

Jenkins

1) Install jenkins and run jenkins on port number 8081.

```
sudo yum update -y
sudo yum install java-1.8.0-
openjdk-devel -y
java -version
```

Go to Web site download
Jenkins

<https://pkg.jenkins.io/redhat-stable/>

➔ Insert Jenkins

To change port number of Jenkins

```
cd /usr/lib/systemd/system
ls -l *jenkins*
```

```
~
A newer version of Amazon Linux is available!
Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/

[ec2-user@ip-172-31-19-218 ~]$ sudo -i
[root@ip-172-31-19-218 ~]# sudo wget -O /etc/yum.repos.d/jenkins.repo https://pkg.jenkins.io/redhat-stable/jenkins.repo
--2024-11-27 12:05:16-- https://pkg.jenkins.io/redhat-stable/jenkins.repo
Resolving pkg.jenkins.io (pkg.jenkins.io)... 146.75.38.133, 2a04:4e42:78::645
Connecting to pkg.jenkins.io (pkg.jenkins.io)|146.75.38.133|:443... connected.
HTTP request sent, awaiting response... 200 OK
Length: 85
Saving to: '/etc/yum.repos.d/jenkins.repo'

100%[=====] 85 --.-K/s in 0s

2024-11-27 12:05:16 (9.06 MB/s) - '/etc/yum.repos.d/jenkins.repo' saved [85/85]

[root@ip-172-31-19-218 ~]#
[root@ip-172-31-19-218 ~]# sudo rpm --import https://pkg.jenkins.io/redhat-stable/jenkins.io-2023.key
[root@ip-172-31-19-218 ~]# yum install java -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                | 3.6 kB  00:00:00
jenkins                                  | 2.9 kB  00:00:00
jenkins/primary_db                        | 51 kB  00:00:00
Resolving Dependencies
--> Running transaction check
--> Package java-17-amazon-corretto-x86_64 1:17.0.13+11-1.amzn2.1 will be installed
--> Processing Dependency: java-17-amazon-corretto-headless(x86_64) = 1:17.0.13+11-1.amzn2.1 for package: 1:java-17-amazon-corretto-17.0.13+11-1.amzn2.1.x86_64
--> Processing Dependency: libX11 for package: 1:java-17-amazon-corretto-17.0.13+11-1.amzn2.1.x86_64
--> Processing Dependency: libXi for package: 1:java-17-amazon-corretto-17.0.13+11-1.amzn2.1.x86_64
--> Processing Dependency: libXinerama for package: 1:java-17-amazon-corretto-17.0.13+11-1.amzn2.1.x86_64
```

```
var-lib-ntfs-rpc_pipets.mount
[root@ip-172-31-19-218 system]# ls -l *jenkin*
-rw-r--r-- 1 root root 5639 Oct 30 13:30 jenkins.service
[root@ip-172-31-19-218 system]# vi jenkins.service
```

```
# Location of the exploded WAR
Environment="JENKINS_WEBROOT=%C/jenkins/war"

# Location of the Jenkins log. By default, systemd-journald(8) is used.
#Environment="JENKINS_LOG=%L/jenkins/jenkins.log"

# The Java home directory. When left empty, JENKINS_JAVA_CMD and PATH are consulted.
#Environment="JAVA_HOME=/usr/lib/jvm/java-17-openjdk-amd64"

# The Java executable. When left empty, JAVA_HOME and PATH are consulted.
#Environment="JENKINS_JAVA_CMD=/etc/alternatives/java"

# Arguments for the Jenkins JVM
Environment="JAVA_OPTS=-Djava.awt.headless=true"

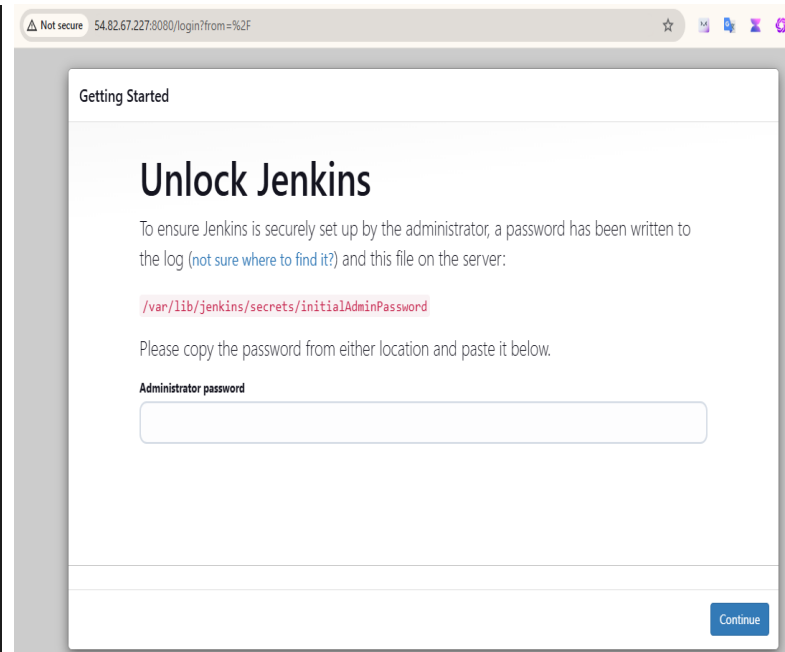
# Unix Domain Socket to listen on for local HTTP requests. Default is disabled.
#Environment="JENKINS_UNIX_DOMAIN_PATH=/run/jenkins/jenkins.socket"

# IP address to listen on for HTTP requests.
# The default is to listen on all interfaces (0.0.0.0).
#Environment="JENKINS_LISTEN_ADDRESS="

# Port to listen on for HTTP requests. Set to -1 to disable.
# To be able to listen on privileged ports (port numbers less than 1024),
# add the CAP_NET_BIND_SERVICE capability to the AmbientCapabilities
# directive below.
Environment="JENKINS_PORT=8081"

# IP address to listen on for HTTPS requests. Default is disabled.
#Environment="JENKINS_HTTPS_LISTEN_ADDRESS="

# Port to listen on for HTTPS requests. Default is disabled.
# To be able to listen on privileged ports (port numbers less than 1024),
```



