

# **CONTAINER ORCHESTRATION INFRASTRUCTURE**

## **AUTOMATION LAB**

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BATCH- 05

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### **Docker Networking**

- **Check the available Networks. Create a default bridge network, retrieve the information of this network created. Now create a container for Ubuntu, check the network for this container. It will be bridge, by default. Use ping command. Then disconnect and remove the container.**
- **Repeat the same steps for a user-defined network.**

## Default Bridge

```
Microsoft Windows [Version 10.0.22621.2283]
(c) Microsoft Corporation. All rights reserved.

C:\Users\admin>docker network ls
NETWORK ID          NAME                DRIVER              SCOPE
16ba00d796e2        bridge             bridge              local
e00ee00dc82b        host               host                local
08b2b1664991        none               null                local

C:\Users\admin>docker run -dt --name=shubhi ubuntu
5dc08efe5b4dd1dea8cce57fe6544899e7d786c20403213360b2bf2171e639f7

C:\Users\admin>docker run -dt --name=shubhi1 ubuntu
e5c4cb2cda68e852a4d92b7e8f5f69ad8c3457406f099abae2b960339ac5fe9a

C:\Users\admin>docker inspect shubhi
[
  {
    "Id": "5dc08efe5b4dd1dea8cce57fe6544899e7d786c20403213360b2bf2171e639f7",
    "Created": "2023-09-20T18:54:13.413390193Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 12364,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T18:54:14.371365613Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    }
  }
]
```

```
    "Aliases": null,
    "NetworkID": "16ba00d796e28a63b73d25dcdbd0c6f7b13929a81ea1331984057fef011009568",
    "EndpointID": "316b7ac3809043ea6d735e39a6a312449114d6fb2d420d3cf6ca5d6ealc7543c",
    "Gateway": "172.17.0.1",
    "IPAddress": "172.17.0.2",
    "IPPrefixLen": 16,
    "IPv6Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "MacAddress": "02:42:ac:11:00:02",
    "DriverOpts": null
  }
}
]

C:\Users\admin>docker inspect shubhi1
[
  {
    "Id": "e5c4cb2cda68e852a4d92b7e8f5f69ad8c3457406f099abae2b960339ac5fe9a",
    "Created": "2023-09-20T18:54:18.348179857Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 12429,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T18:54:18.775366751Z",
```

```
Command Prompt

"Aliases": null,
"NetworkID": "16ba08d796e28a63b73d25dcbd0c6f7b13929a81ea1331984057fef011009568",
"EndpointID": "9d01e0dc78d6bf7a7c0f7fec41eca9d015cdfa7fa6f951ca8581f07d5eeb5718",
"Gateway": "172.17.0.1",
"IPAddress": "172.17.0.3",
"IPPrefixLen": 16,
"IPv6Gateway": "",
"GlobalIPv6Address": "",
"GlobalIPv6PrefixLen": 0,
"MacAddress": "02:42:ac:11:00:03",
"DriverOpts": null
}
}
}
}
]

C:\Users\admin>docker exec -it shubhi bash
root@5dc08efe5b4d:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [996 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1134 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:6 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:7 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1014 kB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.0 kB]
Get:9 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1155 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1283 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1260 kB]

29°C
Haze
Search
12:39 AM
9/21/2023
```

