

## DOCKER INSTALLATION

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
ubuntu@ip-172-31-38-61:~$ sudo apt update
Hit:1 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [109 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:6 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:7 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:8 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:9 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:10 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:11 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1519 kB]
Get:12 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [293 kB]
Get:13 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [1648 kB]
Get:14 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [275 kB]
Get:15 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [1060 kB]
Get:16 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [241 kB]
Get:17 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [22.1 kB]
Get:18 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [49.6 kB]
Get:19 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [12.0 kB]
Get:20 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [472 B]
Get:21 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 Packages [67.1 kB]
Get:22 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main Translation-en [11.0 kB]
Get:23 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/main amd64 c-n-f Metadata [388 B]
Get:24 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/restricted amd64 c-n-f Metadata [116 B]
Get:25 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 Packages [28.4 kB]
Get:26 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [16.2 kB]
Get:27 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [644 B]
Get:28 http://eu-north-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:29 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [1303 kB]
Get:30 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [233 kB]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [1616 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [271 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [852 kB]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [163 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [16.8 kB]
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
Selecting previously unselected package ubuntu-fan.
Preparing to unpack .../7-ubuntu-fan_0.12.16_all.deb ...
Unpacking ubuntu-fan (0.12.16) ...
Setting up dnsmasq-base (2.90-0ubuntu0.22.04.1) ...
Setting up runc (1.1.7-0ubuntu1-22.04.2) ...
Setting up dns-root-data (2023112702-ubuntu0.22.04.1) ...
Setting up bridge-utils (1.7-1ubuntu3) ...
Setting up pigz (2.6-1) ...
Setting up containerd (1.7.2-0ubuntu1-22.04.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/containerd.service → /lib/systemd/system/containerd.service.
Setting up ubuntu-fan (0.12.16) ...
Created symlink /etc/systemd/system/multi-user.target.wants/ubuntu-fan.service → /lib/systemd/system/ubuntu-fan.service.
Setting up docker.io (24.0.5-0ubuntu1-22.04.1) ...
Adding group 'docker' (GID 122) ...
Done.
Created symlink /etc/systemd/system/multi-user.target.wants/docker.service → /lib/systemd/system/docker.service.
Created symlink /etc/systemd/system/sockets.target.wants/docker.socket → /lib/systemd/system/docker.socket.
Processing triggers for dbus (1.12.20-2ubuntu4.1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...

Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

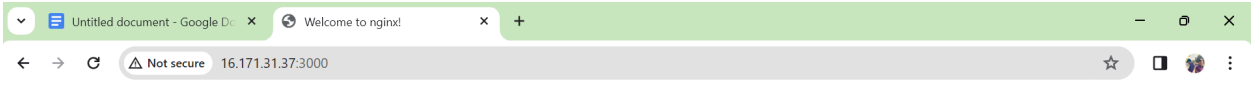
No VM guests are running outdated hypervisor (qemu) binaries on this host.
ubuntu@ip-172-31-38-61:~$ docker --version
Docker version 24.0.5, build 24.0.5-0ubuntu1-22.04.1
```

# DOCKER IMAGE CONTAINERIZATION

```
aws
Services
Search [Alt+S]
Stockholm Sriram Jagadeesan

ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
ubuntu@ip-172-31-38-61:~$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
81e25ce7c4f: Pull complete
e78b137be355: Pull complete
39fc875bd2b2: Pull complete
335788421403: Pull complete
37c3fb37cbf2: Pull complete
55cddice752d: Pull complete
33952c59932: Pull complete
Digest: sha256:6db391d1c0cfb30588ba0bf72ea999404f2764feb0f1f196acd5867ac7efa7e
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-38-61:~$ docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest 92b11f67642b 7 weeks ago 187MB
```

