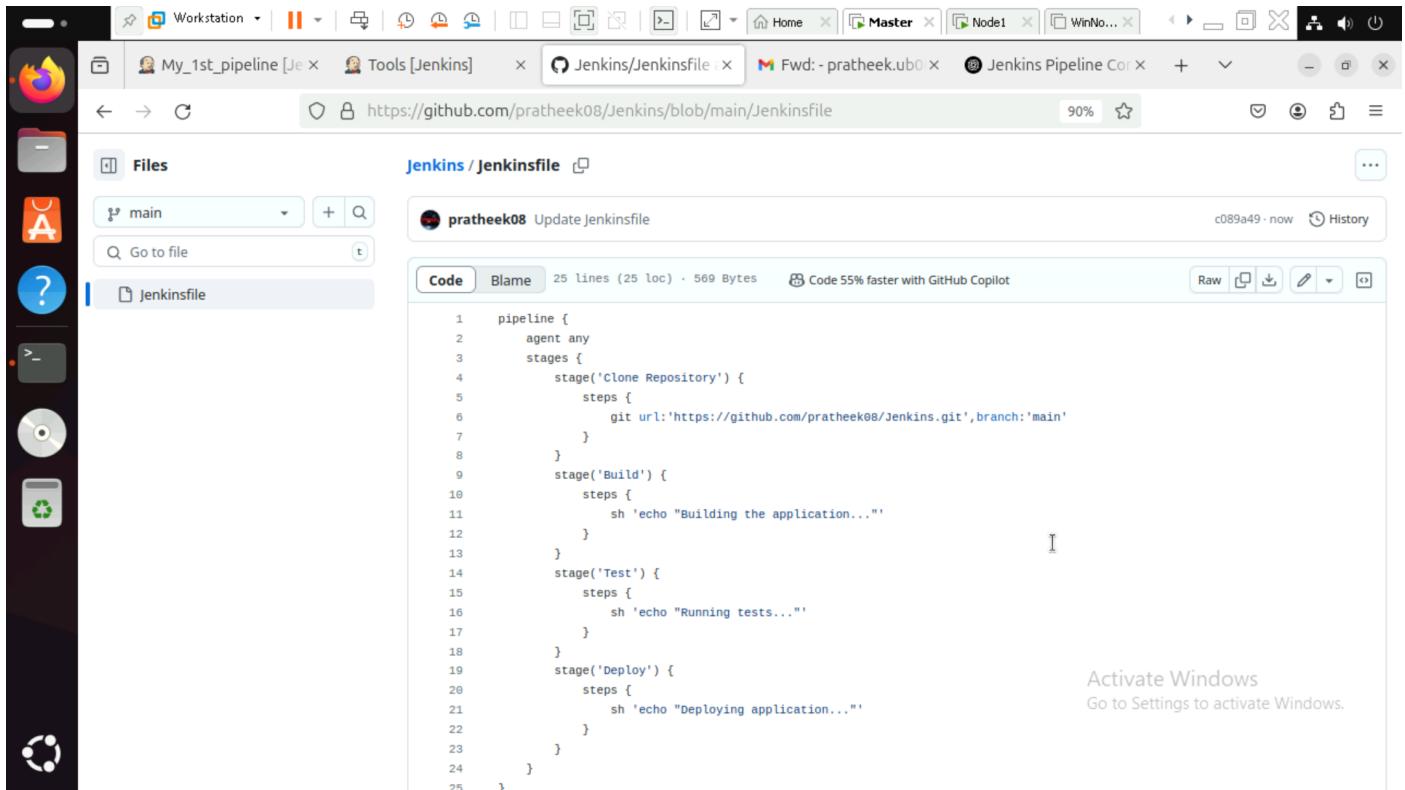


# JENKINS ASSIGNMENT - 1

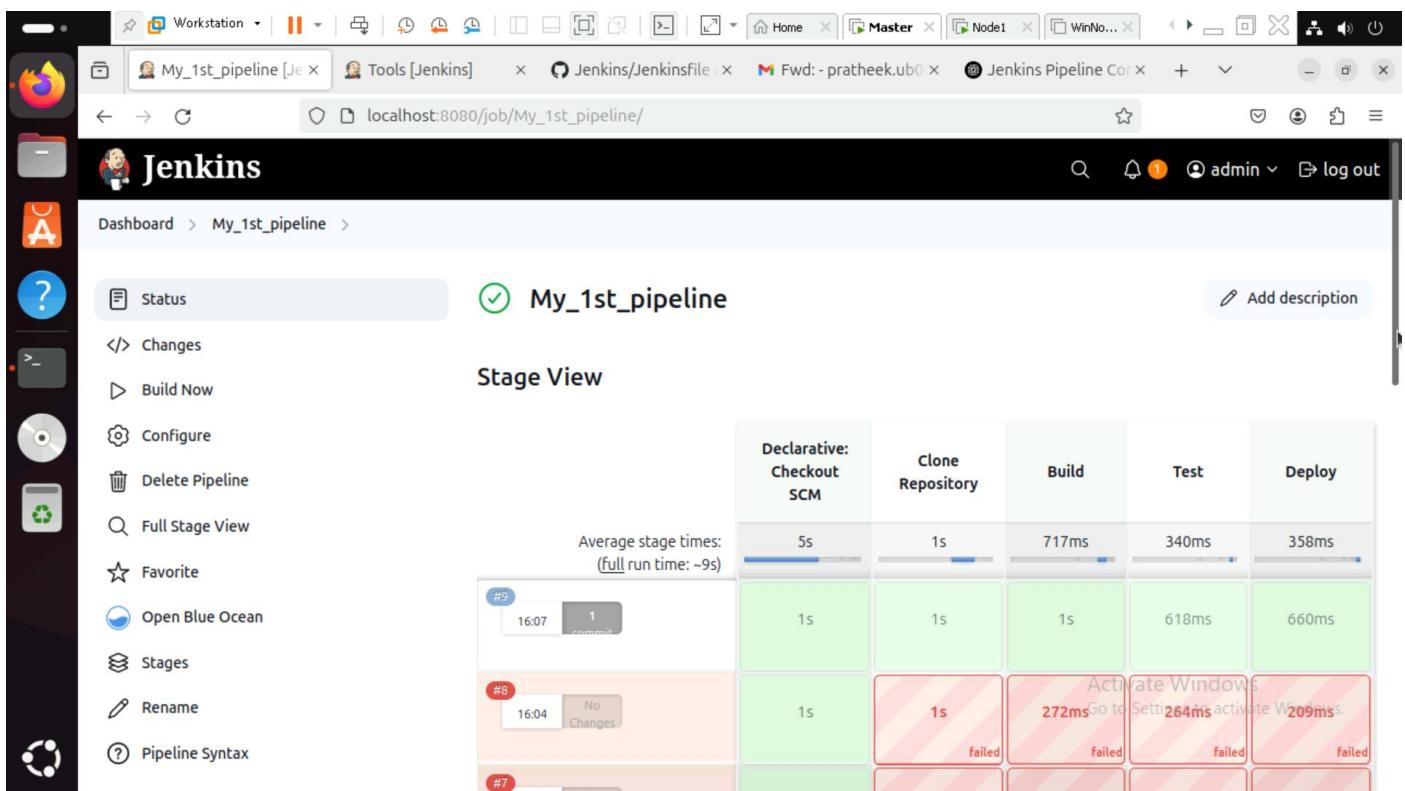
The screenshot shows the Jenkins dashboard. On the left sidebar, there are icons for New Item, Build History, Project Relationship, Check File Fingerprint, Manage Jenkins, My Views, and Open Blue Ocean. The main area displays a table for the 'My\_1st\_pipeline' job. The table columns are S (Status), W (Last Result), Name (My\_1st\_pipeline), Last Success (1 hr 38 min #9), Last Failure (1 hr 41 min #8), Last Duration (9.8 sec), and F (Flag). The status icon for the job is green with a checkmark. Below the table, there are dropdown menus for Build Queue (No builds in the queue), Build Executor Status (Built-In Node 0/2), and Built-In Node.

The screenshot shows the configuration page for the 'My\_1st\_pipeline' job. The left sidebar has tabs for General, Triggers, Pipeline (which is selected), and Advanced. The main area has tabs for Definition (Pipeline script from SCM) and SCM. Under SCM, it is set to Git. The SCM section includes fields for Repository URL (https://github.com/pratheek08/Jenkins) and Credentials (- none -). At the bottom, there are Save and Apply buttons.



The screenshot shows a Firefox browser window with multiple tabs open. The active tab is 'Jenkins/Jenkinsfile' at <https://github.com/pratheek08/Jenkins/blob/main/Jenkinsfile>. The page displays the Jenkinsfile content, which defines a pipeline with stages for cloning, building, testing, and deploying. A GitHub Copilot suggestion is visible on the right side of the code editor.

```
1 pipeline {
2     agent any
3     stages {
4         stage('Clone Repository') {
5             steps {
6                 git url:'https://github.com/pratheek08/Jenkins.git',branch:'main'