The ping command is used to test network connectivity between two containers within the same Docker network.

```
Command Prompt

Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1155 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1283 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1260 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.3 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
Fetched 27.3 MB in 57s (483 kB/s)
Reading package lists... Done
root@5dc08efe5b4d:/# apt-get install -y iputils-ping
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcap2-bin libpam-cap
The following NEW packages will be installed:
  iputils-ping libcap2-bin libpam-cap
0 upgraded, 3 newly installed, 0 to remove and 4 not upgraded.
Need to get 76.8 kB of archives.
After this operation, 280 kB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcap2-bin amd64 1:2.44-1ubuntu0.22.04.1 [26.0 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 iputils-ping amd64 3:20211215-1 [42.9 kB]
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpam-cap amd64 1:2.44-1ubuntu0.22.04.1 [7928 B]
Fetched 76.8 kB in 2s (47.9 kB/s)
debconf: delaying package configuration, since apt-utils is not installed
Selecting previously unselected package libcap2-bin.
(Reading database ... 4395 files and directories currently installed.)
Preparing to unpack .../libcap2-bin_1%3a2.44-1ubuntu0.22.04.1_amd64.deb ...
Unpacking libcap2-bin (1:2.44-1ubuntu0.22.04.1) ...
Selecting previously unselected package iputils-ping.
Preparing to unpack .../iputils-ping_3%3a20211215-1_amd64.deb ...
Unpacking iputils-ping (3:20211215-1) ...
Selecting previously unselected package libpam-cap:amd64.
Preparing to unpack .../libpam-cap_1%3a2.44-1ubuntu0.22.04.1_amd64.deb ...
Unpacking libpam-cap:amd64 (1:2.44-1ubuntu0.22.04.1) ...

29°C
Haze
Search
12:30 AM
9/21/2023
```

```
Command Prompt
root@5dc08efe5b4d:/# ping 172.17.0.3
PING 172.17.0.3 (172.17.0.3) 56(84) bytes of data.
64 bytes from 172.17.0.3: icmp_seq=1 ttl=64 time=1.43 ms
64 bytes from 172.17.0.3: icmp_seq=2 ttl=64 time=0.069 ms
64 bytes from 172.17.0.3: icmp_seq=3 ttl=64 time=0.064 ms
64 bytes from 172.17.0.3: icmp_seq=4 ttl=64 time=0.089 ms
64 bytes from 172.17.0.3: icmp_seq=5 ttl=64 time=0.066 ms
64 bytes from 172.17.0.3: icmp_seq=6 ttl=64 time=0.071 ms
64 bytes from 172.17.0.3: icmp_seq=7 ttl=64 time=0.067 ms
64 bytes from 172.17.0.3: icmp_seq=8 ttl=64 time=0.045 ms
64 bytes from 172.17.0.3: icmp_seq=9 ttl=64 time=0.055 ms
64 bytes from 172.17.0.3: icmp_seq=10 ttl=64 time=0.057 ms
64 bytes from 172.17.0.3: icmp_seq=11 ttl=64 time=0.056 ms
64 bytes from 172.17.0.3: icmp_seq=12 ttl=64 time=0.065 ms
64 bytes from 172.17.0.3: icmp_seq=13 ttl=64 time=0.050 ms
64 bytes from 172.17.0.3: icmp_seq=14 ttl=64 time=0.067 ms
64 bytes from 172.17.0.3: icmp_seq=15 ttl=64 time=0.050 ms
64 bytes from 172.17.0.3: icmp_seq=16 ttl=64 time=0.061 ms
64 bytes from 172.17.0.3: icmp_seq=17 ttl=64 time=0.053 ms
64 bytes from 172.17.0.3: icmp_seq=18 ttl=64 time=0.058 ms
64 bytes from 172.17.0.3: icmp_seq=19 ttl=64 time=0.053 ms
64 bytes from 172.17.0.3: icmp_seq=20 ttl=64 time=0.062 ms
64 bytes from 172.17.0.3: icmp_seq=21 ttl=64 time=0.064 ms
64 bytes from 172.17.0.3: icmp_seq=22 ttl=64 time=0.071 ms
64 bytes from 172.17.0.3: icmp_seq=23 ttl=64 time=0.052 ms
64 bytes from 172.17.0.3: icmp_seq=24 ttl=64 time=0.073 ms
^C
--- 172.17.0.3 ping statistics ---
24 packets transmitted, 24 received, 0% packet loss, time 23920ms
rtt min/avg/max/mdev = 0.045/0.118/1.426/0.272 ms
root@5dc08efe5b4d:/# exit
exit

C:\Users\admin>docker exec -it shubhil bash
root@e5c4cb2cda68:/# apt-get update
```

```
Command Prompt
--- 172.17.0.3 ping statistics ---
24 packets transmitted, 24 received, 0% packet loss, time 23920ms
rtt min/avg/max/mdev = 0.045/0.118/1.426/0.272 ms
root@5dc08efe5b4d:/# exit
exit

C:\Users\admin>docker exec -it shubhil bash
root@e5c4cb2cda68:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1014 kB]
Get:4 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:5 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:6 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1134 kB]
Get:7 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]
Get:8 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.0 kB]
Get:9 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [996 kB]
Get:10 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]
Get:11 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]
Get:12 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1155 kB]
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1260 kB]
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1283 kB]
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.3 kB]
Fetched 27.3 MB in 57s (483 kB/s)
Reading package lists... Done
root@e5c4cb2cda68:/# apt-get install -y iputils-ping
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libcap2-bin libpam-cap
The following NEW packages will be installed:
```

```
Command Prompt
root@e5c4cb2cda68:/# ping 172.17.0.2
PING 172.17.0.2 (172.17.0.2) 56(84) bytes of data.
64 bytes from 172.17.0.2: icmp_seq=1 ttl=64 time=0.087 ms
64 bytes from 172.17.0.2: icmp_seq=2 ttl=64 time=0.059 ms
64 bytes from 172.17.0.2: icmp_seq=3 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=4 ttl=64 time=0.059 ms
64 bytes from 172.17.0.2: icmp_seq=5 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=6 ttl=64 time=0.062 ms
64 bytes from 172.17.0.2: icmp_seq=7 ttl=64 time=0.059 ms
64 bytes from 172.17.0.2: icmp_seq=8 ttl=64 time=0.068 ms
64 bytes from 172.17.0.2: icmp_seq=9 ttl=64 time=0.061 ms
64 bytes from 172.17.0.2: icmp_seq=10 ttl=64 time=0.061 ms
64 bytes from 172.17.0.2: icmp_seq=11 ttl=64 time=0.074 ms
64 bytes from 172.17.0.2: icmp_seq=12 ttl=64 time=0.064 ms
64 bytes from 172.17.0.2: icmp_seq=13 ttl=64 time=0.063 ms
64 bytes from 172.17.0.2: icmp_seq=14 ttl=64 time=0.056 ms
64 bytes from 172.17.0.2: icmp_seq=15 ttl=64 time=0.063 ms
64 bytes from 172.17.0.2: icmp_seq=16 ttl=64 time=0.056 ms
64 bytes from 172.17.0.2: icmp_seq=17 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=18 ttl=64 time=0.059 ms
64 bytes from 172.17.0.2: icmp_seq=19 ttl=64 time=0.077 ms
64 bytes from 172.17.0.2: icmp_seq=20 ttl=64 time=0.072 ms
64 bytes from 172.17.0.2: icmp_seq=21 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=22 ttl=64 time=0.054 ms
64 bytes from 172.17.0.2: icmp_seq=23 ttl=64 time=0.057 ms
64 bytes from 172.17.0.2: icmp_seq=24 ttl=64 time=0.061 ms
64 bytes from 172.17.0.2: icmp_seq=25 ttl=64 time=0.050 ms
64 bytes from 172.17.0.2: icmp_seq=26 ttl=64 time=0.067 ms
64 bytes from 172.17.0.2: icmp_seq=27 ttl=64 time=0.069 ms
64 bytes from 172.17.0.2: icmp_seq=28 ttl=64 time=0.055 ms
^C
--- 172.17.0.2 ping statistics ---
28 packets transmitted, 28 received, 0% packet loss, time 28087ms
rtt min/avg/max/mdev = 0.050/0.062/0.087/0.007 ms
root@e5c4cb2cda68:/# exit
```

