

## Docker Installation and Setup

### Step 1: Launching an EC2 Instance

- Open AWS Console and go to EC2 Dashboard.
- Click on Launch Instance.
- Enter a name, e.g., `Docker-Server`.
- Choose Amazon Linux 2023 AMI.
- Select an instance type (e.g., `t2.micro`).
- Create or select an existing Key Pair (to SSH into instance).
- Configure Security Group to allow port 22 (SSH).
- Click Launch Instance.

### Step 2: Connect to EC2 via SSH (Using Git Bash)

- `ssh -i "your-key.pem" ec2-user@your-ec2-public-ip`

### Step 3: Install Docker on Amazon Linux 2023

- Update System Packages  
`sudo dnf update -y`
- Install Docker using dnf  
`sudo dnf install docker -y`
- Start Docker Service  
`sudo systemctl start docker`
- Enable Docker to Start on Boot  
`sudo systemctl enable docker`
- Check Docker Version  
`docker --version`
- Output: Docker version 25.0.8, build 019a596
- Verify Docker is Running  
`sudo systemctl status docker`
- Output should show: `active (running)`

### Step 4: Access Docker Directory

- Navigate to the Docker root directory:  
`cd /var/lib/docker`  
`ls`

### Step 5: Docker Image and Container Management

- List Docker Images  
`docker image ls`
- List Running Containers  
`docker ps`
- List All Containers (Including Stopped)  
`docker ps -a`

#### 4. Tag and Push Docker Image to Docker Hub

Example using the `nginx` image

- `docker tag nginx:latest chleela/qa:project`
- `docker push chleela/qa:project`

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Login Succeeded
[root@ip-172-31-21-150 ec2-user]# docker tag nginx:latest chleela/
[root@ip-172-31-21-150 ec2-user]# docker push chleela/qa:project
The push refers to repository [docker.io/chleela/qa]
eda01226259d: Mounted from library/nginx
fd2315f0cf24: Mounted from library/nginx
ae2a14e88adb: Mounted from library/nginx
27f473333e2f: Mounted from library/nginx

```