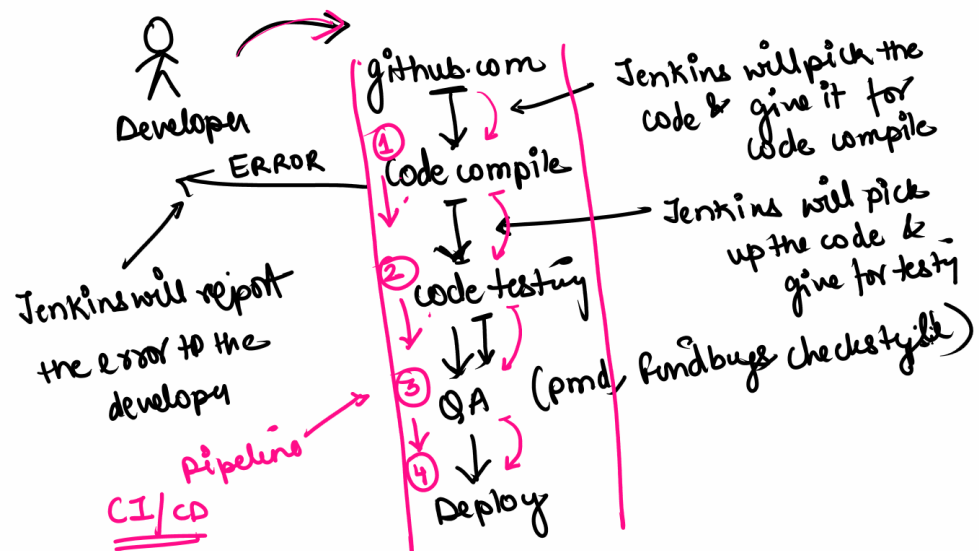


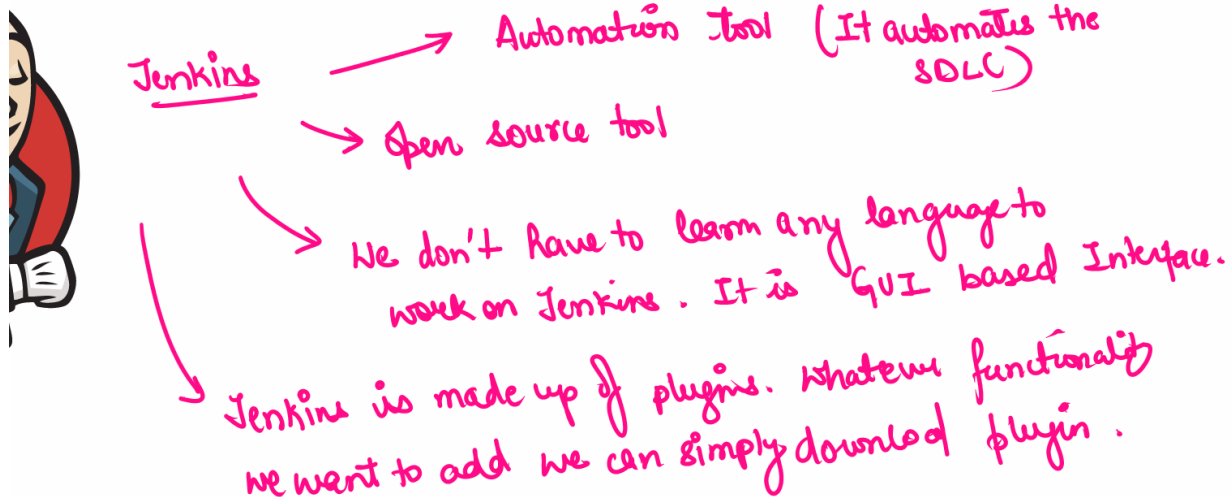
Automation tool

← Jenkins



It automates the software development life cycle.





