

Jenkins Installation Guide

Installation Notes

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Connect to an EC2 instance (Ubuntu).

Step 1: Update the Ubuntu repository and install the Java OpenJDK with apt command.

Commands:

apt-get update

apt-get install openjdk-8-jdk

```
root@ip-172-31-84-165:/home/ubuntu# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates InRelease [109 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-backports InRelease [107 kB]
Get:4 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/main Sources [868 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/restricted Sources [4,808 B]
Get:6 http://security.ubuntu.com/ubuntu xenial-security InRelease [107 kB]
Get:7 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/universe Sources [7,728 kB]
Get:8 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/multiverse Sources [179 kB]
Get:9 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial/universe amd64 Packa
```

```
root@ip-172-31-84-165:/home/ubuntu# sudo apt-get install openjdk-8-jdk
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  ca-certificates-java fontconfig fontconfig-config fonts-dejavu-core
  fonts-dejavu-extra hicolor-icon-theme java-common libasound2 libasound2-data
  libasyncns0 libatk1.0-0 libatk1.0-data libavahi-client3 libavahi-common-data
  libavahi-common3 libcairo2 libcups2 libdatriel libdrm-amdgpu1 libdrm-intel1
  libdrm-nouveau2 libdrm-radeon1 libflac8 libfontconfig1 libgdk-pixbuf2.0-0
  libgdk-pixbuf2.0-common libgif7 libglib-mesa-dri libglib-mesa-glx
  libglapi-mesa libgraphite2-3 libgtk2.0-0 libgtk2.0-bin libgtk2.0-common
  libharfbuzz0b libice-dev libice6 libjbig0 libjpeg-turbo8 libjpeg8 liblcms2-2
  libllvm6.0 libnspr4 libnss3 libnss3-nssdb libogg0 libpango-1.0-0
  libpangocairo-1.0-0 libpangoft2-1.0-0 libpciaccess0 libpcsclite1
  libpixman-1-0 libpthread-stubs0-dev libpulse0 libsensors4 libsm-dev libsm6
  libsndfile1 libthai-data libthai0 libtiff5 libtxc-dxtn-s2tc0 libvorbis0a
  libvorbisenc2 libx11-dev libx11-doc libx11-xcb1 libxau-dev libxcb-dri2-0
  libxcb-dri3-0 libxcb-glx0 libxcb-present0 libxcb-render0 libxcb-shm0
```

```
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jarsigner to
provide /usr/bin/jarsigner (jarsigner) in auto mode
Setting up openjdk-8-jdk:amd64 (8u181-b13-0ubuntu0.16.04.1) ...
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/appletviewer
provide /usr/bin/appletviewer (appletviewer) in auto mode
update-alternatives: using /usr/lib/jvm/java-8-openjdk-amd64/bin/jconsole to p
provide /usr/bin/jconsole (jconsole) in auto mode
Processing triggers for libc-bin (2.23-0ubuntu10) ...
Processing triggers for systemd (229-4ubuntu21.4) ...
Processing triggers for ureadahead (0.100.0-19) ...
Processing triggers for ca-certificates (20170717~16.04.1) ...
Updating certificates in /etc/ssl/certs...
0 added, 0 removed; done.
Running hooks in /etc/ca-certificates/update.d...

done.
done.
root@ip-172-31-84-165:/home/ubuntu#
```

Step 2: Verify the installation by typing the command below:

Command: `java -version`

```
root@ip-172-31-84-165:/home/ubuntu# java -version
openjdk version "1.8.0_181"
OpenJDK Runtime Environment (build 1.8.0_181-8u181-b13-0ubuntu0.16.04.1-b13)
OpenJDK 64-Bit Server VM (build 25.181-b13, mixed mode)
root@ip-172-31-84-165:/home/ubuntu#
```

Step 3: Add Jenkins key and repository to the system with the command below:

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

```
root@ip-172-31-84-165:/home/ubuntu# wget -q -O - https://pkg.jenkins.io/debian/j
enkins-ci.org.key | sudo apt-key add -
OK
```

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

```
root@ip-172-31-84-165:/home/ubuntu# sudo sh -c 'echo deb http://pkg.jenkins.io/debian-stable binary/ > /etc/apt/sources.list.d/jenkins.list'
root@ip-172-31-84-165:/home/ubuntu#
```

Step 4: Installing Jenkins:

`sudo apt-get update`

`sudo apt-get install jenkins`

```
root@ip-172-31-84-165:/home/ubuntu# sudo apt-get update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial InRelease
Hit:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-updates InRelease
Hit:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu xenial-backports InRelease
Ign:4 http://pkg.jenkins.io/debian-stable binary/ InRelease
Get:5 http://pkg.jenkins.io/debian-stable binary/ Release [2,042 B]
Get:6 http://pkg.jenkins.io/debian-stable binary/ Release.gpg [181 B]
Hit:7 http://security.ubuntu.com/ubuntu xenial-security InRelease
Get:8 http://pkg.jenkins.io/debian-stable binary/ Packages [13.4 kB]
Fetched 15.6 kB in 0s (50.4 kB/s)
Reading package lists... Done
root@ip-172-31-84-165:/home/ubuntu#
```

```
root@ip-172-31-84-165:/home/ubuntu# sudo apt-get install jenkins
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  daemon
The following NEW packages will be installed:
  daemon jenkins
0 upgraded, 2 newly installed, 0 to remove and 15 not upgraded.
Need to get 73.7 MB of archives.
After this operation, 76.0 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 xenial/universe amd64 daemon amd64 0.6.4-1 [98.2 kB]
Get:2 http://pkg.jenkins.io/debian-stable binary/ jenkins 2.138.1 [73.6 MB]
```

