

# Jenkins 02

## 1) Configure 2 slave machines in jenkins master

→ Launched two slave instances and one master instance:

Generated ssh-key and copied public key into authorized\_keys

Changed permissions to 700 for authorized\_keys

→ In Master machine configure slave's ssh key using ssh-keyscan command

ssh-keyscan -H slave-ip >> /var/lib/jenkins/.ssh/known\_hosts

Permissions 700 for known\_hosts

Change ownership to for known\_hosts to Jenkins

→ In Jenkins web app:

Manage jenkins--> Nodes--> New node

Create two nodes with two slave ec2 instance ips

→ Created two slave machines in jenkins master

The image displays two screenshots of the Jenkins web interface, showing the configuration of two slave nodes.

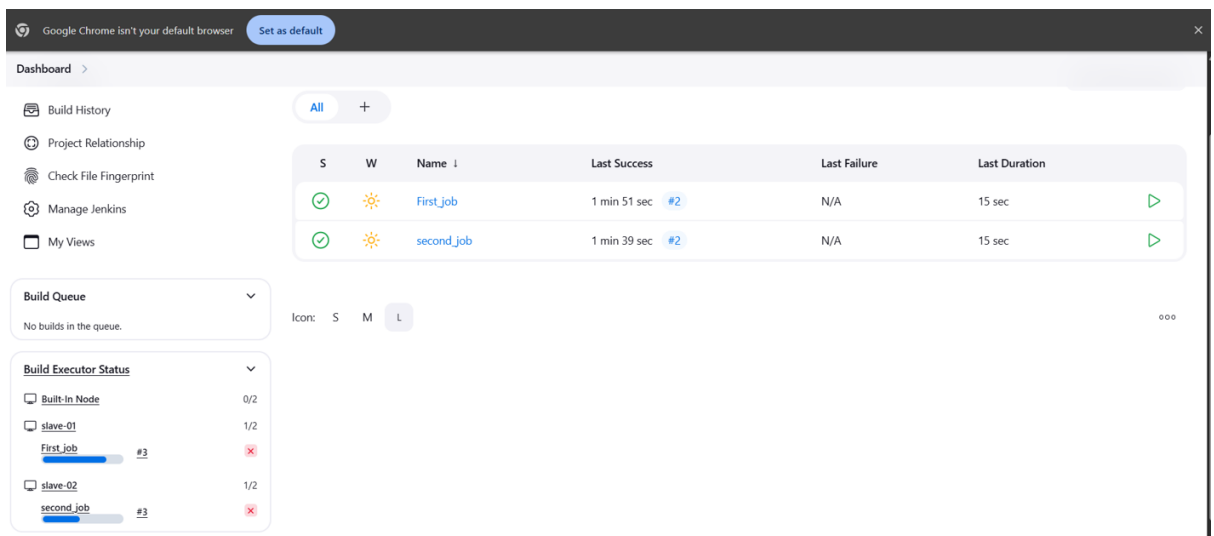
**Top Screenshot: Agent slave-01**

- Dashboard > Nodes > slave-01**
- Status:** Agent slave-01 (slave for java)
- Actions:** Delete Agent, Configure, Build History, Load Statistics, Script Console, Log, System Information, Disconnect.
- Monitoring Data:** Monitoring Data (dropdown)
- Labels:** java
- Projects tied to slave-01:** None
- Build Executor Status:** 0/2

