

# Docker Assignment

## Step : Create Ec2 Instance

The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with 'EC2' selected. The main area displays a table of instances. One instance is listed: 'docker\_instance' (i-070293fe40898df4e), which is 'Running' on an 't3.micro' instance type. It has 3/3 checks passed and is in the 'ap-south-1b' availability zone. The public IPv4 address is 15.205.209.61. The private IPv4 address is 172.31.7.82. The public DNS name is ip-172-31-7-82.ap-south-1.compute.internal. The instance was last updated 16 minutes ago.

## Step : Install Docker on Ec2 server

```
root@ip-172-31-7-82:~# # Add Docker's official GPG key:  
sudo apt-get update  
sudo apt-get install ca-certificates curl  
sudo install -m 0755 -d /etc/apt/keyrings  
sudo curl -fsSL https://download.docker.com/linux/ubuntu/gpg -o /etc/apt/keyrings/docker.asc  
sudo chmod a+r /etc/apt/keyrings/docker.asc  
  
# Add the repository to Apt sources:  
echo \  
  "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.asc] https://download.docker.com/linux/ubuntu \  
  $(lsb_release -sc) stable" | \  
  sudo tee /etc/apt/sources.list.d/docker.list > /dev/null  
sudo apt-get update  
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease  
Reading package lists... Done  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
ca-certificates is already the newest version (20240203).  
ca-certificates set to manually installed.  
curl is already the newest version (8.5.0-2ubuntu10.6).  
curl set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 9 not upgraded.  
Hit:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble InRelease  
Hit:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-updates InRelease  
Hit:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu noble-backports InRelease  
Get:4 https://download.docker.com/linux/ubuntu noble InRelease [48.5 kB]  
Hit:5 http://security.ubuntu.com/ubuntu noble-security InRelease  
Get:6 https://download.docker.com/linux/ubuntu noble/stable amd64 Packages [33.5 kB]
```

```

root@ip-172-31-7-82:~# sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
Reading package lists... Done
Building state information...
The following additional packages will be installed:
  docker-ce-rootless-extras libslirp0 pigz slirp4netns
Suggested packages:
  cgroups-mount | cgroup-lite docker-model-plugin
The following NEW packages will be installed:
  containerd.io docker-buildx-plugin docker-ce docker-ce-rootless-extras docker-compose-plugin libslirp0 pigz slirp4netns
0 upgraded, 9 newly installed, 0 to remove and 9 not upgraded.
Need to get 105 MB of additional disk space.
After this operation, 437 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu/noble/universe amd64 pigz amd64 2.8-1 [65.6 kB]
Get:2 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu/noble/main amd64 libslirp0 amd64 4.7.0-6ubuntu3 [63.8 kB]
Get:3 http://ap-south-1.ec2.archive.ubuntu.com/ubuntu/noble/universe amd64 slirp4netns amd64 1.2.1-1build2 [34.9 kB]
Get:4 https://download.docker.com/linux/ubuntu/noble/stable amd64 containerd.io amd64 1.7.28-1~ubuntu.24.04-noble [31.0 kB]
Get:5 https://download.docker.com/linux/ubuntu/noble/stable amd64 docker-ce-cli amd64 5:28.5.1-1~ubuntu.24.04-noble [16.5 kB]
Get:6 https://download.docker.com/linux/ubuntu/noble/stable amd64 docker-ce amd64 5:28.5.1-1~ubuntu.24.04-noble [19.7 kB]
Get:7 https://download.docker.com/linux/ubuntu/noble/stable amd64 docker-buildx-plugin amd64 0.28.0-1~ubuntu.24.04-noble [15.9 kB]
Get:8 https://download.docker.com/linux/ubuntu/noble/stable amd64 docker-ce-rootless-extras amd64 5:28.5.1-1~ubuntu.24.04-noble [6481 kB]
Get:9 https://download.docker.com/linux/ubuntu/noble/stable amd64 docker-compose-plugin amd64 2.40.3-1~ubuntu.24.04-noble [14.3 kB]
Fetched 105 MB in (84.3 MB/s)
Selecting previously unselected package containerd.io.
(Reading database ... 71735 files and directories currently installed.)
Preparing to unpack .../0-containerd.io .../1.7.28-1~ubuntu.24.04-noble_amd64.deb ...
Unpacking containerd.io (1.7.28-1~ubuntu.24.04-noble) ...
Selecting previously unselected package docker-ce-cli.
Preparing to unpack .../1-docker-ce-cli_5:28.5.1-1~ubuntu.24.04-noble_amd64.deb ...
Unpacking docker-ce-cli (5:28.5.1-1~ubuntu.24.04-noble) ...
Selecting previously unselected package docker-ce.
Preparing to unpack .../2-docker-ce_5%3a28.5.1-1~ubuntu.24.04-noble_amd64.deb ...
Unpacking docker-ce (5:28.5.1-1~ubuntu.24.04-noble) ...
Selecting previously unselected package pigz.
Preparing to unpack .../3-pigz_2.8-1_amd64.deb ...
Unpacking pigz (2.8-1) ...
Selecting previously unselected package docker-buildx-plugin.
Preparing to unpack .../4-docker-buildx-plugin_0.29.1-1~ubuntu.24.04-noble_amd64.deb ...

