

Dharmi Gujarati

CWID- 20018001

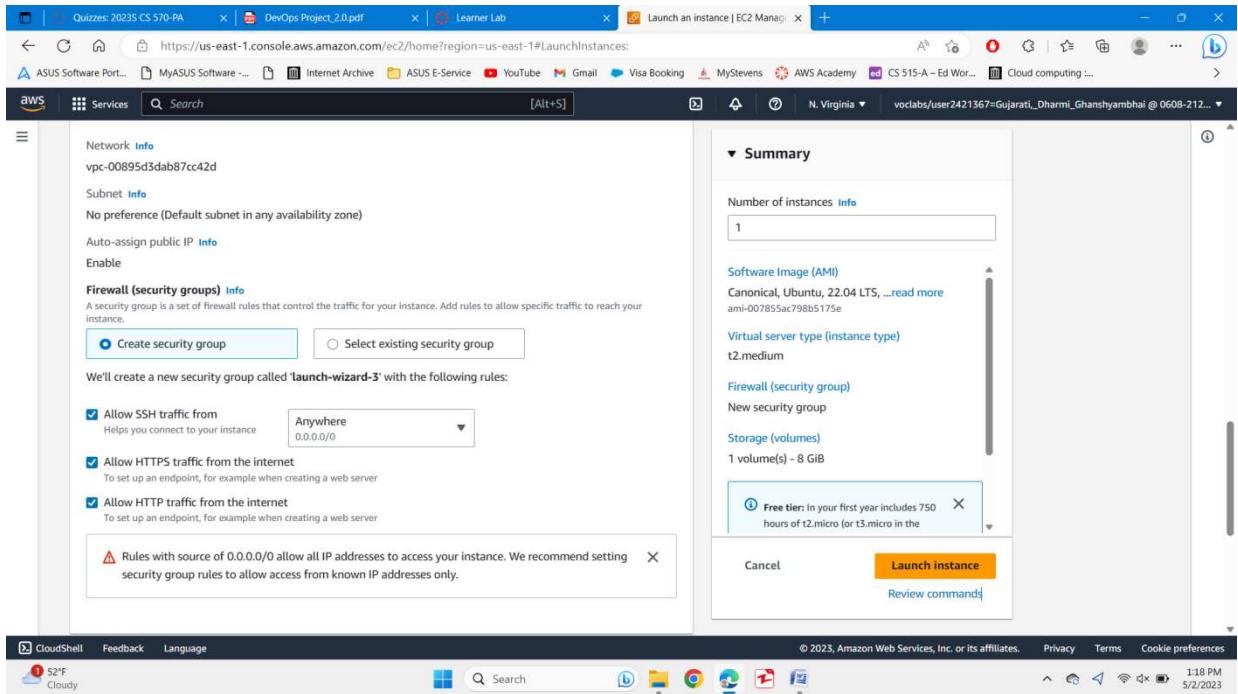
DevOps Project

1) Log in to the AWS Management Console and navigate to EC2.

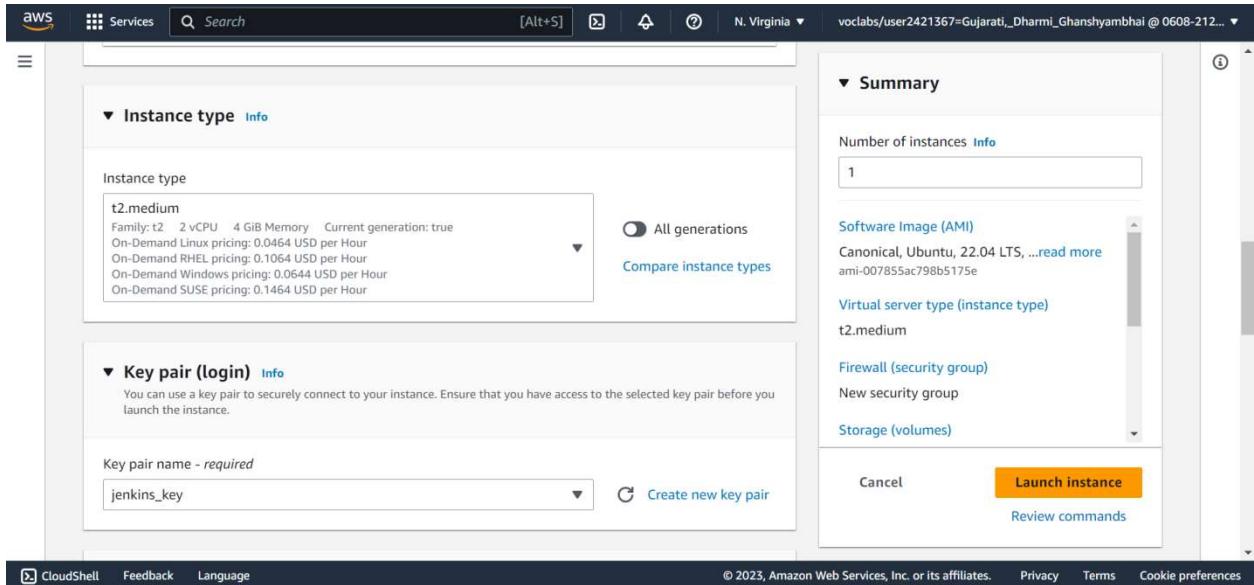
The screenshot shows the AWS Management Console with the EC2 service selected. The main page is titled "Launch an instance". It includes fields for "Name and tags" (set to "Jenkins") and a search bar for "Application and OS Images (Amazon Machine Image)". On the right, a "Summary" panel shows the configuration: 1 instance, Canonical, Ubuntu 22.04 LTS AMI, t2.medium instance type, and a New security group. At the bottom right of the summary panel is a prominent orange "Launch instance" button.

Click on "Launch Instance", then select "Ubuntu Server 22.04 LTS (HVM), SSD Volume Type" and choose an instance type of t2.medium.

This screenshot shows the "Application and OS Images (Amazon Machine Image)" section. It highlights the "Ubuntu Server 22.04 LTS (HVM), SSD Volume Type" option under the "Quick Start" heading. This selection is also reflected in the "Summary" panel on the right, which now lists the chosen AMI and instance type. The "Launch instance" button remains visible at the bottom right.



2) Create a new key pair jenkins_key and launch the instance.



Once the instance is running, SSH into it as the root user.

The screenshot shows the 'Network settings' step of the AWS Launch Wizard. It includes fields for Network (vpc-00895d3dab87cc42d), Subnet (No preference), Auto-assign public IP (Enable), and Firewall (security groups). A note says 'We'll create a new security group called 'launch-wizard-4' with the following rules:'. Under 'Allow SSH traffic from', 'Anywhere' is selected. Under 'Allow HTTPS traffic from the internet', there is a note to 'Set up an endpoint, for example when creating a web server'. On the right, the 'Summary' section shows 1 instance, the AMI (Canonical, Ubuntu, 22.04 LTS), instance type (t2.medium), and a 'Launch instance' button.

The screenshot shows the 'Configure storage' step of the AWS Launch Wizard. It shows 1x 8 GiB gp2 volume assigned as the Root volume (Not encrypted). A note says 'Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage'. Below this is an 'Add new volume' button. The 'Advanced' tab is visible at the top right. On the right, the 'Summary' section shows 1 instance, the AMI (Canonical, Ubuntu, 22.04 LTS), instance type (t2.medium), and a 'Launch instance' button.

The screenshot shows the AWS EC2 Instances "Launch an instance" success page. At the top, there's a green checkmark icon and the word "Success". Below it, a message says "Successfully initiated launch of instance (i-03a9b0d80cf78d30a)". A "Launch log" link is provided. The main content area is titled "Next Steps" and contains a search bar and a numbered list of six items: 1. Create billing and free tier usage alerts, 2. Connect to your instance, 3. Connect an RDS database, 4. Create EBS snapshot policy, 5. Create alarm, and 6. Create backup. The bottom of the page includes standard AWS footer links: CloudShell, Feedback, Language, © 2023, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

3) Run these following commands to update Ubuntu and install jenkins:

The screenshot shows a terminal session on an AWS CloudShell. The user is running a series of commands to set up Jenkins on an Ubuntu host. The commands include:

```
Setting up jenkins (2.403) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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@ip-172-31-90-201:~# curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null
root@ip-172-31-90-201:~# echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian binary/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null
root@ip-172-31-90-201:~# sudo apt-get update
E: Invalid operation update
root@ip-172-31-90-201:~# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian binary/ Release
Reading package lists... Done
root@ip-172-31-90-201:~# sudo apt-get install jenkins
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
jenkins is already the newest version (2.403).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
root@ip-172-31-90-201:~#
```

The bottom of the terminal window includes standard AWS footer links: CloudShell, Feedback, Language, © 2023, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

```
To see these additional updates run: apt list --upgradable  
Enable ESM apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Tue May  2 17:21:12 2023 from 18.206.107.27  
ubuntu@ip-172-31-90-201:~$ sudo su -  
root@ip-172-31-90-201:~# sudo apt-get update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-security InRelease  
Ign:4 https://security.ubuntu.com/ubuntu jammy-security InRelease  
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease  
Ign:6 https://pkg.jenkins.io/debian binary/ Release  
Reading package lists... Done  
root@ip-172-31-90-201:~# sudo apt-get install fontconfig openjdk-11-jre  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
Fontconfig is already the newest version (2.13.1-4.2ubuntu5).  
openjdk-11-jre is already the newest version (11.0.18+10-0ubuntu1-22.04).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
1 not fully installed or removed.  
After this operation, 0 B of additional disk space will be used.  
Do you want to continue? [Y/n] Y  
Setting up jenkins (2.403) ...  
Scanning processes.  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.
```

```
Setting up jenkins (2.403) ...  
Scanning processes...  
Scanning linux images...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (gemu) binaries on this host.  
root@ip-172-31-90-201:~# curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null  
root@ip-172-31-90-201:~# echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian binary/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null  
root@ip-172-31-90-201:~# sudo apt-get update  
E: Invalid operation update  
root@ip-172-31-90-201:~# sudo apt-get update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease  
Ign:6 https://pkg.jenkins.io/debian binary/ Release  
Reading package lists... Done  
root@ip-172-31-90-201:~# sudo apt-get install jenkins  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
jenkins is already the newest version (2.403).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-90-201:~#
```

4) Install Maven on the Jenkins instance and run these commands:

The screenshot shows a terminal session in AWS CloudShell. The user is root on an Ubuntu Jammy instance. They first update the package lists and then install Jenkins. After Jenkins is installed, they download Apache Maven 3.9.1 from the official Apache mirrors and extract it to /opt. Finally, they set the MAVEN_HOME environment variable to /opt/maven and update the /etc/profile file to include the Maven bin directory in the PATH.

```
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
root@ip-172-31-90-201:~# curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key | sudo tee /usr/share/keyrings/jenkins-keyring.asc > /dev/null  
root@ip-172-31-90-201:~# echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] https://pkg.jenkins.io/debian binary/ | sudo tee /etc/apt/sources.list.d/jenkins.list > /dev/null  
root@ip-172-31-90-201:~# sudo apt-get update  
E: Invalid operation upgrade  
root@ip-172-31-90-201:~# sudo apt-get update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease  
Hit:6 https://pkg.jenkins.io/debian binary/ Release  
Reading package lists... Done  
root@ip-172-31-90-201:~# sudo apt-get install jenkins  
Reading package lists... done  
Building dependency tree... Done  
Reading state information... Done  
jenkins is already the newest version (2.403).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-90-201:~# cd /tmp ; sudo wget https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz  
--2023-05-02 17:33:01-- https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz  
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42:644  
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 9039409 (8.6M) [application/x-gzip]  
Saving to: 'apache-maven-3.9.1-bin.tar.gz'  
  
apache-maven-3.9.1-bin.tar.gz          100%[=====] 8.62M --.-KB/s   in 0.08s  
2023-05-02 17:33:01 (112 MB/s) - 'apache-maven-3.9.1-bin.tar.gz' saved [9039409/9039409]  
root@ip-172-31-90-201:~/tmp#
```

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This screenshot continues the Maven installation process. After extracting the tarball to /opt, the user sets the MAVEN_HOME environment variable to /opt/maven and updates the /etc/profile file to include the Maven bin directory in the PATH.

```
E: Invalid operation upgrade  
root@ip-172-31-90-201:~# sudo apt-get update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease  
Hit:6 https://pkg.jenkins.io/debian binary/ Release  
Reading package lists... Done  
root@ip-172-31-90-201:~# sudo apt-get install jenkins  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
jenkins is already the newest version (2.403).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-90-201:~# cd /tmp ; sudo wget https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz  
--2023-05-02 17:33:01-- https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz  
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42:644  
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 9039409 (8.6M) [application/x-gzip]  
Saving to: 'apache-maven-3.9.1-bin.tar.gz'  
  
apache-maven-3.9.1-bin.tar.gz          100%[=====] 8.62M --.-KB/s   in 0.08s  
2023-05-02 17:33:01 (112 MB/s) - 'apache-maven-3.9.1-bin.tar.gz' saved [9039409/9039409]  
root@ip-172-31-90-201:~/tmp# cd /tmp ; sudo tar -xzf apache-maven-3.9.1-bin.tar.gz -C /opt/  
root@ip-172-31-90-201:~/tmp# mv /opt/apache-maven-3.9.1 /opt/maven  
root@ip-172-31-90-201:~/tmp# sudo echo "MAVEN_HOME=\"/opt/maven\"" >> /etc/profile  
44root@ip-172-31-90-201:~/tmp# sudo echo "PATH=\$MAVEN_HOME/bin:\$PATH" >> /etc/profile  
root@ip-172-31-90-201:~/tmp# source /etc/profile  
root@ip-172-31-90-201:~/tmp#
```

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Change the inbound rules and add custom TCP with 8080 port in security group.

