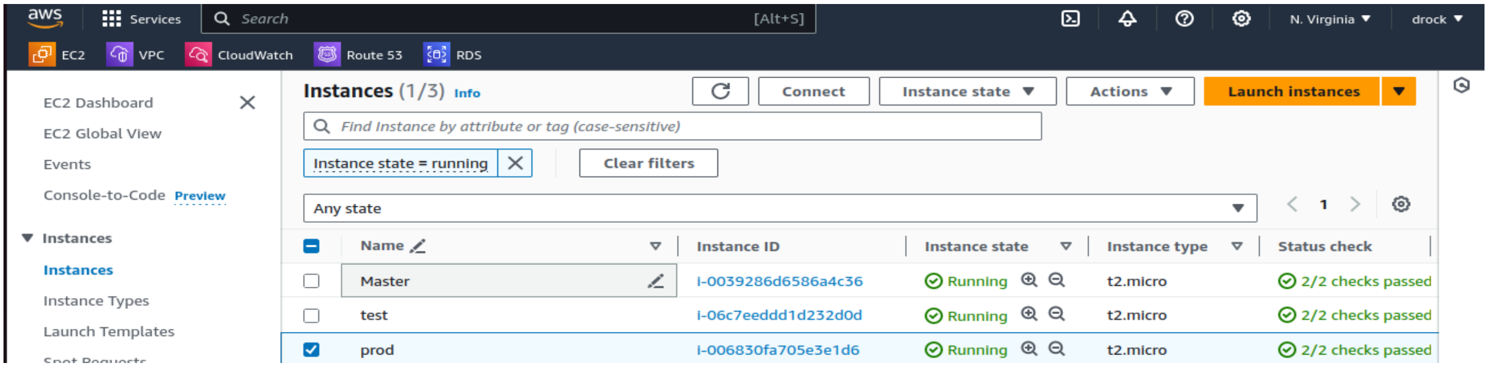
1. Add 2 nodes to Jenkins master
2. Create 2 jobs with the following jobs:
a. Push to test
b. Push to prod
3. Once a push is made to test branch, copy Git files to test server
4. Once a push is made to master branch, copy Git files to prod serve

3 Servers are created:Master, Test and Prod servers Created



Instances (1/3) Info

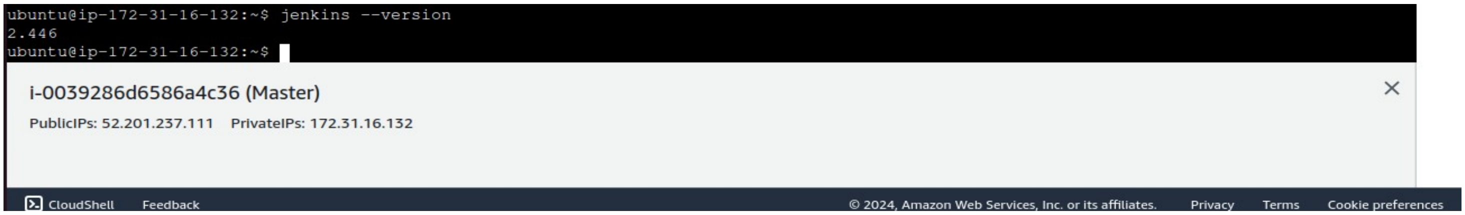
Find Instance by attribute or tag (case-sensitive)

Instance state = running

Any state

	Name	Instance ID	Instance state	Instance type	Status check
□	Master	i-0039286d6586a4c36	Running	t2.micro	2/2 checks passed
□	test	i-06c7eeddd1d232d0d	Running	t2.micro	2/2 checks passed
☑	prod	i-006830fa705e3e1d6	Running	t2.micro	2/2 checks passed

Jenkins / Java Installed

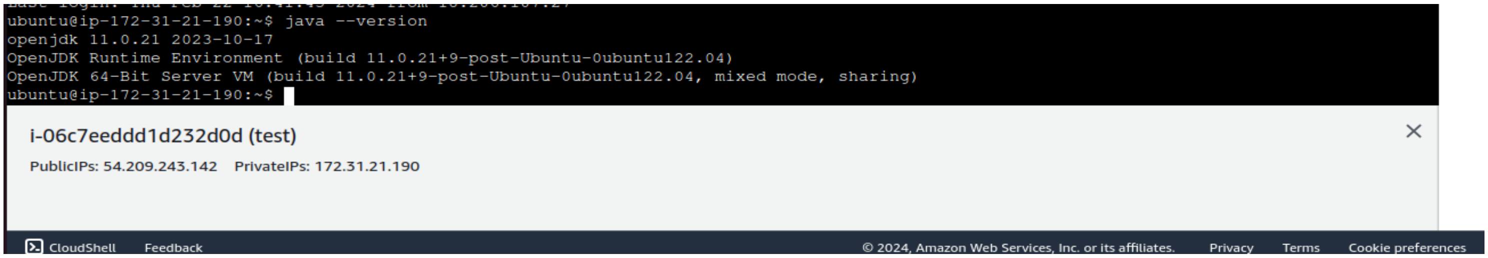


```
ubuntu@ip-172-31-16-132:~$ jenkins --version
2.446
ubuntu@ip-172-31-16-132:~$
```

i-0039286d6586a4c36 (Master)

PublicIPs: 52.201.237.111 PrivateIPs: 172.31.16.132

Java installed

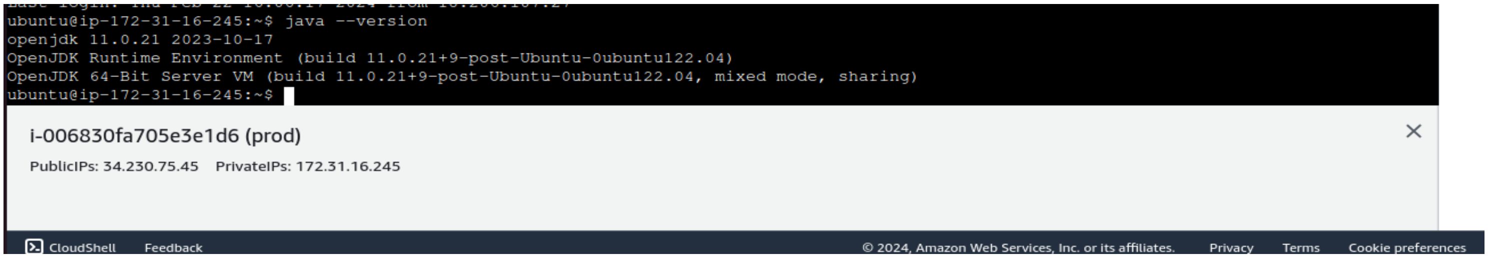


```
ubuntu@ip-172-31-21-190:~$ java --version
openjdk 11.0.21 2023-10-17
OpenJDK Runtime Environment (build 11.0.21+9-post-Ubuntu-0ubuntu122.04)
OpenJDK 64-Bit Server VM (build 11.0.21+9-post-Ubuntu-0ubuntu122.04, mixed mode, sharing)
ubuntu@ip-172-31-21-190:~$
```

i-06c7eeddd1d232d0d (test)

