**Install Docker in Ubuntu EC2 instance**

$sudo apt-get install docker.io -y

**Start Docker**

$ sudo systemctl start docker

$sudo docker images

**Pull Docker Image from Docker Hub – hub.docker.com**

$ sudo docker pull docker/getting-started

$ sudo docker images

$ sudo docker ps $sudo docker ps -a

**Run Docker Image – Docker Container**

$ sudo docker run -p 80:80 docker/getting-started

-p 80:80 ---> port mapping - map port 80 of the host to port 80 in the container

in browser - http:// <Ec2 ipv4 address>

**Running Docker Container in Detached Mode**

$ sudo docker run -d -p 80:80 docker/getting-started

-d --- detached mode

in browser - http://<EC2 ipv4 address>

$sudo docker ps

**To provide a container name**

$ sudo docker run --name sunil-help -d -p 8081:80 docker/getting-started

**To stop a container**

$ sudo docker stop <container\_id>

$sudo docker ps

**To remove a container**

$ sudo docker rm <container\_id>

note: You cannot remove a running container

**To remove an image**

$ sudo docker rmi <image\_id>

**To pull ourown docker image from docker hub**

$ docker pull 150478/irctc

$ docker images

$docker run -d -p 9090:8080 150478/irctc:latest

POST http://<EC2\_IP>:9090/ictc/tiket

{

"passengerName": "Sanjay",

"fromStation": "Hyderabad",

"toStation": "Delhi",

"trainNo": "123456",

"dateOfJourney": "2025-01-12"

}

*------ remove container and remove image*

$ sudo docker run -d -p 9091:8080 150478/irctc

**========== Dockerize our Spring Boot Application ============**

1. Create a new spring boot application/ microservice /welcome

2. package the application by making <finalName> in pom.xml as sb-aws-docker

3. create a file with name "Dockerfile" in the project folder

**# start with a base image containing Java runtime**

**FROM openjdk:17-jdk-slim**

**# information around who maintains the image**

**MAINTAINER capgemini.com**

**# add the application's jar to the image**

**COPY target/sb-aws-docker.jar sb-aws-docker.jar**

**# informs Docker runtime about the port that the container listens at runtime**

**EXPOSE 8080**

**# execute the application**

**ENTRYPOINT ["java", "-jar", "sb-aws-docker.jar"]**

--- push the complete source code with Dockerfile to GitHub / to S3 bucket to a new folder

-- clone that from GitHub or wget / cp from S3 bucket to EC2 instance to a new directory

**-> create docker image in EC2 instance**

$sudo docker build .

$sudo docker images

$sudo docker build -t irctc .

-t --> tag name

$sudo docker images

$docker run -d -p 8080:8080 irctc:latest