7             }
8         }
9         stage('Build') {
10            steps {
11                sh 'echo "Building the application..."'
12            }
13        }
14        stage('Test') {
15            steps {
16                sh 'echo "Running tests..."'
17            }
18        }
19        stage('Deploy') {
20            steps {
21                sh 'echo "Deploying application..."'
22            }
23        }
24    }
25 }
```



The screenshot shows the Jenkins Pipeline Stage View for the 'My\_1st\_pipeline'. The left sidebar lists pipeline management options like Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Favorite, Open Blue Ocean, Stages, Rename, and Pipeline Syntax. The main area displays the Stage View grid. The grid has columns for Declarative: Checkout SCM, Clone Repository, Build, Test, and Deploy. Row 1 (Stage #9) shows average times of 5s, 1s, 717ms, 340ms, and 358ms respectively. Row 2 (Stage #8) shows 1s, 1s, 1s, 618ms, and 660ms. Row 3 (Stage #7) shows 1s, 1s, Failed (272ms), Failed (264ms), and Failed (209ms). A tooltip for Stage #7 indicates 'Activate Windows Go to Settings to activate Windows'.

Declarative: Checkout SCM	Clone Repository	Build	Test	Deploy
Average stage times: (full run time: ~9s)	5s	1s	717ms	340ms
#9 16:07 1	1s	1s	1s	618ms
#8 16:04 No Changes	1s	1s Failed 272ms	272ms Failed 264ms	209ms Failed
#7	1s	1s Failed 272ms	272ms Failed 264ms	209ms Failed

The screenshot shows two stacked Jenkins Pipeline consoles. The top console is for build #9, and the bottom one is for build #10. Both consoles show the Jenkinsfile being executed. The Jenkinsfile includes stages for cloning the repository, running tests, deploying, and ending the pipeline. Build #9 completed successfully, while build #10 is still running.