PublicIPs: 54.209.243.142 PrivateIPs: 172.31.21.190

Java Installed

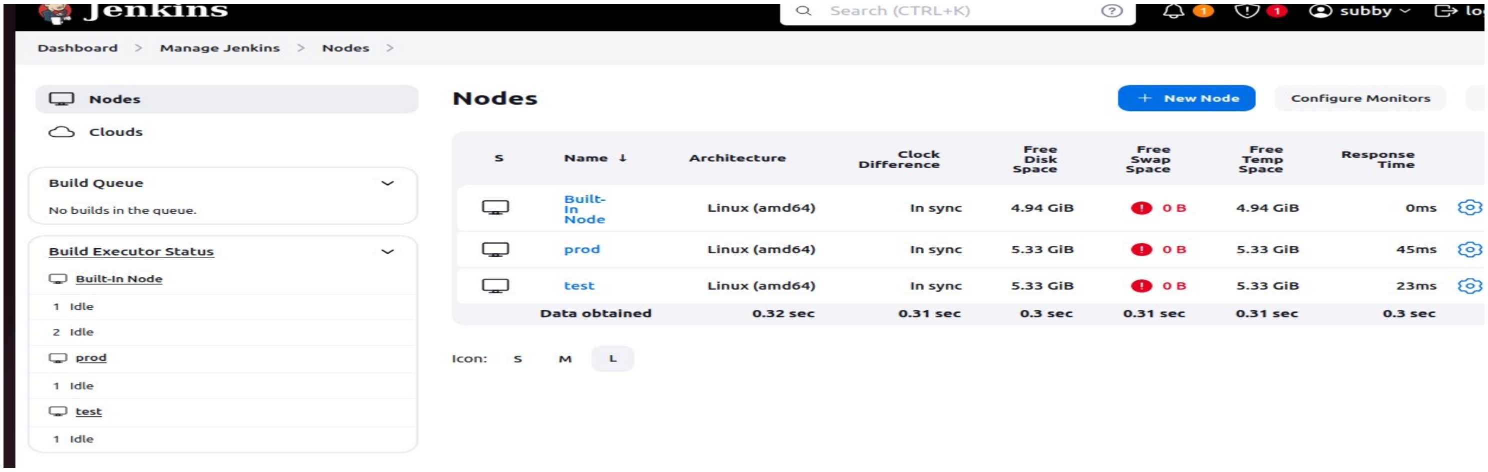


```
ubuntu@ip-172-31-16-245:~$ java --version
openjdk 11.0.21 2023-10-17
OpenJDK Runtime Environment (build 11.0.21+9-post-Ubuntu-0ubuntu122.04)
OpenJDK 64-Bit Server VM (build 11.0.21+9-post-Ubuntu-0ubuntu122.04, mixed mode, sharing)
ubuntu@ip-172-31-16-245:~$
```

i-006830fa705e3e1d6 (prod)

PublicIPs: 34.230.75.45 PrivateIPs: 172.31.16.245

2Nodes: job and prod nodes created



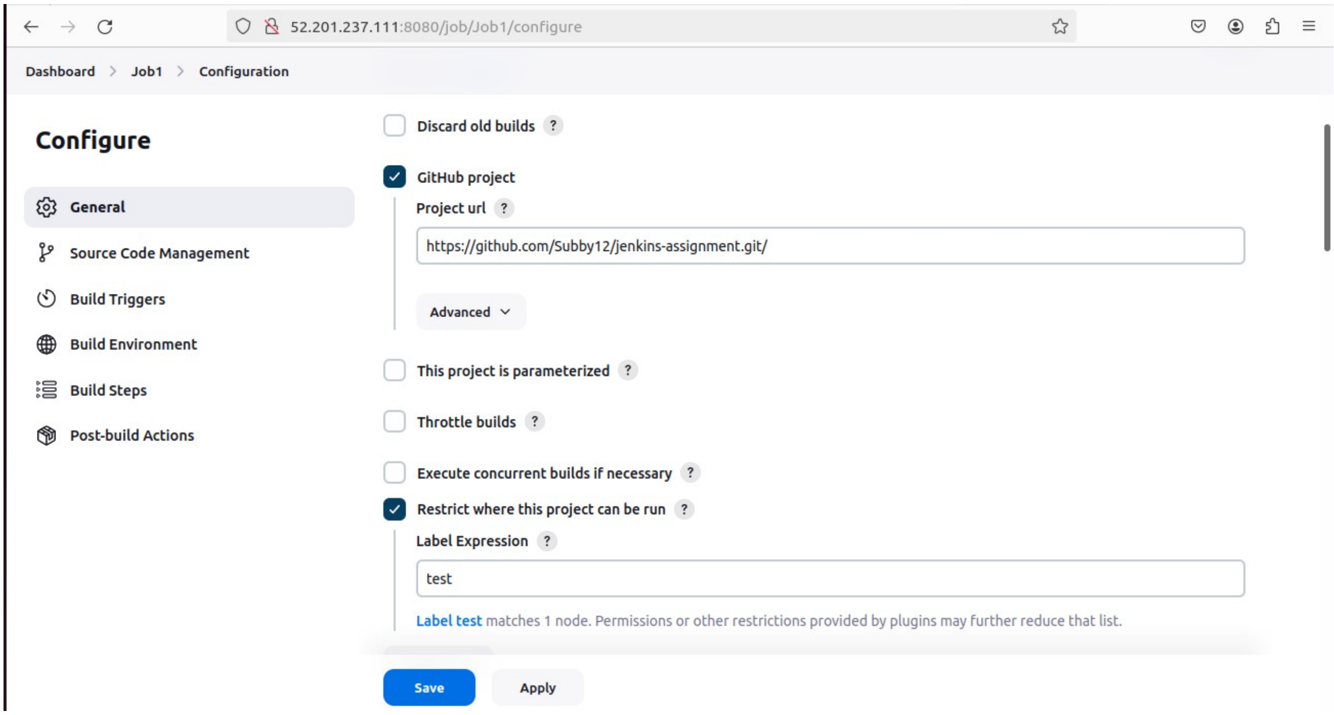
No builds in the queue.

