Install Docker on EC2 instance on AWS

1. Launch Linux server on AWS

☑	My SSH Server	i-00cd09d56b3119b5b	Running	t2.micro	Initializing	View alarms +	us-east-2b

2. Connect to Linux server

```
The authenticity of host 'ec2-18-116-48-244.us-east-2.compute.amazonaws.com (18.116.48.244)' can't be established.
ED25519 key fingerprint is SHA256:/J24Yo5+Pm78Z1F/IOoQDWTm9XGa4G/vb/O2KMYi93U.
This host key is known by the following other names/addresses:
    C:\Users\jilan/.ssh/known_hosts:2: ec2-3-145-139-53.us-east-2.compute.amazonaws.com
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-18-116-48-244.us-east-2.compute.amazonaws.com' (ED25519) to the list of known hosts.

A newer release of "Amazon Linux" is available.
  Version 2023.5.20240916:
  Version 2023.5.20241001:
  Version 2023.6.20241010:
  Version 2023.6.20241028:
Run "/usr/bin/dnf check-release-update" for full release and version update info
   ,     #_
   ~\_  ####_        Amazon Linux 2023
  ~~  \_#####\
  ~~     \###|
  ~~       \#/ ___   https://aws.amazon.com/linux/amazon-linux-2023
   ~~       V~' '->
    ~~~         /
      ~~._.   _/
         _/ _/
       _/m/'
Last login: Sun Sep 15 05:32:03 2024 from 94.98.236.76
[ec2-user@ip-172-31-22-49 ~]$
```

3. Install Docker on AWS

```
[ec2-user@ip-172-31-22-49 ~]$ sudo yum install -y docker
Last metadata expiration check: 0:08:03 ago on Thu Oct 31 20:54:23 2024.
Dependencies resolved.
==========================================================================================================
 Package                      Architecture    Version                        Repository            Size
==========================================================================================================
Installing:
 docker                       x86_64          25.0.6-1.amzn2023.0.2          amazonlinux           44 M
Installing dependencies:
 containerd                   x86_64          1.7.20-1.amzn2023.0.1          amazonlinux           35 M
 iptables-libs                x86_64          1.8.8-3.amzn2023.0.2           amazonlinux          401 k
 iptables-nft                 x86_64          1.8.8-3.amzn2023.0.2           amazonlinux          183 k
 libcgroup                    x86_64          3.0-1.amzn2023.0.1             amazonlinux           75 k
 libnetfilter_conntrack       x86_64          1.0.8-2.amzn2023.0.2           amazonlinux           58 k
 libnfnetlink                 x86_64          1.0.1-19.amzn2023.0.2          amazonlinux           30 k
 libnftnl                     x86_64          1.2.2-2.amzn2023.0.2           amazonlinux           84 k
 pigz                         x86_64          2.5-1.amzn2023.0.3             amazonlinux           83 k
 runc                         x86_64          1.1.13-1.amzn2023.0.1          amazonlinux          3.2 M

Transaction Summary
==========================================================================================================
Install  10 Packages

Total download size: 84 M
Installed size: 317 M
Downloading Packages:
(1/10): iptables-libs-1.8.8-3.amzn2023.0.2.x86_64.rpm                   7.4 MB/s | 401 kB     00:00
(2/10): iptables-nft-1.8.8-3.amzn2023.0.2.x86_64.rpm                    5.2 MB/s | 183 kB     00:00
(3/10): libcgroup-3.0-1.amzn2023.0.1.x86_64.rpm                         2.4 MB/s |  75 kB     00:00
(4/10): libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64.rpm          1.9 MB/s |  58 kB     00:00
(5/10): libnfnetlink-1.0.1-19.amzn2023.0.2.x86_64.rpm                   774 kB/s |  30 kB     00:00
(6/10): libnftnl-1.2.2-2.amzn2023.0.2.x86_64.rpm                        4.2 MB/s |  84 kB     00:00
(7/10): pigz-2.5-1.amzn2023.0.3.x86_64.rpm                              2.9 MB/s |  83 kB     00:00
(8/10): runc-1.1.13-1.amzn2023.0.1.x86_64.rpm                            17 MB/s | 3.2 MB     00:00
(9/10): containerd-1.7.20-1.amzn2023.0.1.x86_64.rpm                      22 MB/s |  35 MB     00:01
(10/10): docker-25.0.6-1.amzn2023.0.2.x86_64.rpm                         24 MB/s |  44 MB     00:01
----------------------------------------------------------------------------------------------------------
Total                                                                    44 MB/s |  84 MB     00:01
```

```
Installed:
  containerd-1.7.20-1.amzn2023.0.1.x86_64          docker-25.0.6-1.amzn2023.0.2.x86_64          iptables-libs-1.8.8-3.amzn2023.0.2.x86_64
  iptables-nft-1.8.8-3.amzn2023.0.2.x86_64         libcgroup-3.0-1.amzn2023.0.1.x86_64          libnetfilter_conntrack-1.0.8-2.amzn2023.0.2.x86_64
  libnfnetlink-1.0.1-19.amzn2023.0.2.x86_64        libnftnl-1.2.2-2.amzn2023.0.2.x86_64         pigz-2.5-1.amzn2023.0.3.x86_64
  runc-1.1.13-1.amzn2023.0.1.x86_64

Complete!
```

4. Start docker

```
[ec2-user@ip-172-31-22-49 ~]$ sudo service docker start
Redirecting to /bin/systemctl start docker.service
[ec2-user@ip-172-31-22-49 ~]$
```

5. Added user in Sudo

```
[ec2-user@ip-172-31-22-49 ~]$ sudo usermod -a -G docker ec2-user
[ec2-user@ip-172-31-22-49 ~]$
```