Inbound rules [Info](#)

Security group rule ID	Type Info	Protocol Info	Port range Info	Source Info	Description - optional Info
sgr-06cf06cccd63ee0e5e	SSH ▼	TCP	22	Custom ▼ <input type="text" value="0.0.0.0"/> X	<input type="text"/>
sgr-0afb5646725b9ddcc	Custom TCP ▼	TCP	8080	Custom ▼ <input type="text" value="0.0.0.0"/> X	<input type="text"/>

Add rule Cancel Preview changes Save rules

Getting Started

Unlock Jenkins

To ensure Jenkins is securely set up by the administrator, a password has been written to the log ([not sure where to find it?](#)) and this file on the server:

`/var/lib/jenkins/secrets/initialAdminPassword`

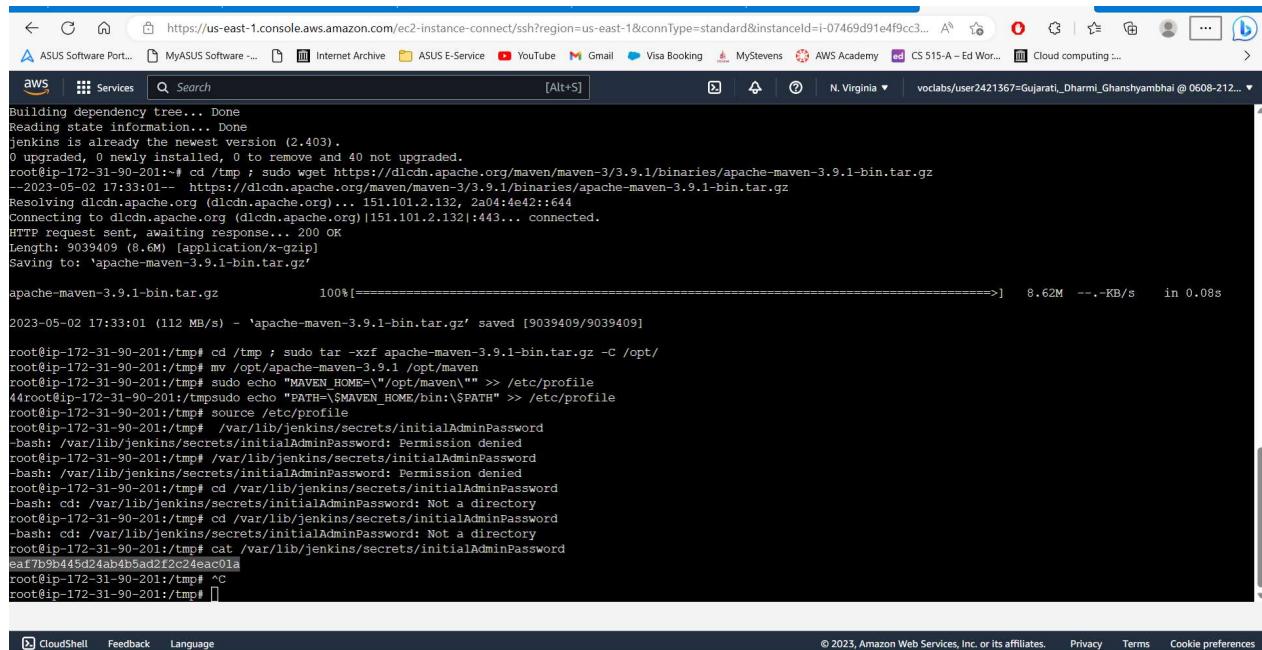
Please copy the password from either location and paste it below.

Administrator password

Continue

5) Copy the password from /var/lib/jenkins/secrets/initialAdminPassword and install the suggested plugins.

- Password -- 5675bcf8dc274aab1b3e1ce57ec8a9f

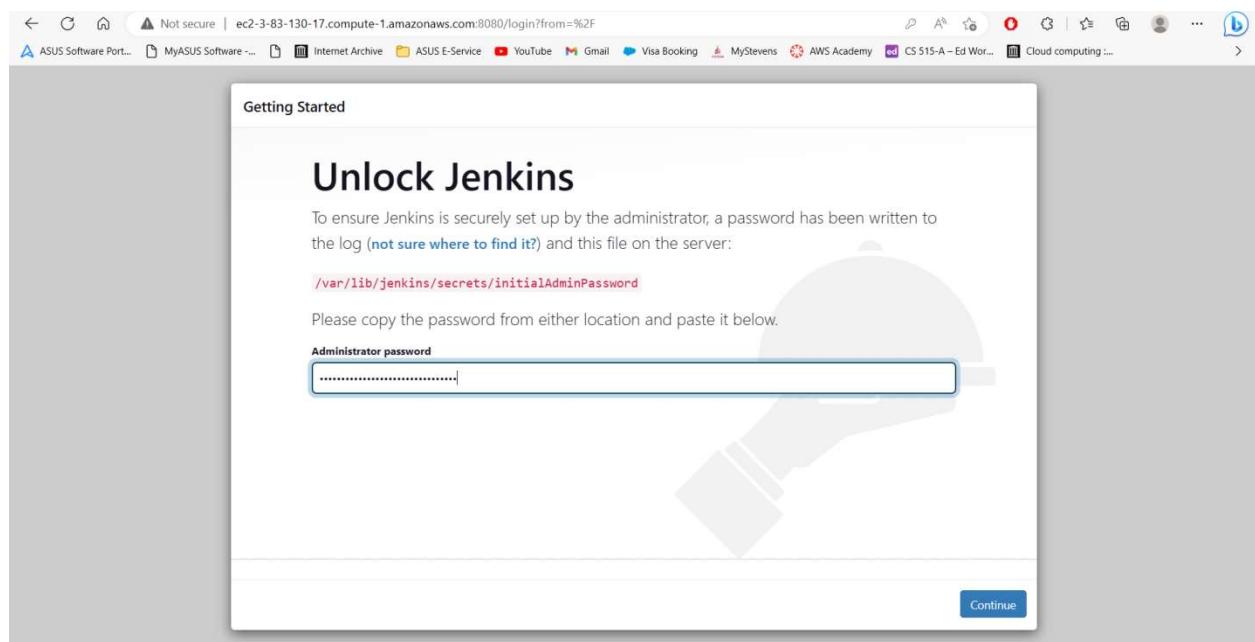


```
Building dependency tree... Done
Reading state information... Done
jenkins is already the newest version (2.403).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
root@ip-172-31-90-201:~# cd /tmp ; sudo wget https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz
--2023-05-02 17:33:01-- https://dlcdn.apache.org/maven/maven-3/3.9.1/binaries/apache-maven-3.9.1-bin.tar.gz
Resolving dlcdn.apache.org (dlcdn.apache.org)... 151.101.2.132, 2a04:4e42:644
Connecting to dlcdn.apache.org (dlcdn.apache.org)|151.101.2.132|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9039409 (8.6M) [application/x-gzip]
Saving to: 'apache-maven-3.9.1-bin.tar.gz'

apache-maven-3.9.1-bin.tar.gz      100%[=====]  8.62M  ---.KB/s   in 0.08s

2023-05-02 17:33:01 (112 MB/s) - 'apache-maven-3.9.1-bin.tar.gz' saved [9039409/9039409]

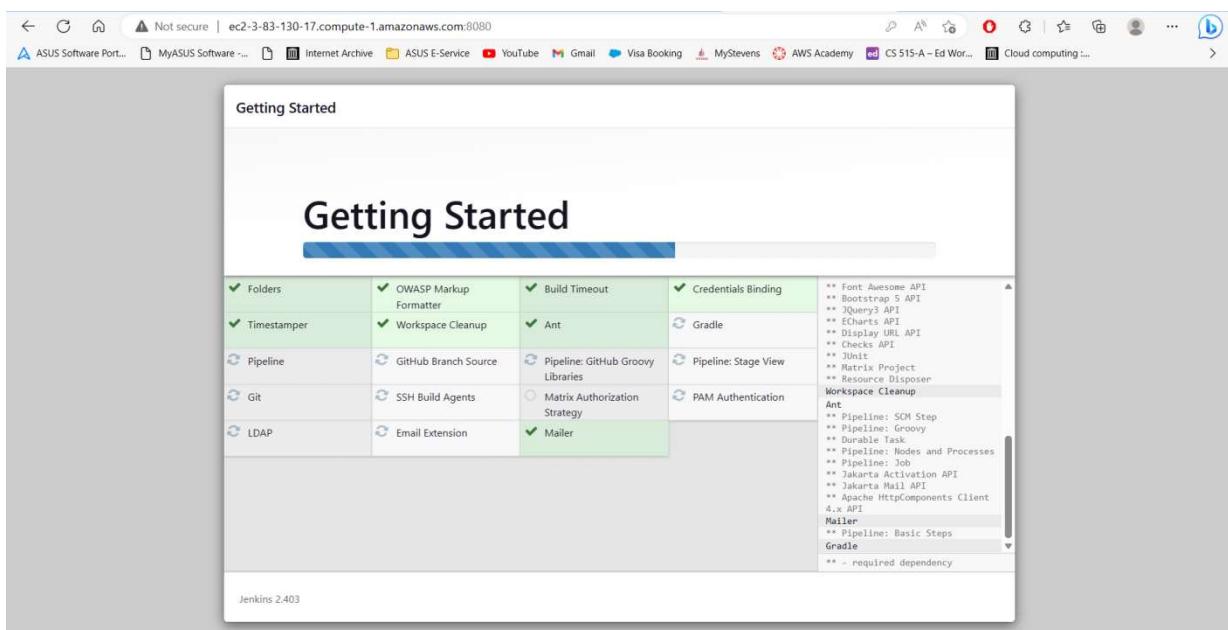
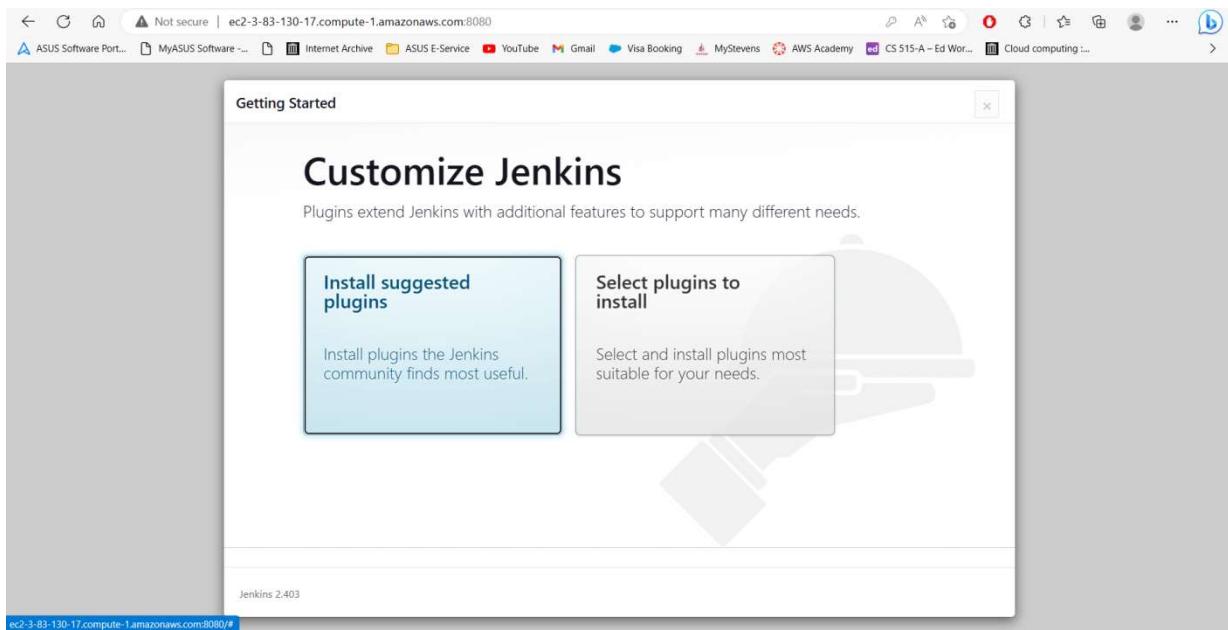
root@ip-172-31-90-201:/tmp# cd /tmp ; sudo tar -xzf apache-maven-3.9.1-bin.tar.gz -C /opt/
root@ip-172-31-90-201:/tmp# mv /opt/apache-maven-3.9.1 /opt/maven
root@ip-172-31-90-201:/tmp# sudo echo "MAVEN_HOME=/opt/maven" >> /etc/profile
44root@ip-172-31-90-201:/tmp$ sudo echo "PATH=$MAVEN_HOME/bin:\$PATH" >> /etc/profile
root@ip-172-31-90-201:/tmp# source /etc/profile
root@ip-172-31-90-201:/tmp# /var/lib/jenkins/secrets/initialAdminPassword
-bash: /var/lib/jenkins/secrets/initialAdminPassword: Permission denied
root@ip-172-31-90-201:/tmp# /var/lib/jenkins/secrets/initialAdminPassword
-bash: /var/lib/jenkins/secrets/initialAdminPassword: Permission denied
root@ip-172-31-90-201:/tmp# cd /var/lib/jenkins/secrets/initialAdminPassword
-bash: cd: /var/lib/jenkins/secrets/initialAdminPassword: Not a directory
root@ip-172-31-90-201:/tmp# cd /var/lib/jenkins/secrets/initialAdminPassword
-bash: cd: /var/lib/jenkins/secrets/initialAdminPassword: Not a directory
root@ip-172-31-90-201:/tmp# cat /var/lib/jenkins/secrets/initialAdminPassword
eaf7b5b445d24ab5ba2f2c24ea01a
root@ip-172-31-90-201:/tmp# ^C
root@ip-172-31-90-201:/tmp# [ ]
```



6) After installing the suggested plugins, proceed by creating the credentials (username/password) and perform the rest of the necessary work to get the things working.

Username – dharmi

Password – Dharmi@2506



Email – dgujarat@stevens.edu

The screenshot shows the Jenkins 'Getting Started' configuration page. It contains fields for 'Username' (dhamri), 'Password' (redacted), 'Confirm password' (redacted), 'Full name' (Dhamri Gujarati), and 'E-mail address' (dgujarat@stevens.edu). A Jenkins 2.403 status message is at the bottom left, and 'Skip and continue as admin' and 'Save and Continue' buttons are at the bottom right.

Getting Started

Username
dhamri

Password
.....

Confirm password
.....

Full name
Dhamri Gujarati

E-mail address
dgujarat@stevens.edu

Jenkins 2.403

Skip and continue as admin

Save and Continue

The screenshot shows the Jenkins 'Instance Configuration' page. It displays the 'Jenkins URL' field with the value 'http://ec2-3-83-130-17.compute-1.amazonaws.com:8080/'. Below the field, explanatory text states: 'The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the BUILD_URL environment variable provided to build steps.' It also notes that the proposed default value is 'not saved yet'. At the bottom, there are 'Not now' and 'Save and Finish' buttons.

Getting Started

Instance Configuration

Jenkins URL:
http://ec2-3-83-130-17.compute-1.amazonaws.com:8080/

The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the BUILD_URL environment variable provided to build steps.
The proposed default value shown is **not saved yet** and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.

Jenkins 2.403

Not now

Save and Finish

8) Manage jenkins and add Java and maven.

The screenshot shows the Jenkins Manage Jenkins interface. On the left, there's a sidebar with links for New Item, People, Build History, Manage Jenkins (which is selected), and My Views. Below the sidebar are sections for Build Queue (empty) and Build Executor Status (2 Idle). The main content area is titled "Manage Jenkins" and contains a message about building on a built-in node being a security issue. It features four main configuration sections: "System Configuration" (with System, Tools, Nodes, and Clouds), "Security", "Credentials", and "Credential Providers". A search bar at the top right says "Search settings".