Built-In Node
1 Idle
2 Idle
prod
1 Idle
test
1 Idle

Nodes

S	Name ↓	Architecture	Clock Difference	Free Disk Space	Free Swap Space	Free Temp Space	Response Time
	Built-In Node	Linux (amd64)	In sync	4.94 GiB	0 B	4.94 GiB	0ms
	prod	Linux (amd64)	In sync	5.33 GiB	0 B	5.33 GiB	45ms
	test	Linux (amd64)	In sync	5.33 GiB	0 B	5.33 GiB	23ms
	Data obtained	0.32 sec	0.31 sec	0.3 sec	0.31 sec	0.31 sec	0.3 sec

2. Create 2 jobs with the following jobs:
a. Push to test



□ Discard old builds ?

☑ GitHub project

Project url ?

https://github.com/Subby12/jenkins-assignment.git/

□ This project is parameterized ?

□ Throttle builds ?

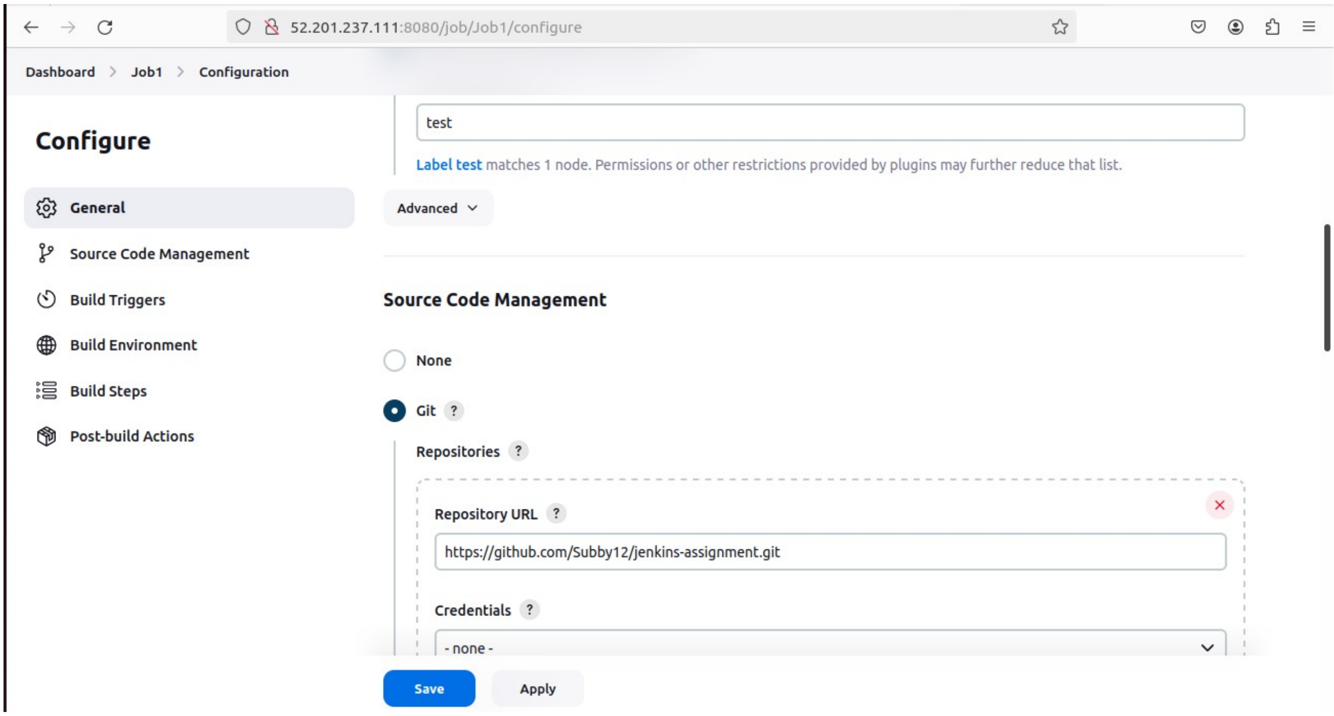
□ Execute concurrent builds if necessary ?

☑ Restrict where this project can be run ?

Label Expression ?