```
ubuntu@ip-172-31-38-61:~$ docker run --name mycontainer -p 3000:80 nginx
/docker-entrypoint.sh: /docker-entrypoint.d/ is not empty, will attempt to perform configuration
/docker-entrypoint.sh: Looking for shell scripts in /docker-entrypoint.d/
/docker-entrypoint.sh: Launching /docker-entrypoint.d/10-listen-on-ipv6-by-default.sh
10-listen-on-ipv6-by-default.sh: info: Getting the checksum of /etc/nginx/conf.d/default.conf
10-listen-on-ipv6-by-default.sh: info: Enabled listen on IPv6 in /etc/nginx/conf.d/default.conf
/docker-entrypoint.sh: Sourcing /docker-entrypoint.d/15-local-resolvers.envsh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/20-envsubst-on-templates.sh
/docker-entrypoint.sh: Launching /docker-entrypoint.d/30-tune-worker-processes.sh
/docker-entrypoint.sh: Configuration complete; ready for start up
2024/04/06 14:47:34 [notice] 1#1: using the "epoll" event method
2024/04/06 14:47:34 [notice] 1#1: nginx/1.25.4
2024/04/06 14:47:34 [notice] 1#1: built by gcc 12.2.0 (Debian 12.2.0-14)
2024/04/06 14:47:34 [notice] 1#1: OS: Linux 6.5.0-1014-aws
2024/04/06 14:47:34 [notice] 1#1: getrlimit(RLIMIT_NOFILE): 1048576:1048576
2024/04/06 14:47:34 [notice] 1#1: start worker processes
2024/04/06 14:47:34 [notice] 1#1: start worker process 29
2024/04/06 14:47:34 [notice] 1#1: start worker process 30
162.216.141.10 - - [06/Apr/2024:14:58:00 +0000] "GET / HTTP/1.1" 200 615 "-" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/123.0.0.0 Safari/537.36"
162.216.141.10 - - [06/Apr/2024:14:58:00 +0000] "GET /favicon.ico HTTP/1.1" 404 555 "http://16.171.31.37:3000/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/123.0.0.0 Safari/537.36"
2024/04/06 14:58:00 [error] 30#30: *2 open() "/usr/share/nginx/html/favicon.ico" failed (2: No such file or directory), client: 162.216.141.10, server: localhost, request: "GET /favicon.ico HTTP/1.1", host: "16.171.31.37:3000", referer: "http://16.171.31.37:3000/"
```



## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](https://nginx.org).  
Commercial support is available at [nginx.com](https://nginx.com).

*Thank you for using nginx.*

## VOLUME CREATED TO THE SPECIFIC CONTAINER

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
ubuntu@ip-172-31-38-61:~$ sudo docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest 92b11f67642b 7 weeks ago 187MB
ubuntu@ip-172-31-38-61:~$ docker volume create myvolume
myvolume
ubuntu@ip-172-31-38-61:~$ docker volume ls
DRIVER VOLUME NAME
local myvolume
ubuntu@ip-172-31-38-61:~$ docker run -d --name mysqlcont -e MYSQL_ROOT_PASSWORD=admin -v myvolume:/var/lib/mysql mysql
Unable to find image 'mysql:latest' locally
latest: Pulling from library/mysql
2ba873cb070a: Pulling fs layer
dd1a4da808dd: Pulling fs layer
dd1a4da808dd: Downloading [=====] 722B/
2ba873cb070a: Downloading [>] 519.4kB/
2ba873cb070a: Downloading [=====] 9.427MB/
2ba873cb070a: Downloading [=====] 12.55MB/51.32MB81477: Waiting
d575200ae375: Waiting
2ba873cb070a: Downloading [=====] 17.77MB/51.32MB064ff: Waiting