Step 5: Starting Jenkins

`sudo systemctl start jenkins`

`sudo systemctl status jenkins`

```
root@ip-172-31-84-165:/home/ubuntu# sudo systemctl start jenkins
root@ip-172-31-84-165:/home/ubuntu# sudo systemctl status jenkins
• jenkins.service - LSB: Start Jenkins at boot time
   Loaded: loaded (/etc/init.d/jenkins; bad; vendor preset: enabled)
   Active: active (exited) since Fri 2018-09-28 15:11:26 UTC; 1min 41s ago
     Docs: man:systemd-sysv-generator(8)

Sep 28 15:11:25 ip-172-31-84-165 systemd[1]: Starting LSB: Start Jenkins at boot time...
Sep 28 15:11:25 ip-172-31-84-165 jenkins[9178]: Correct java version found
Sep 28 15:11:25 ip-172-31-84-165 jenkins[9178]: * Starting Jenkins Automation Server jenkins
Sep 28 15:11:25 ip-172-31-84-165 su[9212]: Successful su for jenkins by root
Sep 28 15:11:25 ip-172-31-84-165 su[9212]: + ??? root:jenkins
Sep 28 15:11:25 ip-172-31-84-165 su[9212]: pam_unix(su:session): session opened for user jenkins by (uid=0)
Sep 28 15:11:26 ip-172-31-84-165 jenkins[9178]: ...done.
Sep 28 15:11:26 ip-172-31-84-165 systemd[1]: Started LSB: Start Jenkins at boot time.
Sep 28 15:12:49 ip-172-31-84-165 systemd[1]: Started LSB: Start Jenkins at boot time.
root@ip-172-31-84-165:/home/ubuntu#
```

Step 6: Please make sure you have enable the following security ports in your AWS instance

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ
SSH ▾	TCP	22	Anywhere ▾ 0.0.0.0/0, ::/0
HTTP ▾	TCP	80	Anywhere ▾ 0.0.0.0/0, ::/0
All TCP ▾	TCP	0 - 65535	Anywhere ▾ 0.0.0.0/0, ::/0
All UDP ▾	UDP	0 - 65535	Anywhere ▾ 0.0.0.0/0, ::/0
HTTPS ▾	TCP	443	Anywhere ▾ 0.0.0.0/0, ::/0
Add Rule			

Step 7: You can access Jenkins using **your AWS instance Public IP**.

http://<public_ip_of_instance>:8080

Step 8: Configure Jenkins

To get administrator password, please run the below command:

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

```
root@ip-172-31-84-165:/home/ubuntu# sudo cat /var/lib/jenkins/secrets/initialAdminPassword
7d3993a423cc4e6181854450f0cd8891
root@ip-172-31-84-165:/home/ubuntu#
```

Copy the password from terminal and paste it

Getting Started

Unlock Jenkins

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

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

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

Administrator password

Continue

Getting Started

Customize Jenkins

Plugins extend Jenkins with additional features to support many different needs.

Install suggested plugins

Install plugins the Jenkins community finds most useful.

Select plugins to install

Select and install plugins most suitable for your needs.

Getting Started

Getting Started

✓ Folders Plugin	✓ OWASP Markup Formatter Plugin	✓ build timeout plugin	✓ Credentials Binding Plugin
✓ Timestampers	✓ Workspace Cleanup Plugin	✓ Ant Plugin	✓ Gradle Plugin
⚙ Pipeline	⚙ Github Organization Folder Plugin	⚙ Pipeline: Stage View Plugin	⚙ Git plugin
⚙ Subversion Plug-in	⚙ SSH Slaves plugin	✓ Matrix Authorization Strategy Plugin	✓ PAM Authentication plugin
✓ LDAP Plugin	⚙ Email Extension Plugin	✓ Mailer Plugin	

LDAP Plugin

⚙ Iron Skin Plugin

Matrix Authorization Strategy Plugin

⚙ Token Macro Plugin

⚙ Script Security Plugin

⚙ Matrix Project Plugin

⚙ External Monitor Job Type Plugin

Jenkins build timeout plugin

⚙ Credentials Plugin

⚙ Plain Credentials Plugin

⚙ Pipeline: Step API

Credentials Binding Plugin

Timestampers

⚙ Resource Diagrammer Plugin

⚙ Pipeline: API

⚙ Pipeline: Basic Steps

Jenkins Workspace Cleanup Plugin

Ant Plugin

Gradle Plugin

⚙ - required dependency

Jenkins 2.19.2

Now you can start working on Jenkins.

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