

## Jenkins

### 1) Configure 2 slave machines in jenkins master.

Login to slave machine

Install java (amazon-linux-extras install  
java-openjdk11)

Create ssh-keygen

Cd .ssh/

Cat id\_rsa.pub > authorized\_keys

Chmod 700 authorized\_keys

```
l . -B+ !
+----[SHA256]-----+
[ec2-user@ip-172-31-83-191 ~]$ cd .ssh/
[ec2-user@ip-172-31-83-191 .ssh]$ ls
authorized_keys  id_rsa  id_rsa.pub
[ec2-user@ip-172-31-83-191 .ssh]$ cat id_rsa.pub > authorized_keys
[ec2-user@ip-172-31-83-191 .ssh]$ ls
authorized_keys  id_rsa  id_rsa.pub
[ec2-user@ip-172-31-83-191 .ssh]$ ll
total 12
-rw-r--r-- 1 ec2-user ec2-user 420 Nov 28 11:30 authorized_keys
-rw-r--r-- 1 ec2-user ec2-user 1679 Nov 28 11:28 id_rsa
-rw-r--r-- 1 ec2-user ec2-user 420 Nov 28 11:28 id_rsa.pub
[ec2-user@ip-172-31-83-191 .ssh]$ chmod 700 authorized_keys
[ec2-user@ip-172-31-83-191 .ssh]$ ll
total 12
-rwx-r--r-- 1 ec2-user ec2-user 420 Nov 28 11:30 authorized_keys
-rw-r--r-- 1 ec2-user ec2-user 1679 Nov 28 11:28 id_rsa
-rw-r--r-- 1 ec2-user ec2-user 420 Nov 28 11:28 id_rsa.pub
[ec2-user@ip-172-31-83-191 .ssh]$
```

Login to master machine

mkdir -p /var/lib/jenkins/.ssh

cd /var/lib/jenkins/.ssh

ssh-keyscan -H <slave-Node-IP> >> /var/lib/jenkins/.ssh/known\_hosts

The screenshot displays the Jenkins web interface. On the left, a sidebar contains navigation links: 'New Item', 'Build History', 'Project Relationship', 'Check File Fingerprint', 'Manage Jenkins', and 'My Views'. The main area shows a 'Build Queue' table with three entries: 'linux', 'Private', and 'project'. Each entry has status icons (green checkmark, yellow sun, green checkmark) and a duration. Below the table, the 'Build Executor Status' shows '0/3' executors. The bottom section shows the 'Console Output' for a build, detailing the process of cloning a repository, fetching changes, and checking out a revision. The output includes commands like 'git init', 'git fetch', 'git config', and 'git rev-parse'.

S	W	Name	Last Success	Last Failure	Last Duration
✓	☀	linux	1 day 18 hr #4	N/A	12 ms
✓	☀	Private	1 day 3 hr #7	1 day 3 hr #2	0.23 sec
✓	☀	project	1 day 4 hr #8	1 day 17 hr #3	0.19 sec

Build Queue: 0/3

Build Executor Status: 0/3

Console Output:

```
Started by user Rakeshsheelam
Running as SYSTEM
Building remotely on slave2 (java) in workspace /home/ec2-user/slave2/workspace/javajob
The recommended git tool is: NONE
No credentials specified
Cloning the remote Git repository
Cloning repository https://github.com/Rakeshsheelam/Techie_Horizon-task.git
> git init /home/ec2-user/slave2/workspace/javajob # timeout=10
Fetching upstream changes from https://github.com/Rakeshsheelam/Techie_Horizon-task.git
> git --version # timeout=10
> git fetch --tags --force --progress -- https://github.com/Rakeshsheelam/Techie_Horizon-task.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> git config remote.origin.url https://github.com/Rakeshsheelam/Techie_Horizon-task.git # timeout=10
> git config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10
Avoid second fetch
> git rev-parse refs/remotes/origin/master^{commit} # timeout=10
Checking out Revision e7a137f0358c8793d877fddc0565d90e51730b2c (refs/remotes/origin/master)
> git config core.sparsecheckout # timeout=10
```

```

[root@ip-168-0-0-25 .ssh]# ls
authorized_keys  id_rsa  id_rsa.pub
[root@ip-168-0-0-25 .ssh]# chmod 700 authorized_keys
[root@ip-168-0-0-25 .ssh]# exit
logout
[ec2-user@ip-168-0-0-25 ~]$ ls
[ec2-user@ip-168-0-0-25 ~]$ mkdir slave2
[ec2-user@ip-168-0-0-25 ~]$ ls
slave2
[ec2-user@ip-168-0-0-25 ~]$ cd slave2/
[ec2-user@ip-168-0-0-25 slave2]$ pwd
/home/ec2-user/slave2
[ec2-user@ip-168-0-0-25 slave2]$ ls
remoting  remoting.jar  workspace
[ec2-user@ip-168-0-0-25 slave2]$ cd workspace/
[ec2-user@ip-168-0-0-25 workspace]$ ls
javajob
[ec2-user@ip-168-0-0-25 workspace]$ cd javajob/
[ec2-user@ip-168-0-0-25 javajob]$ ls
All bash script.docx      clouddtask 2.docx      Git and github task 1.docx  VPC peering task1.docx
ALL Linux command practice1.docx  clouddtask.docx      Git&github final task.docx  web and apps server creation task.docx
bash scripting task 3.docx      Endpoint and Transit Task1.docx  task day 3.docx
basic bash scripting 1.docx      files.text           task day 4.docx
[ec2-user@ip-168-0-0-25 javajob]$

