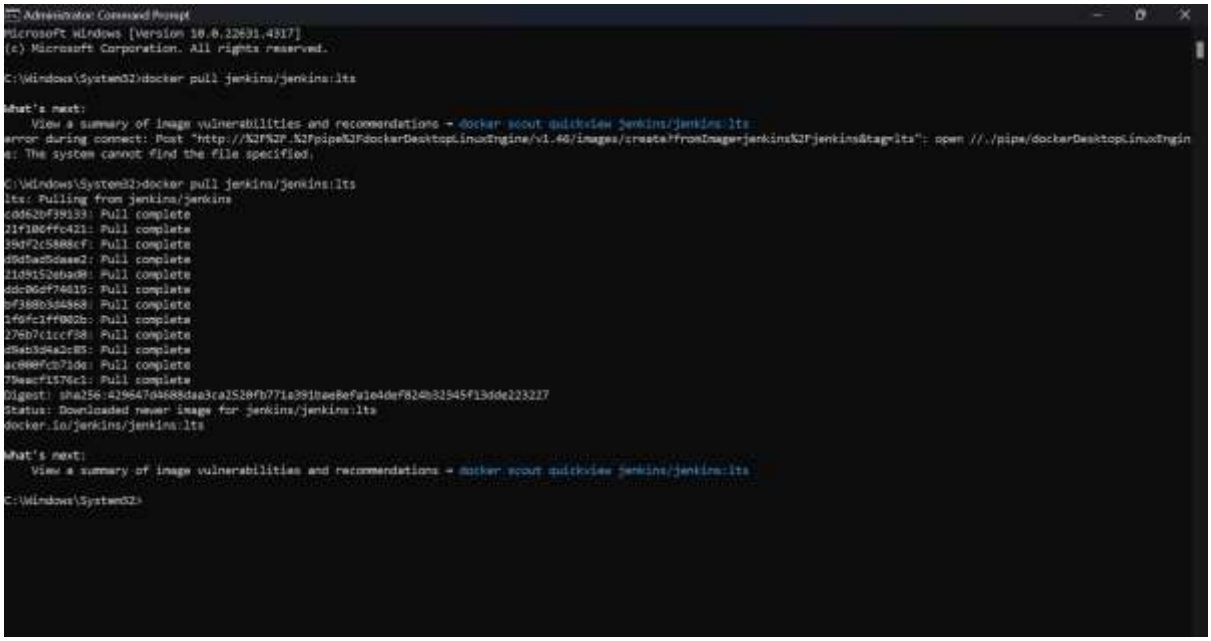
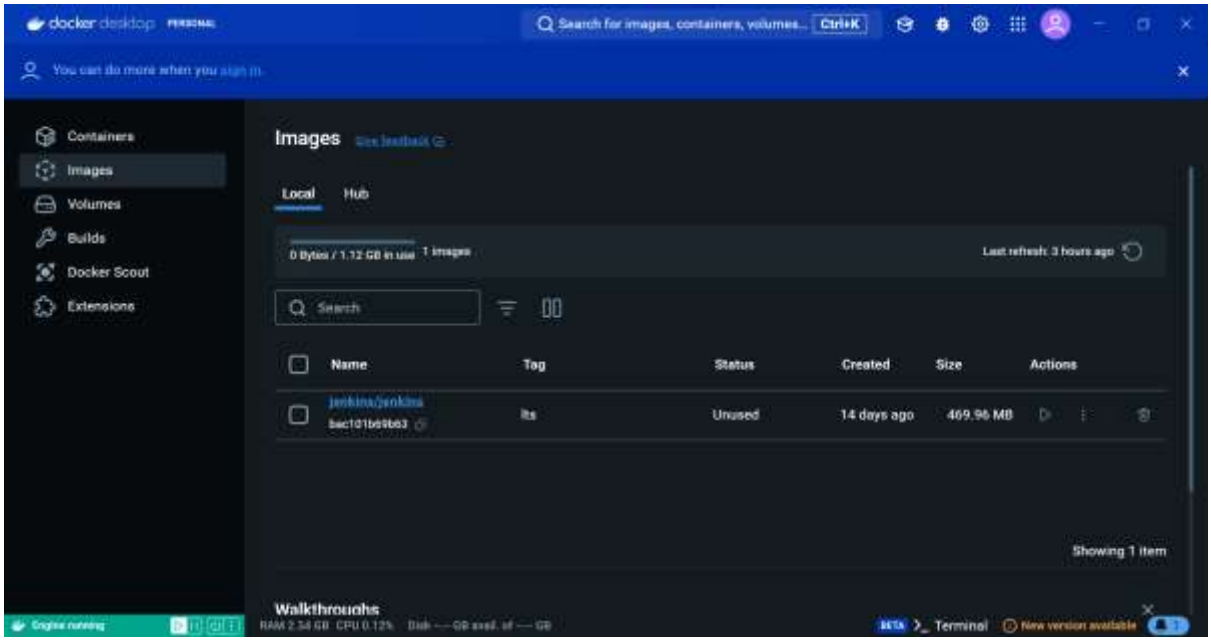
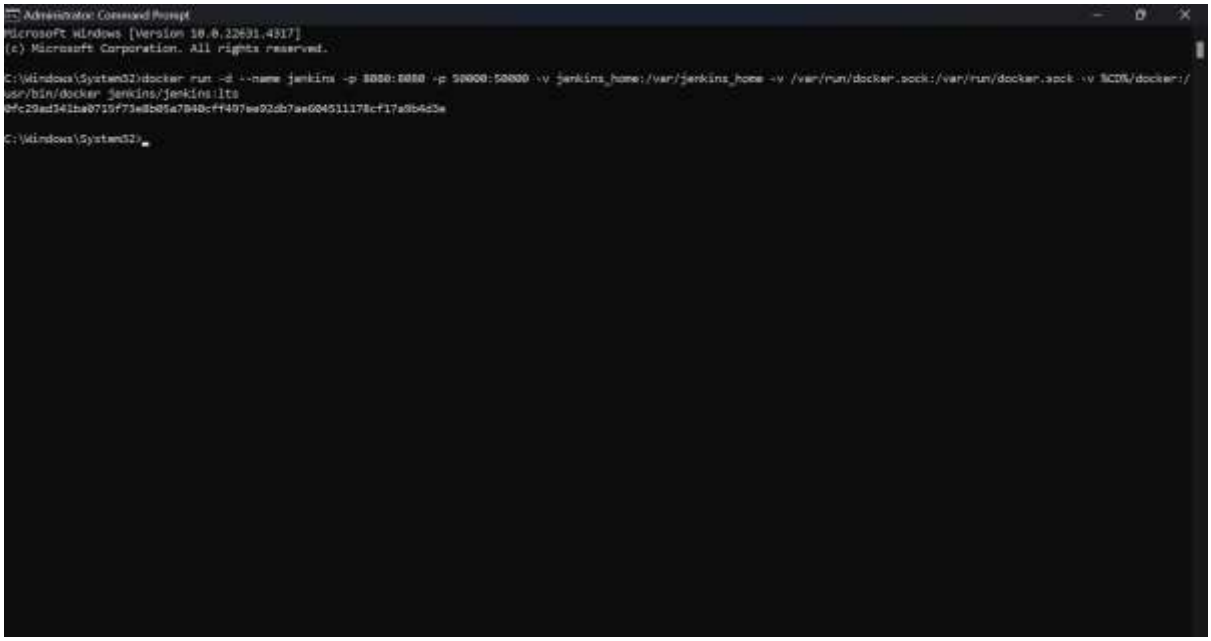
Pipeline Script:

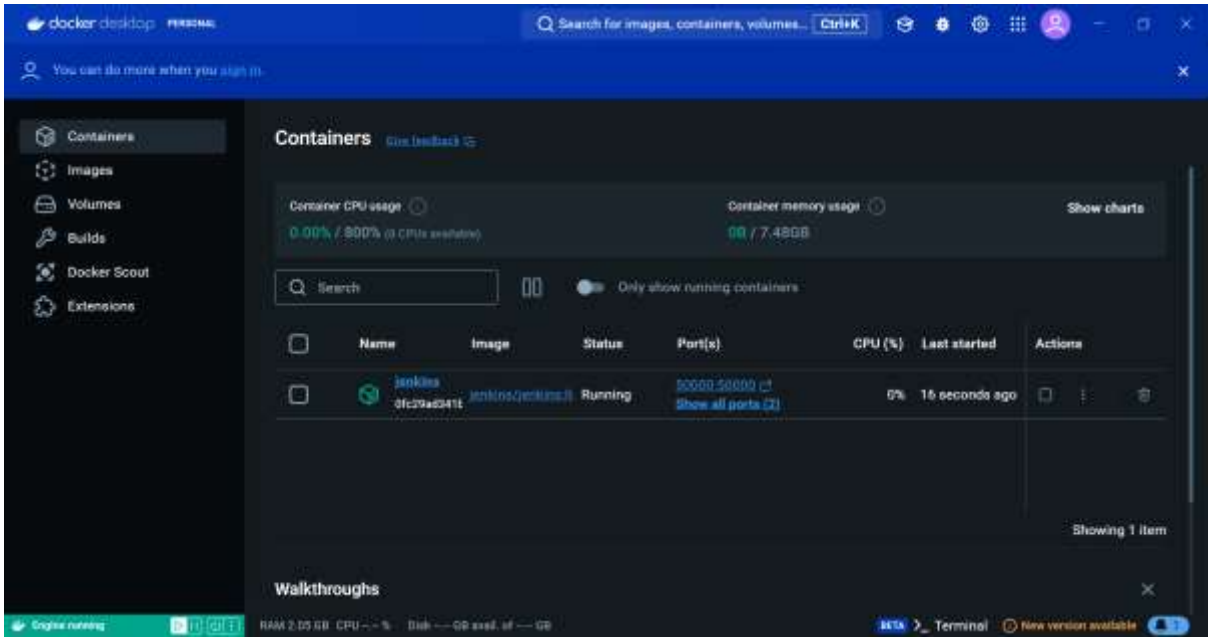
```
pipeline {
  agent any
  stages {
    stage('Build Docker Image') {
      steps {
        script {
          echo "Building Nginx Docker Image from the specified directory"
          // Specify the path to the directory where your Dockerfile is located
          sh 'docker build -t my-nginx-image
C:/Users/chira/OneDrive/Desktop/Sem3/DevOps/m2'
        }
      }
    }
    stage('Run Docker Container') {
      steps {
        script {
          echo "Running Nginx Docker Container"
          // Run the Docker container using the newly built image
          sh 'docker run -d --name nginx-container -p 8081:80 my-nginx-image'
        }
      }
    }
    stage('Verify Docker Container') {
      steps {
        script {
          echo "Verifying Nginx Docker Container is running"
          // List running containers to verify the Nginx container is up
          sh 'docker ps'
        }
      }
```

