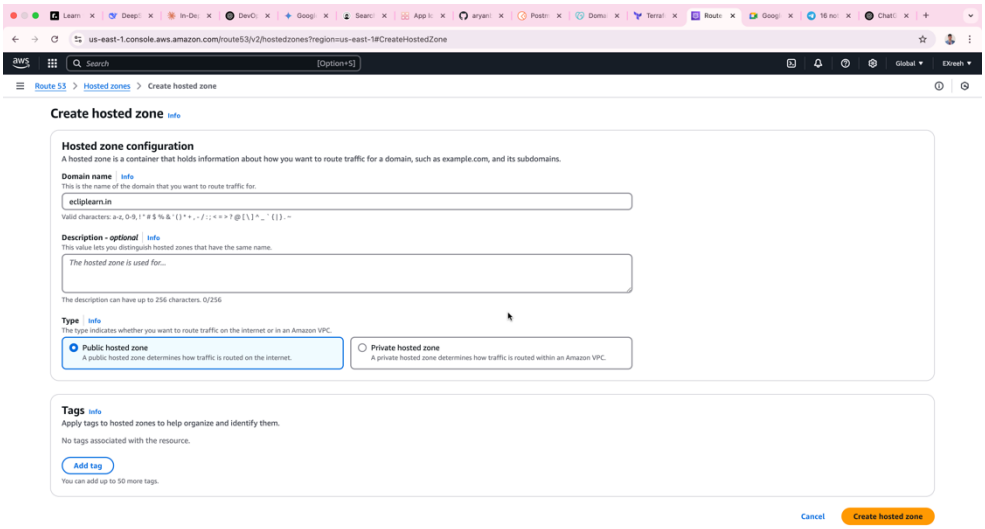
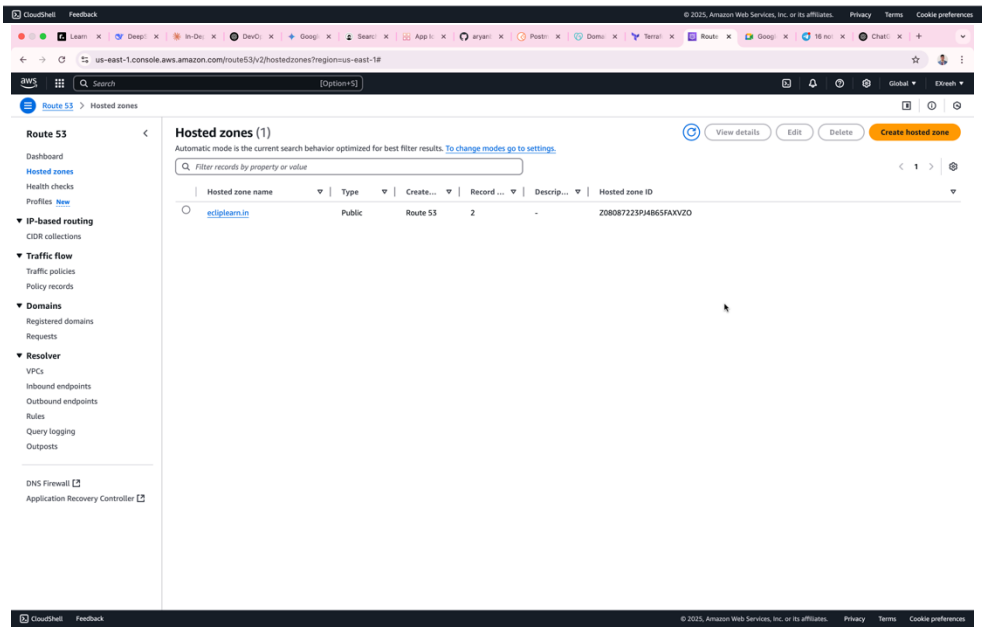
TASK 1

Steps to Create a Public Hosted Zone in Amazon Route 53

1. **Open Route 53 Console**
    - Navigate to the AWS Management Console.
    - Go to **Route 53** under the **Networking & Content Delivery** section.
2. **Create a Hosted Zone**
    - In the left sidebar, click **Hosted Zones**.
    - Select **Create Hosted Zone**.
3. **Configure Hosted Zone Settings**
    - **Domain Name**: Enter your domain (e.g., ecliplearn.in).
    - **Type**: Select **Public Hosted Zone**.
    - (Optional) Add a description in **Comment** if needed.
4. **Finalize Creation**
    - Click **Create Hosted Zone** to complete the process.

