

INSTALLING JENKINS IN LINUX OR UBUNTU AND CREATING A FREESTYLE JOB IN NGINX PROJECT

Installing Java 17

sudo apt install -y openjdk-17-jdk

sudo update-alternatives --config java

```
vijay@vijay-SMARIN:~$ sudo apt install openjdk-17-jdk -y
[sudo] password for vijay:
Sorry, try again.
[sudo] password for vijay:
Sorry, try again.
[sudo] password for vijay:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  bridge-utils dns-root-data dnsmasq-base libllvml7t64 ubuntu-fan
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  ca-certificates-java fonts-dejavu-extra java-common libatk-wrapper-java libatk-wrapper-java-jni libgif7 libice-dev
  libice6 libpcsc-lite libpthread-stubs0-dev libsm-dev libsm6 libx11-dev libxau-dev libxaw7 libxcb-shape0 libxcb1-dev
  libxdmcp-dev libxft2 libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libxxf86dgal openjdk-17-jdk-headless
  openjdk-17-jre openjdk-17-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
Suggested packages:
  default-jre libice-doc pcscd libsm-doc libx11-doc libxcb-doc libxt-doc openjdk-17-demo openjdk-17-source visualvm
  libnss-mdns fonts-ipafont-gothic fonts-ipafont-mincho fonts-ny-microhei | fonts-ny-zenhei fonts-indic mesa-utils
Recommended packages:
  luit
The following NEW packages will be installed:
  ca-certificates-java fonts-dejavu-extra java-common libatk-wrapper-java libatk-wrapper-java-jni libgif7 libice-dev
  libice6 libpcsc-lite libpthread-stubs0-dev libsm-dev libsm6 libx11-dev libxau-dev libxaw7 libxcb-shape0 libxcb1-dev
  libxdmcp-dev libxft2 libxkbfile1 libxmu6 libxpm4 libxt-dev libxt6t64 libxxf86dgal openjdk-17-jdk
  openjdk-17-jdk-headless openjdk-17-jre openjdk-17-jre-headless x11-utils x11proto-dev xorg-sgml-doctools xtrans-dev
0 upgraded, 33 newly installed, 0 to remove and 1 not upgraded.
Need to get 126 MB of archives.
After this operation, 291 MB of additional disk space will be used.
Get:1 http://archive.ubuntu.com/ubuntu noble/main amd64 ca-certificates-java all 20240118 [11.6 kB]
Get:2 http://archive.ubuntu.com/ubuntu noble/main amd64 fonts-dejavu-extra all 2.37-8 [1947 kB]
Get:3 http://archive.ubuntu.com/ubuntu noble/main amd64 java-common all 8.75-expl [6798 B]
Get:4 http://archive.ubuntu.com/ubuntu noble/main amd64 libice6 amd64 2:1.0.10-1build3 [41.4 kB]
Get:5 http://archive.ubuntu.com/ubuntu noble/main amd64 libsm6 amd64 2:1.2.3-1build3 [15.7 kB]
Get:6 http://archive.ubuntu.com/ubuntu noble/main amd64 libxt6t64 amd64 1:1.2.1-1.2build1 [171 kB]
Get:7 http://archive.ubuntu.com/ubuntu noble/main amd64 libxmu6 amd64 2:1.1.3-3build2 [47.6 kB]
```

- After this you'll be prompted to select a java version select the index with java-17

```

vijay@Vijay-Bharath:~$ sudo update-alternatives --config java
There is 1 choice for the alternative java (providing /usr/bin/java).

  Selection    Path                                          Priority    Status
  -----
* 0            /usr/lib/jvm/java-17-openjdk-amd64/bin/java 1711       auto mode
  1            /usr/lib/jvm/java-17-openjdk-amd64/bin/java 1711       manual mode

Press <enter> to keep the current choice[*], or type selection number:
vijay@Vijay-Bharath:~$ sudo wget -O /usr/share/keyrings/jenkins-keyring.asc
wget: missing URL
Usage: wget [OPTION]... [URL]...

Try 'wget --help' for more options.
vijay@Vijay-Bharath:~$ sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \
> https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
--2025-03-22 04:55:39-- https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
Resolving pkg.jenkins.io (pkg.jenkins.io)... 151.101.158.133, 2a04:4e42:25::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)|151.101.158.133|:443...connected.
HTTP request sent, awaiting response... 200 OK
Length: 3175 (3.1K) [application/pgp-keys]
Saving to: '/usr/share/keyrings/jenkins-keyring.asc'

/usr/share/keyrin 100%[=====] 3.10K --.-KB/s in 0s

2025-03-22 04:55:39 (31.9 MB/s) - '/usr/share/keyrings/jenkins-keyring.asc' saved [3175/3175]

vijay@Vijay-Bharath:~$ 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
vijay@Vijay-Bharath:~$ sudo apt-get update
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://download.docker.com/linux/ubuntu noble InRelease
Get:3 https://pkg.jenkins.io/debian-stable binary/ Release [2044 B]
Get:4 https://pkg.jenkins.io/debian-stable binary/ Release.gpg [833 B]
Get:5 https://pkg.jenkins.io/debian-stable binary/ Packages [28.7 kB]