The screenshot shows the Jenkins Tools configuration page. At the top, it says "Manage Jenkins > Tools". The main content is titled "Tools" and includes sections for "Maven Configuration" and "JDK installations". In "Maven Configuration", there are dropdown menus for "Default settings provider" (set to "Use default maven settings") and "Default global settings provider" (set to "Use default maven global settings"). In "JDK installations", there's a button to "Add JDK". At the bottom, there are "Git installations" sections with "Save" and "Apply" buttons.

```

Connecting to dlcnd.apache.org (dlcdn.apache.org) ... 151.101.2.132, 2a04:4e42::644
Connecting to dlcnd.apache.org (dlcdn.apache.org) [151.101.2.132]:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 9039409 (8.6M) [application/x-gzip]
Saving to: 'apache-maven-3.9.1-bin.tar.gz'

apache-maven-3.9.1-bin.tar.gz      100%[=====]   8.62M --.-KB/s    in 0.08s

2023-05-02 17:33:01 (112 MB/s) - `apache-maven-3.9.1-bin.tar.gz' saved [9039409/9039409]

root@ip-172-31-90-201:/tmp# cd /tmp ; sudo tar -xzf apache-maven-3.9.1-bin.tar.gz -C /opt/
root@ip-172-31-90-201:/tmp# mv /opt/apache-maven-3.9.1 /opt/maven
root@ip-172-31-90-201:/tmp# sudo echo "MAVEN_HOME=\"/opt/maven\"" > /etc/profile
44root@ip-172-31-90-201:/tmp# sudo echo "PATH=\"$MAVEN_HOME/bin:$PATH\"" > /etc/profile
root@ip-172-31-90-201:/tmp# source /etc/profile
root@ip-172-31-90-201:/tmp# /var/lib/jenkins/secrets/initialAdminPassword
-bash: /var/lib/jenkins/secrets/initialAdminPassword: Permission denied
root@ip-172-31-90-201:/tmp# /var/lib/jenkins/secrets/initialAdminPassword
-bash: /var/lib/jenkins/secrets/initialAdminPassword: Permission denied
root@ip-172-31-90-201:/tmp# cd /var/lib/jenkins/secrets/initialAdminPassword
-bash: cd: /var/lib/jenkins/secrets/initialAdminPassword: Not a directory
root@ip-172-31-90-201:/tmp# cd /var/lib/jenkins/secrets/initialAdminPassword
-bash: cd: /var/lib/jenkins/secrets/initialAdminPassword: Not a directory
root@ip-172-31-90-201:/tmp# cat /var/lib/jenkins/secrets/initialAdminPassword
ea7fb9b445d24ab4b5ad2f2c24eac0la
root@ip-172-31-90-201:/tmp# ^C
root@ip-172-31-90-201:/tmp# mvn -v
Apache Maven 3.9.1 (2e178502fcdbffcc20167ffb2537d0cb4b4cc58f8)
Maven home: /opt/maven
Java version: 11.0.18, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64
Default locale: en, platform encoding: UTF-8
OS name: "linux", version: "5.15.0-1031-aws", arch: "amd64", family: "unix"
root@ip-172-31-90-201:/tmp#

```

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Not secure | ec2-3-83-130-17.compute-1.amazonaws.com:8080/manage/configureTools/

Dashboard > Manage Jenkins > Tools

Use default maven global settings

JDK installations

JDK installations ^ Edited

Add JDK

JDK	Name	<input type="text" value="Java 11"/>
JAVA_HOME	<input type="text" value="/usr/lib/jvm/java-11-openjdk-amd64"/>	
<input type="checkbox"/> Install automatically ?		

Save **Apply**

Maven installations

Add Maven

Maven

Name: Apache Maven 3.9.1 (2e178502fcdbffcc201671fb2537d0cb4b4cc58f8)

MAVEN_HOME: /opt/maven

Install automatically ?

Add Maven

Save Apply

Jenkins 2.403

9) Create instance Tomcat as t2.micro.

Name and tags [Info](#)

Name: Tomcat

Application and OS Images (Amazon Machine Image) [Info](#)

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Search our full catalog including 1000s of application and OS images

Recent | [Quick Start](#)

Amazon Linux | macOS | **Ubuntu** | Windows | Red Hat | > | [Browse more AMIs](#)

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 22.04 LTS (HVM), SSD Volume Type

Free tier eligible

Summary

Number of instances [Info](#): 1

Software Image (AMI): Canonical, Ubuntu, 22.04 LTS, ... [read more](#) ami-007855ac798b5175e

Virtual server type (instance type): t2.micro

Firewall (security group): New security group

Storage (volumes): 1 volume(s) - 8 GiB

[Free tier: In your first year includes 750 hours of t2.micro \(or t3.micro in the future\)](#)

Cancel [Launch instance](#) Review commands

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https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ConnectToInstance:instanceId=i-0b2a44e013469de98

ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A – Ed Wor... Cloud computing ... N. Virginia v oclabs/user2421367=Gujarati,_Dharmi_Ghanshyambhai @ 0608-212... ▾

EC2 > Instances > i-0b2a44e013469de98 > Connect to instance

Connect to instance Info

Connect to your instance i-0b2a44e013469de98 (Tomcat) using any of these options

EC2 Instance Connect Session Manager SSH client EC2 serial console

Instance ID **i-0b2a44e013469de98** (Tomcat)

Public IP address **35.173.246.91**

User name **ubuntu**

Enter the user name defined in the AMI used to launch the instance. If you didn't define a custom user name, use the default user name, ubuntu.

Note: In most cases, the default user name, ubuntu, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI user name.

Cancel **Connect**

https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&con...

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https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a44e013469d...

ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A – Ed Wor... Cloud computing ... N. Virginia v oclabs/user2421367=Gujarati,_Dharmi_Ghanshyambhai @ 0608-212... ▾

the exact distribution terms for each program are described in the individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.

```
ubuntu@ip-172-31-81-77:~$ sudo su -
root@ip-172-31-81-77:~# sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease [119 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [108 kB]
Get:3 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe Translation-en [5652 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Metadata [286 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 c-n-f Translation-en [137 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 Packages [217 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse Translation-en [112 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/multiverse amd64 c-n-f Metadata [8372 B]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 Packages [1069 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main Translation-en [221 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/main amd64 c-n-f Metadata [14.3 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 Packages [873 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted Translation-en [137 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/restricted amd64 c-n-f Metadata [604 B]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [912 kB]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe Translation-en [183 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 c-n-f Metadata [10.7 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 Packages [39.0 kB]
Get:21 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse Translation-en [8736 B]
Get:22 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/multiverse amd64 c-n-f Metadata [468 B]
```

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```

Get:28 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe Translation-en [15.0 kB]
Get:29 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/universe amd64 c-n-f Metadata [548 B]
Get:30 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports/multiverse amd64 c-n-f Metadata [116 B]
Get:31 http://security.ubuntu.com/ubuntu jammy-security/main amd64 Packages [800 kB]
Get:32 http://security.ubuntu.com/ubuntu jammy-security/main Translation-en [156 kB]
Get:33 http://security.ubuntu.com/ubuntu jammy-security/main amd64 c-n-f Metadata [9144 B]
Get:34 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 Packages [830 kB]
Get:35 http://security.ubuntu.com/ubuntu jammy-security/restricted Translation-en [131 kB]
Get:36 http://security.ubuntu.com/ubuntu jammy-security/restricted amd64 c-n-f Metadata [604 B]
Get:37 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 Packages [729 kB]
Get:38 http://security.ubuntu.com/ubuntu jammy-security/universe Translation-en [121 kB]
Get:39 http://security.ubuntu.com/ubuntu jammy-security/universe amd64 c-n-f Metadata [14.3 kB]
Get:40 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 Packages [34.3 kB]
Get:41 http://security.ubuntu.com/ubuntu jammy-security/multiverse Translation-en [6464 B]
Get:42 http://security.ubuntu.com/ubuntu jammy-security/multiverse amd64 c-n-f Metadata [252 B]
Fetched 27.1 MB in 5s (5637 kB/s)
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
40 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-172-31-81-77:~# sudo apt install default-jre
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following additional packages will be installed:
alsa-topology-conf alsu-ucm-conf at-spi2-core ca-certificates-java dconf-gsettings-backend dconf-service default-jre-headless fontconfig-config fonts-dejavu-core
fonts-dejavu-extras gsettings-desktop-schemas java-common libasound2-data libatk-bridge2.0-0 libatk-wrapper-java-jni libatk1.0-0
libatk1.0-data libatspi2.0-0 libavahi-client3 libavahi-common-data libavahi-common3 libcupsc2 libdconf1 libdrm-amdgpu libdrm-intel1 libdrm-nouveau2 libdrm-radeon1
libfontconfig1 libfontenc1 libgif1 libgl1-amber-dri libgl1-mesa-dri libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice6
libjpeg-turbo8 libjpeq8 liblcms2-2 liblilm15 libpciaccess0 libpcsc-lite1 libsnsensors-config libsnsensors5 libsm6 libx11-xcb1 libxaw7 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0
libxcb-present0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libcomposite1 libxfixes3 libxft2 libxi6 libxinerama1 libxbfile1 libxmu6 libxpm4 libxrandr2
libxrender1 libxshmfence1 libxt6 libxtst6 libxv1 libxxf86ml openjdk-11-jre openjdk-11-jre-headless session-migration x11-common x11-utils
Suggested packages:

```

```

Usage of /: 27.4% of 7.57GB Users logged in: 0
Memory usage: 25% IPv4 address for eth0: 172.31.81.77
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

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

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status.

Last login: Tue May 2 17:55:37 2023 from 18.206.107.27
ubuntu@ip-172-31-81-77:~$ sudo su -
root@ip-172-31-81-77:~# sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
40 packages can be upgraded. Run 'apt list --upgradable' to see them.
root@ip-172-31-81-77:~# sudo apt install default-jre
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
default-jre is already the newest version (2:1.11-72build2).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
root@ip-172-31-81-77:~#

```

```
Expanded Security Maintenance for Applications is not enabled.  
44 updates can be applied immediately.  
23 of these updates are standard security updates.  
To see these additional updates run: apt list --upgradable  
Enable ESM Apps to receive additional future security updates.  
See https://ubuntu.com/esm or run: sudo pro status  
  
Last login: Tue May 2 17:55:37 2023 from 18.206.107.27  
ubuntu@ip-172-31-81-77:~$ sudo su -  
root@ip-172-31-81-77:~# sudo apt update  
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease  
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease  
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease  
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
40 packages can be upgraded. Run 'apt list --upgradable' to see them.  
root@ip-172-31-81-77:~# sudo apt install default-jre  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
default-jre is already the newest version (2:1.11-72build2).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-81-77:~# java --version  
openjdk 11.0.18 2023-01-17  
OpenJDK Runtime Environment (build 11.0.18+10-post-Ubuntu-0ubuntu122.04)  
OpenJDK 64-Bit Server VM (build 11.0.18+10-post-Ubuntu-0ubuntu122.04, mixed mode, sharing)  
root@ip-172-31-81-77:~#
```

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```
Reading state information... Done  
40 packages can be upgraded. Run 'apt list --upgradable' to see them.  
root@ip-172-31-81-77:~# sudo apt install default-jre  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
default-jre is already the newest version (2:1.11-72build2).  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-81-77:~# java --version  
openjdk 11.0.18 2023-01-17  
OpenJDK Runtime Environment (build 11.0.18+10-post-Ubuntu-0ubuntu122.04)  
OpenJDK 64-Bit Server VM (build 11.0.18+10-post-Ubuntu-0ubuntu122.04, mixed mode, sharing)  
root@ip-172-31-81-77:~# cd /opt  
root@ip-172-31-81-77:~/opt# apt-get -y install wget  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
wget is already the newest version (1.21.2-2ubuntu1).  
wget set to manually installed.  
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.  
root@ip-172-31-81-77:~/opt# wget https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.63/bin/apache-tomcat-9.0.63.tar.gz  
--2023-05-02 18:00:47-- https://mirrors.estointernet.in/apache/tomcat/tomcat-9/v9.0.63/bin/apache-tomcat-9.0.63.tar.gz  
Resolving mirrors.estointernet.in (mirrors.estointernet.in)... 43.255.166.254, 2403:8940:3:1::f  
Connecting to mirrors.estointernet.in (mirrors.estointernet.in)|43.255.166.254|:443... connected.  
HTTP request sent, awaiting response... 200 OK  
Length: 11576445 (11M) [application/octet-stream]  
Saving to: 'apache-tomcat-9.0.63.tar.gz'  
  
apache-tomcat-9.0.63.tar.gz 100%[=====] 11.04M 3.68MB/s in 3.0s  
2023-05-02 18:00:51 (3.68 MB/s) - 'apache-tomcat-9.0.63.tar.gz' saved [11576445/11576445]  
root@ip-172-31-81-77:~/opt#
```

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```
apache-tomcat-9.0.63/webapps/host-manager/WEB-INF/web.xml
apache-tomcat-9.0.63/webapps/host-manager/css/manager.css
apache-tomcat-9.0.63/webapps/host-manager/images/asf-logo.svg
apache-tomcat-9.0.63/webapps/host-manager/images/tomcat.svg
apache-tomcat-9.0.63/webapps/host-manager/index.jsp
apache-tomcat-9.0.63/webapps/manager/META-INF/context.xml
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/401.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/403.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/404.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/connectorCerts.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/connectorCiphers.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/connectorTrustedCerts.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/sessionDetail.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.63/webapps/manager/WEB-INF/web.xml
apache-tomcat-9.0.63/webapps/manager/css/manager.css
apache-tomcat-9.0.63/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.63/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.63/webapps/manager/index.jsp
apache-tomcat-9.0.63/webapps/manager/status.xsd
apache-tomcat-9.0.63/webapps/manager/xform.xsl
apache-tomcat-9.0.63/bin/catalina.sh
apache-tomcat-9.0.63/bin/ciphers.sh
apache-tomcat-9.0.63/bin/configtest.sh
apache-tomcat-9.0.63/bin/daemon.sh
apache-tomcat-9.0.63/bin/digest.sh
apache-tomcat-9.0.63/bin/makebase.sh
apache-tomcat-9.0.63/bin/setclasspath.sh
apache-tomcat-9.0.63/bin/shutdown.sh
apache-tomcat-9.0.63/bin/startup.sh
apache-tomcat-9.0.63/bin/tool-wrapper.sh
apache-tomcat-9.0.63/bin/version.sh
root@ip-172-31-81-77:/opt#
```

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```
apache-tomcat-9.0.63/webapps/manager/WEB-INF/jsp/sessionsList.jsp
apache-tomcat-9.0.63/webapps/manager/META-INF/web.xml
apache-tomcat-9.0.63/webapps/manager/css/manager.css
apache-tomcat-9.0.63/webapps/manager/images/asf-logo.svg
apache-tomcat-9.0.63/webapps/manager/images/tomcat.svg
apache-tomcat-9.0.63/webapps/manager/index.jsp
apache-tomcat-9.0.63/webapps/manager/status.xsd
apache-tomcat-9.0.63/webapps/manager/xform.xsl
apache-tomcat-9.0.63/bin/catalina.sh
apache-tomcat-9.0.63/bin/ciphers.sh
apache-tomcat-9.0.63/bin/configtest.sh
apache-tomcat-9.0.63/bin/daemon.sh
apache-tomcat-9.0.63/bin/digest.sh
apache-tomcat-9.0.63/bin/makebase.sh
apache-tomcat-9.0.63/bin/setclasspath.sh
apache-tomcat-9.0.63/bin/shutdown.sh
apache-tomcat-9.0.63/bin/startup.sh
apache-tomcat-9.0.63/bin/tool-wrapper.sh
apache-tomcat-9.0.63/bin/version.sh
root@ip-172-31-81-77:/opt# cd /opt/apache-tomcat-9.0.63/bin#
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# chmod +x startup.sh
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# chmod +x shutdown.sh
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# ./startup.sh /usr/local/bin/tomcatup
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# ./shutdown.sh /usr/local/bin/tomcatdown
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# tomcatup
Using CATALINA_BASE: /opt/apache-tomcat-9.0.63
Using CATALINA_HOME: /opt/apache-tomcat-9.0.63
Using CATALINA_TMPDIR: /opt/apache-tomcat-9.0.63/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/apache-tomcat-9.0.63/bin/bootstrap.jar:/opt/apache-tomcat-9.0.63/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin#
```

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12) Checking Tomcat in browser.

