Assignment: Dockerizing a Java Application and Deploying it on Kubernetes

Name: Akash Nadigepu
ID: 290396
Github repo: Akash-Nadigepu/spring-boot-hello-world: A simple Spring Boot app to send hello world message to a user
DockerHub repo: akash6637/spring-boot-hello-world general | Docker Hub

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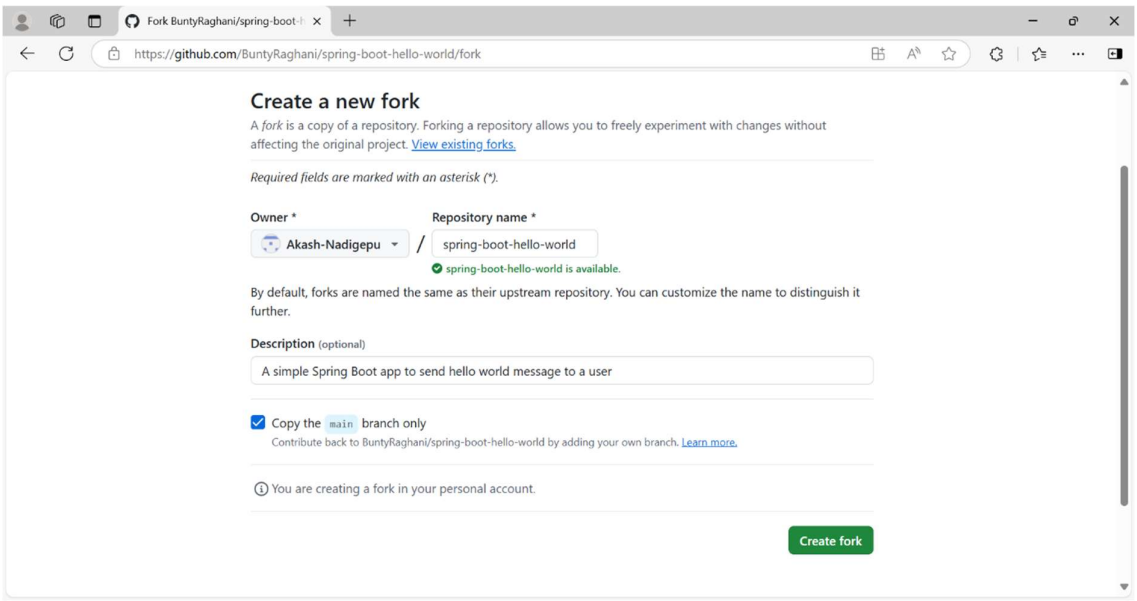
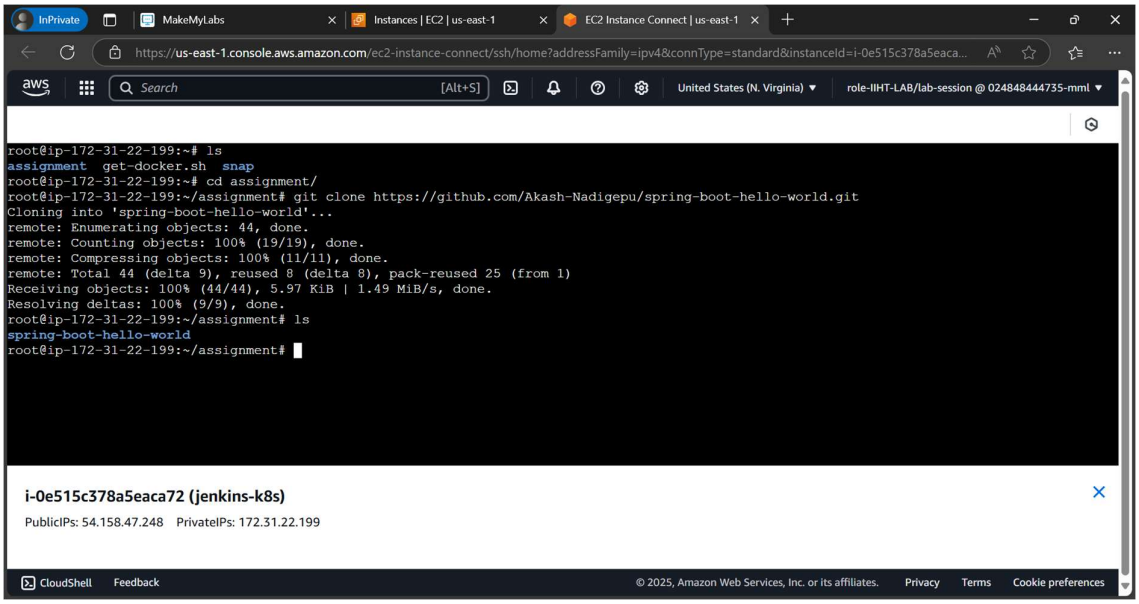
Task 1: Fork and Clone Java Repo

