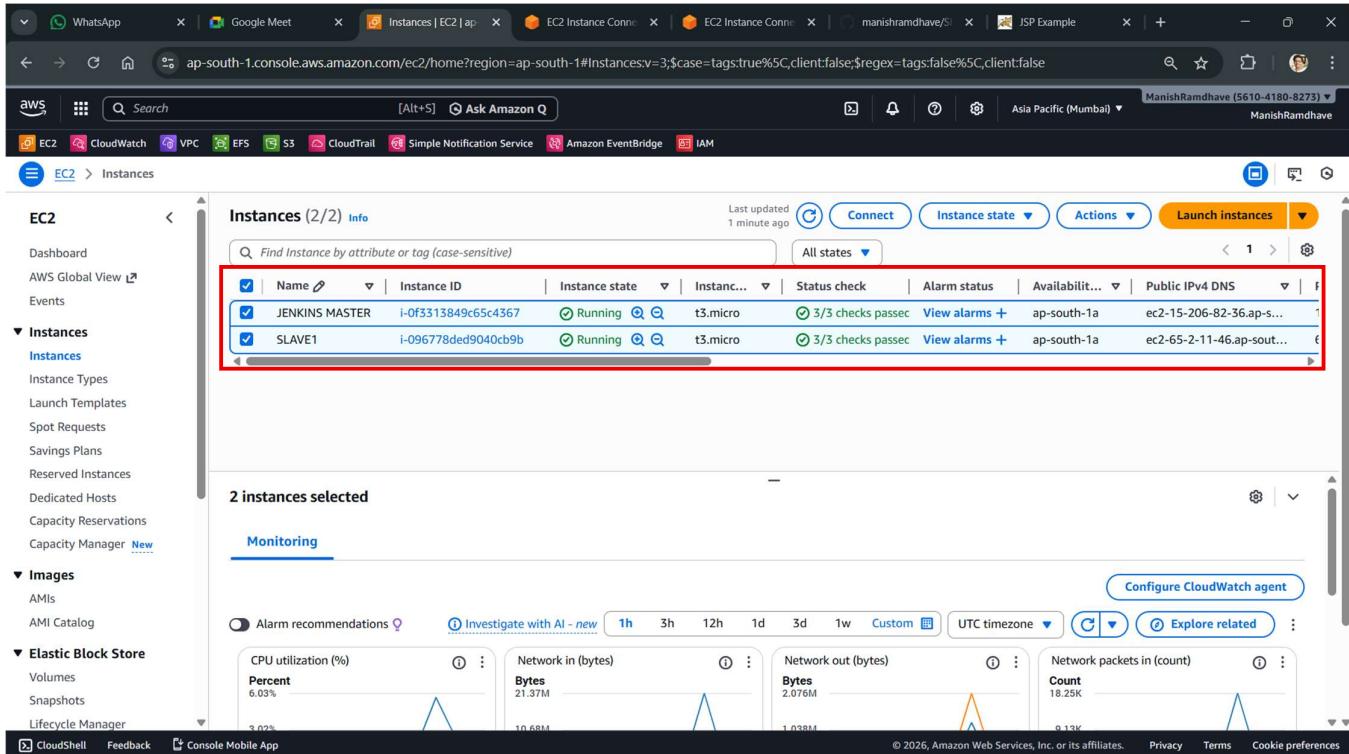


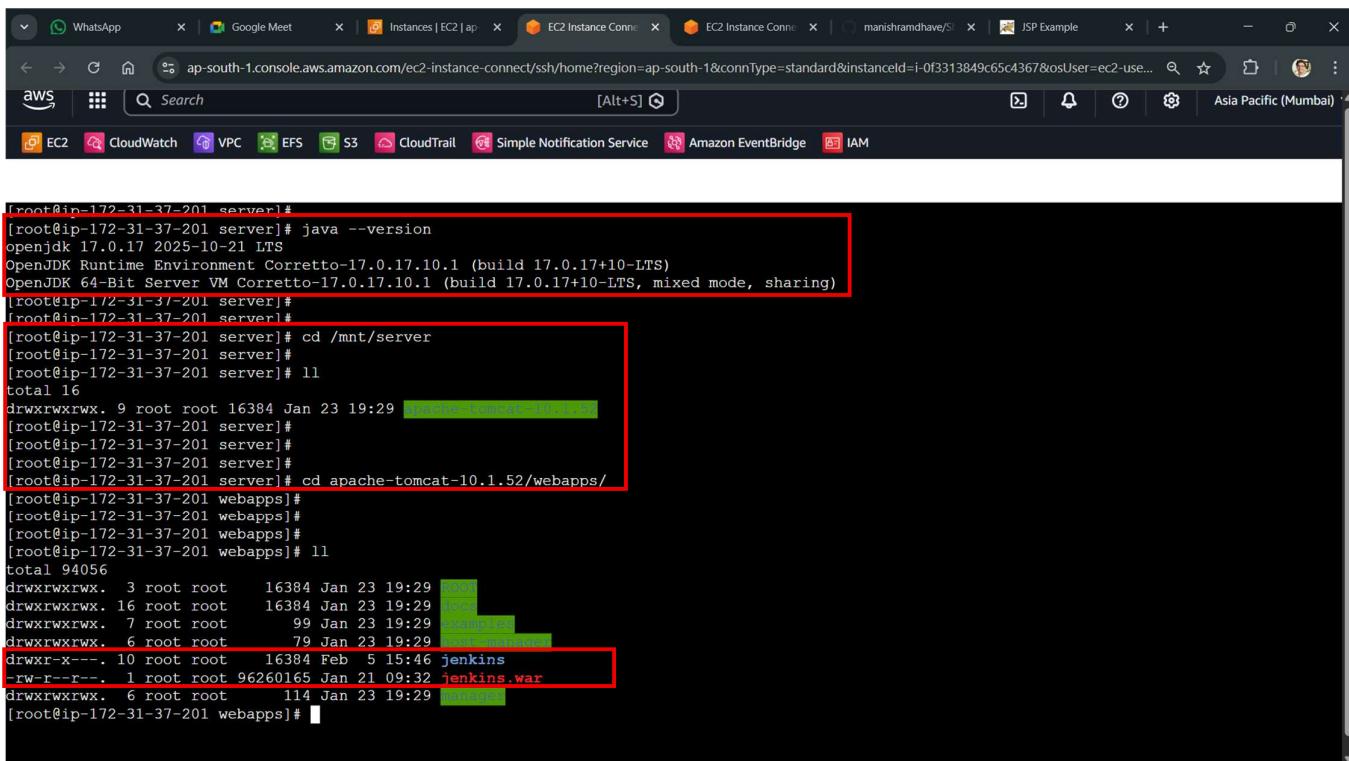
# Jenkins Assignment 6

Step 1: Launched two instances, Jenkins Master and Slave1



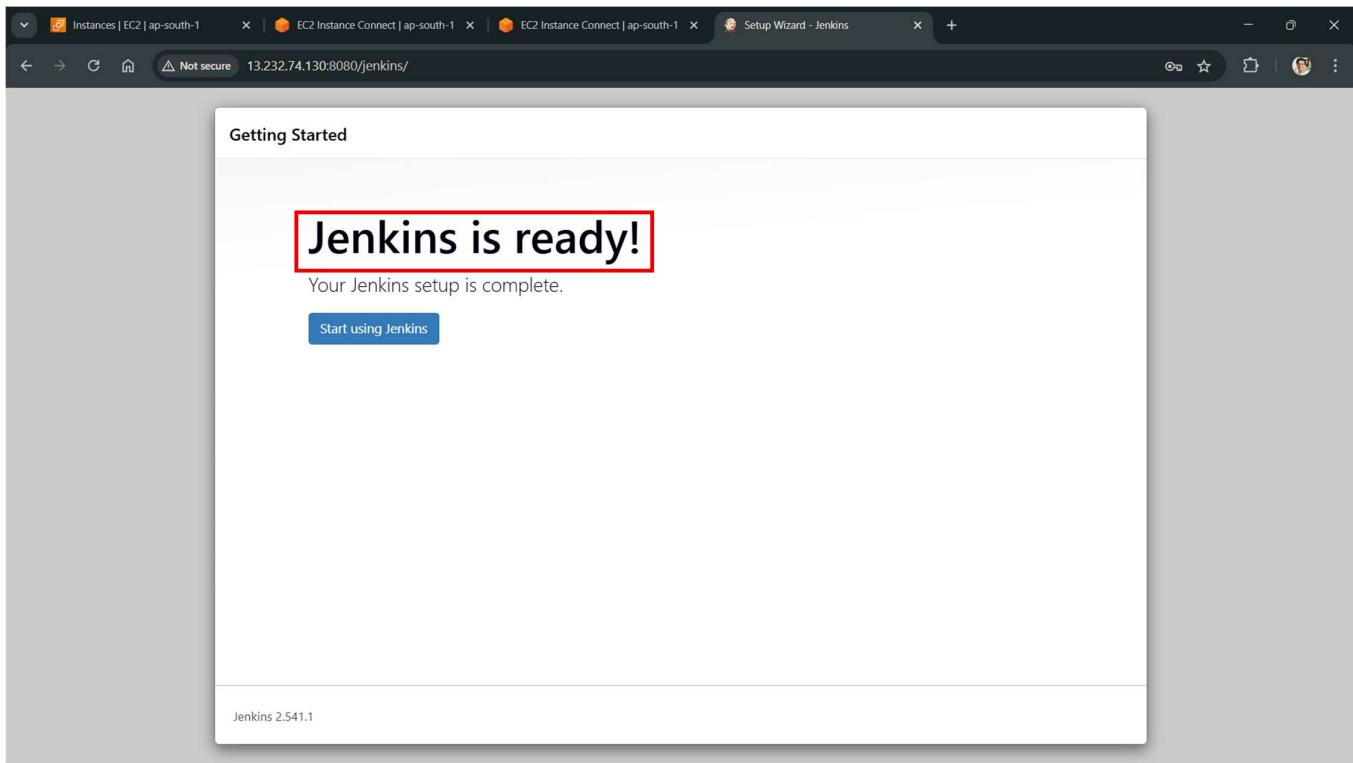
The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with navigation links like Dashboard, AWS Global View, Events, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Capacity Manager, Images, AMIs, AMI Catalog, and Elastic Block Store. The main area displays a table titled 'Instances (2/2) Info' with two rows. The first row is for 'JENKINS MASTER' (Instance ID: i-0f3313849c65c4367) and the second for 'SLAVE1' (Instance ID: i-096778ded9040cb9b). Both instances are listed as 'Running' in the 'Instance state' column. The table has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, Availability zone, and Public IPv4 DNS. A red box highlights the entire table area.