test

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



test

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

Source Code Management

○ None

● Git

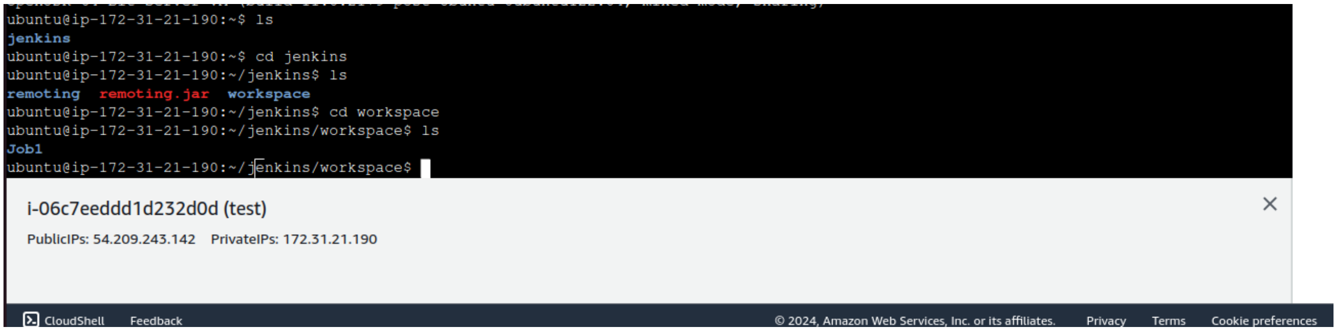
Repositories

Repository URL: https://github.com/Subby12/jenkins-assignment.git

Credentials: - none -

Apply and Save
Build Now

Inside test Server

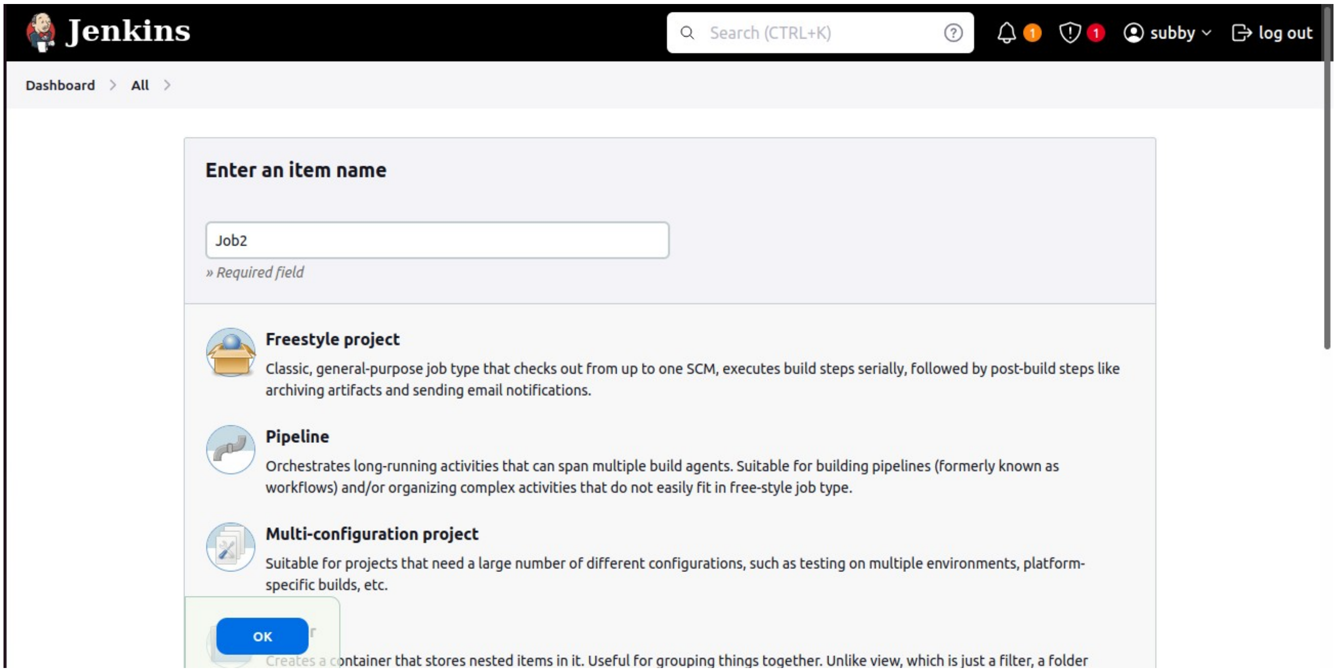


```
ubuntu@ip-172-31-21-190:~$ ls
jenkins
ubuntu@ip-172-31-21-190:~$ cd jenkins
ubuntu@ip-172-31-21-190:~/jenkins$ ls
remoting  remoting.jar  workspace
ubuntu@ip-172-31-21-190:~/jenkins$ cd workspace
ubuntu@ip-172-31-21-190:~/jenkins/workspace$ ls
Job1
ubuntu@ip-172-31-21-190:~/jenkins/workspace$
```

i-06c7eeddd1d232d0d (test)

PublicIPs: 54.209.243.142 PrivateIPs: 172.31.21.190

JOB2 CREATE
Push to prod
Once a push is made to master branch, copy Git files to prod serve



Enter an item name

Job2

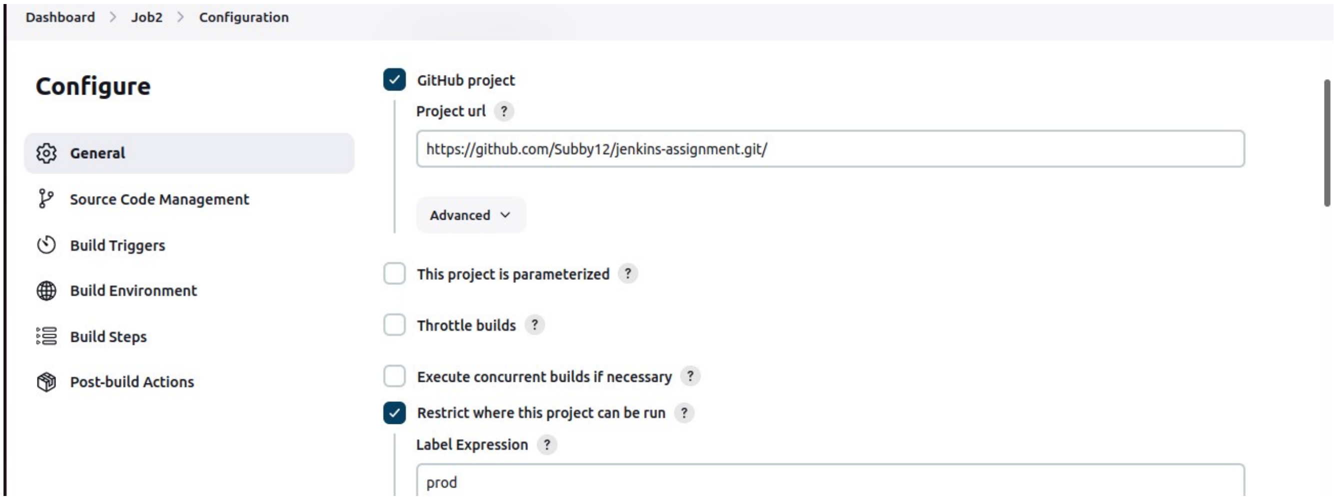
» Required field

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

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.

Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder



☑ GitHub project

Project url ?

https://github.com/Subby12/jenkins-assignment.git/

□ This project is parameterized ?