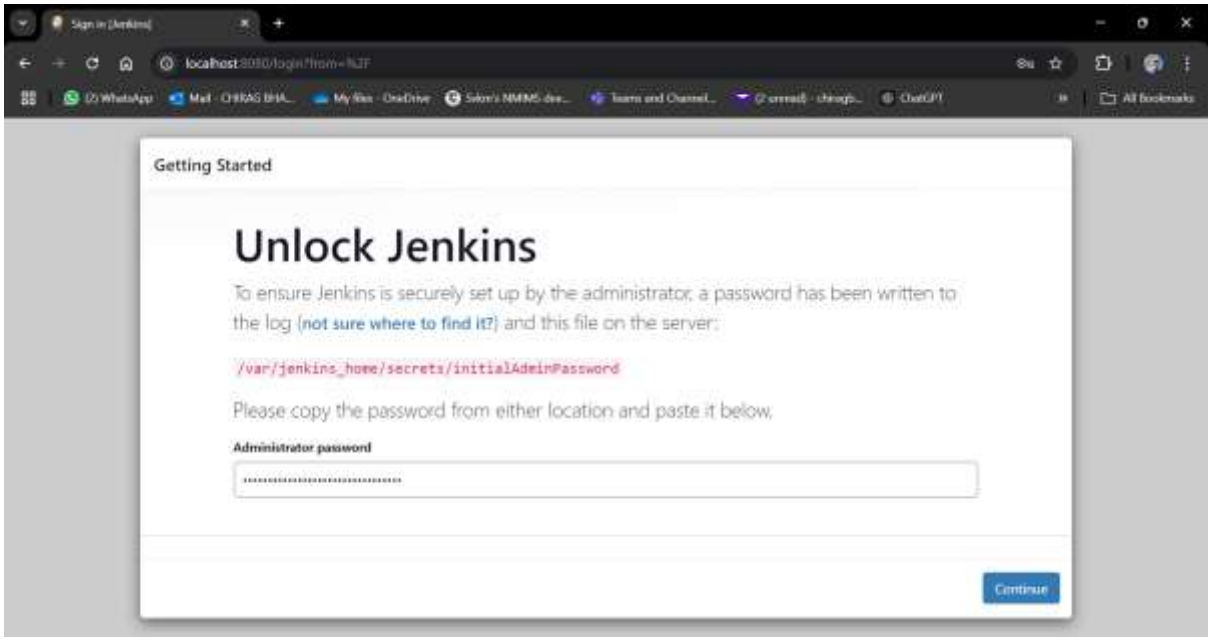
```
    }

  }

}
```

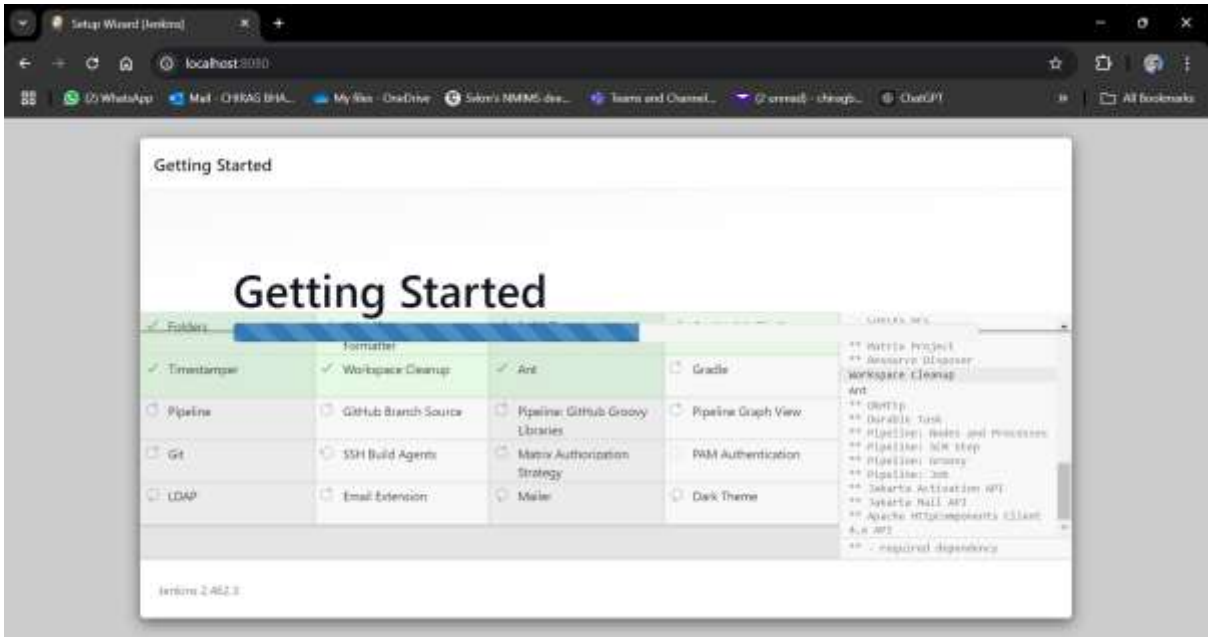

Administrator: Command Prompt
Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.
C:\Windows\System32>docker pull jenkins/jenkins:lts
What's next:
View a summary of image vulnerabilities and recommendations → docker scout quickview jenkins/jenkins:lts
error during connect: Post "http://%2F%2F.%2Fpipe%2FdockerDesktopLinuxEngine/v1.46/images/create?fromImage=jenkins%2Fjenkins&tag=lts": open //./pipe/dockerDesktopLinuxEngin
e: The system cannot find the file specified.
C:\Windows\System32>docker pull jenkins/jenkins:lts
lts: Pulling from jenkins/jenkins
Pull complete
Digest: sha256:429647d4688daa3ca2520fb771a391bae8efa1e4def824b832545f13dde223227
Status: Downloaded newer image for jenkins/jenkins:lts
docker.io/jenkins/jenkins:lts
What's next:
View a summary of image vulnerabilities and recommendations → docker scout quickview jenkins/jenkins:lts
C:\Windows\System32>