```

i-09b478c7b7a82e3ff (slave2)

PublicIPs: 3.27.123.184 PrivateIPs: 168.0.0.25

## 2) Configure webhooks to jenkins job.

The screenshot shows the GitHub repository settings for 'KrishnaCharan-tech / T\_H\_Login\_app'. The 'Webhooks' tab is selected, showing a single webhook configuration. The webhook URL is 'http://34.230.78.66:8081/github-we...' (push) and it is marked as 'Last delivery was successful'. The left sidebar shows the repository structure with 'Webhooks' highlighted.

The screenshot shows the Jenkins build #1 (Nov 28, 2024, 10:02:34 AM) for the 'First\_Job' project. The build status is 'Success' (green checkmark). The build log shows the following steps:

- Started by user Rakeshsheelam
- This run spent:
  - 72 ms waiting:
  - 7.8 sec build duration:
  - 7.9 sec total from scheduled to completion.
- Revision: 74661f2ae6b243574666f049a287f008532b8e9
- Repository: [https://github.com/Rakeshsheelam/Techie\\_Horizon-task.git](https://github.com/Rakeshsheelam/Techie_Horizon-task.git)
  - refs/remotes/origin/master
- No changes.

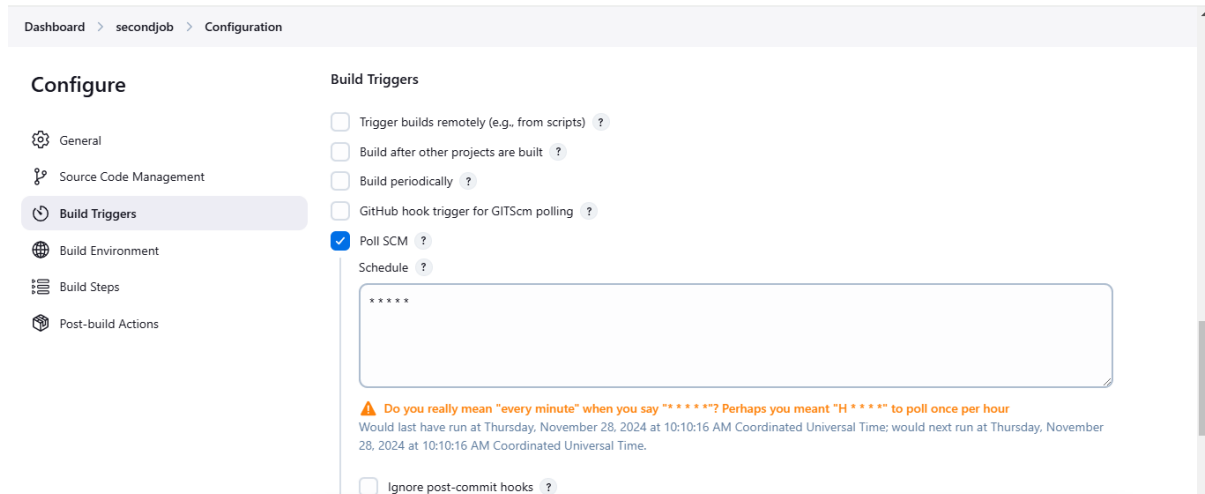
```

[ec2-user@ip-168-0-0-27 ~]$ ls
[ec2-user@ip-168-0-0-27 ~]$ cd /var/lib/
[ec2-user@ip-168-0-0-27 lib]$ ls
alternatives  authconfig  cloud  dhclient  gssproxy  initramfs  logrotate  misc  nfs  plymouth  rpcbind  rpm-state  stateless  update-motd  yum