**Bottom Screenshot: Agent slave-02**

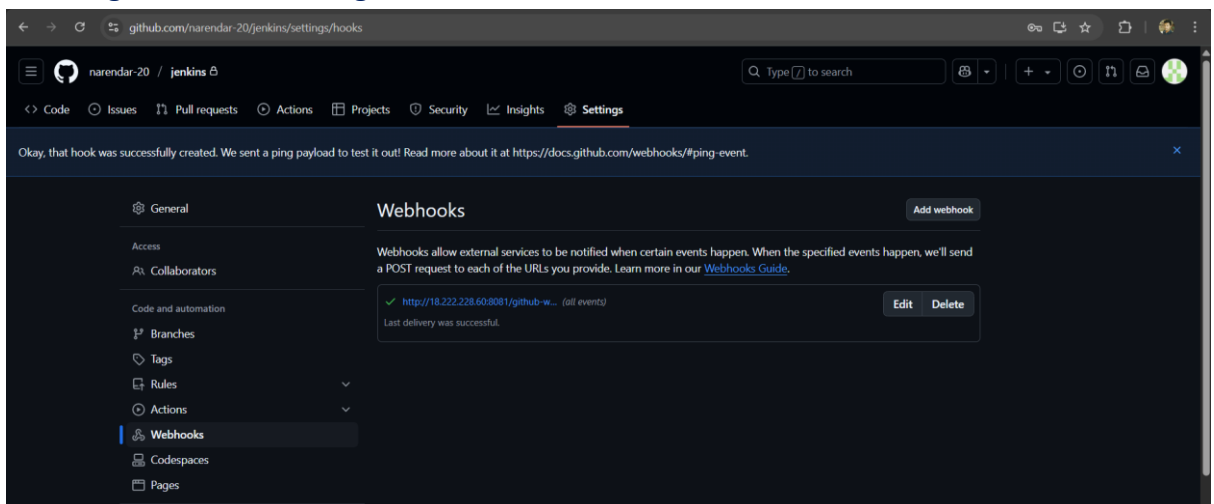
- Dashboard > Nodes > slave-02**
- Status:** Agent slave-02 (slave for python)
- Actions:** Delete Agent, Configure, Build History, Load Statistics, Script Console, Log, System Information, Disconnect.
- Monitoring Data:** Monitoring Data (dropdown)
- Labels:** python
- Projects tied to slave-02:** None
- Build Executor Status:** 0/2

→ Two jobs working on two nodes



## 2) Configure webhooks to jenkins job.

→ Configured webhook in github



→ Created job for webhook

← → ↻ Not secure 3.142.251.161:8080

**Jenkins** 🔍 🔔 🛡️ 🚫 narendar ▾ ↗ log out

Dashboard >

+ New Item Add description

📋 Build History All +

S	W	Name ↓	Last Success	Last Failure	Last Duration
🟢	🌞	webhook	3 min 26 sec #3	N/A	0.21 sec

🔗 Project Relationship

🔑 Check File Fingerprint

⚙️ Manage Jenkins

📁 My Views

Build Queue ▾  
No builds in the queue.

Build Executor Status ▲  
(0 of 2 executors busy)

Icon: S M L

## →jenkins build trigger on changes made in github repository

← → ↻ Not secure 3.142.251.161:8080/job/webhook/

**Jenkins** 🔍 🔔 🛡️ 🚫 narendar ▾ ↗ log out

Dashboard > webhook >

📄 Status 🟢 webhook Edit description

</> Changes

📁 Workspace

▶ Build Now

⚙️ Configure

🗑️ Delete Project

📄 GitHub Hook Log

✎ Rename

Permalinks

- Last build (#1), 18 sec ago
- Last stable build (#1), 18 sec ago
- Last successful build (#1), 18 sec ago
- Last completed build (#1), 18 sec ago