2ba873cb070a: Downloading [=====] 21.96MB/51.32MB44c05: Downloading [=====] 2.609kB/
2ba873cb070a: Pull complete
dd1a4da808dd: Pull complete
3292fb4adf41: Pull complete
3811c45068cc: Pull complete
e13320244c05: Pull complete
6a34d702f281: Pull complete
de90f4481477: Pull complete
d575200ae375: Pull complete
aea400be5707: Pull complete
38c930606a4f: Pull complete
Digest: sha256:0f2e15fb8b47db2518b1428239ed3e3fe6a6693401b2cf19552063562cfc2fc4
Status: Downloaded newer image for mysql:latest
94afa061af5e46fb9551b7080348bbeac14fd32b35c02be7e04b32cbb707b71c
ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
mysql latest 65f3f983cb08 11 days ago 632MB
nginx latest 92b11f67642b 7 weeks ago 187MB
ubuntu@ip-172-31-38-61:~$ docker inspect volume myvolume
[
  {
    "CreatedAt": "2024-04-06T15:07:40Z",
    "Driver": "local",
    "Labels": null,
    "Mountpoint": "/var/lib/docker/volumes/myvolume/_data",
    "Name": "myvolume",
    "Options": null,
    "Scope": "local"
  }
]
Error: No such object: volume
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
dd1a4da808dd: Pull complete
3292fb4adf41: Pull complete
3811c45068cc: Pull complete
e13320244c05: Pull complete
6a34d702f281: Pull complete
de90f4481477: Pull complete
d575200ae375: Pull complete
aea400be5707: Pull complete
38c930606a4f: Pull complete
Digest: sha256:0f2e15fb8b47db2518b1428239ed3e3fe6a6693401b2cf19552063562cfc2fc4
Status: Downloaded newer image for mysql:latest
94afa061af5e46fb9551b7080348bbeac14fd32b35c02be7e04b32cbb707b71c
ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
mysql latest 65f3f983cb08 11 days ago 632MB
nginx latest 92b11f67642b 7 weeks ago 187MB
ubuntu@ip-172-31-38-61:~$ docker inspect volume myvolume
[
  {
    "CreatedAt": "2024-04-06T15:07:40Z",
    "Driver": "local",
    "Labels": null,
    "Mountpoint": "/var/lib/docker/volumes/myvolume/_data",
    "Name": "myvolume",
    "Options": null,
    "Scope": "local"
  }
]
Error: No such object: volume
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan

ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS          NAMES
94afa061af5e   mysql     "docker-entrypoint.s..." 3 minutes ago Up 3 minutes 3306/tcp, 33060/tcp mysqlcont

ubuntu@ip-172-31-38-61:~$ docker exec -it mysqlcont /bin/bash
bash-4.4# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server Version: 8.0.30 MySQL Community Server - GPL

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Oracle is a registered trademark of Oracle Corporation and/or its
affiliates. Other names may be trademarks of their respective
owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> databases;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'databases' at line 1
mysql> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.04 sec)

mysql> create database mydb;
Query OK, 1 row affected (0.01 sec)

mysql> CREATE TABLE USERS (Id int,name varchar(50),email varchar(50));
ERROR 1046 (3D000): No database selected
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan

mysql> use mydb;
Database changed
mysql> CREATE TABLE USERS (Id int,name varchar(50),email varchar(50));
Query OK, 0 rows affected (0.11 sec)

mysql> INSERT INTO USERS (Id,name,email) VALUES(1,'sriram','srijaga@gmail.com');
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '.'srijaga@gmail.com')' at line 1
mysql> INSERT INTO USERS (Id,name,email) VALUES(1,'sriram','srijaga@gmail.com');
Query OK, 1 row affected (0.02 sec)

mysql> select * from USERS;
+----+-----+-----+
| Id | name | email |
+----+-----+-----+
| 1 | sriram | srijaga@gmail.com |
+----+-----+-----+
1 row in set (0.00 sec)

mysql> exit
Bye
bash-4.4# cd /var/lib/mysql
bash-4.4# ls
'ib_16384_0.dblwr' 'innodb_temp' binlog.000002 ca.pem ib_buffer_pool mydb mysql.sock public_key.pem sys
'ib_16384_1.dblwr' auto.cnf binlog.index client-cert.pem ibdata1 mysql performance_schema server-cert.pem undo_001
'innodb redo' binlog.000001 ca-key.pem client-key.pem ibtmp1 mysql.ibd private_key.pem server-key.pem undo_002
bash-4.4# cat mydb
cat: mydb: Is a directory
bash-4.4# ls
'ib_16384_0.dblwr' 'innodb_temp' binlog.000002 ca.pem ib_buffer_pool mydb mysql.sock public_key.pem sys
'ib_16384_1.dblwr' auto.cnf binlog.index client-cert.pem ibdata1 mysql performance_schema server-cert.pem undo_001
'innodb redo' binlog.000001 ca-key.pem client-key.pem ibtmp1 mysql.ibd private_key.pem server-key.pem undo_002
bash-4.4# exit
exit
ubuntu@ip-172-31-38-61:~$ ls
ubuntu@ip-172-31-38-61:~$
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan

ubuntu@ip-172-31-38-61:~$ docker ps -a
CONTAINER ID   IMAGE      COMMAND                  CREATED    STATUS    PORTS          NAMES
94afa061af5e   mysql     "docker-entrypoint.s..." 20 minutes ago Up 20 minutes 3306/tcp, 33060/tcp mysqlcont
cd8a534aaf6    nginx     "docker-entrypoint..." 43 minutes ago Exited (0) 29 minutes ago mycontainer

ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mysql          latest   65f3f983cb08  11 days ago   632MB
nginx          latest   92b11f67642b  7 weeks ago   187MB

ubuntu@ip-172-31-38-61:~$ docker inspect volume myvolume
[
  {
    "CreatedAt": "2024-04-06T15:07:40Z",
    "Driver": "local",
    "Labels": null,
    "Mountpoint": "/var/lib/docker/volumes/myvolume/_data",
    "Name": "myvolume",
    "Options": null,
    "Scope": "local"
  }
]
Error: No such object: volume
ubuntu@ip-172-31-38-61:~$ sudo -i
root@ip-172-31-38-61:~# cd /var/lib/docker/volumes/myvolume
root@ip-172-31-38-61:/var/lib/docker/volumes/myvolume# ls
mysql.sock

root@ip-172-31-38-61:/var/lib/docker/volumes/myvolume# cd _data/
root@ip-172-31-38-61:/var/lib/docker/volumes/myvolume/_data# ls
'ib_16384_0.dblwr' 'innodb_temp' binlog.000002 ca.pem ib_buffer_pool mydb mysql.sock public_key.pem sys
'ib_16384_1.dblwr' auto.cnf binlog.index client-cert.pem ibdata1 mysql performance_schema server-cert.pem undo_001
'innodb redo' binlog.000001 ca-key.pem client-key.pem ibtmp1 mysql.ibd private_key.pem server-key.pem undo_002
root@ip-172-31-38-61:/var/lib/docker/volumes/myvolume/_data#
```