Once created, Route 53 will automatically generate NS (Name Server) and SOA records for your domain.


us-east-1.console.aws.amazon.com/route53/v2/hostedzones?region=us-east-1#CreateHostedZone
Search
[Option+S]
Global
EXreeh
Route 53 > Hosted zones > Create hosted zone
Create hosted zone Info
Hosted zone configuration
A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.
Domain name Info
This is the name of the domain that you want to route traffic for.
ecliplearn.in
Valid characters: a-z, 0-9, ! " # $ % & ' ( ) * + , - / : ; < = > ? @ [\ ] ^ _ ` { | } . ~
Description - optional Info
This value lets you distinguish hosted zones that have the same name.
The hosted zone is used for...
The description can have up to 256 characters. 0/256
Type Info
The type indicates whether you want to route traffic on the internet or in an Amazon VPC.
Public hosted zone
A public hosted zone determines how traffic is routed on the internet.
Private hosted zone
A private hosted zone determines how traffic is routed within an Amazon VPC.
Tags Info
Apply tags to hosted zones to help organize and identify them.
No tags associated with the resource.
Add tag
You can add up to 50 more tags.
Cancel
Create hosted zone


CloudShell
Feedback
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Privacy
Terms
Cookie preferences
us-east-1.console.aws.amazon.com/route53/v2/hostedzones?region=us-east-1#
Search
[Option+S]
Global
EXreeh
Route 53 > Hosted zones
Route 53
Dashboard
Hosted zones
Health checks
Profiles New
IP-based routing
CIDR collections
Traffic flow
Traffic policies
Policy records
Domains
Registered domains
Requests
Resolver
VPCs
Inbound endpoints
Outbound endpoints
Rules
Query logging
Outposts
DNS Firewall
Application Recovery Controller
Hosted zones (1)
Automatic mode is the current search behavior optimized for best filter results. To change modes go to settings.
View details
Edit
Delete
Create hosted zone
Filter records by property or value
Hosted zone name
Type
Create...
Record ...
Descrip...
Hosted zone ID
ecliplearn.in
Public
Route 53
2
-
Z08087223PJ4B65FAXVZO
CloudShell
Feedback
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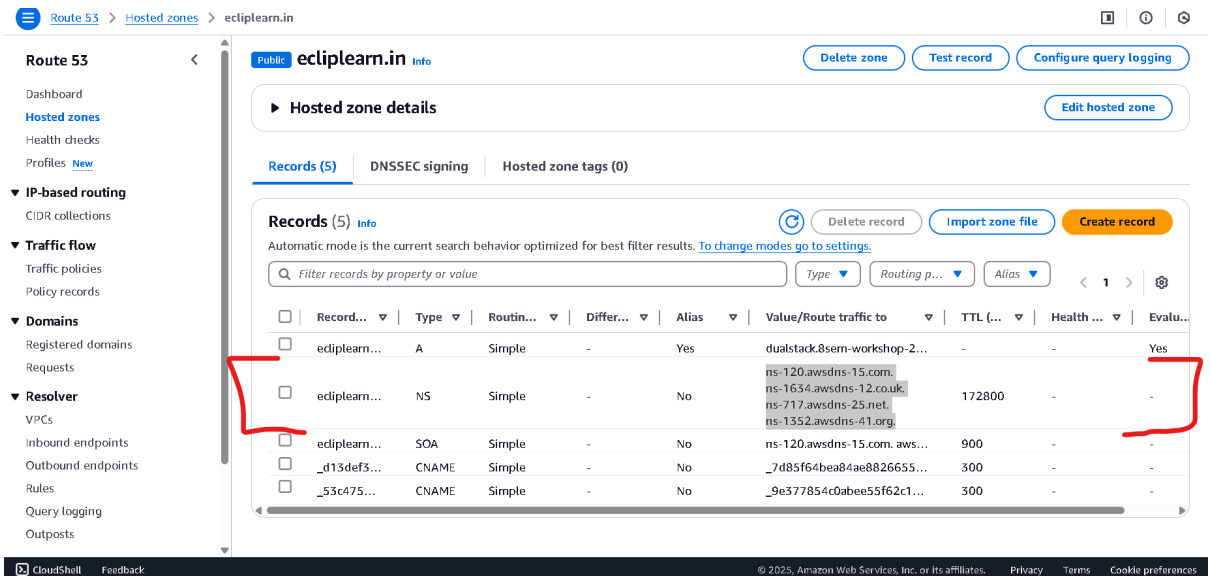