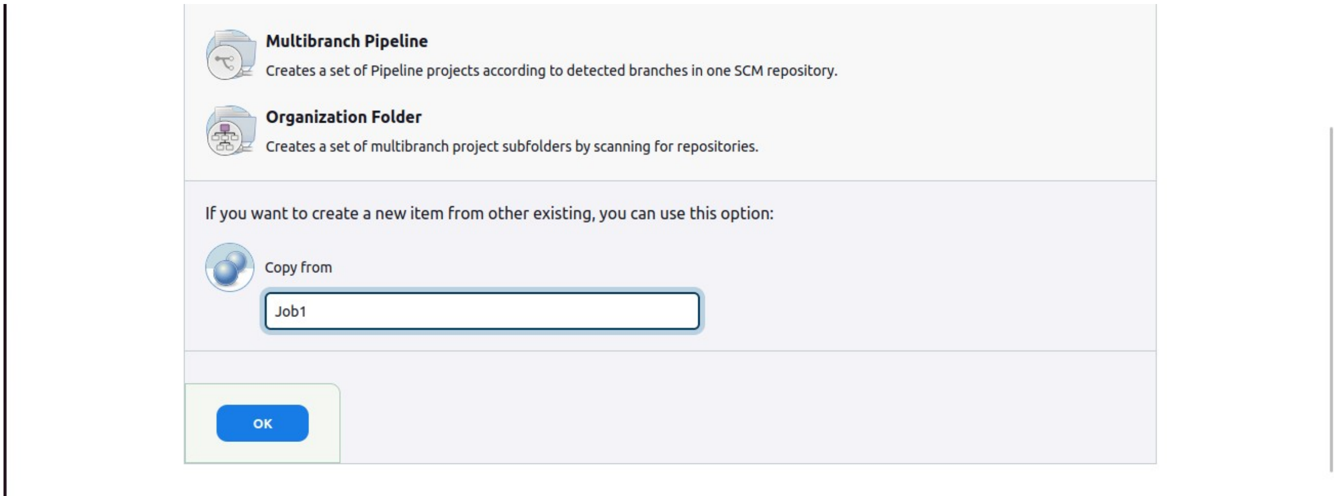
□ Throttle builds ?

□ Execute concurrent builds if necessary ?

☑ Restrict where this project can be run ?

Label Expression ?

prod

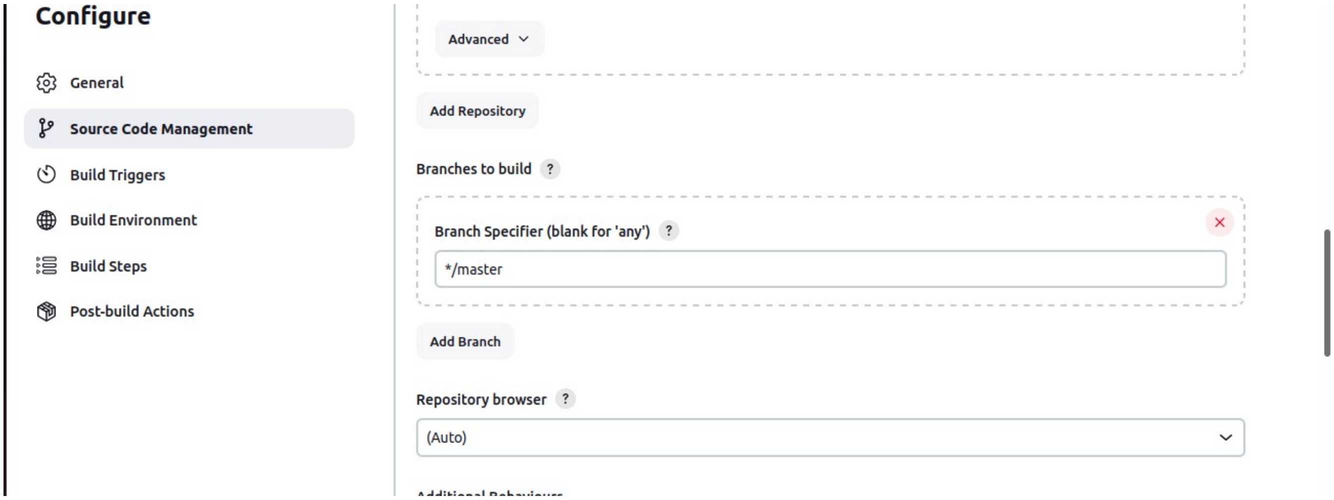

Multibranch Pipeline
Creates a set of Pipeline projects according to detected branches in one SCM repository.

Organization Folder
Creates a set of multibranch project subfolders by scanning for repositories.

If you want to create a new item from other existing, you can use this option:

Copy from

Job1



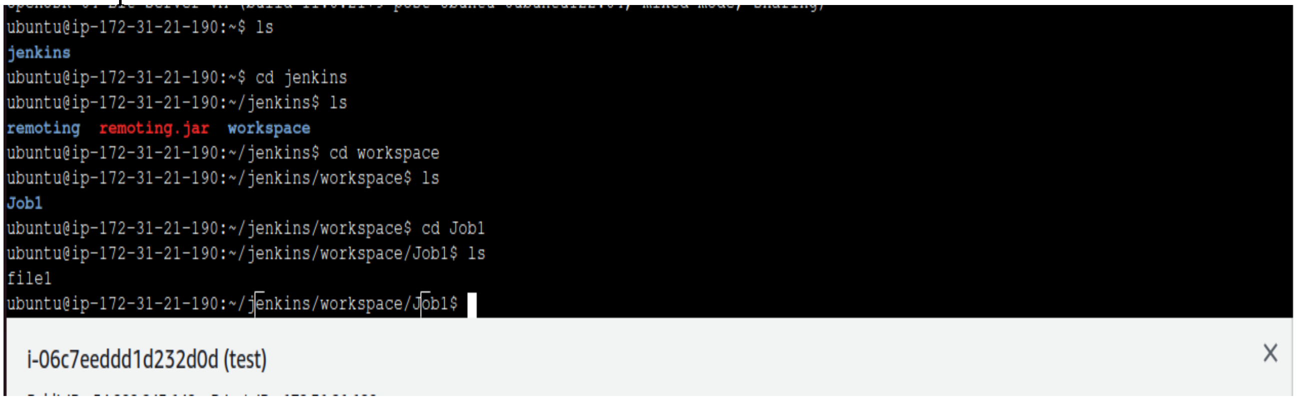
Branches to build

Branch Specifier (blank for 'any'): */master

Repository browser: (Auto)