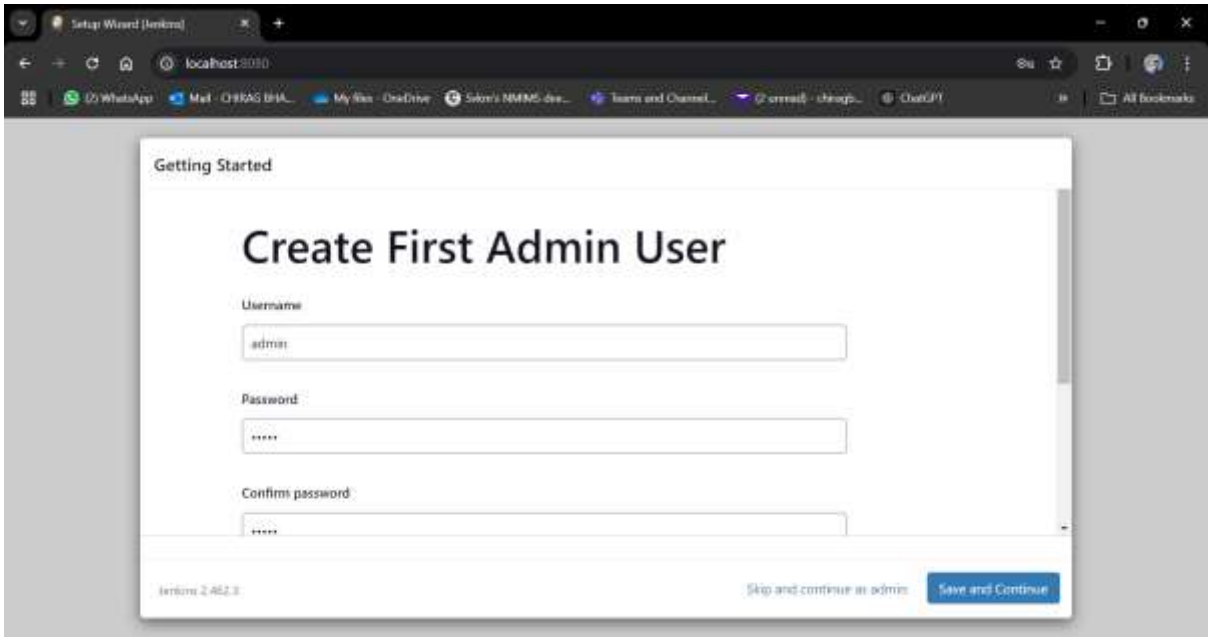

docker desktop PERSONAL
Search for images, containers, volumes... Ctrl+K
You can do more when you sign in
Containers
Images
Volumes
Builds
Docker Scout
Extensions
Images
Local
Hub
0 Bytes / 1.12 GB in use
1 images
Last refresh: 3 hours ago
Search
Name
Tag
Status
Created
Size
Actions
jenkins/jenkins
bac101b69b63
lts
Unused
14 days ago
469.96 MB
Showing 1 item
Walkthroughs
Terminal
New version available

