

Docker Practical Execution.

Step 1: Create a Docker Hub Account

Docker Hub is a cloud-based repository that allows you to store and share container images. Follow these steps to create an account:

1. Go to [Docker Hub](#).
2. Click on **Sign Up** and fill in the required details.
3. Verify your email and log in.

Step 2: Create Two Repositories

Repositories store Docker images. We will create two repositories named `qa` and `dev`.

1. Log in to Docker Hub.
2. Click on **Repositories > Create Repository**.
3. Name the first repository `qa` and set it to public or private.
4. Repeat the process for the `dev` repository.

Step 3: Create an EC2 Instance in AWS

1. Log in to AWS Console.
2. Navigate to **EC2**.
3. Click **Launch Instance**.
4. Choose an Amazon Linux or Ubuntu AMI.
5. Select instance type (t2.micro for free tier).
6. Configure security group to allow SSH (port 22) and HTTP (port 80).
7. Launch the instance and connect via SSH.

Step 4: Switch to the Root User

Run the following command to switch to the root user:

```
sudo su
```

Step 5: Check Network Configuration

To verify network settings, run:

```
ifconfig -a
```

Step 6: Install Docker

Install Docker using:

```
sudo yum install docker -y # Amazon Linux
```

Step 7: Start Docker Service

```
sudo service docker start
```

Step 8: Check Docker Version

Verify the installation with:

```
docker --version
```

Step 9: Check Docker Images

List available images:

```
docker images
```

Step 10: Check Running Containers

List running containers:

```
docker ps
```

Check all containers, including stopped ones:

```
docker ps -a
```

Step 11: Delete All Containers

To remove all containers, run:

```
docker rm $(docker ps -aq)
```

Step 12: Pull Nginx Image

Method 1 (Direct Pull):

`docker pull nginx`

Method 2 (Run and Pull Automatically):

`docker run nginx`

Step 13: Create and Run a Container

Run an Nginx container with port mapping:

`docker run -itd --anand -p 40:80 nginx`

Step 14: Tag and Push to Docker Hub

Tag the image:

`docker tag nginx Anand1827/qa:latest`

Push it to Docker Hub:

`docker push Anand1827/qa:latest`

Step 15: Inspect a Docker Container

`docker inspect <container_id>`

Step 16: Basic Docker Commands

List Running Containers

`docker ps`

List All Containers

`docker ps -a`

Remove a Container

`docker rm <container_id>`

Stop a Running Container

`docker stop <container_id>`

Start a Stopped Container

`docker start <container_id>`

Remove an Image

`docker rmi <image_id>`

View Logs of a Running Container

`docker logs <container_id>`

Enter a Running Container

`docker exec -it <container_id> /bin/bash`

PUROPALE