Date:29/03/2024 **Prepared By: Shrikanth C R**

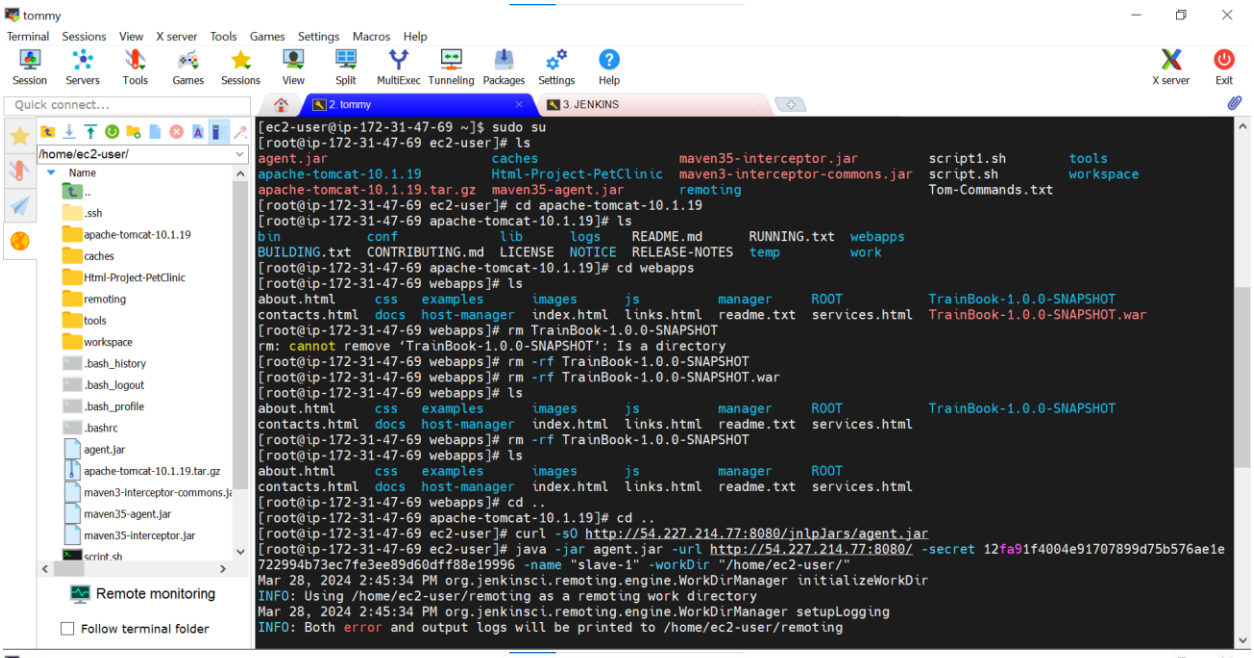
Deploy War File To Tomcat Using Jenkins Pipeline:

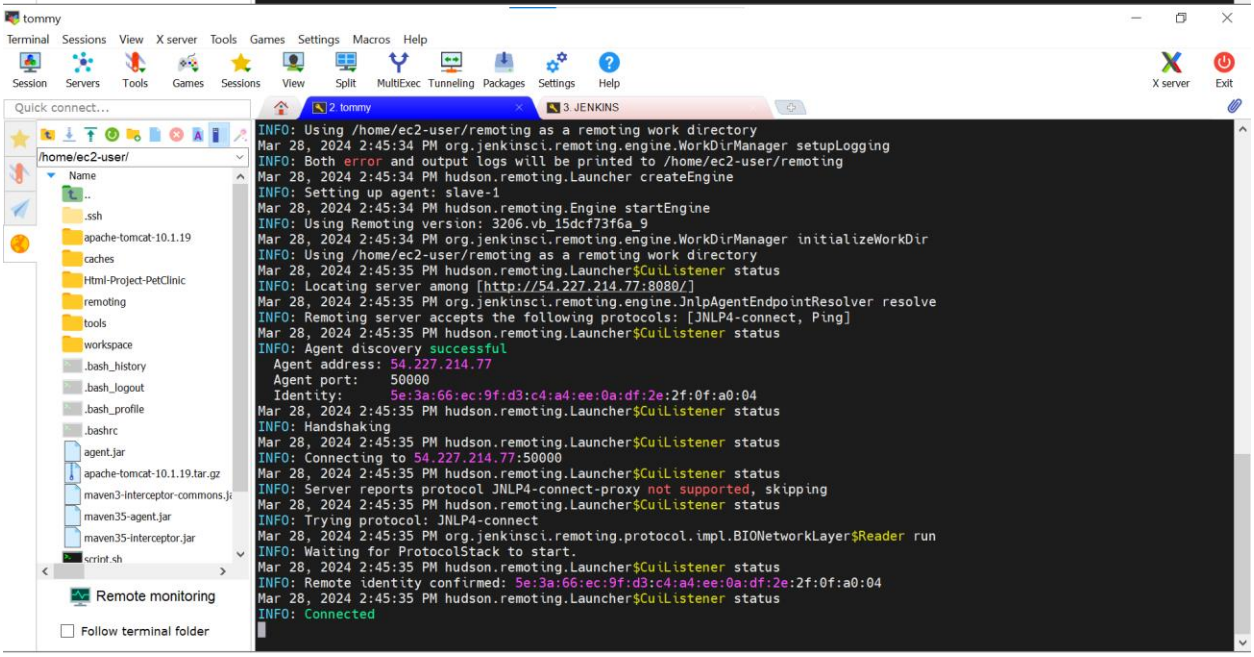
PREQUISITES:

1) Installed Tomcat in one ec2-server.
2) Installed Jenkins in Another ec2-server.

PLUGINS:

1) GIT HUB
2) MAVEN INTEGRATION
3) DEPLOY TO CONTAINER PLUGIN


tommy
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help X server Exit
Quick connect...
2. tommy
3. JENKINS
/home/ec2-user/
Name
.ssh
apache-tomcat-10.1.19
caches
Html-Project-PetClinic
remoting
tools
workspace
.bash_history
.bash_logout
.bash_profile
.bashrc
agent.jar
apache-tomcat-10.1.19.tar.gz
maven35-agent.jar
maven35-interceptor.jar
Remote monitoring
Follow terminal folder
[ec2-user@ip-172-31-47-69 ~]$ sudo su
[root@ip-172-31-47-69 ec2-user]# ls
agent.jar caches maven35-interceptor.jar script1.sh tools
apache-tomcat-10.1.19 Html-Project-PetClinic maven3-interceptor-commons.jar script.sh workspace
apache-tomcat-10.1.19.tar.gz maven35-agent.jar remoting Tom-Commands.txt
[root@ip-172-31-47-69 ec2-user]# cd apache-tomcat-10.1.19
[root@ip-172-31-47-69 apache-tomcat-10.1.19]# ls
bin conf lib logs README.md RUNNING.txt webapps
BUILDING.txt CONTRIBUTING.md LICENSE NOTICE RELEASE-NOTES temp work
[root@ip-172-31-47-69 apache-tomcat-10.1.19]# cd webapps
[root@ip-172-31-47-69 webapps]# ls
about.html css examples images js manager ROOT TrainBook-1.0.0-SNAPSHOT
contacts.html docs host-manager index.html links.html readme.txt services.html TrainBook-1.0.0-SNAPSHOT.war
[root@ip-172-31-47-69 webapps]# rm TrainBook-1.0.0-SNAPSHOT
rm: cannot remove 'TrainBook-1.0.0-SNAPSHOT': Is a directory
[root@ip-172-31-47-69 webapps]# rm -rf TrainBook-1.0.0-SNAPSHOT
[root@ip-172-31-47-69 webapps]# rm -rf TrainBook-1.0.0-SNAPSHOT.war
[root@ip-172-31-47-69 webapps]# ls
about.html css examples images js manager ROOT TrainBook-1.0.0-SNAPSHOT
contacts.html docs host-manager index.html links.html readme.txt services.html
[root@ip-172-31-47-69 webapps]# rm -rf TrainBook-1.0.0-SNAPSHOT
[root@ip-172-31-47-69 webapps]# ls
about.html css examples images js manager ROOT
contacts.html docs host-manager index.html links.html readme.txt services.html
[root@ip-172-31-47-69 webapps]# cd ..
[root@ip-172-31-47-69 apache-tomcat-10.1.19]# cd ..
[root@ip-172-31-47-69 ec2-user]# curl -sO http://54.227.214.77:8080/jnlpJars/agent.jar
[root@ip-172-31-47-69 ec2-user]# java -jar agent.jar -url http://54.227.214.77:8080/ -secret 12fa91f4004e91707899d75b576ae1e722994b73ec7fe3ee89d60dff88e19996 -name "slave-1" -workDir "/home/ec2-user/"
Mar 28, 2024 2:45:34 PM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Mar 28, 2024 2:45:34 PM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/ec2-user/remoting