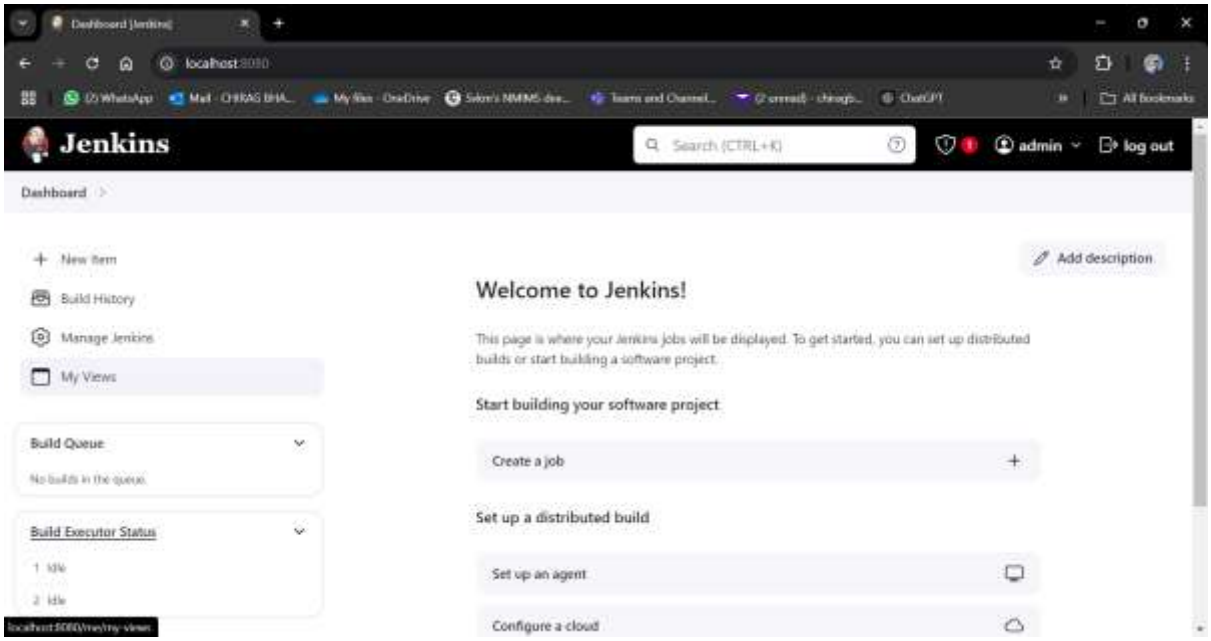

Administrator: Command Prompt
Microsoft Windows [Version 10.0.22631.4317]
(c) Microsoft Corporation. All rights reserved.
C:\Windows\System32>docker run -d --name jenkins -p 8080:8080 -p 50000:50000 -v jenkins_home:/var/jenkins_home -v /var/run/docker.sock:/var/run/docker.sock -v %CD%/docker:/usr/bin/docker jenkins/jenkins:lts
C:\Windows\System32>

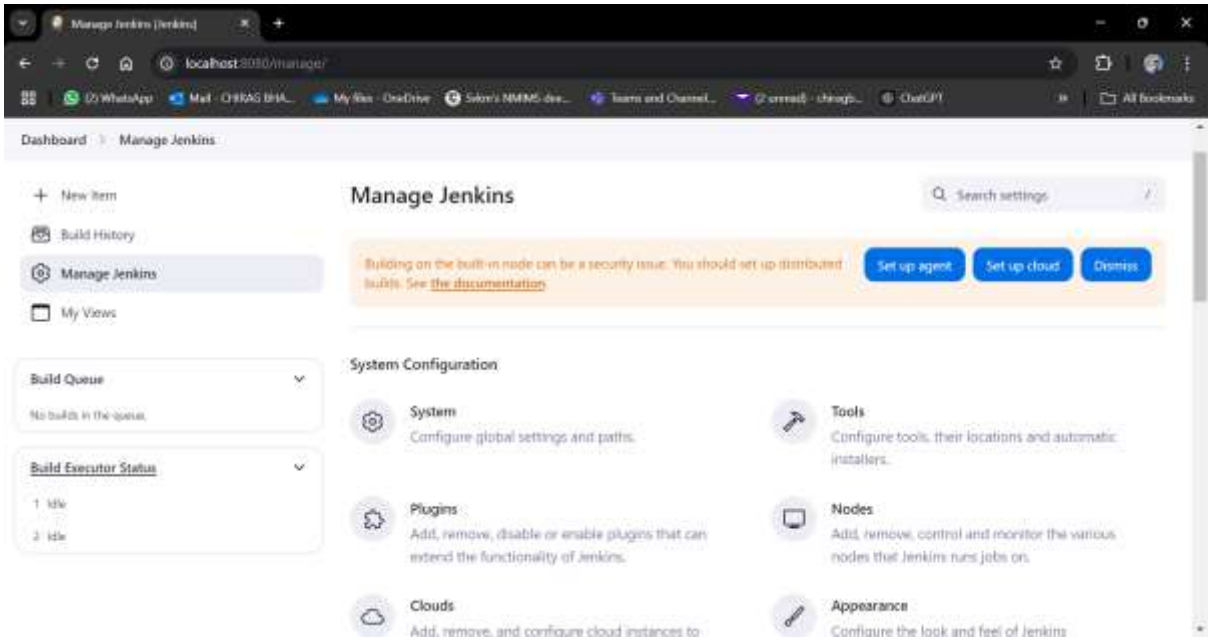

docker desktop
Search for images, containers, volumes... Ctrl+K
You can do more when you sign in.
Containers
Images
Volumes
Builds
Docker Scout
Extensions
Containers
Container CPU usage
Container memory usage
Show charts
Search
Only show running containers
Name
Image
Status
Port(s)
CPU (%)
Last started
Actions
jenkins
Running
0%
16 seconds ago
Showing 1 item
Walkthroughs
Terminal