```

Remote monitoring   Follow terminal folder   ip-172-31-7-82   0%   0.39 GB / 0.89 GB   0.01 MB/s   0.00 MB/s   14 min   ubuntu (x2)   1/38%   /boot: 11%   /boot/efi: 6%

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## Step : Pull Docker image nginx

```

root@ip-172-31-7-82:~# docker pull nginx
Using default tag: latest
latest: Pulling from library/nginx
38513bd72563: Pull complete
a0a6ab141958: Pull complete
0e86847a3920: Pull complete
1bace2083289: Pull complete
89df300a082a: Pull complete
35fb9ffa6621: Pull complete
5545b08f9d26: Pull complete
Digest: sha256:f547e3d0d5d02f7009737b284abc87d808e4252b42dceea361811e9fc606287f
Status: Downloaded newer image for nginx:latest
docker.io/library/nginx:latest
root@ip-172-31-7-82:~#

```

ip-172-31-7-82   0%   0.40 GB / 0.89 GB   0.01 Mb/s   0.00 Mb/s   15 min   ubuntu (x2)   1/40%   /boot: 11%   /boot/efi: 6%

## Run docker image nginx

REPOSITORY	TAG	IMAGE ID	CREATED	SIZE
nginx	latest	9d0e6f6199dc	5 days ago	152MB

```

root@ip-172-31-7-82:~# docker ps
CONTAINER ID        IMAGE           COMMAND      CREATED             STATUS              PORTS          NAMES
root@ip-172-31-7-82:~# docker run -d -P nginx
46000d17764e0a1e4bf633a22ac28e2336edbe506743c2647d33bb3c37ccb14
root@ip-172-31-7-82:~# docker ps
CONTAINER ID        IMAGE           COMMAND      CREATED             STATUS    PORTS          NAMES
46000d17764e0a1e4bf633a22ac28e2336edbe506743c2647d33bb3c37ccb14   "nginx /docker-entrypoint..."  7 seconds ago   Up 6 seconds  0.0.0.0:32768->80/tcp, [::]:32768->80/tcp   related_cartwright
root@ip-172-31-7-82:~#

```

ip-172-31-7-82   0%   0.41 GB / 0.89 GB   0.01 Mb/s   0.00 Mb/s   17 min   ubuntu (x2)   1/40%   /boot: 11%   /boot/efi: 6%