```

Installing Jenkins

```

sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \
https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
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
sudo apt-get update
sudo apt-get install Jenkins

```

Starting Jenkins

code

```

sudo systemctl status jenkins
sudo systemctl enable jenkins

```

sudo systemctl start jenkins

sudo systemctl status Jenkins

```
vijay@Vijay-Bharath:~$ sudo systemctl start jenkins
vijay@Vijay-Bharath:~$ sudo systemctl enable jenkins
Synchronizing state of jenkins.service with SysV service script with /usr/lib/systemd/systemd-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable jenkins
vijay@Vijay-Bharath:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled;>
   Active: active (running) since Sat 2025-03-22 05:27:14 UTC; 49s a>
   Main PID: 42825 (java)
     Tasks: 55 (Limit: 4561)
    Memory: 741.6M ()
   CGroup: /system.slice/jenkins.service
           └─42825 /usr/bin/java -Djava.awt.headless=true -jar /usr/>

Mar 22 05:27:05 Vijay-Bharath jenkins[42825]: 44963405b6784fdab7bc3fa9>
Mar 22 05:27:05 Vijay-Bharath jenkins[42825]: This may also be found a>
Mar 22 05:27:05 Vijay-Bharath jenkins[42825]: *****
Mar 22 05:27:05 Vijay-Bharath jenkins[42825]: *****
Mar 22 05:27:05 Vijay-Bharath jenkins[42825]: *****
Mar 22 05:27:14 Vijay-Bharath jenkins[42825]: 2025-03-22 05:27:14.303+>
Mar 22 05:27:14 Vijay-Bharath jenkins[42825]: 2025-03-22 05:27:14.321+>
Mar 22 05:27:14 Vijay-Bharath systemd[1]: Started jenkins.service - Je>
Mar 22 05:27:16 Vijay-Bharath jenkins[42825]: 2025-03-22 05:27:16.456+>
Mar 22 05:27:16 Vijay-Bharath jenkins[42825]: 2025-03-22 05:27:16.457+>
Lines 1-19/19 (END)
vijay@Vijay-Bharath:~$ sudo cat /var/lib/jenkins/secrets/initialAdminPassword
44963405b6784fdab7bc3fa92a20e979
vijay@Vijay-Bharath:~$ sudo systemctl status jenkins
● jenkins.service - Jenkins Continuous Integration Server
   Loaded: loaded (/usr/lib/systemd/system/jenkins.service; enabled;>
   Active: active (running) since Sat 2025-03-22 05:27:14 UTC; 1min >
   Main PID: 42825 (java)
     Tasks: 56 (Limit: 4561)
    Memory: 825.1M ()
   CGroup: /system.slice/jenkins.service
           └─42825 /usr/bin/java -Djava.awt.headless=true -jar /usr/>
```