Step 2: Launch and Configure an EC2 Instance

1. Navigate to EC2 Dashboard

- Go to the AWS Management Console.
- Under **Compute**, select **EC2**.
- Click **Launch Instance**.

2. Choose an Amazon Machine Image (AMI)

- Select **Ubuntu Server** (recommended: LTS version, e.g., *Ubuntu 22.04*).

3. Select Instance Type

- Choose **t3.micro** (free tier eligible).

4. Configure Key Pair

- **Key Pair Name**: Create a new key pair or select an existing one.

- Download the .pem file (for SSH access) and store it securely.

5. Configure Instance Settings

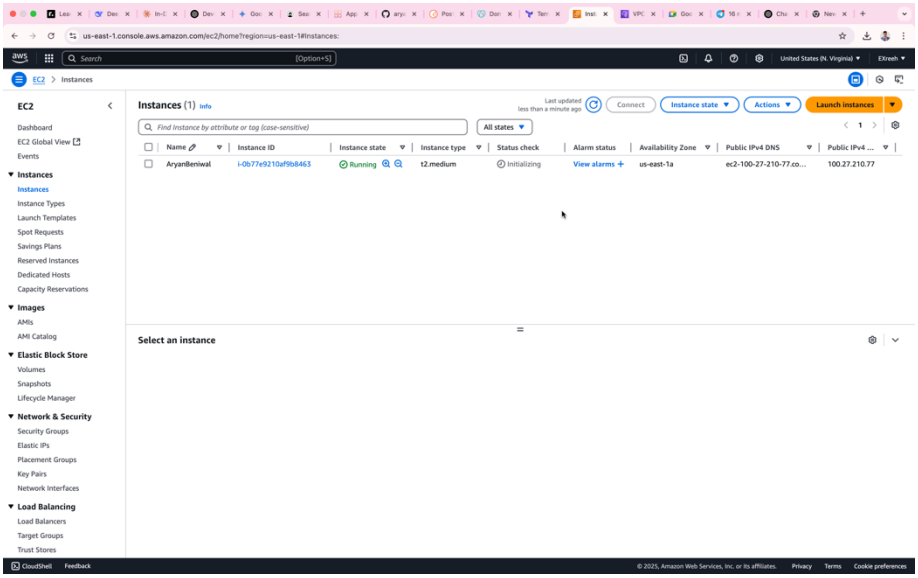
- **Network**: Select an existing **VPC** (default or custom).
- **Subnet**: Choose an appropriate subnet (e.g., public/private).
- **Auto-assign Public IP**: Enable if the instance needs internet access.