Classes completed: 0 | 0% of Self-Learning Completed | Projects completed: 0/2

Notes Community Help

DevOps Practitioner - Terminal Only **AWS** DevOps in AWS V2

IMP: Dear learner,
Please note: This lab is configured based on the curriculum covered during the live virtual classes.
All details pertaining to the exercises in this lab are provided in the e-books available in your LMS account.

Resource Limitations:

- Region: Use only US East (N Virginia), us-east-1, us-east-2. Other Regions may be selectable, but most actions will fail.
- AMI type: **Free tier eligible** only
- EC2 Instance Types: **Only t2.micro, t3.micro are allowed.**
- You can only launch on-demand instances. Reserved / Spot instances are NOT allowed.
- Block Storage (EBS / VS): Max size allowed is 30 GB. If the size exceeds, the launch will fail.
- Allowed EBS Types: GP2, Standard.
- Security Groups: Create new Security Groups for each session. Old ones will get deleted.
- RDS database class: db.t2.micro will be allowed.

Session Time:

Your Labs are ready. **LAUNCH LAB**

Click on launch lab

Current Lab : AWS Certification - Dedicated Account

Access Information

Lab Details

Components

Log Details



AWS Web Console



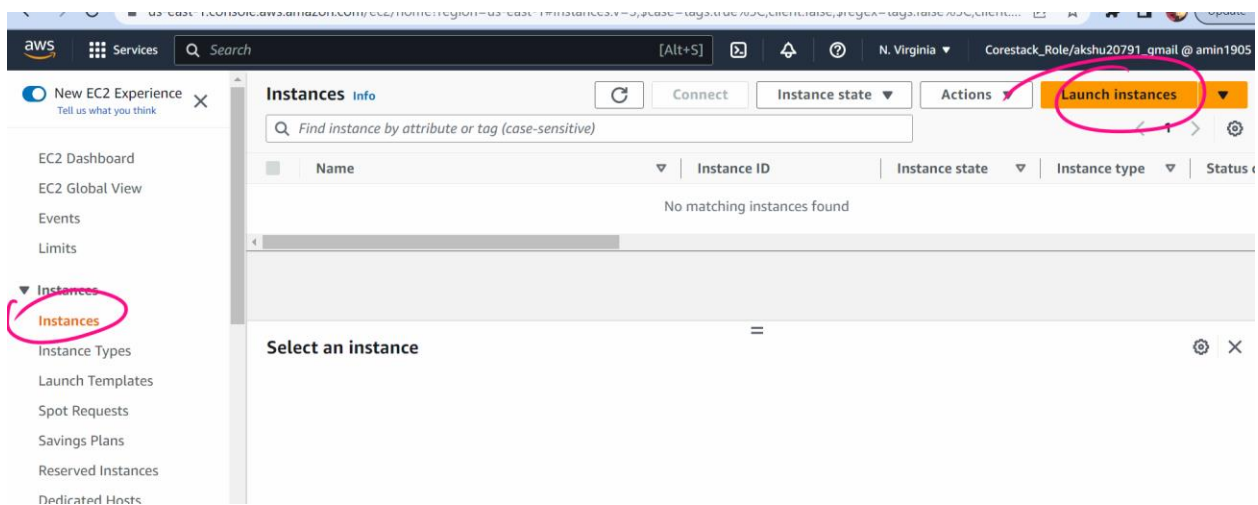
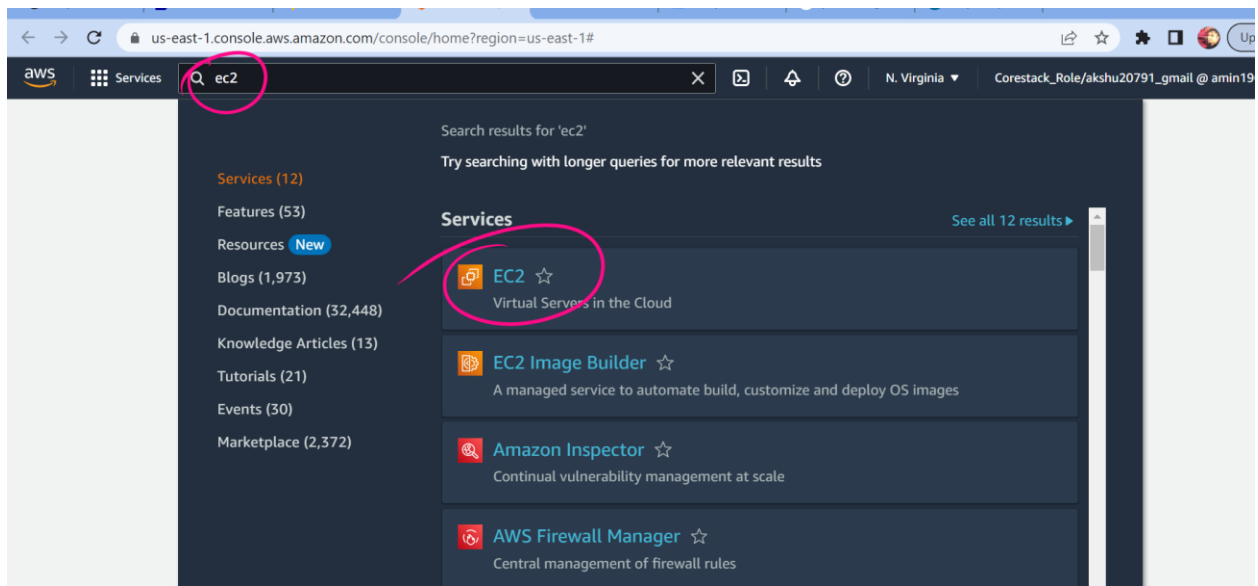
AWS API Access