## BIND MOUNT -VOLUME CREATED

```
aws Services Search [Alt+S]

ubuntu@ip-172-31-38-61:~$ mkdir vall
ubuntu@ip-172-31-38-61:~$ pwd
/home/ubuntu
ubuntu@ip-172-31-38-61:~$ docker run -d --name container2 -v /home/ubuntu/vall:/usr/share/nginx/html -p 8080:80 nginx
05c716d52ec1180ae660aa2ce11b5c314f11166a43b2617d36875a5c9d480d7b
ubuntu@ip-172-31-38-61:~$ cd vall/
ubuntu@ip-172-31-38-61:~/vall$ ls
ubuntu@ip-172-31-38-61:~/vall$ ls -lrt
total 0
ubuntu@ip-172-31-38-61:~/vall$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
05c716d52ec1   nginx    "/docker-entrypoint..." 28 seconds ago Up 26 seconds 0.0.0.0:8080->80/tcp, :::8080->80/tcp container2
94afa061af5e   mysql    "docker-entrypoint.s..." 29 minutes ago Up 29 minutes 3306/tcp, 33060/tcp               mysqlcont
ubuntu@ip-172-31-38-61:~/vall$ docker exec -it container2 /bin/bash
root@05c716d52ec1:/# cd /usr/share/nginx
root@05c716d52ec1:/usr/share/nginx# ls
html
root@05c716d52ec1:/usr/share/nginx# cd html
root@05c716d52ec1:/usr/share/nginx/html# ls
root@05c716d52ec1:/usr/share/nginx/html# touch index.html
root@05c716d52ec1:/usr/share/nginx/html# ls
index.html
root@05c716d52ec1:/usr/share/nginx/html# vi index.html
bash: vi: command not found
root@05c716d52ec1:/usr/share/nginx/html# nano index.html
bash: nano: command not found
root@05c716d52ec1:/usr/share/nginx/html# exit
exit
ubuntu@ip-172-31-38-61:~/vall$ ls
index.html
ubuntu@ip-172-31-38-61:~/vall$ nano index.html
ubuntu@ip-172-31-38-61:~/vall$ exit
logout
```