2) Secure Jenkins server

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

```
[root@ip-172-31-19-218 system]# cd /var/lib/jenkins/  
[root@ip-172-31-19-218 jenkins]# ls  
%C      hudson.model.UpdateCenter.xml  jobs      plugins      secret.key      secrets      userContent  
config.xml  jenkins.telemetry.Correlator.xml  nodeMonitors.xml  queue.xml.bak  secret.key.not-so-secret  updates      users  
[root@ip-172-31-19-218 jenkins]# cd secrets/  
[root@ip-172-31-19-218 secrets]# ls  
initialAdminPassword  jenkins.model.Jenkins.crumbSalt  master.key  
[root@ip-172-31-19-218 secrets]# cat initialAdminPassword  
4594682846224e6480d14fad94916109  
[root@ip-172-31-19-218 secrets]# ^C
```

Security

There are no registered token for this user.

Add new Token

Password

Password:

Confirm Password:

Session Termination

Terminate All Sessions ?

Save Apply



Sign in to Jenkins

Username

admin

Password

Keep me signed in

Sign in

3) Create users called Devops, Testing in Jenkins with Limited access.

and Assign Roles

manage roles

Manage Roles

Global roles

Role	Overall	Credentials			Agent						Job					Run		View		SCM	Metrics												
	Administrator	Read	Create	Delete	ManageDomains	Update	View	Build	Configure	Connect	Create	Delete	Disconnect	Provision	Build	Cancel	Configure	Create	Delete	Discover	Workspace	Read	Delete	Replay	Update	Configure	Create	Delete	Read	Tag	HealthCheck	ThreadDump	View
admin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Devops	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Role to add

Testing

Add

Jenkins

Search (CTRL+K)

admin

Dashboard > Jenkins' own user database

Users 3

Create User

These users can log into Jenkins. This is a sub set of [this list](#), which also contains auto-created users who really just made some commits on some projects and have no direct Jenkins access.

User ID	Name		
admin	admin		
Devops	Devops		
Testing	Testing		

4) Configure labels and restrict the jobs to execute based on label only.

Dashboard > Manage Jenkins > System >

of executors

Labels

Usage ?

Use this node as much as possible

Computer Retention Check Interval ?

Quiet period ?

Dashboard > linux > Configuration

Configure

- General
- Source Code Management
- Build Triggers
- Build Environment
- Build Steps
- Post-build Actions

☐ Discard old builds ?
☐ GitHub project
☐ This project is parameterized ?
☐ Throttle builds ?
☐ Execute concurrent builds if necessary ?
☒ Restrict where this project can be run ?

Label Expression ?

Label `linux` matches 1 node. Permissions or other restrictions provided by plugins may further reduce that list.