Initially, remove the container, and then, remove the network. Since it's the default network, it will not be removed.

```
Command Prompt
64 bytes from 172.17.0.2: icmp_seq=17 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=18 ttl=64 time=0.059 ms
64 bytes from 172.17.0.2: icmp_seq=19 ttl=64 time=0.077 ms
64 bytes from 172.17.0.2: icmp_seq=20 ttl=64 time=0.072 ms
64 bytes from 172.17.0.2: icmp_seq=21 ttl=64 time=0.058 ms
64 bytes from 172.17.0.2: icmp_seq=22 ttl=64 time=0.054 ms
64 bytes from 172.17.0.2: icmp_seq=23 ttl=64 time=0.057 ms
64 bytes from 172.17.0.2: icmp_seq=24 ttl=64 time=0.061 ms
64 bytes from 172.17.0.2: icmp_seq=25 ttl=64 time=0.050 ms
64 bytes from 172.17.0.2: icmp_seq=26 ttl=64 time=0.067 ms
64 bytes from 172.17.0.2: icmp_seq=27 ttl=64 time=0.069 ms
64 bytes from 172.17.0.2: icmp_seq=28 ttl=64 time=0.055 ms
^C
--- 172.17.0.2 ping statistics ---
28 packets transmitted, 28 received, 0% packet loss, time 28087ms
rtt min/avg/max/mdev = 0.050/0.062/0.087/0.007 ms
root@e5c4cb2cda68:/# exit
exit

C:\Users\admin>docker stop shubhi
shubhi

C:\Users\admin>docker stop shubhi1
shubhi1

C:\Users\admin>docker rm shubhi1
shubhi1

C:\Users\admin>docker rm shubhi
shubhi

C:\Users\admin>docker network rm bridge
Error response from daemon: bridge is a pre-defined network and cannot be removed

C:\Users\admin>
```