## NETWORK CREATED DIRECTLY TO THE BRIDGE

```
aws Services Search [Alt+S]

ubuntu@ip-172-31-38-61:~$ docker network ls
NETWORK ID     NAME      DRIVER  SCOPE
20e0c6e87429   bridge   bridge  local
559a439c9531   host     host    local
743e88cc3a83   none     null     local
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
05c716d52ec1   nginx    "/docker-entrypoint..." 12 minutes ago Up 12 minutes 0.0.0.0:8080->80/tcp, :::8080->80/tcp container2
94afa061af5e   mysql    "docker-entrypoint.s..." 41 minutes ago Up 41 minutes 3306/tcp, 33060/tcp               mysqlcont
ubuntu@ip-172-31-38-61:~$ docker inspect container2
[
  {
    "Id": "05c716d52ec1180ae660aa2ce11b5c314f11166a43b2617d36875a5c9d480d7b",
    "Created": "2024-04-06T15:39:06.608487347Z",
    "Path": "/docker-entrypoint.sh",
    "Args": [
      "nginx",
      "-g",
      "daemon off;"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 5411,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2024-04-06T15:39:07.419606067Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:92b11f67642b62bb987e49169c346b30e20cd3c1c034d31087e46924b9312e",
    "ResolveConfPath": "/var/lib/docker/containers/05c716d52ec1180ae660aa2ce11b5c314f11166a43b2617d36875a5c9d480d7b/resolve_conf",
    "HostnamePath": "/var/lib/docker/containers/05c716d52ec1180ae660aa2ce11b5c314f11166a43b2617d36875a5c9d480d7b/hostname"
```

```
aws Services Search [Alt+S]

"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,
    "NetworkID": "20e0c6e87429e536a0a89d1f5a8740b790c666531f4aad7a1910ed2bfc48b96a",
    "EndpointID": "0c608398a774bd618f5b66024cf140c0c64958a14308d9d23c56460894afbb25",
    "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
  }
}
}
}
Error: No such object: container
ubuntu@ip-172-31-38-61:~$ docker network create mynetwork
5abf1e8cfc92577a17074097cc001ebc633b89fbec88ba514fc08756a5e0dac
ubuntu@ip-172-31-38-61:~$ docker network ls
NETWORK ID        NAME          DRIVER  SCOPE
20e0c6e87429     bridge       bridge  local
559a439c9531     host         host    local
5abf1e8cfc92     mynetwork    bridge  local
743e88cc3a83     none        null    local
```

```
aws Services Search [Alt+S]

ubuntu@ip-172-31-38-61:~$ docker network create mynet2
c4b86201c9fa31d792a4048d1e6f097333c3c979d479cfd4f435643850ef4619
ubuntu@ip-172-31-38-61:~$ docker network ls
NETWORK ID        NAME          DRIVER  SCOPE
20e0c6e87429     bridge       bridge  local
559a439c9531     host         host    local
c4b86201c9fa     mynet2       bridge  local
5abf1e8cfc92     mynetwork    bridge  local
743e88cc3a83     none        null    local
ubuntu@ip-172-31-38-61:~$ docker run -d --name containwithnet --network mynet2 nginx
Unable to find image 'nginx:latest' locally
docker: Error response from daemon: pull access denied for nginx, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED       STATUS       PORTS                               NAMES
05c716d52ecl      nginx              "/docker-entrypoint..." 20 minutes ago Up 20 minutes 0.0.0.0:8080->80/tcp, :::8080->80/tcp container2
94afa061af5e      mysql              "docker-entrypoint.s..." 49 minutes ago Up 49 minutes 3306/tcp, 33060/tcp                mysqlcont
ubuntu@ip-172-31-38-61:~$ docker stop 05c716d52ecl
05c716d52ecl
ubuntu@ip-172-31-38-61:~$ docker rm 05c716d52ecl
05c716d52ecl
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED       STATUS       PORTS                               NAMES
94afa061af5e      mysql              "docker-entrypoint.s..." 50 minutes ago Up 50 minutes 3306/tcp, 33060/tcp                mysqlcont
ubuntu@ip-172-31-38-61:~$ docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED       STATUS       PORTS                               NAMES
94afa061af5e      mysql              "docker-entrypoint.s..." 50 minutes ago Up 50 minutes 3306/tcp, 33060/tcp                mysqlcont
c88a53f4aaf6      nginx              "/docker-entrypoint..." About an hour ago Exited (0) 58 minutes ago                mycontainer
ubuntu@ip-172-31-38-61:~$ docker rm c88a53f4aaf6
c88a53f4aaf6
ubuntu@ip-172-31-38-61:~$ docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED       STATUS       PORTS                               NAMES
94afa061af5e      mysql              "docker-entrypoint.s..." 50 minutes ago Up 50 minutes 3306/tcp, 33060/tcp                mysqlcont
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID        IMAGE               COMMAND                  CREATED       STATUS       PORTS                               NAMES
94afa061af5e      mysql              "docker-entrypoint.s..." 50 minutes ago Up 50 minutes 3306/tcp, 33060/tcp                mysqlcont
```