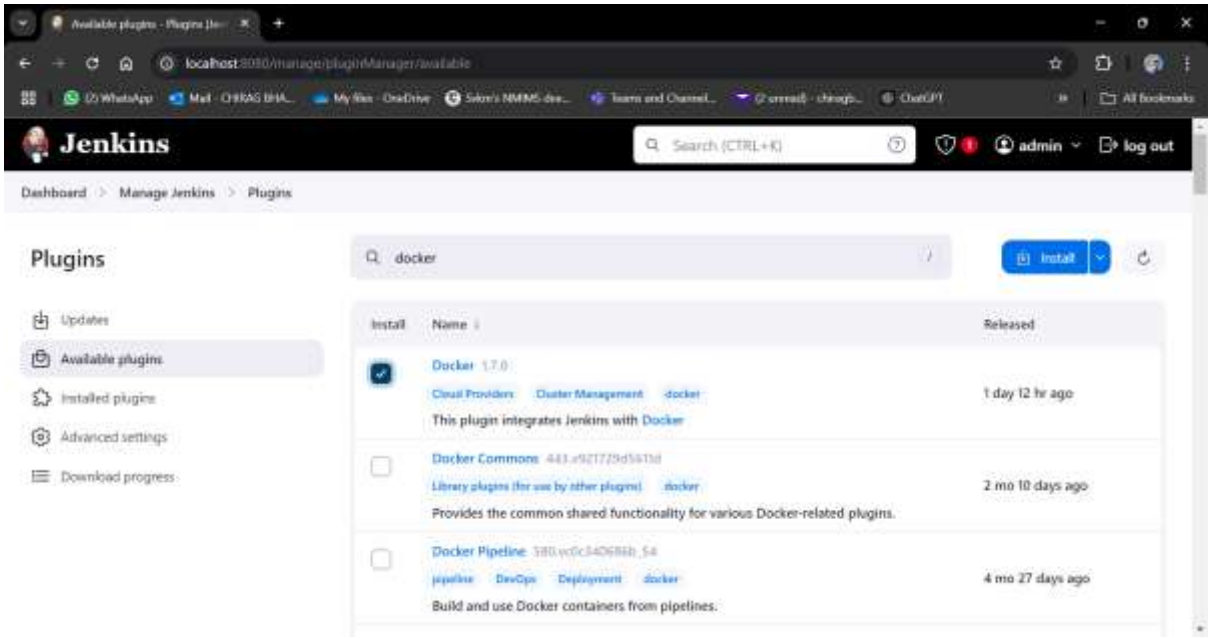

Getting Started
Unlock Jenkins
To ensure Jenkins is securely set up by the administrator, a password has been written to the log (not sure where to find it?) and this file on the server:
/var/jenkins_home/secrets/initialAdminPassword
Please copy the password from either location and paste it below.
Administrator password
Continue

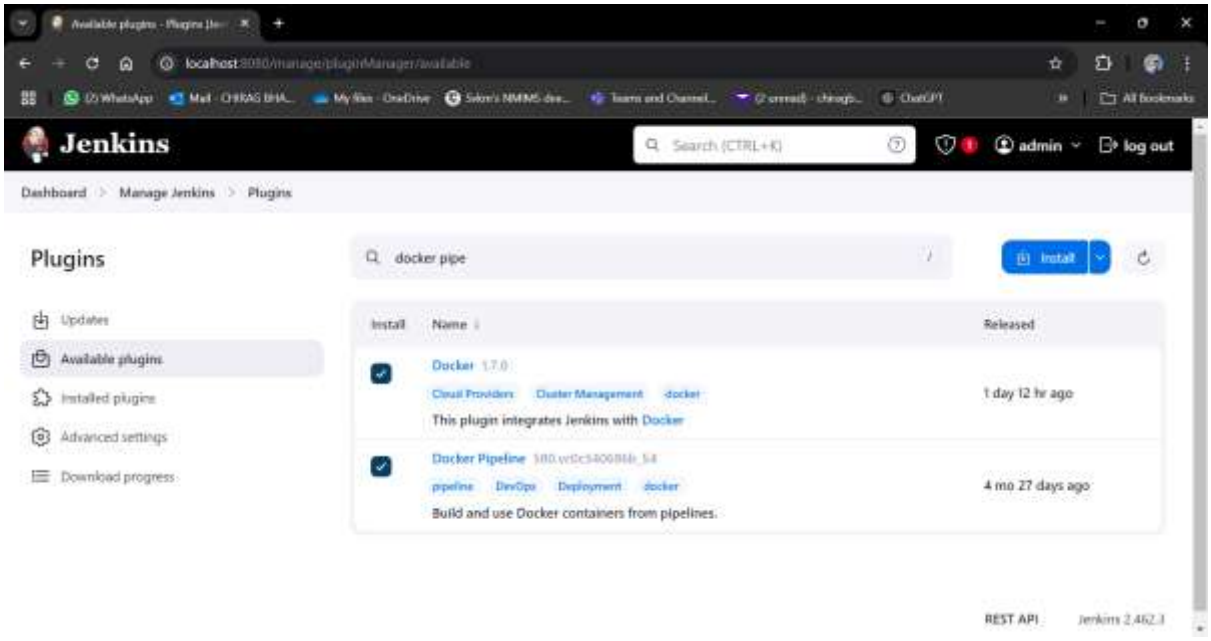

Getting Started
Getting Started
Folders
Timestamper
Workspace Cleanup
Ant
Gradle
Pipeline
GitHub Branch Source
Pipeline: GitHub Groovy Libraries
Pipeline Graph View
Git
SSH Build Agents
Matrix Authorization Strategy
PAM Authentication
LDAP
Email Extension
Mailer
Dark Theme