Builds

🔍 Filter /

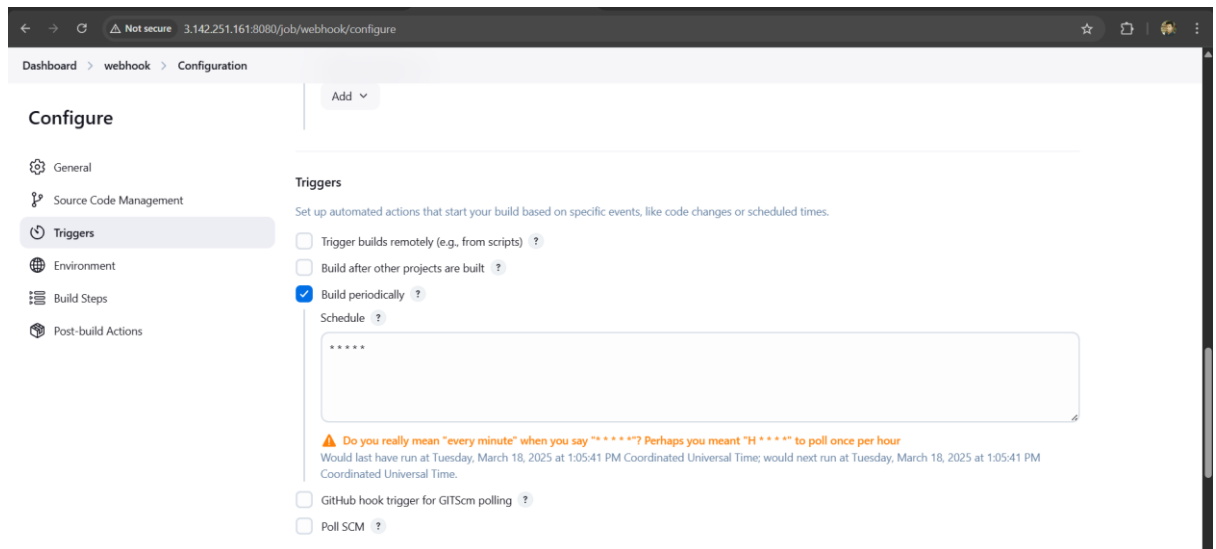
Today

- 🟢 #3 12:54 PM ▾
- 🟢 #2 12:53 PM ▾
- 🟢 #1 12:52 PM ▾

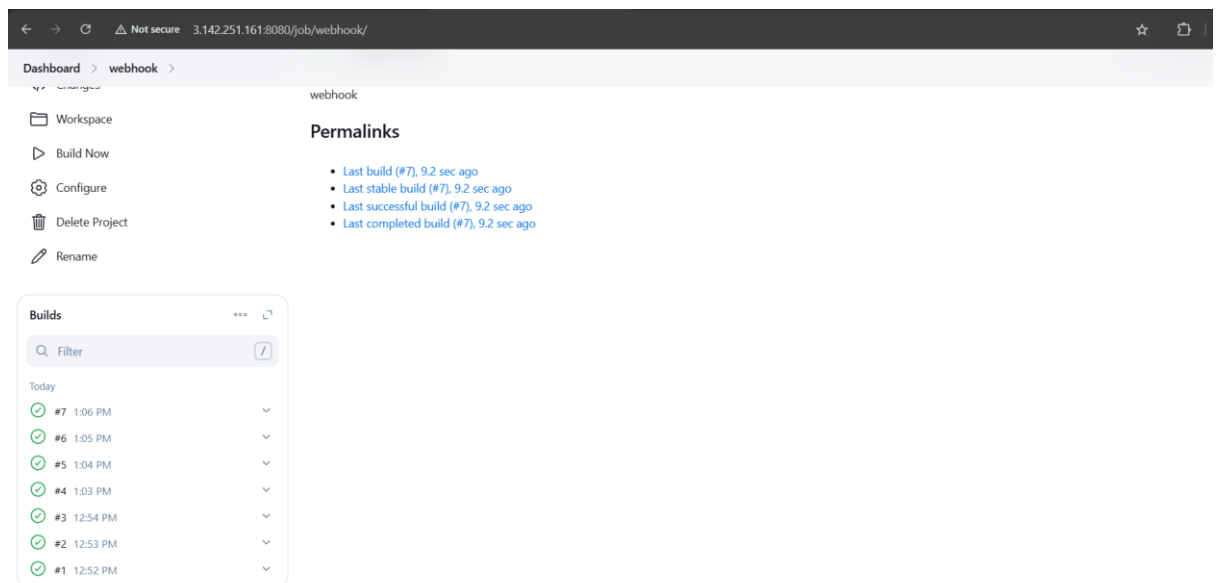
```
[root@ip-172-31-7-83 first_job]# cd /var/lib/jenkins/workspace/
[root@ip-172-31-7-83 workspace]# ls
first_job first_job@tmp webhook
[root@ip-172-31-7-83 workspace]# cd webhook
[root@ip-172-31-7-83 webhook]# ls
index naren README.md web-hook
[root@ip-172-31-7-83 webhook]#
```

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

#### →Configuring Build periodically in Jenkins job



#### →Build tringtering every 15 seconds even there is no change in github repo



## → configuring pole scm to make a build every 15 seconds if changes made in github

The screenshot shows the Jenkins Configuration page for a job named 'webhook'. The left sidebar contains a 'Configure' section with a 'Triggers' tab selected. The main content area is titled 'Triggers' and includes a description: 'Set up automated actions that start your build based on specific events, like code changes or scheduled times.' There are five checkboxes: 'Trigger builds remotely (e.g., from scripts)', 'Build after other projects are built', 'Build periodically', 'GitHub hook trigger for GITScm polling', and 'Poll SCM'. The 'Poll SCM' checkbox is checked. Below it is a 'Schedule' field with the value '\*\*\*\*\*'. A warning message states: 'Do you really mean "every minute" when you say "\*\*\*\*\*"? Perhaps you meant "H \* \* \* \* \*" to poll once per hour. Would last have run at Tuesday, March 18, 2025 at 1:12:18 PM Coordinated Universal Time; would next run at Tuesday, March 18, 2025 at 1:12:18 PM Coordinated Universal Time.' There is also an unchecked checkbox for 'Ignore post-commit hooks'. At the bottom, there is an 'Environment' section and 'Save' and 'Apply' buttons.