The screenshot shows the Apache Tomcat 9.0.63 homepage. At the top, there's a banner with a cartoon cat icon and the text "If you're seeing this, you've successfully installed Tomcat. Congratulations!". Below the banner, there are links for "Recommended Reading" including "Security Considerations How-To", "Manager Application How-To", and "Clustering/Session Replication How-To". On the right side, there are buttons for "Server Status", "Manager App", and "Host Manager". The main content area is divided into several sections: "Developer Quick Start" (with links to "Tomcat Setup", "First Web Application", "Realms & AAA", "JDBC DataSources", "Examples", and "Servlet Specifications" and "Tomcat Versions"), "Documentation" (with links to "Tomcat 9.0 Documentation", "Tomcat 9.0 Configuration", and "Tomcat Wiki"), and "Getting Help" (with links to "FAQ and Mailing Lists" and information about mailing lists like "tomcat-announce", "tomcat-users", "taglibs-user", and "tomcat-dev").

13) Open the context.xml file by running the following command.

The screenshot shows an AWS CloudShell terminal window. The URL in the address bar is `https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a4e013469d...`. The terminal window displays the contents of the `/opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml` file. The file is an XML document with various configuration elements, including license information, security settings, and a RemoteAddrValve configuration. The terminal interface includes a status bar at the bottom with keyboard shortcuts for various commands like Help, Write Out, Where Is, Cut, Paste, Execute, Justify, Location, Go To Line, Undo, Redo, Set Mark, To Bracket, Where Was, Previous, and Next.

```
<!--
Licensed to the Apache Software Foundation (ASF) under one or more
contributor license agreements. See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to you under the Apache License, Version 2.0
(the "License"); you may not use this file except in compliance with
the License. You may obtain a copy of the License at
http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
<CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
    sameSiteCookies="strict" />
<!-<<valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127\.\d+\.\d+|\d+:\d+|0:0:0:0:0:1" />->

<Manager sessionAttributeValueClassNameFilter="java\.lang\.(\?:Boolean|Integer|Long|Number|String)|org\.apache\.catalina\.filters\.CsrfPreventionFilter\$LruCache(?:\$\$)?|>
</Context>
```

14) Open the context.xml file by running the following command.

The screenshot shows a terminal window titled "AWS Services" with the URL <https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a44e013469d...>. The terminal is running "GNU nano 6.2" and displays the contents of "/opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml". The XML file includes standard Apache license information and configuration for a Tomcat instance, such as antiResourceLocking, cookie processor, and valves. The terminal has a standard nano editor interface with various keyboard shortcuts at the bottom.

```
<!--
Licensed to the Apache Software Foundation (ASF) under one or more
contributor license agreements. See the NOTICE file distributed with
this work for additional information regarding copyright ownership.
The ASF licenses this file to you under the Apache License, Version 2.0
(the "License"); you may not use this file except in compliance with
the License. You may obtain a copy of the License at

http://www.apache.org/licenses/LICENSE-2.0

Unless required by applicable law or agreed to in writing, software
distributed under the License is distributed on an "AS IS" BASIS,
WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.
See the License for the specific language governing permissions and
limitations under the License.
-->
<Context antiResourceLocking="false" privileged="true" >
  <CookieProcessor className="org.apache.tomcat.util.http.Rfc6265CookieProcessor"
    sameSiteCookies="strict" />
  <!--<<Valve className="org.apache.catalina.valves.RemoteAddrValve"
    allow="127.\d+.\d+\.\d+|:1|0:\d+:\d+:\d+:\d+:\d+" /-->

  <Manager sessionAttributeValueClassNameFilter="java.lang.(?:Boolean|Integer|Long|Number|String)|org.apache.catalina.filters.CsrfPreventionFilter\$LruCache(?:\$1)?>
</Context>
```

15) Open the tomcat-users.xml by running the following commands.

The screenshot shows a terminal window titled "AWS Services" with the URL <https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a44e013469d...>. The terminal is running "GNU nano 6.2" and displays the contents of "/opt/apache-tomcat-9.0.63/conf/tomcat-users.xml". The XML file defines user roles and examples for the manager-gui role. It also contains comments for users of the manager web application. The terminal has a standard nano editor interface with various keyboard shortcuts at the bottom.

```
<!--
By default, no user is included in the "manager-gui" role required
to operate the "/manager/html" web application. If you wish to use this app,
you must define such a user - the username and password are arbitrary.

Built-in Tomcat manager roles:
- manager-gui - allows access to the HTML GUI and the status pages
- manager-script - allows access to the HTTP API and the status pages
- manager-jmx - allows access to the JMX proxy and the status pages
- manager-status - allows access to the status pages only

The users below are wrapped in a comment and are therefore ignored. If you
wish to configure one or more of these users for use with the manager web
application, do not forget to remove the <... ...> that surrounds them. You
will also need to set the passwords to something appropriate.
-->

<!--
<user username="admin" password="<Dharmi@2506>" roles="manager-gui"/>
<user username="rrobot" password="<Dharmi@2506>" roles="manager-script"/>
-->

The sample user and role entries below are intended for use with the
examples web application. They are wrapped in a comment and thus are ignored
when reading this file. If you wish to configure these users for use with the
examples web application, do not forget to remove the <... ...> that surrounds
them. You will also need to set the passwords to something appropriate.
-->
```

https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a44e013469d... N. Virginia v voclabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212...

```
aws Services Search [Alt+S] N. Virginia v voclabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212...
```

```
apache-tomcat-9.0.63/bin/catalina.sh
apache-tomcat-9.0.63/bin/ciphers.sh
apache-tomcat-9.0.63/bin/configtest.sh
apache-tomcat-9.0.63/bin/daemon.sh
apache-tomcat-9.0.63/bin/digest.sh
apache-tomcat-9.0.63/bin/makehbase.sh
apache-tomcat-9.0.63/bin/setclasspath.sh
apache-tomcat-9.0.63/bin/shutdown.sh
apache-tomcat-9.0.63/bin/startup.sh
apache-tomcat-9.0.63/bin/tool-wrapper.sh
apache-tomcat-9.0.63/bin/version.sh
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# cd /opt/apache-tomcat-9.0.63/bin#
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# chmod +x startup.sh
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# chmod +x shutdown.sh
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# ln -s /opt/apache-tomcat-9.0.63/bin/startup.sh /usr/local/bin/tomcatup
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# ln -s /opt/apache-tomcat-9.0.63/bin/shutdown.sh /usr/local/bin/tomcatdown
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# tomcatup
Using CATALINA_HOME: /opt/apache-tomcat-9.0.63
Using CATALINA_TMPDIR: /opt/apache-tomcat-9.0.63/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/apache-tomcat-9.0.63/bin/bootstrap.jar:/opt/apache-tomcat-9.0.63/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/conf/tomcat-users.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/conf/tomcat-users.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin#
```

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16) Stop and Start tomcat.

https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-0b2a44e013469d... N. Virginia v voclabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212...

```
aws Services Search [Alt+S] N. Virginia v voclabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212...
```

```
Using CATALINA_HOME: /opt/apache-tomcat-9.0.63
Using CATALINA_TMPDIR: /opt/apache-tomcat-9.0.63/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/apache-tomcat-9.0.63/bin/bootstrap.jar:/opt/apache-tomcat-9.0.63/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/conf/tomcat-users.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/host-manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/webapps/manager/META-INF/context.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# nano /opt/apache-tomcat-9.0.63/conf/tomcat-users.xml
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# tomcatdown
Using CATALINA_HOME: /opt/apache-tomcat-9.0.63
Using CATALINA_TMPDIR: /opt/apache-tomcat-9.0.63/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/apache-tomcat-9.0.63/bin/bootstrap.jar:/opt/apache-tomcat-9.0.63/bin/tomcat-juli.jar
Using CATALINA_OPTS:
NOTE: Picked up JDK_JAVA_OPTIONS: --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/java.util=ALL-UNNAMED --add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin# tomcatup
Using CATALINA_HOME: /opt/apache-tomcat-9.0.63
Using CATALINA_TMPDIR: /opt/apache-tomcat-9.0.63/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/apache-tomcat-9.0.63/bin/bootstrap.jar:/opt/apache-tomcat-9.0.63/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin#
root@ip-172-31-81-77:/opt/apache-tomcat-9.0.63/bin#
```

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17) Go to Jenkins UI -> Plugins -> Available Plugins -> “Deploy to container” and “SSH” and “Publish Over SSH” Plugin.

The screenshot shows the Jenkins Manage Jenkins interface. On the left, there's a sidebar with links like 'New Item', 'People', 'Build History', 'Manage Jenkins' (which is selected), and 'My Views'. The main area is titled 'Manage Jenkins' and contains a message: 'It appears that your reverse proxy set up is broken.' Below this, another message says: 'Building on the built-in node can be a security issue. You should set up distributed builds. See [the documentation](#)'. There are three buttons: 'More Info', 'Dismiss', and 'Set up agent'. A 'Build Queue' section shows 'No builds in the queue.' and a 'Build Executor Status' section with one idle executor. The right side features sections for 'System Configuration' (with 'System', 'Tools', 'Nodes', and 'Clouds' options), and a 'Plugins' section which is currently empty. The URL in the browser bar is <http://ec2-3-83-130-17.compute-1.amazonaws.com:8080/manage/>.

The screenshot shows the Jenkins Plugins page. The left sidebar has tabs for 'Updates', 'Available plugins' (which is selected), 'Installed plugins', and 'Advanced settings'. The main area is titled 'Plugins' and includes a search bar for 'Search plugin updates'. A progress bar at the bottom indicates 'Connecting...'. The URL in the browser bar is <http://ec2-44-202-114-31.compute-1.amazonaws.com:8080/manage/pluginManager/>.

Not secure | ec2-44-202-114-31.compute-1.amazonaws.com:8080/manage/pluginManager/available

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Dashboard > Manage Jenkins > Plugins

SSH 2.6.1 Build Wrappers

This plugin executes shell commands remotely using SSH protocol.

Warning: This plugin version may not be safe to use. Please review the following security notices:

- CSRF vulnerability and missing permission checks allow capturing credentials
- Missing permission check allows enumerating credentials IDs

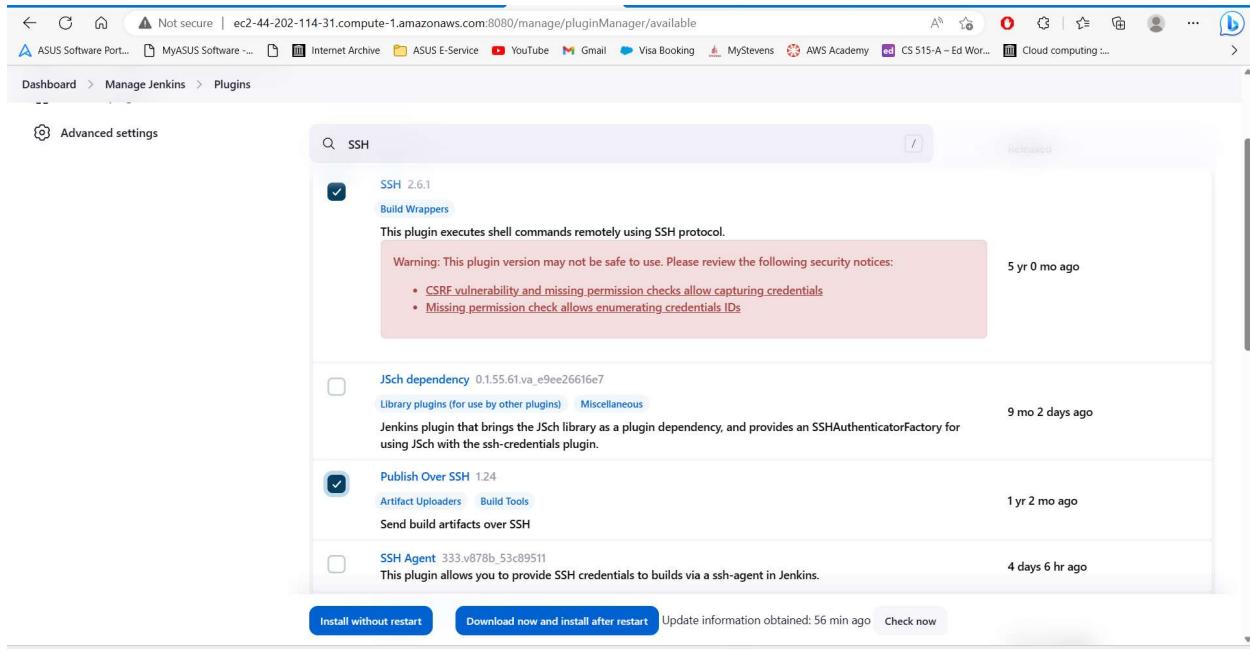
5 yr 0 mo ago

JSch dependency 0.15.61.vaadin_e9ee26616e7 Library plugins (for use by other plugins) Miscellaneous Jenkins plugin that brings the JSch library as a plugin dependency, and provides an SSHAuthenticatorFactory for using JSch with the ssh-credentials plugin. 9 mo 2 days ago

Publish Over SSH 1.24 Artifact Uploaders Build Tools Send build artifacts over SSH 1 yr 2 mo ago

SSH Agent 333.v878b_53c89511 This plugin allows you to provide SSH credentials to builds via a ssh-agent in Jenkins. 4 days 6 hr ago

Install without restart Download now and install after restart Update information obtained: 56 min ago Check now



Not secure | ec2-44-202-114-31.compute-1.amazonaws.com:8080/manage/pluginManager/available

ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A – Ed Wor... Cloud computing ...

Dashboard > Manage Jenkins > Plugins

SSH 2.6.1 Build Wrappers

This plugin executes shell commands remotely using SSH protocol.

