

The screenshot displays the AWS Management Console's EC2 Instances page. The left-hand navigation pane includes links for 'New EC2 Experience', 'EC2 Dashboard', 'Events', 'Tags', 'Limits', 'Instances', 'Instance Types', 'Launch Templates', 'Spot Requests', 'Savings Plans', 'Reserved Instances', 'Dedicated Hosts', 'Capacity Reservations', 'Images', and 'AMIs'. The main area is titled 'Instances (2)' and features a search bar with the placeholder text 'Find instance by attribute or tag (case-sensitive)'. Below the search bar is a table listing two EC2 instances:

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
<input type="checkbox"/>	machine jenkins	i-0caaec3d9b1b79735	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c
<input type="checkbox"/>	machine tomcat	i-0f7090694af0e3486	Running	t2.micro	2/2 checks passed	No alarms	us-west-1c

Below the table, there is a section titled 'Select an instance' with a search icon and a close icon. The top of the browser window shows the URL 'us-west-1.console.aws.amazon.com/ec2/home?region=us-west-1#Instancesv=3:case=tag:true%5C,client:false:\$regex=tags:false%5C,client:false'.

```
sudo su-
```

```
sudo apt-get install -y openjdk-11-jdk
```

```
wget http://mirrors.jenkins.io/war-stable/latest/jenkins.war
```

[illegible]

```
myaccess:wis X Home | Micro X (1) PDF File X Email - Sai k X Adrenalin M X Connect to in X EC2 Instance X sai-313/sai-k X +
us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&instanceId=i-0caaec3d9b1b79735&osUser=ubuntu&sshPort=22...
AWS Services Search [Alt+S] N. California sai kumar

No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
root@jenkins:~# sudo apt-get install -y git maven
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
  libaopalliance-java libapache-pom-java libatinject-jar330-api-java libcdi-api-java libcommons-cli-java libcommons-io-java libcommons-lang3-java
  libcommons-parent-java libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libguava-java libguice-java
  libhawtjni-runtime-java libjansi-native-java libjansi-native-java libjar305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java
  libmaven3-core-java libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java
  libplexus-sec-dispatcher-java libplexus-utils2-java libsisu-inject-java libsisu-plexus-java libslf4j-java libwagon-file-java
  libwagon-http-shaded-java libwagon-provider-api-java
Suggested packages:
  git-daemon-run | git-daemon-symlink git-doc git-email git-gui gitk gitweb git-ova git-mediawiki git-svn libaopalliance-java-doc
  libatinject-jar330-api-java-doc libel-api-java libcommons-io-java-doc libcommons-lang3-java-doc libasm-java libcglib-java libjer305-java-doc
  libmaven-shared-utils-java-doc liblogback-java libplexus-classworlds-java-doc libplexus-sec-dispatcher-java-doc libplexus-utils2-java-doc junit4
  testng libcommons-logging-java liblog4j1.2-java
The following NEW packages will be installed:
  libaopalliance-java libapache-pom-java libatinject-jar330-api-java libcdi-api-java libcommons-cli-java libcommons-io-java libcommons-lang3-java
  libcommons-parent-java libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libguava-java libguice-java
i-0caaec3d9b1b79735 (machine jenkins)
PublicPs: 54.219.106.229 PrivatePs: 172.31.31.53
```

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Type here to search

```
myaccess:wis X Home | Micro X (2) PDF File X Batch 13 - Al X Email - Sai k X Adrenalin M X Connect to in X EC2 Instance X +
us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-01142bd0703d45b8b&osUser=ubuntu&region=us-west-1&sshPort=22...
AWS Services Search [Alt+S] N. California sai kumar

Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
maven is already the newest version (3.6.3-5).
git is already the newest version (1:2.34.1-1ubuntu1.5).
0 upgraded, 0 newly installed, 0 to remove and 89 not upgraded.
root@jenkins:~# wget http://mirrors.jenkins.io/war-stable/latest/jenkins.war
URL transformed to HTTPS due to an HSTS policy
--2022-11-30 04:52:04-- https://mirrors.jenkins.io/war-stable/latest/jenkins.war
Resolving mirrors.jenkins.io (mirrors.jenkins.io)... 52.167.253.43
Connecting to mirrors.jenkins.io (mirrors.jenkins.io)|52.167.253.43|:443... connected.
HTTP request sent, awaiting response... 302 Found
Location: https://ftp-nyc.osuosl.org/pub/jenkins/war-stable/latest/jenkins.war [following]
--2022-11-30 04:52:04-- https://ftp-nyc.osuosl.org/pub/jenkins/war-stable/latest/jenkins.war
Resolving ftp-nyc.osuosl.org (ftp-nyc.osuosl.org)... 64.50.233.100, 2600:3404:200:237::2
Connecting to ftp-nyc.osuosl.org (ftp-nyc.osuosl.org)|64.50.233.100|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 93501813 (89M) [application/x-java-archive]
Saving to: 'jenkins.war.1'

jenkins.war.1          100%[=====>] 89.17M  11.3MB/s  in 15s

2022-11-30 04:52:20 (5.85 MB/s) - 'jenkins.war.1' saved [93501813/93501813]
root@jenkins:~#
```