amazon  chrony  dbus  games  hibinit-agent  jenkins  machines  mlocate  os-prober  postfix  rpm  rsyslog  system  xfsdump
[ec2-user@ip-168-0-0-27 lib]$ cd jenkins/
[ec2-user@ip-168-0-0-27 jenkins]$ ls
%C      hudson.plugins.git.GitTool.xml      jenkins.install.UpgradeWizard.state      jobs      plugins      secret.key.not-so-secret      userContent
config.xml      identity.key.enc      jenkins.model.JenkinsLocationConfiguration.xml      logs      queue.xml      secrets      users
[ec2-user@ip-168-0-0-27 jenkins]$ cd workspace/
[ec2-user@ip-168-0-0-27 workspace]$ ls
First_Job
[ec2-user@ip-168-0-0-27 workspace]$ cd First_Job/
[ec2-user@ip-168-0-0-27 First_Job]$ ls
All bash script.docx      Basic bash scripting 1.docx      Endpoint and Transit Task1.docx      Git&github final task.docx      VPC peering task1.docx
ALL Linux command practice1.docx  clouddtask 2.docx      files.text      Git and github task 1.docx      task day 3.docx      web and apps server creation task.docx
bash scripting task 3.docx      clouddtask.docx      Git and github task 1.docx      task day 4.docx
[ec2-user@ip-168-0-0-27 First_Job]$

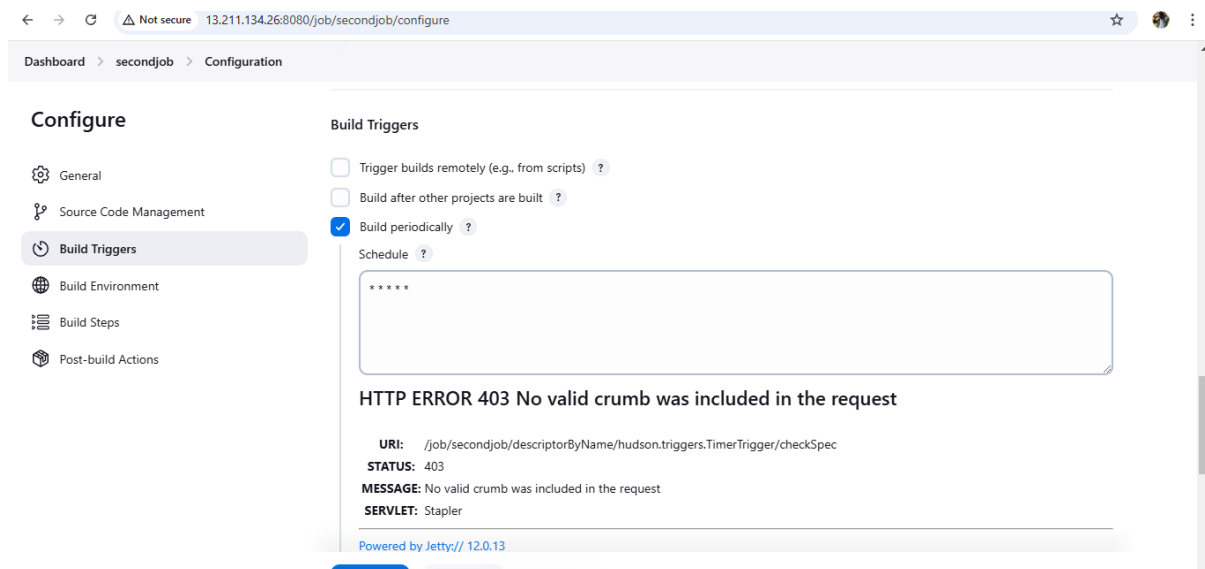
```

### 3) Configure poll scm and build periodical options in jenkins job.

Poll scm:



build periodical:



### 4) Take backup of jenkins server by using bash script

```
root@ip-168-0-0-27:~/script
#!/bin/bash
# Jenkins home directory
JENKINS_HOME="/var/lib/jenkins"
# Backup directory
BACKUP_DIR="/root/backup_jenkins"

# Get the current date and time for the backup file name
CURRENT_DATE=$(date +"%Y-%m-%d_%H-%M-%S")
# Backup file name
BACKUP_FILE="jenkins_backup_${CURRENT_DATE}.tar.gz"
# Create a backup
tar -czvf "$BACKUP_DIR/$BACKUP_FILE" -C "$JENKINS_HOME" .
# Print a message
echo "Backup completed: $BACKUP_DIR/$BACKUP_FILE"
```

```

./credentials.xml
./nodes/
./nodes/slave1/
./nodes/slave1/config.xml
./nodes/slave2/
./nodes/slave2/config.xml
./fingerprints/
./fingerprints/21/
./fingerprints/21/9a/
./fingerprints/21/9a/6b975d982a8a7aa8276f7725c8e6.xml
./queue.xml.bak
./queue.xml
Backup completed: /root/backup_jenkins/jenkins_backup_2024-11-28_12-38-16.tar.gz
[root@ip-168-0-0-27 script]# cd ..
[root@ip-168-0-0-27 ~]# ls
backup_jenkins  script
[root@ip-168-0-0-27 ~]# cd backup_jenkins/
[root@ip-168-0-0-27 backup_jenkins]# ls
jenkins_backup_2024-11-28_12-38-16.tar.gz
[root@ip-168-0-0-27 backup_jenkins]#

```

```

./fingerprints/21/
./fingerprints/21/9a/
./fingerprints/21/9a/6b975d982a8a7aa8276f7725c8e6.xml
./queue.xml.bak
./queue.xml
[root@ip-168-0-0-27 backup_jenkins]# ls
WC          hudson.model.UpdateCenter.xml      jenkins.install.InstallUtil.lastExecVersion  jobs          plug
config.xml   hudson.plugins.git.GitTool.xml      jenkins.install.UpgradeWizard.state         Logs          queue
credentials.xml identity.key.enc                    jenkins.model.JenkinsLocationConfiguration.xml nodeMonitors.xml queue
fingerprints jenkins_backup_2024-11-28_12-38-16.tar.gz jenkins.telemetry.Correlator.xml             nodes         secre
[root@ip-168-0-0-27 backup_jenkins]#

```

## 5) Take backup of jenkins using rethin backup plugin.

```

jenkins.install.InstallUtil.lastExecVersion      userContent
jenkins.install.UpgradeWizard.state              users
jenkins.metrics.api.MetricsAccessKey.xml          workspace
jenkins.model.ArtifactManagerConfiguration.xml
[root@ip-168-0-0-27 jenkins]# cd backup_thin/
[root@ip-168-0-0-27 backup_thin]# ls
FULL-2024-11-28_14-54
[root@ip-168-0-0-27 backup_thin]# cd FULL-2024-11-28_14-54/
[root@ip-168-0-0-27 FULL-2024-11-28_14-54]# ls
backup-completed.info
com.cloudbees.hudson.plugins.folder.config.AbstractFolderConfiguration.xml
config.xml
credentials.xml
github-plugin-configuration.xml
jenkins.model.UpdateCenter.xml
jenkins.plugins.build_timeout.global.GlobalTimeoutConfiguration.xml
jenkins.plugins.build_timeout.operations.BuildStepOperation.xml
jenkins.plugins.emailtext.ExtendedEmailPublisher.xml
jenkins.plugins.git.GitSCM.xml
jenkins.plugins.git.GitTool.xml
jenkins.plugins.gradle.enriched.EnrichedSummaryConfig.xml
jenkins.plugins.gradle.injection.InjectionConfig.xml
jenkins.plugins.timestamp.TimestampConfig.xml
jenkins.tasks.Mailer.xml
jenkins.tasks.Shell.xml
jenkins.triggers.SCMTrigger.xml
installedPlugins.xml
io.jenkins.plugins.junit.storage.JUnit4TestResultStorageConfiguration.xml
[root@ip-168-0-0-27 FULL-2024-11-28_14-54]#
jenkins.fingerprints.GlobalFingerprintConfiguration.xml
jenkins.metrics.api.MetricsAccessKey.xml
jenkins.model.ArtifactManagerConfiguration.xml
jenkins.model.GlobalBuildDiscarderConfiguration.xml
jenkins.model.GlobalComputerRetentionCheckIntervalConfiguration.xml
jenkins.model.JenkinsLocationConfiguration.xml
jenkins.security.ResourceDomainConfiguration.xml
jenkins.tasks.filters.EnvVarsFilterGlobalConfiguration.xml
jenkins.telemetry.Correlator.xml
jobs
nodeMonitors.xml
nodes
org.jenkinsci.plugins.displayurlapi.DefaultDisplayURLProviderGlobalConfiguration.xml
org.jenkinsci.plugins.github_branch_source.GitHubConfiguration.xml
org.jenkinsci.plugins.workflow.flow.GlobalDefaultFlowDurabilityLevel.xml
org.jenkinsci.plugins.workflow.libs.GlobalLibraries.xml
org.jenkinsci.plugins.workflow.libs.GlobalUntrustedLibraries.xml
org.jvnet.hudson.plugins.thinbackup.ThinBackupPluginImpl.xml
users