**Build #9 Output:**

```
Started by user admin
Obtained Jenkinsfile from git https://github.com/pratheek08/Jenkins
[Pipeline] Start of Pipeline
[Pipeline] node
Running on jenkins-slave1 in /opt/jenkins-slave1/workspace/My_1st_pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
Fetching changes from the remote Git repository
> git rev-parse --resolve-git-dir /opt/jenkins-slave1/workspace/My_1st_pipeline/.git#
timeout=10
> git config remote.origin.url https://github.com/pratheek08/Jenkins # timeout=10
Fetching upstream changes from https://github.com/pratheek08/Jenkins

```

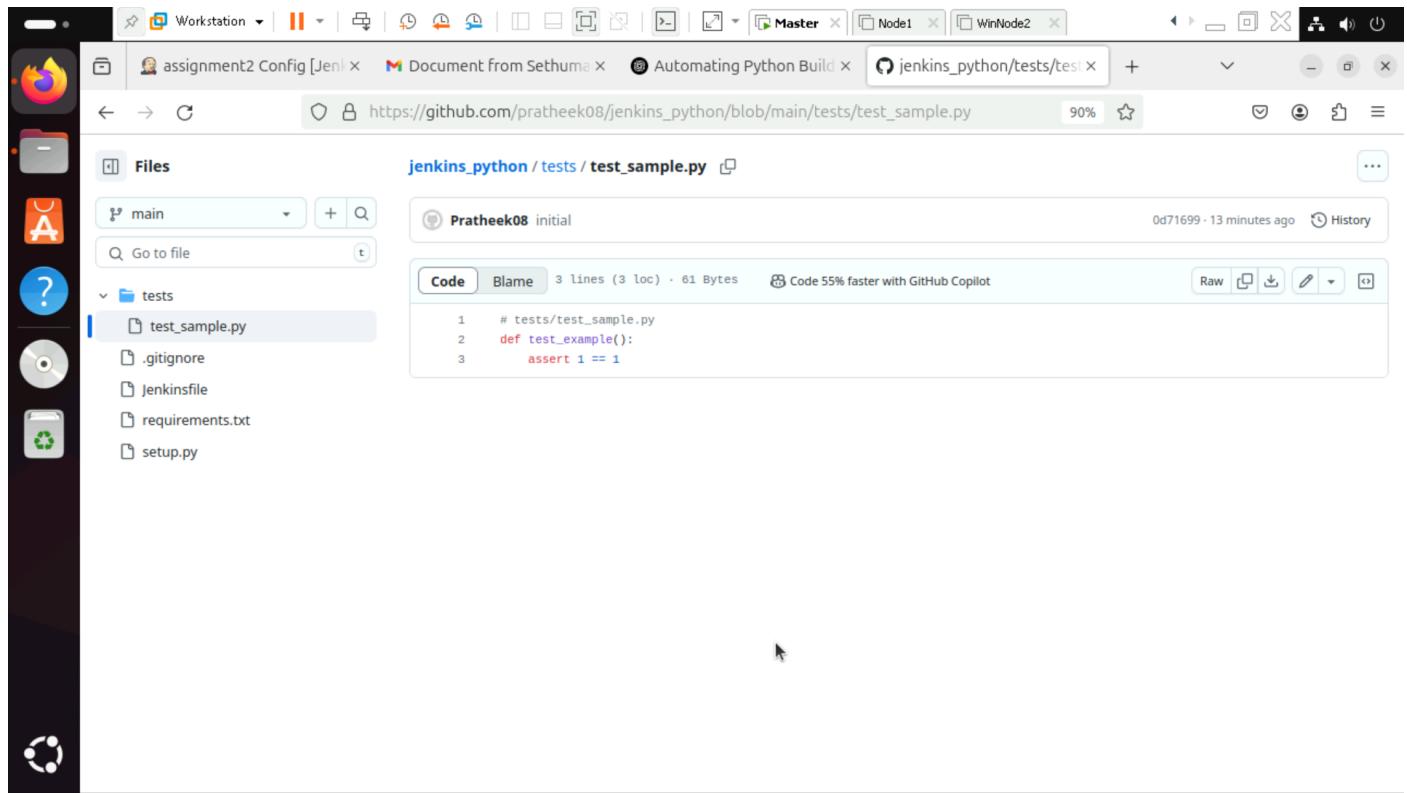
**Build #10 Output:**

```
[Pipeline] sh
+ echo Running tests...
Running tests...
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy)