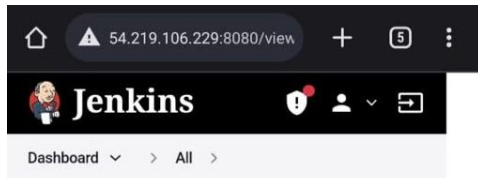
i-01142bd0703d45b8b (machine jenkins)
PublicPs: 18.144.70.52 PrivatePs: 172.31.20.197

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Step-3 Take the public ip of your instance and open in a new tab using the jenkins default port number 8080 & unlock the Jenkins using the password generated (<http://54.219.106.229:8080>)

A screenshot of the 'Enter an item name' form in the Jenkins web interface. At the top, there is a text input field containing 'Simulator exercise' and a 'Required field' label. Below this, there are three project type options, each with an icon and a description: 1. 'Freestyle project' with a blue icon, described as 'This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.' 2. 'Pipeline' with a blue icon, described as 'Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.' 3. 'Multi-configuration project' with a blue icon, described as 'For projects that need a large number of different configurations, such as factoring'. An 'OK' button is visible at the bottom left of the form.

Step-4 Install the suggested plugins & create admin user

Step-5 Connect to the Tomcat server & execute the following

`sudo apt-get update`

`Hostnmectl set-hostname tomcat`

`Exec bash`

sudo apt-get install -y openjdk-11-jdk

sudo apt-get install -y tomcat9

sudo apt-get install -y tomcat9-admin

cd /var/lib/tomcat9/conf sudo vim tomcat-users.xml

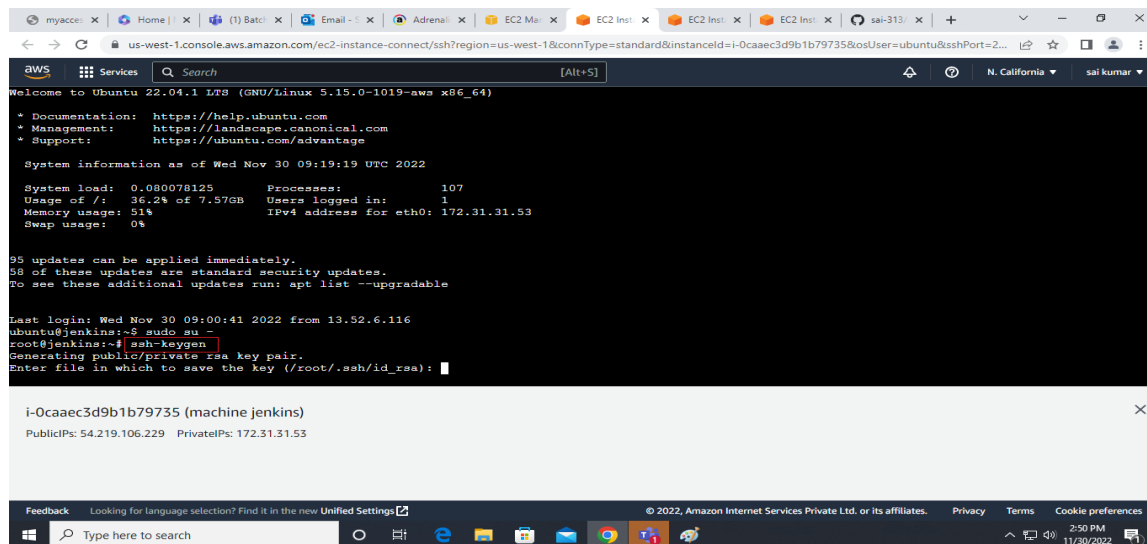
sudo service tomcat9 restart

sudo passwd ubuntu Sudo vim /etc/ssh/sshd_config

sudo service ssh restart

sudo service sshd restart

Step-6 Generate ssh-keygen in jenkins instance & connect to the tomcat server.



```
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us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&instanceId=i-0caaec3d9b1b79735&osUser=ubuntu&sshPort=2...
AWS Services Search [Alt+S]
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1019-aws x86_64)
* Documentation:  https://help.ubuntu.com
* Management:    https://landscape.canonical.com
* Support:        https://ubuntu.com/advantage
System information as of Wed Nov 30 09:19:19 UTC 2022
System load:  0.080078125      Processes:           107
Usage of /:   36.2% of 7.57GB   Users logged in:     1
Memory usage: 51%             IPv4 address for eth0: 172.31.31.53
Swap usage:   0%
95 updates can be applied immediately.
58 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
Last login: Wed Nov 30 09:00:41 2022 from 13.52.6.116
ubuntu@jenkins:~$ sudo su -
root@jenkins:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
```

i-0caaec3d9b1b79735 (machine jenkins)

PublicIPs: 54.219.106.229 PrivateIPs: 172.31.31.53

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us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&iinstanceId=i-0caaec3d9b1b79735&osUser=ubuntu&sshPort=2...

aws Services Search [Alt+S]

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```