AWS Web Console

Auth Url

<https://signin.aws.amazon.com>





Launch an instance [Info](#)

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags [Info](#)

Name

[Add additional tags](#)

▼ 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

▼ Summary

Number of in

[Software Ima](#)Amazon Linu
ami-0715c189;[Virtual server](#)

t2.micro

[Firewall \(secu](#)

New security

[Storage \(volu](#)[Cancel](#)

Recents

Quick StartAmazon
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

ami-053b0d53c279acc90 (64-bit (x86)) / ami-0a0c8eebcd6dcbd0 (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible ▼

Description

Canonical, Ubuntu, 22.04 LTS, amd64 jammy image build on 2023-05-16

Architecture

64-bit (x86) ▼

AMI ID

ami-053b0d53c279acc90

Verified provider

▼ Instance type [Info](#)

Instance type

t2.micro

Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true

On-Demand Windows pricing: 0.0162 USD per Hour

On-Demand SUSE pricing: 0.0116 USD per Hour

On-Demand RHEL pricing: 0.0716 USD per Hour

On-Demand Linux pricing: 0.0116 USD per Hour

☐ All generations

[Compare instance types](#)

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

Select

 [Create new key pair](#)

t2.micro

Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Windows pricing: 0.0162 USD per Hour
On-Demand SUSE pricing: 0.0116 USD per Hour
On-Demand RHEL pricing: 0.0716 USD per Hour
On-Demand Linux pricing: 0.0116 USD per Hour

▼ Key pair (login) [Info](#)

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

Select

▼ Network settings [Info](#)

Network [Info](#)

vpc-06927bdaf4f558089

Subnet [Info](#)

Subnet-06927bdaf4f558089

Key pair name

Key pairs allow you to connect to your instance securely.

akshat-123

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA

RSA encrypted private and public key pair

☐ ED25519

ED25519 encrypted private and public key pair (Not supported for Windows instances)


Private key file format

☒ .pem

For use with OpenSSH

☐ .ppk

For use with PuTTY

 When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** [Learn](#)

Cancel

Create key pair

Launch instance

Review commands

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group

☐ Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0

☒ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

☒ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

Security across your machine

Secured shell to connect two different N/w.

