

Screenshots of CI/CD Deployment for Spring boot Application

1. How to run Project:

1.1 First create EC2 Instance on AWS as follows:

The screenshot shows the AWS EC2 Management Console. The left sidebar is collapsed, showing the 'Instances' section with 'Instances New' selected. The main area displays a table titled 'Instances Info' with columns: Name, Instance ID, Instance state, Instance type, Status check, Alarm status, and Availability Zone. A message at the top right of the table area says 'You do not have any instances in this region'. At the bottom of the main area, there is a modal window titled 'Select an instance' which is currently empty.

The screenshot shows the 'Launch instance wizard' step 1: Choose an Amazon Machine Image (AMI). The top navigation bar includes tabs for 'Choose AMI', 'Choose Instance Type', 'Configure Instance', 'Add Storage', 'Add Tags', 'Configure Security Group', and 'Review'. The 'Choose AMI' tab is active. The main content area is titled 'Step 1: Choose an Amazon Machine Image (AMI)' and contains three options:

- SUSE Linux Enterprise Server 15 SP2 (HVM), SSD Volume Type** - ami-0fde50fcbed46f2f7 (64-bit x86) / ami-05f2f76d89313bb (64-bit Arm)
Free tier eligible
Select
Radio buttons: 64-bit (x86) (selected), 64-bit (Arm)
- Ubuntu Server 20.04 LTS (HVM), SSD Volume Type** - ami-083654bd07b5da81d (64-bit x86) / ami-04fe9398b2a27a600 (64-bit Arm)
Free tier eligible
Select
Radio buttons: 64-bit (x86) (selected), 64-bit (Arm)
- Ubuntu Server 18.04 LTS (HVM), SSD Volume Type** - ami-0279c3b3186e54acd (64-bit x86) / ami-0528007a60177dd84 (64-bit Arm)
Free tier eligible
Select
Radio buttons: 64-bit (x86) (selected), 64-bit (Arm)

Launch instance wizard | EC2 Launch Instance Wizard

New Tab https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

aws Services Search for services, features, blogs, docs, and more [Alt+S]

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance families Current generation Show/Hide Columns

Currently selected: t2.medium (- ECUs, 2 vCPUs, 2.3 GHz, -, 4 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	t2	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.micro <small>Free tier eligible</small>	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	t2	t2.medium	2	4	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	t2	t2.large	2	8	EBS only	-	Low to Moderate	Yes

Cancel Previous Review and Launch Next: Configure Instance Details

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Launch instance wizard | EC2 Launch Instance Wizard

New Tab https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

aws Services Search for services, features, blogs, docs, and more [Alt+S]

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Configure the instance to suit your requirements. You can launch multiple instances from the same AMI, request Spot instances to take advantage of the lower pricing, assign an access management role to the instance, and more.

Number of instances Launch into Auto Scaling Group

Purchasing option Request Spot instances

Network

Subnet

Auto-assign Public IP

Placement group Add instance to placement group

Capacity Reservation

Domain join directory

IAM role

Cancel Previous Review and Launch Next: Add Storage

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Launch instance wizard | EC2 Main New Tab https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard: Services Search for services, features, blogs, docs, and more [Alt+S] anushka921 N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 3: Configure Instance Details

Shutdown behavior: Stop

Stop - Hibernate behavior: Enable hibernation as an additional stop behavior

Enable termination protection: Protect against accidental termination

Monitoring: Enable CloudWatch detailed monitoring
Additional charges apply.

Tenancy: Shared - Run a shared hardware instance
Additional charges will apply for dedicated tenancy.

Elastic Inference: Add an Elastic Inference accelerator
Additional charges apply.

Credit specification: Unlimited
Additional charges may apply

File systems: Add file system Create new file system

Advanced Details

Cancel Previous Review and Launch Next: Add Storage

https://aws.amazon.com/machine-learning/elastic-inference/pricing/ © 2008 - 2021, Amazon Internet Services Private Ltd. or its affiliates. All rights reserved. Privacy Policy Terms of Use Cookie preferences

Launch instance wizard | EC2 Main New Tab https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard: Services Search for services, features, blogs, docs, and more [Alt+S] anushka921 N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type	Device	Snapshot	Size (GiB)	Volume Type	IOPS	Throughput (MB/s)	Delete on Termination	Encryption
Root	/dev/sda1	snap-0c97f1c43c6bb2043	16	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypt

Add New Volume

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

Shared file systems

Cancel Previous Review and Launch Next: Add Tags

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Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver.

A copy of a tag can be applied to volumes, instances or both.

Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum) **Value** (256 characters maximum)

	Instances	Volumes	Network Interfaces
Name	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add another tag (Up to 50 tags maximum)

Cancel **Previous** **Review and Launch** **Next: Configure Security Group**

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Step 6: Configure Security Group

Assign a security group: Create a new security group
 Select an existing security group

Security group name: webserver

Description: webserver created 2021-11-16T17:17:02.287+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	My IP	Anushka IP
Custom TCP F	TCP	80	Anywhere	Open for all
Custom TCP F	TCP	8080	Anywhere	Open for all
Custom TCP F	TCP	8081	Anywhere	Open for all

Add Rule

Warning
Rules with source of 0.0.0.0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

Cancel **Previous** **Review and Launch**

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Launch instance wizard | EC2 +

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

⚠ Improve your instances' security. Your security group, webserver, is open to the world.

Your instances may be accessible from any IP address. We recommend that you update your security group rules to allow access from known IP addresses only. You can also open additional ports in your security group to facilitate access to the application or service you're running, e.g., HTTP (80) for web servers. [Edit security groups](#)

⚠ Your instance configuration is not eligible for the free usage tier

To launch an instance that's eligible for the free usage tier, check your AMI selection, instance type, configuration options, or storage devices. Learn more about [free usage tier](#) eligibility and usage restrictions.

[Don't show me this again](#)

AMI Details [Edit AMI](#)

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type - ami-083654bd07b5da81d

Free tier eligible Ubuntu Server 20.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).
Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Cancel Previous Launch

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Launch instance wizard | EC2 +

https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

eligible Root Device Type: ebs Virtualization type: hvm

Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.medium	-	2	4	EBS only	-	Low to Moderate

Security Groups [Edit security groups](#)

Security group name	Description
webserver	webserver created 2021-11-16T17:17:02.287+05:30

Type (i)	Protocol (i)	Port Range (i)	Source (i)	Description (i)
SSH	TCP	22	49.36.222.218/32	Anushka IP
HTTP	TCP	80	0.0.0.0/0	Open for all
HTTP	TCP	80	::/0	Open for all
Custom TCP Rule	TCP	8080	0.0.0.0/0	Open for all

Cancel Previous Launch

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Launch instance wizard | EC2 M... + https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

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1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

eligible Root Device Type: ebs Virtualization type: t2

Instance Type

Instance Type	ECUs	vCPUs
t2.medium	-	2

Security Groups

Security group name	Description
webserver	webserver created by AWS

Type	Protocol
SSH	TCP
HTTP	TCP
HTTP	TCP

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance. Amazon EC2 supports ED25519 and RSA key pair types.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

RSA ED25519

Key pair name: webserver-ecom

Download Key Pair

You have to download the **private key file (*.pem file)** before you can continue. [Store it in a secure and accessible location](#). You will not be able to download the file again after it's created.

Cancel Previous Launch

Launch instance wizard | EC2 M... + https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard:

Services ▾ Search for services, features, blogs, docs, and more [Alt+S]

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Launch Status

✓ Your instances are now launching

The following instance launches have been initiated: i-070d8b0ef998cdc7e [View launch log](#)

ⓘ Get notified of estimated charges

Create [billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click [View Instances](#) to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- [How to connect to your Linux instance](#)
- [Amazon EC2: User Guide](#)
- [Learn about AWS Free Usage Tier](#)
- [Amazon EC2: Discussion Forum](#)

While your instances are launching you can also

Instances | EC2 Management Con X + https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

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EC2 Dashboard

EC2 Global View

Events

Tags

Limits

Instances

Instances New

- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances New
- Dedicated Hosts
- Scheduled Instances
- Capacity Reservations

Images

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Instances (1) Info

Connect Instance state Actions Launch instances

Filter instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
webserver	i-070d8b0ef998cdc7e	Pending	t2.medium	-	No alarms	us-east-1d

Select an instance

Instances | EC2 Management Con X + https://console.aws.amazon.com/ec2/v2/home?region=us-east-1#Instances:

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EC2 Dashboard

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- Capacity Reservations

Images

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Instances (1) Info

Actions Launch instances

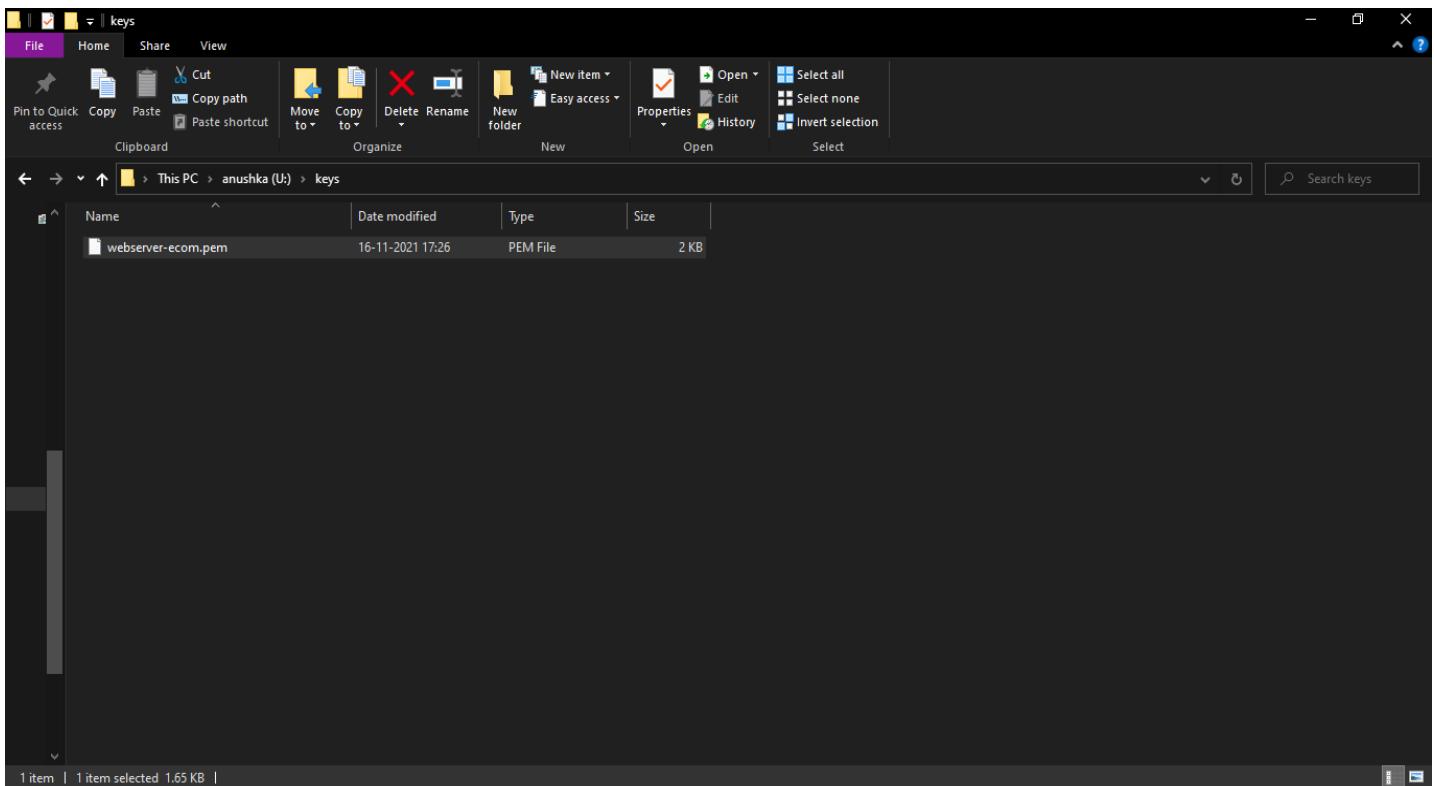
Filter instances

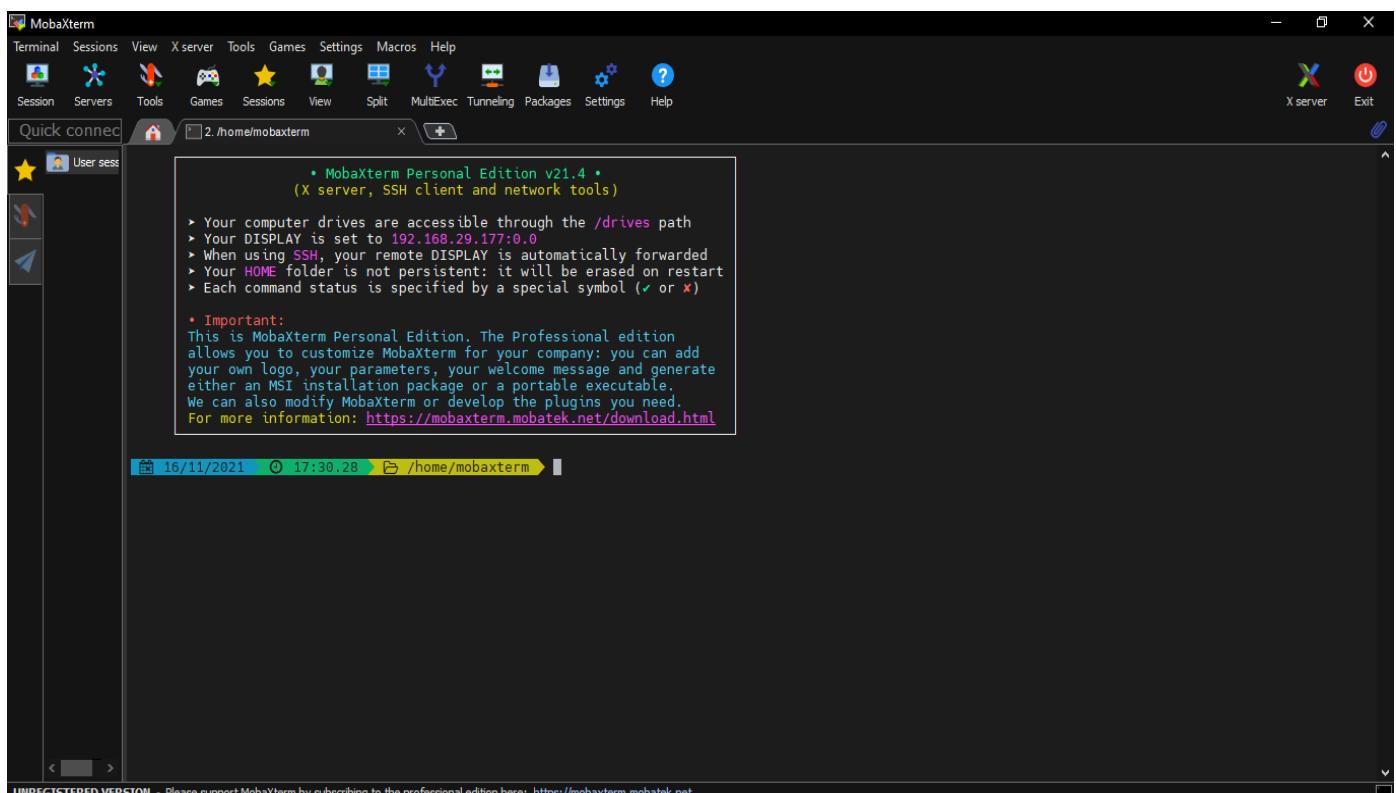
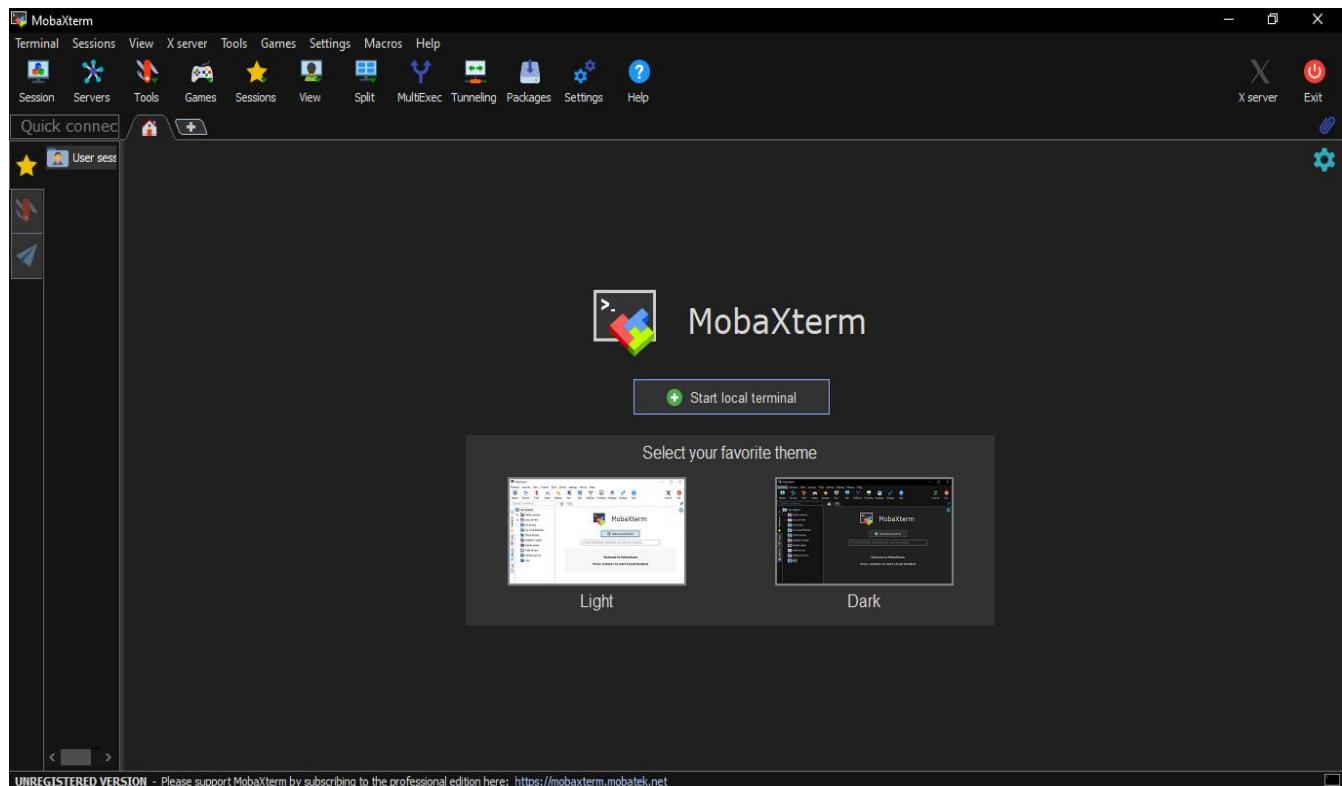
Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
webserver	i-070d8b0ef998cdc7e	Running	t2.medium	-	No alarms	us-east-1d

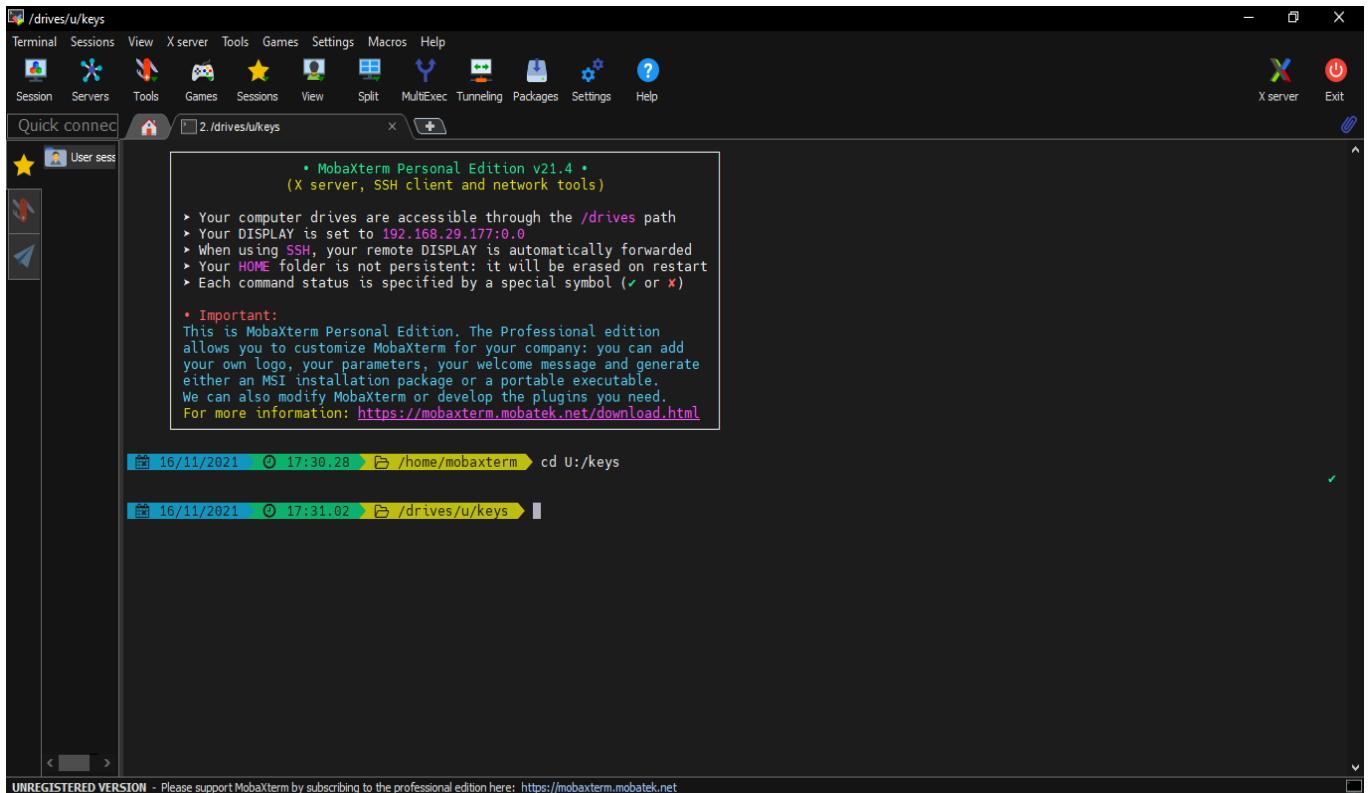
Select an instance

The screenshot shows the AWS EC2 Management Console. On the left, there's a sidebar with links like EC2 Dashboard, EC2 Global View, Events, Tags, Limits, Instances (selected), Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Scheduled Instances, Capacity Reservations, and Images. The main area shows a table titled 'Instances (1/1)'. It has columns for Name, Instance ID, Instance state, Instance type, Status check, Alarm status, and Availability Zone. One row is selected for 'webserver' (Instance ID: i-070d8b0ef998cdc7e), which is 'Running' on an 't2.medium' instance type in the 'us-east-1d' availability zone. Below the table, a detailed view for 'Instance: i-070d8b0ef998cdc7e (webserver)' is open, showing tabs for Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. Under the Details tab, the 'Instance summary' section displays the Instance ID (i-070d8b0ef998cdc7e), Public IPv4 address (184.73.136.225), Private IPv4 addresses (172.31.20.101), and Instance state (Running). The Public IPv4 DNS is listed as ec2-184-73-136-225.compute-1.amazonaws.com.

1.2 Put key In MobaXterm :-> ssh -i "webserver-ecom.pem" ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com







EC2 > Instances > i-070d8b0ef998cdc7e > Connect to instance

Connect to instance Info

Connect to your instance i-070d8b0ef998cdc7e (webserver) using any of these options

SSH client (selected)

Instance ID
i-070d8b0ef998cdc7e (webserver)

1. Open an SSH client.
2. Locate your private key file. The key used to launch this instance is `webserver-ecom.pem`
3. Run this command, if necessary, to ensure your key is not publicly viewable.
chmod 400 `webserver-ecom.pem`

4. Connect to your instance using its Public DNS:
ec2-184-73-136-225.compute-1.amazonaws.com

Example:

```
ssh -i "webserver-ecom.pem" ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com
```

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

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```
ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ec2-184-73-136-225.com +
User sess
• MobaXterm Personal Edition v21.4 •
(X server, SSH client and network tools)

> Your computer drives are accessible through the /drives path
> Your DISPLAY is set to 192.168.29.177:0.0
> When using SSH, your remote DISPLAY is automatically forwarded
> Your HOME folder is not persistent: it will be erased on restart
> Each command status is specified by a special symbol (✓ or ✗)

• Important:
This is MobaXterm Personal Edition. The Professional edition
allows you to customize MobaXterm for your company: you can add
your own logo, your parameters, your welcome message and generate
either an MSI installation package or a portable executable.
We can also modify MobaXterm or develop the plugins you need.
For more information: https://mobaxterm.mobatek.net/download.html

16/11/2021 17:30:28 ~ /home/mobaxterm cd U:/keys

16/11/2021 17:31:02 ~ /drives/u/keys ssh -i "webserver-ecom.pem" ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com
Warning: Permanently added 'ec2-184-73-136-225.compute-1.amazonaws.com' (RSA) to the list of known hosts.

UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ip-172-31-20-101: ~ +
/home/ubuntu
Name
.. .cache .ssh .bash_. .bashrc .profile .xauth
16/11/2021 17:30:28 ~ /home/mobaxterm cd U:/keys

16/11/2021 17:31:02 ~ /drives/u/keys ssh -i "webserver-ecom.pem" ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com
Warning: Permanently added 'ec2-184-73-136-225.compute-1.amazonaws.com' (RSA) to the list of known hosts.
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1020-aws x86_64)

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

System information as of Tue Nov 16 12:01:53 UTC 2021

System load: 0.01 Processes: 113
Usage of /: 8.8% of 15.45GB Users logged in: 0
Memory usage: 5% IPv4 address for eth0: 172.31.20.101
Swap usage: 0%

1 update can be applied immediately.
To see these additional updates run: apt list --upgradable

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
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.

/usr/bin/xauth: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-20-101:~$
```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect
2. ubuntu@ip-172-31-20-101: ~
1 update can be applied immediately.
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the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

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applicable law.

/usr/bin/xauth: file /home/ubuntu/.Xauthority does not exist
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

ubuntu@ip-172-31-20-101:~$ sudo apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease [114 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease [101 kB]
Get:4 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 Packages [8628 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe Translation-en [5124 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 c-n-f Metadata [265 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 Packages [144 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse Translation-en [104 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/multiverse amd64 c-n-f Metadata [9136 B]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 Packages [1344 kB]
Get:12 http://security.ubuntu.com/ubuntu focal-security/main amd64 Packages [987 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main Translation-en [276 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 c-n-f Metadata [14.5 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 Packages [569 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted Translation-en [81.6 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/restricted amd64 c-n-f Metadata [528 B]
Get:18 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [183 kB]
Get:18 http://security.ubuntu.com/ubuntu focal-security/main Translation-en [183 kB]

pw terminal
```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect
2. ubuntu@ip-172-31-20-101: ~
Reading state information... Done
31 packages can be upgraded. Run 'apt list --upgradable' to see them.
ubuntu@ip-172-31-20-101:~$ sudo apt upgrade
Reading package lists... Done
Building dependency tree
Reading state information... Done
Calculating upgrade... Done
The following NEW packages will be installed:
  linux-aws-5.11-headers-5.11.0-1021 linux-headers-5.11.0-1021-aws linux-image-5.11.0-1021-aws linux-modules-5.11.0-1021-aws
The following packages will be upgraded:
  apport bind9-dnsutils bind9-host bind9-libs cloud-initramfs-copymods cloud-initramfs-dyn-netconf libasound2 libasound2-data libnetplan0 libssl1.1
  libtldbi linux-aws linux-base linux-headers-aws linux-image-aws netplan.io open-vm-tools openssl overlayroot python3-apport python3-problem-report
  python3-software-properties software-properties-common tzdata ubuntu-advantage-tools ufw vim vim-common vim-runtime vim-tiny xxd
31 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
16 standard security updates
Need to get 56.9 MB of archives.
After this operation, 215 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libssl1.1 amd64 1.1.1f-1ubuntu2.9 [1321 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 open-vm-tools amd64 2:11.3.0-2ubuntu0~ubuntu20.04.2 [647 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libnetplan0 amd64 0.103-0ubuntu5~20.04.2 [52.3 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 netplan.io amd64 0.103-0ubuntu5~20.04.2 [123 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 openssl amd64 1.1.1f-1ubuntu2.9 [622 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 tzdata all 2021e-0ubuntu0.20.04 [295 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 ubuntu-advantage-tools amd64 27.3-20.04.1 [854 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 vim amd64 2:8.1.2269-1ubuntu5.4 [1239 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-tiny amd64 2:8.1.2269-1ubuntu5.4 [579 kB]
Get:10 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-runtime all 2:8.1.2269-1ubuntu5.4 [5875 kB]
Get:11 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 xxd amd64 2:8.1.2269-1ubuntu5.4 [50.7 kB]
Get:12 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 vim-common all 2:8.1.2269-1ubuntu5.4 [85.7 kB]
Get:13 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-dnsutils amd64 1:9.16.1-0ubuntu2.9 [134 kB]
Get:14 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-libs amd64 1:9.16.1-0ubuntu2.9 [1107 kB]
Get:15 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 bind9-host amd64 1:9.16.1-0ubuntu2.9 [43.0 kB]
Get:16 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 ufw all 0.36-6ubuntul [147 kB]
Get:17 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 python3-problem-report all 2.20.11-0ubuntu27.21 [9896 B]
Get:18 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 python3-apport all 2.20.11-0ubuntu27.21 [85.9 kB]
Get:19 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 apport all 2.20.11-0ubuntu27.21 [129 kB]
Get:20 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libasound2 amd64 1.2.2-2.1ubuntu2.5 [335 kB]

pw terminal
```

```

ubuntu@ip-172-31-20-101: ~
Setting up software-properties-common (0.99.9.8) ...
Setting up apport (2.20.11-0ubuntu27.21) ...
apport-autoreport.service is a disabled or a static unit, not starting it.
Setting up bind9-host (1:9.16.1-0ubuntu2.9) ...
Setting up bind9-dnsutils (1:9.16.1-0ubuntu2.9) ...
I: /boot/vmlinuz is now a symlink to vmlinuz-5.11.0-1021-aws
I: /boot/initrd.img is now a symlink to initrd.img-5.11.0-1021-aws
Setting up linux-image-5.11.0-1021-aws (5.11.0-1021.22~20.04.2) ...
Setting up linux-modules-5.11.0-1021-aws (5.11.0-1021.22~20.04.2) ...
Setting up linux-aws (5.11.0-1021.22~20.04.20) ...
Processing triggers for systemd (245.4-4ubuntu3.13) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for dbus (1.12.16-2ubuntu2.1) ...
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
Processing triggers for initramfs-tools (0.136ubuntu6.6) ...
update-initramfs: Generating /boot/initrd.img-5.11.0-1020-aws
Processing triggers for linux-image-5.11.0-1021-aws (5.11.0-1021.22~20.04.2) ...
/etc/kernel/postinst.d/initramfs-tools:
update-initramfs: Generating /boot/initrd.img-5.11.0-1021-aws
/etc/kernel/postinst.d/zz-update-grub:
Sourcing file '/etc/default/grub'
Sourcing file '/etc/default/grub.d/40-force-partuuid.cfg'
Sourcing file '/etc/default/grub.d/50-cloudimg-settings.cfg'
Sourcing file '/etc/default/grub.d/init-select.cfg'
Generating grub configuration file ...
GRUB_FORCE_PARTUUID is set, will attempt initrdless boot
Found linux image: /boot/vmlinuz-5.11.0-1021-aws
Found initrd image: /boot/microcode.cpio /boot/initrd.img-5.11.0-1021-aws
Found linux image: /boot/vmlinuz-5.11.0-1020-aws
Found initrd image: /boot/microcode.cpio /boot/initrd.img-5.11.0-1020-aws
Found Ubuntu 20.04.3 LTS (20.04) on /dev/xvda1
done
ubuntu@ip-172-31-20-101: ~$ 

```

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1.3 Install Jenkins server on MobaXterm : -