Warning: This plugin version may not be safe to use. Please review the following security notices:

- CSRF vulnerability and missing permission checks allow capturing credentials
- Missing permission check allows enumerating credentials IDs

5 yr 0 mo ago

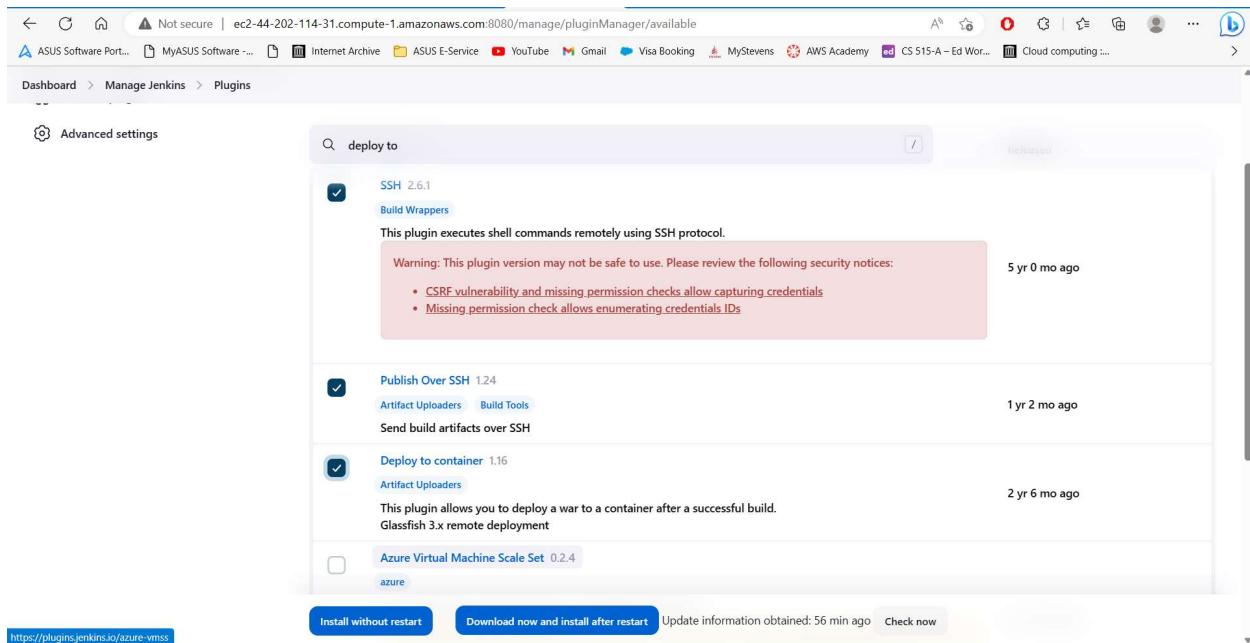
Publish Over SSH 1.24 Artifact Uploaders Build Tools Send build artifacts over SSH 1 yr 2 mo ago

Deploy to container 1.16 Artifact Uploaders This plugin allows you to deploy a war to a container after a successful build. Glassfish 3.x remote deployment 2 yr 6 mo ago

Azure Virtual Machine Scale Set 0.2.4 azure

Install without restart Download now and install after restart Update information obtained: 56 min ago Check now

<https://plugins.jenkins.io/azure-vms/>



The screenshot shows the Jenkins 'Download progress' page. On the left, there's a sidebar with links: 'Updates', 'Available plugins', 'Installed plugins', 'Advanced settings', and 'Download progress' (which is highlighted). The main content area is titled 'Download progress' and contains a table of installed plugins with their download status:

Plugin	Status
Oracle Java SE Development Kit Installer	Downloaded Successfully. Will be activated during the next boot
Command Agent Launcher	Downloaded Successfully. Will be activated during the next boot
JSch dependency	Downloaded Successfully. Will be activated during the next boot
SSH	Downloaded Successfully. Will be activated during the next boot
Infrastructure plugin for Publish Over X	Downloaded Successfully. Will be activated during the next boot
Publish Over SSH	Downloaded Successfully. Will be activated during the next boot
Deploy to container	Downloaded Successfully. Will be activated during the next boot

Below the table are two buttons: 'Go back to the top page' and 'Restart Jenkins when installation is complete and no jobs are running'.

At the bottom right of the page, it says 'REST API' and 'Jenkins 2.403'.

18) Create credentials on Jenkins.

The screenshot shows the 'New credentials' page for creating a 'Username with password' credential. The form fields are as follows:

- Kind:** Username with password
- Scope:** Global (Jenkins, nodes, items, all child items, etc)
- Username:** robot
- Treat username as secret:**
- Password:** (Redacted)
- ID:** (Redacted)

At the bottom is a blue 'Create' button.

Not secure | ec2-44-202-114-31.compute-1.amazonaws.com:8080/manage/credentials/store/system/domain/_newCredentials

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Dashboard > Manage Jenkins > Credentials > System > Global credentials (unrestricted) >

Scope ?
Global (Jenkins, nodes, items, all child items, etc)

Username ?
robot

Treat username as secret ?

Password ?

ID ?
tomcat credentials
① Unacceptable characters

Description ?

Create

19) Create new project as Tomcat-Project.

Not secure | ec2-44-202-114-31.compute-1.amazonaws.com:8080/view/all/newJob

ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A – Ed Wor... Cloud computing ...

Jenkins Search (CTRL+K) Dhamni Gujarati log out

Dashboard > All >

Enter an item name

Tomcat-Project
x 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
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a namespace, so you can have multiple things of the same name as long as they are in different folders.

OK

20) Did following steps of Source code management.

The screenshot shows the Jenkins configuration interface for a project named "Tomcat-Project". The left sidebar has a "Source Code Management" section selected. The main panel is titled "Source Code Management" and shows a "Git" configuration. It includes fields for "Repository URL" (set to `https://github.com/bhavukm/maven-project`) and "Credentials" (set to "- none -"). There is also an "Advanced" dropdown and a "Add Repository" button. At the bottom are "Save" and "Apply" buttons.

The screenshot shows the Jenkins configuration interface for a project named "Tomcat-Project". The left sidebar has a "Build Steps" section selected. The main panel is titled "Configure" and shows a "Maven Version" field set to "Apache Maven 3.9.1 (2e178502fcdbff201671fb2537d0cb4b4cc58fb)" and a "Goals" field containing "clean install package". There is also an "Advanced" dropdown and a "Add build step" button. Below this is a "Post-build Actions" section with a "Save" and "Apply" button.

Configure

- General
- Source Code Management
- Build Triggers
- Build Environment
- Build Steps
- Post-build Actions**

Context path ?

Containers

Credentials

- none -

Add ▾

Tomcat URL ?

Advanced ▾

Add Container ▾

Save Apply

21) Console Output of project.

Console Output

```

Started by user Dharmi Gujarati
Started by user Dharmi Gujarati
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/"Tomcat-Project"
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resOLVE-git-dir /var/lib/jenkins/workspace/"Tomcat-Project/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/bhavukm/maven-project # timeout=10
Fetching upstream changes from https://github.com/bhavukm/maven-project
> git --version # timeout=10
> git --version # 'git version 2.34.1'
> git fetch --tags --force --progress -- https://github.com/bhavukm/maven-project +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/master^(commit) # timeout=10
Checking out Revision 5913e9a5c8b34687dbed4091c66d19c85c4945b (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 5913e9a5c8b34687dbed4091c66d19c85c4945b # timeout=10
Commit message: "CI test"
> git rev-list --no-walk 5913e9a5c8b34687dbed4091c66d19c85c4945b # timeout=10
[Tomcat-Project] $ /opt/maven/bin/mvn clean install package
[INFO] Scanning for projects...
[WARNING]

```

<https://github.com/bhavukm/maven-project>

22) Following steps for post-build actions.

The screenshot shows the Jenkins configuration interface for a project named "Tomcat-Project". The left sidebar lists several configuration tabs: General, Source Code Management, Build Triggers, Build Environment, Build Steps, and Post-build Actions. The "Post-build Actions" tab is currently selected. The main panel displays the "Post-build Actions" configuration. It includes fields for "WAR/EAR files" (set to "**/*.war"), "Context path" (empty), and a "Containers" section containing "Credentials" (set to "robot/*****") and "Tomcat URL" (set to "http://ec2-35-173-246-91.compute-1.amazonaws.com:8080"). At the bottom are "Save" and "Apply" buttons.

23) Building project again and run console output.

The screenshot shows the Jenkins dashboard. The top navigation bar includes links for Not secure, ASUS Software Port..., MyASUS Software ..., Internet Archive, ASUS E-Service, YouTube, Gmail, Visa Booking, MyStevens, AWS Academy, CS 515-A – Ed Wor..., Cloud computing ..., and a user profile for Dhamri Gujarati. The main content area displays the "Build History" for the "Tomcat-Project". A table shows the last successful build (labeled '#71') which ran 2 min 53 sec ago, and the last failure (labeled '#70') which ran 8 min 0 sec ago. The table includes columns for Status (S), Workstation (W), Name, Last Success, Last Failure, and Last Duration. Other sections visible include "New Item", "People", "Build History", "Project Relationship", "Check File Fingerprint", "Manage Jenkins", "My Views", "Build Queue" (empty), and "Build Executor Status" (showing 1 Idle and 2 Idle). At the bottom right are links for REST API and Jenkins 2.403.

The screenshot shows the Jenkins interface for a Tomcat project. The main title is "Console Output" with a green checkmark icon. On the left, there's a sidebar with links like Status, Changes, and Console Output (which is selected). The main content area displays the build log:

```

Started by user Dhamri Gujarati
Started by user Dhamri Gujarati
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/"Tomcat-Project"
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/"Tomcat-Project/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/bhavukm/maven-project # timeout=10
Fetching upstream changes from https://github.com/bhavukm/maven-project
> git --version # timeout=10
> git --version # 'git version 2.34.1'
> git fetch -tags -force --progress -- https://github.com/bhavukm/maven-project +refs/heads/*:refs/remotes/origin/*
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 5913e9a5c8b34687dbeed4091c66d19c85c4945b (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 5913e9a5c8b34687dbeed4091c66d19c85c4945b # timeout=10
Commit message: "CI test"
> git rev-list --no-walk 5913e9a5c8b34687dbeed4091c66d19c85c4945b # timeout=10
["Tomcat-Project"] $ /opt/maven/bin/mvn clean install package
[INFO] Scanning for projects...
[WARNING]

```

The URL in the address bar is <https://github.com/bhavukm/maven-project>.

24) Tomcat browser and working:

The screenshot shows the Tomcat 9 default home page. The title is "It works!". The page content includes:

If you're seeing this page via a web browser, it means you've setup Tomcat successfully. Congratulations!

This is the default Tomcat home page. It can be found on the local filesystem at: /var/lib/tomcat9/webapps/ROOT/index.html

Tomcat veterans might be pleased to learn that this system instance of Tomcat is installed with CATALINA_HOME in /usr/share/tomcat9 and CATALINA_BASE in /var/lib/tomcat9, following the rules from /usr/share/doc/tomcat9-common/RUNNING.txt.gz.

You might consider installing the following packages, if you haven't already done so:

- tomcat9-docs:** This package installs a web application that allows to browse the Tomcat 9 documentation locally. Once installed, you can access it by clicking [here](#).
- tomcat9-examples:** This package installs a web application that allows to access the Tomcat 9 Servlet and JSP examples. Once installed, you can access it by clicking [here](#).
- tomcat9-admin:** This package installs two web applications that can help managing this Tomcat instance. Once installed, you can access the [manager webapp](#) and the [host-manager webapp](#).

NOTE: For security reasons, using the manager webapp is restricted to users with role "manager-gui". The host-manager webapp is restricted to users with role "admin-gui". Users are defined in /etc/tomcat9/tomcat-users.xml.

Not secure | ec2-54-163-184-184.compute-1.amazonaws.com:8080

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Welcome

Enter username:

Enter number of multiplication tables:

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Extra Part:

25) In Jenkins UI goto Tomcat-Project, change repository URL

```

aws Dashboard | DevOps Pr... | Learner Lab | Connect to | EC2 Instant... | EC2 Instant... | EC2 Instant... | Apache Tor... | Tomcat-Pr... | New chat | + | - | □ | ×
ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A – Ed Wor... Cloud computing ...
aws Services Search [Alt+S] N. Virginia v vocabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212...
Preparing previously unselected package sshpass.
Preparing to unpack .../13-sshpass_1.09-1_amd64.deb ...
Unpacking sshpass (1.09-1) ...
Setting up python3-ntlm-auth (1.4.0-1) ...
Setting up python3-resolvelib (0.8.1-1) ...
Setting up python3-kerberos (1.1.14-3.1build5) ...
Setting up sshpass (1.09-1) ...
Setting up python3-xmitodice (0.12.0-2) ...
Setting up python3-packaging (21.3-1) ...
Setting up python3-jmespath (0.10.0-1) ...
Setting up python3-requests-kerberos (0.12.0-2) ...
Setting up python3-nacl (1.5.0-2) ...
Setting up python3-requests_ntlm (1.1.0-1.1) ...
Setting up ansible-core (2.14.5-1ppa-jammy) ...
Setting up python3-winxp (0.3.0-2) ...
Setting up ansible (7.5.0-1ppa-jammy) ...
Setting up python3-paramiko (2.9.3-0ubuntu1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
ansible [core 2.14.5] installed successfully
root@ip-172-31-23-123:~# 
```

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53°F Mostly clear

8:53 PM 5/2/2023

26) Delete the webapp.war file from the “Tomcat” instance.

The screenshot shows the Jenkins configuration interface for a project named "Tomcat-Project". The left sidebar lists several configuration tabs: General, Source Code Management (selected), Build Triggers, Build Environment, Build Steps, and Post-build Actions. The main panel is titled "Source Code Management" and displays a "Configure" section. It includes a "None" radio button and a selected "Git" radio button. Under "Git", there is a "Repository URL" input field containing "https://github.com/VijayGodson/Sampleapp" and a "Credentials" dropdown set to "- none -". There is also an "Advanced" dropdown and a "Save" or "Apply" button at the bottom.

The screenshot shows the Jenkins configuration interface for the same project. The left sidebar shows the "Post-build Actions" tab is selected. The main panel is titled "Post-build Actions" and displays a "Configure" section. It includes a "WAR/EAR files" input field with "**/*.war", a "Context path" input field, a "Containers" section with an "Add Container" button, and a checkbox for "Deploy on failure". There is also an "Add post-build action" dropdown and a "Save" or "Apply" button at the bottom.

27) Create another instance and name the instance “Ansible” as t2.micro.

The screenshot shows the AWS Cloud Console interface for launching EC2 instances. In the top navigation bar, the URL is https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:. The browser tabs include ASUS Software Port..., MyASUS Software ..., Internet Archive, ASUS E-Service, YouTube, Gmail, Visa Booking, MyStevens, AWS Academy, CS 515-A – Ed Wor..., Cloud computing ..., and a user profile for vclabs/user2421367=Gujarati_Dharmi_Ghanshyambhai @ 0608-212... .

The main content area is divided into two main sections:

- Name and tags**: This section allows you to name your instance (Ansible) and add additional tags.
- Summary**: This section provides a quick overview of the launch configuration:
 - Number of instances: 1
 - Software Image (AMI): Canonical, Ubuntu, 22.04 LTS (ami-007855ac798b5175e)
 - Virtual server type (instance type): t2.micro
 - Firewall (security group): New security group
 - Storage (volumes): 1 volume(s) - 8 GiB

At the bottom right of the summary section, there are three buttons: "Cancel", "Launch instance" (which is highlighted in orange), and "Review commands".

This screenshot is identical to the one above, showing the AWS EC2 Launch Instances page. The URL is https://us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:. The browser tabs and user profile are the same.

The main content area is divided into two main sections:

- Name and tags**: This section allows you to name your instance (Ansible) and add additional tags.
- Summary**: This section provides a quick overview of the launch configuration:
 - Number of instances: 1
 - Software Image (AMI): Canonical, Ubuntu, 22.04 LTS (ami-007855ac798b5175e)
 - Virtual server type (instance type): t2.micro
 - Firewall (security group): New security group
 - Storage (volumes): 1 volume(s) - 8 GiB

At the bottom right of the summary section, there are three buttons: "Cancel", "Launch instance" (which is highlighted in orange), and "Review commands".