Internet connectivity to machine

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

Subnet [Info](#)
No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)
Enable

Firewall (security groups) [Info](#)
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-1' with the following rules:

- ☒ Allow SSH traffic from
Helps you connect to your instance
Anywhere
0.0.0.0/0
- ☒ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server
- ☒ Allow HTTP traffic from the internet
To set up an endpoint, for example when creating a web server

Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend

Summary

Number of instances [Info](#)
1

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...[read more](#)
ami-053b0d53c279acc90

Virtual server type (instance type)
t2.micro

Firewall (security group)
New security group

Cancel **Launch instance** [Review commands](#)

Launch instance

Jenkins work on port 8080 so we need to allow port 8080 in the machine

The screenshot shows the AWS Management Console interface for the 'jenkins-machine' instance. The instance is in a 'Running' state. The 'Security' tab is highlighted with a red circle. The instance details are as follows:

Instance: i-0908053501920e74f (jenkins-machine)		
Instance summary		
Instance ID	Public IPv4 address	Private IPv4 addresses
i-0908053501920e74f (jenkins-machine)	54.144.206.80 open address	172.31.82.203
IPv6 address	Instance state	Public IPv4 DNS
-	Running	ec2-54-144-206-80.compute-1.amazonaws.com open address

The screenshot shows the AWS Management Console interface for the 'jenkins-machine' instance. The instance is in a 'Running' state. The 'Security groups' section is highlighted with a red circle. The instance details are as follows:

Instance: i-0908053501920e74f (jenkins-machine)		
-		
Security groups		339747159926
sg-0378a680aeb3565f8 (launch-wizard-1)		Sat Jun 03 2023 19:40:15 GMT+0530 (India Standard Time)
Inbound rules		
Filter rules		

Inbound rules Outbound rules Tags

You can now check network connectivity with Reachability Analyzer Run Reachability Analyzer

Inbound rules (3) Manage tags Edit inbound rules

Filter security group rules < 1 >

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol
--------------------------	------	------------------------	------------	------	----------

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sgr-0066f27e0b21d9d0e	SSH	TCP	22	Custom		
sgr-07ed69e46c6ee9aa1	HTTP	TCP	80	Custom		
sgr-076769173e693e2a4	HTTPS	TCP	443	Custom		

Add rule

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional	
sgr-0066f27e0b21d9d0e	SSH	TCP	22	Custom		
sgr-07ed69e46c6ee9aa1	HTTP	TCP	80	Custom		
sgr-076769173e693e2a4	HTTPS	TCP	443	Custom		
-	Custom TCP	TCP	8080	Custom		

Add rule

CIDR blocks

- 0.0.0.0/0
- 0.0.0.0/8
- 0.0.0.0/16
- 0.0.0.0/24
- 0.0.0.0/32
- ::/0
- ::/16
- ::/32
- ::/48
- ::/64

Security Groups

	Protocol	Port	Source	Destination	Action
sgr-0066f27e0b21d9d0e	SSH	TCP 22	Custom 0.0.0.0/0		Delete
sgr-07ed69e46c6ee9aa1	HTTP	TCP 80	Custom 0.0.0.0/0		Delete
sgr-076769173e693e2a4	HTTPS	TCP 443	Custom 0.0.0.0/0		Delete
-	Custom TCP	TCP 8080	Anywh... 0.0.0.0/0		Delete

Add rule

Cancel Preview changes **Save rules**

Click on instance on left side

Now lets connect to the machine

Search [Alt+S] N. Virginia Corestack_Role/akshu20791_gmail @ amin

Instances (1/1) Info **Connect** Instance state Actions Launch instances

Find instance by attribute or tag (case-sensitive)