Step 2: On Jenkins Master, we have installed Java-17, Apache-Tomcat-10.1.52 and deployed the Jenkins on it:



```
[root@ip-172-31-37-201 server]# [root@ip-172-31-37-201 server]# java --version
openjdk 17.0.17 2025-10-21 LTS
OpenJDK Runtime Environment Corretto-17.0.17.10.1 (build 17.0.17+10-LTS)
OpenJDK 64-Bit Server VM Corretto-17.0.17.10.1 (build 17.0.17+10-LTS, mixed mode, sharing)
[root@ip-172-31-37-201 server]# [root@ip-172-31-37-201 server]#
[root@ip-172-31-37-201 server]# cd /mnt/server
[root@ip-172-31-37-201 server]# [root@ip-172-31-37-201 server]#
[root@ip-172-31-37-201 server]# ll
total 16
drwxrwxrwx. 9 root root 16384 Jan 23 19:29 jenkins-command-10.1.52
[root@ip-172-31-37-201 server]# [root@ip-172-31-37-201 server]#
[root@ip-172-31-37-201 server]# [root@ip-172-31-37-201 server]#
[root@ip-172-31-37-201 server]# cd apache-tomcat-10.1.52/webapps/
[root@ip-172-31-37-201 webapps]# [root@ip-172-31-37-201 webapps]#
[root@ip-172-31-37-201 webapps]# [root@ip-172-31-37-201 webapps]#
[root@ip-172-31-37-201 webapps]# ll
total 94056
drwxrwxrwx. 3 root root 16384 Jan 23 19:29 ROOT
drwxrwxrwx. 16 root root 16384 Jan 23 19:29 doc
drwxrwxrwx. 7 root root 99 Jan 23 19:29 examples
drwxrwxrwx. 6 root root 79 Jan 23 19:29 host-manager
drwxr-x--. 10 root root 16384 Feb 5 15:46 jenkins
-rw-r--r--. 1 root root 96260165 Jan 21 09:32 jenkins.war
drwxrwxrwx. 6 root root 114 Jan 23 19:29 manager
[root@ip-172-31-37-201 webapps]#
```

### Step 3: Installed the Jenkins on Jenkins Master Instance:



### Step 4: Created a **Node** for to establish the connection between Jenkins Master and Slave Instance using the '**Credential**' and '**Manually trusted key Verification Strategy**:

The screenshot shows a browser window with the URL <http://13.232.74.130:8080/jenkins/computer/>. The page title is 'Nodes - Manage Jenkins - Jenkins'. The main content area is titled 'Nodes' and displays a table of nodes. The table has columns: S, Name, Architecture, Clock Difference, Free Disk Space, Free Swap Space, Free Temp Space, and Response Time. Two rows are listed: 'Built-In Node' (Architecture: Linux (amd64), Free Disk Space: 5.72 GiB, Response Time: 0ms) and 'Slave1' (Architecture: Linux (amd64), Free Disk Space: 0 B, Response Time: N/A). The 'Slave1' row is highlighted with a red box. At the top right, there are buttons for '+ New Node', 'Configure Monitors', and a refresh icon. Below the table, there are icons for 'Icon: S M L' and a 'Legend' section. The bottom right corner shows 'REST API' and 'Jenkins 2.541.1'.