apply and save
Build Now

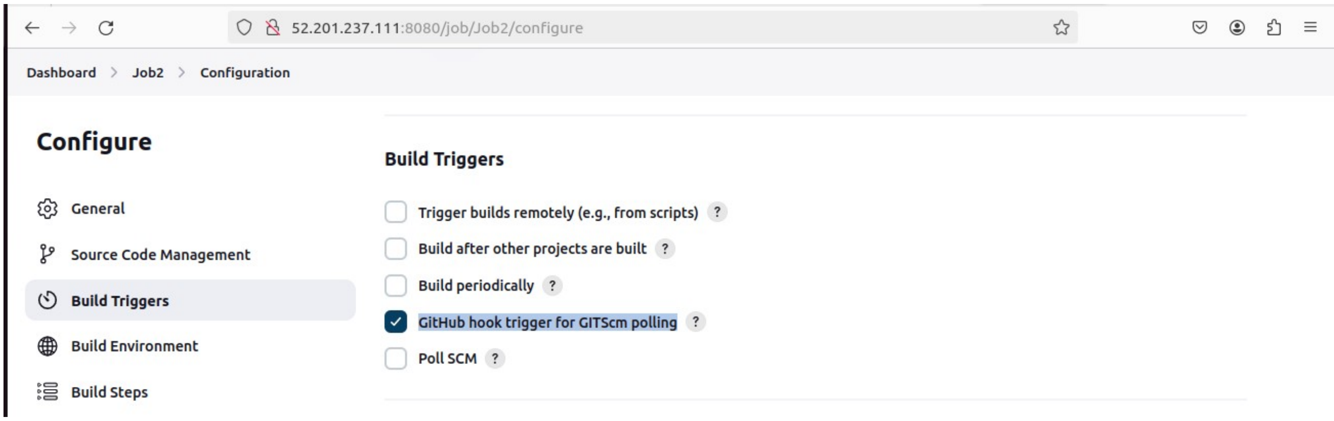
INSIDE prod server:



```
ubuntu@ip-172-31-21-190:~$ ls
jenkins
ubuntu@ip-172-31-21-190:~$ cd jenkins
ubuntu@ip-172-31-21-190:~/jenkins$ ls
remoting  remoting.jar  workspace
ubuntu@ip-172-31-21-190:~/jenkins$ cd workspace
ubuntu@ip-172-31-21-190:~/jenkins/workspace$ ls
Job1
ubuntu@ip-172-31-21-190:~/jenkins/workspace$ cd Job1
ubuntu@ip-172-31-21-190:~/jenkins/workspace/Job1$ ls
file1
ubuntu@ip-172-31-21-190:~/jenkins/workspace/Job1$
```

TO AUTOMATE BUILD IN JENKINS, ONCE THERE IS COMMIT IN GIT

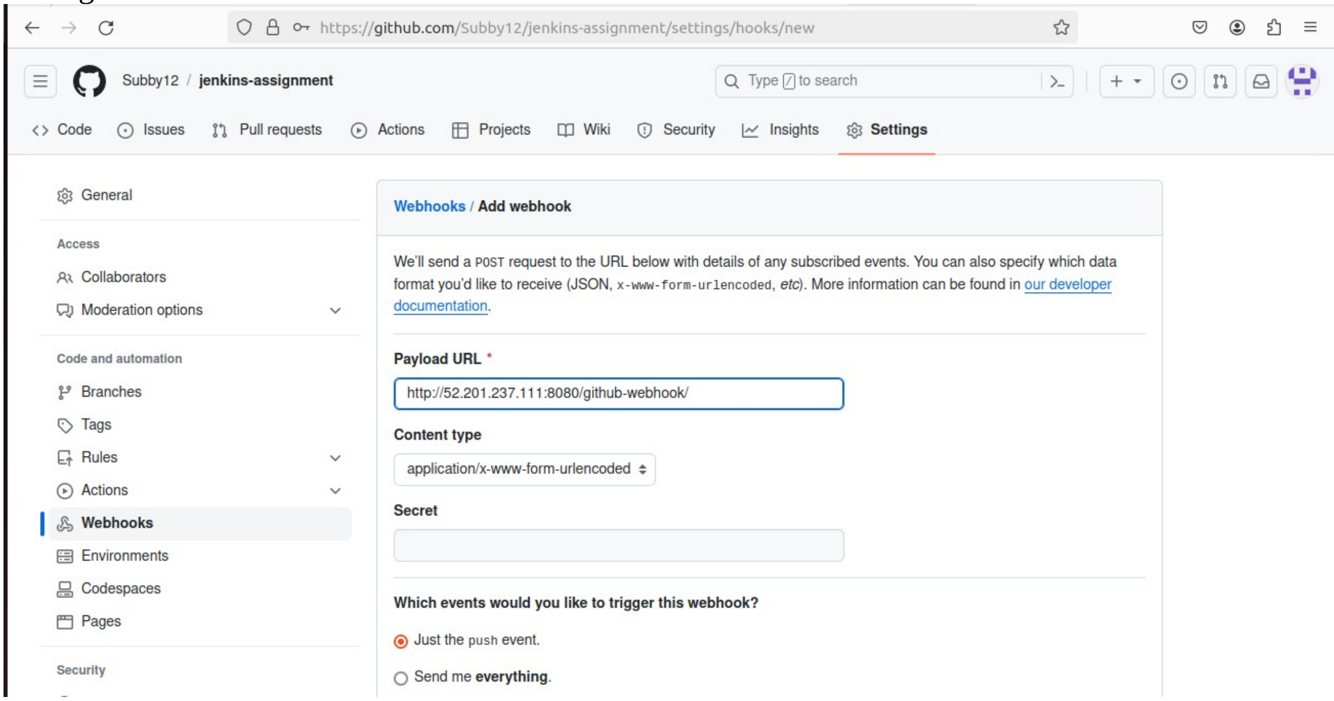
BUILD TRIGGER
pick option: GitHub hook trigger for GITScm polling


52.201.237.111:8080/job/Job2/configure

Build Triggers

□ Trigger builds remotely (e.g., from scripts) ?
□ Build after other projects are built ?
□ Build periodically ?
☑ GitHub hook trigger for GITScm polling ?
□ Poll SCM ?

