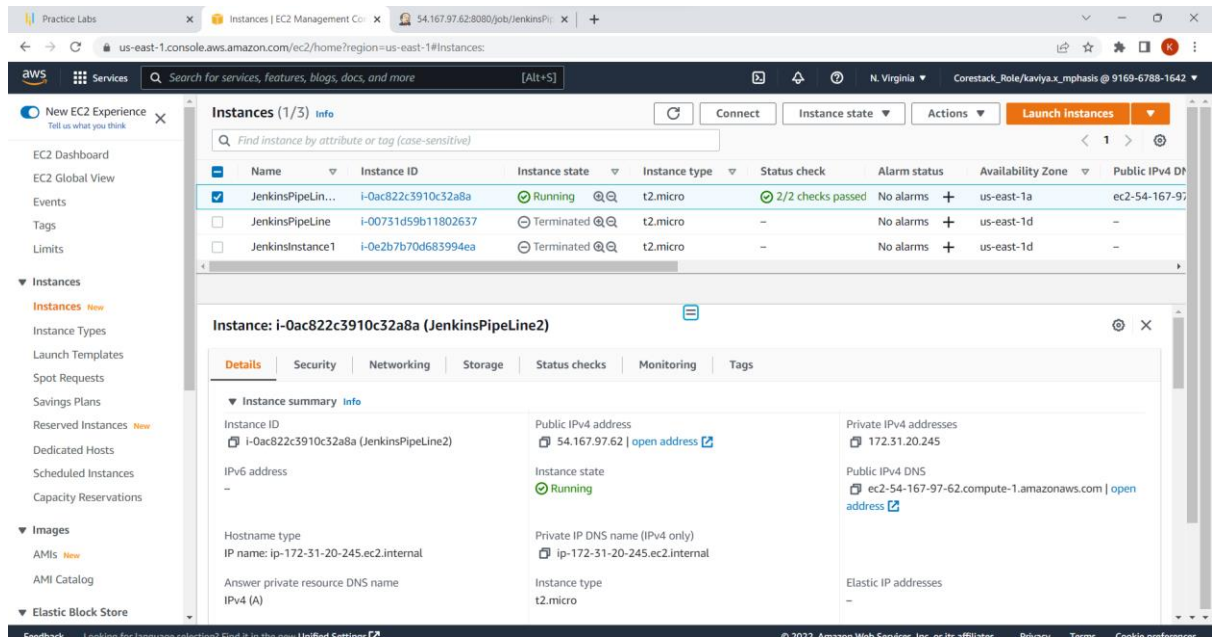


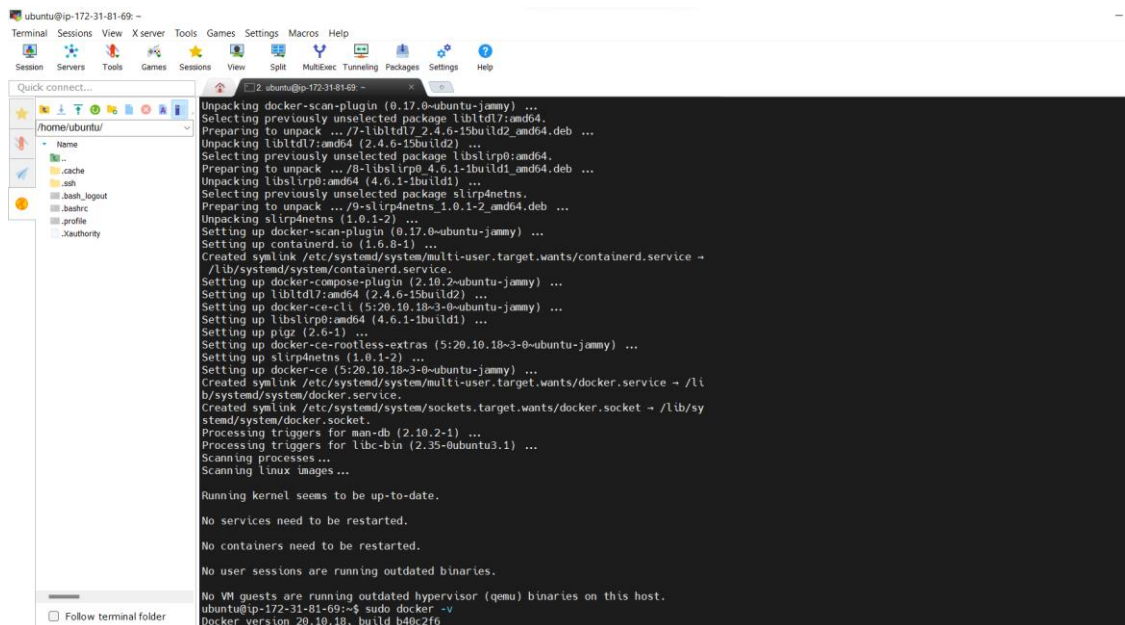
## PRACTICE PROJECT 4

## SOURCE CODE

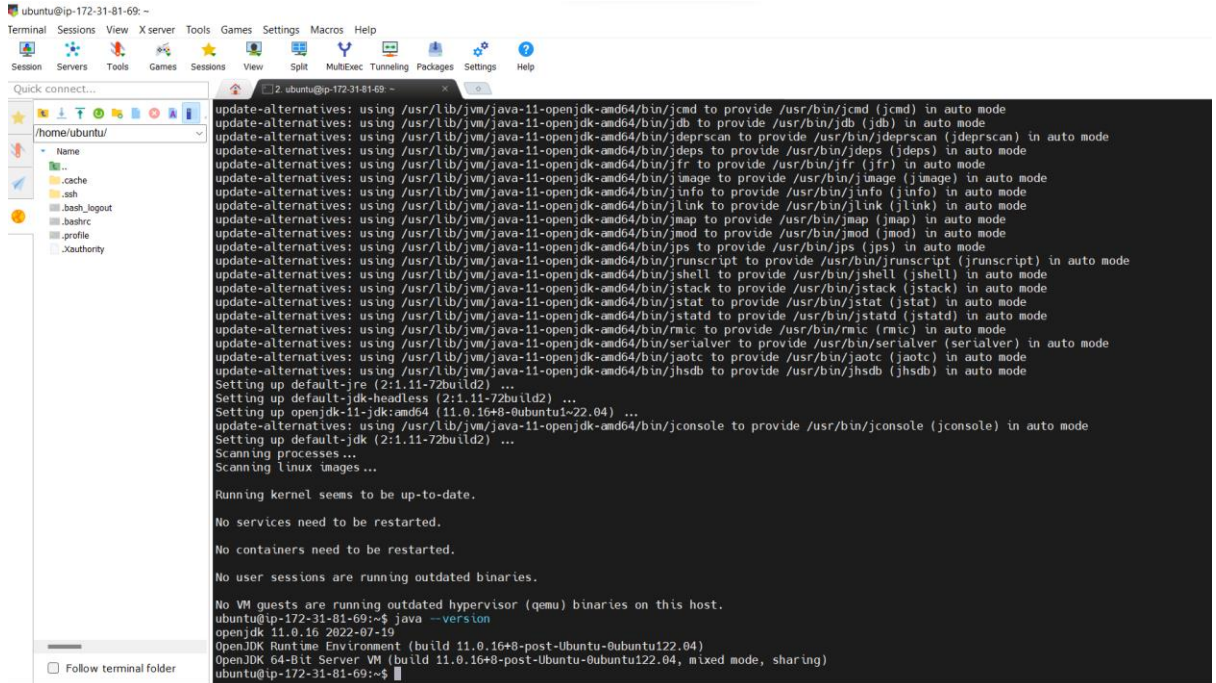
- **Create an Instance:**



- **Install Docker:**

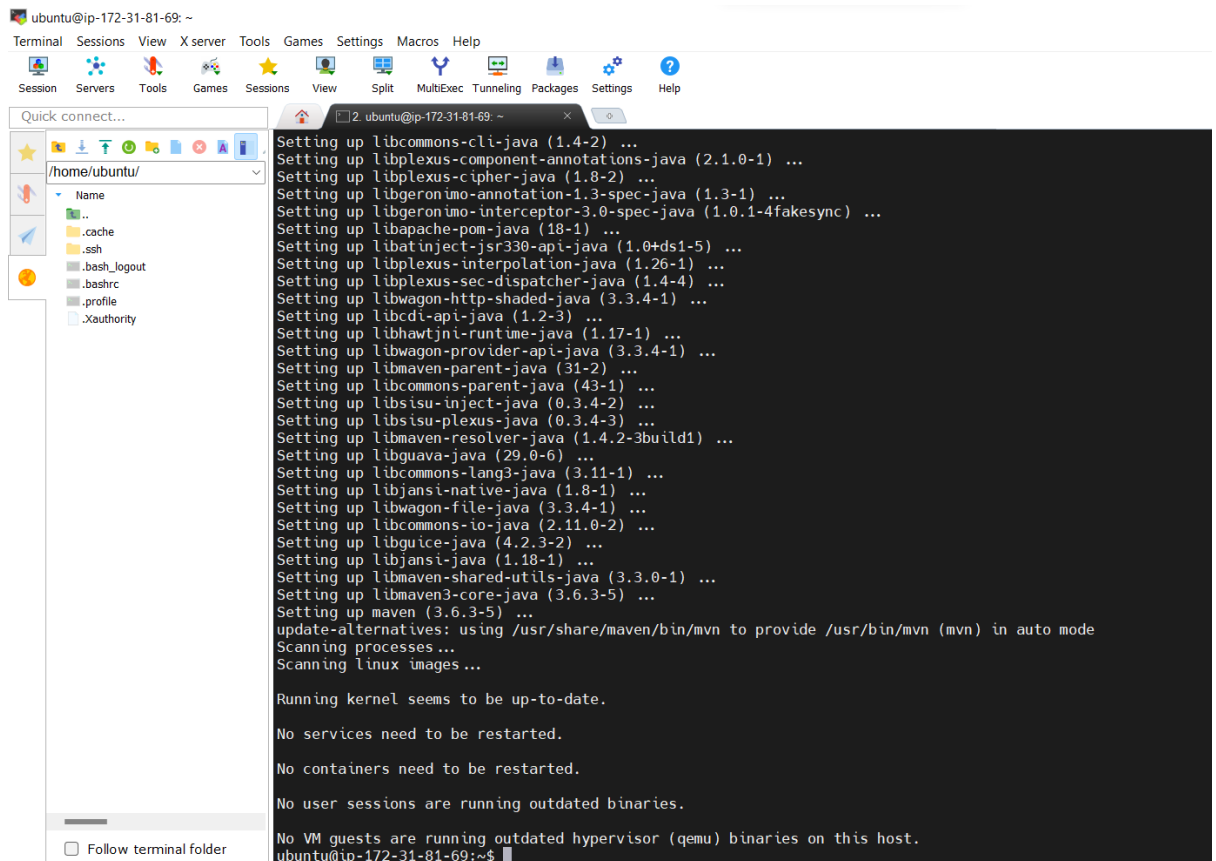


- **Install Java version 11:**



```
ubuntu@ip-172-31-81-69: ~  
Terminal Sessions View X server Tools Games Settings Macros Help  
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help  
Quick connect...  
2. ubuntu@ip-172-31-81-69: ~  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jcmd to provide /usr/bin/jcmd (jcmd) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jdb to provide /usr/bin/jdb (jdb) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jdeprscan to provide /usr/bin/jdeprscan (jdeprscan) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jdeps to provide /usr/bin/jdeps (jdeps) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jfr to provide /usr/bin/jfr (jfr) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jimage to provide /usr/bin/jimage (jimage) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jinfo to provide /usr/bin/jinfo (jinfo) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jlink to provide /usr/bin/jlink (jlink) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jmap to provide /usr/bin/jmap (jmap) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jmod to provide /usr/bin/jmod (jmod) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jps to provide /usr/bin/jps (jps) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jrunscript to provide /usr/bin/jrunscript (jrunscript) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jshell to provide /usr/bin/jshell (jshell) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jstack to provide /usr/bin/jstack (jstack) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jstat to provide /usr/bin/jstat (jstat) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jstatd to provide /usr/bin/jstatd (jstatd) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/rmic to provide /usr/bin/rmic (rmic) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/serialver to provide /usr/bin/serialver (serialver) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jaotc to provide /usr/bin/jaotc (jaotc) in auto mode  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jhshdb to provide /usr/bin/jhshdb (jhshdb) in auto mode  
Setting up default-jre (2:1.11-72build2) ...  
Setting up default-jdk-headless (2:1.11-72build2) ...  
Setting up openjdk-11-jdk:amd64 (11.0.16+8-0ubuntu1~22.04) ...  
update-alternatives: using /usr/lib/jvm/java-11-openjdk-amd64/bin/jconsole to provide /usr/bin/jconsole (jconsole) in auto mode  
Setting up default-jdk (2:1.11-72build2) ...  
Scanning processes ...  
Scanning linux images ...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-81-69:~$ java --version  
openjdk 11.0.16 2022-07-19  
OpenJDK Runtime Environment (build 11.0.16+8-post-Ubuntu-0ubuntu122.04)  
OpenJDK 64-Bit Server VM (build 11.0.16+8-post-Ubuntu-0ubuntu122.04, mixed mode, sharing)  
ubuntu@ip-172-31-81-69:~$
```