```

ubuntu@ip-172-31-20-101: ~
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  at-spi2-core ca-certificates-java default-jdk-headless default-jre default-jre-headless fontconfig-config fonts-dejavu-core fonts-dejavu-extra
  java-common libatk-bridge2.0-0 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0 libatk1.0-data libatspi2.0-0 libavahi-client3
  libavahi-common-data libavahi-common3 libcupsys2 libdrm-intel libdrm-nouveau2 libdrm-radeon1 libfontconfig1 libfontenc1 libglif7 libgl1
  libgl1-mesa-dri libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice-dev libice6 libjpeg-turbo8 libjpeg8 liblcms2-2
  libllym12 libpcciacesso0 libpcsc-lite1 libpthread-stubs0-dev libsensors-config libsensors5 libsm-dev libvulkani libwayland-client0 libxi11-dev
  libxi11-xcb1 libxcb-dev libxcb-dri3-0 libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0 libxcb-shape0 libxcb-shm0 libxcb-sync1
  libxcb-xfixes0 libxcb1-dev libxcomposite1 libxdmcp-dev libxfixes3 libxft2 libx11 libxinerama1 libxbfbfile1 libxmu6 libxpm4 libxrandr2 libxrender1
  libxshmfence1 libxvt-dev libxt6 libxtst6 libxv1 libxxf86gai libxxf86vm1 mesa-vulkan-drivers openjdk-11-jdk openjdk-11-jdk-headless openjdk-11-jre
  openjdk-11-jre-headless x11-common x11-utils x11proto-core-dev x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
  cups-common libice-doc liblclms2-utils pscd lm-sensors libsm-doc libx11-doc libxcb-doc libxt-doc openjdk-11-demo openjdk-11-source visualvm
  libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zenhei fonts-indic mesa-utils
The following NEW packages will be installed:
  at-spi2-core ca-certificates-java default-jdk default-jdk-headless default-jre default-jre-headless fontconfig-config fonts-dejavu-core
  fonts-dejavu-extra java-common libatk-bridge2.0-0 libatk-wrapper-java libatk-wrapper-java-jni libatk1.0-0 libatk1.0-data libatspi2.0-0
  libavahi-client3 libavahi-common-data libavahi-common3 libcupsys2 libdrm-intel libdrm-nouveau2 libdrm-radeon1 libfontconfig1
  libfontenc1 libglif7 libgl1-mesa-dri libglapi-mesa libglvnd0 libglx-mesa0 libglx0 libgraphite2-3 libharfbuzz0b libice-dev libice6
  libjpeg-turbo8 libjpeg8 liblclms2-2 libllym12 libpcciacesso0 libpcsc-lite1 libpthread-stubs0-dev libsensors-config libsensors5 libsm-dev libvulk6
  libvulkani libwayland-client0 libxi11-dev libxi11-xcb1 libxau-dev libxaw7 libxcb-dri2-0 libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-randr0
  libxcb-shape0 libxcb-shm0 libxcb-sync1 libxcb-xfixes0 libxcb1-dev libxcomposite1 libxdmcp-dev libxfixes3 libxft2 libx11 libxinerama1 libxbfbfile1
  libxmu6 libxpm4 libxrandr2 libxrender1 libxshmfence1 libxvt-dev libxt6 libxtst6 libxv1 libxxf86gai libxxf86vm1 mesa-vulkan-drivers openjdk-11-jdk
  openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless x11-common x11-utils x11proto-core-dev x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 93 newly installed, 0 to remove and 0 not upgraded.
Need to get 304 MB of archives.
After this operation, 890 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libatspi2.0-0 amd64 2.36.0-2 [64.2 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 x11-common all 1:7.7+19ubuntu14 [22.3 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 libxtst6 amd64 2:1.2.3-1 [12.8 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 at-spi2-core amd64 2.36.0-2 [48.7 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 java-common all 0.72 [6816 B]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libavahi-common-data amd64 0.7-4ubuntu7.1 [21.4 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libavahi-common3 amd64 0.7-4ubuntu7.1 [21.7 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/main amd64 libavahi-client3 amd64 0.7-4ubuntu7.1 [25.5 kB]

```

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```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2. ubuntu@ip-172-31-20-101: ~ + 
Reconnect SSH-browse
done.
done.
Processing triggers for mime-support (3.64ubuntu1) ...
Processing triggers for libc-bin (2.31-0ubuntu9.2) ...
ubuntu@ip-172-31-20-101:~$ sudo apt install maven -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
libaopalliance-java libapache-pom-java libatinject-jsr330-api-java libcdi-api-java libcommons-cli-java libcommons-io-java libcommons-lang3-java
libcommons-parent-java libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libguava-java libguice-java
libhawtjni-runtime-java libjansi-java libjansi-native-java libjsr305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java
libmaven3-core-java libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java
libplexus-sec-dispatcher-java libplexus-utils2-java libsisu-inject-java libsisu-plexus-java libslf4j-java libwagon-file-java
libwagon-http-shaded-java libwagon-provider-api-java
Suggested packages:
libaopalliance-java-doc libatinject-jsr330-api-java-doc libservlet3.1-java libcommons-io-java-doc libcommons-lang3-java-doc libasm-java
libcglib-java libjsr305-java-doc libmaven-shared-utils-java-doc liblogback-java libplexus-cipher-java-doc libplexus-classworlds-java-doc
libplexus-sec-dispatcher-java-doc libplexus-utils2-java-doc junit4 testng libcommons-logging-java liblog4j1.2-java
The following NEW packages will be installed:
libaopalliance-java libapache-pom-java libatinject-jsr330-api-java libcdi-api-java libcommons-cli-java libcommons-io-java libcommons-lang3-java
libcommons-parent-java libgeronimo-annotation-1.3-spec-java libgeronimo-interceptor-3.0-spec-java libguava-java libguice-java
libhawtjni-runtime-java libjansi-java libjansi-native-java libjsr305-java libmaven-parent-java libmaven-resolver-java libmaven-shared-utils-java
libmaven3-core-java libplexus-cipher-java libplexus-classworlds-java libplexus-component-annotations-java libplexus-interpolation-java
libplexus-sec-dispatcher-java libplexus-utils2-java libsisu-inject-java libsisu-plexus-java libslf4j-java libwagon-file-java
libwagon-http-shaded-java libwagon-provider-api-java maven
0 upgraded, 33 newly installed, 0 to remove and 0 not upgraded.
Need to get 9208 kB of archives.
After this operation, 12.1 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libapache-pom-java all 18-1 [4720 B]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libatinject-jsr330-api-java all 1.0+ds1-5 [5348 B]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libgeronimo-interceptor-3.0-spec-java all 1.0.1-4fakesync [8616 B]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libcdi-api-java all 1.2-2 [54.5 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libcommons-cli-java all 1.4-1 [53.8 kB]
Get:6 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libcommons-parent-java all 43-1 [10.8 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates/universe amd64 libcommons-io-java all 2.6-2ubuntu0.20.04.1 [198 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libcommons-lang3-java all 3.8-2 [458 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 libgeronimo-annotation-1.3-spec-java all 1.0-1 [10.7 kB]
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```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2. ubuntu@ip-172-31-20-101: ~ + 
Reconnect SSH-browse
Unpacking maven (3.6.3-1) ...
Setting up libslf4j-java (1.7.25-3) ...
Setting up libplexus-utils2-java (3.3.0-1) ...
Setting up libplexus-classworlds-java (2.6.0-1) ...
Setting up libjsr305-java (0.1+svn49-11) ...
Setting up libaopalliance-java (20070526-6) ...
Setting up libcommons-cli-java (1.4-1) ...
Setting up libplexus-component-annotations-java (2.1.0-1) ...
Setting up libplexus-cipher-java (1.7-3) ...
Setting up libgeronimo-annotation-1.3-spec-java (1.0-1) ...
Setting up libgeronimo-interceptor-3.0-spec-java (1.0.1-4fakesync) ...
Setting up libapache-pom-java (18-1) ...
Setting up libatinject-jsr330-api-java (1.0+ds1-5) ...
Setting up libplexus-interpolation-java (1.26-1) ...
Setting up libplexus-sec-dispatcher-java (1.4-4) ...
Setting up libwagon-http-shaded-java (3.3.4-1) ...
Setting up libcdi-api-java (1.2-2) ...
Setting up libhawtjni-runtime-java (1.17-1) ...
Setting up libwagon-provider-api-java (3.3.4-1) ...
Setting up libmaven-parent-java (31-2) ...
Setting up libcommons-parent-java (43-1) ...
Setting up libmaven-resolver-java (1.4.1-1) ...
Setting up libguava-java (19.0-1) ...
Setting up libcommons-lang3-java (3.8-2) ...
Setting up libjansi-native-java (1.8-1) ...
Setting up libwagon-file-java (3.3.4-1) ...
Setting up libcommons-io-java (2.6-2ubuntu0.20.04.1) ...
Setting up libguice-java (4.2.1-1) ...
Setting up libjansi-java (1.8-1) ...
Setting up libmaven-shared-utils-java (3.3.0-1) ...
Setting up libsisu-inject-java (0.3.3-1) ...
Setting up libsisu-plexus-java (0.3.3-3) ...
Setting up libmaven3-core-java (3.6.3-1) ...
Setting up maven (3.6.3-1) ...
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode
ubuntu@ip-172-31-20-101:~$
```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ip-172-31-20-101: ~ + 
Reconnect SSH-browse
[home/ubu]
Name
Setting up libssl4j-java (1.7.25-3) ...
Setting up libplexus-utils2-java (3.3.0-1) ...
Setting up libplexus-classworlds-java (2.6.0-1) ...
Setting up libjsr305-java (0.1+svn49-11) ...
Setting up libaopalliance-java (20070526-6) ...
Setting up libcommons-cli-java (1.4-1) ...
Setting up libplexus-component-annotations-java (2.1.0-1) ...
Setting up libplexus-cipher-java (1.7-3) ...
Setting up libgeronimo-annotation-1.3-spec-java (1.0-1) ...
Setting up libgeronimo-interceptor-3.0-spec-java (1.0.1-4fakesync) ...
Setting up libapache-pom-java (18-1) ...
Setting up libatInject-jsr330-api-java (1.0+ds1-5) ...
Setting up libplexus-interpolation-java (1.26-1) ...
Setting up libplexus-sec-dispatcher-java (1.4-4) ...
Setting up libwagon-http-shaded-java (3.3.4-1) ...
Setting up libcdi-api-java (1.2-2) ...
Setting up libhawtjni-runtime-java (1.17-1) ...
Setting up libwagon-provider-api-java (3.3.4-1) ...
Setting up libmaven-parent-java (31-2) ...
Setting up libcommons-parent-java (43-1) ...
Setting up libmaven-resolver-java (1.4.1-1) ...
Setting up libguava-java (19.0-1) ...
Setting up libcommons-lang3-java (3.8-2) ...
Setting up libansi-native-java (1.8-1) ...
Setting up libwagon-file-java (3.3.4-1) ...
Setting up libcommons-io-java (2.6-2ubuntu0.20.04.1) ...
Setting up libguice-java (4.2.1-1) ...
Setting up libjansi-java (1.18-1) ...
Setting up libmaven-shared-utils-java (3.3.0-1) ...
Setting up libsisu-inject-java (0.3.3-1) ...
Setting up libsisu-plexus-java (0.3.3-3) ...
Setting up libmaven3-core-java (3.6.3-1) ...
Setting up maven (3.6.3-1) ...
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode
ubuntu@ip-172-31-20-101:~$ wget -q -O https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
OK
ubuntu@ip-172-31-20-101:~$ sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
ubuntu@ip-172-31-20-101:~$ 

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```

```
ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ip-172-31-20-101: ~ + 
Reconnect SSH-browse
[home/ubu]
Name
Setting up libatInject-jsr330-api-java (1.0+ds1-5) ...
Setting up libplexus-interpolation-java (1.26-1) ...
Setting up libplexus-sec-dispatcher-java (1.4-4) ...
Setting up libwagon-http-shaded-java (3.3.4-1) ...
Setting up libcdi-api-java (1.2-2) ...
Setting up libhawtjni-runtime-java (1.17-1) ...
Setting up libwagon-provider-api-java (3.3.4-1) ...
Setting up libmaven-parent-java (31-2) ...
Setting up libcommons-parent-java (43-1) ...
Setting up libmaven-resolver-java (1.4.1-1) ...
Setting up libguava-java (19.0-1) ...
Setting up libcommons-lang3-java (3.8-2) ...
Setting up libansi-native-java (1.8-1) ...
Setting up libwagon-file-java (3.3.4-1) ...
Setting up libcommons-io-java (2.6-2ubuntu0.20.04.1) ...
Setting up libguice-java (4.2.1-1) ...
Setting up libjansi-java (1.18-1) ...
Setting up libmaven-shared-utils-java (3.3.0-1) ...
Setting up libsisu-inject-java (0.3.3-1) ...
Setting up libsisu-plexus-java (0.3.3-3) ...
Setting up libmaven3-core-java (3.6.3-1) ...
Setting up maven (3.6.3-1) ...
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode
ubuntu@ip-172-31-20-101:~$ wget -q -O https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
OK
ubuntu@ip-172-31-20-101:~$ sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Ign:4 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:5 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:6 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:7 http://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:8 https://pkg.jenkins.io/debian-stable binary/ Packages [20.9 kB]
Fetched 138 kB in 1s (271 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ 
```

```

ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultExec Tunneling Packages Settings Help
Quick connect [ 2. ubuntu@ip-172-31-20-101: ~ ] + [ ]
Reconnect SSH-browse
[ home/ubuntu ]
Name
Setting up libcommons-lang3-java (3.8-2) ...
Setting up libjansi-native-java (1.8.1) ...
Setting up libwagon-file-java (3.0.4-1) ...
Setting up libcommons-io-java (2.6-2ubuntu0.20.04.1) ...
Setting up libguice-java (4.2.1-1) ...
Setting up libjansi-java (1.18-1) ...
Setting up libmaven-shared-utils-java (3.3.0-1) ...
Setting up libtsu-inject-java (0.3.3-1) ...
Setting up libtsu-plexus-java (0.3.3-3) ...
Setting up libmaven3-core-java (3.6.3-1) ...
Setting up maven (3.6.3-1) ...
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode
ubuntu@ip-172-31-20-101:~$ wget -q -O https://pkg.jenkins.io/debian-stable/jenkins.io.key | sudo apt-key add -
OK
ubuntu@ip-172-31-20-101:~$ sudo sh -c 'echo deb https://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Ign:4 https://pkg.jenkins.io/debian-stable binary/ InRelease
Get:5 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:6 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:7 https://security.ubuntu.com/ubuntu focal-security InRelease [114 kB]
Get:8 https://pkg.jenkins.io/debian-stable binary/ Packages [20.9 kB]
Fetched 138 kB in 1s (271 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ sudo apt-get install jenkins
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
daemon net-tools
The following NEW packages will be installed:
daemon jenkins net-tools
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 72.2 MB of archives.
After this operation, 73.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] y

```

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1.4 Install Docker server in MobaXterm :-

```

ubuntu@ip-172-31-20-101: ~
Terminal Sessions View Xserver Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultExec Tunneling Packages Settings Help
Quick connect [ 2. ubuntu@ip-172-31-20-101: ~ ] + [ ]
Reconnect SSH-browse
[ home/ubuntu ]
Name
daemon jenkins net-tools
0 upgraded, 3 newly installed, 0 to remove and 0 not upgraded.
Need to get 72.2 MB of archives.
After this operation, 73.5 MB of additional disk space will be used.
Do you want to continue? [Y/n] y
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 daemon amd64 0.6.4-1build2 [96.3 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/main amd64 net-tools amd64 1.60+git20180626.aebd88e-1ubuntu1 [196 kB]
Get:2 https://pkg.jenkins.io/debian-stable binary/ jenkins 2.303.3 [71.9 kB]
Fetched 72.2 MB in 24s (3049 kB/s)
Selecting previously unselected package daemon.
(Reading database ... 98018 files and directories currently installed.)
Preparing to unpack .../daemon_0.6.4-1build2_amd64.deb ...
Unpacking daemon (0.6.4-1build2) ...
Selecting previously unselected package net-tools.
Preparing to unpack .../net-tools_1.60+git20180626.aebd88e-1ubuntu1_amd64.deb ...
Unpacking net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Selecting previously unselected package jenkins.
Preparing to unpack .../jenkins_2.303.3_all.deb ...
Unpacking jenkins (2.303.3)
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up daemon (0.6.4-1build2) ...
Setting up jenkins (2.303.3) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for systemd (245.4-4ubuntu3.13) ...
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
E: Could not open lock file /var/lib/apt/lists/ - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Ign:5 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian-stable binary/ Release