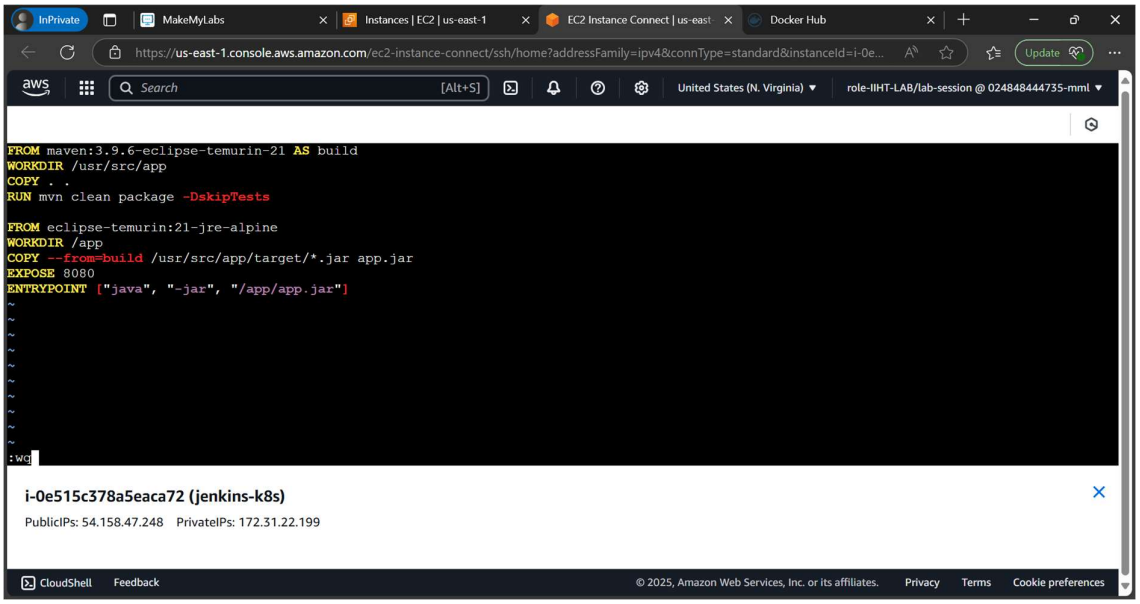
1. **Fork the repository on GitHub.**



2. **Cloned it to into local machine.**

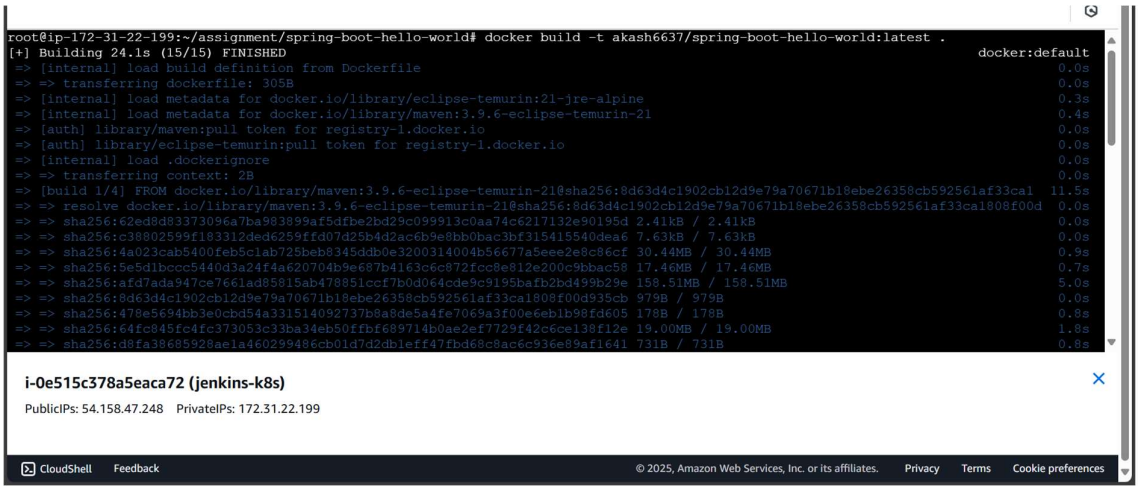