## NETWORK CONNECTED TO HOST

```
aws Services Search [Alt+S]

ubuntu@ip-172-31-38-61:~$ docker run -d --name mgnginx --network host --restart always nginx
Unable to find image 'nginx:latest' locally
latest: Pulling from library/nginx
8a1e25ce7c4f: Pulling fs layer
e78b137be355: Pulling fs layer
8a1e25ce7c4f: Downloading [>] 294.1kB/29.12MBd2b2: Download complete
8a1e25ce7c4f: Downloading [=====] 5.999MB/29.12MBe752d: Waiting
8a1e25ce7c4f: Downloading [=====] 11.66MB/29.12MB
8a1e25ce7c4f: Downloading [=====] 15.84MB/29.12MB

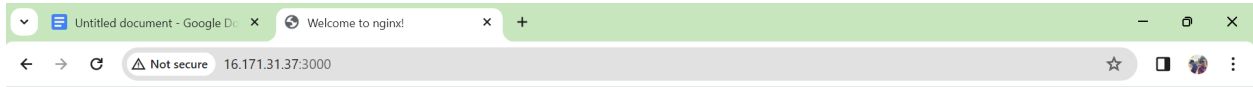
8a1e25ce7c4f: Downloading [=====] 22.43MB/
8a1e25ce7c4f: Download complete
8a1e25ce7c4f: Extracting [>] 294.9kB/29.12MB
8a1e25ce7c4f: Extracting [=====] 2.654MB/2
8a1e25ce7c4f: Extracting [=====] 5.308MB/29.12MB7be355: Download complete
8a1e25ce7c4f: Extracting [=====] 8.552MB/29.12MB

8a1e25ce7c4f: Extracting [=====] 10.32MB/2
8a1e25ce7c4f: Pull complete
e78b137be355: Pull complete
39fec875bd2b2: Pull complete
035788421403: Pull complete
87c3fb37cbf2: Pull complete
c5cdd1ce752d: Pull complete
33952c599532: Pull complete
Digest: sha256:6db391d1c0cfb30588ba0bf72ea999404f2764feb0f1f196acd5867ac7efa7e
Status: Downloaded newer image for nginx:latest
5e12c6c987ba99deffc19dcd30cd2d83f63c25f5aa43ccca855bf8ccee10c8e
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED    STATUS    PORTS
5e12c6c987ba   nginx    "/docker-entrypoint..." 7 seconds ago    Up 6 seconds    3306/tcp, 33060/tcp    mgnginx
94afa061af5e   mysql   "docker-entrypoint.s..." 55 minutes ago    Up 55 minutes
ubuntu@ip-172-31-38-61:~$ docker inspect mgnginx
[
  {
    "Id": "5e12c6c987ba99deffc19dcd30cd2d83f63c25f5aa43ccca855bf8ccee10c8e",
```

```
aws Services Search [Alt+S]

{
  "HairpinMode": false,
  "LinkLocalIPv6Address": "",
  "LinkLocalIPv6PrefixLen": 0,
  "Ports": 0,
  " SandboxKey": "/var/run/docker/netns/default",
  "SecondaryIPAddresses": null,
  "SecondaryIPv6Addresses": null,
  "EndpointID": "",
  "Gateway": "",
  "GlobalIPv6Address": "",
  "GlobalIPv6PrefixLen": 0,
  "IPAddress": "",
  "IPPrefixLen": 0,
  "IPv6Gateway": "",
  "MacAddress": "",
  "Networks": {
    "host": {
      "IPAMConfig": null,
      "Links": null,
      "Aliases": null,
      "NetworkID": "559a439c9531f91f2ac03af1036b87a11da745b92416c5e673985ac5abe1f4b5",
      "EndpointID": "e70fb33e0e7db8e27a221da0099d3ffef93b6cc5616758ef0c3200bd6871813",
      "Gateway": "",
      "IPAddress": "",
      "IPPrefixLen": 0,
      "IPv6Gateway": "",
      "GlobalIPv6Address": "",
      "GlobalIPv6PrefixLen": 0,
      "MacAddress": "",
      "DriverOpts": null
    }
  }
}
```

```
ubuntu@ip-172-31-38-61:~$
```