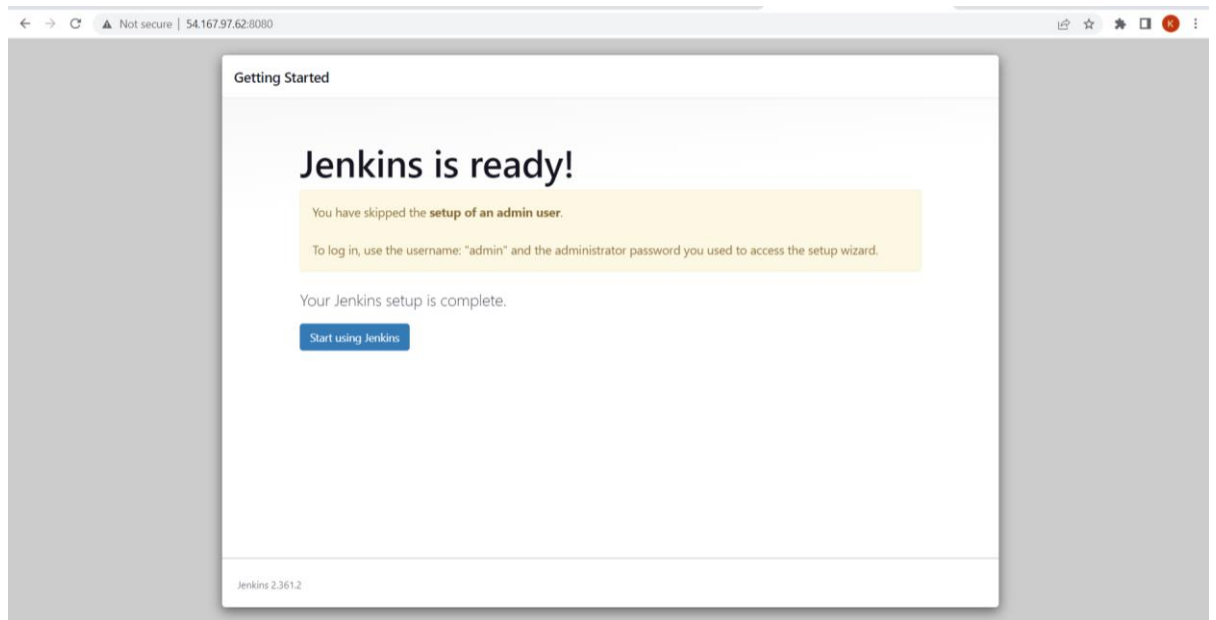
- **Install maven:**



```
ubuntu@ip-172-31-81-69: ~  
Terminal Sessions View X server Tools Games Settings Macros Help  
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help  
Quick connect...  
2. ubuntu@ip-172-31-81-69: ~  
Setting up libcommons-cli-java (1.4-2) ...  
Setting up libplexus-component-annotations-java (2.1.0-1) ...  
Setting up libplexus-cipher-java (1.0-2) ...  
Setting up libgeronimo-annotation-1.3-spec-java (1.3-1) ...  
Setting up libgeronimo-interceptor-3.0-spec-java (1.0.1-4fakesync) ...  
Setting up libapache-pom-java (18-1) ...  
Setting up libatinject-jsr330-api-java (1.0+ds1-5) ...  
Setting up libplexus-interpolation-java (1.26-1) ...  
Setting up libplexus-sec-dispatcher-java (1.4-4) ...  
Setting up libwagon-http-shaded-java (3.3.4-1) ...  
Setting up libcdi-api-java (1.2-3) ...  
Setting up libhawtjni-runtime-java (1.17-1) ...  
Setting up libwagon-provider-api-java (3.3.4-1) ...  
Setting up libmaven-parent-java (3.1-2) ...  
Setting up libcommons-parent-java (43-1) ...  
Setting up libsisu-inject-java (0.3.4-2) ...  
Setting up libsisu-plexus-java (0.3.4-3) ...  
Setting up libmaven-resolver-java (1.4.2-3build1) ...  
Setting up libguava-java (29.0-6) ...  
Setting up libcommons-lang3-java (3.11-1) ...  
Setting up libjansi-native-java (1.8-1) ...  
Setting up libwagon-file-java (3.3.4-1) ...  
Setting up libcommons-io-java (2.11.0-2) ...  
Setting up libguice-java (4.2.3-2) ...  
Setting up libjansi-java (1.18-1) ...  
Setting up libmaven-shared-utils-java (3.3.0-1) ...  
Setting up libmaven3-core-java (3.6.3-5) ...  
Setting up maven (3.6.3-5) ...  
update-alternatives: using /usr/share/maven/bin/mvn to provide /usr/bin/mvn (mvn) in auto mode  
Scanning processes ...  
Scanning linux images ...  
  
Running kernel seems to be up-to-date.  
  
No services need to be restarted.  
  
No containers need to be restarted.  
  
No user sessions are running outdated binaries.  
  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-81-69:~$ mvn -v  
Apache Maven 3.6.3 (3.6.3-5)  
Maven home: /usr/share/maven  
Java version: 11.0.16, vendor: Ubuntu, runtime: /usr/lib/jvm/java-11-openjdk-amd64  
Default locale: en_US, platform encoding: UTF-8  
OS name: linux, version: 5.15.0-46-generic, arch: amd64  
ubuntu@ip-172-31-81-69:~$
```