# User-Defined Bridge

```
Command Prompt
C:\Users\admin>docker network create --driver=bridge my-net
c12880c40083cb23deff6f833ba861c9d8b352a6c91ad2e2ef7c7774c802ac3f

C:\Users\admin>docker run -dt --name=sububhi ubuntu
4d6f7091f742d866c013fe62879d0b839c67ba5e9fc38a75b7f2951f0fbb6e01

C:\Users\admin>docker run -dt --name=sububhi1 ubuntu
1c17e79971f4e9c2eb0d48b67849e5c4ad64d2753b456e44ce2790e0423b7137

C:\Users\admin>docker network connect my-net sububhi

C:\Users\admin>docker network connect my-net sububhi1

C:\Users\admin>docker inspect sububhi
[
  {
    "Id": "4d6f7091f742d866c013fe62879d0b839c67ba5e9fc38a75b7f2951f0fbb6e01",
    "Created": "2023-09-20T19:01:35.619046152Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 13910,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T19:01:36.151920914Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:c6b84b685f35f1a5d63661f5d4aa662ad9b7ee4f4b8c394c022f25023c907b65",
    "ResolvConfPath": "/var/lib/docker/containers/4d6f7091f742d866c013fe62879d0b839c67ba5e9fc38a75b7f2951f0fbb6e01/resolv.conf",
    "DriverOpts": null
  },
  {
    "Id": "1c17e79971f4e9c2eb0d48b67849e5c4ad64d2753b456e44ce2790e0423b7137",
    "Created": "2023-09-20T19:01:39.568287861Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 13911,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T19:01:39.568287861Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:c6b84b685f35f1a5d63661f5d4aa662ad9b7ee4f4b8c394c022f25023c907b65",
    "ResolvConfPath": "/var/lib/docker/containers/1c17e79971f4e9c2eb0d48b67849e5c4ad64d2753b456e44ce2790e0423b7137/resolv.conf",
    "DriverOpts": null
  }
]
```

```
Command Prompt
C:\Users\admin>docker inspect sububhi
[
  {
    "Id": "4d6f7091f742d866c013fe62879d0b839c67ba5e9fc38a75b7f2951f0fbb6e01",
    "Created": "2023-09-20T19:01:35.619046152Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 13910,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T19:01:36.151920914Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:c6b84b685f35f1a5d63661f5d4aa662ad9b7ee4f4b8c394c022f25023c907b65",
    "ResolvConfPath": "/var/lib/docker/containers/4d6f7091f742d866c013fe62879d0b839c67ba5e9fc38a75b7f2951f0fbb6e01/resolv.conf",
    "DriverOpts": null
  },
  {
    "Id": "1c17e79971f4e9c2eb0d48b67849e5c4ad64d2753b456e44ce2790e0423b7137",
    "Created": "2023-09-20T19:01:39.568287861Z",
    "Path": "/bin/bash",
    "Args": [],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 13911,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2023-09-20T19:01:39.568287861Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:c6b84b685f35f1a5d63661f5d4aa662ad9b7ee4f4b8c394c022f25023c907b65",
    "ResolvConfPath": "/var/lib/docker/containers/1c17e79971f4e9c2eb0d48b67849e5c4ad64d2753b456e44ce2790e0423b7137/resolv.conf",
    "DriverOpts": null
  }
]
```

```
root@4d6f7091f742: /  
    "NetworkID": "c12880c40083cb23deff6f833ba861c9d8b352a6c91ad2e2ef7c7774c802ac3f",  
    "EndpointID": "bcd57f12647c2e29694f0840d509e26bc659d4b124ac12e72fb6fbfacfbcb813",  
    "Gateway": "172.19.0.1",  
    "IPAddress": "172.19.0.3",  
    "IPPrefixLen": 16,  
    "IPv6Gateway": "",  
    "GlobalIPv6Address": "",  
    "GlobalIPv6PrefixLen": 0,  
    "MacAddress": "02:42:ac:13:00:03",  
    "DriverOpts": {}  
  }  
}  
}  
]  
  
C:\Users\admin>docker exec -it shubhi bash  