S	Name	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
💻	Built-In Node	Linux (amd64)	In sync	5.72 GiB	0 B	5.72 GiB	0ms
💻	Slave1	Linux (amd64)	N/A	N/A	N/A	N/A	N/A

## Step 5: Launched the Jenkins and created a Freestyle Job:

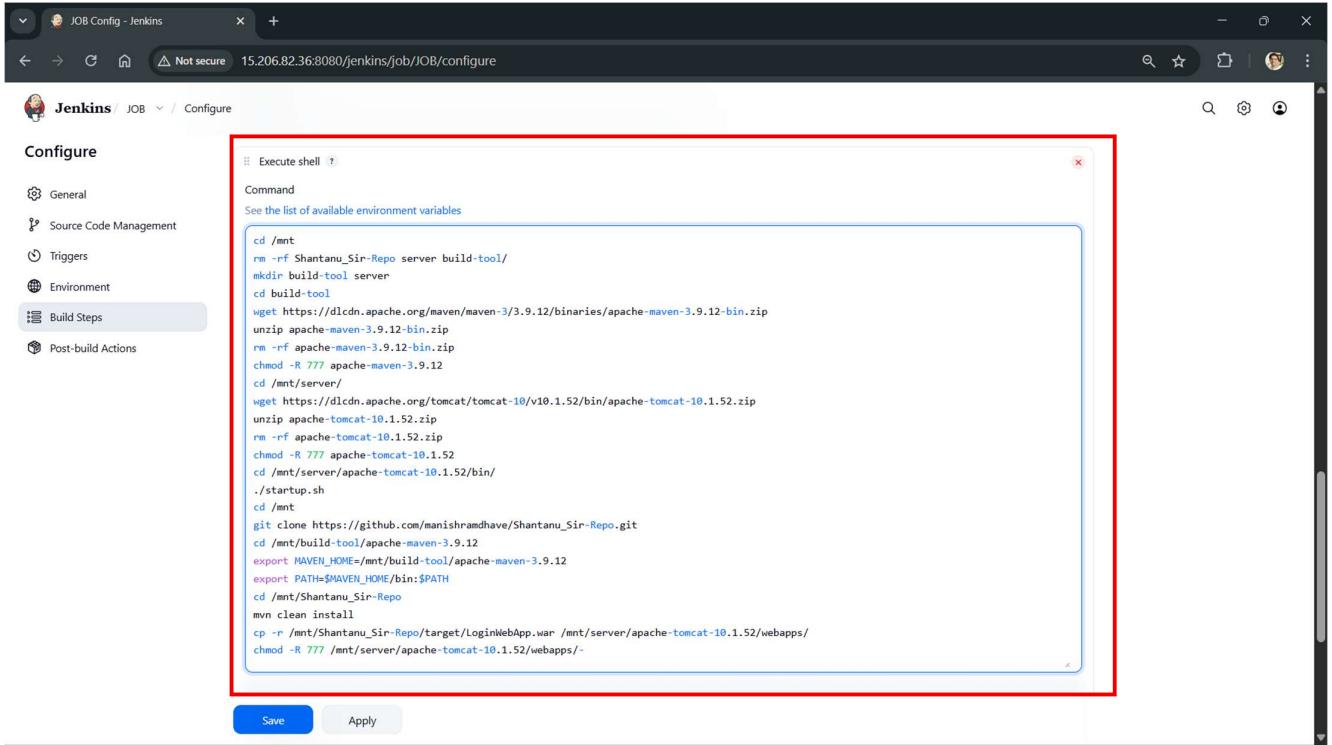
The screenshot shows the Jenkins dashboard at [15.206.82.36:8080/jenkins/](http://15.206.82.36:8080/jenkins/). A red box highlights the top table under the heading 'All'. The table columns are S, W, Name (sorted by name), Last Success, Last Failure, and Last Duration. The first row shows a green checkmark icon, a yellow sun icon, the name 'JOB', a success status of '52 sec #45', 'N/A' for failure, and a duration of '7.2 sec'. Below the table, there's a 'Build Queue' section indicating 'No builds in the queue.' and a 'Build Executor Status' section showing 'built-in node + 1 agent (0 of 50 executors busy)'. At the bottom right, links for 'REST API' and 'Jenkins 2.541.1' are visible.