```

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```
ubuntu@ip-172-31-20-101: ~
Reconnect SSH-browse
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ip-172-31-20-101: ~ + [x]
Selecting previously unselected package jenkins.
Preparing to unpack .../jenkins_2.303.3_all.deb ...
Unpacking jenkins (2.303.3) ...
Setting up net-tools (1.60+git20180626.aebd88e-1ubuntu1) ...
Setting up daemon (0.6.4-1build2) ...
Setting up jenkins (2.303.3) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for systemd (245.4-4ubuntu3.13) ...
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Ign:5 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian-stable binary/ Release
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
E: Could not open lock file /var/lib/dpkg/lock-frontend - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontend), are you root?
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
ca-certificates is already the newest version (20210119~20.04.2).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.7).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.1).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-20-101:~$
```

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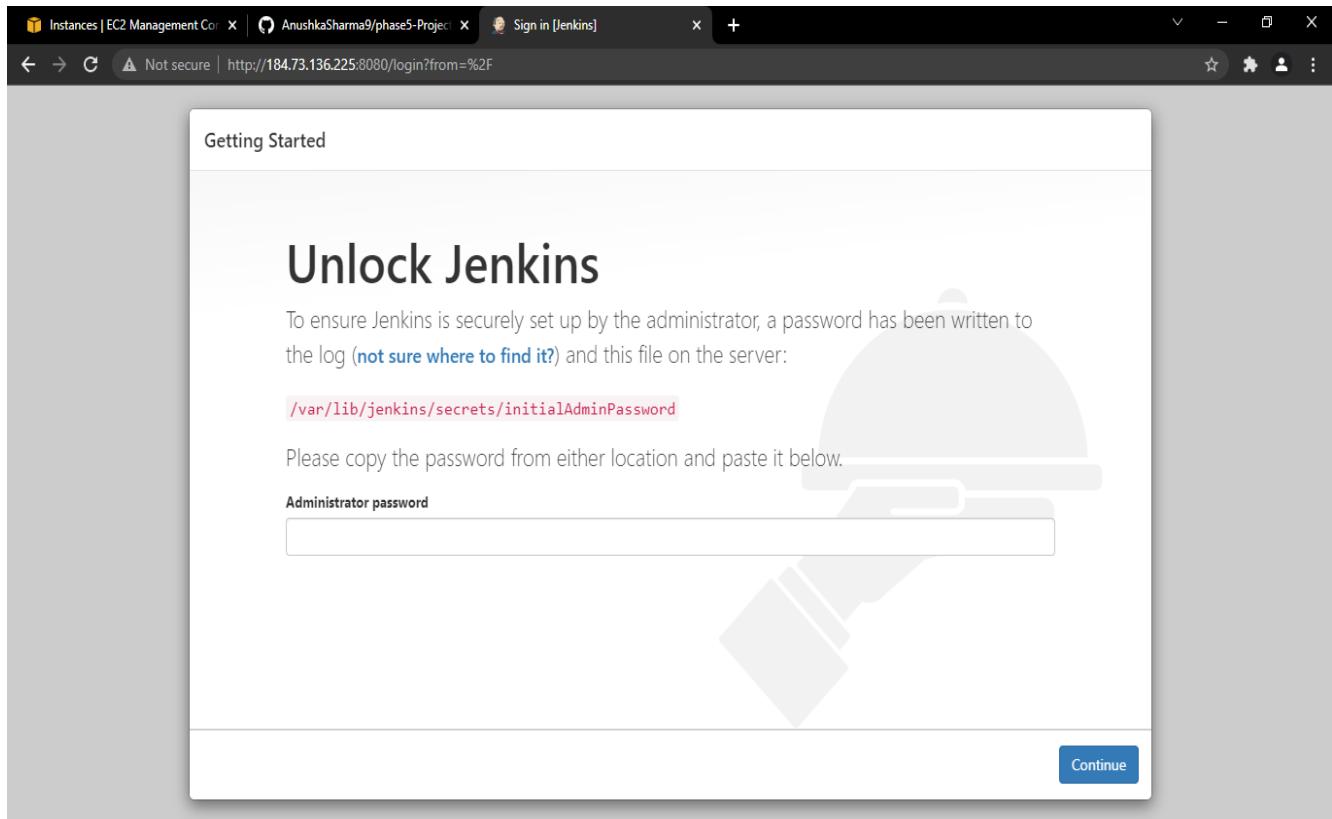
```
ubuntu@ip-172-31-20-101: ~
Reconnect SSH-browse
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect 2.ubuntu@ip-172-31-20-101: ~ + [x]
Setting up daemon (0.6.4-1build2) ...
Setting up jenkins (2.303.3) ...
Processing triggers for systemd (245.4-4ubuntu3.13) ...
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Hit:4 http://security.ubuntu.com/ubuntu focal-security InRelease
Ign:5 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:6 https://pkg.jenkins.io/debian-stable binary/ Release
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
E: Could not open lock file /var/lib/dpkg/lock-frontend - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontend), are you root?
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
ca-certificates is already the newest version (20210119~20.04.2).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.7).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.1).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-20-101:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg
ubuntu@ip-172-31-20-101:~$ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
ubuntu@ip-172-31-20-101:~$
```

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```
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
E: Could not open lock file /var/lib/dpkg/lock-frontend - open (13: Permission denied)
E: Unable to acquire the dpkg frontend lock (/var/lib/dpkg/lock-frontend), are you root?
ubuntu@ip-172-31-20-101:~$ sudo apt-get install ca-certificates curl gnupg lsb-release -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
lsb-release is already the newest version (11.1.0ubuntu2).
lsb-release set to manually installed.
ca-certificates is already the newest version (20210119~20.04.2).
ca-certificates set to manually installed.
curl is already the newest version (7.68.0-1ubuntu2.7).
curl set to manually installed.
gnupg is already the newest version (2.2.19-3ubuntu2.1).
gnupg set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
ubuntu@ip-172-31-20-101:~$ curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /usr/share/keyrings/docker-archive-keyring.gpg
g
ubuntu@ip-172-31-20-101:~$ echo "deb [arch=$(dpkg --print-architecture) signed-by=/usr/share/keyrings/docker-archive-keyring.gpg] https://download.docker.com/linux/ubuntu $(lsb_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
E: Could not open lock file /var/lib/apt/lists/lock - open (13: Permission denied)
E: Unable to lock directory /var/lib/apt/lists/
W: Problem unlinking the file /var/cache/apt/pkgcache.bin - RemoveCaches (13: Permission denied)
W: Problem unlinking the file /var/cache/apt/srcpkgcache.bin - RemoveCaches (13: Permission denied)
ubuntu@ip-172-31-20-101:~$ sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Ign:4 https://pkgs.jenkins.io/debian-stable binary/ InRelease
Hit:5 https://pkgs.jenkins.io/debian-stable binary/ Release
Get:6 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:7 http://security.ubuntu.com/ubuntu focal-security InRelease
Get:8 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [12.3 kB]
Fetched 70.0 kB in 1s (125 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io -y
```

```
ubuntu@ip-172-31-20-101:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io -y
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal-backports InRelease
Ign:4 https://pkgs.jenkins.io/debian-stable binary/ InRelease
Hit:5 https://pkgs.jenkins.io/debian-stable binary/ Release
Get:6 https://download.docker.com/linux/ubuntu focal InRelease [57.7 kB]
Hit:7 http://security.ubuntu.com/ubuntu focal-security InRelease
Get:8 https://download.docker.com/linux/ubuntu focal/stable amd64 Packages [12.3 kB]
Fetched 70.0 kB in 1s (125 kB/s)
Reading package lists... Done
ubuntu@ip-172-31-20-101:~$ sudo apt-get install docker-ce docker-ce-cli containerd.io -y
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  docker-ce-rootless-extras docker-scan-plugin pigz slirp4netns
Suggested packages:
  aufs-tools cgroups-mount | cgroup-lite
The following NEW packages will be installed:
  containerd.io docker-ce docker-ce-cli docker-ce-rootless-extras docker-scan-plugin pigz slirp4netns
0 upgraded, 7 newly installed, 0 to remove and 0 not upgraded.
Need to get 95.3 MB of archives.
After this operation, 402 MB of additional disk space will be used.
Get:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 pigz amd64 2.4-1 [57.4 kB]
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu focal/universe amd64 slirp4netns amd64 0.4.3-1 [74.3 kB]
Get:3 https://download.docker.com/linux/ubuntu focal/stable amd64 containerd.io amd64 1.4.11-1 [23.7 MB]
Get:4 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-cli amd64 5:20.10.10~3-0~ubuntu-focal [38.8 MB]
Get:5 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce amd64 5:20.10.10~3-0~ubuntu-focal [21.2 MB]
Get:6 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-ce-rootless-extras amd64 5:20.10.10~3-0~ubuntu-focal [7922 kB]
Get:7 https://download.docker.com/linux/ubuntu focal/stable amd64 docker-scan-plugin amd64 0.9.0~ubuntu-focal [3518 kB]
Fetched 95.3 MB in 2s (50.7 MB/s)
Selecting previously unselected package pigz.
(Reading database ... 98086 files and directories currently installed.)
Preparing to unpack .../0-pigz_2.4-1_amd64.deb ...
Unpacking pigz (2.4-1) ...
Selecting previously unselected package containerd.io.
Preparing to unpack .../1-containerd.io_1.4.11-1_amd64.deb ...
Unpacking containerd.io (1.4.11-1) ...
```

1.5 Run Jenkins on port /0.0.0.0:8080



Put the Administrator password as shown in the picture -

```
Processing triggers for systemd (245.4-4ubuntu3.13) ...
ubuntu@ip-172-31-20-101:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
ea1493d6ae2c493089aaae967488c35b
ubuntu@ip-172-31-20-101:~$ Connection reset by 184.73.136.225 port 22
pw terminal
```

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The screenshot shows a browser window with three tabs at the top: 'Instances | EC2 Management Cor...', 'AnushkaSharma9/phase5-Project...', and 'Setup Wizard [Jenkins]'. The main content area is titled 'Getting Started' and features a large heading 'Customize Jenkins'. Below it, a sub-headline says 'Plugins extend Jenkins with additional features to support many different needs.' Two main options are presented in boxes: 'Install suggested plugins' (selected) and 'Select plugins to install'. The 'Install suggested plugins' box contains the text 'Install plugins the Jenkins community finds most useful.' At the bottom, it says 'Jenkins 2.303.3'.

Instances | EC2 Management Con ✘ | AnushkaSharma9/phase5-Project ✘ | Setup Wizard [Jenkins] ✘ +

← → C ⚠ Not secure | http://184.73.136.225:8080

Getting Started

Getting Started

✓ Folders	✓ OWASP Markup Formatter	✓ Build Timeout	✓ Credentials Binding	** Pipeline: Stage Tags Metadata ** Pipeline: Declarative ** Lockable Resources Pipeline ** Java JSON Web Token (JJWT) ** OkHttpClient ** GitHub API Git ** GitHub GitHub Branch Source Pipeline: GitHub Groovy Libraries
✓ Timestamper	✓ Workspace Cleanup	✓ Ant	✓ Gradle	
✓ Pipeline	✓ GitHub Branch Source	✓ Pipeline: GitHub Groovy Libraries	✓ Pipeline: Stage View	
✓ Git	✓ SSH Build Agents	✓ Matrix Authorization Strategy	✓ PAM Authentication	Pipeline: Stage View Git SSH Build Agents Matrix Authorization Strategy PAM Authentication LDAP Email Extension Mailer
✓ LDAP	✓ Email Extension	✓ Mailer		** - required dependency

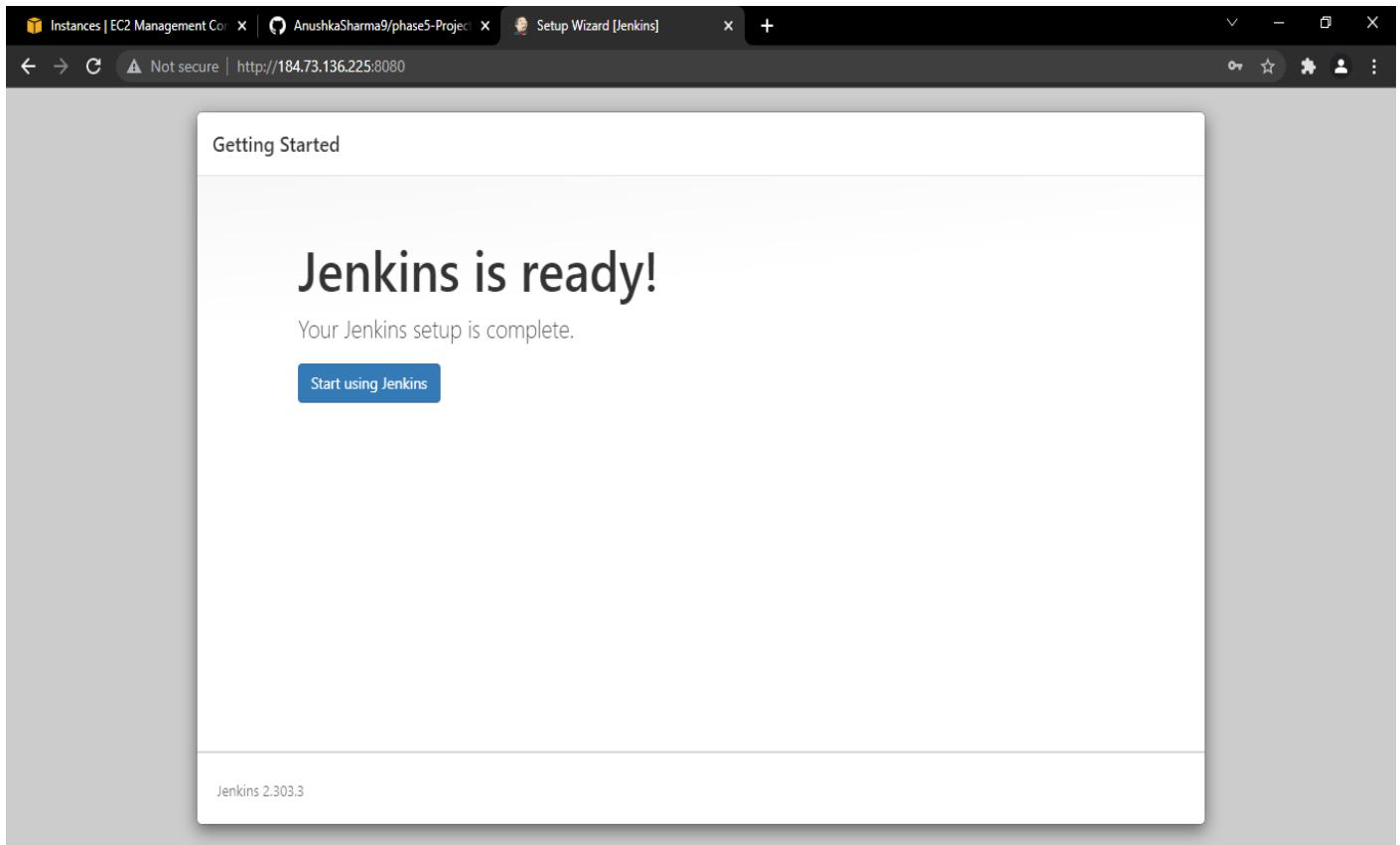
Jenkins 2.303.3

1.6 Put Username and Password in Jenkins as :

- Username - admin
- Password - admin

The screenshot shows a browser window with the URL <http://184.73.136.225:8080>. The tab bar includes 'Instances | EC2 Management Con...', 'AnushkaSharma9/phase5-Project', and 'Setup Wizard [Jenkins]'. The main content is titled 'Getting Started' and 'Create First Admin User'. It contains fields for 'Username' (admin), 'Password' (*****), 'Confirm password' (*****), 'Full name' (Anushka Sharma), and 'E-mail address' (anushkasharma2109@gm). At the bottom, it says 'Jenkins 2.303.3' and has 'Skip and continue as admin' and 'Save and Continue' buttons.