root@4d6f7091f742: /# apt-get update  
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]  
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]  
Get:3 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1134 kB]  
Get:4 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1014 kB]  
Get:5 http://archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]  
Get:6 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [996 kB]  
Get:7 http://archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]  
Get:8 http://archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [266 kB]  
Get:9 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [44.0 kB]  
Get:10 http://archive.ubuntu.com/ubuntu jammy/restricted amd64 Packages [164 kB]  
Get:11 http://archive.ubuntu.com/ubuntu jammy/main amd64 Packages [1792 kB]  
Get:12 http://archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [17.5 MB]  
Get:13 http://archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1155 kB]  
Get:14 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1283 kB]  
Get:15 http://archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.8 kB]  
Get:16 http://archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1260 kB]  
Get:17 http://archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.1 kB]
```

```
root@4d6f7091f742: /  
Get:18 http://archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [50.3 kB]  
Fetched 27.3 MB in 45s (601 kB/s)  
Reading package lists... Done  
root@4d6f7091f742: /# apt-get install -y iputils-ping  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
The following additional packages will be installed:  
  libcap2-bin libpam-cap  
The following NEW packages will be installed:  
  iputils-ping libcap2-bin libpam-cap  
0 upgraded, 3 newly installed, 0 to remove and 4 not upgraded.  
Need to get 76.8 kB of archives.  
After this operation, 280 kB of additional disk space will be used.  
Get:1 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libcap2-bin amd64 1:2.44-1ubuntu0.22.04.1 [26.0 kB]  
Get:2 http://archive.ubuntu.com/ubuntu jammy/main amd64 iputils-ping amd64 3:20211215-1 [42.9 kB]  
Get:3 http://archive.ubuntu.com/ubuntu jammy-updates/main amd64 libpam-cap amd64 1:2.44-1ubuntu0.22.04.1 [7928 B]  
Fetched 76.8 kB in 3s (25.8 kB/s)  
debconf: delaying package configuration, since apt-utils is not installed  
Selecting previously unselected package libcap2-bin.  
(Reading database ... 4395 files and directories currently installed.)  
Preparing to unpack .../libcap2-bin_1%3a2.44-1ubuntu0.22.04.1_amd64.deb ...  
Unpacking libcap2-bin (1:2.44-1ubuntu0.22.04.1) ...  
Selecting previously unselected package iputils-ping.  
Preparing to unpack .../iputils-ping_3%3a20211215-1_amd64.deb ...  
Unpacking iputils-ping (3:20211215-1) ...  
Selecting previously unselected package libpam-cap:amd64.  
Preparing to unpack .../libpam-cap_1%3a2.44-1ubuntu0.22.04.1_amd64.deb ...  
Unpacking libpam-cap:amd64 (1:2.44-1ubuntu0.22.04.1) ...  
Setting up libcap2-bin (1:2.44-1ubuntu0.22.04.1) ...  
Setting up libpam-cap:amd64 (1:2.44-1ubuntu0.22.04.1) ...  
debconf: unable to initialize frontend: Dialog  
debconf: (No usable dialog-like program is installed, so the dialog based frontend cannot be used. at /usr/share/perl5/Debconf/FrontEnd/Dialog.pm line 78.)  