## Welcome to nginx!

If you see this page, the nginx web server is successfully installed and working. Further configuration is required.

For online documentation and support please refer to [nginx.org](http://nginx.org).  
Commercial support is available at [nginx.com](http://nginx.com).

*Thank you for using nginx.*

## CREATE SUBNET TO IDENTIFY IP ADDRESS OF THE CONTAINER

```
aws
Services
Search
[Alt+S]
Stockholm
Sriram Jagadeesan

ubuntu@ip-172-31-38-61:~$ docker network create mynetnew1 --subnet=192.178.0.0/24
4356a1c4d35fc77b3fa4081e0c8f06ab90b9f425641ffb7dee36db1356ffb421
ubuntu@ip-172-31-38-61:~$ docker run --name mynginxcont -d -p 80:80 --network=mynetnew nginx
Unable to find image 'nginx:latest' locally
docker: Error response from daemon: pull access denied for nginx:latest, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.
ubuntu@ip-172-31-38-61:~$ docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
Digest: sha256:6db391d1c0cfb30588ba0bf72ea999404f2764feb0f1f196acd5867ac7efa7e
Status: Image is up to date for nginx:latest
docker.io/library/nginx:latest
ubuntu@ip-172-31-38-61:~$ docker run --name mynginxcont -d -p 80:80 --network=mynetnew nginx
Unable to find image 'nginx:latest' locally
docker: Error response from daemon: pull access denied for nginx:latest, repository does not exist or may require 'docker login': denied: requested access to the resource is denied.
See 'docker run --help'.
ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mysql         latest   65f3f983cb08   11 days ago   632MB
nginx         latest   92b11f67642b   7 weeks ago   187MB
ubuntu@ip-172-31-38-61:~$ docker run --name mynginxcont -d -p 80:80 --network=mynetnew nginx
docker: Error response from daemon: Conflict. The container name "/mynginxcont" is already in use by container "589422e6d73c304a8e9cb77092b7e68cc0d7bb44fbb636289530198b2427d8f3". You have to remove (or rename) that container to be able to reuse that name.
See 'docker run --help'.
ubuntu@ip-172-31-38-61:~$ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mysql         latest   65f3f983cb08   11 days ago   632MB
nginx         latest   92b11f67642b   7 weeks ago   187MB
ubuntu@ip-172-31-38-61:~$ docker rmi nginx
Error response from daemon: conflict: unable to remove repository reference "nginx" (must force) - container 589422e6d73c is using its referenced image 92b11f67642b
ubuntu@ip-172-31-38-61:~$ docker ps -a
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS        NAMES
589422e6d73c   nginx    "/docker-entrypoint..." 15 minutes ago Created        mynginxcont
5e126c6e987ba nginx    "/docker-entrypoint..." 24 minutes ago Up 4 minutes   80/tcp        mynginx
94afa061af5e   mysql    "docker-entrypoint.s..." About an hour ago Exited (0) 14 minutes ago mysqlcont
ubuntu@ip-172-31-38-61:~$ docker stop 589422e6d73c
```



```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
ubuntu@ip-172-31-38-61:~$ docker run --name mynginxcont -d -p 80:80 --network=mynetnew nginx
21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295
ubuntu@ip-172-31-38-61:~$ docker ps
CONTAINER ID   IMAGE     COMMAND                  CREATED        STATUS        PORTS                               NAMES
21c5d673ef81   nginx    "/docker-entrypoint..." 43 seconds ago Up 42 seconds  0.0.0.0:80->80/tcp, :::80->80/tcp   mynginxcont
ubuntu@ip-172-31-38-61:~$ docker inspect mynginxcont
[
  {
    "Id": "21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295",
    "Created": "2024-04-06T16:31:24.207821609Z",
    "Path": "/docker-entrypoint.sh",
    "Args": [
      "nginx",
      "-g",
      "daemon off;"
    ],
    "State": {
      "Status": "running",
      "Running": true,
      "Paused": false,
      "Restarting": false,
      "OOMKilled": false,
      "Dead": false,
      "Pid": 1795,
      "ExitCode": 0,
      "Error": "",
      "StartedAt": "2024-04-06T16:31:24.609082864Z",
      "FinishedAt": "0001-01-01T00:00:00Z"
    },
    "Image": "sha256:92b11f67642b62bbb98e7e49169c346b30e20cd3c1c034d31087e46924b9312e",
    "ResolveConfPath": "/var/lib/docker/containers/21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295/resolv.conf",
    "HostnamePath": "/var/lib/docker/containers/21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295/hostname",
    "HostsPath": "/var/lib/docker/containers/21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295/hosts",
    "LogPath": "/var/lib/docker/containers/21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295/21c5d673ef810bcc34c225b73e50797e3b29074899a7fca6352a0e7e7e746295-json.log",
    "Name": "/mynginxcont",
```

```
aws Services Search [Alt+S] Stockholm Sriram Jagadeesan
    },
    " SandboxKey": "/var/run/docker/netns/66a4c2db1c0e",
    "SecondaryIPv6Addresses": null,
    "EndpointID": "",
    "Gateway": "",
    "GlobalIPv6Address": "",
    "GlobalIPv6PrefixLen": 0,
    "IPAddress": "",
    "IPPrefixLen": 0,
    "IPv6Gateway": "",
    "MacAddress": "",
    "Networks": {
      "mynetnew": {
        "IPAMConfig": null,
        "Links": null,
        "Aliases": [
          "21c5d673ef81"
        ],
        "NetworkID": "ae2cc336b0cf41f5f041075890de0fcf64f79f551c785cb6e7b0de8fcf6b84e",
        "EndpointID": "f4b8ba8ca9cff53ad015cbf769d9beef52528ec97a01c43911f25207c4b36ff3",
        "Gateway": "192.168.0.1",
        "IPAddress": "192.168.0.2",
        "IPPrefixLen": 24,
        "IPv6Gateway": "",
        "GlobalIPv6Address": "",
        "GlobalIPv6PrefixLen": 0,
        "MacAddress": "02:42:c0:a8:00:02",
        "DriverOpts": null
      }
    }
  }
]
ubuntu@ip-172-31-38-61:~$
```