tommy
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help X server Exit
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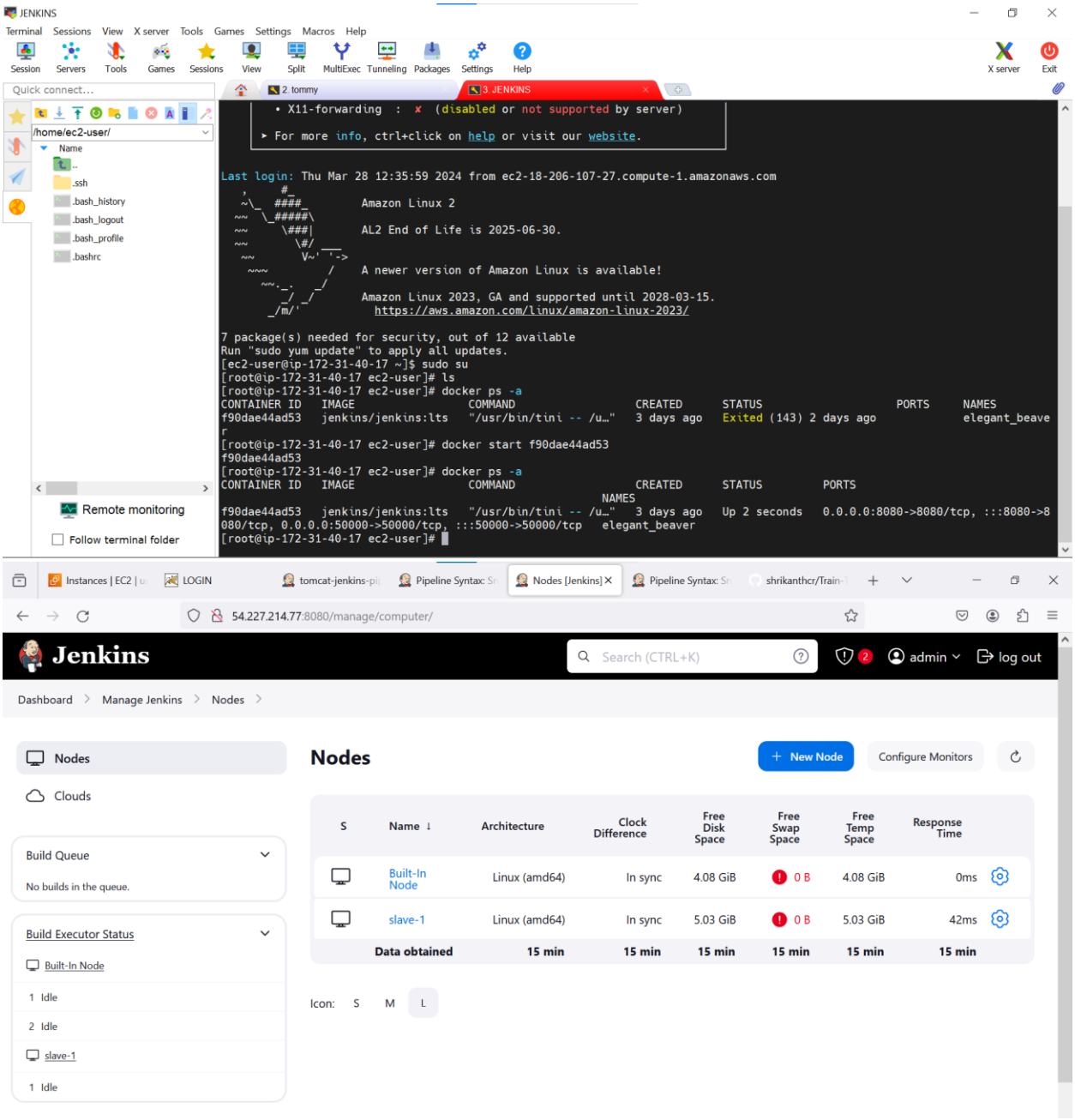
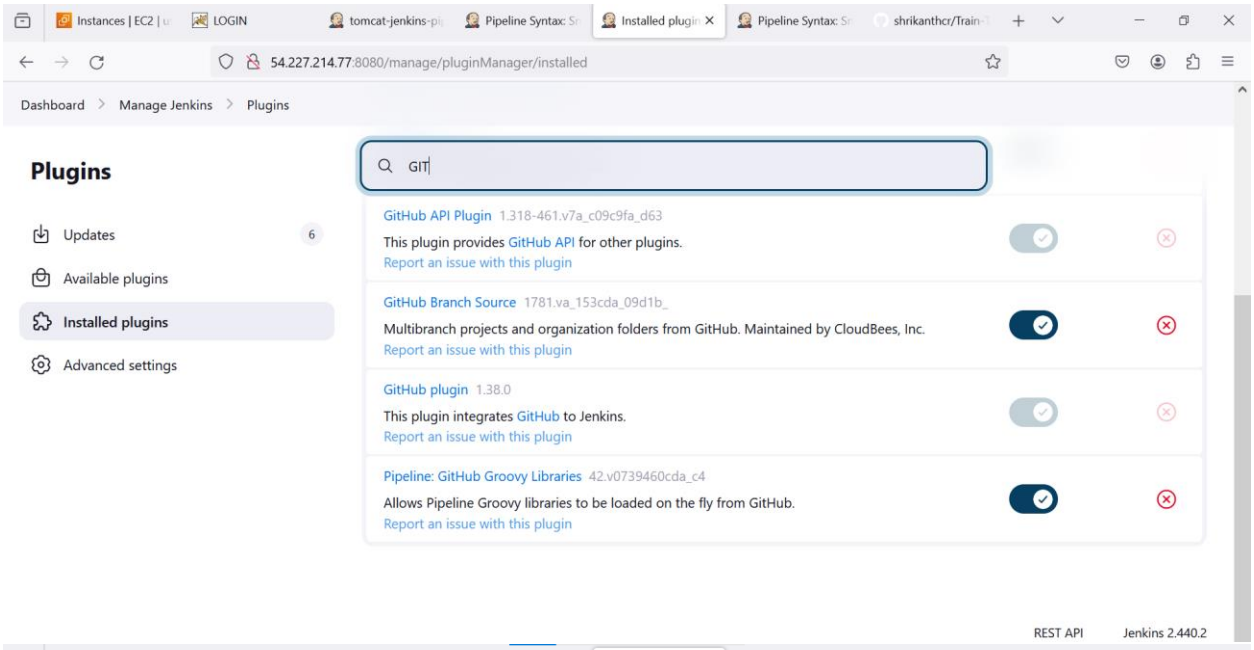
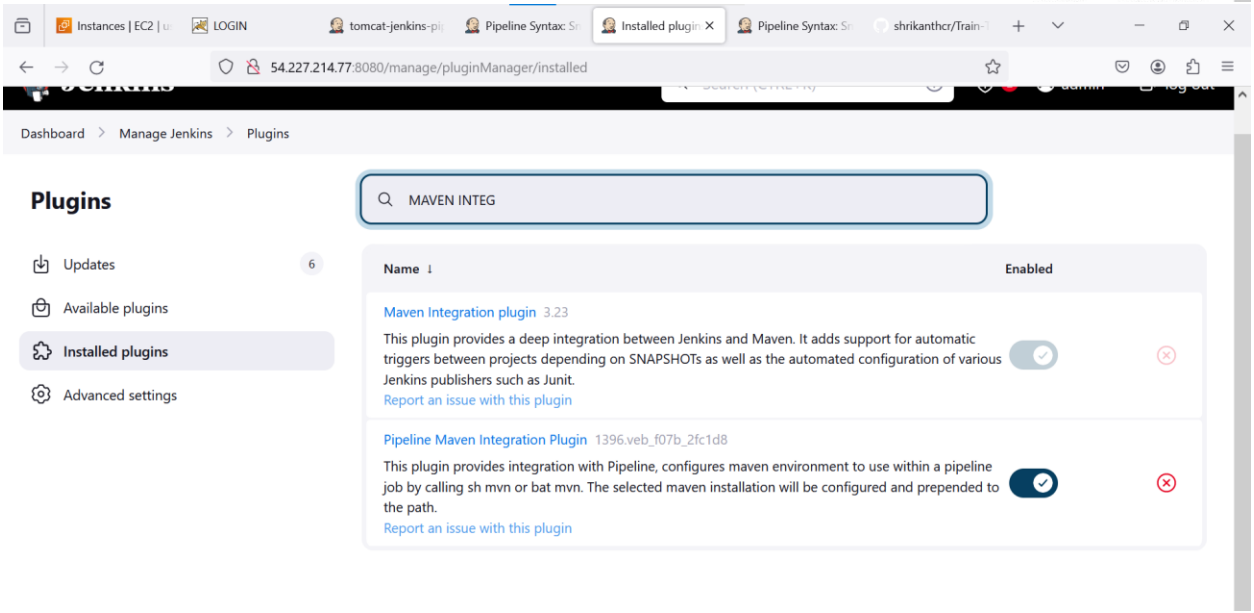
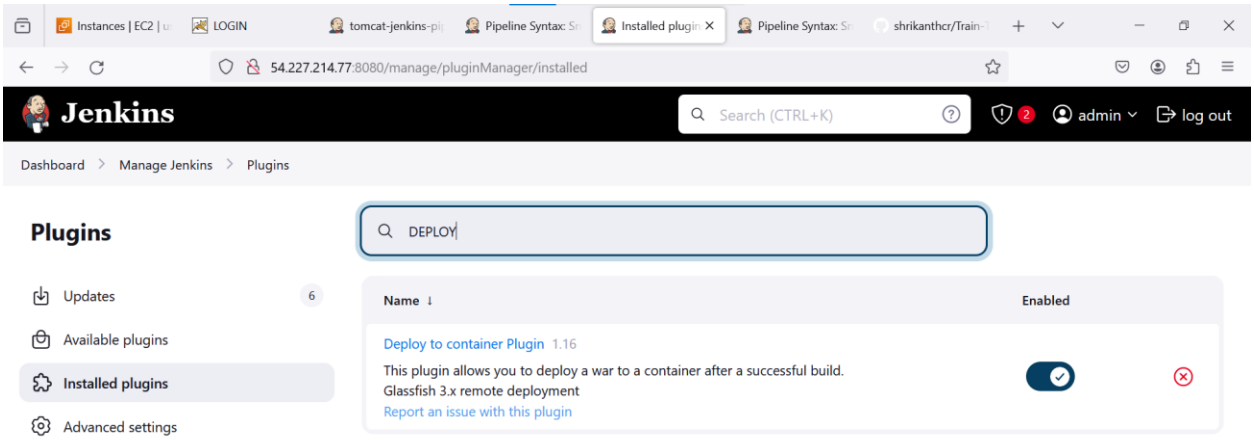
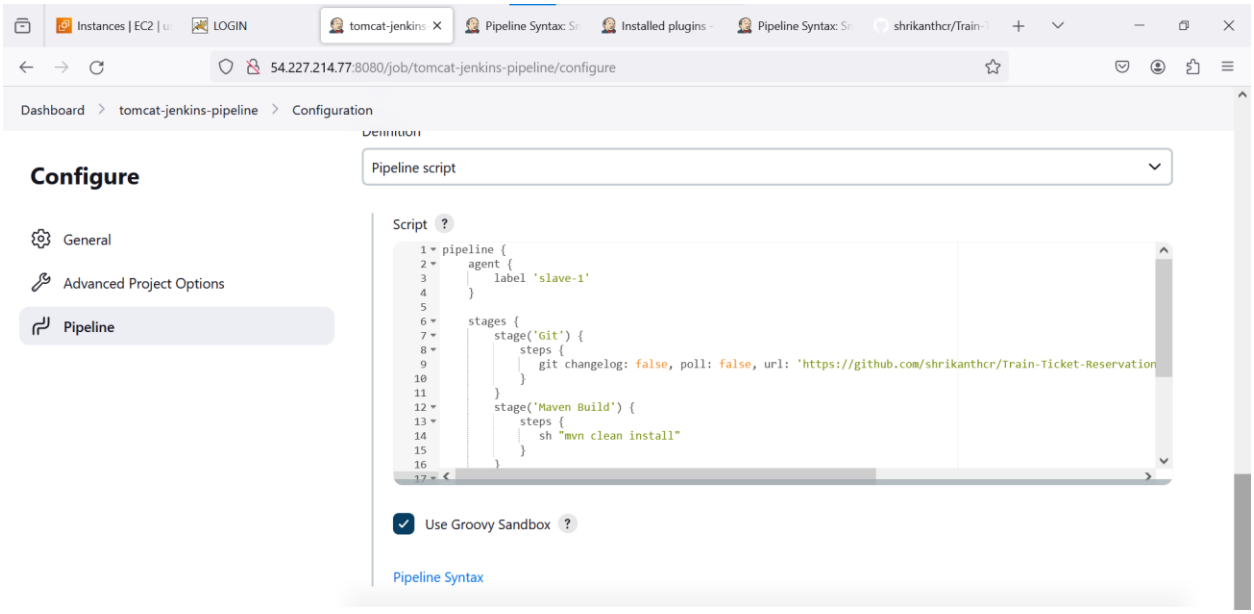
.bash_logout
.bash_profile
.bashrc
agent.jar
apache-tomcat-10.1.19.tar.gz
maven35-agent.jar
maven35-interceptor.jar
Remote monitoring
Follow terminal folder
INFO: Using /home/ec2-user/remoting as a remoting work directory
Mar 28, 2024 2:45:34 PM org.jenkinsci.remoting.engine.WorkDirManager setupLogging
INFO: Both error and output logs will be printed to /home/ec2-user/remoting
Mar 28, 2024 2:45:34 PM hudson.remoting.Launcher createEngine
INFO: Setting up agent: slave-1
Mar 28, 2024 2:45:34 PM hudson.remoting.Engine startEngine
INFO: Using Remoting version: 3206.vb_15dcf73f6a_9
Mar 28, 2024 2:45:34 PM org.jenkinsci.remoting.engine.WorkDirManager initializeWorkDir
INFO: Using /home/ec2-user/remoting as a remoting work directory
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Locating server among [http://54.227.214.77:8080/]
Mar 28, 2024 2:45:35 PM org.jenkinsci.remoting.engine.JnlpAgentEndpointResolver resolve
INFO: Remoting server accepts the following protocols: [JNLP4-connect, Ping]
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Agent discovery successful
Agent address: 54.227.214.77
Agent port: 50000
Identity: 5e:3a:66:ec:9f:d3:c4:a4:ee:0a:df:2e:2f:0f:a0:04
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Handshaking
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Connecting to 54.227.214.77:50000
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Server reports protocol JNLP4-connect-proxy not supported, skipping
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Trying protocol: JNLP4-connect
Mar 28, 2024 2:45:35 PM org.jenkinsci.remoting.protocol.impl.BIONetworkLayer$Reader run
INFO: Waiting for ProtocolStack to start.
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Remote identity confirmed: 5e:3a:66:ec:9f:d3:c4:a4:ee:0a:df:2e:2f:0f:a0:04
Mar 28, 2024 2:45:35 PM hudson.remoting.Launcher$CuiListener status
INFO: Connected