Task 2: Define a Dockerfile

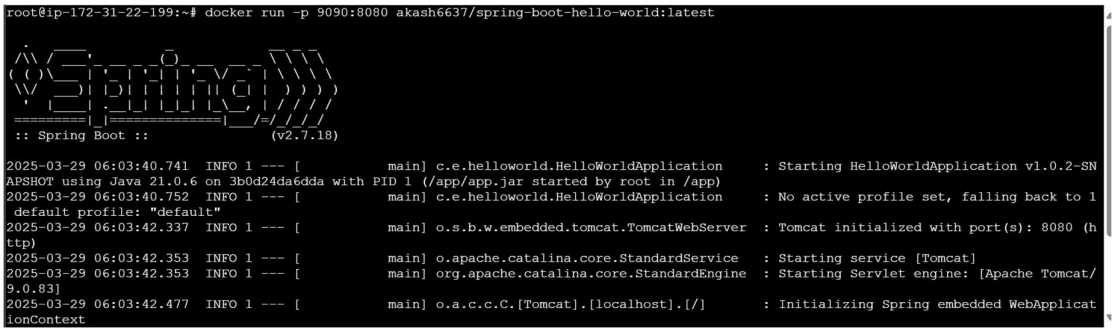


Task 3: Build and Push Docker Image

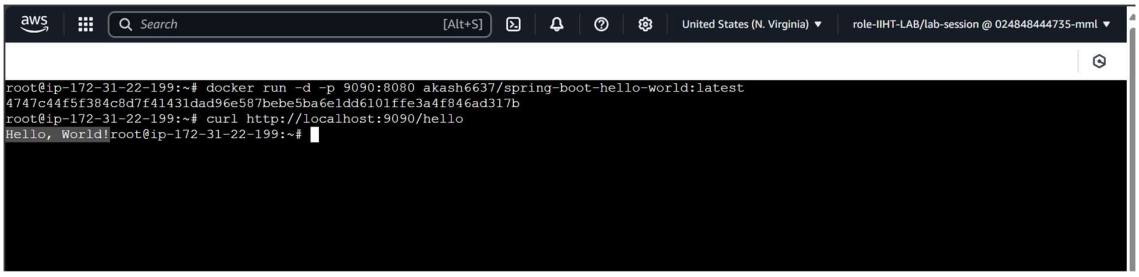