## Step 6: Enabled 'Restrict where this project can be run' on only Slave1 Instance and used a custom workspace to '/mnt/CustomWorkspace':

The screenshot shows the Jenkins job configuration page for 'Job' at [13.234.202.85:8080/jenkins/job/JOB/configure](http://13.234.202.85:8080/jenkins/job/JOB/configure). A red box highlights the 'Restrict where this project can be run' section, which contains a 'Label Expression' input field with 'Slave1'. Another red box highlights the 'Use custom workspace' section, which contains a 'Directory' input field with '/mnt/CustomWorkspace'. The left sidebar lists 'General', 'Source Code Management', 'Triggers', 'Environment', 'Build Steps', and 'Post-build Actions'. At the bottom, there are 'Save' and 'Apply' buttons.

Step 7: Executed a shell script in the Build Steps on the Jenkins Job which will run on the Slave Instance. It will run all the commands below;

- A) Installation of Apache- Maven-3.9.12
- B) Installation of Apache-Tomcat-10.1.52 and running process
- C) Cloning the forked Repository to build LoginWebApp.war file
- D) Setting Environment Variable and its path
- E) Deployment of LoginWebApp Application on Tomcat Server



The screenshot shows the Jenkins Job configuration interface. On the left, there's a sidebar with options: General, Source Code Management, Triggers, Environment, **Build Steps** (which is selected and highlighted in grey), and Post-build Actions. The main area is titled 'Configure' and contains a 'Build Steps' section. Within this section, there's a 'Execute shell' step with the following command:

```
cd /mnt
rm -rf Shantanu_Sir-Repo server build-tool/
mkdir build-tool server
cd build-tool
wget https://dlcdn.apache.org/maven/maven-3/3.9.12/binaries/apache-maven-3.9.12-bin.zip
unzip apache-maven-3.9.12-bin.zip
rm -rf apache-maven-3.9.12-bin.zip
chmod -R 777 apache-maven-3.9.12
cd /mnt/server/
wget https://dlcdn.apache.org/tomcat/tomcat-10/v10.1.52/bin/apache-tomcat-10.1.52.zip
unzip apache-tomcat-10.1.52.zip
rm -rf apache-tomcat-10.1.52.zip
chmod -R 777 apache-tomcat-10.1.52
cd /mnt/server/apache-tomcat-10.1.52/bin/
./startup.sh
cd /mnt
git clone https://github.com/manishramdhave/Shantanu_Sir-Repo.git
cd /mnt/build-tool/apache-maven-3.9.12
export MAVEN_HOME=/mnt/build-tool/apache-maven-3.9.12
export PATH=$MAVEN_HOME/bin:$PATH
cd /mnt/Shantanu_Sir-Repo
mvn clean install
cp -r /mnt/Shantanu_Sir-Repo/target/LoginWebApp.war /mnt/server/apache-tomcat-10.1.52/webapps/
chmod -R 777 /mnt/server/apache-tomcat-10.1.52/webapps/
```

At the bottom of the 'Build Steps' section, there are 'Save' and 'Apply' buttons.

# Result:

1. Our 5 consecutive Jobs' Builds are Successfully done:

The screenshot shows the Jenkins interface for a job named 'JOB'. On the left, there's a sidebar with options like Status, Changes, Workspace, Build Now, Configure, Delete Project, and Rename. The main area is titled 'JOBS' and shows a 'Permalinks' section with four bullet points: 'Last build (#45), 16 sec ago', 'Last stable build (#45), 16 sec ago', 'Last successful build (#45), 16 sec ago', and 'Last completed build (#45), 16 sec ago'. Below this is a 'Builds' section with a 'Filter' input field. Under the heading 'Today', there are five entries, each with a green checkmark and a red border around them, indicating they are successful builds: '#45 19:49', '#44 19:49', '#43 19:49', '#42 19:48', and '#41 19:48'.

2. Our LoginWebApp Application running successfully on Tomcat Server:

The screenshot shows a web browser window with multiple tabs open at the top. The active tab is '65.2.11.46:8080/LoginWebApp/'. The page itself is titled 'Login Page' and contains a form with fields for 'Username' and 'Password', and buttons for 'Login' and 'Reset'. Below the form, it says 'New User [Register Here](#)'.