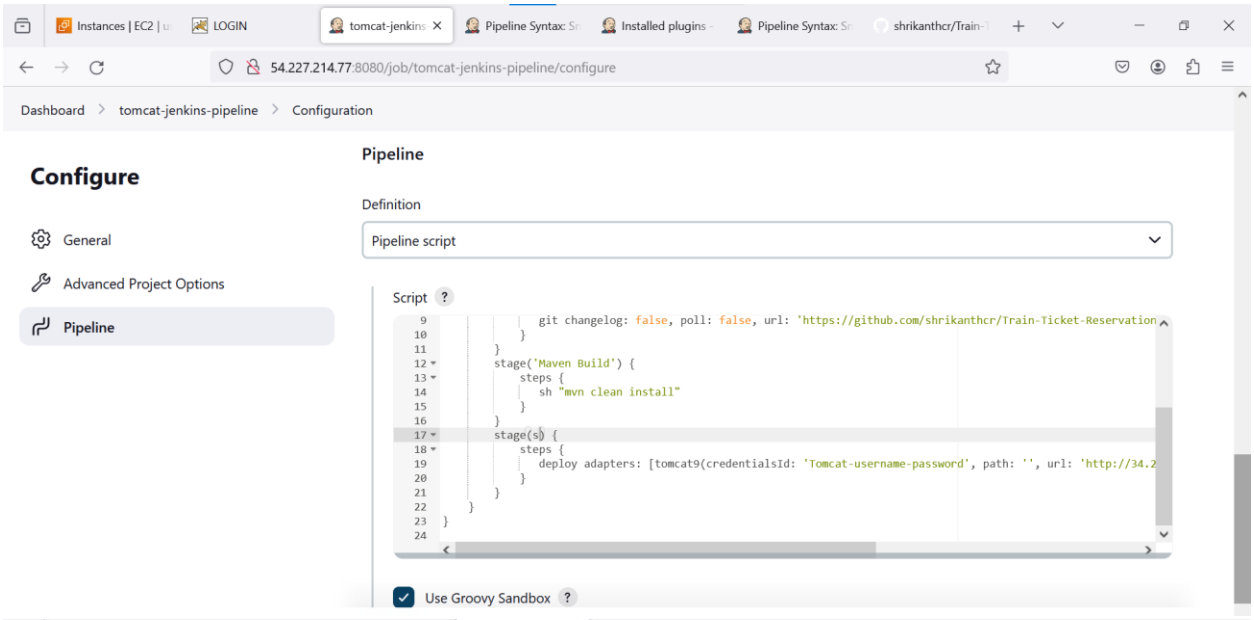

JENKINS
Terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
X server Exit
Quick connect...
2. tommy
3. JENKINS
• X11-forwarding : x (disabled or not supported by server)
➤ For more info, ctrl+click on help or visit our website.
Last login: Thu Mar 28 12:35:59 2024 from ec2-18-206-107-27.compute-1.amazonaws.com
Amazon Linux 2
AL2 End of Life is 2025-06-30.
A newer version of Amazon Linux is available!
Amazon Linux 2023, GA and supported until 2028-03-15.
https://aws.amazon.com/linux/amazon-linux-2023/
7 package(s) needed for security, out of 12 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-40-17 ~]$ sudo su
[root@ip-172-31-40-17 ec2-user]# ls
[root@ip-172-31-40-17 ec2-user]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
f90dae44ad53 jenkins/jenkins:lts "/usr/bin/tini -- /u…" 3 days ago Exited (143) 2 days ago elegant_beaver
[root@ip-172-31-40-17 ec2-user]# docker start f90dae44ad53
f90dae44ad53
[root@ip-172-31-40-17 ec2-user]# docker ps -a
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
f90dae44ad53 jenkins/jenkins:lts "/usr/bin/tini -- /u…" 3 days ago Up 2 seconds 0.0.0.0:8080->8080/tcp, :::8080->8080/tcp, 0.0.0.0:50000->50000/tcp, :::50000->50000/tcp elegant_beaver
[root@ip-172-31-40-17 ec2-user]#
/home/ec2-user/
Name
.ssh
.bash_history
.bash_logout
.bash_profile
.bashrc
Remote monitoring
Follow terminal folder
Instances | EC2 | u
LOGIN
tomcat-jenkins-pi
Pipeline Syntax: Sr
Nodes [Jenkins]
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/manage/computer/
Jenkins
Search (CTRL+K)
admin
log out
Dashboard > Manage Jenkins > Nodes >
Nodes
Clouds
Build Queue
No builds in the queue.
Build Executor Status
Built-In Node
1 Idle
2 Idle
slave-1
1 Idle
Nodes
New Node
Configure Monitors
S
Name
Architecture
Clock Difference
Free Disk Space
Free Swap Space
Free Temp Space
Response Time
Built-In Node
Linux (amd64)
In sync
4.08 GiB
0 B
4.08 GiB
0ms
slave-1
Linux (amd64)
In sync
5.03 GiB
0 B
5.03 GiB
42ms
Data obtained
15 min
15 min
15 min
15 min
15 min
15 min
Icon: S M L