Enter file in which to save the key (/root/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /root/.ssh/id_rsa
Your public key has been saved in /root/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:in+O/8AEW04Mi3TDQe81xI3+OY2ucLuCDPwqU1Db8p8 root@jenkins
The key's randomart image is:
+--[RSA 3072]-----+
|..+o      |
|.oo.o     |
|.+.+.o    |
|oo+=+==   |
|.o.+B...S |
|...+o+    |
|+=+o...o  |
|*O+.E...  |
|o+=. o+o..|
+---[SHA256]-----+
root@jenkins:~# ssh-copy-id ubuntu@172.31.26.134
/usr/bin/ssh-copy-id: INFO: Source of key(s) to be installed: "/root/.ssh/id_rsa.pub"
The authenticity of host '172.31.26.134 (172.31.26.134)' can't be established.
ED25519 key fingerprint is SHA256:6ihGtOhnNYLGH9JgWfUfU6iUpqt8B5kRfoKa/OekI.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
```

i-0caaec3d9b1b79735 (machine jenkins)

PublicIPs: 54.219.106.229 PrivateIPs: 172.31.31.53

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us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&iinstanceId=i-0caaec3d9b1b79735&osUser=ubuntu&sshPort=2...

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```
* Documentation: https://help.ubuntu.com
* Management: https://landscape.canonical.com
* Support: https://ubuntu.com/advantage

System information as of Wed Nov 30 09:23:05 UTC 2022

System load: 0.02734375 Processes: 106
Usage of /: 33.7% of 7.57GB Users logged in: 1
Memory usage: 31% IPv4 address for eth0: 172.31.26.134
Swap usage: 0%

96 updates can be applied immediately.
59 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Last login: Wed Nov 30 09:07:39 2022 from 13.52.6.115
ubuntu@tomcat:~$ hostname
tomcat
ubuntu@tomcat:~$ exit
logout
Connection to 172.31.26.134 closed.
root@jenkins:~#
```

i-0caaec3d9b1b79735 (machine jenkins)

PublicIPs: 54.219.106.229 PrivateIPs: 172.31.31.53

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myacce: X Home: X (1) Batch: X Email: X Adrenal: X EC2 Ma: X EC2 Ins: X EC2 Ins: X EC2 Ins: X sai-313: X

us-west-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-west-1&connType=standard&instanceId=i-0caaec3d9b1b79735&osUser=ubuntu&sshPort=22

aws Services Search [Alt+S] N. California sai kumar

```
jenkins
root@jenkins:~# ssh ubuntu@172.31.26.134
Welcome to Ubuntu 22.04.1 LTS (GNU/Linux 5.15.0-1019-aws x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:        https://ubuntu.com/advantage

System information as of Wed Nov 30 09:24:15 UTC 2022

System load:  0.005859375      Processes:            106
Usage of /:   33.7% of 7.57GB   Users logged in:      1
Memory usage: 31%              IPv4 address for eth0: 172.31.26.134
Swap usage:   0%

96 updates can be applied immediately.
59 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Last login: Wed Nov 30 09:23:05 2022 from 172.31.31.53
ubuntu@tomcat:~$ hostname
tomcat
ubuntu@tomcat:~$
```

i-0caaec3d9b1b79735 (machine jenkins)
PublicIPs: 54.219.106.229 PrivateIPs: 172.31.31.53