Advanced ▾

Source Code Management

Dashboard > linux > #1 > Console Output

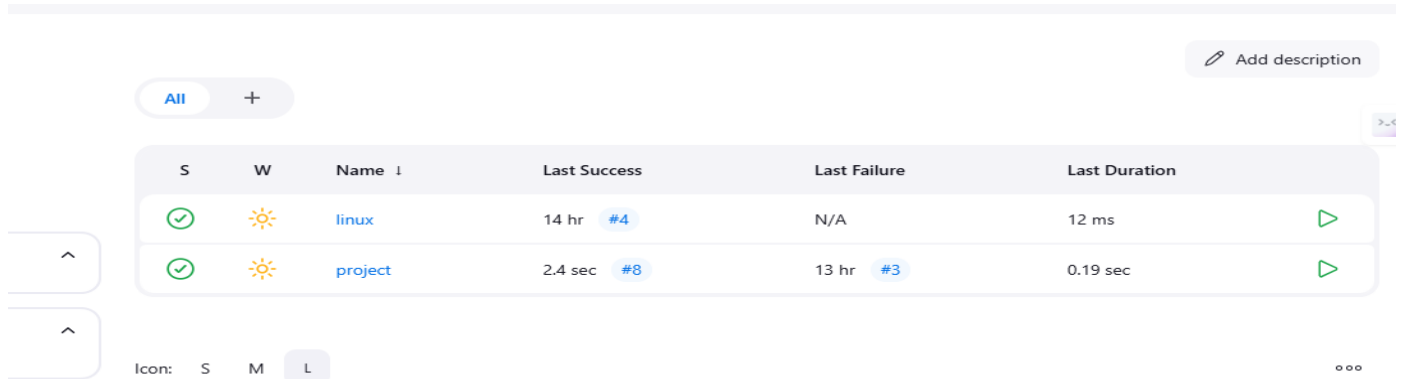
- Status
- Changes
- Console Output
- Edit Build Information
- Delete build '#1'
- Timings
- Next Build

Console Output

```
Started by user admin
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/linux
Finished: SUCCESS
```

5) Create Three sample jobs using the below URL.

https://github.com/betawins/Techie_horizon_Login_app.git



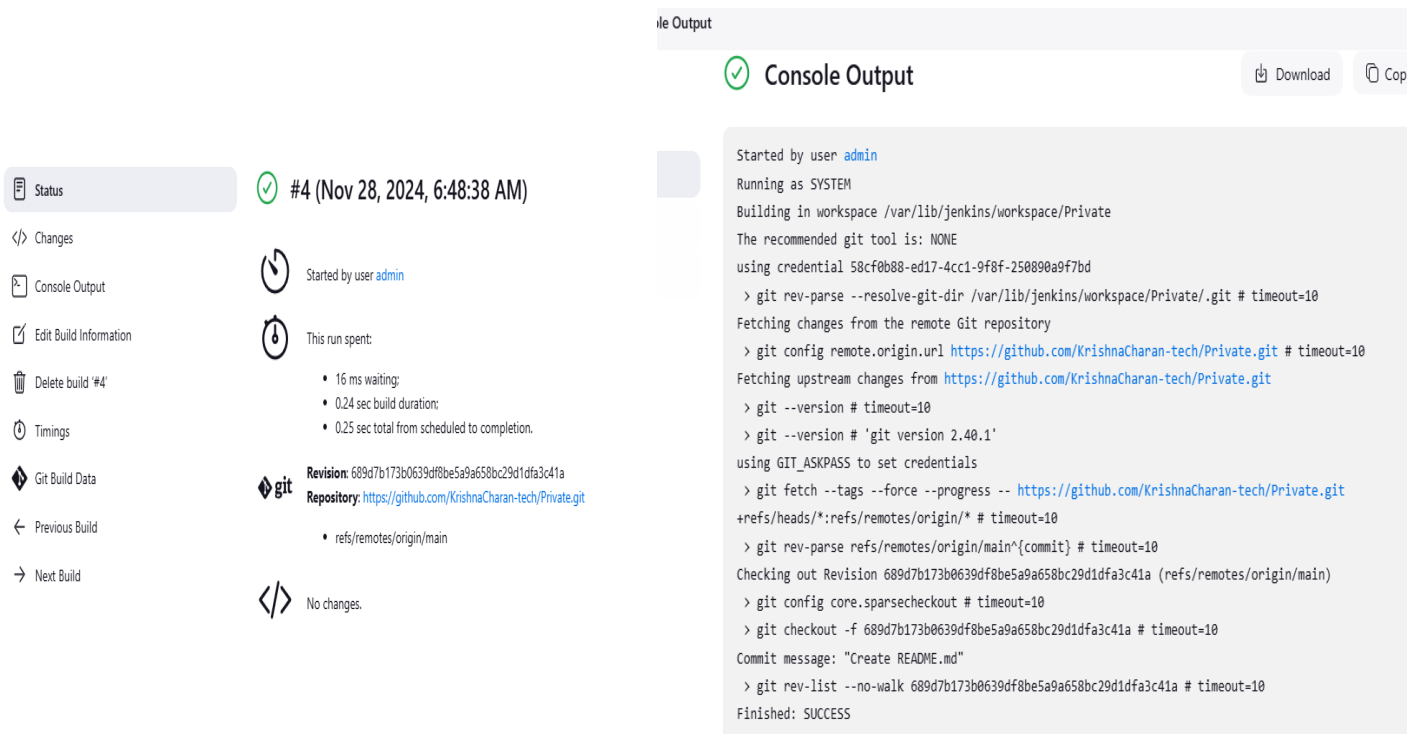
S	W	Name ↓	Last Success	Last Failure	Last Duration
✓	☀	linux	14 hr #4	N/A	12 ms
✓	☀	project	2.4 sec #8	13 hr #3	0.19 sec