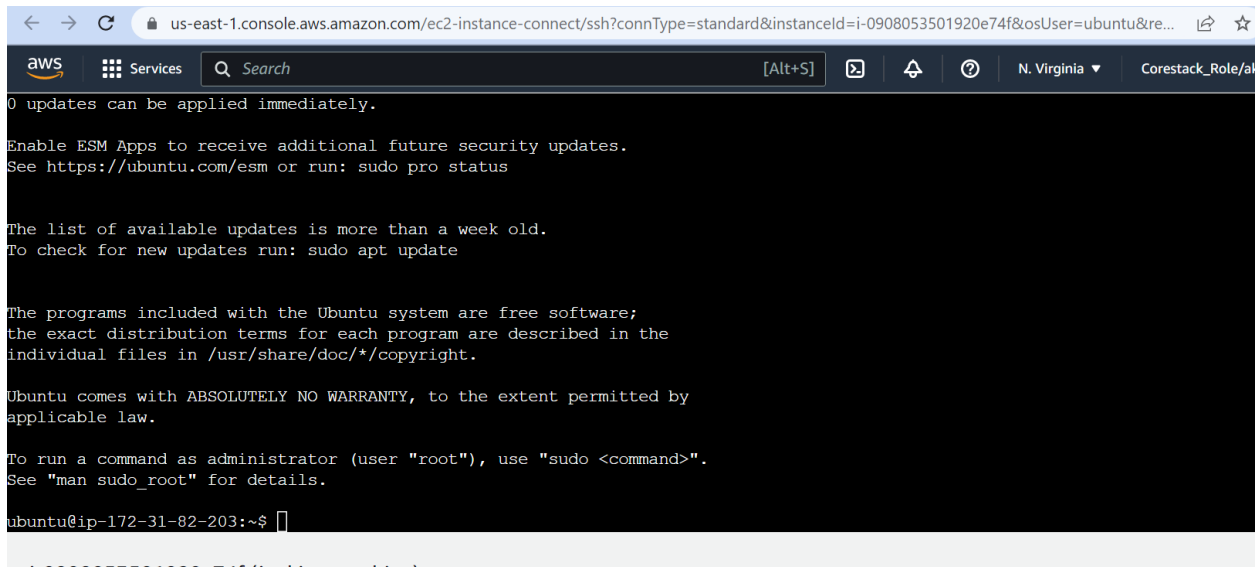
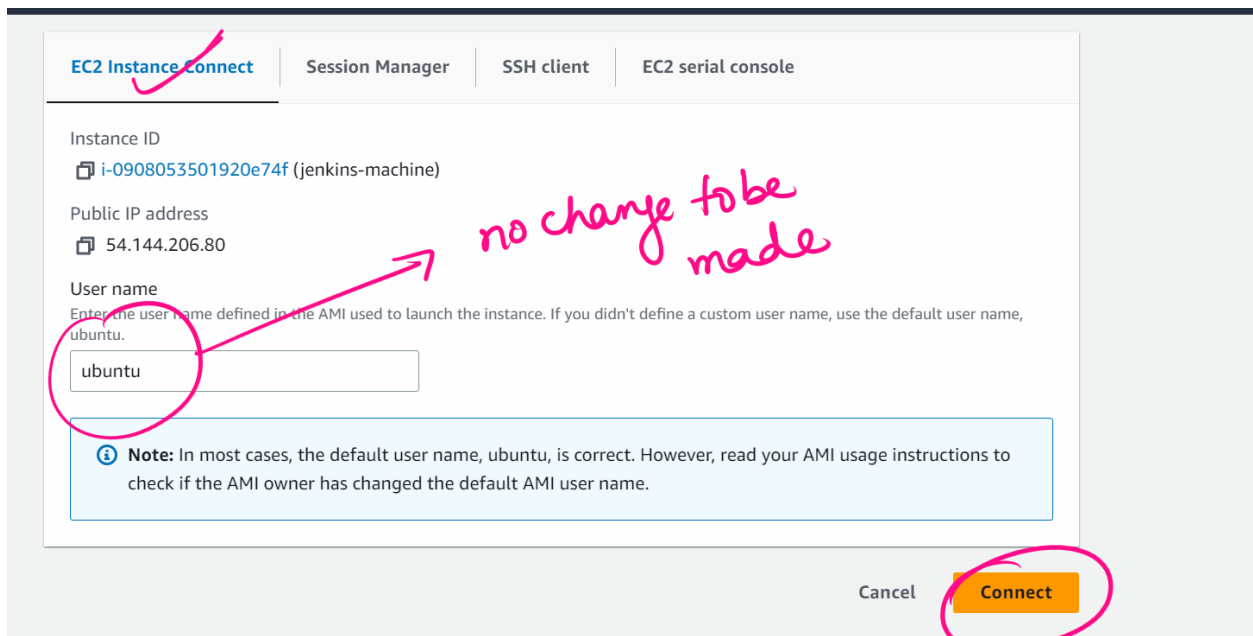
Name	Instance ID	Instance state	Instance type	Storage
jenkins-machine	i-0908053501920e74f	Running	t2.micro	