## Output



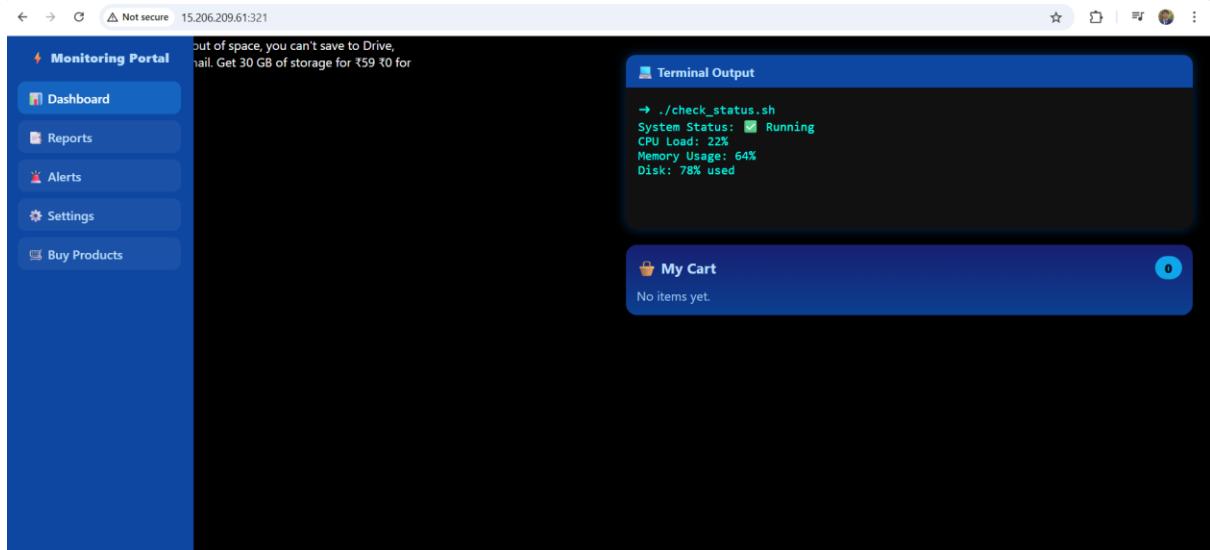
## Step : login into Nginx running container

```
root@ip-172-31-7-82:~# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
2bab876be4c2        9d0eef6199dc    "/docker-entrypoint..."   12 minutes ago   Up 12 minutes   0.0.0.0:321->80/tcp, [::]:321->80/tcp
46000d17764e        nginx              "/docker-entrypoint..."   16 minutes ago   Up 16 minutes   0.0.0.0:32768->80/tcp, [::]:32768->80/tcp
root@ip-172-31-7-82:~# docker exec -it 2bab876be4c2 bash
```

## Add index.html file

```
root@2bab876be4c2:/usr/share/nginx/html# cat index.html
96% of storage used ... If you run out of space, you can't save to Drive, back up Google Photos, or use Gmail. Get 30 GB of storage for $59.00 for 1 month.
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
  <title>Monitoring Portal</title>
<style>
  :root{
    --bg:#000;
    --blue-900:#0d47a1;
    --blue-800:#1565c0;
    --blue-700:#1a237e;
    --blue-600:#1e3a8a;
    --blue-500:#2196f3;
    --text:#b3defb;
    --text-dim:#90caf9;
    --term:#00ffea;
  }
  *{box-sizing:border-box}
  body{
    margin:0;
    font-family: ui-sans-serif, system-ui, -apple-system, Segoe UI, Roboto, "Helvetica Neue", Arial;
    background:var(--bg);
    color:#fff;
    display:flex;
    min-height:100vh;
  }
</style>
```