The screenshot shows a browser window with the same URL and tabs as the previous screenshot. The main content is titled 'Getting Started' and 'Instance Configuration'. It features a 'Jenkins URL' field containing <http://184.73.136.225:8080>. Below it is a descriptive text about the Jenkins URL's purpose and a note about the proposed default value. At the bottom, it says 'Jenkins 2.303.3' and has 'Not now' and 'Save and Finish' buttons.



The screenshot shows a browser window with three tabs at the top: 'Instances | EC2 Management Con...', 'AnushkaSharma9/phase5-Project...', and 'Dashboard [Jenkins]'. The current tab is 'Dashboard [Jenkins]'. The main content area has a title 'Jenkins' with a user icon. It includes a search bar, a notification badge (1), and a 'log out' link. On the left is a sidebar with links: 'New Item', 'People', 'Build History', 'Manage Jenkins', 'My Views', 'Lockable Resources', and 'New View'. A section titled 'Welcome to Jenkins!' says: 'This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.' It features a 'Create a job' button. Another section titled 'Set up a distributed build' has links for 'Set up an agent', 'Configure a cloud', and 'Learn more about distributed builds'. At the bottom of the sidebar, sections for 'Build Queue' (no builds in the queue) and 'Build Executor Status' (1 Idle, 2 Idle) are shown.

Instances | EC2 Management Con X | AnushkaSharma9/phase5-Project X | New Item [Jenkins] X +

← → C Not secure | http://184.73.136.225:8080/view/all/newJob

Jenkins

Dashboard All

Enter an item name

ecom-webservice-pipeline

» 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

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

Connect to instance | EC2 Manager X | phase5-Project-CI-CD-Deployment X | ecom-webservice-pipeline Configuration X +

← → C Not secure | http://184.73.136.225:8080/job/com-webservice-pipeline/configure

Jenkins

Dashboard ecom-webservice-pipeline

General Build Triggers Advanced Project Options Pipeline

Description

This is a spring boot project to be deployed.

[Plain text] Preview

Discard old builds ?
 Do not allow concurrent builds ?
 Do not allow the pipeline to resume if the controller restarts ?
 GitHub project ?
 Pipeline speed/durability override ?
 Preserve stashes from completed builds ?
 This project is parameterized ?
 Throttle builds ?

Build Triggers

Save Apply

The screenshot shows the Jenkins Pipeline configuration page for the project 'ecom-webservice-pipeline'. The 'Build Triggers' tab is selected, displaying options like 'Build after other projects are built', 'Build periodically', and 'GitHub hook trigger for GITScm polling'. Below it, the 'Pipeline' tab is selected, showing the 'Definition' section. Under 'Definition', 'Pipeline script from SCM' is chosen, and 'SCM' is set to 'None'. A 'Script Path' field contains 'jenkinsfile'. At the bottom of the pipeline section, there are 'Save' and 'Apply' buttons, along with a 'Lightweight checkout' checkbox.

1.7 Put the git link in Repository URL : <https://github.com/AnushkaSharma9/phase5-Project-CI-CD-Deployment-for-Springboot-Application.git>

The screenshot shows the Jenkins Pipeline configuration page for the project 'ecom-webservice-pipeline'. The 'Pipeline' tab is selected, showing the 'Definition' section. Under 'Definition', 'Pipeline script from SCM' is chosen, and 'SCM' is set to 'Git'. In the 'Repositories' section, the 'Repository URL' is set to 'https://github.com/AnushkaSharma9/phase5-Project-CI-CD-Deployment-for-Springboot-Application.git'. Under 'Credentials', a dropdown menu shows 'AnushkaSharma9/***** (This is belongs to Anushka Sharma)'. Below the repository section, the 'Branches to build' section is partially visible, showing a dropdown menu with 'my' selected. At the bottom of the pipeline section, there are 'Save' and 'Apply' buttons.

Instances | EC2 Management Con X | AnushkaSharma9/phase5-Project X | ecom-webservice-pipeline Config X +

Not secure | http://184.73.136.225:8080/job/ecom-webservice-pipeline/configure

Dashboard > ecom-webservice-pipeline >

General Build Triggers Advanced Project Options Pipeline

Branches to build

Branch Specifier (blank for 'any')
*/master

Repository browser
(Auto)

Additional Behaviours
Add ▾

Script Path
Save Apply

This screenshot shows the Jenkins Pipeline configuration page for the 'ecom-webservice-pipeline' job. The 'Pipeline' tab is selected. Under 'Branches to build', the 'Branch Specifier' field contains the value '*/master'. The 'Repository browser' dropdown is set to '(Auto)'. There is an 'Additional Behaviours' section with an 'Add' button. At the bottom, there are 'Save' and 'Apply' buttons.

Instances | EC2 Management Con X | AnushkaSharma9/phase5-Project X | ecom-webservice-pipeline Config X +

Not secure | http://184.73.136.225:8080/job/ecom-webservice-pipeline/configure

Dashboard > ecom-webservice-pipeline >

General Build Triggers Advanced Project Options Pipeline

Repository browser
(Auto)

Additional Behaviours
Add ▾

Script Path
Jenkinsfile

Lightweight checkout

Pipeline Syntax

Save Apply

REST API Jenkins 2.303.3

This screenshot shows the Jenkins Pipeline configuration page for the 'ecom-webservice-pipeline' job. The 'Pipeline' tab is selected. Under 'Script Path', the value 'Jenkinsfile' is entered. The 'Lightweight checkout' checkbox is checked. At the bottom, there are 'Save' and 'Apply' buttons. The footer of the page indicates 'REST API' and 'Jenkins 2.303.3'.

1.8 Click on Build Now to start a build

The screenshot shows the Jenkins interface for the 'ecom-webservice-pipeline' project. On the left, a sidebar menu includes options like 'Status', 'Changes', and 'Build Now'. The 'Build Now' button is highlighted with a blue border. The main content area is titled 'Pipeline ecom-webservice-pipeline' and contains a 'Stage View' section with the message 'No data available. This Pipeline has not yet run.' Below it is a 'Permalinks' section. At the bottom of the sidebar, there's a 'Build History' table with one entry: '#1 Nov 16, 2021 12:38 PM 184.73.136.225:8080/job/ecom-webservice-pipeline/build?delay=0sec'.

This screenshot shows the same Jenkins pipeline page after a build has been triggered. The 'Build Now' button is still highlighted. The 'Stage View' section now displays two stages: 'Declarative: Checkout SCM' (527ms) and 'Maven Compile' (3s). The 'Maven Compile' stage is shown with a green background and a '527ms' label. The 'Permalinks' section remains the same. The 'Build History' table now shows two entries: '#1 Nov 16, 2021 12:38 PM 184.73.136.225:8080/job/ecom-webservice-pipeline/build?delay=0sec' and '#2 Nov 16, 2021 12:38 PM 184.73.136.225:8080/job/ecom-webservice-pipeline/build?delay=0sec'.

Instances | EC2 Management Con | AnushkaSharma9/phase5-Project | ecom-webservice-pipeline [Jenki | +

← → C Not secure | http://184.73.136.225:8080/job/com-webservice-pipeline/

Dashboard > ecom-webservice-pipeline >

[Back to Dashboard](#)

[Status](#)

[Changes](#)

[Build Now](#)

[Configure](#)

[Delete Pipeline](#)

[Full Stage View](#)

[Rename](#)

[Pipeline Syntax](#)

[Build History](#) trend ^

find

#1 Nov 16 18:08 No Changes

Atom feed for all Atom feed for failures

Pipeline ecom-webservice-pipeline

[Recent Changes](#)

Stage View

Declarative: Checkout SCM	Maven Compile	Maven Test
Average stage times: 527ms	12s	12s
#1 Nov 16 18:08 No Changes	527ms	12s

[Add description](#)

[Disable Project](#)

Permalinks

Instances | EC2 Management Con | AnushkaSharma9/phase5-Project | ecom-webservice-pipeline [Jenki | +

← → C Not secure | http://184.73.136.225:8080/job/com-webservice-pipeline/

Dashboard > ecom-webservice-pipeline >

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[Status](#)

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[Build Now](#)

[Configure](#)

[Delete Pipeline](#)

[Full Stage View](#)

[Rename](#)

[Pipeline Syntax](#)

[Build History](#) trend ^

find

#1 Nov 16 18:08 No Changes

Atom feed for all Atom feed for failures

Pipeline ecom-webservice-pipeline

[Recent Changes](#)

Stage View

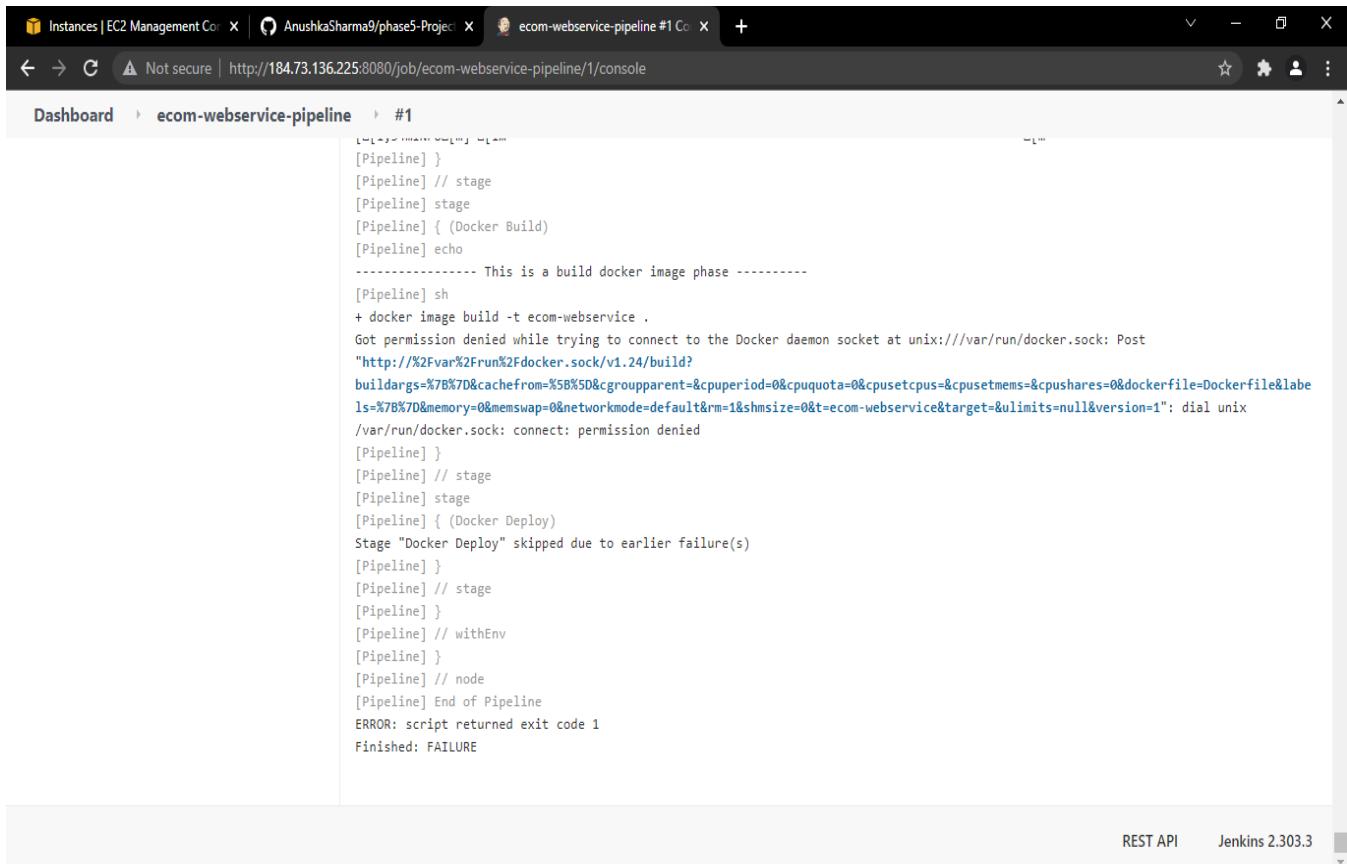
Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
Average stage times: 527ms	12s	13s	8s	523ms	82ms
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed

[Add description](#)

[Disable Project](#)

Permalinks

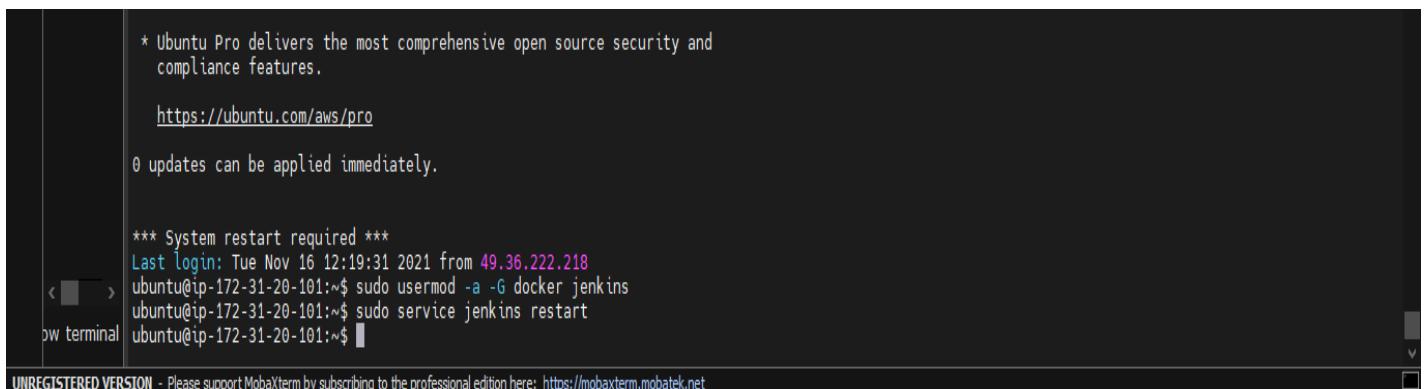
1.9 Console Output , Build 1 failed due permission denied -



The screenshot shows a browser window with three tabs: 'Instances | EC2 Management Con...', 'AnushkaSharma9/phase5-Project | ecom-webservice-pipeline #1 Co...', and 'ecom-webservice-pipeline #1 Co...'. The active tab displays Jenkins console output for build #1. The output shows a Docker build phase failing due to permission denied errors. The log ends with 'Finished: FAILURE'.

```
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Docker Build)
[Pipeline] echo
----- This is a build docker image phase -----
[Pipeline] sh
+ docker image build -t ecom-webservice .
Got permission denied while trying to connect to the Docker daemon socket at unix:///var/run/docker.sock: Post "http://127.0.0.1:2375/v1.24/build?buildargs=%7B%7D&cachefrom=%5B%5D&cgroupparent=&cpuiperiod=0&cpupquota=0&cpusetcpus=&cpusetmems=&cpushares=0&dockerfile=Dockerfile&label=1s=%7B%7D&memory=0&memswap=0&networkmode=default&rm=1&shmsize=0&t=ecom-webservice&target=&ulimits=null&version=1": dial unix /var/run/docker.sock: connect: permission denied
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Docker Deploy)
Stage "Docker Deploy" skipped due to earlier failure(s)
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
ERROR: script returned exit code 1
Finished: FAILURE
```

1.10 Running the following commands for permission denied -

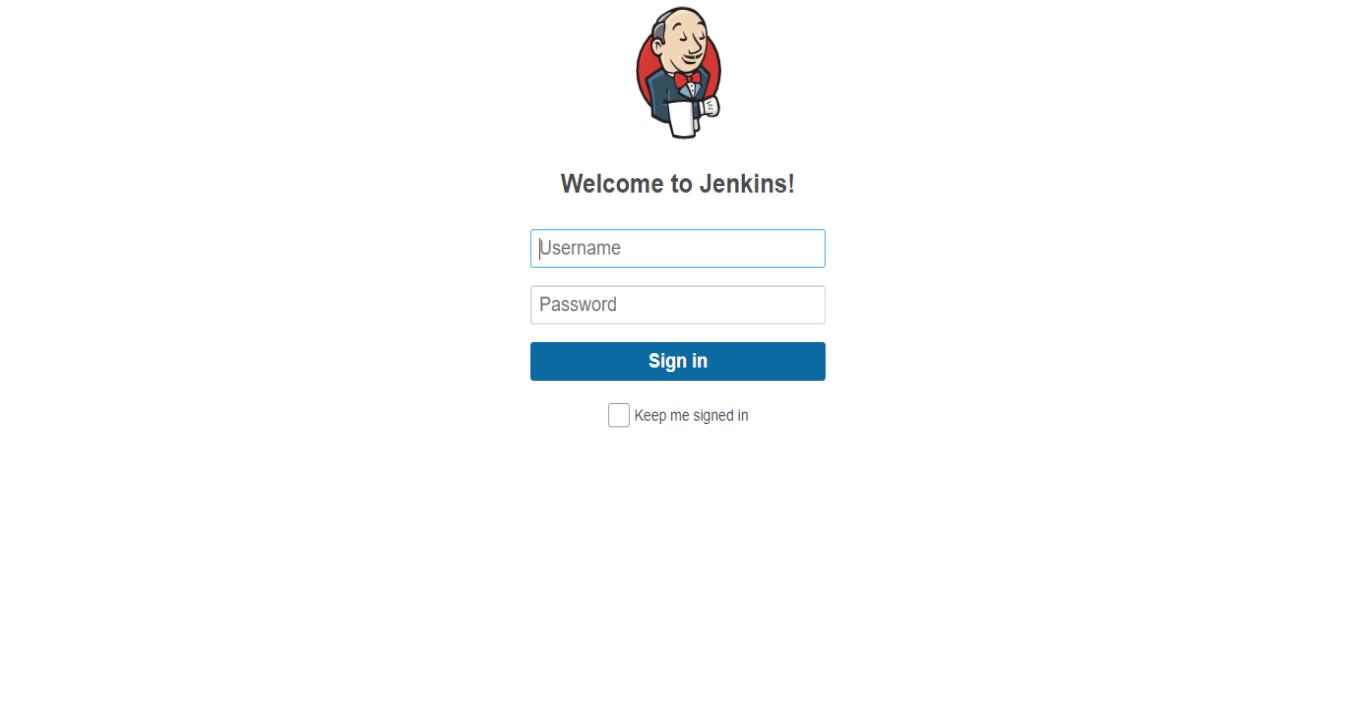
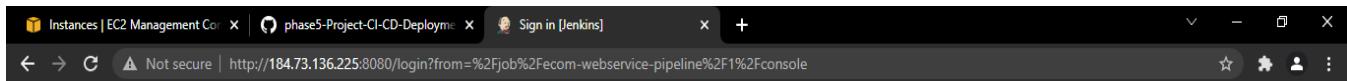


The screenshot shows a terminal window with the following content:

- * Ubuntu Pro delivers the most comprehensive open source security and compliance features.
- <https://ubuntu.com/aws/pro>
- 0 updates can be applied immediately.
- *** System restart required ***
- Last login: Tue Nov 16 12:19:31 2021 from 49.36.222.218
- ubuntu@ip-172-31-20-101:~\$ sudo usermod -a -G docker jenkins
- ubuntu@ip-172-31-20-101:~\$ sudo service jenkins restart
- ubuntu@ip-172-31-20-101:~\$

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1.11 Restarting the Jenkins server again by refreshing the webpage -



Average stage times:	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
	504ms	8s	12s	7s	494ms	82ms
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s		
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

Screenshot of the Jenkins Pipeline interface for 'ecom-webservice-pipeline'.

The pipeline consists of the following stages:

Stage	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
#2 (Nov 16 18:11)	482ms	5s	11s	6s	17s	1s
#1 (Nov 16 18:06)	527ms	12s	13s	8s	523ms failed	82ms failed

Average stage times: (Average full run time: ~52s)

Recent Changes:

- Nov 16 18:11 No Changes
- Nov 16 18:06 No Changes

Build History:

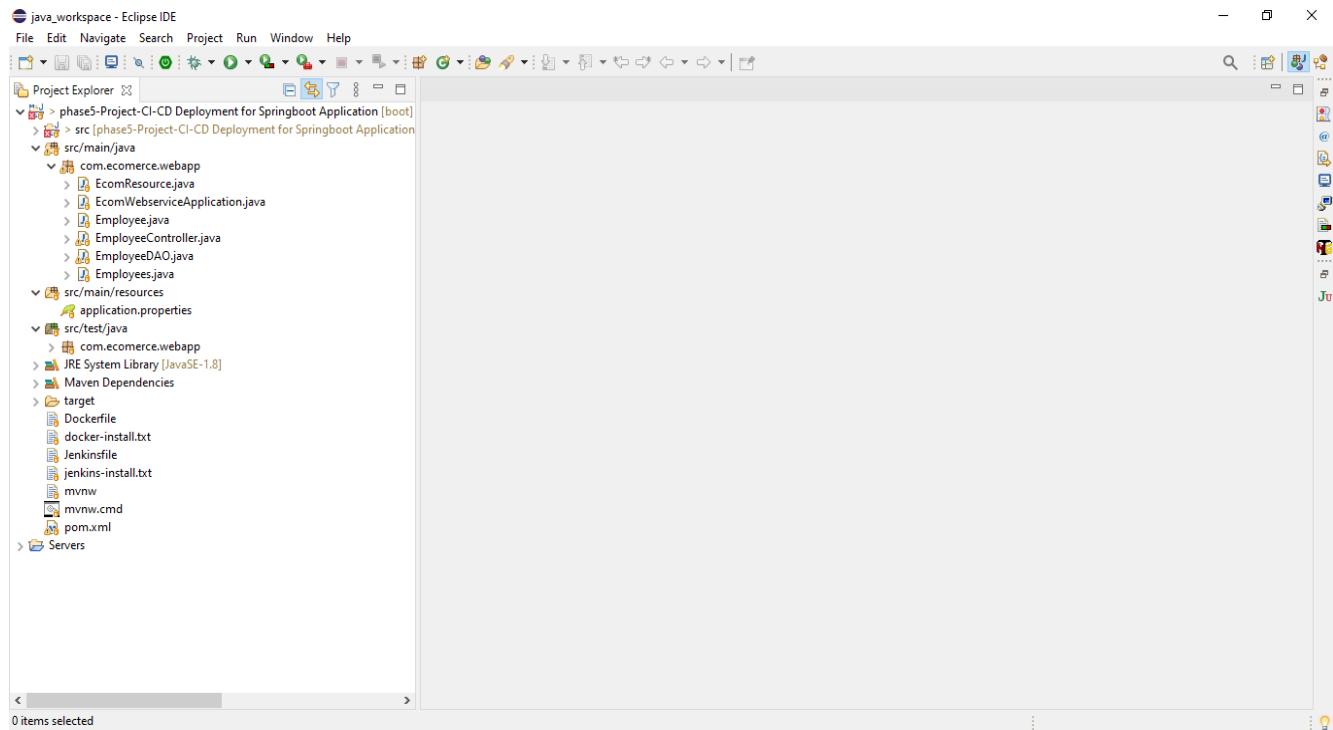
- #2 Nov 16, 2021, 12:41 PM
- #1 Nov 16, 2021, 12:38 PM

1.12 2nd Build Deployed Successfully

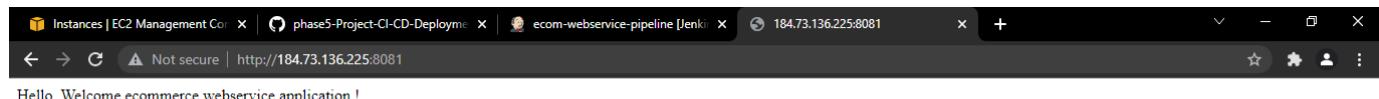
✧ Name of Project ->>**phase5-Project CI-CD Deployment for Springboot Application**