Icon: S M L

```
[root@ip-172-31-19-218 jenkins]# cd workspace/
[root@ip-172-31-19-218 workspace]# ls
linux project
[root@ip-172-31-19-218 workspace]# cd project/
[root@ip-172-31-19-218 project]# ls
ansible azure-pipelines.yml Dockerfile pom.xml README.md src
[root@ip-172-31-19-218 project]# ls -l
total 20
drwxr-xr-x 2 jenkins jenkins 91 Nov 27 16:31 ansible
-rw-r--r-- 1 jenkins jenkins 508 Nov 27 16:31 azure-pipelines.yml
-rw-r--r-- 1 jenkins jenkins 137 Nov 27 16:31 Dockerfile
-rw-r--r-- 1 jenkins jenkins 5830 Nov 27 16:31 pom.xml
-rw-r--r-- 1 jenkins jenkins 978 Nov 27 16:31 README.md
drwxr-xr-x 4 jenkins jenkins 30 Nov 27 16:31 src
[root@ip-172-31-19-218 project]#
```

6) Create one Jenkins job using git hub Private repository.

- ➔ **GitHub Access Token:** Create a personal access token in GitHub to authenticate against the private repository. Ensure the token has `repo` permissions.
- ➔ **New Item** ➔ provide details and github token to access the service



Status

Changes

Console Output

Edit Build Information

Delete build '#4'

Timings

Git Build Data

Previous Build

Next Build

✓ #4 (Nov 28, 2024, 6:48:38 AM)

Started by user admin

This run spent:

- 16 ms waiting;
- 0.24 sec build duration;
- 0.25 sec total from scheduled to completion.

Revision: 689d7b173b0639df8be5a9a658bc29d1dfa3c41a
Repository: <https://github.com/KrishnaCharan-tech/Private.git>

refs/remotes/origin/main

No changes.

Console Output

Download Copy

```
Started by user admin
Running as SYSTEM
Building in workspace /var/lib/jenkins/workspace/Private
The recommended git tool is: NONE
using credential 58cf8b88-ed17-4cc1-9f8f-250890a9f7bd
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/Private/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/KrishnaCharan-tech/Private.git # timeout=10
Fetching upstream changes from https://github.com/KrishnaCharan-tech/Private.git
> git --version # timeout=10
> git --version # 'git version 2.40.1'
using GIT_ASKPASS to set credentials
> git fetch --tags --force --progress -- https://github.com/KrishnaCharan-tech/Private.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 689d7b173b0639df8be5a9a658bc29d1dfa3c41a (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 689d7b173b0639df8be5a9a658bc29d1dfa3c41a # timeout=10
Commit message: "Create README.md"
> git rev-list --no-walk 689d7b173b0639df8be5a9a658bc29d1dfa3c41a # timeout=10
Finished: SUCCESS
```

```
[root@ip-172-31-19-218 workspace]# cd Private/
[root@ip-172-31-19-218 Private]# ls
README.md
[root@ip-172-31-19-218 Private]#
```

New Item

Build History

Project Relationship

Check File Fingerprint

Manage Jenkins

My Views

Build Queue

^

Build Executor Status

0/3 ▾

All

+

Add description

S	W	Name ↓	Last Success	Last Failure	Last Duration	
✓	☀	linux	14 hr #4	N/A	12 ms	▶
✓	☀	Private	8 min 51 sec #7	17 min #2	0.23 sec	▶
✓	☀	project	46 min #8	14 hr #3	0.19 sec	▶

Icon:

S

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...