6. Check docker status

```
[ec2-user@ip-172-31-22-49 ~]$ docker ps
CONTAINER ID   IMAGE     COMMAND   CREATED   STATUS    PORTS     NAMES
[ec2-user@ip-172-31-22-49 ~]$
```

7. Created 2 files index.html , dockerfile

Index.html file

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat index.html
<!-- index.html -->
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Hello Docker</title>
</head>
<body>
    <h1>Hello, Docker Its is my Website!</h1>
    <p>This is a simple static page served by Nginx.</p>
</body>
</html>
```

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ cat dockerfile
FROM nginx:alpine
COPY index.html /usr/share/nginx/html/
EXPOSE 80
```

8. Build images and run

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker build -t ec2image .
[+] Building 2.2s (7/7) FINISHED                                                                   docker:default
 => [internal] load build definition from dockerfile                                                          0.0s
 => => transferring dockerfile: 163B                                                                          0.0s
 => [internal] load metadata for docker.io/library/nginx:alpine                                               0.5s
 => [internal] load .dockerignore                                                                             0.0s
 => => transferring context: 2B                                                                               0.0s
 => [internal] load build context                                                                             0.0s
 => => transferring context: 426B                                                                             0.0s
 => [1/2] FROM docker.io/library/nginx:alpine@sha256:2140dad235c130ac861018a4e13a6bc8aea3a35f3a40e20c1b060d51a7efd250   1.5s
 => => resolve docker.io/library/nginx:alpine@sha256:2140dad235c130ac861018a4e13a6bc8aea3a35f3a40e20c1b060d51a7efd250   0.0s
 => => sha256:43c4264eed91be63b206e17d93e75256a6097070ce643c5e8f0379998b44f170 3.62MB / 3.62MB                0.2s
 => => sha256:596d53a7de8832c0963cd374bf19a0a1ca2284c80329e1a1462c4f51035ae0c8 629B / 629B                    0.1s
 => => sha256:cb8f91112b6b50ead202f48bbf81cec4b34c25441725 4efd94c803f7dd718045 11.24kB / 11.24kB             0.0s
 => => sha256:ae136e431e76e12e5d84979ea5e2ffff4dd9589c2435c8bb9e33e6c3960111d3 2.50kB / 2.50kB                0.0s
 => => sha256:d1171b13e41264c85467ed40468d24ab5e9d63c34730790c779da2444e6bc3ca 1.76MB / 1.76MB                0.2s
 => => sha256:2140dad235c130ac861018a4e13a6bc8aea3a35f3a40e20c1b060d51a7efd250 9.07kB / 9.07kB                0.0s
 => => extracting sha256:43c4264eed91be63b206e17d93e75256a6097070ce643c5e8f0379998b44f170                     0.2s
 => => sha256:f99ac9ba1313c45bf9b3ab78f8de953ef9da22b2563d562afbcfa51cabb47d7c 957B / 957B                    0.2s
 => => sha256:fd072e74e282316f9f012356a6dfe3d97040535b03de6600ab0cf4c5379fc4d6 404B / 404B                    0.2s
 => => sha256:45eb579d59b22c5e0595361f49fbeeba137c526f597666eb2cfa7c91c5779349 1.40kB / 1.40kB                0.3s
 => => sha256:472934715761932c17e60819e5a424f4a1a527413ac60952d4c72697d7a02f6b 15.10MB / 15.10MB              0.7s
 => => sha256:379754eea6a7cab18b781ab577b2668c2a5a6e0181c9712cfb9b4871a7ef1a8e 1.21kB / 1.21kB                0.3s
 => => extracting sha256:d1171b13e41264c85467ed40468d24ab5e9d63c34730790c779da2444e6bc3ca                     0.1s
 => => extracting sha256:596d53a7de8832c0963cd374bf19a0a1ca2284c80329e1a1462c4f51035ae0c8                     0.0s
 => => extracting sha256:f99ac9ba1313c45bf9b3ab78f8de953ef9da22b2563d562afbcfa51cabb47d7c                     0.0s
 => => extracting sha256:fd072e74e282316f9f012356a6dfe3d97040535b03de6600ab0cf4c5379fc4d6                     0.0s
 => => extracting sha256:379754eea6a7cab18b781ab577b2668c2a5a6e0181c9712cfb9b4871a7ef1a8e                     0.0s
 => => extracting sha256:45eb579d59b22c5e0595361f49fbeeba137c526f597666eb2cfa7c91c5779349                     0.0s
 => => extracting sha256:472934715761932c17e60819e5a424f4a1a527413ac60952d4c72697d7a02f6b                     0.6s
 => [2/2] COPY index.html /usr/share/nginx/html/                                                              0.1s
 => exporting to image                                                                                        0.0s
 => => exporting layers                                                                                       0.0s
 => => writing image sha256:5f984790b4ef7f08b4f1863816c842fedfaf39cc5e8c24d11e1940d2a518648f                  0.0s
 => => naming to docker.io/library/ec2image                                                                   0.0s
```

9. Docker image to verify

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker images
REPOSITORY   TAG      IMAGE ID       CREATED         SIZE
ec2image     latest   5f984790b4ef   2 minutes ago   47MB
[ec2-user@ip-172-31-22-49 dockerfolder]$
```

10. Verify container is running

```
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker run -d -p 3000:80 ec2image
4a09355d806af0c96fcc0b34a21f52d82c86eca4e227fdf3825097ba5d7e33de
[ec2-user@ip-172-31-22-49 dockerfolder]$ docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED         STATUS         PORTS                                   NAMES
4a09355d806a   ec2image   "/docker-entrypoint.…"   4 seconds ago   Up 3 seconds   0.0.0.0:3000->80/tcp, :::3000->80/tcp   unruffled_shamir
[ec2-user@ip-172-31-22-49 dockerfolder]$
```