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2:54 PM 11/30/2022

Step-7 Create a new item in Jenkins dashboard & select freestyle project

54.219.106.229:8080/view

Jenkins

Dashboard > All >

Enter an item name

Simulator exercise

» Required field

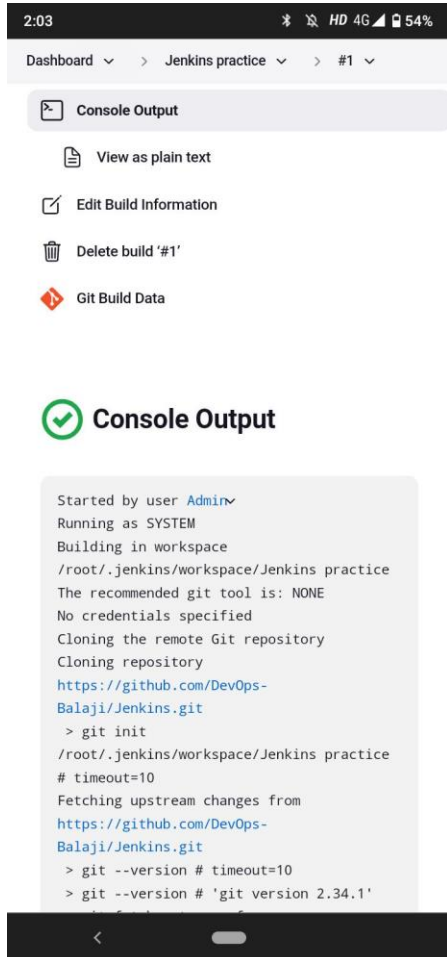
Freestyle project
This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.

Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

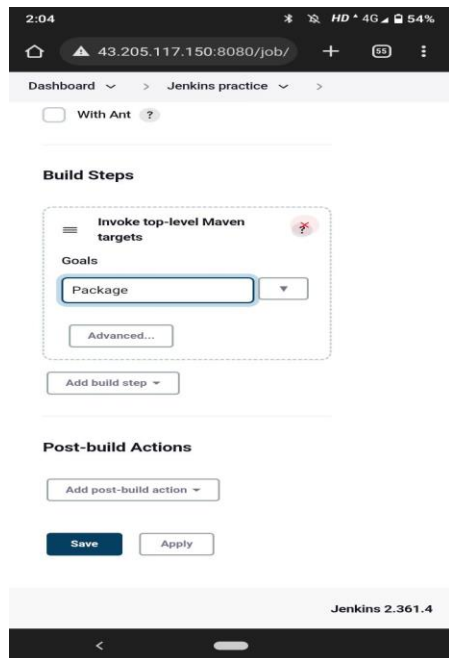
Multi-configuration project
For projects that need a number of different configurations, such as testing

OK

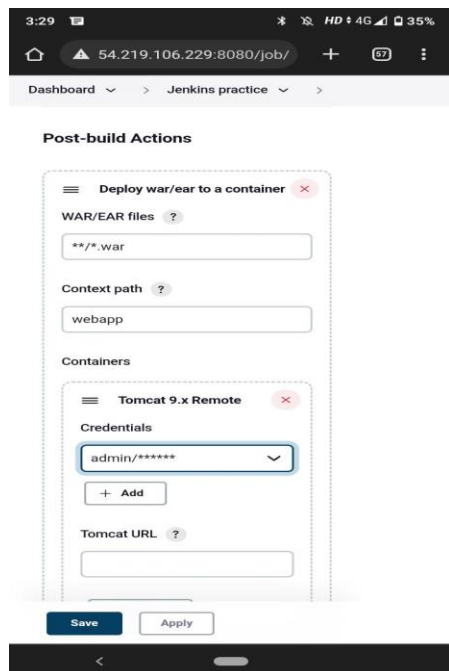
Step-8 Go to the source code management and select Git & Paste Git



Step-9 Add Build step & Select invoke top level maven targets



Step-10 Go to manage jenkins & manage plugins and install Deploy to container



Step-11 Take the public ip of the tomcat server and open in the new tab

