

Automation - Jenkins AWS ubuntu EC2 instance using user data bash scripting

This assignment will install java-11 and Jenkins on ubuntu ec2 instance using automation via bash script which is given in user data while creating ec2 instance in aws console. When instance get into running state and passed health check status server will be ready and you can check on it that Jenkins and java is already installed on it already. And your Jenkins is up and running on port 8080

Step1:

Launch instance

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

Recents

Quick Start

Amazon Linux

macOS

Ubuntu

Windows

Red Hat

S

[Browse more AMIs](#)
Including AMIs from AWS, Marketplace and the Community

▼ Summary

Number of instances Info

Software Image (AMI)
Canonical, Ubuntu, 22.04 LTS, ...[read more](#)
ami-00874d747dde814fa

Virtual server type (instance type)
t2.micro

Firewall (security group)
launch-wizard-3

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

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS

Cancel

Launch instance

Select security group having port 8080 enabled, because Jenkins run on port 8080

Key pair name - *required*

[Create new key pair](#)

▼ Network settings Info

Edit

Network Info
vpc-042e964953548a09e | Default

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

Security groups Info

launch-wizard-3 sg-0cf270cd0ccb59f71

VPC: vpc-042e964953548a09e

[Compare security group rules](#)

▼ Summary

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Cancel

Launch instance

User data for installation

User data - optional [Info](#)

Enter custom user data into the field below

```
#!/bin/bash

sudo apt-get update
sudo apt install openjdk-11-jdk -y
wget -q -O - http://pkg.jenkins-ci.org/debian/jenkins-ci.org.key | sudo apt-key add -
sudo sh -c 'echo deb http://pkg.jenkins-ci.org/debian-stable binary/ >
/etc/apt/sources.list.d/jenkins.list'
sudo apt update
sudo apt install jenkins -y
sudo systemctl start jenkins
sudo systemctl enable jenkins
```

☐ User data has already been base64 encoded

Bash script for Jenkins installation:

```
#!/bin/bash
```

```
sudo apt-get update
```

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

```
wget -q -O - http://pkg.jenkins-ci.org/debian/jenkins-ci.org.key | sudo apt-key add -
```

```
sudo sh -c 'echo deb http://pkg.jenkins-ci.org/debian-stable binary/ >
/etc/apt/sources.list.d/jenkins.list'
```

```
sudo apt update
```

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

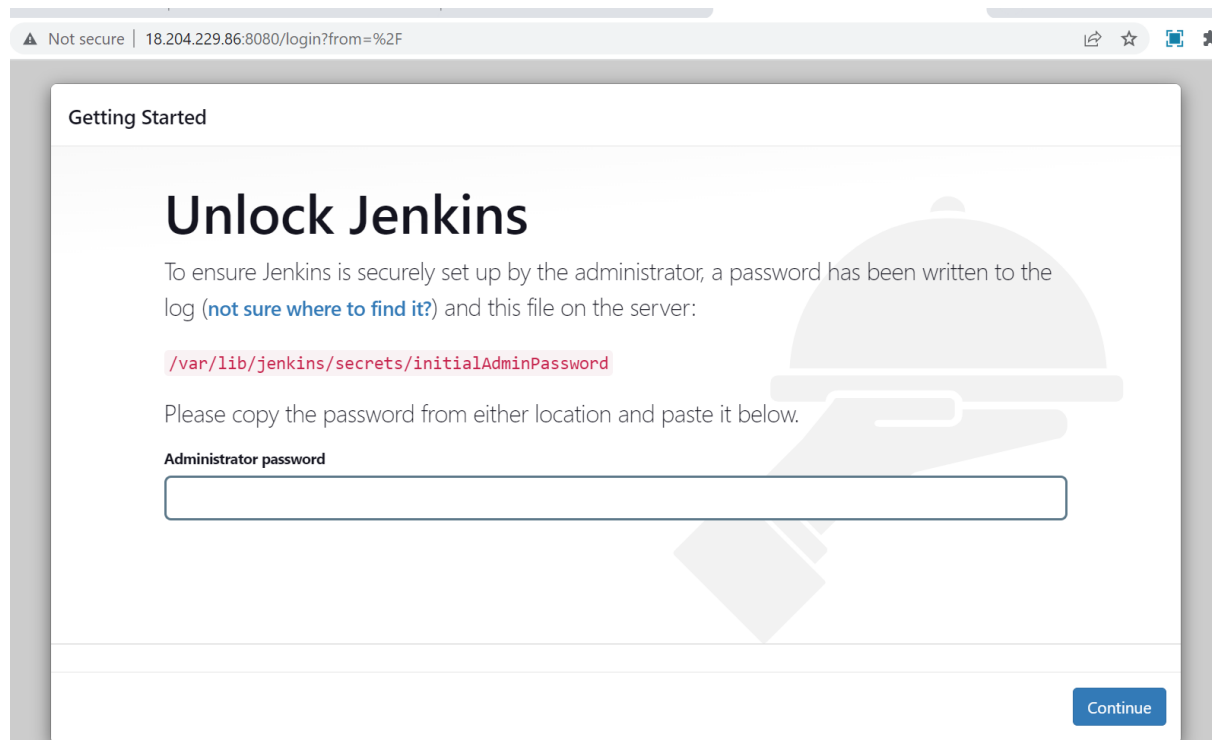
```
sudo systemctl start jenkins
```

```
sudo systemctl enable jenkins
```