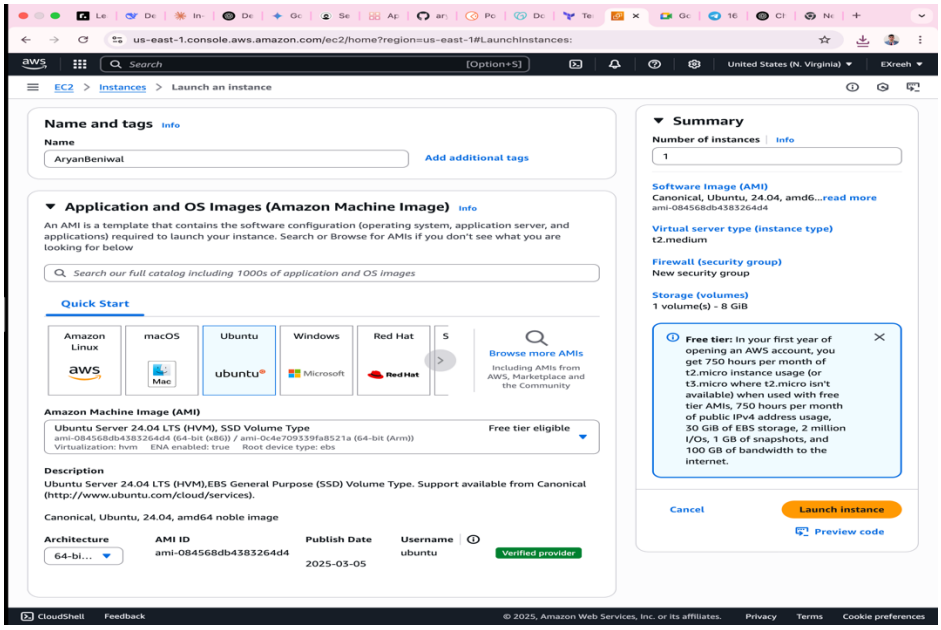
6. Configure Security Group

- Create a new security group or use an existing one.
- **Add Rules**:
  - **SSH (Port 22)**: For remote access.
  - **HTTP (Port 80)**: For web traffic.
  - **Custom TCP (Port 8080)**: For Jenkins (or other apps).
- (Optional) Restrict source IPs for security (e.g., My IP for SSH).

7. Launch the Instance

- Review settings and click **Launch Instance**.
- Wait for the instance to reach the **"Running"** state.