- Copy the password provided in this step

Jenkins Initial Setup

- Open a browser and go to localhost:8080 and paste in the password



Code: To find the password

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

```
jenkins.err.log - Notepad
File Edit Format View Help

*****
*****
*****

Jenkins initial setup is required. An admin user has been created and a password generated.
Please use the following password to proceed to installation:

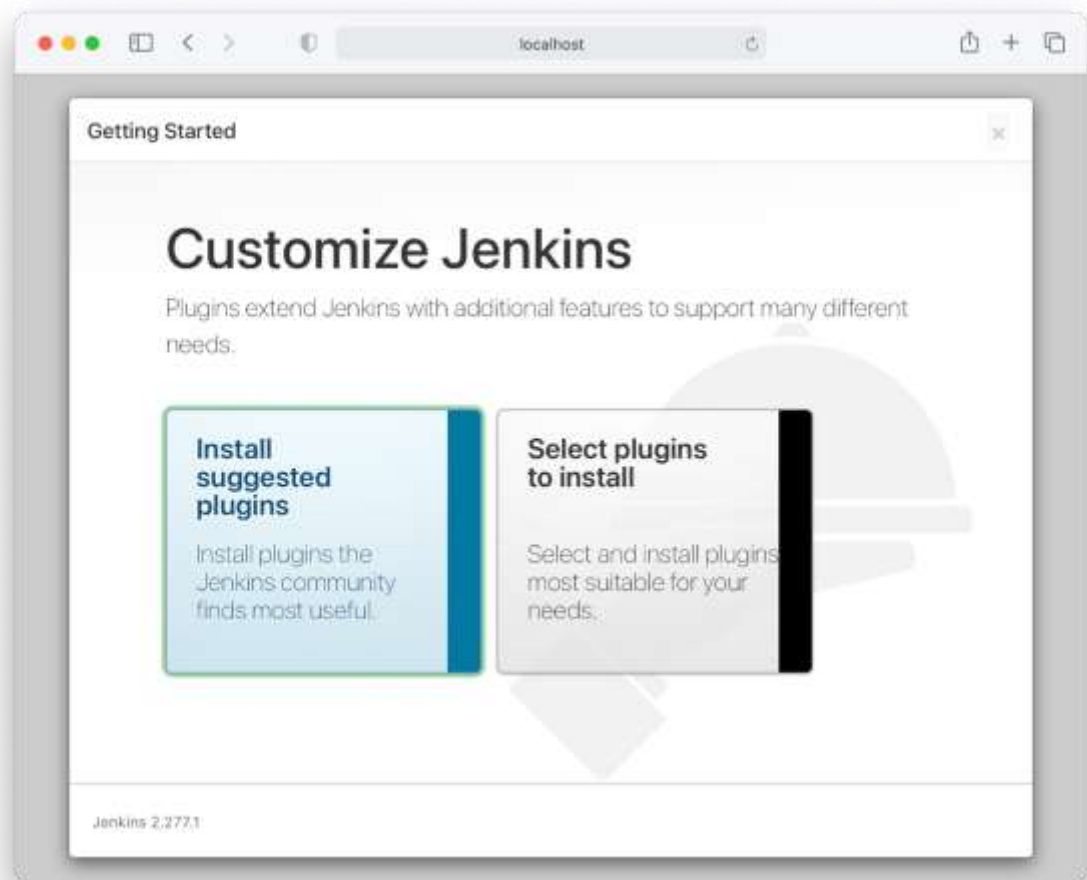
c24a815ef6064a1189eb2e733bcff075

This may also be found at: C:\Windows\system32\config\systemprofile\AppData\Local\Jenkins\.jenkins\secrets\initialA