debconf: falling back to frontend: Readline
```

```
root@4d6f7091f742:/# ping 172.19.0.3
PING 172.19.0.3 (172.19.0.3) 56(84) bytes of data.
64 bytes from 172.19.0.3: icmp_seq=1 ttl=64 time=3.29 ms
64 bytes from 172.19.0.3: icmp_seq=2 ttl=64 time=0.067 ms
64 bytes from 172.19.0.3: icmp_seq=3 ttl=64 time=0.049 ms
64 bytes from 172.19.0.3: icmp_seq=4 ttl=64 time=0.072 ms
64 bytes from 172.19.0.3: icmp_seq=5 ttl=64 time=0.076 ms
64 bytes from 172.19.0.3: icmp_seq=6 ttl=64 time=0.059 ms
64 bytes from 172.19.0.3: icmp_seq=7 ttl=64 time=0.065 ms
64 bytes from 172.19.0.3: icmp_seq=8 ttl=64 time=0.063 ms
64 bytes from 172.19.0.3: icmp_seq=9 ttl=64 time=0.059 ms
64 bytes from 172.19.0.3: icmp_seq=10 ttl=64 time=0.063 ms
64 bytes from 172.19.0.3: icmp_seq=11 ttl=64 time=0.052 ms
64 bytes from 172.19.0.3: icmp_seq=12 ttl=64 time=0.065 ms
64 bytes from 172.19.0.3: icmp_seq=13 ttl=64 time=0.066 ms
64 bytes from 172.19.0.3: icmp_seq=14 ttl=64 time=0.078 ms
64 bytes from 172.19.0.3: icmp_seq=15 ttl=64 time=0.060 ms
64 bytes from 172.19.0.3: icmp_seq=16 ttl=64 time=0.053 ms
64 bytes from 172.19.0.3: icmp_seq=17 ttl=64 time=0.051 ms
64 bytes from 172.19.0.3: icmp_seq=18 ttl=64 time=0.090 ms
64 bytes from 172.19.0.3: icmp_seq=19 ttl=64 time=0.059 ms
64 bytes from 172.19.0.3: icmp_seq=20 ttl=64 time=0.061 ms
64 bytes from 172.19.0.3: icmp_seq=21 ttl=64 time=0.064 ms
^C
--- 172.19.0.3 ping statistics ---
21 packets transmitted, 21 received, 0% packet loss, time 20752ms
rtt min/avg/max/mdev = 0.049/0.217/3.293/0.687 ms
root@4d6f7091f742:/# exit
exit

C:\Users\admin>docker exec -it shubhi1 bash
root@1c17e79971f4:/# apt-get update
Get:1 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:2 http://archive.ubuntu.com/ubuntu jammy InRelease [270 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1134 kB]
```

```
Command Prompt
root@1c17e79971f4:/# ping 172.19.0.2
PING 172.19.0.2 (172.19.0.2) 56(84) bytes of data.
64 bytes from 172.19.0.2: icmp_seq=1 ttl=64 time=0.076 ms
64 bytes from 172.19.0.2: icmp_seq=2 ttl=64 time=0.059 ms
64 bytes from 172.19.0.2: icmp_seq=3 ttl=64 time=0.059 ms
64 bytes from 172.19.0.2: icmp_seq=4 ttl=64 time=0.061 ms
64 bytes from 172.19.0.2: icmp_seq=5 ttl=64 time=0.054 ms
64 bytes from 172.19.0.2: icmp_seq=6 ttl=64 time=0.063 ms
64 bytes from 172.19.0.2: icmp_seq=7 ttl=64 time=0.072 ms
64 bytes from 172.19.0.2: icmp_seq=8 ttl=64 time=0.081 ms
64 bytes from 172.19.0.2: icmp_seq=9 ttl=64 time=0.062 ms
64 bytes from 172.19.0.2: icmp_seq=10 ttl=64 time=0.067 ms
64 bytes from 172.19.0.2: icmp_seq=11 ttl=64 time=0.081 ms
64 bytes from 172.19.0.2: icmp_seq=12 ttl=64 time=0.058 ms
64 bytes from 172.19.0.2: icmp_seq=13 ttl=64 time=0.078 ms
64 bytes from 172.19.0.2: icmp_seq=14 ttl=64 time=0.057 ms
64 bytes from 172.19.0.2: icmp_seq=15 ttl=64 time=0.083 ms
64 bytes from 172.19.0.2: icmp_seq=16 ttl=64 time=0.074 ms
64 bytes from 172.19.0.2: icmp_seq=17 ttl=64 time=0.060 ms
64 bytes from 172.19.0.2: icmp_seq=18 ttl=64 time=0.076 ms
^C
--- 172.19.0.2 ping statistics ---
18 packets transmitted, 18 received, 0% packet loss, time 17647ms
rtt min/avg/max/mdev = 0.054/0.067/0.083/0.009 ms
root@1c17e79971f4:/# exit
exit

C:\Users\admin>docker stop shubhi1
shubhi1

C:\Users\admin>docker stop shubhi
shubhi

C:\Users\admin>docker rm shubhi1
shubhi1
```