[Pipeline] sh
+ echo Deploying application...
Deploying application...
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // withEnv
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Activate Windows  
Go to Settings to activate Windows.

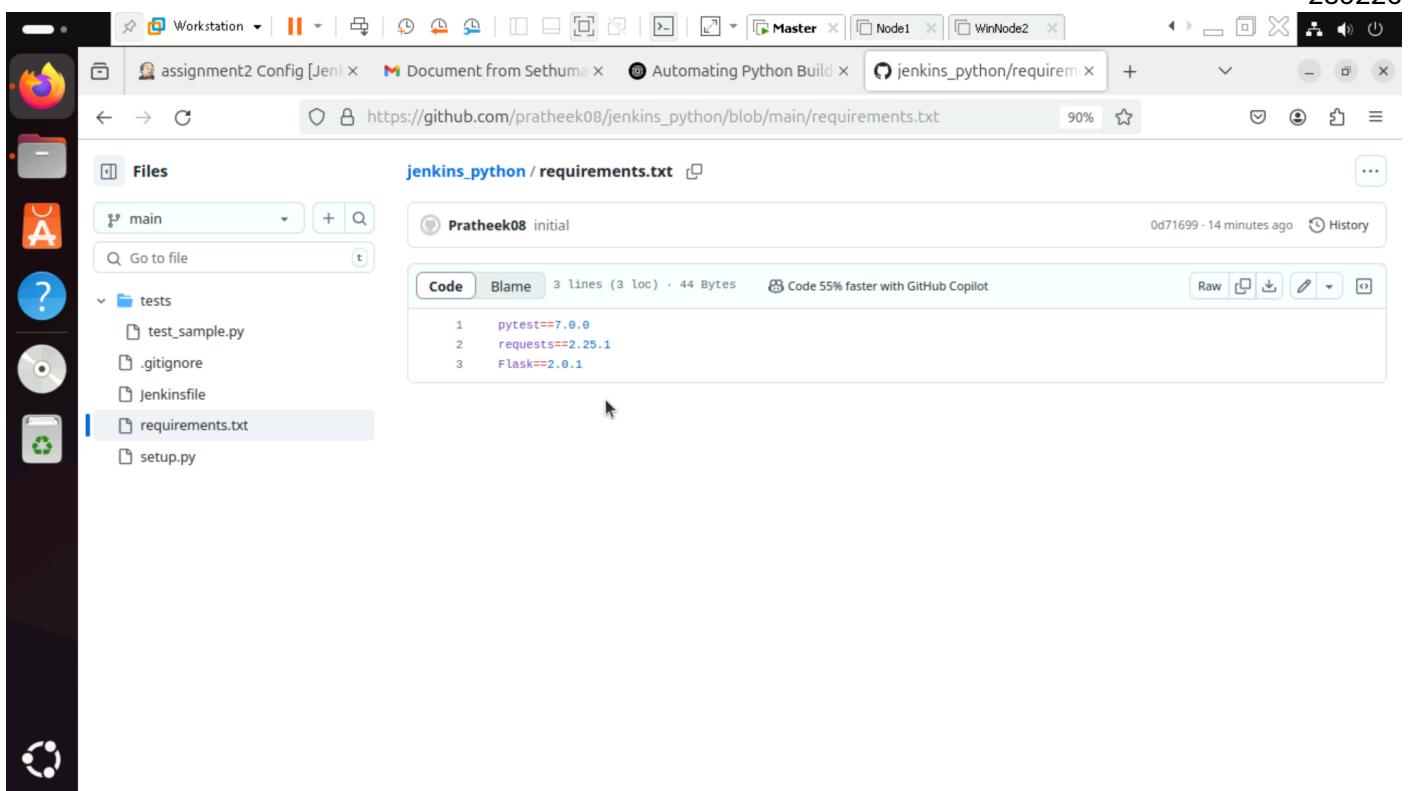
REST API Jenkins 2.492.1

## JENKINS ASSIGNMENT – 2



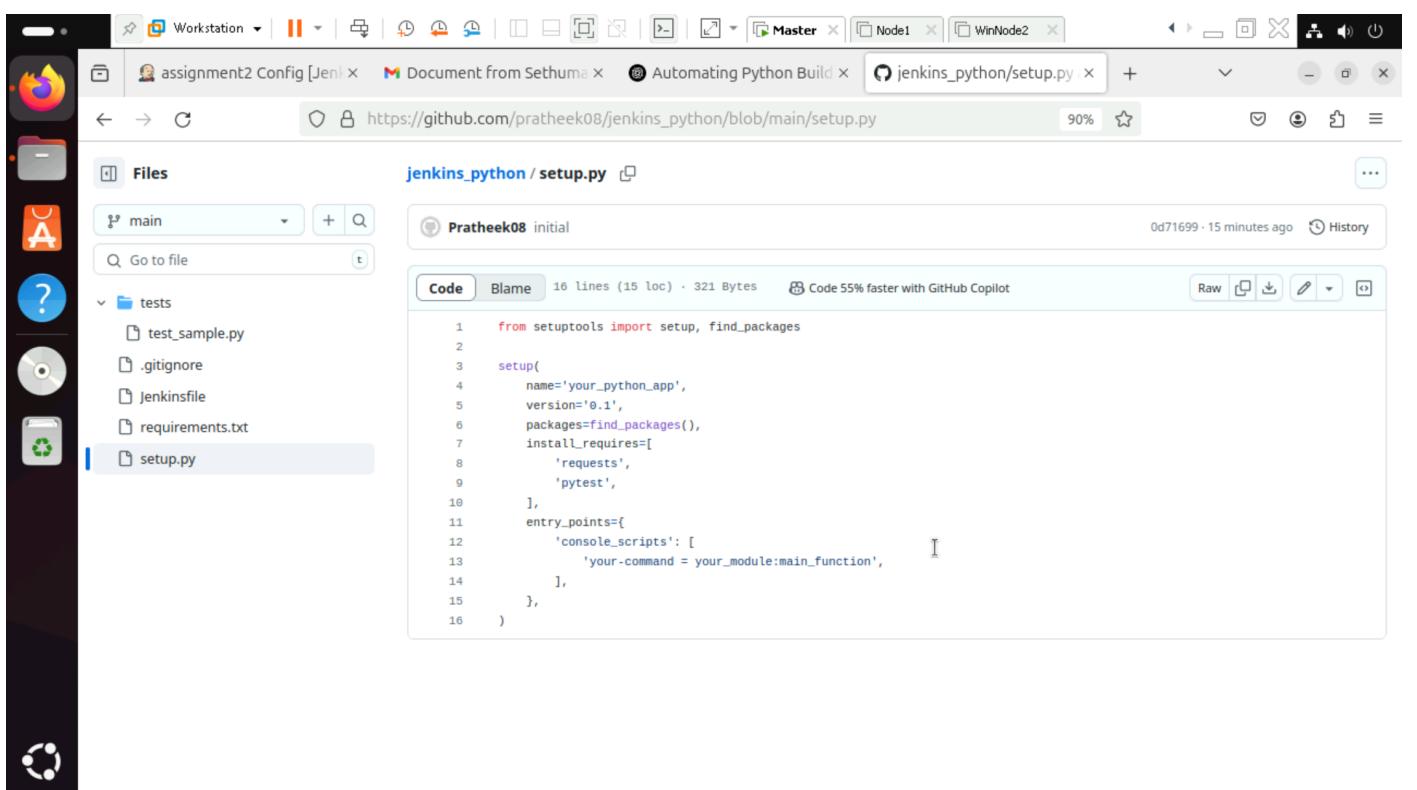
The screenshot shows a GitHub repository page for 'jenkins\_python'. The URL is https://github.com/pratheek08/jenkins\_python/blob/main/Jenkinsfile. The left sidebar shows the project structure with files like main, tests (containing test\_sample.py), .gitignore, jenkinsfile (selected), requirements.txt, and setup.py. The right pane displays the Jenkinsfile content.