Architecture: 64-bit (x86)

AMI ID: ami-007855ac798b5175e

Virtual server type (instance type): t2.micro

Number of instances: 1

Software Image (AMI): Canonical, Ubuntu, 22.04 LTS, ...read more

Virtual server type (instance type): t2.micro

Storage (volumes): 1 volume(s) - 8 GiB

Launch instance

Key pair name - required: keypair

Launch instance

The screenshot shows the AWS CloudWatch Metrics interface. A metric named "Ansible" is selected, showing a value of 1. The metric is described as "Ansible" and has a unit of "Count". The graph displays a single data series over time.

28) ssh into Ansible instance and Install Ansible by these commands:

```

https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-07997e2210f357337... A
ASUS Software Port... MyASUS Software ... Internet Archive ASUS E-Service YouTube Gmail Visa Booking MyStevens AWS Academy CS 515-A - Ed Wor... Cloud computing ...
N. Virginia voclabs/user2421367=Gujarati,_Dharmi_Ghanshyambhai @ 0608-212...
CloudShell Feedback Language
System load: 0.42041015625 Processes: 104
Usage of /: 28.1% of 7.57GB Users logged in: 0
Memory usage: 29% IPv4 address for eth0: 172.31.23.123
Swap usage: 0%
Expanded Security Maintenance for Applications is not enabled.
44 updates can be applied immediately.
23 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
1 additional security update can be applied with ESM Apps.
Learn more about enabling ESM Apps service at https://ubuntu.com/esm

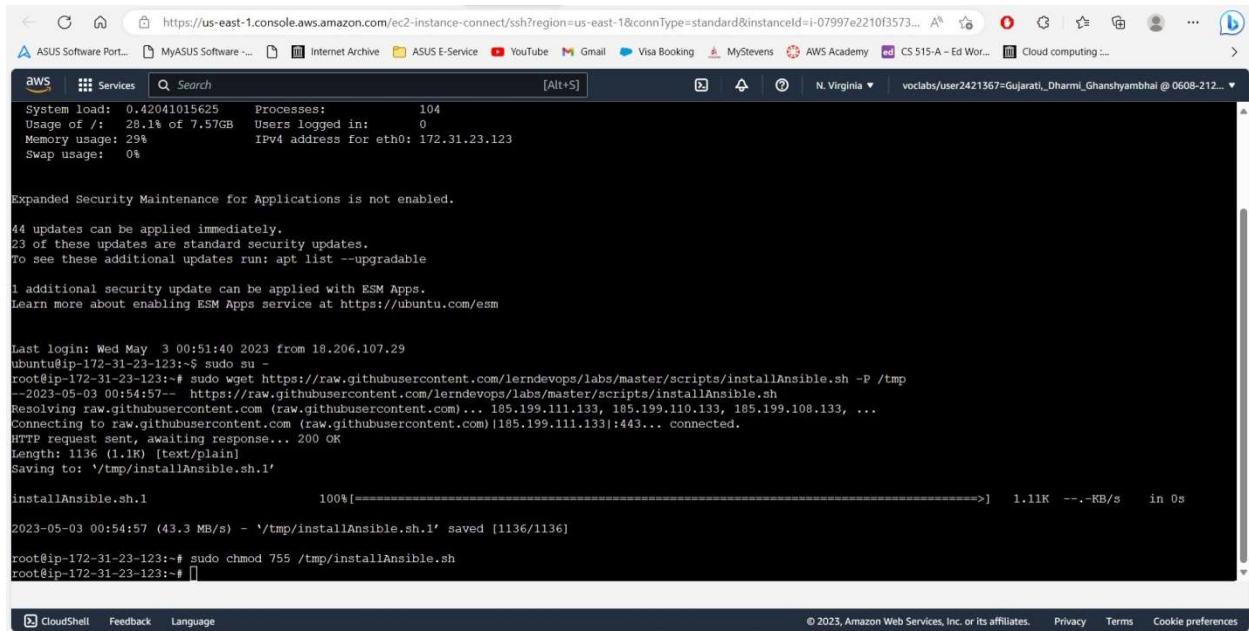
Last login: Wed May 3 00:51:40 2023 from 18.206.107.29
ubuntu@ip-172-31-23-123:~$ sudo su -
root@ip-172-31-23-123:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/installAnsible.sh -P /tmp
--2023-05-03 00:54:57-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/installAnsible.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.110.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.111.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1136 (1.1K) [text/plain]
Saving to: '/tmp/installAnsible.sh.1'

installAnsible.sh.1          100%[=====]  1.11K --.-KB/s   in 0s

2023-05-03 00:54:57 (43.3 MB/s) - '/tmp/installAnsible.sh.1' saved [1136/1136]

root@ip-172-31-23-123:~# sudo chmod 755 /tmp/installAnsible.sh
root@ip-172-31-23-123:~#

```



System load: 0.42041015625 Processes: 104
Usage of /: 28.1% of 7.57GB Users logged in: 0
Memory usage: 29% IPv4 address for eth0: 172.31.23.123
Swap usage: 0%

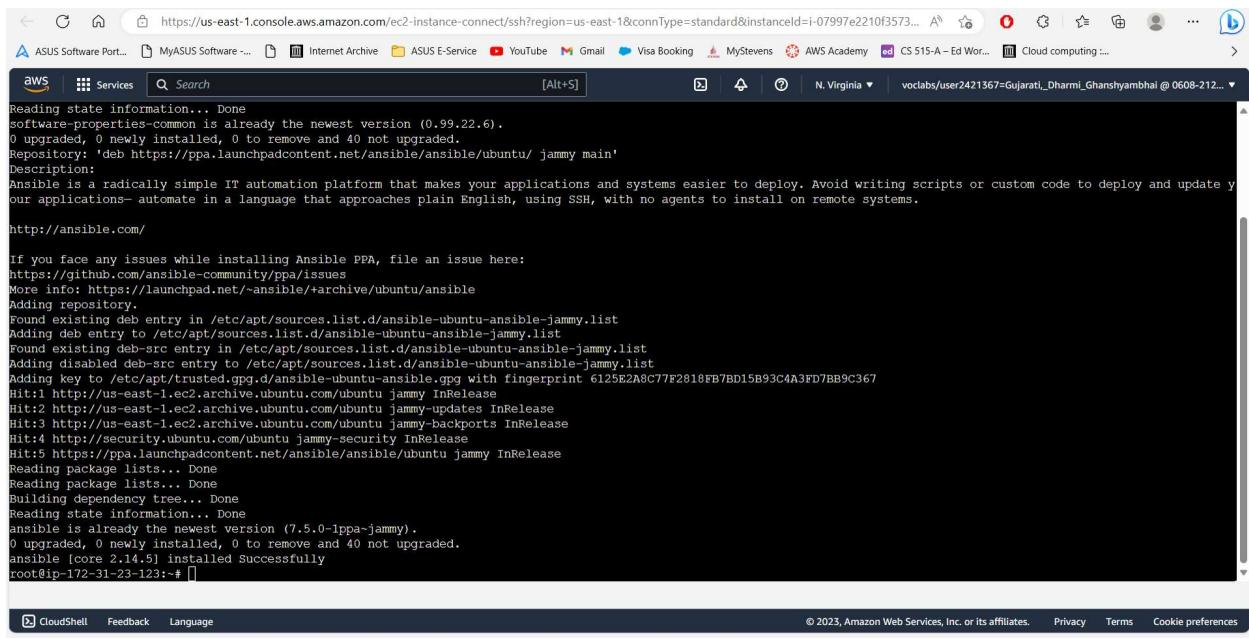
Expanded Security Maintenance for Applications is not enabled.
44 updates can be applied immediately.
23 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable
1 additional security update can be applied with ESM Apps.
Learn more about enabling ESM Apps service at <https://ubuntu.com/esm>

```
Last login: Wed May 3 00:51:40 2023 from 18.206.107.29
ubuntu@ip-172-31-23-123:~$ sudo su -
root@ip-172-31-23-123:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/installAnsible.sh -P /tmp
--2023-05-03 00:54:57-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/installAnsible.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.111.133, 185.199.110.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)(185.199.111.133):443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 1136 (1.1K) [text/plain]
Saving to: '/tmp/installAnsible.sh'

installAnsible.sh:1          100%[=====]  1.11R  --.-KB/s   in 0s
2023-05-03 00:54:57 (43.3 MB/s) - '/tmp/installAnsible.sh' saved [1136/1136]

root@ip-172-31-23-123:~# sudo chmod 755 /tmp/installAnsible.sh
root@ip-172-31-23-123:~# [ ]
```

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```
Reading state information... Done
software-properties-common is already the newest version (0.99.22.6).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
Repository: 'deb https://ppa.launchpadcontent.net/ansible/ubuntu/ jammy main'
Description:
Ansible is a radically simple IT automation platform that makes your applications and systems easier to deploy. Avoid writing scripts or custom code to deploy and update your applications—automate in a language that approaches plain English, using SSH, with no agents to install on remote systems.

http://ansible.com/

If you face any issues while installing Ansible PPA, file an issue here:
https://github.com/ansible-community/ppa/issues
More info: https://launchpad.net/~ansible/+archive/ubuntu/ansible
Adding repository.
Found existing deb entry in /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding deb entry to /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Found existing deb-src entry in /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding disabled deb-src entry to /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding key to /etc/apt/trusted.gpg.d/ansible-ubuntu-ansible.gpg with fingerprint 6125E2A8C77F2818FB7BD15B93C4A3FD7BB9C367
Hit:1 http://us-east-1.ec2.archive/ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive/ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive/ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://ppa.launchpadcontent.net/ansible/ubuntu jammy InRelease
Reading package lists... done
Reading package lists... done
Building dependency tree... done
Reading state information... done
ansible is already the newest version (7.5.0-1ppa-jammy).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
ansible (core 2.14.5) installed successfully
root@ip-172-31-23-123:~# [ ]
```

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```

Reading state information... Done
software-properties-common is already the newest version (0.99.22.6).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
Repository: 'deb https://ppa.launchpadcontent.net/ansible/ansible/ubuntu/ jammy main'
Description:
Ansible is a radically simple IT automation platform that makes your applications and systems easier to deploy. Avoid writing scripts or custom code to deploy your applications—automate in a language that approaches plain English, using SSH, with no agents to install on remote systems.

http://ansible.com/

If you face any issues while installing Ansible PPA, file an issue here:
https://github.com/ansible-community/ppa/issues
More info: https://launchpad.net/~ansible/+archive/ubuntu/ansible
Adding repository...
Found existing deb entry in /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding deb entry to /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Found existing deb-src entry in /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding disabled deb-src entry to /etc/apt/sources.list.d/ansible-ubuntu-ansible-jammy.list
Adding key to /etc/apt/trusted.gpg.d/ansible-ubuntu-ansible.gpg with fingerprint 6125E2A8C77F2818FB7BD15B93C4A3FD7BB9C367
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu jammy InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ansible is already the newest version (7.5.0-1ppa-jammy).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
ansible [core 2.14.5] installed successfully
root@ip-172-31-23-123:~# 

```

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29) Run below script on all 3 machines. (Jenkins, Tomcat, Ansible)

```

Last login: Tue May 2 17:29:09 2023 from 18.206.107.29
ubuntu@ip-172-31-90-201:~$ sudo su -
root@ip-172-31-90-201:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -P /tmp
--2023-05-03 00:59:12-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====] 3.43K --.-KB/s   in 0s

2023-05-03 00:59:12 (20.7 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-90-201:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it...
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Ign:5 https://pkg.jenkins.io/debian binary InRelease

i-07469d91e4f9cc316 (Jenkins)
Public IPs: 44.212.42.245 Private IPs: 172.31.90.201

```

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```

Last login: Tue May  2 17:29:09 2023 from 18.206.107.29
ubuntu@ip-172-31-90-201:~$ sudo su -
root@ip-172-31-90-201:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -P /tmp
--2023-05-03 00:59:12-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====] 3.43K --.-KB/s   in 0s

2023-05-03 00:59:12 (20.7 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-90-201:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it..
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Ign:5 https://pkg.jenkins.io/debian binary/ InRelease

i-07469d91e4f9cc316 (Jenkins)
Public IPs: 44.212.42.245 Private IPs: 172.31.90.201

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```



```

Setting up tcl-expect:amd64 (5.45.4-2build1) ...
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password:
Retype new password: today@1234

passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd config successfully -- restarting sshd service
root@ip-172-31-90-201:~# []

i-07469d91e4f9cc316 (Jenkins)
Public IPs: 44.212.42.245 Private IPs: 172.31.90.201

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```

```

Setting up tcl-expect:amd64 (5.45.4-2build1) ...
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password:
Re-type new password: today@1234

passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-90-201:~# [REDACTED]

```

i-07469d91e4f9cc316 (Jenkins)

PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

Hit:5 https://ppa.launchpadcontent.net/ansible/ubuntu jammy InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ansible is already the newest version (7.5.0-1ppa-jammy).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
ansible (core 2.14.5) installed successfully
root@ip-172-31-23-123:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -P /tmp
--2023-05-03 01:03:06-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====] 3.43K --.-KB/s   in 0s

2023-05-03 01:03:06 (29.00 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-23-123:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it..
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu jammy InRelease
Fetched 226 kB in 1s (294 kB/s)
Reading package lists... 7%

```

```

Hit:s https://ppa.launchpadcontent.net/ansible/ansible/ubuntu jammy InRelease
Reading package lists... Done
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
ansible is already the newest version (7.5.0-1ppa-jammy).
0 upgraded, 0 newly installed, 0 to remove and 40 not upgraded.
ansible [core 2.14.5] installed successfully
root@ip-172-31-23-123:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -P /tmp
--2023-05-03 01:03:06-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.110.133, 185.199.111.133, 185.199.108.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.110.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====] 3.43K --.-KB/s   in 0s

2023-05-03 01:03:06 (29.0 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-23-123:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it..
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Hit:4 http://security.ubuntu.com/ubuntu jammy-security InRelease
Hit:5 https://ppa.launchpadcontent.net/ansible/ansible/ubuntu jammy InRelease
Fetched 226 kB in 1s (294 kB/s)
Reading package lists... 7%

```

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```

Fetched 242 kB in 0s (7815 kB/s)
Selecting previously unselected package tcl-expect:amd64.
(Reading database ... 84200 files and directories currently installed.)
Preparing to unpack .../tcl-expect_5.45.4-2build1_amd64.deb ...
Unpacking tcl-expect:amd64 (5.45.4-2build1) ...
Selecting previously unselected package expect.
Preparing to unpack .../expect_5.45.4-2build1_amd64.deb ...
Unpacking expect (5.45.4-2build1) ...
Setting up tcl-expect:amd64 (5.45.4-2build1) ...
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password:
Retype new password: today@12
passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-23-123:~# sudo bash /tmp/setupUser.sh

```

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```

Fetched 242 kB in 0s (7815 kB/s)
Selecting previously unselected package tcl-expect:amd64.
(Reading database ... 84200 files and directories currently installed.)
Preparing to unpack .../tcl-expect_5.45.4-2build1_amd64.deb ...
Unpacking tcl-expect:amd64 (5.45.4-2build1) ...
Selecting previously unselected package expect.
Preparing to unpack .../expect_5.45.4-2build1_amd64.deb ...
Unpacking expect (5.45.4-2build1) ...
Setting up tcl-expect:amd64 (5.45.4-2build1) ...
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.1.0.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password:
Retype new password: today@12
passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-23-123:~# sudo bash /tmp/setupUser.sh

