
root@dani:/home/dani# docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED       STATUS       PORTS                               NAMES
5eeafd7370a4   httpd     "httpd -foreground"     39 seconds ago Up 38 seconds 0.0.0.0:32768->80/tcp, :::32768->80/tcp   web
```

- Paso 2

```
{
  "Bridge": "",
  "SandboxID": "0a628ca85fad0f04acbbe8b71502d708c387c9a005c0c5c973fda361cdc8ea50",
  "SandboxKey": "/var/run/docker/netns/0a628ca85fad",
  "Ports": {
    "80/tcp": [
      {
        "HostIp": "0.0.0.0",
        "HostPort": "32768"
      },
      {
        "HostIp": "::",
        "HostPort": "32768"
      }
    ]
  },
  "HairpinMode": false,
  "LinkLocalIPv6Address": "",
  "LinkLocalIPv6PrefixLen": 0,
  "SecondaryIPAddresses": null,
  "SecondaryIPv6Addresses": null,
  "EndpointID": "3d6b40ec8780c562ec5186d3b2756c3c6e061623878f7b80edd25a98029a605f",
  "Gateway": "172.17.0.1",
  "GlobalIPv6Address": "",
  "GlobalIPv6PrefixLen": 0,
  "IPAddress": "172.17.0.2",
  "IPPrefixLen": 16,
  "IPv6Gateway": "",
  "MacAddress": "02:42:ac:11:00:02",
  "Networks": {
    "bridge": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": null,
      "MacAddress": "02:42:ac:11:00:02",
      "NetworkID": "08fe46443bb4dda449905445705e97b68c3e964f16f1f632932ed14578dafefb",
      "EndpointID": "3d6b40ec8780c562ec5186d3b2756c3c6e061623878f7b80edd25a98029a605f",
      "Gateway": "172.17.0.1",
      "IPAddress": "172.17.0.2",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "DriverOpts": null,
      "DNSNames": null
    }
  }
}

{
  "ConfigOnly": false,
  "Containers": {
    "5eeafd7370a48284157b0e1f0674224c7fe27b358791e726cec2908e5d7cc44f": {
      "Name": "web",
      "EndpointID": "3d6b40ec8780c562ec5186d3b2756c3c6e061623878f7b80edd25a98029a605f",
      "MacAddress": "02:42:ac:11:00:02",
      "IPv4Address": "172.17.0.2/16",
      "IPv6Address": ""
    }
  },
  "Options": {
```

- Paso 3

```
root@dani:/home/dani# docker network create -d bridge miRedLocal
fe9fd4c2f01771748cb1bf0d61562b1808141f59c9e0099d7b2e18c35a59ceff
root@dani:/home/dani#
```

```
root@dani:/home/dani# docker network ls
NETWORK ID      NAME          DRIVER       SCOPE
08fe46443bb4    bridge       bridge       local
daf899614421    host         host         local
fe9fd4c2f017    miRedLocal   bridge       local
ef45d882bbea    none         null         local
root@dani:/home/dani# _
```

```

root@dani:/home/dani# docker network inspect miRedLocal
{
  "Name": "miRedLocal",
  "Id": "fe9fd4c2f01771748cb1bf0d61562b1808141f59c9e0099d7b2e18c35a59ceff",
  "Created": "2025-02-14T08:15:12.339982117Z",
  "Scope": "local",
  "Driver": "bridge",
  "EnableIPv6": false,
  "IPAM": {
    "Driver": "default",
    "Options": {},
    "Config": [
      {
        "Subnet": "172.18.0.0/16",
        "Gateway": "172.18.0.1"
      }
    ]
  }
}

```

- Paso 4

```

root@dani:/home/dani# docker run -d --network=miRedLocal --name web1 httpd
7bf8370f01f0b34e6806f00351a0d4978939c7916498528a2092c9622fca3c25
root@dani:/home/dani# _

```

```

{
  "Networks": {
    "miRedLocal": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": null,
      "MacAddress": "02:42:ac:12:00:02",
      "NetworkID": "fe9fd4c2f01771748cb1bf0d61562b1808141f59c9e0099d7b2e18c35a59ceff",
      "EndpointID": "9c3f299974a507823f2822dab05fb191f104d6eb467d19d8985b5223ee35b701",
      "Gateway": "172.18.0.1",
      "IPAddress": "172.18.0.2",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "DriverOpts": null,
      "DNSNames": [
        "web1",
        "7bf8370f01f0"
      ]
    }
  }
}

```

- Paso 5