```
1 pipeline {
2     agent any
3
4     stages {
5         // Stage 1: Clone Repository from GitHub
6         stage('Clone Repository') {
7             steps {
8                 git url: 'https://github.com/pratheek08/jenkins_python', branch: 'main'
9             }
10            }
11
12        // Stage 2: Create Virtual Environment and Install Dependencies
13        stage('Install Dependencies') {
14            steps {
15                // Create a virtual environment
16                sh "python3 -m venv venv"
17
18                // Install dependencies inside the virtual environment
19                sh "./venv/bin/pip install -r requirements.txt"
20
21                // Ensure setuptools is installed in the virtual environment
22                sh "./venv/bin/pip install setuptools"
23            }
24        }
25
26        // Stage 3: Run Tests (optional)
27        stage('Run Tests') {
28            when {
29                expression {
30                    return fileExists('tests')
31                }
32            }
33            steps {
34                // Run tests inside the virtual environment
35                sh "./venv/bin/pytest tests/"
36            }
37        }
38
39        // Stage 4: Build Artifact (Python package)
40        stage('Build Artifact') {
41            steps {
42                // Make sure setuptools is explicitly used before building
43                sh "./venv/bin/pip install setuptools"
44
45                // Build the Python package using setup.py
46                sh "./venv/bin/python setup.py sdist"
47            }
48        }
49
50        // Stage 5: Archive Build Artifacts
51        stage('Archive Artifact') {
```



The screenshot shows a Linux desktop environment with a dark theme. A Firefox browser window is open, displaying the GitHub page for the file `requirements.txt` in the repository `jenkins_python`. The page shows the following code:

```
1 pytest==7.0.0
2 requests==2.25.1
3 Flask==2.0.1
```



The screenshot shows a Linux desktop environment with a dark theme. A Firefox browser window is open, displaying the GitHub page for the file `setup.py` in the repository `jenkins_python`. The page shows the following code:

```
1 from setuptools import setup, find_packages
2
3 setup(
4     name='your_python_app',
5     version='0.1',
6     packages=find_packages(),
7     install_requires=[
8         'requests',
9         'pytest',
10    ],
11    entry_points={
12        'console_scripts': [
13            'your-command = your_module:main_function',
14        ],
15    },
16)
```

The screenshot shows the Jenkins configuration interface for a job named 'assignment2'. The left sidebar contains icons for General, Source Code Management (selected), Triggers, Environment, Build Steps, and Post-build Actions. The main panel shows a 'Configure' section with a 'Source Code Management' tab selected. It displays a 'Git' configuration with a 'Repository URL' of [https://github.com/pratheek08/jenkins\\_python](https://github.com/pratheek08/jenkins_python). The 'Credentials' dropdown is set to '- none -'. There is an 'Advanced' button and a 'Save' button at the bottom.

The screenshot shows the Jenkins build history for the 'assignment2' job. The top navigation bar includes a Jenkins icon, user information (admin), and a 'log out' link. The main content area shows build #2, which was started by user 'admin' on Feb 20, 2025, at 12:51:55 PM. The build status is green with a checkmark. It took 1.6 sec on built-in. The build summary includes a 'Status' section, a 'Changes' section (empty), and a 'Console Output' section (empty). The 'Edit Build Information' and 'Delete build #2' options are available. The 'Timings' section shows the run spent: 48 ms waiting, 1.6 sec build duration, and 1.6 sec total from scheduled to completion. The 'git' section shows the revision and repository details: Revision: 3712f63c34402d047d7348e368e3c464c3081d85, Repository: [https://github.com/pratheek08/jenkins\\_python](https://github.com/pratheek08/jenkins_python), and ref: refs/remotes/origin/main. A 'Changes' section lists '1. Update Jenkinsfile (details / githubweb)'. Navigation links include 'Previous Build' and '</>'.

The screenshot shows a web browser window with multiple tabs open. The active tab is 'assignment2 #2 Console' at 'localhost:8080/job/assignment2/2/console'. The page title is 'Jenkins'.

The left sidebar contains the following navigation links:

- Status
- </> Changes
- Console Output** (highlighted)
- Edit Build Information
- Delete build '#2'
- Timings
- Git Build Data
- Open Blue Ocean
- ← Previous Build

The main content area is titled 'Console Output' with a checkmark icon. It displays the following Jenkins build log:

```
Started by user admin
Running as SYSTEM
Building on the built-in node in workspace /var/lib/jenkins/workspace/assignment2
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/assignment2/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/pratheek08/jenkins_python # timeout=10
Fetching upstream changes from https://github.com/pratheek08/jenkins_python
> git --version # timeout=10
> git --version # 'git version 2.43.0'
> git fetch --tags --force --progress -- https://github.com/pratheek08/jenkins_python +refs/heads/*:refs/remotes/origin/*
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 3712f63c34402d047d7348e368e3c464c3081d85 (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 3712f63c34402d047d7348e368e3c464c3081d85 # timeout=10
Commit message: "Update Jenkinsfile"
> git rev-list --no-walk 0d71699334d39d156b941ff50548f24e26d4645e # timeout=10
Finished: SUCCESS
```

## JENKINS ASSIGNMENT – 3

The screenshot shows the Jenkins dashboard with several projects listed:

S	W	Name	Last Success	Last Failure	Last Duration	F
✓	☀️	assignment2	1 day 3 hr #2	N/A	1.6 sec	🔗 ⭐
✓	☀️	jenkins_java	1 hr 46 min #1	N/A	2.6 sec	🔗 ⭐
✗	☁️	jenkins_java_new	N/A	3 hr 39 min #1	1.3 sec	🔗 ⭐
✓	☁️	My_1st_pipeline	2 days 0 hr #9	2 days 0 hr #8	9.8 sec	🔗 ⭐

Build Queue: No builds in the queue.

Build Executor Status:

Node	Status
Built-In Node	0/2
jenkins-slave1	(launching...)
win-jenkinsslave2	(offline)

The screenshot shows the configuration page for the 'jenkins\_java\_new' job:

**Configure** (General, Triggers, Pipeline, Advanced)

**Triggers** (selected)

Poll SCM (Schedule: H/S \*\*\*\*\*)

Would last have run at Friday, February 21, 2025, 4:19:14 PM India Standard Time; would next run at Friday, February 21, 2025, 4:19:14 PM India Standard Time.

Ignore post-commit hooks

Trigger builds remotely (e.g., from scripts)

**Pipeline**

Save Apply

The screenshot shows a Firefox browser window with several tabs open. The active tab is 'jenkins\_java\_new Config' at 'localhost:8080/job/jenkins\_java\_new/configure'. The page displays the Jenkins configuration interface for a job named 'jenkins\_java\_new'. On the left, there's a sidebar with icons for General, Triggers, Pipeline, and Advanced. The 'Pipeline' section is selected. It contains a 'Definition' dropdown set to 'Pipeline script from SCM', a 'SCM' dropdown set to 'Git', and a 'Repositories' section with a 'Repository URL' input field containing 'https://github.com/pratheek08/jenkins\_java'. At the bottom of the pipeline configuration are 'Save' and 'Apply' buttons.

The screenshot shows a terminal window titled 'master@mastervm: ~/Downloads'. The user has run several commands:

- 'ip a' command output showing network interfaces (lo, ens33) and their configurations.
- 'curl ifconfig.me' command, which failed because 'curl' was not found. It suggested installing it via snap or apt.
- 'hostname -I' command output showing the IP address 192.168.203.128.
- 'whoami' command output showing the user is 'master'.
- 'ssh username@server-ip' command, which failed due to temporary name resolution issues.
- 'ssh username@server-192.168.203.128' command, which failed because the host was not known.
- 'sudo apt update' command to update package lists.
- 'sudo apt install -y tomcat9' command to install Tomcat 9.
- '[sudo] password for master:' prompt for the root password.
- Output of the 'apt' command showing package downloads from jenkins.io and archive.ubuntu.com.

```
master@mastervm:~$ systemctl status tomcat9
Unit tomcat9.service could not be found.

master@mastervm:~$ sudo apt update && sudo apt upgrade -y
Ign:1 https://pkg.jenkins.io/debian-stable binary/ InRelease
Hit:2 https://pkg.jenkins.io/debian-stable binary/ Release
Hit:4 http://security.ubuntu.com/ubuntu noble-security InRelease
Hit:5 http://in.archive.ubuntu.com/ubuntu noble InRelease
Hit:6 http://in.archive.ubuntu.com/ubuntu noble-updates InRelease
Hit:7 http://in.archive.ubuntu.com/ubuntu noble-backports InRelease
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
291 packages can be upgraded. Run 'apt list --upgradable' to see them.
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
The following packages were automatically installed and are no longer required:
  liblvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
Get more security updates through Ubuntu Pro with 'esm-apps' enabled:
  libcjson1 libpostproc57 libavcodec0 libavutil58 libswscale7 libswresample4
  libavformat60 libavfilter9
Learn more about Ubuntu Pro at https://ubuntu.com/pro
The following NEW packages will be installed:
  libmalcontent-0-0 linux-headers-6.11.0-17-generic
  linux-hwe-6.11-headers-6.11.0-17 linux-hwe-6.11.0-17-tools-6.11.0-17
  linux-image-6.11.0-17-generic linux-modules-6.11.0-17-generic
  linux-modules-extra-6.11.0-17-generic linux-tools-6.11.0-17-generic
The following packages will be upgraded:
  acl alsamixer-conf apparmor apport apport-core-dump-handler apport-gtk
  base-files bpftrace bsdxtralibx bsdutils cloud-init cups-browsed dbus
  dbus-bin dbus-daemon dbus-session-bus-common dbus-system-bus-common
  dbus-user-session dhcpcd-base distro-info-data dmidecode dnsmasq
  dracut-installer e2fsprogs e2fsprogs-l10n eject evince evince-common
  evolution-data-server evolution-data-server-common fdisk fuser adm2
  evolution-data-server-common fdisk fuser adm2


```