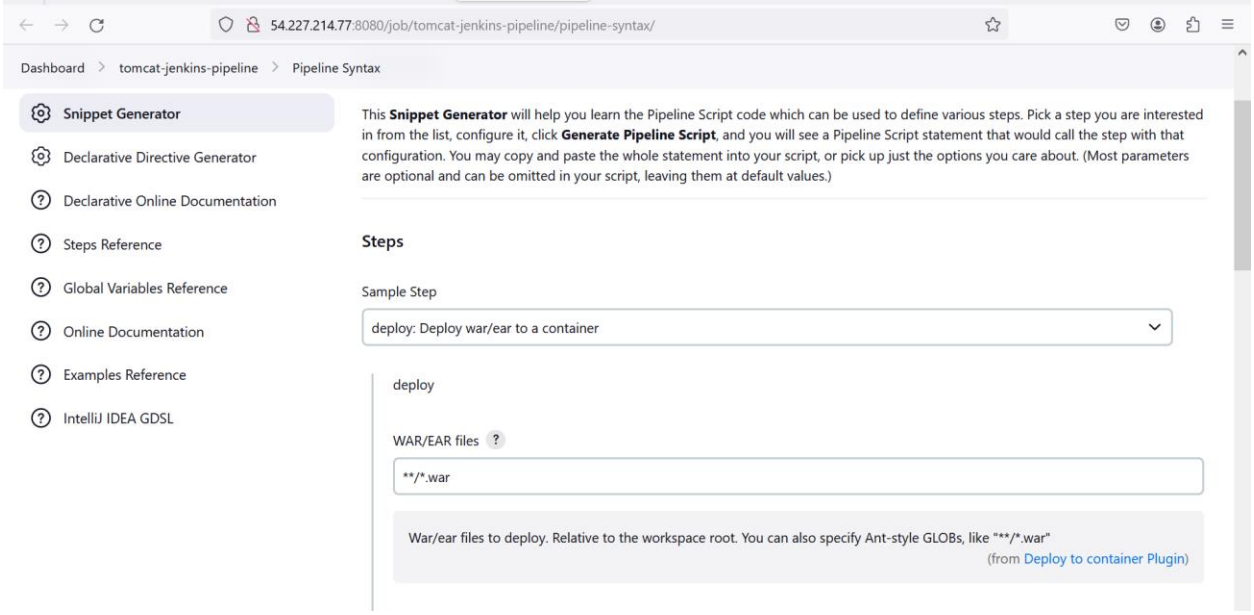

Instances | EC2 | u
LOGIN
tomcat-jenkins-pi
Pipeline Syntax: Sr
Installed plugin
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/manage/pluginManager/installed
Dashboard > Manage Jenkins > Plugins
Plugins
GIT
Updates 6
Available plugins
Installed plugins
Advanced settings
GitHub API Plugin 1.318-461.v7a_c09c9fa_d63
This plugin provides GitHub API for other plugins.
Report an issue with this plugin
GitHub Branch Source 1781.va_153cda_09d1b_
Multibranch projects and organization folders from GitHub. Maintained by CloudBees, Inc.
Report an issue with this plugin
GitHub plugin 1.38.0
This plugin integrates GitHub to Jenkins.
Report an issue with this plugin
Pipeline: GitHub Groovy Libraries 42.v0739460cda_c4
Allows Pipeline Groovy libraries to be loaded on the fly from GitHub.
Report an issue with this plugin
REST API
Jenkins 2.440.2

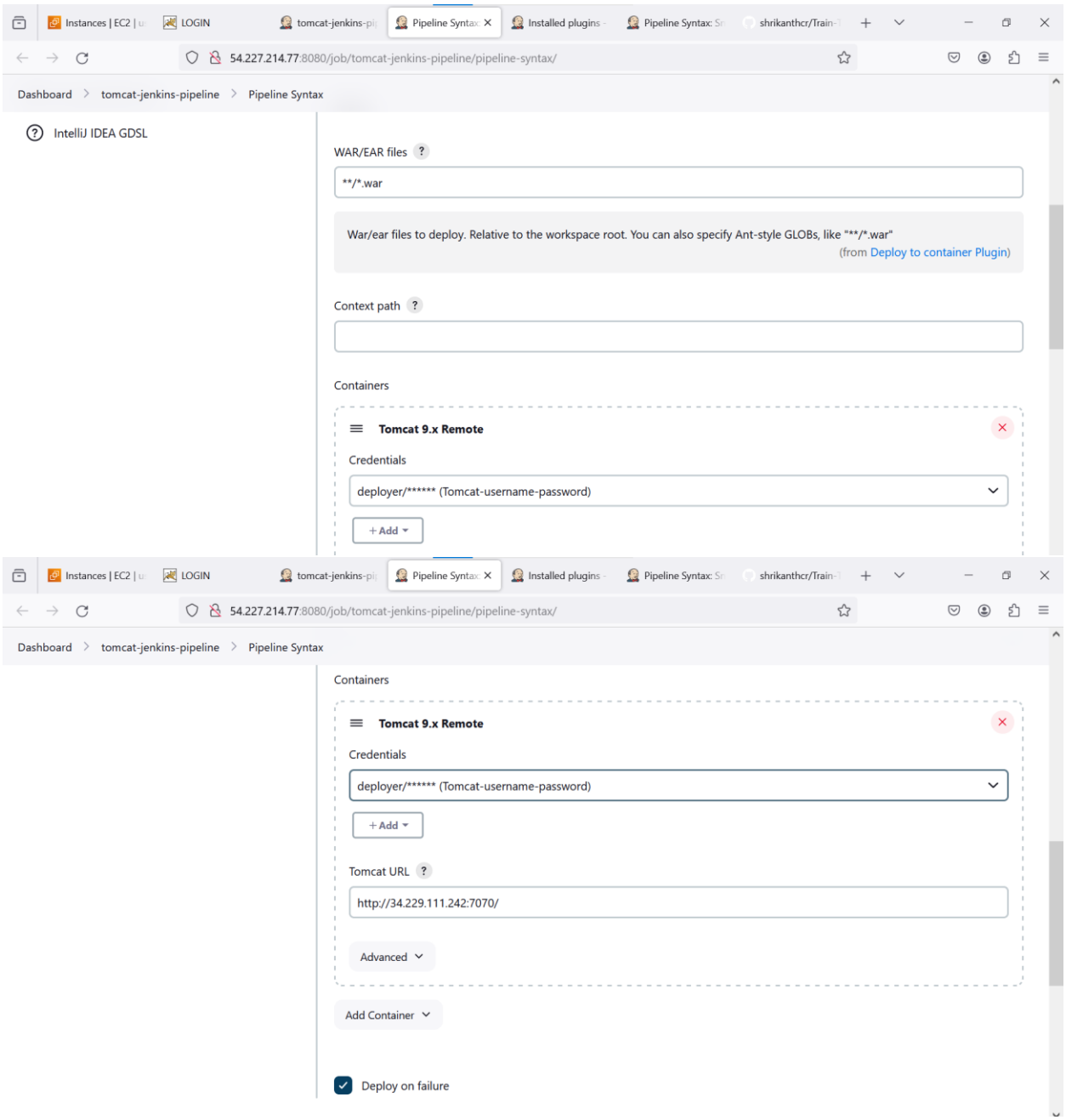

Instances | EC2 | u
LOGIN
tomcat-jenkins-pi
Pipeline Syntax: Sr
Installed plugin
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/manage/pluginManager/installed
Dashboard > Manage Jenkins > Plugins
Plugins
MAVEN INTEG
Updates 6
Available plugins
Installed plugins
Advanced settings
Name
Enabled
Maven Integration plugin 3.23
This plugin provides a deep integration between Jenkins and Maven. It adds support for automatic triggers between projects depending on SNAPSHOTs as well as the automated configuration of various Jenkins publishers such as Junit.
Report an issue with this plugin
Pipeline Maven Integration Plugin 1396.veb_f07b_2fc1d8
This plugin provides integration with Pipeline, configures maven environment to use within a pipeline job by calling sh mvn or bat mvn. The selected maven installation will be configured and prepended to the path.
Report an issue with this plugin