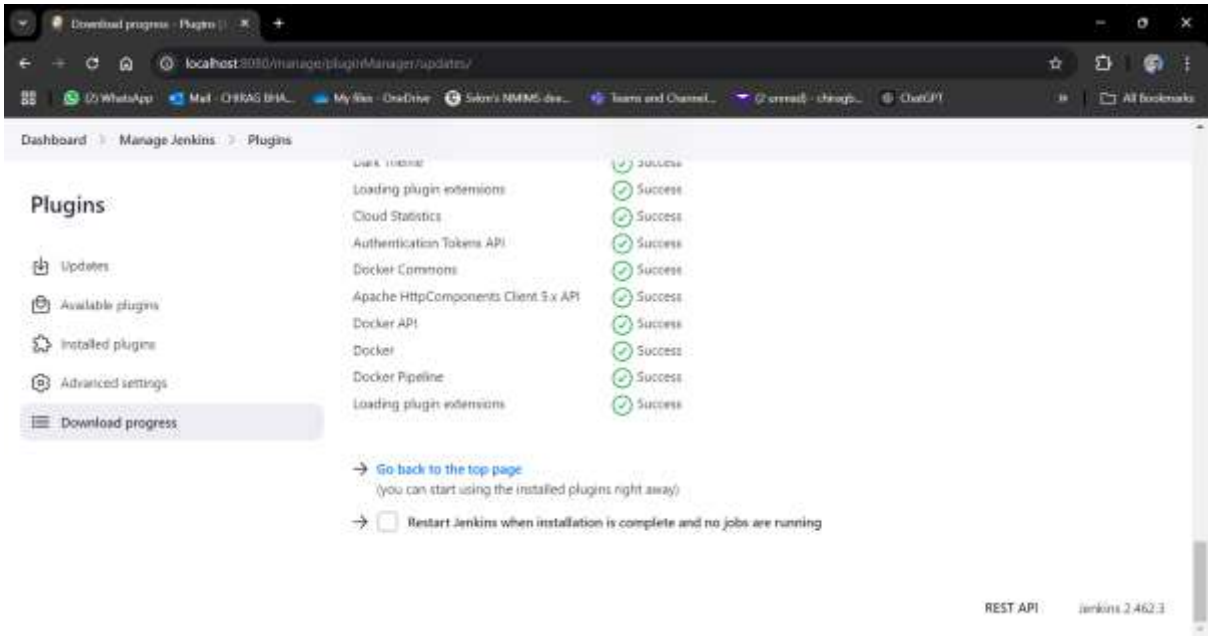

Getting Started
Create First Admin User
Username
admin
Password
Confirm password
Skip and continue as admin
Save and Continue

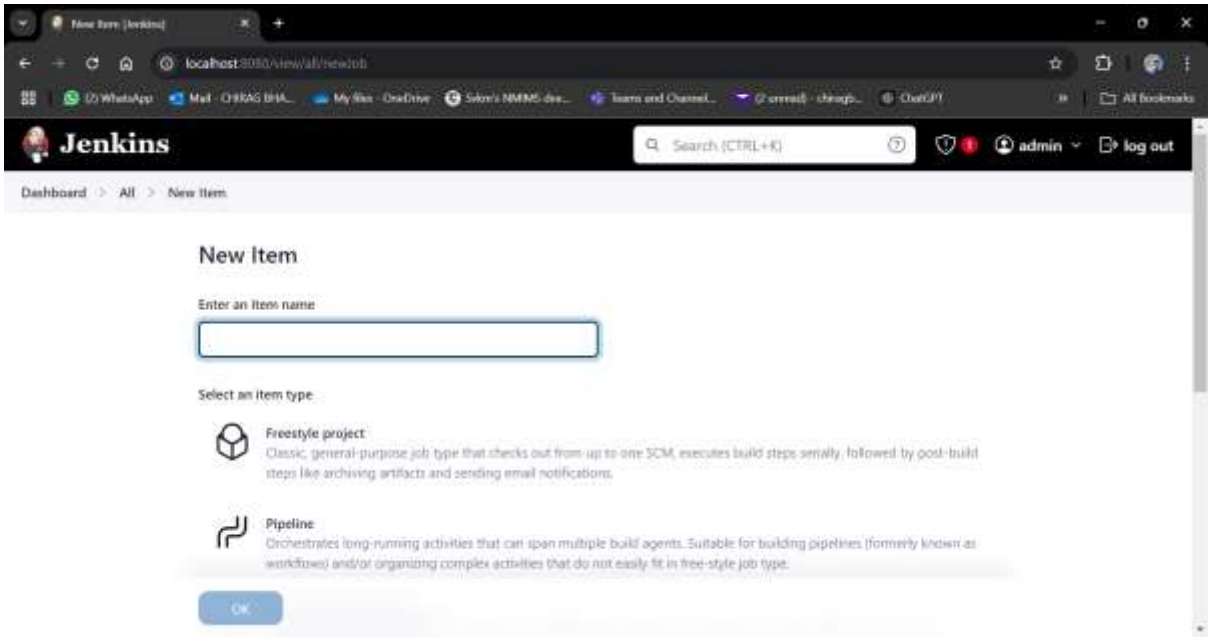

Jenkins
Search (CTRL+K)
admin
log out
Dashboard
New Item
Build History
Manage Jenkins
My Views
Build Queue
No builds in the queue.
Build Executor Status
1 Idle
2 Idle
Add description
Welcome to Jenkins!
This page is where your Jenkins jobs will be displayed. To get started, you can set up distributed builds or start building a software project.
Start building your software project
Create a job
Set up a distributed build
Set up an agent
Configure a cloud