Instance: i-0908053501920e74f (jenkins-machine)

Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID i-0908053501920e74f (jenkins-machine)	Public IPv4 address 54.144.206.80 open address	Private IPv4 addresses 172.31.82.203
IPv6 address	Instance state	Public IPv4 DNS



Login in the machine

`sudo su`

Command for installing Java

`sudo apt-get update`

`sudo apt-get install default-jdk -y`

```
apt-get install maven -y
```

```
# Script for Jenkins installation
```

```
#Add Repository key to the system
```

```
curl -fsSL https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key | sudo tee \
/usr/share/keyrings/jenkins-keyring.asc > /dev/null
```

```
echo deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc] \
https://pkg.jenkins.io/debian-stable binary/ | sudo tee \
/etc/apt/sources.list.d/jenkins.list > /dev/null
```

```
apt update -y
```

```
apt install git -y
```

```
# Install Jenkins
```

```
sudo apt-get install jenkins -y
```

```
service jenkins start
```

Go to aws dashboard ->ec2 -> instances

Instances (1/1) Info

Find instance by attribute or tag (case-sensitive)

<input checked="" type="checkbox"/>	Name	Instance ID	Instance state	Instance type
<input checked="" type="checkbox"/>	jenkins-machine	i-0908053501920e74f	Running	t2.micro

Instance: i-0908053501920e74f (jenkins-machine)

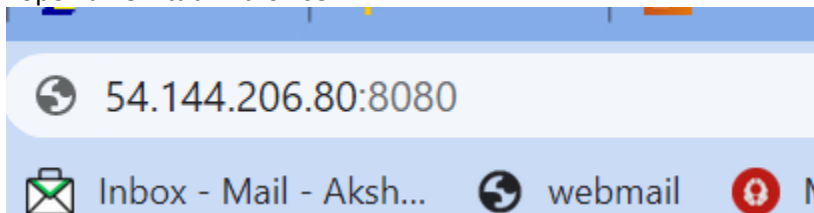
Details Security Networking Storage Status checks Monitoring Tags

▼ Instance summary Info

Instance ID	Public IPv4 address	Private IPv4 addresses
i-0908053501920e74f (jenkins-machine)	54.144.206.80 open address	172.31.82.203
IPv6 address	Instance state	Public IPv4 DNS

do not click on open address

open a new tab in browser ->



(do not put my ip address you can copy yours ip address)