Go to Github
Settings > webhooks > add webhook


https://github.com/Subby12/jenkins-assignment/settings/hooks/new

Webhooks / Add webhook

We'll send a POST request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (JSON, x-www-form-urlencoded, *etc*). More information can be found in our developer documentation.

Payload URL *

http://52.201.237.111:8080/github-webhook/

Content type

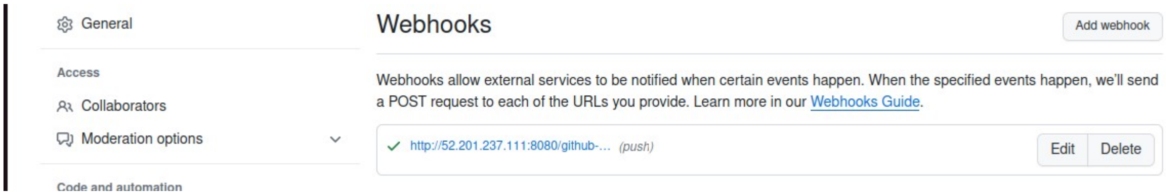
application/x-www-form-urlencoded

Secret

Which events would you like to trigger this webhook?

● Just the push event.

○ Send me **everything**.

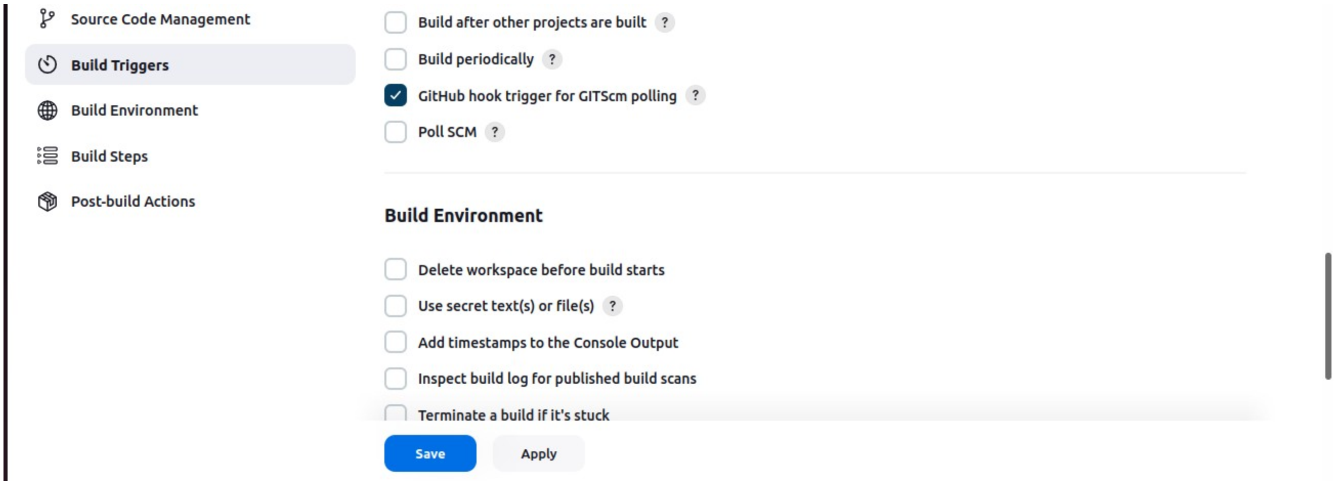


Webhooks

Webhooks allow external services to be notified when certain events happen. When the specified events happen, we'll send a POST request to each of the URLs you provide. Learn more in our Webhooks Guide.

✓ http://52.201.237.111:8080/github-... (push)

successfully added.



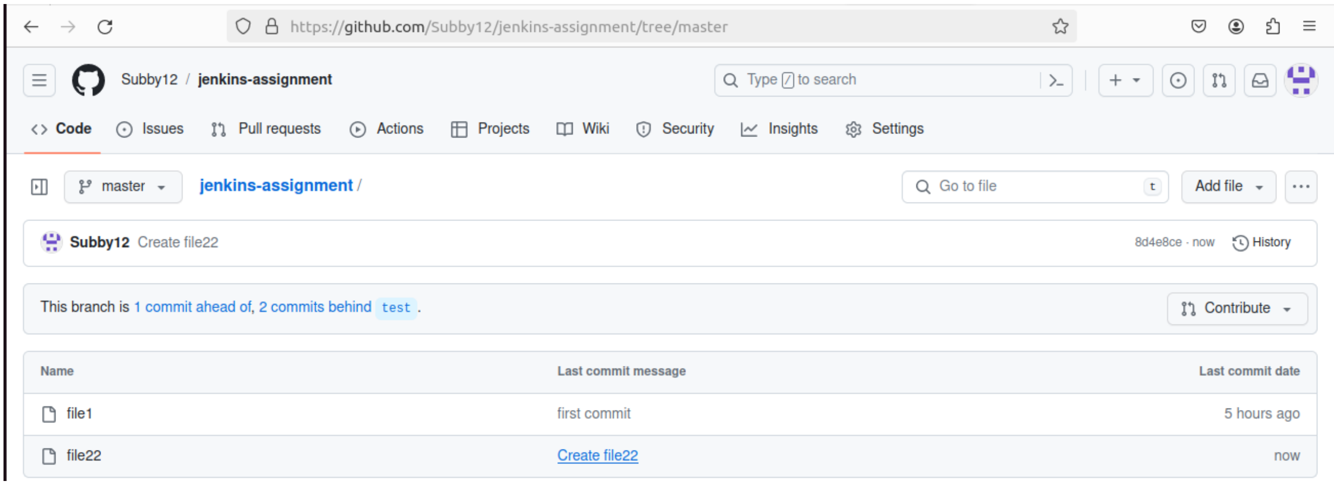
□ Build after other projects are built ?
□ Build periodically ?
☑ GitHub hook trigger for GITScm polling ?
□ Poll SCM ?