*****
*****

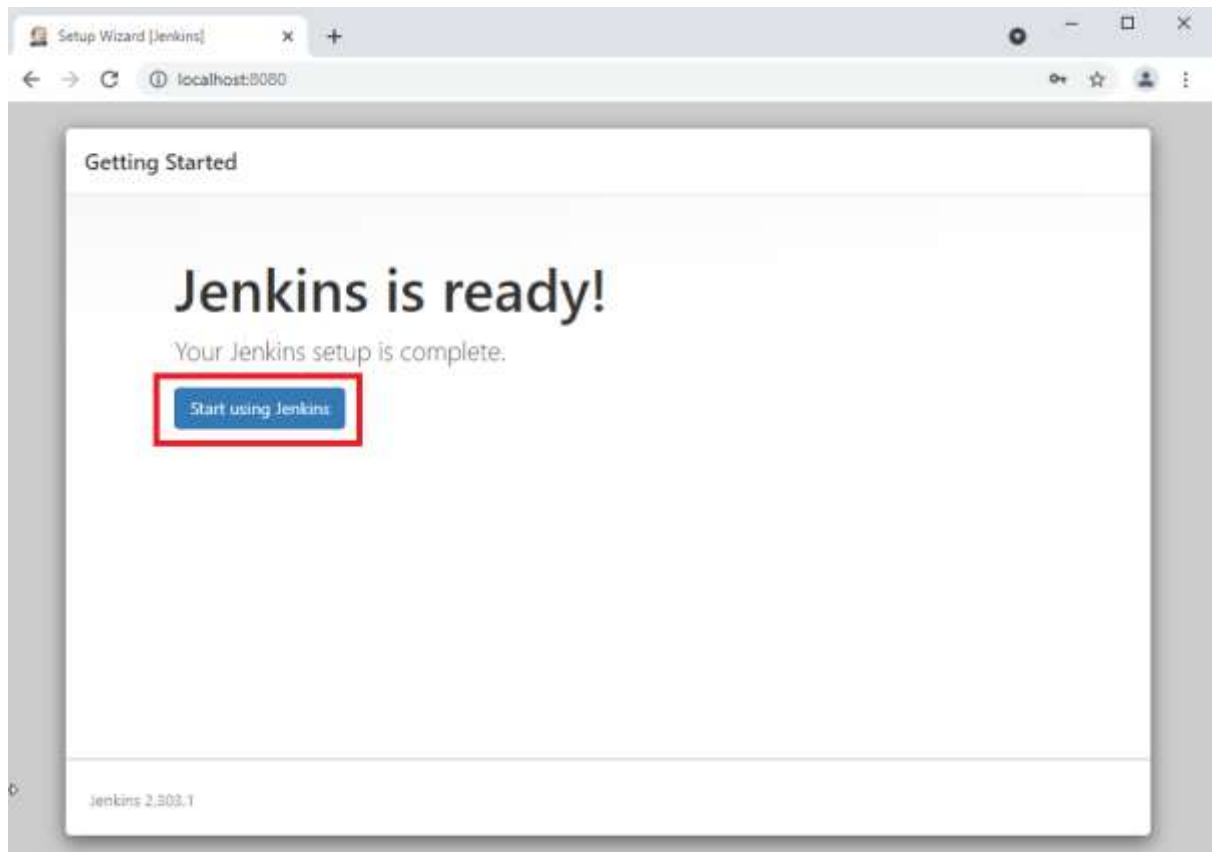
2021-02-11 19:43:53.064+0000 [id=57] INFO h.m.DownloadService$Downloadable#load: Obtained the updated data fi
2021-02-11 19:43:53.065+0000 [id=57] INFO hudson.util.Retrier#start: Performed the action check updates serve
2021-02-11 19:43:53.106+0000 [id=57] INFO hudson.model.AsyncPeriodicWork#lambda$doRun$0: Finished Download me
2021-02-11 19:44:03.688+0000 [id=39] INFO jenkins.InitReactorRunner$1#onAttained: Completed initialization
2021-02-11 19:44:03.799+0000 [id=22] INFO hudson.WebAppMain$3#run: Jenkins is fully up and running

Windows (CRLF) Ln 1, Col 1 100%
```

