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Prerequisites to Install Jenkins on Ubuntu 24.04

- A server running Ubuntu 24.04 OS
- User privileges: root or non-root user with sudo privileges
- A server with at least 2 GB of RAM (Our NVMe 2 VPS plan)

Step 1. Update the System

Every fresh install of Ubuntu 24.04 needs the packages to be updated to the latest versions available. To do that execute the following command:

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



Step 2. Install Java

Since Jenkins is installed in Java we need to install it first so we can proceed with the Jenkins process of installation. Execute the command below to install Java:

```
sudo apt install openjdk-21-jdk -y
```



Once installed, we can check the Java version with the command below:

```
java -version
```



You should receive the following output:

OpenJDK Runtime Environment (build 21.0.3+9-Ubuntu-1ubuntu1)

OpenJDK 64-Bit Server VM (build 21.0.3+9-Ubuntu-1ubuntu1, mixed mode, sharing)

Step 3. Add Jenkins GPG key and Repository

Next step is to add the Jenkins GPG key with the following command:

```
sudo wget -O /usr/share/keyrings/jenkins-keyring.asc  
https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key
```



Then add the Jenkins repository because it is not added by default in the Ubuntu 24.04 sources list:

```
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
```



Once, the key and the repo are added update the system again and move to the next step of the installation.

```
sudo apt update -y
```



Step 4. Install Jenkins on Ubuntu 24.04

To install Jenkins execute the following command:

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



Once installed, start and enable the Jenkins service:

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



```
sudo systemctl status jenkins
```



You should get the following output:

```
root@host:~# 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 Tue 2024-06-11 09:39:02 CDT; 15s ago
     Main PID: 11666 (java)
        Tasks: 52 (limit: 4613)
      Memory: 1.1G (peak: 1.2G)
         CPU: 1min 24.854s
       CGroup: /system.slice/jenkins.service
               └─11666 /usr/bin/java -Djava.awt.headless=true -jar
                 /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war --httpPort=8080
```



Step 5. Install Apache And Create Apache Configuration

The Apache web server is required, so we can create a reverse proxy in the next step. To install the Apache web server execute the following command:

```
sudo apt install apache2 -y
```



Once installed start and enable the service:

```
sudo systemctl enable apache2 && sudo systemctl start apache2
```



Check if the service is up and running:

```
sudo systemctl status apache2
```



You should receive the following output:

```
Loaded: loaded (/usr/lib/systemd/system/apache2.service; enabled; preset:
enabled)
Active: active (running) since Tue 2024-06-11 09:56:04 CDT; 4s ago
Docs: https://httpd.apache.org/docs/2.4/
Process: 12142 ExecStart=/usr/sbin/apachectl start (code=exited,
status=0/SUCCESS)
Main PID: 12145 (apache2)
Tasks: 6 (limit: 4613)
Memory: 10.5M (peak: 10.8M)
CPU: 139ms
CGroup: /system.slice/apache2.service
```

We need to create an Apache virtual host file and set it up with the reverse proxy directive in order can access the Jenkins via domain name.

Create an Apache configuration file with the following command:

```
touch /etc/apache2/sites-available/jenkins.conf
```

Open it with your favorite text editor and paste the following lines of code:

```
<Virtualhost *:80>
    ServerName        yourdomain.com
    ProxyRequests      Off
    ProxyPreserveHost On
    AllowEncodedSlashes NoDecode

    <Proxy http://localhost:8080/*>
        Order deny,allow
        Allow from all
    </Proxy>

    ProxyPass          / http://localhost:8080/ nocanon
    ProxyPassReverse   / http://localhost:8080/
    ProxyPassReverse   / http://yourdomain.com/
</Virtualhost>
```

Save and close the file. Then you need to execute the following commands to enable the Jenkins configuration and some Apache modules:

```
sudo a2ensite jenkins
sudo a2enmod headers
sudo a2enmod rewrite
```

After these commands, if everything is OK, you will be able to access Jenkins via your domain at **http://YourDomain.com**

Step 6. Finalize Install Jenkins on Ubuntu 24.04

On the first screen, you will be asked for the password to unlock Jenkins. The password can be found by executing the following command on the server:

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



You should receive the password as shown below:

```
root@host:~# cat /var/lib/jenkins/secrets/initialAdminPassword  
24598462a23846c58060fd15ceeb6abe
```



Enter the password and click on the continue button.

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