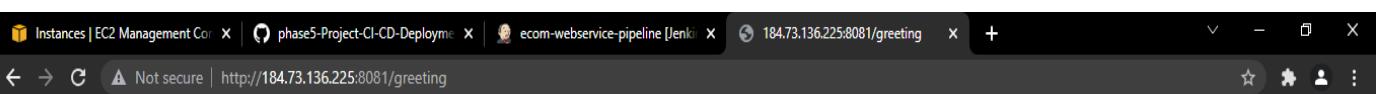
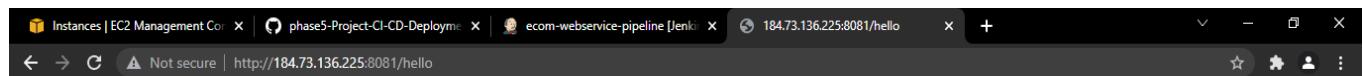
✧ Name of Package ->> **com.ecomerce.webapp**

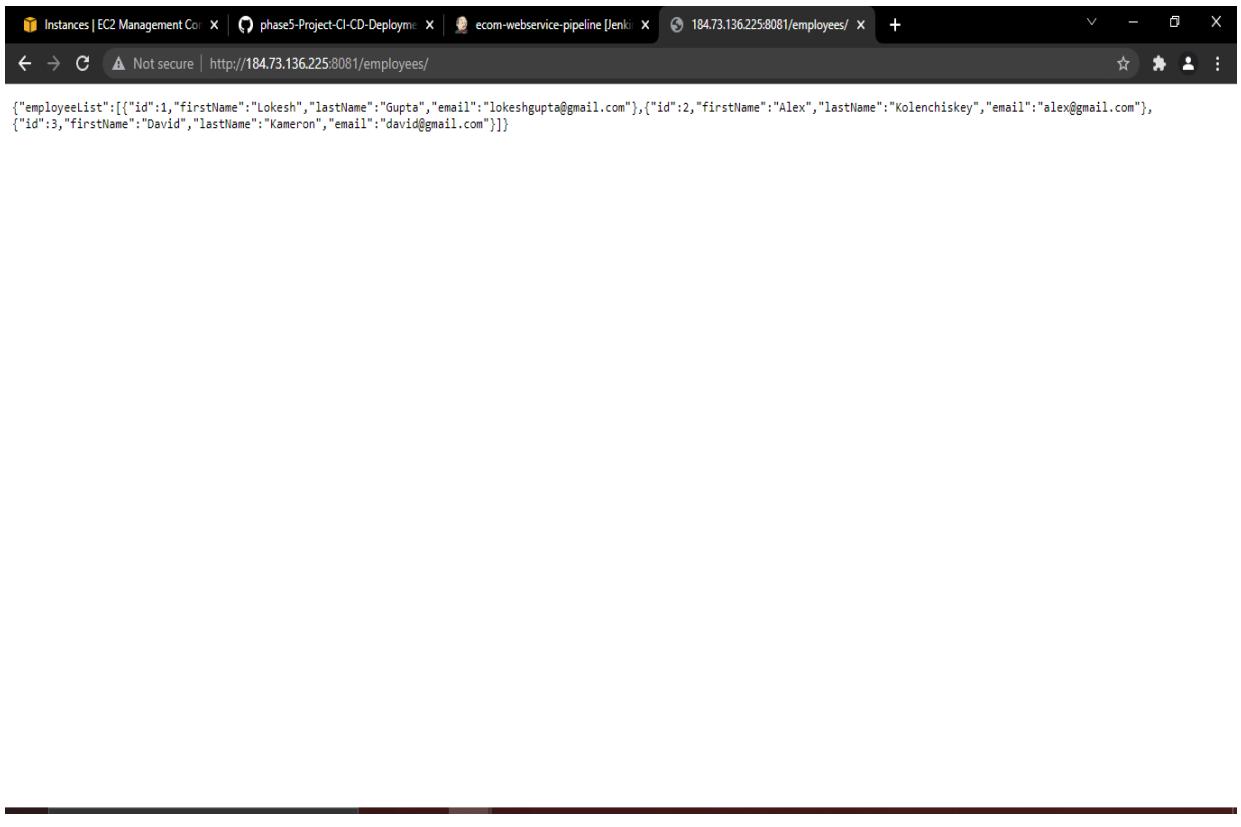
➤ DIRECTORY STRUCTURE / PACKAGE :



➤ SCREENSHOTS OF OUTPUT







- Changes committed in Git are reflected in the Jenkins server as Build 3rd and Build 4th automatically started the integration as well as deployment of the webapplication.
- Build 3rd done successfully after the commit.

The screenshot shows the Jenkins Pipeline interface. On the left, there's a sidebar with options like 'Build Now', 'Configure', 'Delete Pipeline', 'Full Stage View', 'Rename', 'Pipeline Syntax', and 'Git Polling Log'. Below that is the 'Build History' section, which lists three builds: #3 (pending—Finished waiting), #2 (Nov 16, 2021, 12:41 PM), and #1 (Nov 16, 2021, 12:38 PM). The 'Build History' section also has links for 'Atom feed for all' and 'Atom feed for failures'. The main area is titled 'Stage View' and shows a grid of stages: Declarative: Checkout SCM, Maven Compile, Maven Test, Maven Build, Docker Build, and Docker Deploy. Each stage has a duration bar above it. Build #2 is shown in green, while build #1 is shown in red, indicating failure. Below the Stage View is a 'Permalinks' section with a list of links:

- Last build (#1), 3 min 20 sec ago
- Last failed build (#1), 3 min 20 sec ago
- Last unsuccessful build (#1), 3 min 20 sec ago
- Last completed build (#1), 3 min 20 sec ago

Instances | EC2 Management Con | AnushkaSharma9/phase5-Project | ecom-webservice-pipeline [jenk | 184.73.136.225:8081/employees/ | +

Not secure | http://184.73.136.225:8080/job/ecom-webservice-pipeline/

Dashboard > ecom-webservice-pipeline

[Build Now](#)

[Recent Changes](#)

Stage View

Average stage times:
(Average full run time: ~52s)

	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
#3 Nov 16 18:16 1 commit	449ms	7s	8s	7s	9s	638ms
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s	17s	1s
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

Build History trend ^

find

#3 Nov 16, 2021 12:46 PM

#2 Nov 16, 2021 12:41 PM

#1 Nov 16, 2021 12:38 PM

[Atom feed for all](#) [Atom feed for failures](#)

Permalinks

- Last build (#1), 3 min 20 sec ago

Instances | EC2 Management Con | AnushkaSharma9/phase5-Project | ecom-webservice-pipeline [jenk | 184.73.136.225:8081/employees/ | +

Not secure | http://184.73.136.225:8080/job/ecom-webservice-pipeline/

Dashboard > ecom-webservice-pipeline

[Build Now](#)

[Recent Changes](#)

Stage View

Average stage times:
(Average full run time: ~39s)

	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
#3 Nov 16 18:16 1 commit	449ms	7s	11s	7s	6s	916ms
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s	17s	1s
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

Build History trend ^

find

#3 Nov 16, 2021 12:46 PM

#2 Nov 16, 2021 12:41 PM

#1 Nov 16, 2021 12:38 PM

[Atom feed for all](#) [Atom feed for failures](#)

Permalinks

- Last build (#1), 3 min 20 sec ago
- Last failed build (#1), 3 min 20 sec ago

➤ Build 4th Done Successfully after the commit

Instances | EC2 Management Con | phase5-Project-CI-CD-Deployme | ecom-webservice-pipeline [Jenki | 184.73.136.225:8081/employees/ | +

Dashboard > ecom-webservice-pipeline >

Build Now

Configure
Delete Pipeline
Full Stage View
Rename
Pipeline Syntax
Git Polling Log

Recent Changes

Stage View

	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
Average stage times: (Average full run time: ~39s)	449ms	7s	11s	7s	6s	916ms
#3 Nov 16 18:16 1 commit	339ms	5s	9s	6s	2s	1s
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s	17s	1s
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

Build History

- find
- #4 (pending—In the quiet period. Expires in 4.1 sec)
- #3 Nov 16, 2021, 12:46 PM
- #2 Nov 16, 2021, 12:41 PM
- #1 Nov 16, 2021, 12:38 PM

[Atom feed for all](#) [Atom feed for failures](#)

Permalinks

- Last build (#1), 3 min 20 sec ago
- Last failed build (#1), 3 min 20 sec ago

Instances | EC2 Management Con | phase5-Project-CI-CD-Deployme | ecom-webservice-pipeline [Jenki | 184.73.136.225:8081/employees/ | +

Dashboard > ecom-webservice-pipeline >

Build Now

Configure
Delete Pipeline
Full Stage View
Rename
Pipeline Syntax
Git Polling Log

Recent Changes

Stage View

	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
Average stage times: (Average full run time: ~39s)	419ms	7s	11s	7s	6s	916ms
#4 Nov 16 18:18 1 commit	330ms	33s				
#3 Nov 16 18:16 1 commit	339ms	5s	9s	6s	2s	1s
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s	17s	1s
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

Build History

- find
- #4 Nov 16, 2021, 12:48 PM
- #3 Nov 16, 2021, 12:46 PM
- #2 Nov 16, 2021, 12:41 PM
- #1 Nov 16, 2021, 12:38 PM

[Atom feed for all](#) [Atom feed for failures](#)

Screenshot of the Jenkins Pipeline interface showing the Stage View for the 'ecom-webservice-pipeline'. The pipeline consists of six stages: Declarative: Checkout SCM, Maven Compile, Maven Test, Maven Build, Docker Build, and Docker Deploy. The average stage times are 419ms, 7s, 11s, 6s, 5s, and 1s respectively. The history shows four builds (#1 to #4) on Nov 16, 2021. Build #1 failed at the Docker Deploy stage (523ms), while others completed successfully.

	Declarative: Checkout SCM	Maven Compile	Maven Test	Maven Build	Docker Build	Docker Deploy
Average stage times: (Average full run time: ~34s)	419ms	7s	11s	6s	5s	1s
#4 Nov 16 18:18 1 commit	330ms	5s	9s	5s	2s	1s
#3 Nov 16 18:16 1 commit	339ms	5s	9s	6s	2s	1s
#2 Nov 16 18:11 No Changes	482ms	5s	11s	6s	17s	1s
#1 Nov 16 18:08 No Changes	527ms	12s	13s	8s	523ms failed	82ms failed

- Added employee name as Nisha Singh and email id - nisha@gmail.com in git and committed the changes.

Screenshot of a browser window showing the JSON response from the API endpoint `http://184.73.136.225:8081/employees/`. The response is a list of employees:

```
{"employeeList": [{"id":1,"firstName":"Lokesh","lastName":"Gupta","email":"lokeshgupta@gmail.com"}, {"id":2,"firstName":"Alex","lastName":"Kolenchiskey","email":"alex@gmail.com"}, {"id":3,"firstName":"David","lastName":"Kameron","email":"david@gmail.com"}, {"id":3,"firstName":"Nisha","lastName":"Singh","email":"nisha@gmail.com"}]}
```

- Container and images running in Jenkins and docker server can be seen by using the commands below as shown in the picture.

```

ubuntu@ip-172-31-20-101:~$ sudo service jenkins restart
ubuntu@ip-172-31-20-101:~$ Connection reset by 184.73.136.225 port 22

[home/uba] 2. ubuntu@ip-172-31-20-101:~ x + [home/uba]
16/11/2021 18:20:23 ./drives/u/keys ssh -i "webserver-ecom.pem" ubuntu@ec2-184-73-136-225.compute-1.amazonaws.com
Welcome to Ubuntu 20.04.3 LTS (GNU/Linux 5.11.0-1020-aws x86_64)

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

System information as of Tue Nov 16 12:50:39 UTC 2021

System load: 0.22      Processes:          137
Usage of /: 25.7% of 15.45GB  Users logged in:        1
Memory usage: 48%          IPv4 address for docker0: 172.17.0.1
Swap usage: 0%            IPv4 address for eth0: 172.31.20.101

* Ubuntu Pro delivers the most comprehensive open source security and
  compliance features.

  https://ubuntu.com/aws/pro

0 updates can be applied immediately.

*** System restart required ***
Last login: Tue Nov 16 12:40:20 2021 from 49.36.222.218
ubuntu@ip-172-31-20-101:~$ sudo docker ps -a
CONTAINER ID        IMAGE               COMMAND                  CREATED             STATUS              PORTS               NAMES
f9798da31a3c        ecom-webservice   "java -jar ecom-webs..."   2 minutes ago     Up 2 minutes    0.0.0.0:8081->8081/tcp, :::8081->8081/tcp   ecom-webservice
ubuntu@ip-172-31-20-101:~$ sudo docker images
REPOSITORY          TAG      IMAGE ID      CREATED             SIZE
ecom-webservice    latest   47c0726b3396  2 minutes ago   543MB
<none>              <none>  48dceeb4767f  4 minutes ago   543MB
<none>              <none>  f8740dbf16e7  8 minutes ago   543MB
openjdk             8-jdk   3fdc4c6136de  3 weeks ago     526MB
ubuntu@ip-172-31-20-101:~$ 

```

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