- **Install Jenkins**

```
ubuntu@ip-172-31-88-191: ~  
Terminal Sessions View X server Tools Games Settings Macros Help  
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help  
Quick connect... 3 ubuntu@ip-172-31-88-191 - x  
/home/ubuntu/  
Name  
..  
.cache  
.ssh  
.bash_history  
.bash_logout  
.bashrc  
.profile  
.sudo_as_admin_successful  
.xauthority  
Running kernel seems to be up-to-date.  
No services need to be restarted.  
No containers need to be restarted.  
No user sessions are running outdated binaries.  
No VM guests are running outdated hypervisor (qemu) binaries on this host.  
ubuntu@ip-172-31-88-191:~$ sudo service jenkins start  
ubuntu@ip-172-31-88-191:~$ sudo service jenkins status  
● jenkins.service - Jenkins Continuous Integration Server  
   Loaded: loaded (/lib/systemd/system/jenkins.service; enabled; vendor preset: enabled)  
   Active: active (running) since Fri 2022-10-07 19:12:19 UTC; 3min 26s ago  
     Main PID: 7425 (java)  
       Tasks: 36 (limit: 1143)  
      Memory: 295.7M  
         CPU: 41.148s  
    CGroup: /system.slice/jenkins.service  
            └─7425 /usr/bin/java -Djava.awt.headless=true -jar /usr/share/java/jenkins.war --webroot=/var/cache/jenkins/war  
  
Oct 07 19:11:49 ip-172-31-88-191 jenkins[7425]: This may also be found at: /var/lib/jenkins/secrets/initialAdminPassword  
Oct 07 19:11:49 ip-172-31-88-191 jenkins[7425]: *****  
Oct 07 19:11:49 ip-172-31-88-191 jenkins[7425]: *****  
Oct 07 19:11:49 ip-172-31-88-191 jenkins[7425]: *****  
Oct 07 19:12:19 ip-172-31-88-191 jenkins[7425]: 2022-10-07 19:12:19.688+0000 [id=28] INFO jenkins.InitReactorRu  
Oct 07 19:12:19 ip-172-31-88-191 jenkins[7425]: 2022-10-07 19:12:19.721+0000 [id=22] INFO hudson.lifecycle.Life  
Oct 07 19:12:19 ip-172-31-88-191 systemd[1]: Started Jenkins Continuous Integration Server.  
Oct 07 19:12:19 ip-172-31-88-191 jenkins[7425]: 2022-10-07 19:12:19.880+0000 [id=44] INFO h.m.DownloadService$D  
Oct 07 19:12:19 ip-172-31-88-191 jenkins[7425]: 2022-10-07 19:12:19.881+0000 [id=44] INFO hudson.util.Retrier#s  
Oct 07 19:12:19 ip-172-31-88-191 jenkins[7425]: 2022-10-07 19:12:19.889+0000 [id=44] INFO hudson.model.AsyncPer  
Go to Settings to activate Windows.  
Lines 1-20/20 (END)  
UNREGISTERED VERSION - Please support MobaXterm by subscribing to the professional edition here: https://mobaxterm.mobatek.net
```



- **Create Jenkins Pipeline:**

Practice Labs

Instances | EC2 Management Co

JenkinsPipeline Config (Jenkins)

+

← → ↻ ⚠ Not secure | 54.167.97.62:8080/job/JenkinsPipeline/configure

Dashboard > JenkinsPipeline >

**Configuration**

⚙ General

🔧 Advanced Project Options

**🔧 Pipeline**

Definition

Pipeline script

Script ?

```
1 pipeline{
2   agent any
3
4   stages{
5     stage('App build'){
6       steps{
7         echo 'App Initiated'
8       }
9     }
10    stage('Image build'){
11      steps{
12        echo 'Image build successful'
13      }
14    }
15    stage('Container build'){
16      steps{
17        echo 'Container build successful'
18      }
19    }
20  }
21 }
```

☒ Use Groovy Sandbox ?

[Pipeline Syntax](#)

Save

Apply

← → ↻ ⚠ Not secure | 54.167.97.62:8080/job/JenkinsPipeline/

Dashboard > JenkinsPipeline >

**Jenkins**

Search (CTRL+K)

1

admin

log out

Status

Changes

**Build Now**

Configure

Delete Pipeline

Full Stage View

Rename

Pipeline Syntax

**Build History**

trend

Filter builds...

#1

Oct 8, 2022 9:48 AM

Atom feed for all

Atom feed for failures

**Pipeline JenkinsPipeLine**

Pipeline Jenkins

[Edit description](#)

Disable Project

**Stage View**

Average stage times:  
(Average full run time: ~5s)

	App build	Image build	Container build	App run
#1 Oct 08 09:48 No Changes	332ms	129ms	101ms	143ms

**Permalinks**

REST API Jenkins 2.361.2

```
Started by user admin
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/JenkinsPipeLine
[Pipeline] {
[Pipeline] stage
[Pipeline] { (App build)
[Pipeline] echo
App Intiated
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Image build)
[Pipeline] echo
Image build successful
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Container build)
[Pipeline] echo
Container build successful
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (App run)
[Pipeline] echo
App running successfully
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```