us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
Search
[Option+S]
United States (N. Virginia)
EXreeh
EC2 > Instances > Launch an instance
Name and tags Info
Name
AryanBeniwal
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
Search our full catalog including 1000s of application and OS images
Quick Start
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Ubuntu Server 24.04 LTS (HVM), SSD Volume Type
Free tier eligible
ami-084568db4383264d4 (64-bit (x86)) / ami-0c4709339fa8521a (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs
Description
Ubuntu Server 24.04 LTS (HVM),EBS General Purpose (SSD) Volume Type. Support available from Canonical (http://www.ubuntu.com/cloud/services).
Canonical, Ubuntu, 24.04, amd64 noble image
Architecture
64-bi...
AMI ID
ami-084568db4383264d4
Publish Date
2025-03-05
Username
ubuntu
Verified provider
Summary
Number of instances Info
1
Software Image (AMI)
Canonical, Ubuntu, 24.04, amd6...read more
ami-084568db4383264d4
Virtual server type (instance type)
t2.medium
Firewall (security group)
New security group
Storage (volumes)
1 volume(s) - 8 GiB
Free tier: In your first year of opening an AWS account, you get 750 hours per month of t2.micro instance usage (or t3.micro where t2.micro isn't available) when used with free tier AMIs, 750 hours per month of public IPv4 address usage, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Launch instance
Preview code
CloudShell
Feedback
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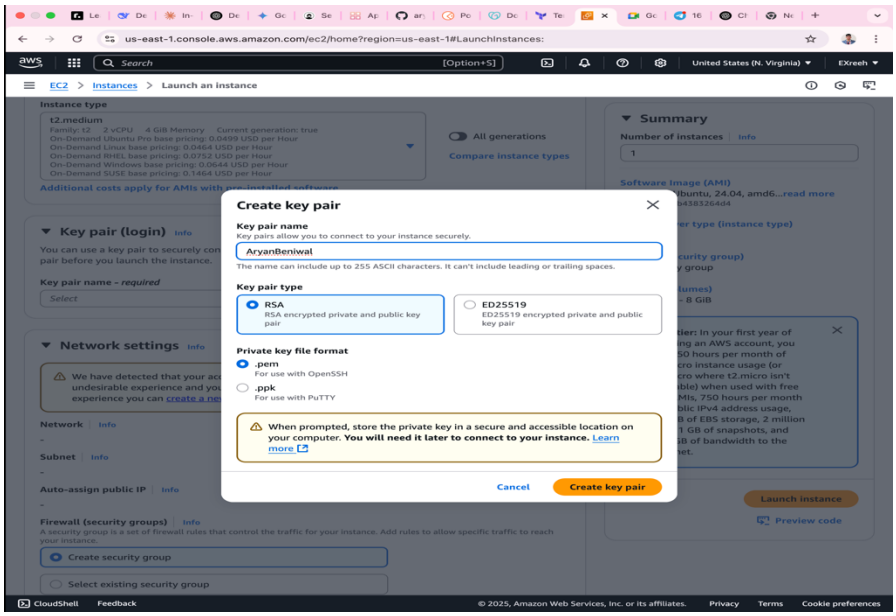
us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#LaunchInstances:
EC2 > Instances > Launch an instance
Create key pair
Key pair name
Key pairs allow you to connect to your instance securely.
AryanBeniwal
The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.
Key pair type
RSA
RSA encrypted private and public key pair
ED25519
ED25519 encrypted private and public key pair
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 more
Cancel
Create key pair
Key pair (login) Info
Network settings Info
Summary
Number of instances Info
Launch instance
Preview code
CloudShell
Feedback
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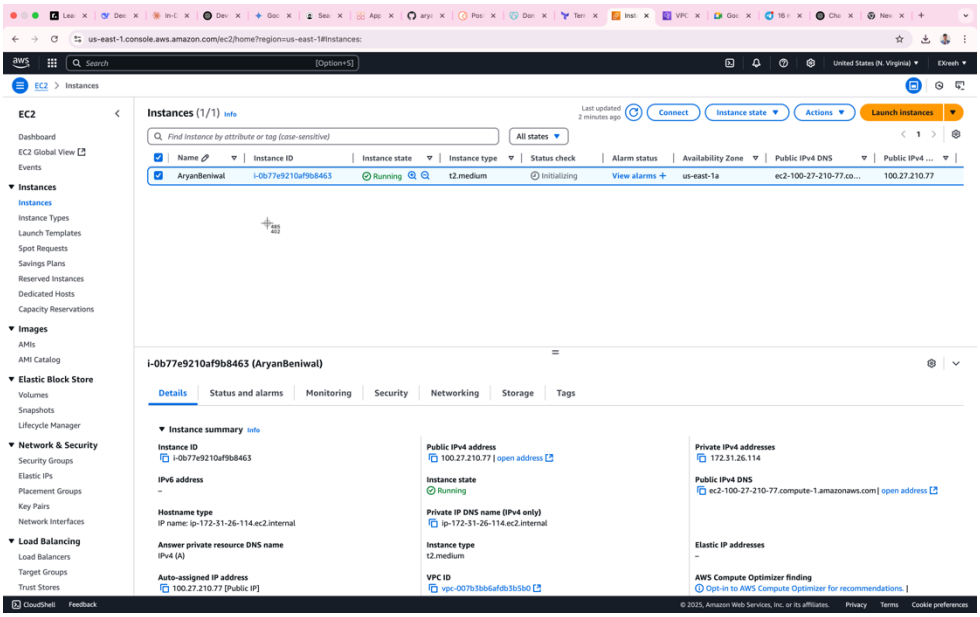


Step 3: Install Jenkins on Ubuntu EC2 Instance

1. Update System Packages

```
sudo apt update && sudo apt upgrade -y
```

2. Install Java (Jenkins Dependency)

Jenkins requires Java. Install OpenJDK 17:

```
sudo apt install openjdk-17-jdk -y
```

Verify installation:

```
java -version
```

3. Add Jenkins Repository

Import the Jenkins GPG key and add the official repository:

```
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
```