## → build triggered only there made changes in github repo

The screenshot shows the Jenkins Job Configuration page for a job named 'webhook'. The left sidebar contains a 'Status' tab selected. The main content area is titled 'webhook' and includes a description: 'webhook'. There is a 'Permalinks' section with a list of links: 'Last build (#9), 4 min 45 sec ago', 'Last stable build (#9), 4 min 45 sec ago', 'Last successful build (#9), 4 min 45 sec ago', and 'Last completed build (#9), 4 min 45 sec ago'. At the bottom, there is a 'Builds' section with a filter input and a table showing a single build: 'Today', '11 1:15 PM', and a status icon.

# Log rotation:

Dashboard > webhook > Configuration

Configure

General

Source Code Management

Triggers

Environment

Build Steps

Post-build Actions

General

Description

webhook

Plain text [Preview](#)

☒ Discard old builds [?](#)

Strategy

Log Rotation

Days to keep builds

if not empty, build records are only kept up to this number of days

Max # of builds to keep

Save

Apply

Dashboard > webhook

Workspace

Build Now

Configure

Delete Project

Git Polling Log

Rename

Permalinks

- Last build (#12), 14 sec ago
- Last stable build (#12), 14 sec ago
- Last successful build (#12), 14 sec ago
- Last completed build (#12), 14 sec ago

BUILDS

Filter

Today

#12

1:21 PM

#11

1:15 PM

#10

1:13 PM

#9

1:08 PM

#8

1:07 PM

#7

1:06 PM

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

→Script to make a backup for jenkins server

→create a backup dir to have backups into it (**/root/backup in my case**)

```
#!/bin/bash
# Set variables
JENKINS_HOME="/var/lib/jenkins" # Change if your Jenkins home is different
BACKUP_DIR="/root/backup"
TIMESTAMP=$(date +"%Y-%m-%d_%H-%M-%S")
BACKUP_FILE="$BACKUP_DIR/jenkins_backup_$TIMESTAMP.tar.gz"
if [ -d "$BACKUP_DIR" ]; then
    # Create a backup
    echo "Creating backup..."
    tar -czvf "$BACKUP_FILE" "$JENKINS_HOME"
else
    echo "Directory does not exist"
fi
```

→backing up jenkins jenkins serve: **./backup.sh**

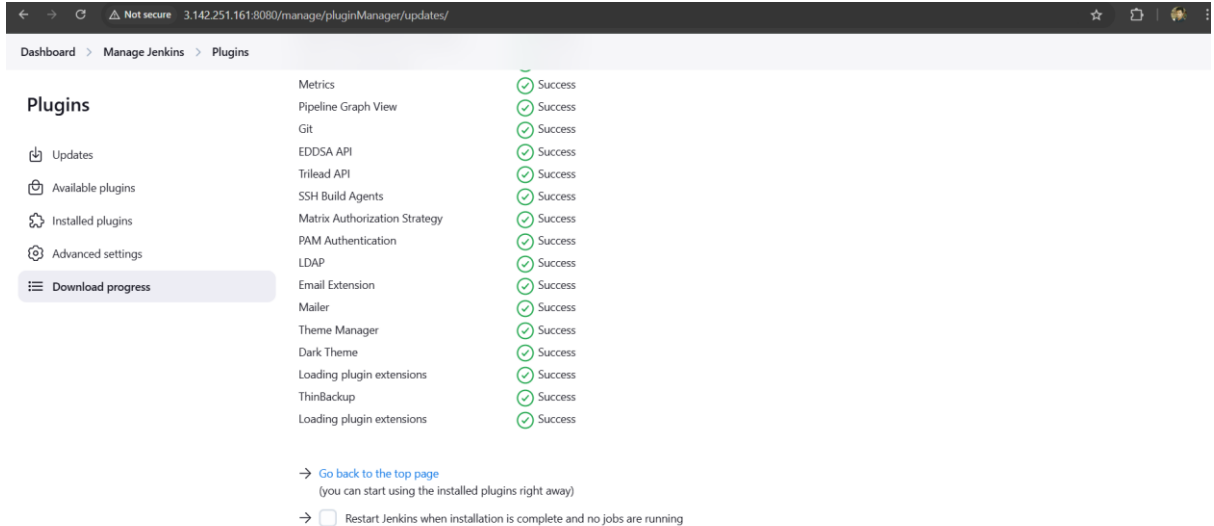
```
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/technologies/jenkins.png
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/technologies/puppet.jpg
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/technologies/python-logo.png
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/visualpath.png
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/visualpathlogo2.png
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/Images/visualpathlogo3.png
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/css/
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/css/bootstrap.min.css
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/css/common.css
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/css/profile.css
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/js/
/var/lib/jenkins/workspace/v-profile/src/main/webapp/resources/js/bootstrap.min.js
/var/lib/jenkins/workspace/v-profile/src/test/
/var/lib/jenkins/workspace/v-profile/src/test/java/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/controllerTest/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/controllerTest/SampleTest.java
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/controllerTest/UserControllerTest.java
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/modelTest/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/modelTest/RoleTest.java
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/modelTest/UserTest.java
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/setup/
/var/lib/jenkins/workspace/v-profile/src/test/java/com/visualpathit/account/setup/StandaloneMvcTestViewResolver.java
/var/lib/jenkins/queue.xml
[root@ip-172-31-5-67 ~]# cd backup
[root@ip-172-31-5-67 backup]# ls
jenkins_backup_2025-03-19_11-14-17.tar.gz
[root@ip-172-31-5-67 backup]# ll
total 285508
-rw-r--r-- 1 root root 292356462 Mar 19 11:14 jenkins_backup_2025-03-19_11-14-17.tar.gz
[root@ip-172-31-5-67 backup]#
```