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
```

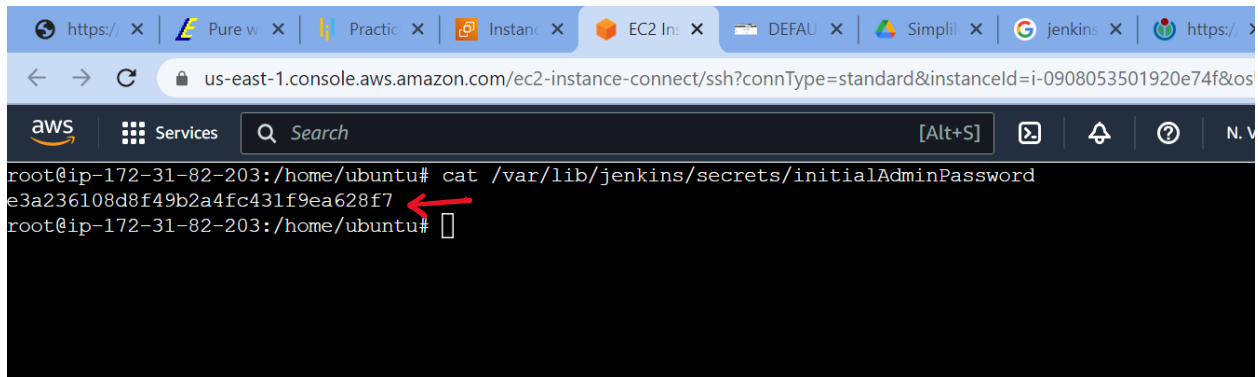
Please copy the password from either location and paste it below.

Administrator password

To unlock Jenkins

Go back to your machine

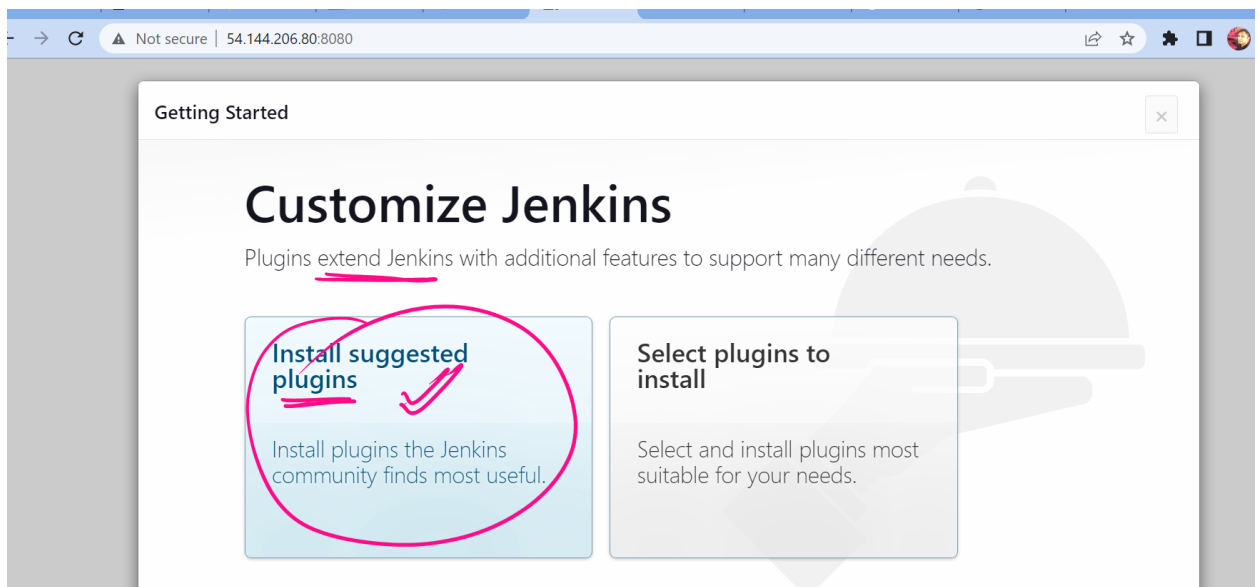
```
cat /var/lib/jenkins/secrets/initialAdminPassword
```

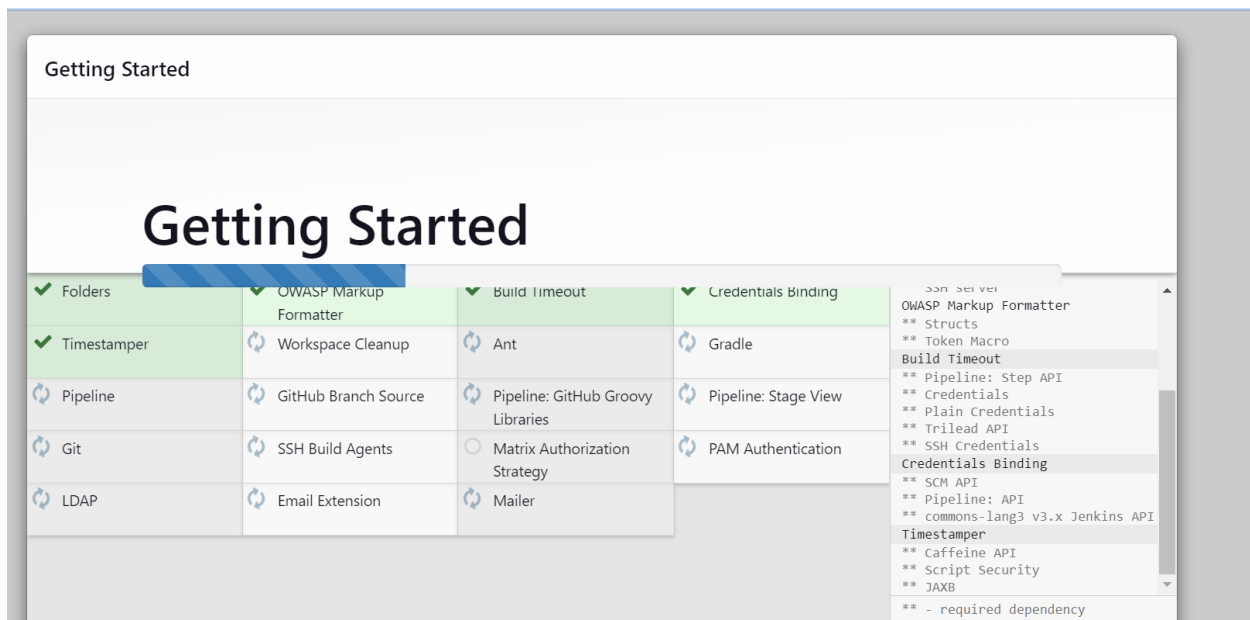


The screenshot shows a terminal window within the AWS Management Console. The terminal prompt is `root@ip-172-31-82-203:/home/ubuntu#`. The command `cat /var/lib/jenkins/secrets/initialAdminPassword` has been executed, and the output is a long alphanumeric string: `e3a236108d8f49b2a4fc431f9ea628f7`. A red arrow points to the output string. The terminal window is titled "us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?connType=standard&instanceId=i-0908053501920e74f&os=ubuntu" and includes the AWS logo and a search bar.

Copy the password and paste it in the Jenkins on browser

Click on next





(this might take some time so we can even wait for it)

The screenshot shows the Jenkins 'Getting Started' page with the user creation form. The form includes fields for Username, Password, Confirm password, and Full name. The Username field is filled with 'admin'. The Password and Confirm password fields are masked with dots. The Full name field is filled with 'admin'. At the bottom, there are buttons for 'Skip and continue as admin' and 'Save and Continue'.

(do not forget this pass ...admin admin))

Save

← → ↻ ⚠ Not secure | 54.144.206.80:8080 🔑 📄 ☆ ⚙ 🖨

Getting Started

Instance Configuration

Jenkins URL:


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 2.401.1


Not now

Save and Finish

 **Jenkins**


 1


 admin


 log out


Dashboard >

+ New Item

 People

 Build History

 Manage Jenkins

 My Views

Build Queue

No builds in the queue.

Build Executor Status

Add description

Welcome to Jenkins!

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.

Start building your software project

Create a job →

Set up a distributed build