```

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```

Last login: Wed May  3 00:38:16 2023 from 18.206.107.28
ubuntu@ip-172-31-81-77:~$ sudo su -
root@ip-172-31-81-77:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -P /tmp
2023-05-03 01:02:51-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====]   3.43K --.-KB/s   in 0s

2023-05-03 01:02:51 (38.2 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-81-77:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it..
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [912 kB]

```

i-0b2a44e013469de98 (Tomcat)
PublicIPs: 54.163.184.184 PrivateIPs: 172.31.81.77
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```
Last login: Wed May 3 00:38:16 2023 from 18.206.107.28
ubuntu@ip-172-31-81-77:~$ sudo su -
root@ip-172-31-81-77:~# sudo wget https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh -O /tmp/...
--2023-05-03 01:02:51-- https://raw.githubusercontent.com/lerndevops/labs/master/scripts/setupUser.sh
Resolving raw.githubusercontent.com (raw.githubusercontent.com)... 185.199.108.133, 185.199.109.133, 185.199.110.133, ...
Connecting to raw.githubusercontent.com (raw.githubusercontent.com)|185.199.108.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 3509 (3.4K) [text/plain]
Saving to: '/tmp/setupUser.sh'

setupUser.sh          100%[=====] 3.43K --.-KB/s   in 0s

2023-05-03 01:02:51 (38.2 MB/s) - '/tmp/setupUser.sh' saved [3509/3509]

root@ip-172-31-81-77:~# sudo bash /tmp/setupUser.sh
devops user missing, continue to create it..
ubuntu
userdel: user 'devops' does not exist
groupdel: group 'devops' does not exist
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates/universe amd64 Packages [912 kB]

i-0b2a44e013469de98 (Tomcat)
PublicIPs: 54.163.184.184 PrivateIPs: 172.31.81.77
```

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```
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password: today@1234
Retype new password:
today@1234

passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-81-77:~#
```

i-0b2a44e013469de98 (Tomcat)
PublicIPs: 54.163.184.184 PrivateIPs: 172.31.81.77

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```
Setting up expect (5.45.4-2build1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

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.
spawn passwd devops
New password: today@1234
Retype new password:
today@1234

passwd: password updated successfully
password for USER devops updated successfully - adding to sudoers file now
updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-81-77:~#
```

i-0b2a44e013469de98 (Tomcat)

Public IPs: 54.163.184.184 Private IPs: 172.31.81.77

30) ssh to Jenkins instance and become the user devOps.

```

updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-90-201:# root$ su - devops
Command 'root$' not found, did you mean:
  command 'roots' from snap root-framework (v6-28-02)
  command 'root' from snap root-framework (v6-28-02)
  command 'rooty' from deb xawtv (3.107-1.1)
See 'snap info <snapname>' for additional versions.
root@ip-172-31-90-201:# su - devops
su: user - does not exist or the user entry does not contain all the required fields
root@ip-172-31-90-201:# ssh root@172.31.90.201
The authenticity of host '172.31.90.201' can't be established.
ED25519 key fingerprint is SHA256:0ikR2DuRmH8x6gfKAd0d55Wpc9NsxVs3jkqba8Jg7sw.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '172.31.90.201' (ED25519) to the list of known hosts.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Connection closed by 172.31.90.201 port 22
root@ip-172-31-90-201:#

i-07469d91e4f9cc316 (Jenkins)
PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

```

updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-90-201:# root$ su - devops
Command 'root$' not found, did you mean:
  command 'roots' from snap root-framework (v6-28-02)
  command 'root' from snap root-framework (v6-28-02)
  command 'rooty' from deb xawtv (3.107-1.1)
See 'snap info <snapname>' for additional versions.
root@ip-172-31-90-201:# su - devops
su: user - does not exist or the user entry does not contain all the required fields
root@ip-172-31-90-201:# ssh root@172.31.90.201
The authenticity of host '172.31.90.201' can't be established.
ED25519 key fingerprint is SHA256:0ikR2DuRmH8x6gfKAd0d55Wpc9NsxVs3jkqba8Jg7sw.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '172.31.90.201' (ED25519) to the list of known hosts.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Connection closed by 172.31.90.201 port 22
root@ip-172-31-90-201:#

i-07469d91e4f9cc316 (Jenkins)
PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

31) Now we need to pass on these keys to Jenkins and Tomcat.

```

updated the sudoers file successfully
updated /etc/ssh/sshd_config Successfully -- restarting sshd service
root@ip-172-31-90-201:~# root$ su - devops
Command 'roots' not found, did you mean:
  command 'root' from snap root-framework (v6-28-02)
  command 'root' from snap root-framework (v6-28-02)
  command 'rooty' from deb xawtv (3.107-1.1)
See 'snap info <snapname>' for additional versions.
root@ip-172-31-90-201:~# su - devops
su: user - does not exist or the user entry does not contain all the required fields
root@ip-172-31-90-201:~# ssh root@172.31.90.201
The authenticity of host '172.31.90.201 (172.31.90.201)' can't be established.
EN2519 key fingerprint is SHA256:iikR2DuRmH8x6gfKAdd55pc9NsxVs3jkgba8Jg7sw.
This key is not known by any other names
Are you sure you want to continue connecting (yes/no/[fingerprint])? y
Please type 'yes', 'no' or the fingerprint: y
Please type 'yes', 'no' or the fingerprint: yes
Warning: Permanently added '172.31.90.201' (ED25519) to the list of known hosts.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Permission denied, please try again.
root@172.31.90.201's password:
Connection closed by 172.31.90.201 port 22
root@ip-172-31-90-201:~#

```

i-07469d91e4f9cc316 (Jenkins)

PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

root@ip-172-31-90-201:~#
root@ip-172-31-90-201:~#
root@ip-172-31-90-201:~# ssh-keygen
Generating public/private rsa key pair.
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
Your public key has been saved in      .pub
The key fingerprint is:
SHA256:ec2gDilj0Xc9cbTz1pcnGSL56Hy201HQX5TrZJAgx+w root@ip-172-31-90-201
The key's randomart image is:
+---[RSA 3072]---+
|...   .. oo....o|
| + o .. .o+o...o|
| . . ++ . = o.o.o|
|+. .. * E o.*.|
|= . . S o ..B .|
| . o . + . + |
| .     o.o. |
| .     .o.. |
| .     .. |
+---[SHA256]---+
root@ip-172-31-90-201:~#
root@ip-172-31-90-201:~# []

```

i-07469d91e4f9cc316 (Jenkins)

PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

root@ip-172-31-90-201:~# ssh-keygen
Generating public/private rsa key pair.
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:ec2gBijJ0Xc9cbfz1PcnGSL56Hy201HQX5TrZJAgx+w root@ip-172-31-90-201
The key's randomart image is:
+---[RSA 3072]---+
|... .oo....o|
| + o ..o+.o..|
| . . ++ . = o.o.o|
| .+ .. * . E o.*.|
|= .. . S o ..B .|
| . o . + . + |
| . .o.o. |
| .o... |
| .. |
+---[SHA256]---+
root@ip-172-31-90-201:~# 
root@ip-172-31-90-201:~# 

```

i-07469d91e4f9cc316 (Jenkins)
PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

+---[SHA256]---+
root@ip-172-31-90-201:~# ssh-copy-id devops@172.31.90.201
/usr/bin/ssh-copy-id: ERROR: No identities found
root@ip-172-31-90-201:~# ssh -i "key.pem" ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com devops@172.31.90.201
Warning: Identity file key.pem not accessible: No such file or directory.
The authenticity of host 'ec2-44-212-42-245.compute-1.amazonaws.com (172.31.90.201)' can't be established.
ED25519 key fingerprint is SHA256:g1KR2DUmH8x6fFKAdod5Wpc9NsxVs3jkgba8Jg7sw.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:1: [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-212-42-245.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com: Permission denied (publickey,password).
root@ip-172-31-90-201:~# ssh -i "key.pem" ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com devops@172.31.90.201
Warning: Identity file key.pem not accessible: No such file or directory.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Connection closed by 172.31.90.201 port 22
root@ip-172-31-90-201:~# 

```

i-07469d91e4f9cc316 (Jenkins)
PublicIPs: 44.212.42.245 PrivateIPs: 172.31.90.201

```

-----[SHA256]-----
root@ip-172-31-90-201:~#
root@ip-172-31-90-201:~# ssh-copy-id devops@172.31.90.201
/usr/bin/ssh-copy-id: ERROR: No identities found
root@ip-172-31-90-201:~# ssh -i "key.pem" ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com devops@172.31.90.201
Warning: Identity file key.pem not accessible: No such file or directory.
The authenticity of host 'ec2-44-212-42-245.compute-1.amazonaws.com (172.31.90.201)' can't be established.
ED25519 key fingerprint is SHA256:0ikRZDUmH8x6gFKAdd55Wpc9NsxV83jkpba8Jg7sw.
This host key is known by the following other names/addresses:
  ~/.ssh/known_hosts:1 [hashed name]
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-44-212-42-245.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com: Permission denied (publickey,password).
root@ip-172-31-90-201:~# ssh -i "key.pem" ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com devops@172.31.90.201
Warning: Identity file key.pem not accessible: No such file or directory.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Permission denied, please try again.
ubuntu@ec2-44-212-42-245.compute-1.amazonaws.com's password:
Connection closed by 172.31.90.201 port 22
root@ip-172-31-90-201:~# []

```

i-07469d91e4f9cc316 (Jenkins)

Public IPs: 44.212.42.245 Private IPs: 172.31.90.201

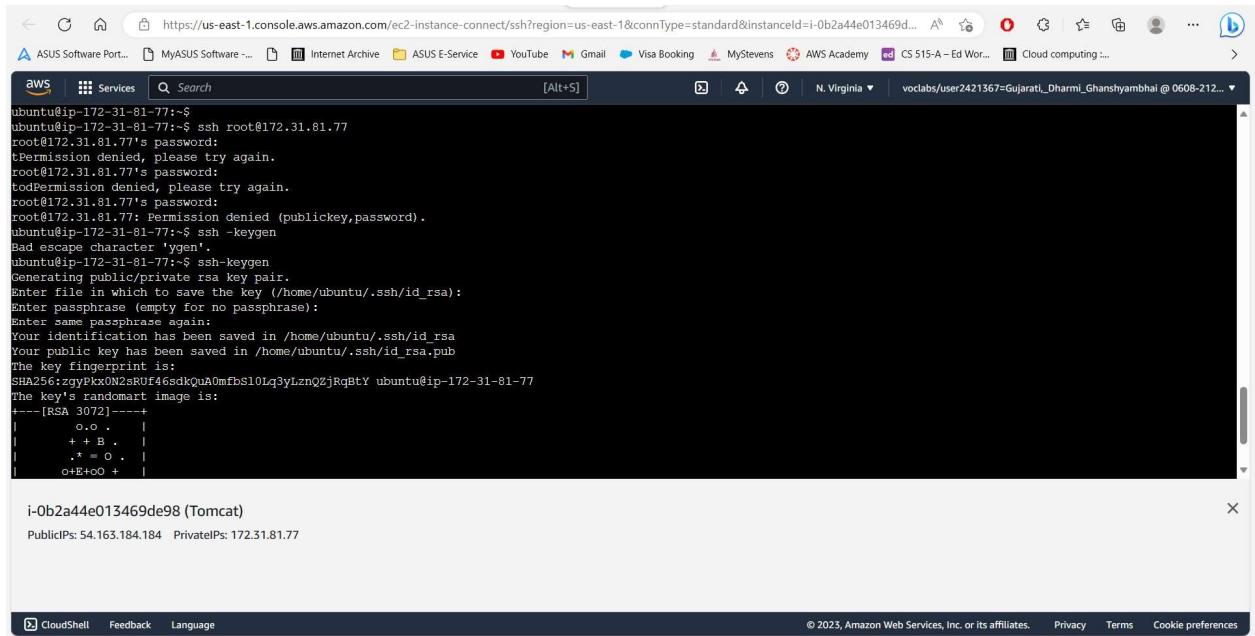
```

-----[SHA256]-----
ubuntu@ip-172-31-81-77:~#
ubuntu@ip-172-31-81-77:~$ ssh root@172.31.81.77
root@172.31.81.77's password:
Permission denied, please try again.
root@172.31.81.77's password:
Bad permission denied, please try again.
root@172.31.81.77's password:
root@172.31.81.77:~# Permission denied (publickey,password).
ubuntu@ip-172-31-81-77:~$ ssh -keygen
Bad escape character 'ygen'.
ubuntu@ip-172-31-81-77:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_rsa
Your public key has been saved in /home/ubuntu/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:zypPkxON2sRUf46sdkQUA0mfbs10Lq3yLznQZjRqBtY ubuntu@ip-172-31-81-77
The key's randomart image is:
  [RSA 3072] ---+
    o o . |
    + + B . |
    . * = O . |
    o+E+oO + |

```

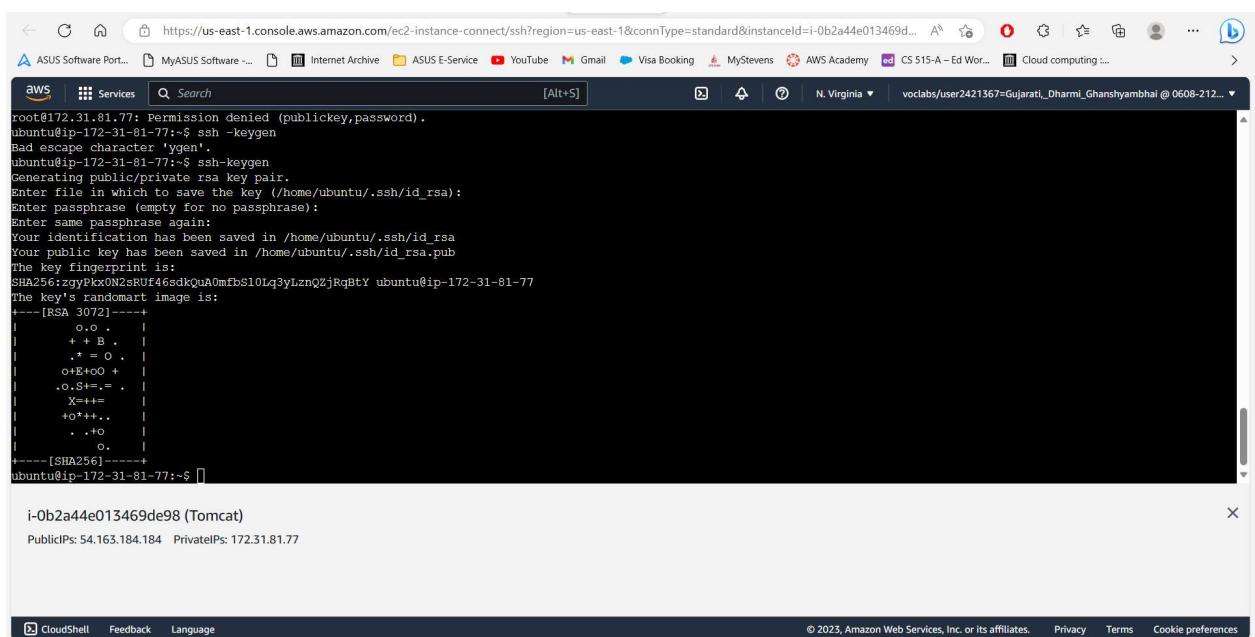
i-0b2a44e013469de98 (Tomcat)

Public IPs: 54.163.184.184 Private IPs: 172.31.81.77