→backup file created in desired location

```
[root@ip-172-31-5-67 ~]# cd backup
[root@ip-172-31-5-67 backup]# ll
total 571016
-rw-r--r-- 1 root root 292356462 Mar 19 11:14 jenkins_backup_2025-03-19_11-14-17.tar.gz
```

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

### →Installed thin backup



The screenshot shows the Jenkins 'Manage Jenkins > Plugins' page. On the left, the 'Download progress' tab is selected. The main area displays a list of installed plugins, each with a green checkmark and the word 'Success'. The plugins listed are: Metrics, Pipeline Graph View, Git, EDDSA API, Trilead API, SSH Build Agents, Matrix Authorization Strategy, PAM Authentication, LDAP, Email Extension, Mailer, Theme Manager, Dark Theme, Loading plugin extensions, ThinBackup, and Loading plugin extensions. Below the list, there are two links: 'Go back to the top page (you can start using the installed plugins right away)' and a checkbox for 'Restart Jenkins when installation is complete and no jobs are running'.

Plugin	Status
Metrics	Success
Pipeline Graph View	Success
Git	Success
EDDSA API	Success
Trilead API	Success
SSH Build Agents	Success
Matrix Authorization Strategy	Success
PAM Authentication	Success
LDAP	Success
Email Extension	Success
Mailer	Success
Theme Manager	Success
Dark Theme	Success
Loading plugin extensions	Success
ThinBackup	Success
Loading plugin extensions	Success

### →configuring backup path, backup schedule for full backups and number of backup sets

ThinBackup Configuration

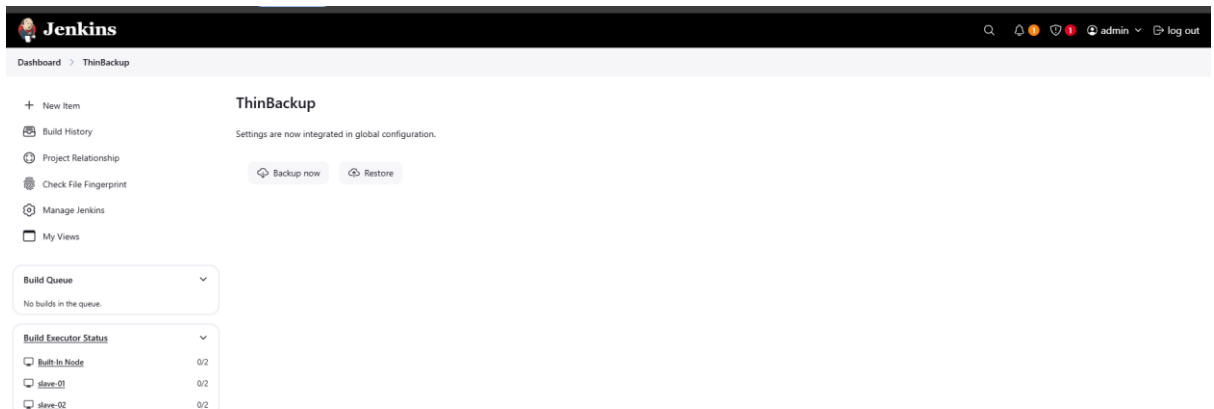
Backup directory ?