```

root@dani:/home/dani# docker run -d --name web2 httpd
5a26e5d2e767d03a55c6100a333fd18dd7004e32f864b58035d26e4c19ca680d
root@dani:/home/dani#

```

```

{
  "Networks": {
    "bridge": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": null,
      "MacAddress": "02:42:ac:11:00:03",
      "NetworkID": "08fe46443bb4dda449905445705e97b68c3e964f16f1f632932ed14578daffeb",
      "EndpointID": "ddde9c9b9aedf5bd07f5c28309104af62afe719f4efe83c6bc6211f99e5f633",
      "Gateway": "172.17.0.1",
      "IPAddress": "172.17.0.3",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "DriverOpts": null,
      "DNSNames": null
    }
  }
}

```

- Paso 6

```

root@dani:/home/dani# docker exec -ti web1 /bin/bash
root@7bf8370f01f0:/usr/local/apache2# _

```

```

Setting up libpam-cap (1:2.0-1) ...
debconf: unable to initialize frontend: Dialog
debconf: (No usable dialog-like program is installed, so the dialog based frontend cannot be used.
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)
debconf: falling back to frontend: Teletype
Setting up luitils-ping (3:20221126-1+deb12u1) ...
root@7bf8370f01f0:/usr/local/apache2# _

```

```

root@7bf8370f01f0:/usr/local/apache2# ping 172.17.0.3
PING 172.17.0.3 (172.17.0.3) 56(84) bytes of data.
^C
--- 172.17.0.3 ping statistics ---
6 packets transmitted, 0 received, 100% packet loss, time 5115ms
root@7bf8370f01f0:/usr/local/apache2#

```

- Paso 7

```
root@7bf8370f01f0:/usr/local/apache2# exit
exit
root@dani:/home/dani# docker network connect miRedLocal web2
```

```
{
  "SecondaryIPv6Addresses": null,
  "EndpointID": "ddde9cfbc9aef5bd07f5c28309104af62afe719f4efe83c6bc6211f99e5f633",
  "Gateway": "172.17.0.1",
  "GlobalIPv6Address": "",
  "GlobalIPv6PrefixLen": 0,
  "IPAddress": "172.17.0.3",
  "IPPrefixLen": 16,
  "IPv6Gateway": "",
  "MacAddress": "02:42:ac:11:00:03",
  "Networks": {
    "bridge": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": null,
      "MacAddress": "02:42:ac:11:00:03",
      "NetworkID": "08fe46443bb4dda449905445705e97b68c3e964f16f1f632932ed14578daffeb",
      "EndpointID": "ddde9cfbc9aef5bd07f5c28309104af62afe719f4efe83c6bc6211f99e5f633",
      "Gateway": "172.17.0.1",
      "IPAddress": "172.17.0.3",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "DriverOpts": null,
      "DNSNames": null
    },
    "miRedLocal": {
      "IPAMConfig": {},
      "Links": null,
      "Aliases": [],
      "MacAddress": "02:42:ac:12:00:03",
      "NetworkID": "fe9fd4c2f01771748cb1bf0d61562b1808141f59c9e0099d7b2e18c35a59ceff",
      "EndpointID": "5a988600fc143c1196fa3aa42c391825edac49dc3b2d58cf4a3dccc8963ed3d27",
      "Gateway": "172.18.0.1",
      "IPAddress": "172.18.0.3",
      "IPPrefixLen": 16,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "DriverOpts": {},
      "DNSNames": [
        "web2",
        "5a26e5d2e767"
      ]
    }
  }
}
```

root@dani:/home/dani#

```
root@dani:/home/dani# docker exec -ti web1 /bin/bash
root@7bf8370f01f0:/usr/local/apache2# ping 172.18.0.3
PING 172.18.0.3 (172.18.0.3) 56(84) bytes of data:
64 bytes from 172.18.0.3: icmp_seq=1 ttl=64 time=0.200 ms
64 bytes from 172.18.0.3: icmp_seq=2 ttl=64 time=0.171 ms
64 bytes from 172.18.0.3: icmp_seq=3 ttl=64 time=0.191 ms
64 bytes from 172.18.0.3: icmp_seq=4 ttl=64 time=0.105 ms
64 bytes from 172.18.0.3: icmp_seq=5 ttl=64 time=0.203 ms
^C
--- 172.18.0.3 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4098ms
rtt min/avg/max/mdev = 0.105/0.174/0.203/0.036 ms
root@7bf8370f01f0:/usr/local/apache2# _
```