Instances | EC2 | u
LOGIN
tomcat-jenkins-pi
Pipeline Syntax: Sr
Installed plugin
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/manage/pluginManager/installed
Jenkins
Search (CTRL+K)
admin
log out
Dashboard
Manage Jenkins
Plugins
Plugins
DEPLOY
Updates
6
Available plugins
Installed plugins
Advanced settings
Name
Enabled
Deploy to container Plugin 1.16
This plugin allows you to deploy a war to a container after a successful build.
Glassfish 3.x remote deployment
Report an issue with this plugin


Instances | EC2 | u
LOGIN
tomcat-jenkins
Pipeline Syntax: Sr
Installed plugins
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/job/tomcat-jenkins-pipeline/configure
Dashboard
tomcat-jenkins-pipeline
Configuration
Configure
General
Advanced Project Options
Pipeline
Pipeline script
Script
pipeline {
agent {
label 'slave-1'
}
stages {
stage('Git') {
steps {
git changelog: false, poll: false, url: 'https://github.com/shrikanthcr/Train-Ticket-Reservation
}
}
stage('Maven Build') {
steps {
sh "mvn clean install"
}
}
Use Groovy Sandbox
Pipeline Syntax


Instances | EC2 | u
LOGIN
tomcat-jenkins
Pipeline Syntax: Sr
Installed plugins -
Pipeline Syntax: Sr
shrikanthcr/Train-T
54.227.214.77:8080/job/tomcat-jenkins-pipeline/configure
Dashboard > tomcat-jenkins-pipeline > Configuration
Configure
General
Advanced Project Options
Pipeline
Pipeline
Definition
Pipeline script
Script
git changelog: false, poll: false, url: 'https://github.com/shrikanthcr/Train-Ticket-Reservation
}
}
stage('Maven Build') {
steps {
sh "mvn clean install"
}
}
stage(s) {
steps {
deploy adapters: [tomcat9(credentialsId: 'Tomcat-username-password', path: '', url: 'http://34.2
}
}
}
}
Use Groovy Sandbox


54.227.214.77:8080/job/tomcat-jenkins-pipeline/pipeline-syntax/
Dashboard > tomcat-jenkins-pipeline > Pipeline Syntax
Snippet Generator
Declarative Directive Generator
Declarative Online Documentation
Steps Reference
Global Variables Reference
Online Documentation
Examples Reference
IntelliJ IDEA GDSL
This Snippet Generator will help you learn the Pipeline Script code which can be used to define various steps. Pick a step you are interested in from the list, configure it, click Generate Pipeline Script, and you will see a Pipeline Script statement that would call the step with that configuration. You may copy and paste the whole statement into your script, or pick up just the options you care about. (Most parameters are optional and can be omitted in your script, leaving them at default values.)
Steps
Sample Step
deploy: Deploy war/ear to a container
deploy
WAR/EAR files
**/*.war
War/ear files to deploy. Relative to the workspace root. You can also specify Ant-style GLOBs, like "**/*.war"
(from Deploy to container Plugin)