```

## 6) Setup a new jenkins server and dump the backup taken in task4.

```

credentials.xml
fingerprints
github-plugin-configuration.xml
jenkins.model.UpdateCenter.xml
jenkins.plugins.build_timeout.global.GlobalTimeoutConfiguration.xml
jenkins.plugins.build_timeout.operations.BuildStepOperation.xml
jenkins.plugins.emailtext.ExtendedEmailPublisher.xml
jenkins.plugins.git.GitSCM.xml
jenkins.plugins.git.GitTool.xml
jenkins.plugins.gradle.enriched.EnrichedSummaryConfig.xml
jenkins.plugins.gradle.injection.InjectionConfig.xml
jenkins.plugins.timestamp.TimestampConfig.xml
jenkins.tasks.Mailer.xml
jenkins.tasks.Shell.xml
jenkins.triggers.SCMTrigger.xml
identity.key.enc
io.jenkins.plugins.junit.storage.JUnit4TestResultStorageConfiguration.xml
jenkins_backup_2024-11-28_15-00-26.tar.gz
jenkins.fingerprints.GlobalFingerprintConfiguration.xml
jenkins.install.InstallUtil.lastExecVersion
jenkins.install.UpgradeWizard.state
jenkins.metrics.api.MetricsAccessKey.xml
jenkins.model.ArtifactManagerConfiguration.xml
[root@ip-168-0-0-27 backup]# scp -i sheelamhello.pem jenkins_backup_2024-11-28_15-00-26.tar.gz ec2-user@52.65.49.240:/tmp
The authenticity of host '52.65.49.240 (52.65.49.240)' can't be established.
ECDSA key fingerprint is SHA256:y9mtmCi8wmp8KepyY0wiSR1xmwhRRXPDS3r8eu0.
ECDSA key fingerprint is MD5:f8:39:32:b6:1e:el:86:49:32:c7:49:c8:64:bc:26:56.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '52.65.49.240' (ECDSA) to the list of known hosts.
jenkins_backup_2024-11-28_15-00-26.tar.gz
[root@ip-168-0-0-27 backup]#
jenkins.tasks.filters.EnvVarsFilterGlobalConfiguration.xml
jenkins.telemetry.Correlator.xml
jobs
Logs
nodeMonitors.xml
nodes
org.jenkinsci.plugins.displayurlapi.DefaultDisplayURLProviderGlobalConfiguration
org.jenkinsci.plugins.github_branch_source.GitHubConfiguration.xml
org.jenkinsci.plugins.workflow.flow.GlobalDefaultFlowDurabilityLevel.xml
org.jenkinsci.plugins.workflow.libs.GlobalLibraries.xml
org.jenkinsci.plugins.workflow.libs.GlobalUntrustedLibraries.xml
org.jvnet.hudson.plugins.thinbackup.ThinBackupPluginImpl.xml
plugins
queue.xml.bak
secret.key
secret.key.not-so-secret
secrets
sheelamhello.pem
updates
userContent
users
workspace

```

```
jenkins.tasks.filters.EnvironmentFilterGlobalConfiguration.xml
jenkins.telemetry.Correlator.xml
jobs
logs
nodeMonitors.xml
nodes
org.jenkinsci.plugins.displayurlapi.DefaultDisplayURLProviderGlobalConfiguration.xml
org.jenkinsci.plugins.github_branch_source.GitHubConfiguration.xml
org.jenkinsci.plugins.workflow.flow.GlobalDefaultFlowDurabilityLevel.xml
org.jenkinsci.plugins.workflow.libs.GlobalLibraries.xml
org.jenkinsci.plugins.workflow.libs.GlobalUntrustedLibraries.xml
org.jvnet.hudson.plugins.thinbackup.ThinBackupPluginImpl.xml
plugins
queue.xml.bak
secret.key
secret.key.not-so-secret
secrets
updates
userContent
users
workspace
[root@ip-168-0-0-21 jenkins]# cd ..
[root@ip-168-0-0-21 lib]# systemctl restart jenkins
[root@ip-168-0-0-21 lib]#
```