1. **Build the image:**



2. Run the Container Locally

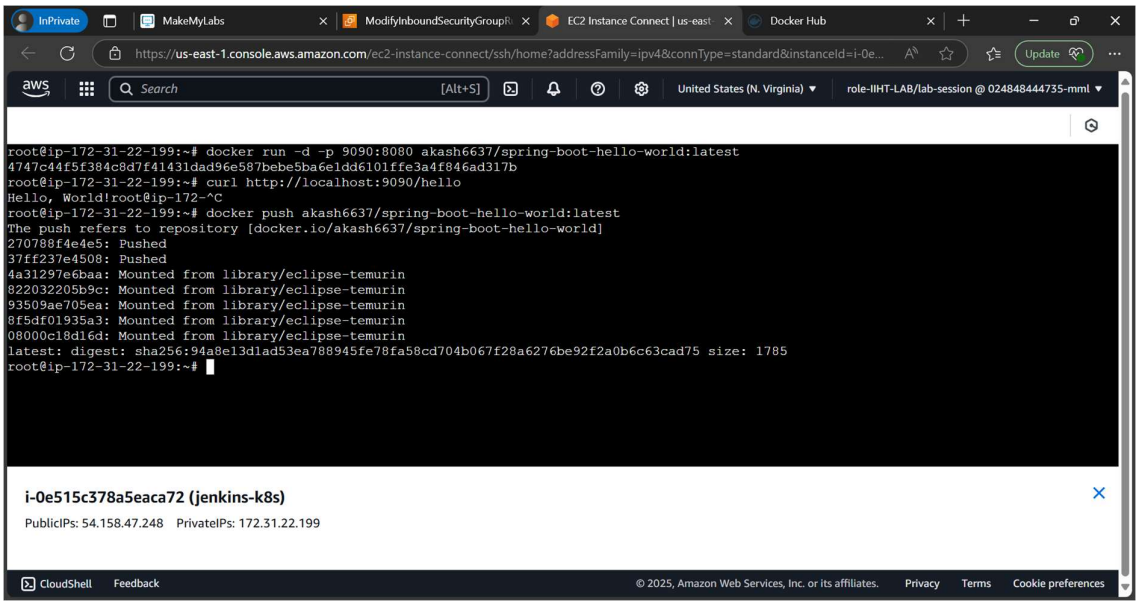


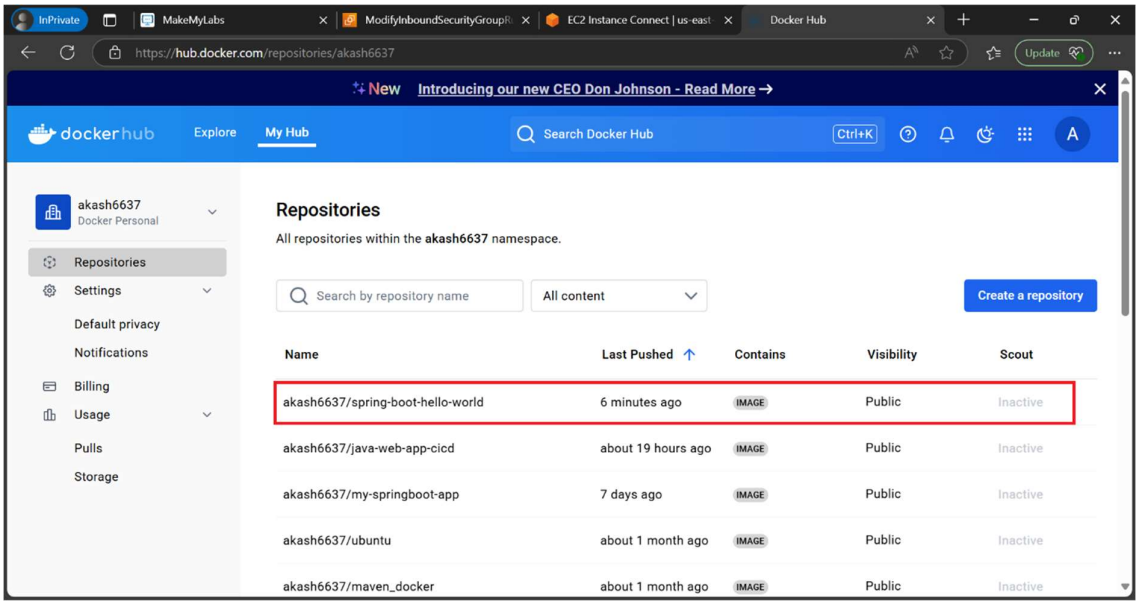
3. Checking if it's running:



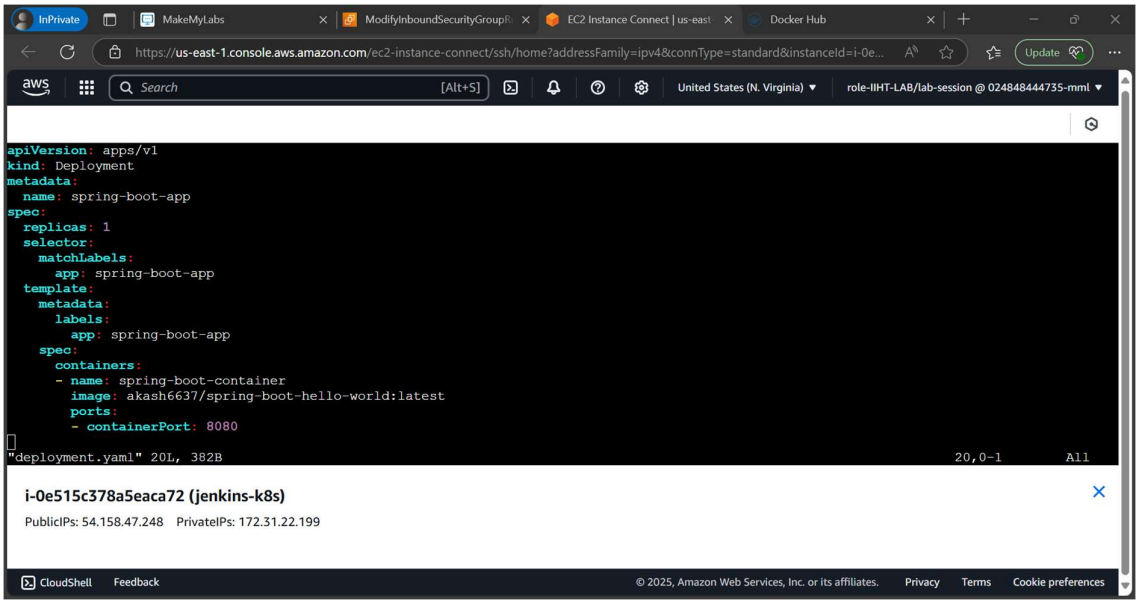
Worked! It is printing Hello, World!

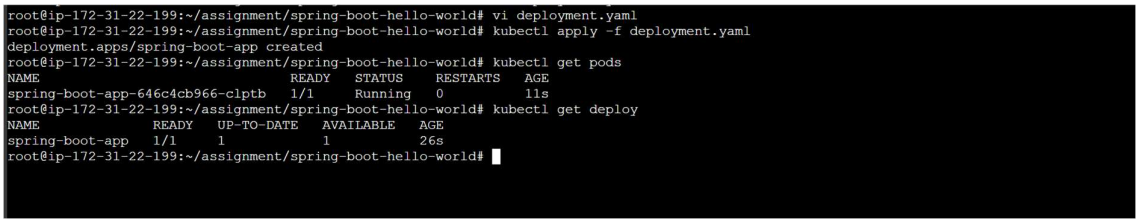
4. Push to DockerHub:


InPrivate
MakeMyLabs
ModifyInboundSecurityGroupR
EC2 Instance Connect | us-east
Docker Hub
https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh/home?addressFamily=ipv4&connType=standard&instanceId=i-0e...
Update
aws
Search
[Alt+S]
United States (N. Virginia)
role-IIHT-LAB/lab-session @ 024848444735-mml
root@ip-172-31-22-199:~# docker run -d -p 9090:8080 akash6637/spring-boot-hello-world:latest
4747c44f5f384c8d7f41431dad96e587bebe5ba6e1dd6101ffe3a4f846ad317b
root@ip-172-31-22-199:~# curl http://localhost:9090/hello
Hello, World!root@ip-172-^C
root@ip-172-31-22-199:~# docker push akash6637/spring-boot-hello-world:latest
The push refers to repository [docker.io/akash6637/spring-boot-hello-world]
270788f4e4e5: Pushed
37ff237e4508: Pushed
4a31297e6baa: Mounted from library/eclipse-temurin
822032205b9c: Mounted from library/eclipse-temurin
93509ae705ea: Mounted from library/eclipse-temurin
8f5df01935a3: Mounted from library/eclipse-temurin
08000c18d16d: Mounted from library/eclipse-temurin
latest: digest: sha256:94a8e13d1ad53ea788945fe78fa58cd704b067f28a6276be92f2a0b6c63cad75 size: 1785
root@ip-172-31-22-199:~#
i-0e515c378a5eaca72 (jenkins-k8s)
PublicIPs: 54.158.47.248 PrivateIPs: 172.31.22.199
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

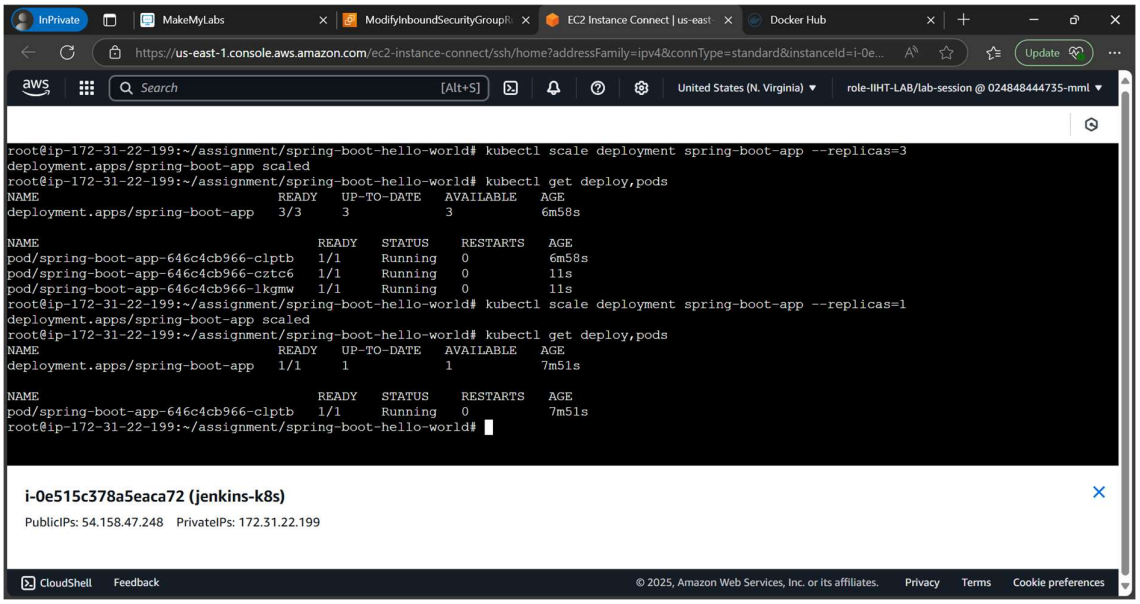

InPrivate
MakeMyLabs
ModifyInboundSecurityGroupR
EC2 Instance Connect | us-east
Docker Hub
https://hub.docker.com/repositories/akash6637
Update
New
Introducing our new CEO Don Johnson - Read More →
dockerhub
Explore
My Hub
Search Docker Hub
Ctrl+K
akash6637
Docker Personal
Repositories
Settings
Default privacy
Notifications
Billing
Usage
Pulls
Storage
Repositories
All repositories within the akash6637 namespace.
Search by repository name
All content
Create a repository
Name
Last Pushed
Contains
Visibility
Scout
akash6637/spring-boot-hello-world
6 minutes ago
IMAGE
Public
Inactive
akash6637/java-web-app-cicd
about 19 hours ago
IMAGE
Public
Inactive
akash6637/my-springboot-app
7 days ago
IMAGE
Public
Inactive
akash6637/ubuntu
about 1 month ago
IMAGE
Public
Inactive
akash6637/maven_docker
about 1 month ago
IMAGE
Public
Inactive