Instance is in running state

Instances (1) Info									
<input type="text" value="Find instance by attribute or tag (case-sensitive)"/>				Refresh	Connect	Instance state ▼	Actions ▼	Launch instances	▼
Instance state = running ✕ Clear filters									
<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	
<input type="checkbox"/>	jenkins-auto	i-07658d72dd1e15ed9	Running	t2.micro	2/2 checks passed	No alarms	us-east-1c	ec2-18-204-229-86.c	

Check on port 8080 jenkins is running



Checking status of java and jenkins

```
ubuntu@ip-172-31-5-104:~$ java -version
openjdk version "11.0.17" 2022-10-18
OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-l466.20~0ubuntu22.04)
OpenJDK 64-Bit Server VM (build 11.0.17+8-post-Ubuntu-l466.20~0ubuntu22.04, mixed mode, sharing)
ubuntu@ip-172-31-5-104:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor preset: enabled)
   Active: active (running) since Sat 2023-02-04 06:45:04 UTC; 5min ago
     Main PID: 4643 (java)
       Tasks: 38 (limit: 1143)
      Memory: 328.0M
         CPU: 45.592s
    CGroup: /system.slice/jenkins.service
            └─4643 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080

Feb 04 06:44:32 ip-172-31-5-104 jenkins[4643]: f6734c1314454668a80c3d9c7a97a02d
Feb 04 06:44:32 ip-172-31-5-104 jenkins[4643]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword
Feb 04 06:44:32 ip-172-31-5-104 jenkins[4643]: *****
Feb 04 06:44:32 ip-172-31-5-104 jenkins[4643]: *****
Feb 04 06:44:32 ip-172-31-5-104 jenkins[4643]: *****
Feb 04 06:45:04 ip-172-31-5-104 jenkins[4643]: 2023-02-04 06:45:04.001+0000 [id=28] INFO jenkins.InitReactorRunner$1:onAttained: Completed initialization
Feb 04 06:45:04 ip-172-31-5-104 jenkins[4643]: 2023-02-04 06:45:04.038+0000 [id=22] INFO hudson.lifecycle.Lifecycle#onReady: Jenkins is fully up and running
Feb 04 06:45:04 ip-172-31-5-104 systemd[1]: Started Jenkins Continuous Integration Server.
Feb 04 06:45:04 ip-172-31-5-104 jenkins[4643]: 2023-02-04 06:45:04.235+0000 [id=44] INFO h.m.DownloadService$Downloadable#load: Obtained the updated data file for hudson.tasks
Feb 04 06:45:04 ip-172-31-5-104 jenkins[4643]: 2023-02-04 06:45:04.236+0000 [id=44] INFO hudson.util.Retrier#start: Performed the action check updates server successfully at
lines 1-20/20 (END)
```