Instances | EC2 | u
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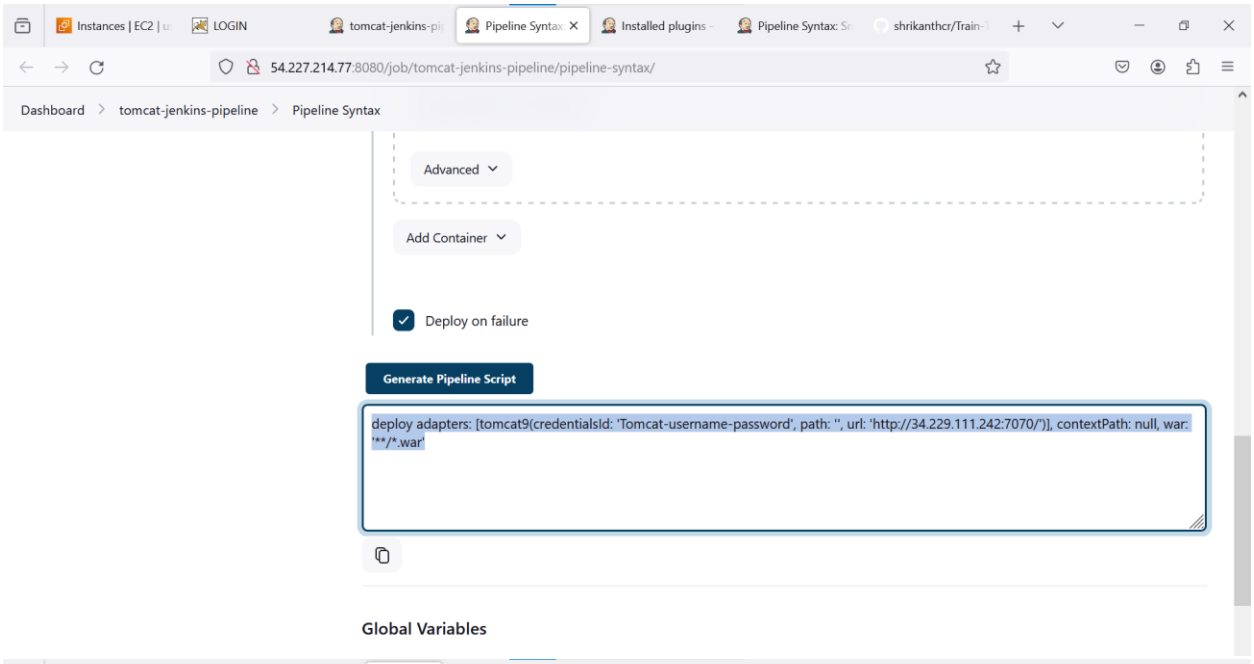
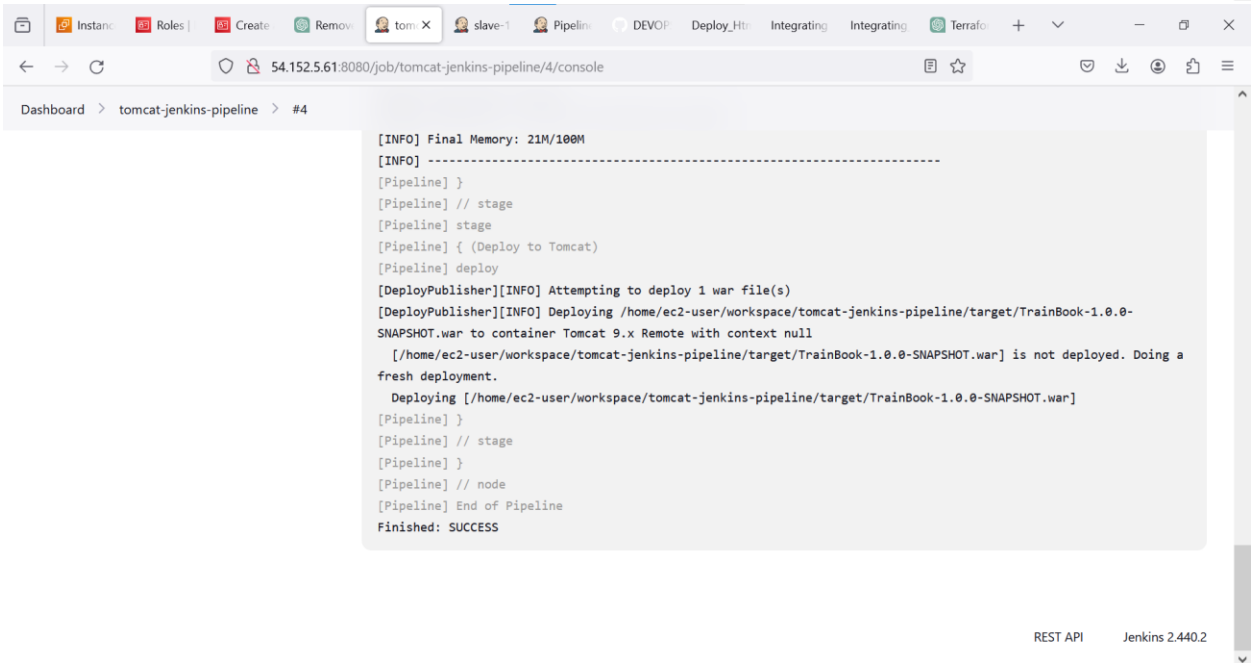
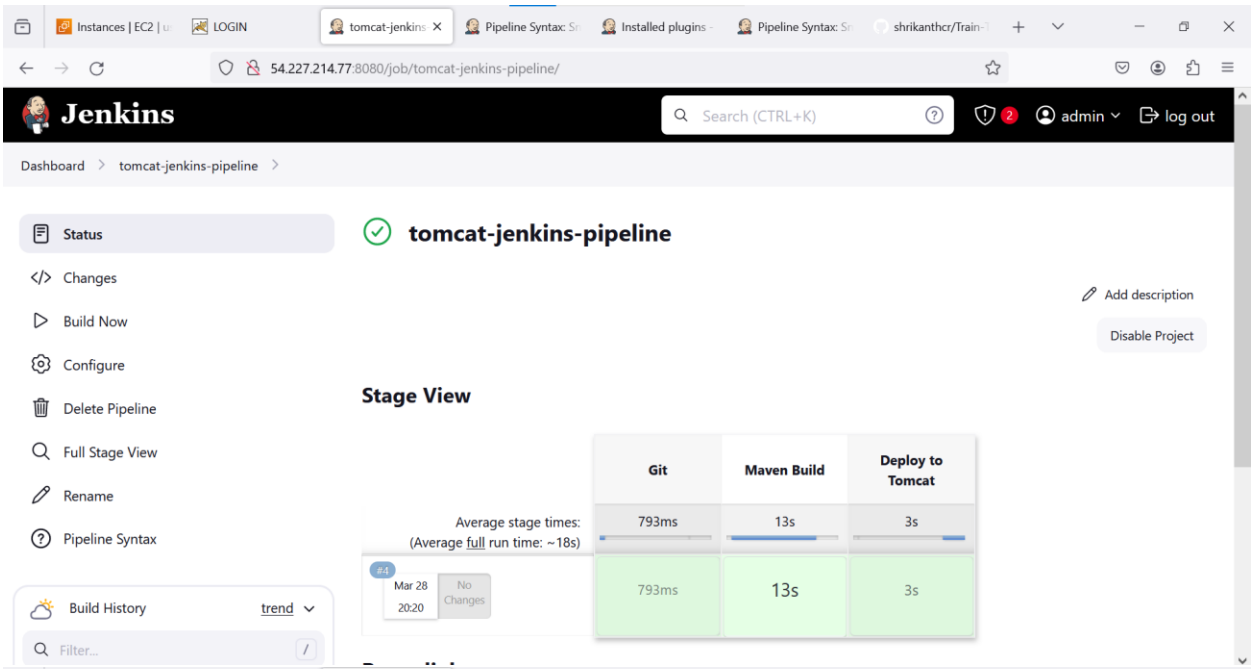
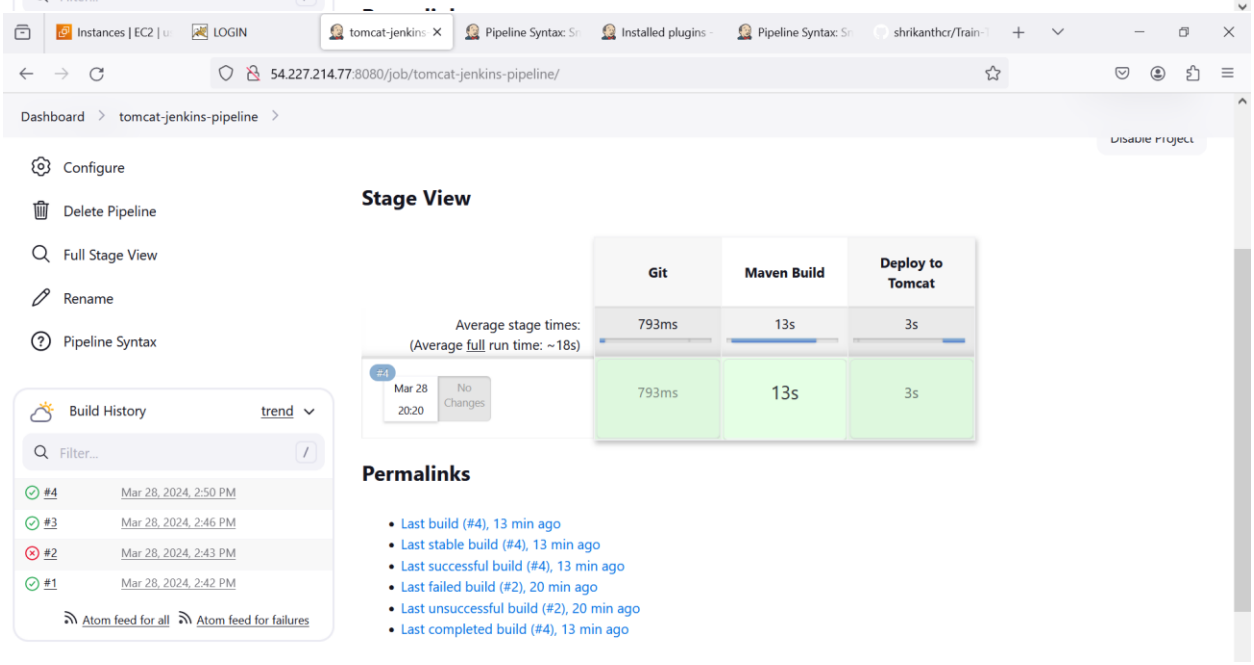
tomcat-jenkins-pi
Pipeline Syntax
Installed plugins
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/job/tomcat-jenkins-pipeline/pipeline-syntax/
Dashboard
tomcat-jenkins-pipeline
Pipeline Syntax
IntelliJ IDEA GDSL
WAR/EAR files
**/*.war
War/ear files to deploy. Relative to the workspace root. You can also specify Ant-style GLOBs, like "**/*.war"
(from Deploy to container Plugin)
Context path
Containers
Tomcat 9.x Remote
Credentials
deployer/****** (Tomcat-username-password)
+ Add
Instances | EC2 | u
LOGIN
tomcat-jenkins-pi
Pipeline Syntax
Installed plugins
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/job/tomcat-jenkins-pipeline/pipeline-syntax/
Dashboard
tomcat-jenkins-pipeline
Pipeline Syntax
Containers
Tomcat 9.x Remote
Credentials
deployer/****** (Tomcat-username-password)
+ Add
Tomcat URL
http://34.229.111.242:7070/
Advanced
Add Container
Deploy on failure