Since the bridge network is user-defined, we can remove it.



```
Command Prompt
64 bytes from 172.19.0.2: icmp_seq=7 ttl=64 time=0.072 ms
64 bytes from 172.19.0.2: icmp_seq=8 ttl=64 time=0.081 ms
64 bytes from 172.19.0.2: icmp_seq=9 ttl=64 time=0.062 ms
64 bytes from 172.19.0.2: icmp_seq=10 ttl=64 time=0.067 ms
64 bytes from 172.19.0.2: icmp_seq=11 ttl=64 time=0.081 ms
64 bytes from 172.19.0.2: icmp_seq=12 ttl=64 time=0.058 ms
64 bytes from 172.19.0.2: icmp_seq=13 ttl=64 time=0.078 ms
64 bytes from 172.19.0.2: icmp_seq=14 ttl=64 time=0.057 ms
64 bytes from 172.19.0.2: icmp_seq=15 ttl=64 time=0.083 ms
64 bytes from 172.19.0.2: icmp_seq=16 ttl=64 time=0.074 ms
64 bytes from 172.19.0.2: icmp_seq=17 ttl=64 time=0.060 ms
64 bytes from 172.19.0.2: icmp_seq=18 ttl=64 time=0.076 ms
^C
--- 172.19.0.2 ping statistics ---
18 packets transmitted, 18 received, 0% packet loss, time 17647ms
rtt min/avg/max/mdev = 0.054/0.067/0.083/0.009 ms
root@1c17e79971f4:/# exit
exit

C:\Users\admin>docker stop shubhi1
shubhi1

C:\Users\admin>docker stop shubhi
shubhi

C:\Users\admin>docker rm shubhi1
shubhi1

C:\Users\admin>docker rm shubhi
shubhi

C:\Users\admin>docker network rm my-net
my-net

C:\Users\admin>
```

29°C  
Haze



Search



12:38 AM  
9/21/2023