## Output



## Step: Push Image on docker hub

```
root@bab876be4c2:/usr/share/nginx/html# cd ..
bash: cd: command not found
root@bab876be4c2:/usr/share/nginx/html# cd
root@bab876be4c2:# exit
exit
root@ip-172-31-7-82:# docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
nginx latest 9d0e6f6199dc 5 days ago 152MB
root@ip-172-31-7-82:# docker tag 9d0e6f6199dc jayvant1988/nginx:newpush
root@ip-172-31-7-82:# docker images
REPOSITORY TAG IMAGE ID CREATED SIZE
jayvant1988/nginx newpush 9d0e6f6199dc 5 days ago 152MB
nginx latest 9d0e6f6199dc 5 days ago 152MB
root@ip-172-31-7-82:# docker commit 9d0e6f6199dc jayvant1988/nginx:newpush
Error response from daemon: No such container: 9d0e6f6199dc
root@ip-172-31-7-82:# docker ps
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
2bab876be4c2 9d0e6f6199dc "/docker-entrypoint..." 22 minutes ago Up 22 minutes 0.0.0.0:321->80/tcp, [::]:321->80/tcp kind_euler
46000d17764e nginx "/docker-entrypoint..." 27 minutes ago Up 27 minutes 0.0.0.0:32768->80/tcp, [::]:32768->80/tcp elated_cartwright
root@ip-172-31-7-82:# docker commit 2bab876be4c2 jayvant1988/nginx:newpush
sha256:6fd6d1c4e5d46:ae0168759fdd8661a7f1edd9a4dca98719ffa10ef0b4991f52
root@ip-172-31-7-82:#
```

```
root@ip-172-31-7-82:# docker login -u jayvant1988
Info → A Personal Access Token (PAT) can be used instead.
To create a PAT, visit https://app.docker.com/settings

Password:
WARNING! Your credentials are stored unencrypted in '/root/.docker/config.json'.
Configure a credential helper to remove this warning. See
https://docs.docker.com/go/credential-store/

Login Succeeded
root@ip-172-31-7-82:# docker push jayvant1988/nginx:newpush
The push refers to repository [docker.io/jayvant1988/nginx]
055876981405: Pushed
984a99e4023d: Mounted from library/nginx
02e74660b2c7: Mounted from library/nginx
4472d7fdefad: Mounted from library/nginx
1909d702c244: Mounted from library/nginx
7ed28343b40e: Mounted from library/nginx
133e431f4bd3: Mounted from library/nginx
d7c97cb6f1fe: Mounted from library/nginx
newpush: digest: sha256:5c02dd6e4c9dc5ebd5e82526c136490ae09de959fe9d74830e961b6cb6503c86 size: 1986
root@ip-172-31-7-82:#
```

Output

hub.docker.com/repositories/jayvant1988?\_gl=1\*1k0xtfu\*\_gcLau\*MTg2MTMyOTIzMj4xNzYyMTQyNjgw\*\_ga\*MTk4OTQ0Njc1J3NjE3NTewNDM.\*\_ga\_XjWPQMJYHQ\*czE3NjlxNDU4OTAk... ☆ 🌐 🔍 ⚙️ 🎯

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jayvant1988 Docker Personal

Repositories Hardened Images Collaborations Settings Default privacy Notifications Billing Usage Pulls Storage

### Repositories

All repositories within the jayvant1988 namespace.

Search by repository name All content Create a repository

Name	Last Pushed	Contains	Visibility	Scout
jayvant1988/nginx	1 minute ago	IMAGE	Public	Inactive

1–1 of 1

hub.docker.com/repository/docker/jayvant1988/nginx/general

### Repositories / nginx / General

jayvant1988/nginx Last pushed 1 minute ago • ⭐ 0 • 0 Add a description Add a category

General Tags Image Management (BETA) Collaborators Webhooks Settings

#### Tags

This repository contains 1 tag(s).

Tag	OS	Type	Pulled	Pushed
newpush	Image	Image	less than 1 day	2 minutes

See all

#### Repository overview INCOMPLETE

An overview describes what your image does and how to run it. It displays in the public view of your repository once you have pushed some content.

Add overview

Docker commands To push a new tag to this repository: docker push jayvant1988/nginx:tagname

Using 0 of 1 private repositories.

Public view

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