```
update-initramfs: Generating /boot/initrd.lmg-0.11.0-1-generic
Processing triggers for libc-bin (2.39-0ubuntu0.4) ...
master@mastervm:~$ apt-cache search tomcat9
libtomcat9-jar - Apache Tomcat 9 - Servlet and JSP engine -- core libraries
master@mastervm:~$ sudo apt install -y openjdk-11-jdk
[sudo] password for master:
Sorry, try again.
[sudo] password for master:
Sorry, try again.
[sudo] password for master:
sudo: 2 incorrect password attempts
master@mastervm:~$ sudo apt install -y openjdk-11-jdk
[sudo] password for master:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  liblvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following additional packages will be installed:
  openjdk-11-jdk-headless openjdk-11-jre openjdk-11-jre-headless
Suggested packages:
  openjdk-11-demo openjdk-11-source visualvm fonts-ipafont-gothic
  fonts-ipafont-mincho fonts-wqy-microhei | fonts-wqy-zenhei fonts-indic
The following NEW packages will be installed:
  openjdk-11-jdk openjdk-11-jdk-headless openjdk-11-jre
  openjdk-11-jre-headless
0 upgraded, 4 newly installed, 0 to remove and 0 not upgraded.
Need to get 118 MB of archives.
After this operation, 260 MB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble-updates/universe amd64 openjdk-11-jre-headless amd64 11.0.26+4-1ubuntu1~24.04 [42.3 MB]
Get:2 http://in.archive.ubuntu.com/ubuntu noble-updates/universe amd64 openjdk-11-jre amd64 11.0.26+4-1ubuntu1~24.04 [209 kB]
Get:3 http://in.archive.ubuntu.com/ubuntu noble-updates/universe amd64 openjdk-11-jdk-headless amd64 11.0.26+4-1ubuntu1~24.04 [73.7 MB]
Get:4 http://in.archive.ubuntu.com/ubuntu noble-updates/universe amd64 openjdk-11-jdk amd64 11.0.26+4-1ubuntu1~24.04 [1,340 kB]
Fetched 118 MB in 18s (6,389 kB/s)
Selecting previously unselected package openjdk-11-jre-headless:amd64.
```

```

MV: cannot stat apache-tomcat-9.0.83: NO SUCH FILE OR DIRECTORY
master@mastervm:~/Downloads$ sudo mv apache-tomcat-11.0.4 /opt/tomcat9
master@mastervm:~/Downloads$ sudo chmod +x /opt/tomcat9/bin/*.sh
master@mastervm:~/Downloads$ /opt/tomcat9/bin/startup.sh
Using CATALINA_BASE: /opt/tomcat9
Using CATALINA_HOME: /opt/tomcat9
Using CATALINA_TMPDIR: /opt/tomcat9/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.

master@mastervm:~/Downloads$ ps aux | grep tomcat
master 32823 23.6 1.5 4655600 126124 pts/0 Sl 15:12 0:07 /usr/bin/java -Djava.util.logging.config.file=/opt/tomcat9/conf/logging.properties -Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=2048 -Dsun.io.useCanonCaches=false -Dorg.apache.catalina.security.SecurityListener.UMASK=0027 --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/java.util=ALL-UNNAMED --add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED --enable-native-access=ALL-UNNAMED -classpath /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar -Dcatalina.base=/opt/tomcat9 -Dcatalina.home=/opt/tomcat9 -Djava.io.tmpdir=/opt/tomcat9/temp org.apache.catalina.startup.Bootstrap start
master 32855 0.0 0.0 9144 2304 pts/0 S+ 15:12 0:00 grep --color=auto tomcat
master@mastervm:~/Downloads$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host noprefixroute
        valid_lft forever preferred_lft forever
2: ens33: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:b5:cb:02 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.203.128/24 brd 192.168.203.255 scope global dynamic noprefixroute ens33
        valid_lft 1751sec preferred_lft 1751sec
    inet6 fe80::20c:29ff:feb5:cb02/64 scope link
        valid_lft forever preferred_lft forever

master@mastervm:~/Downloads$ hostname I
hostname: you must be root to change the host name
master@mastervm:~/Downloads$ hostname -I

```

```

All packages are up to date.
master@mastervm:~/Downloads$ systemctl status tomcat9
Unit tomcat9.service could not be found.
master@mastervm:~/Downloads$ sudo apt install -y tomcat9
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Package tomcat9 is not available, but is referred to by another package.
This may mean that the package is missing, has been obsoleted, or
is only available from another source

E: Package 'tomcat9' has no installation candidate
master@mastervm:~/Downloads$ curl ifconfig.me
Command 'curl' not found, but can be installed with:
sudo snap install curl # version 8.12.1, or
sudo apt install curl # version 8.5.0-2ubuntu10.4
See 'snap info curl' for additional versions.
master@mastervm:~/Downloads$ sudo apt install curl
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
The following packages were automatically installed and are no longer required:
  liblvm17t64 python3-netifaces
Use 'sudo apt autoremove' to remove them.
The following NEW packages will be installed:
  curl
0 upgraded, 1 newly installed, 0 to remove and 0 not upgraded.
Need to get 226 kB of archives.
After this operation, 534 kB of additional disk space will be used.
Get:1 http://in.archive.ubuntu.com/ubuntu noble-updates/main amd64 curl amd64 8.5.0-2ubuntu10.6 [226 kB]
Fetched 226 kB in 2s (133 kB/s)
Selecting previously unselected package curl.
(Reading database ... 193773 files and directories currently installed )
Preparing to unpack .../curl_8.5.0-2ubuntu10.6_amd64.deb ...
Unpacking curl (8.5.0-2ubuntu10.6) ...
Setting up curl (8.5.0-2ubuntu10.6) ...

```