- Now you see the below and click on install suggested plugin



- The The plugins will eb installed one by one and you'll be redirected to the next page click Start Jenkins



- Remember this user id and password. This will overwrite the Initial Password generated, and will be required to login everytime you restart Jenkins.

Getting Started

Create First Admin User

Username:

Password:

Confirm password:

Full name:

E-mail address:

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[Skip and continue as admin](#) [Save and Continue](#)

Setting up a Nginx freestyle project in Jenkins

- In Jenkins home page click on create a job

- Enter a project name
- Select Freestyle Project
- Click OK

Enter an item name

Freestyle Project Example

» 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
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, filter, a folder creates a separate namespace, so you can have multiple things of the same type as long as they are in different folders.

OK

- Paste the below in the build steps
- Code:

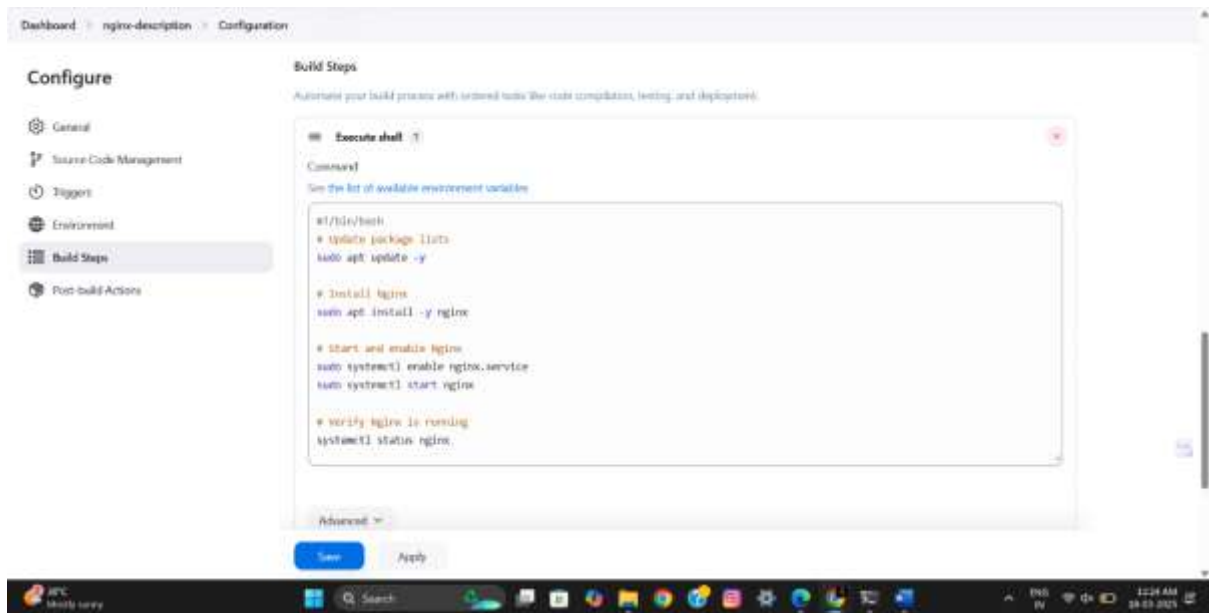
```
sudo apt update -y
```

```
sudo apt install -y nginx
```

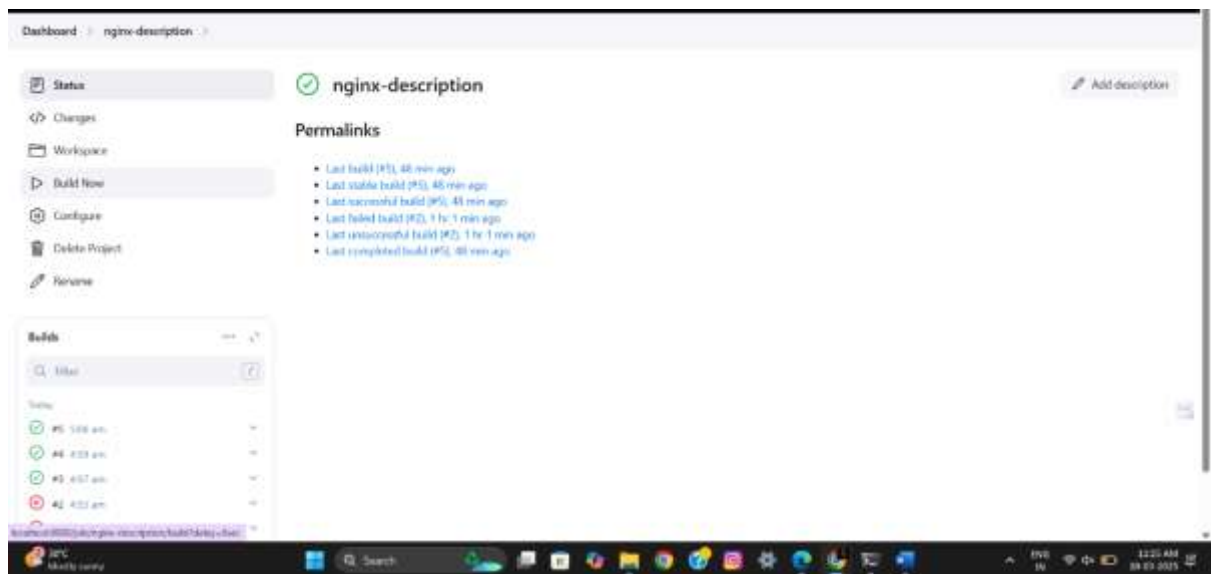
```
sudo systemctl enable nginx.service
```

```
sudo systemctl start nginx
```

```
systemctl status nginx
```

- And finally save the project:



- Your first Nginx project using Jenkins is successfully deployed!