Backup schedule for full backups ?

Backup schedule for differential backups ?

Max number of backup sets ?

### →made a backup using thin plugin



The screenshot shows the Jenkins 'ThinBackup' configuration page. The left sidebar contains links: 'New Item', 'Build History', 'Project Relationship', 'Check File Fingerprint', 'Manage Jenkins', and 'My Views'. The main area has the title 'ThinBackup' and the message 'Settings are now integrated in global configuration.' Below this are two buttons: 'Backup now' and 'Restore'. On the left, there are two expandable sections: 'Build Queue' (showing 'No builds in the queue.') and 'Build Executor Status' (showing 'Built-In Node' and 'slave-01', 'slave-02' with status '0/2').



### → Backup done in desired Location

```
[root@ip-172-31-40-167 backup]# ls
FULL-2025-03-18_15-48
[root@ip-172-31-40-167 backup]# cd FULL-2025-03-18_15-48/
[root@ip-172-31-40-167 FULL-2025-03-18_15-48]# ls
backup-completed.info
com.cloudbees.hudson.plugins.folder.config.AbstractFolderConfiguration.xml
config.xml
github-plugin-configuration.xml
hudson.model.UpdateCenter.xml
hudson.plugins.build_timeout.global.GlobalTimeoutConfiguration.xml
hudson.plugins.build_timeout.operations.BuildStepOperation.xml
hudson.plugins.email_ext.ExtendedEmailPublisher.xml
hudson.plugins.git.GitSCM.xml
hudson.plugins.git.GitTool.xml
hudson.plugins.gradle.enriched.EnrichedSummaryConfig.xml
hudson.plugins.gradle.injection.InjectionConfig.xml
hudson.plugins.timestamp.TimestamperConfig.xml
hudson.tasks.Mailer.xml
hudson.tasks.Shell.xml
hudson.triggers.SCMTrigger.xml
installedPlugins.xml
io.jenkins.plugins.junit.storage.JunitTestResultStorageConfiguration.xml
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
nodeMonitors.xml
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
[root@ip-172-31-40-167 FULL-2025-03-18_15-48]# |
```

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

→ launched a new backup server (normal ec2 instance)

→ installed Jenkins

→ scp backup file from master to backup server

Scp-i key.pem /backup.tar.gz ec2-user@ip-backupserver:/dest/pat

```
[root@ip-172-31-40-167 ~]# ls
backup backup.sh test-rds.pem
[root@ip-172-31-40-167 ~]# scp -i test-rds.pem /root/backup/jenkins_backup_2025-03-18_16-33-27.tar.gz ec2-user@13.208.172.103:/home/ec2-user/temp
jenkins_backup_2025-03-18_16-33-27.tar.gz 100% 241MB 107.9MB/s 00:02
[root@ip-172-31-40-167 ~]# |
```


→ Backup file received from main server

```
[ec2-user@ip-172-31-44-68 temp]$ ls
jenkins_backup_2025-03-18_16-33-27.tar.gz
[ec2-user@ip-172-31-44-68 temp]$ |
```

→ Extract the file into /var/lib/ path to make a copy of main servers home

→ start jenkins server and login to jenkins web app with main servers credentials

→we can see all the configured jobs and lables from main server from backup server

Jenkins

Search

🔔

🛡️

👤 admin

🚪 log out

Dashboard

+ New Item

📁 Build History

🕒 Project Relationship

🔍 Check File Fingerprint

⚙️ Manage Jenkins

📌 My Views

Build Queue

No builds in the queue.

Build Executor Status

All

+

S	W	Name	Last Success	Last Failure	Last Duration
✓	☀️	first_job	3 hr 12 min #3	N/A	15 sec
✓	☀️	second_job	3 hr 12 min #3	N/A	15 sec
✓	☀️	third_job	2 hr 1 min #8	N/A	30 sec

Icon: S M L

Add description