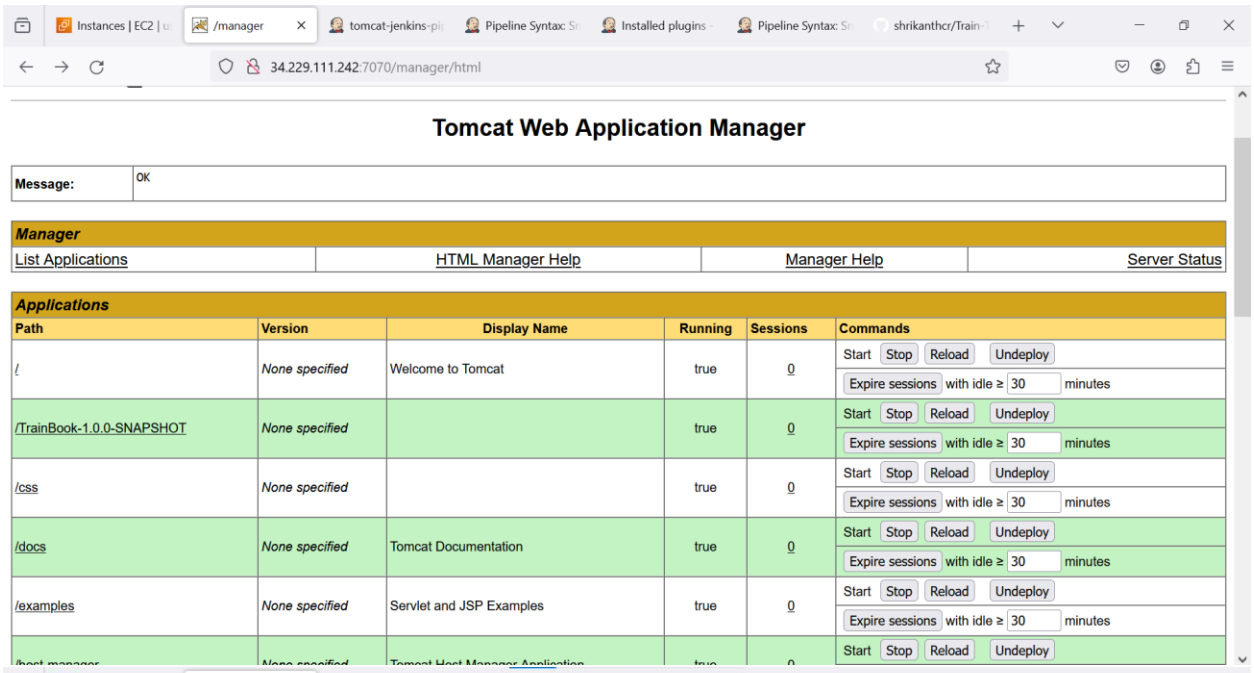


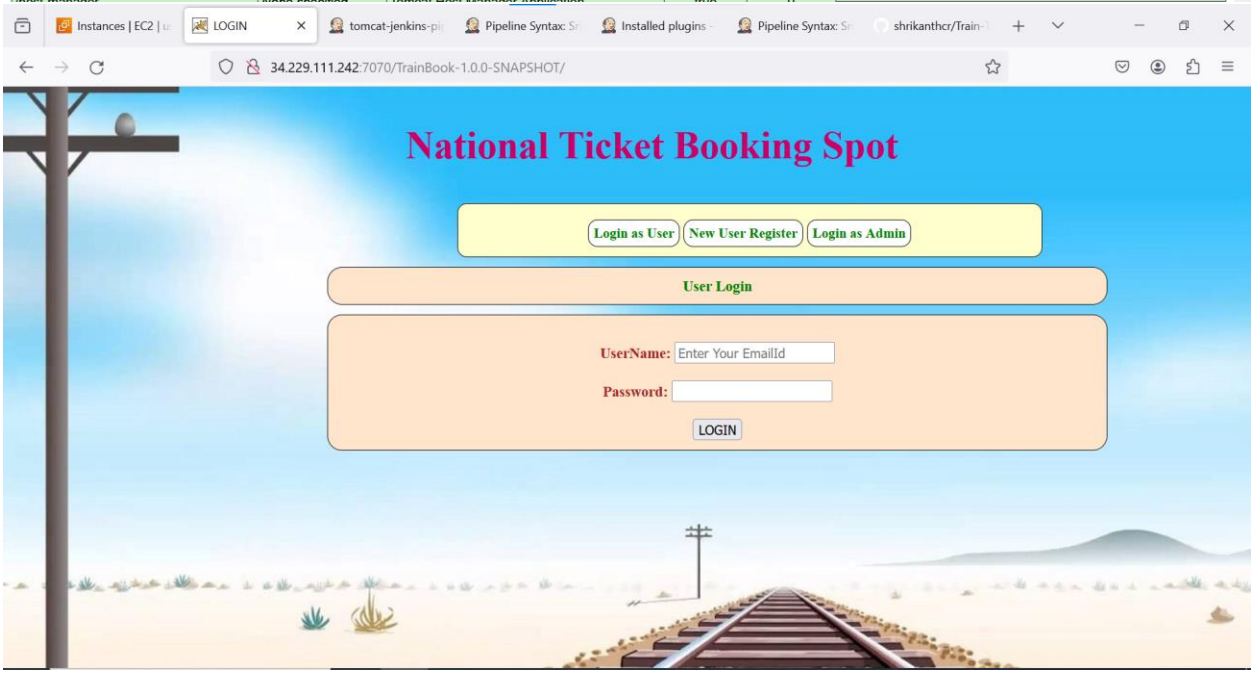
Global Variables




Instances | EC2 | u
LOGIN
tomcat-jenkins
Pipeline Syntax: Sr
Installed plugins -
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/job/tomcat-jenkins-pipeline/
Jenkins
Search (CTRL+K)
admin
log out
Dashboard
tomcat-jenkins-pipeline
Status
Changes
Build Now
Configure
Delete Pipeline
Full Stage View
Rename
Pipeline Syntax
tomcat-jenkins-pipeline
Add description
Disable Project
Stage View
Git
Maven Build
Deploy to Tomcat
Average stage times:
(Average full run time: ~18s)
793ms
13s
3s
#4
Mar 28
20:20
No Changes
793ms
13s
3s
Build History
trend
Filter...


Instances | EC2 | u
LOGIN
tomcat-jenkins
Pipeline Syntax: Sr
Installed plugins -
Pipeline Syntax: Sr
shrikanthcr/Train-
54.227.214.77:8080/job/tomcat-jenkins-pipeline/
Dashboard
tomcat-jenkins-pipeline
Configure
Delete Pipeline
Full Stage View
Rename
Pipeline Syntax
Stage View
Git
Maven Build
Deploy to Tomcat
Average stage times:
(Average full run time: ~18s)
793ms
13s
3s
#4
Mar 28
20:20
No Changes
793ms
13s
3s
Build History
trend
Filter...
#4 Mar 28, 2024, 2:50 PM
#3 Mar 28, 2024, 2:46 PM
#2 Mar 28, 2024, 2:43 PM
#1 Mar 28, 2024, 2:42 PM
Atom feed for all
Atom feed for failures
Permalinks
Last build (#4), 13 min ago
Last stable build (#4), 13 min ago
Last successful build (#4), 13 min ago
Last failed build (#2), 20 min ago
Last unsuccessful build (#2), 20 min ago
Last completed build (#4), 13 min ago






```
pipeline {
   agent {
      label 'slave-1'
   }
```

```
    stages {
        stage('Git') {
            steps {
                git changelog: false, poll: false, url: 'https://github.com/shrikanthcr/Train-Ticket-Reservation-System.git'
            }
        }
        stage('Maven Build') {
            steps {
                sh "mvn clean install"
            }
        }
        stage('Deploy to Tomcat') {
            steps {
                deploy adapters: [tomcat9(credentialsId: 'Tomcat-username-password', path: '', url: 'http://34.229.111.242:7070/')], contextPath: null, war: '**/*.war'
            }
        }
    }
}
```