```

apache-tomcat-11.0.4/bin/tool-wrapper.sh
apache-tomcat-11.0.4/bin/version.sh
master@mastervm:~/Downloads$ sudo mv apache-tomcat-9.0.83 /opt/tomcat9
mv: cannot stat 'apache-tomcat-9.0.83': No such file or directory
master@mastervm:~/Downloads$ sudo mv apache-tomcat-11.0.4 /opt/tomcat9
master@mastervm:~/Downloads$ sudo chmod +x /opt/tomcat9/bin/*.sh
master@mastervm:~/Downloads$ /opt/tomcat9/bin/startup.sh
Using CATALINA_BASE: /opt/tomcat9
Using CATALINA_HOME: /opt/tomcat9
Using CATALINA_TMPDIR: /opt/tomcat9/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
master@mastervm:~/Downloads$ ps aux | grep tomcat
master 32823 23.6 1.5 4655600 126124 pts/0 Sl 15:12 0:07 /usr/bin/java -Djava.util.logging.config.file=/opt/tomcat9/conf/logging.properties
-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=2048 -Dsun.io.useCanonCaches=false -Dorg.apache.catalin
a.security.SecurityListener.UMASK=0027 --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/jav
a.util=ALL-UNNAMED --add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED --enable-native-access=AL
L-UNNAMED -classpath /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar -Dcatalina.base=/opt/tomcat9 -Dcatalina.home=/opt/tomcat9 -Djava.
io.tmpdir=/opt/tomcat9/temp org.apache.catalina.startup.Bootstrap start
master 32855 0.0 0.0 9144 2304 pts/0 S+ 15:12 0:00 grep --color=auto tomcat
master@mastervm:~/Downloads$ ip a
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 brd 127.0.0.1 scope host lo
        valid_lft forever preferred_lft forever
        inet6 ::1/128 brd :: scope host noprefixroute
            valid_lft forever preferred_lft forever
2: ens3: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc pfifo_fast state UP group default qlen 1000
    link/ether 00:0c:29:b5:cb:02 brd ff:ff:ff:ff:ff:ff
    altname enp2s1
    inet 192.168.203.128/24 brd 192.168.203.255 scope global dynamic noprefixroute ens3
        valid_lft 1751sec preferred_lft 1751sec
        inet6 fe80::20c:29ff:feb5:cb02/64 brd fe80::ff:fe:: scope link
            valid_lft forever preferred_lft forever

```

```

master@mastervm:~/Downloads$ curl ifconfig.me
103.182.177.66
master@mastervm:~/Downloads$ ^C
master@mastervm:~/Downloads$ ^C
master@mastervm:~/Downloads$ /opt/tomcat9/bin/startup.sh
Using CATALINA_BASE: /opt/tomcat9
Using CATALINA_HOME: /opt/tomcat9
Using CATALINA_TMPDIR: /opt/tomcat9/temp
Using JRE_HOME: /usr
Using CLASSPATH: /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar
Using CATALINA_OPTS:
Tomcat started.
master@mastervm:~/Downloads$ ps aux | grep tomcat
master 32823 0.9 1.5 4655600 127020 pts/0 Sl 15:12 0:09 /usr/bin/java -Djava.util.logging.config.file=/opt/tomcat9/conf/logging.properties
-Djava.util.logging.manager=org.apache.juli.ClassLoaderLogManager -Djdk.tls.ephemeralDHKeySize=2048 -Dsun.io.useCanonCaches=false -Dorg.apache.catalin
a.security.SecurityListener.UMASK=0027 --add-opens=java.base/java.lang=ALL-UNNAMED --add-opens=java.base/java.io=ALL-UNNAMED --add-opens=java.base/jav
a.util=ALL-UNNAMED --add-opens=java.base/java.util.concurrent=ALL-UNNAMED --add-opens=java.rmi/sun.rmi.transport=ALL-UNNAMED --enable-native-access=AL
L-UNNAMED -classpath /opt/tomcat9/bin/bootstrap.jar:/opt/tomcat9/bin/tomcat-juli.jar -Dcatalina.base=/opt/tomcat9 -Dcatalina.home=/opt/tomcat9 -Djava.
io.tmpdir=/opt/tomcat9/temp org.apache.catalina.startup.Bootstrap start
master 33719 0.0 0.0 9144 2304 pts/0 S+ 15:27 0:00 grep --color=auto tomcat
master@mastervm:~/Downloads$ http://103.182.177.66:8080/
bash: http://103.182.177.66:8080/: No such file or directory
master@mastervm:~/Downloads$ sudo nano /etc/systemd/system/tomcat.service
master@mastervm:~/Downloads$ sudo systemctl daemon-reload
Created symlink /etc/systemd/system/multi-user.target.wants/tomcat.service → /etc/systemd/system/tomcat.service.
master@mastervm:~/Downloads$ sudo systemctl start tomcat
master@mastervm:~/Downloads$ sudo systemctl status tomcat
● tomcat.service - Apache Tomcat 9
   Loaded: loaded (/etc/systemd/system/tomcat.service; enabled; preser
   Active: inactive (dead) since Fri 2025-02-21 15:30:25 IST; 19s ago
     Duration: 2.545s
      Process: 34048 ExecStart=/opt/tomcat9/bin/startup.sh (code=exited, >
      Process: 34085 ExecStop=/opt/tomcat9/bin/shutdown.sh (code=exited, >
       Main PID: 34059 (code=exited, status=0/SUCCESS)
          CPU: 4.852s

```