```
ubuntu@ip-172-31-81-77:~$ ssh root@172.31.81.77
root@172.31.81.77's password:
Permission denied, please try again.
root@172.31.81.77's password:
Permission denied, please try again.
root@172.31.81.77's password:
root@172.31.81.77: Permission denied (publickey,password).
ubuntu@ip-172-31-81-77:~$ ssh -keygen
Bad escape character 'ygen'.
ubuntu@ip-172-31-81-77:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_rsa
Your public key has been saved in /home/ubuntu/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:zygYKxON2sRUf46sdkQuA0mfbS10Lq3yLznQZjRqBtY ubuntu@ip-172-31-81-77
The key's randomart image is:
-----[RSA 3072]----+
|   o . .
| + + B .
| . * = O .
| o+E+oO +
|
```

i-0b2a44e013469de98 (Tomcat)
Public IPs: 54.163.184.184 Private IPs: 172.31.81.77



```
root@172.31.81.77:~$ Permission denied (publickey,password).
ubuntu@ip-172-31-81-77:~$ ssh -keygen
Bad escape character 'ygen'.
ubuntu@ip-172-31-81-77:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_rsa
Your public key has been saved in /home/ubuntu/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:zygYKxON2sRUf46sdkQuA0mfbS10Lq3yLznQZjRqBtY ubuntu@ip-172-31-81-77
The key's randomart image is:
-----[RSA 3072]----+
|   o . .
| + + B .
| . * = O .
| o+E+oO +
| .o+S+=. .
| X+=+=. .
| +o+=+. .
| ..+o. .
| .
|-----[SHA256]----+
ubuntu@ip-172-31-81-77:~$
```

i-0b2a44e013469de98 (Tomcat)
Public IPs: 54.163.184.184 Private IPs: 172.31.81.77

```

root@172.31.81.77: Permission denied (publickey,password).
ubuntu@ip-172-31-81-77:~$ ssh -keygen
Bad escape character 'y\gen'.
ubuntu@ip-172-31-81-77:~$ ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/home/ubuntu/.ssh/id_rsa):
Enter passphrase (empty for no passphrase):
Enter same passphrase again:
Your identification has been saved in /home/ubuntu/.ssh/id_rsa
Your public key has been saved in /home/ubuntu/.ssh/id_rsa.pub
The key fingerprint is:
SHA256:zgyPkhON2sRUF46sdKQuA0mfbs10Lq3yLznQZjRqBtY ubuntu@ip-172-31-81-77
The key's randomart image is:
----[RSA 3072]----+
|          o .   |
| + + B .   |
| . = O .   |
| o+E+OO +   |
| .O+S+=.= .   |
| X+=+       |
| +O+A++..   |
| . .+o       |
|   o.       |
----[SHA256]----+
ubuntu@ip-172-31-81-77:~$ 

```

i-0b2a44e013469de98 (Tomcat)
Public IPs: 54.163.184.184 Private IPs: 172.31.81.77

32) ssh into ansible instance and connect.

```

Overwrite (y/n)?
root@ip-172-31-23-123:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
/root/.ssh/id_rsa already exists.
Overwrite (y/n)? y
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:
SHA256:9tDOP/GdPpanLrvijD7itk9NO+DAP9+1UE0q+NeATbA root@ip-172-31-23-123
The key's randomart image is:
----[RSA 3072]----+
|          . o   |
| . o E . . | |
| o . + . + o | |
| o S = = =.. | |
| ..o O *+.+ | |
| ..o+ O.= o | |
| ..o.o+o +oo| |
| ..ooo+o+o... | |
----[SHA256]----+
root@ip-172-31-23-123:~# 

```

i-07997e2210f357337 (Ansible)
Public IPs: 54.226.173.149 Private IPs: 172.31.23.123

```

Overwrite (y/n)?
root@ip-172-31-23-123:~# ssh-keygen
Generating public/private rsa key pair.
Enter file in which to save the key (/root/.ssh/id_rsa):
/root/.ssh/id_rsa already exists.
Overwrite (y/n)? y
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:
SHA256:9tDOP/GdpPanLrvijD7Itk9NO+DAF9+1UE0q+NeATbA root@ip-172-31-23-123
The key's randomart image is:
+---[RSA 3072]---+
|          . |
|          o |
| . o E . . |
| o . + . + o |
| o S = = . . |
| ..o O *+. |
| .o+ O = o |
| .o.o+ +ooO |
| .oooo+B=... |
+---[SHA256]---+
root@ip-172-31-23-123:~#

```

i-07997e2210f357337 (Ansible)
PublicIPs: 54.226.173.149 PrivateIPs: 172.31.23.123

33) Uncomment and set host key

```

Command 'root' not found, did you mean:
 command 'root' from snap root-framework (v6-28-02)
 command 'roots' from snap root-framework (v6-28-02)
 command 'rooty' from deb xawtv (3.107-1.1)
See 'snap info <snapname>' for additional versions.
root@ip-172-31-23-123:~# cd etc/ansible
-bash: cd: etc/ansible: No such file or directory
root@ip-172-31-23-123:~# cd etc/ansible
-bash: cd: etc/ansible: No such file or directory
root@ip-172-31-23-123:~# 172.31.81.77 ansible_user=devops
172.31.81.77: command not found
root@ip-172-31-23-123:~# 172.31.81.77ansible_user=devops
172.31.81.77ansible_user=devops: command not found
root@ip-172-31-23-123:~# cd..
cd..: command not found
root@ip-172-31-23-123:~# ls
snap
root@ip-172-31-23-123:~# cd ..
root@ip-172-31-23-123:~# /var/lib/ cd ..
-bash: /var/lib/: No such file or directory
root@ip-172-31-23-123:~# ansible-config init --disabled > ansible.cfg
root@ip-172-31-23-123:~# nano ansible.cfg
root@ip-172-31-23-123:~# ansible all -m ping
[WARNING]: provided hosts list is empty, only localhost is available. Note that the implicit localhost does not match 'all'
root@ip-172-31-23-123:~#

```

i-07997e2210f357337 (Ansible)
PublicIPs: 54.226.173.149 PrivateIPs: 172.31.23.123

34) ping module.

The screenshot shows a terminal window with the file path `ansible.cfg` at the top. The file contains configuration options for the Ansible ping module. Key sections include:

- `error_on_missing_handler=true`
- `gather_facts_modules=smart`
- `host_key_checking=False`
- `inject_facts_as_vars=True`
- `interpreter_python=auto`
- `invalid_task_attribute_failed=True`

At the bottom of the terminal window, there is a status bar with the text "i-07997e2210f357337 (Ansible)" and "Public IPs: 54.226.173.149 Private IPs: 172.31.23.123".

35) become a root user.

The screenshot shows a terminal window connected via SSH to an AWS instance. The session starts with a message about expanded security maintenance for applications. It then shows the user navigating through a series of nano editors to edit configuration files:

- `/opt/playbooks/copyfile.yml`
- `/opt/playbooks/debian.yaml`
- `/opt/playbooks/ansible-role.yaml`

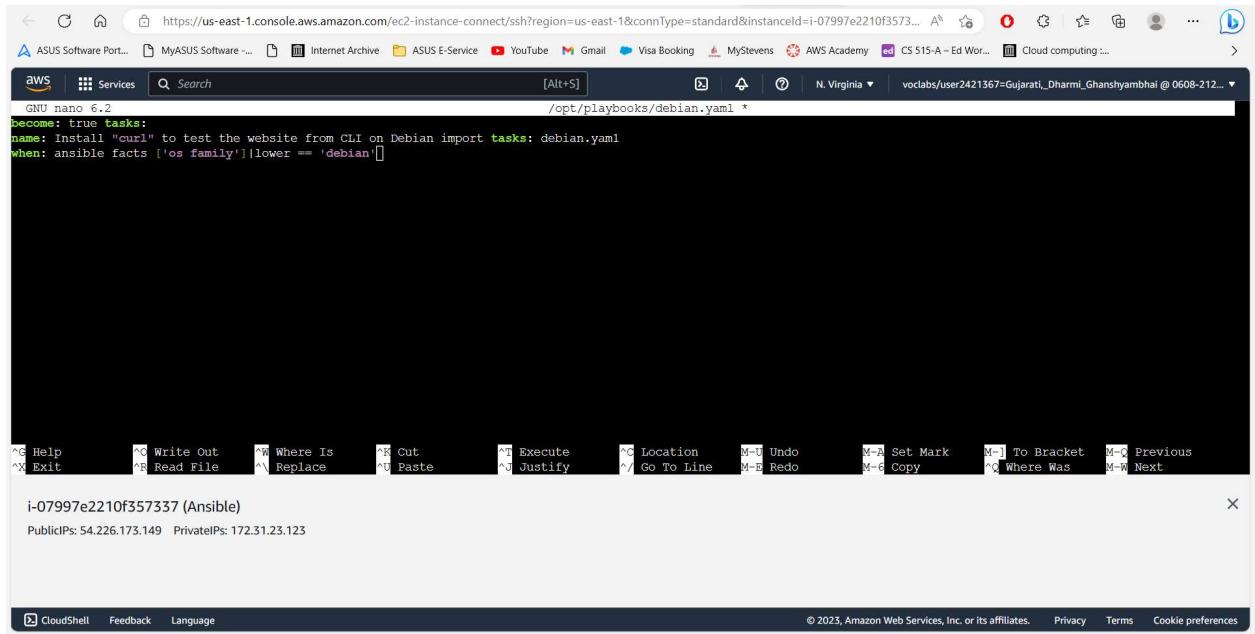
Finally, the user runs the command `sudo su -` to become root. The terminal shows the root prompt `[root@ip-172-31-23-123 ~]`. At the bottom of the terminal window, there is a status bar with the text "i-07997e2210f357337 (Ansible)" and "Public IPs: 54.226.173.149 Private IPs: 172.31.23.123".

The screenshot shows a terminal window within an AWS CloudShell interface. The URL is <https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-07997e2210f3573...>. The terminal title is "AWS Services". The command being run is:

```
name: Install curl package ansible.builtin.apt
name: curl state: present[]
```

The screenshot shows a terminal window within an AWS CloudShell interface. The URL is <https://us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-07997e2210f3573...>. The terminal title is "AWS Services". The command being run is:

```
hosts: tomcat become: true
tasks:
- name: copy to debian systems import tasks: debian.yaml
- name: copy war file copy
src: /opt/playbooks/sampleapp.war dest: /opt/apache-tomcat-9.0.63/webapps/[]
```



```

become: true
tasks:
name: Install "curl" to test the website from CLI on Debian
import tasks: debian.yaml
when: ansible facts['os family']|lower == 'debian'

```

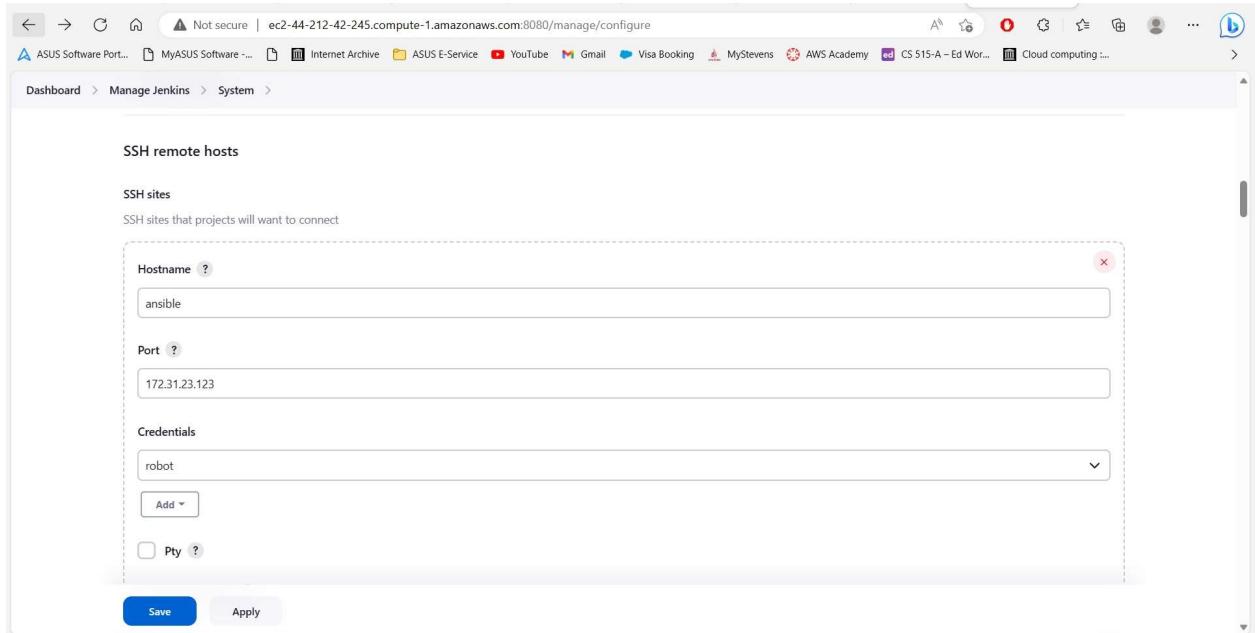
GNU nano 6.2 /opt/playbooks/debian.yaml *

^G Help ^O Write Out ^W Where Is ^K Cut ^T Execute ^C Location M-U Undo M-A Set Mark M-L To Bracket M-Q Previous
 ^X Exit ^R Read File ^\ Replace ^P Paste ^J Justify ^Y Go To Line M-D Redo M-C Copy ^Q Where Was M-W Next

i-07997e2210f35737 (Ansible)
 Public IPs: 54.226.173.149 Private IPs: 172.31.23.123

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36) Follow this step:



SSH sites

SSH sites that projects will want to connect

Hostname ? ansible

Port ? 172.31.23.123

Credentials robot

Pty ?

Save **Apply**

Dashboard > Tomcat-Project > Configuration

Configure

- General
- Source Code Management
- Build Triggers
- Build Environment
- Build Steps**
- Post-build Actions

Transfer Set
Source files ?

Remove prefix ?

Remote directory ?

Exec command ?

All of the transfer fields (except for Exec timeout) support substitution of [Jenkins environment variables](#)

Advanced ▾

Save **Apply**

Dashboard > Tomcat-Project >

Status

- </> Changes
- Workspace
- ▷ Build Now
- Configure
- >Delete Project
- Rename**

Project Tomcat-Project

Add description Disable Project

Permalinks

- Last build (#12), 5 min 28 sec ago
- Last stable build (#11), 2 hr 36 min ago
- Last successful build (#12), 5 min 28 sec ago
- Last failed build (#10), 2 hr 47 min ago
- Last unstable build (#12), 5 min 28 sec ago
- Last unsuccessful build (#12), 5 min 28 sec ago
- Last completed build (#12), 5 min 28 sec ago

Build History trend ▾

Filter builds...

#	Date
① #12	3 May 2023 00:33
② #11	2 May 2023 22:02
③ #10	2 May 2023 21:51
④ #9	2 May 2023 21:48
⑤ #8	2 May 2023 21:28