Task 4: Create a Kubernetes Deployment

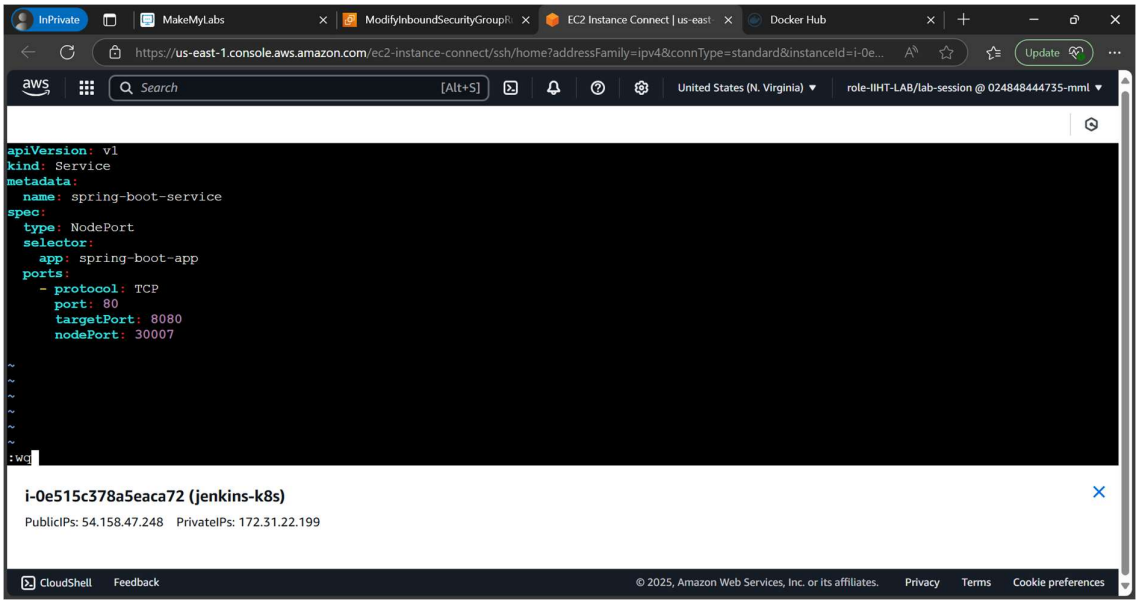




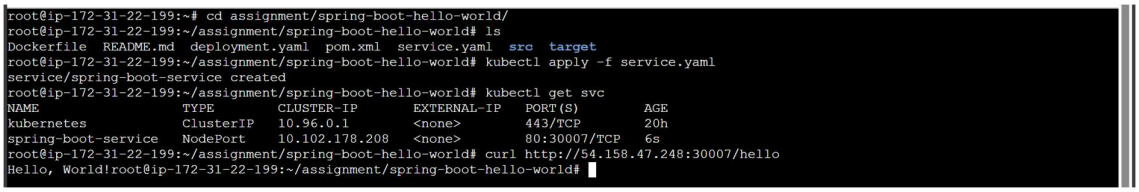
Task 5: Scale Up and Scale Down



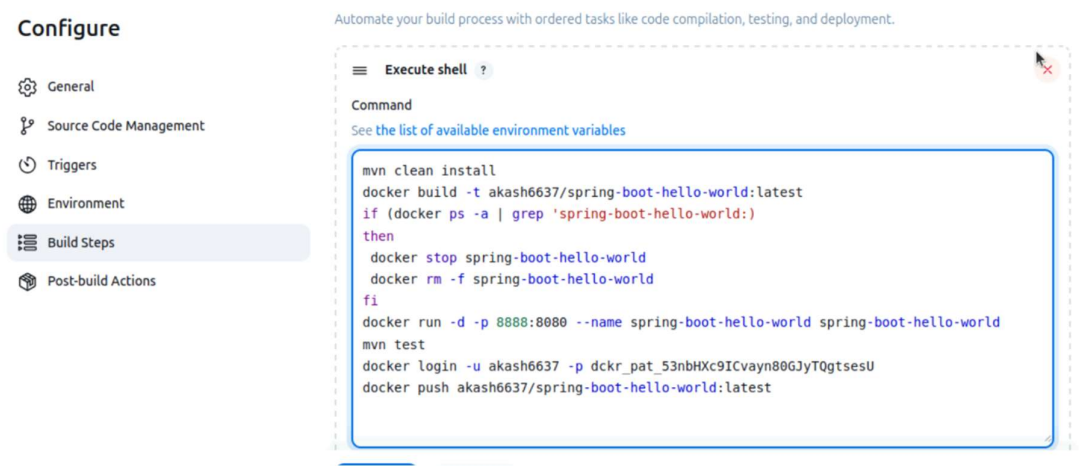
Task 6: Expose the Service Using NodePort

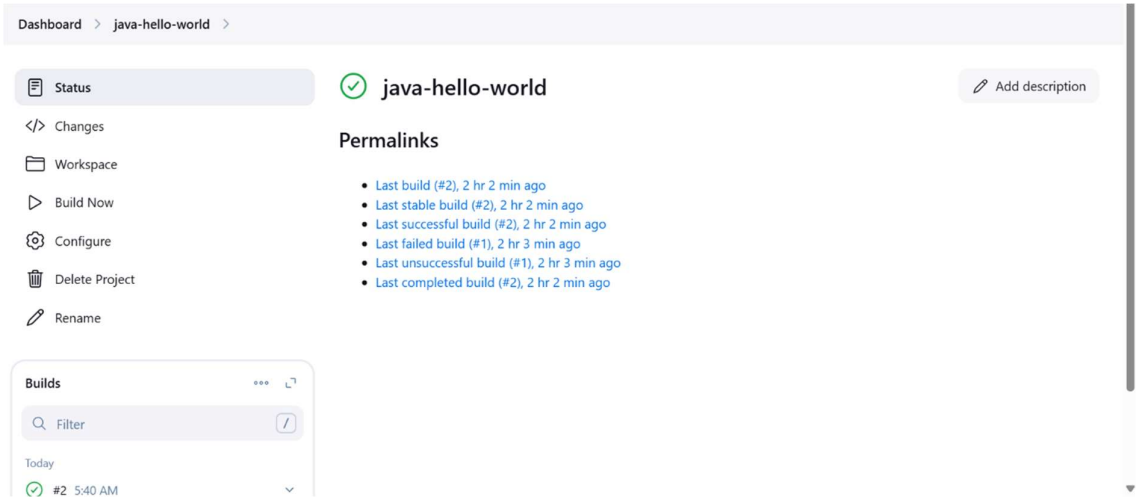


Accessing the Application using NordePort :30007



Task 7: Automate Deployment Using Jenkins




Dashboard
java-hello-world
Status
Changes
Workspace
Build Now
Configure
Delete Project
Rename
Builds
Filter
Today
#2 5:40 AM
java-hello-world
Add description
Permalinks
Last build (#2), 2 hr 2 min ago
Last stable build (#2), 2 hr 2 min ago
Last successful build (#2), 2 hr 2 min ago
Last failed build (#1), 2 hr 3 min ago
Last unsuccessful build (#1), 2 hr 3 min ago
Last completed build (#2), 2 hr 2 min ago