

Jenkins Assignment 2

Step 1: Launched two EC2 instances, one for Jenkins Master and other one is not a Slave :

The screenshot shows the AWS EC2 Instances page. On the left, there's a sidebar with options like Instances, Images, and Elastic Block Store. The main area displays a table of instances. Two instances are listed:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
Jenkins Master	i-05454aefe40cec33c	Running	t3.micro	3/3 checks passed	View alarms	ap-south-1a	ec2-3-108-196-
Not A Slave	i-016be965277c0e4e0	Running	t3.micro	3/3 checks passed	View alarms	ap-south-1a	ec2-3-110-173-

Step 2: Installed Java-17, Apache-Tomcat-10 and Jenkins on Jenkins Master Instance:

The screenshot shows the AWS CloudShell terminal window. The user is root on an EC2 instance. The terminal output shows the following commands and their results:

```
[root@ip-172-31-39-28 ~]# java -version
openjdk version "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-172-31-39-28 ~]# cd /mnt/server/apache-tomcat-10.1.52/
[root@ip-172-31-39-28 apache-tomcat-10.1.52]# ll
total 184
rwxrwxrwx. 1 root root 25374 Jan 23 19:29 BUILDING.txt
rwxrwxrwx. 1 root root 6260 Jan 23 19:29 CONTRIBUTING.md
rwxrwxrwx. 1 root root 61536 Jan 23 19:29 LICENSE
rwxrwxrwx. 1 root root 2401 Jan 23 19:29 NOTICE
rwxrwxrwx. 1 root root 3287 Jan 23 19:29 README.md
rwxrwxrwx. 1 root root 6949 Jan 23 19:29 RELEASE-NOTES
rwxrwxrwx. 1 root root 16582 Jan 23 19:29 RUNNING.txt
rwxrwxrwx. 2 root root 16384 Jan 23 19:29
rwxrwxrwx. 3 root root 16384 Jan 23 17:34
rwxrwxrwx. 2 root root 16384 Jan 23 19:29
rwxrwxrwx. 2 root root 132 Jan 28 17:34
rwxrwxrwx. 2 root root 30 Jan 28 17:49
rwxrwxrwx. 9 root root 174 Jan 28 17:38
rwxrwxrwx. 2 root root 22 Jan 28 17:24
[root@ip-172-31-39-28 apache-tomcat-10.1.52]# cd webapps/
[root@ip-172-31-39-28 webapps]# ll
total 94072
rwxrwxrwx. 3 root root 16384 Jan 23 19:29 SampleWebApp
rwxr-x---. 4 root root 74 Jan 28 17:34 SampleWebApp.war
rwxr--r--. 1 root root 8618 Jan 28 17:25 SampleWebApp.war
rwxrwxrwx. 16 root root 16384 Jan 23 19:29
rwxrwxrwx. 7 root root 99 Jan 23 19:29
rwxrwxrwx. 6 root root 79 Jan 23 19:29
rwxr-x---. 10 root root 16384 Jan 28 17:38 jenkins
rwxr--r--. 1 root root 96260165 Jan 21 09:32 jenkins.war
r-----. 1 root root 1835 Jan 28 17:29 key.pem
rwxrwxrwx. 6 root root 114 Jan 23 19:29
[root@ip-172-31-39-28 webapps]# ]
```

Step 3: Installed Java-17, Apache-Tomcat-10 on the instance which is not a slave:

The screenshot shows a terminal session on an EC2 instance. The user has run several commands to install Java and Apache Tomcat. A red box highlights the output of the 'java -version' command, which shows Java 17.0.17. A second red box highlights the output of the 'cd /mnt/server/apache-tomcat-10.1.52/' command, showing the directory structure of the Tomcat installation.

```
[root@ip-172-31-39-62 ~]# java -version
openjdk version "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-172-31-39-62 ~]# cd /mnt/server/apache-tomcat-10.1.52/
[root@ip-172-31-39-62 apache-tomcat-10.1.52]# ll
total 184
-rw-rw-rwx. 1 root root 25374 Jan 23 19:29 BUILDING.txt
-rw-rw-rwx. 1 root root 6260 Jan 23 19:29 CONTRIBUTING.md
-rw-rw-rwx. 1 root root 61536 Jan 23 19:29 LICENSE
-rw-rw-rwx. 1 root root 2401 Jan 23 19:29 NOTICE
-rw-rw-rwx. 1 root root 3287 Jan 23 19:29 README.md
-rw-rw-rwx. 1 root root 6949 Jan 23 19:29 RELEASE-NOTES
-rw-rw-rwx. 1 root root 16582 Jan 23 19:29 RUNNING.txt
drwxrwxrwx. 2 root root 16384 Jan 23 19:29 bin
drwxrwxrwx. 3 root root 16384 Jan 28 17:28 conf
drwxrwxrwx. 2 root root 16384 Jan 23 19:29 logs
drwxrwxrwx. 2 root root 132 Jan 28 17:28 temp
drwxrwxrwx. 2 root root 30 Jan 23 19:29 webapps
drwxrwxrwx. 8 root root 125 Jan 28 17:49 work
drwxrwxrwx. 3 root root 22 Jan 28 17:28 [REDACTED]
[root@ip-172-31-39-62 apache-tomcat-10.1.52]# cd bin
[root@ip-172-31-39-62 bin]#
[root@ip-172-31-39-62 bin]# ./startup.sh
Using CATALINA_BASE: /mnt/server/apache-tomcat-10.1.52
Using CATALINA_HOME: /mnt/server/apache-tomcat-10.1.52
Using CATALINA_TMPDIR: /mnt/server/apache-tomcat-10.1.52/temp
Using JRE_HOME: /usr
Using CLASSPATH: /mnt/server/apache-tomcat-10.1.52/bin/bootstrap.jar:/mnt/server/apache-tomcat-10.1.52/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
[root@ip-172-31-39-62 bin]#
```

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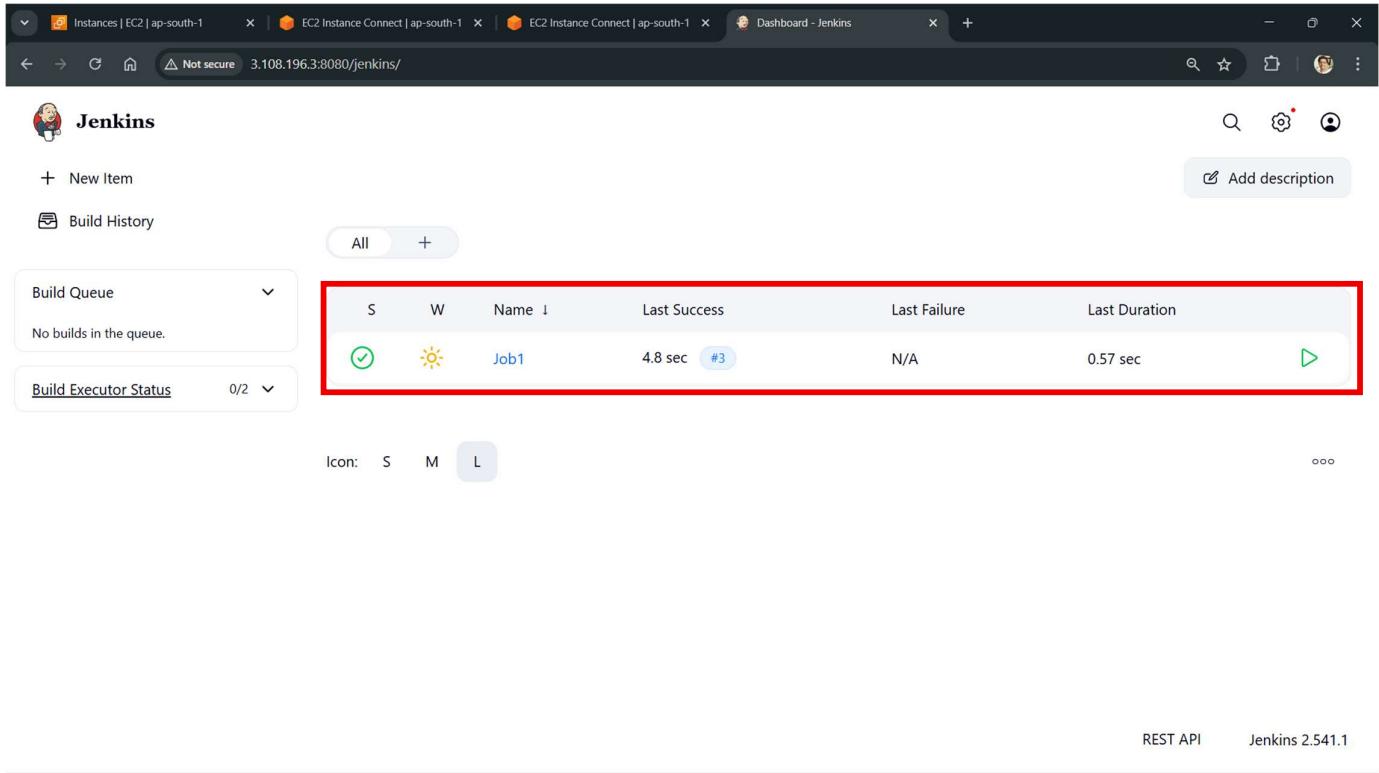
Step 4: Created ‘Private Key-Pair File’ of name ‘key.pem’ using the key-pair and also downloaded the ‘SampleWebApp.war’ file on Tomcat-Home/webapps folder:

The screenshot shows a terminal session on an EC2 instance. The user has navigated to the Tomcat 'webapps' directory and listed its contents. A red box highlights the 'key.pem' file, which was created earlier. Another red box highlights the 'SampleWebApp.war' file, which was downloaded from a Jenkins build. The terminal shows the directory structure of the Tomcat webapps folder.

```
[root@ip-172-31-39-28 webapps]#
[root@ip-172-31-39-28 webapps]#
[root@ip-172-31-39-28 webapps]# pwd
/mnt/server/apache-tomcat-10.1.52/webapps
[root@ip-172-31-39-28 webapps]#
[root@ip-172-31-39-28 webapps]# ll
total 94072
drwxrwxrwx. 3 root root 16384 Jan 23 19:29 [REDACTED]
drwxr-x---. 4 root root 74 Jan 28 17:34 SampleWebApp
-rw-r--r--. 1 root root 8618 Jan 28 17:25 SampleWebApp.war
drwxrwxrwx. 16 root root 16384 Jan 23 19:29 [REDACTED]
drwxrwxrwx. 7 root root 99 Jan 23 19:29 [REDACTED]
drwxrwxrwx. 6 root root 79 Jan 23 19:29 [REDACTED]
drwxr-x---. 10 root root 16384 Jan 28 17:38 jenkins
-rw-r--r--. 1 root root 96260165 Jan 21 09:32 jenkins.war
-rw-r-----. 1 root root 1835 Jan 28 17:29 key.pem
drwxrwxrwx. 6 root root 114 Jan 23 19:29 [REDACTED]
[root@ip-172-31-39-28 webapps]#
```

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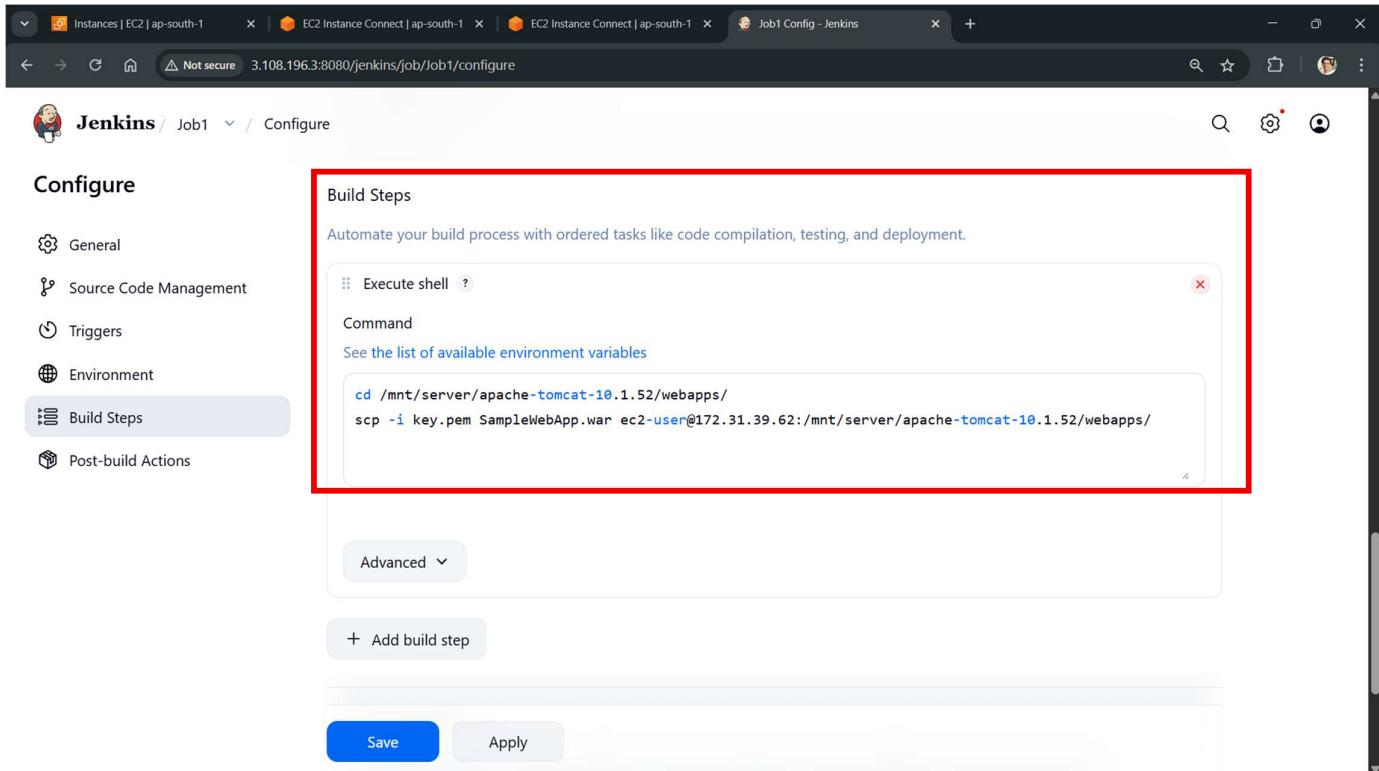
Step 5: Created a Freestyle Job in the Jenkins Dashboard named Job1:



The screenshot shows the Jenkins dashboard at 3.108.196.3:8080/jenkins/. A red box highlights the table under the heading 'Job Queue'. The table has columns: S (Status), W (Waiting), Name (Job1), Last Success (4.8 sec #3), Last Failure (N/A), and Last Duration (0.57 sec). The 'Job1' row is selected.

S	W	Name	Last Success	Last Failure	Last Duration
		Job1	4.8 sec #3	N/A	0.57 sec

Step 6: Executed the shell script using ‘scp (secure copy)’ command in Job Configuration and deployed the ‘SampleWebApp’ application on the instance which is not a slave:



The screenshot shows the 'Configure' page for the 'Job1' job at 3.108.196.3:8080/jenkins/job/Job1/configure. A red box highlights the 'Build Steps' section. It contains an 'Execute shell' step with the command:

```
cd /mnt/server/apache-tomcat-10.1.52/webapps/
scp -i key.pem SampleWebApp.war ec2-user@172.31.39.62:/mnt/server/apache-tomcat-10.1.52/webapps/
```

Result:

When Build is done by Job1, the ‘SecureWebApp.war’ file will be copied from Jenkins Master instance to the Tomcat-Home/webapps folder of the second instance which is not a slave and then the application will be deployed instantly on same path. We can see the SecureWebApp application is successfully hosted over the internet:

The screenshot displays two windows side-by-side. On the left is the Jenkins 'Console' window for Job1 build #4. It shows the build log with a red box highlighting the command-line output. The output indicates the build was started by user 'mmm' and running as 'SYSTEM'. It shows the workspace being deleted, the use of deferred wipeout, and the successful deployment of 'SampleWebApp.war' to the Tomcat webapps directory. A red arrow points to the last line of the log with the text 'Build is done'. On the right is a browser window titled 'SampleWebApp' showing the application's home page. The page has a heading 'Sample Web Application To Deploy and Test' and a link 'click [Click to Invoke a SnoopServlet](#)'. A red box surrounds this link, and a red arrow points to it with the text 'Application site is hosted'.

Jenkins / Job1 / #4

Console

Status Changes Console Output Edit Build Information Delete build #4 Timings Previous Build

Download Copy View as plain text

```
Started by user mmm
Running as SYSTEM
Building in workspace /root/.jenkins/workspace/Job1
[WS-CLEANUP] Deleting project workspace...
[WS-CLEANUP] Deferred wipeout is used...
[WS-CLEANUP] Done
[Job1] $ /bin/sh -x /mnt/server/apache-tomcat-10.1.52/temp/jenkins1521457149448737083.sh
+ cd /mnt/server/apache-tomcat-10.1.52/webapps/
+ scp -i key.pem SampleWebApp.war ec2-user@172.31.39.62:/mnt/server/apache-tomcat-10.1.52/webapps/
Finished: SUCCESS
```

Jenkins 2.541.1

Sample Web Application To Deploy and Test

click [Click to Invoke a SnoopServlet](#)

Application site is hosted