Build Environment

□ Delete workspace before build starts
□ Use secret text(s) or file(s) ?
□ Add timestamps to the Console Output
□ Inspect build log for published build scans
□ Terminate a build if it's stuck

SAVE AND APPLY

On Github :
If I add file : say file 22 manually in master branch

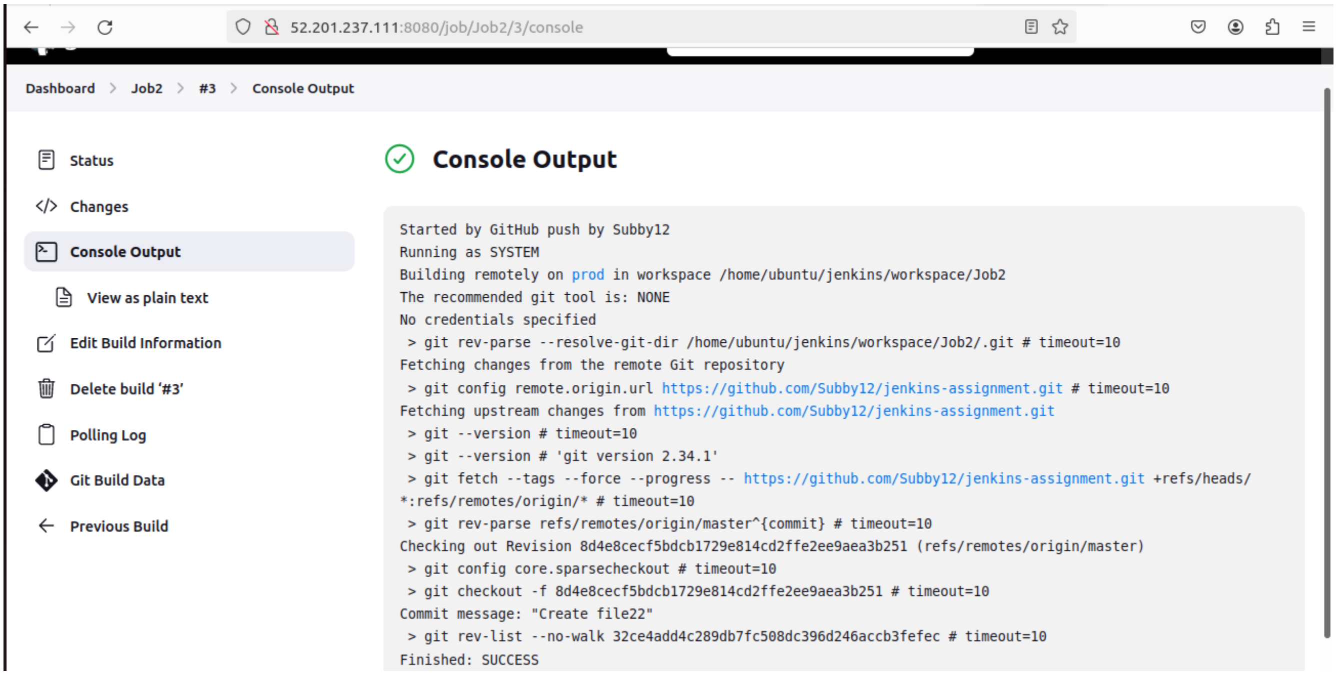


Subby12 Create file22 8d4e8ce · now

This branch is 1 commit ahead of, 2 commits behind `test` .

Name	Last commit message	Last commit date
file1	first commit	5 hours ago
file22	Create file22	now

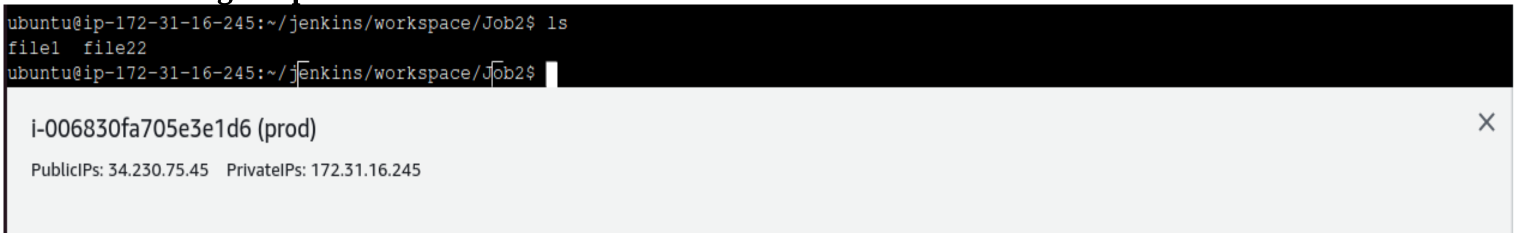
The committed change will automatically build in Jenkins:



Console Output

```
Started by GitHub push by Subby12
Running as SYSTEM
Building remotely on prod in workspace /home/ubuntu/jenkins/workspace/Job2
The recommended git tool is: NONE
No credentials specified
 > git rev-parse --resolve-git-dir /home/ubuntu/jenkins/workspace/Job2/.git # timeout=10
Fetching changes from the remote Git repository
 > git config remote.origin.url https://github.com/Subby12/jenkins-assignment.git # timeout=10
Fetching upstream changes from https://github.com/Subby12/jenkins-assignment.git
 > git --version # timeout=10
 > git --version # 'git version 2.34.1'
 > git fetch --tags --force --progress -- https://github.com/Subby12/jenkins-assignment.git +refs/heads/
*:refs/remotes/origin/* # timeout=10
 > git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision 8d4e8cecf5bdcb1729e814cd2ffe2ee9aea3b251 (refs/remotes/origin/master)
 > git config core.sparsecheckout # timeout=10
 > git checkout -f 8d4e8cecf5bdcb1729e814cd2ffe2ee9aea3b251 # timeout=10
Commit message: "Create file22"
 > git rev-list --no-walk 32ce4add4c289db7fc508dc396d246accb3fefec # timeout=10
Finished: SUCCESS
```

Cheking the prod server: file22 is added here also



```
ubuntu@ip-172-31-16-245:~/jenkins/workspace/Job2$ ls
file1  file22
ubuntu@ip-172-31-16-245:~/jenkins/workspace/Job2$
```

i-006830fa705e3e1d6 (prod)

PublicIPs: 34.230.75.45   PrivateIPs: 172.31.16.245