4. Install Jenkins

```
sudo apt update
sudo apt install jenkins -y
```

5. Start and Enable Jenkins

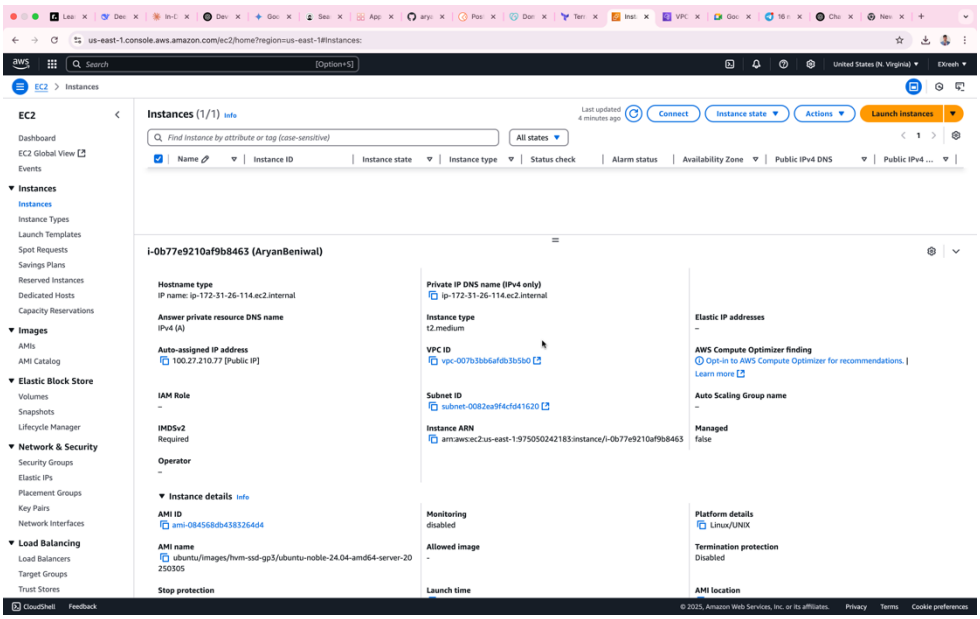
```
sudo systemctl start jenkins
sudo systemctl enable jenkins
```

Check status:

```
sudo systemctl status jenkins
```

6. Access Jenkins Web Interface

- Jenkins runs on port `8080` by default.
- Access it via your EC2 instance's **public IP**:http://<EC2_PUBLIC_IP>:8080
- Retrieve the initial admin password:
  ```
  sudo cat /var/lib/jenkins/secrets/initialAdminPassword
  ```



```
*** System restart required ***
Last login: Sat May 17 06:43:16 2025 from 13.48.4.203
ubuntu@ip-172-31-46-38:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
     Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled; preset: enabled)
     Active: active (running) since Sat 2025-05-17 06:58:34 UTC; 3min 37s ago
   Main PID: 32046 (java)
      Tasks: 38 (limit: 1077)
     Memory: 301.4M (peak: 316.0M)
        CPU: 19.946s
     CGroup: /system.slice/jenkins.service
             └─32046 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

May 17 06:58:29 ip-172-31-46-38 jenkins[32046]: 01872381354c4db691e441a8d5c9cc8e
May 17 06:58:29 ip-172-31-46-38 jenkins[32046]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
May 17 06:58:29 ip-172-31-46-38 jenkins[32046]: *************************************************************
May 17 06:58:29 ip-172-31-46-38 jenkins[32046]: *************************************************************
May 17 06:58:29 ip-172-31-46-38 jenkins[32046]: *************************************************************
May 17 06:58:34 ip-172-31-46-38 jenkins[32046]: 2025-05-17 06:58:34.511+0000 [id=32]        INFO        jenkins.InitReactorRunner$1#onAttained: Completed initial
May 17 06:58:34 ip-172-31-46-38 jenkins[32046]: 2025-05-17 06:58:34.532+0000 [id=23]        INFO        hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up a
May 17 06:58:34 ip-172-31-46-38 systemd[1]: Started jenkins.service - Jenkins Continuous Integration Server.
May 17 06:58:35 ip-172-31-46-38 jenkins[32046]: 2025-05-17 06:58:35.278+0000 [id=49]        INFO        h.m.DownloadService$Downloadable#load: Obtained the updat
May 17 06:58:35 ip-172-31-46-38 jenkins[32046]: 2025-05-17 06:58:35.279+0000 [id=49]        INFO        hudson.util.Retrier#start: Performed the action check upd

ubuntu@ip-172-31-46-38:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
01872381354c4db691e441a8d5c9cc8e
ubuntu@ip-172-31-46-38:~$
```