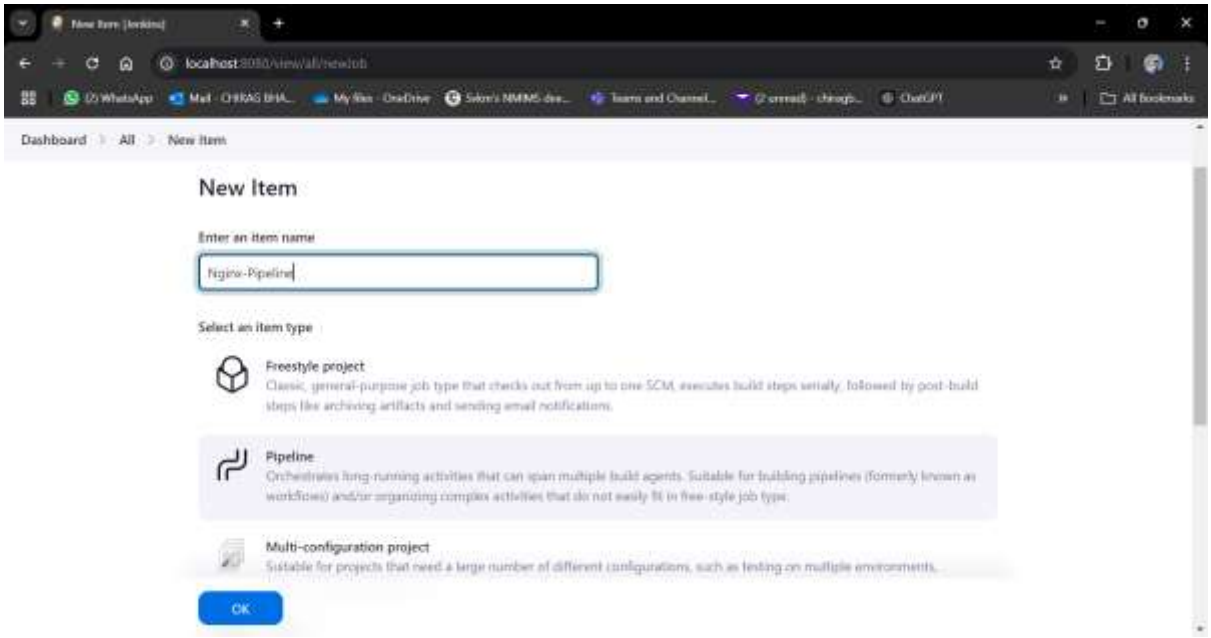

localhost:8080/manage/
Dashboard > Manage Jenkins
New Item
Build History
Manage Jenkins
My Views
Build Queue
No builds in the queue.
Build Executor Status
1 Idle
2 Idle
Manage Jenkins
Search settings
Building on the built-in node can be a security issue. You should set up distributed builds. See the documentation
Set up agent
Set up cloud
Dismiss
System Configuration
System
Configure global settings and paths.
Tools
Configure tools, their locations and automatic installers.
Plugins
Add, remove, disable or enable plugins that can extend the functionality of Jenkins.
Nodes
Add, remove, control and monitor the various nodes that Jenkins runs jobs on.
Clouds
Add, remove, and configure cloud instances to
Appearance
Configure the look and feel of Jenkins

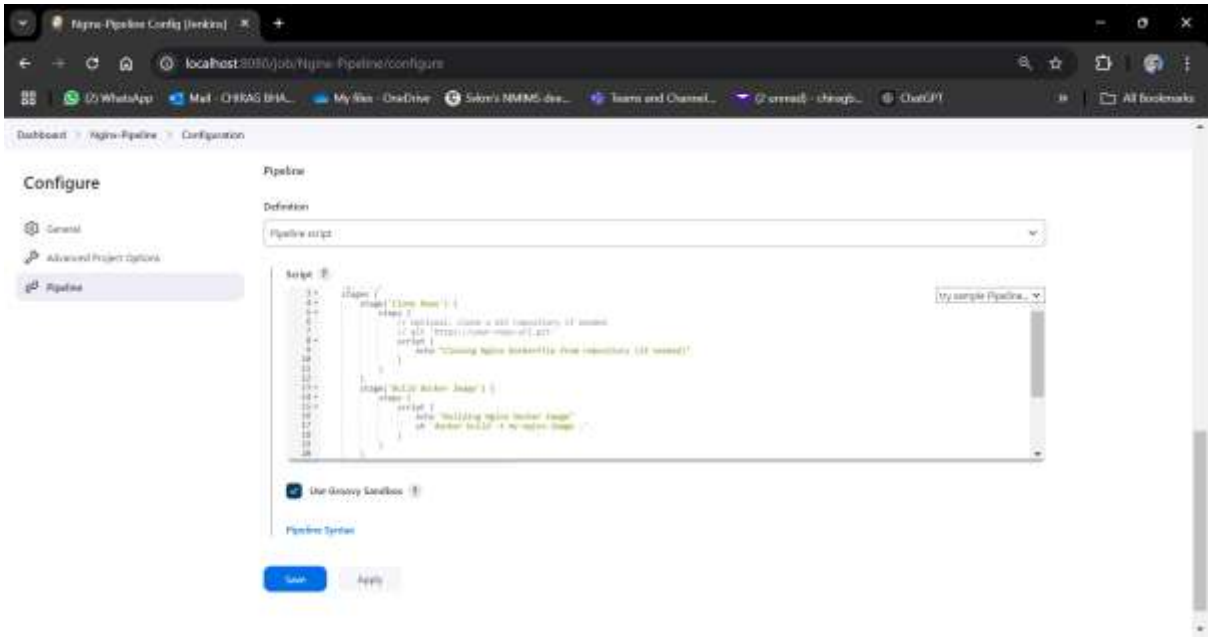

localhost:8080/manage/pluginManager/available
Jenkins
Search (CTRL+K)
admin
log out
Dashboard > Manage Jenkins > Plugins
Plugins
Updates
Available plugins
Installed plugins
Advanced settings
Download progress
docker
Install
Install
Name
Released
Docker 1.7.0
Cloud Providers
Cluster Management
docker
This plugin integrates Jenkins with Docker
1 day 12 hr ago
Docker Commons
Library plugins (for use by other plugins)
docker
Provides the common shared functionality for various Docker-related plugins.
2 mo 10 days ago
Docker Pipeline
pipeline
DevOps
Deployment
docker
Build and use Docker containers from pipelines.
4 mo 27 days ago

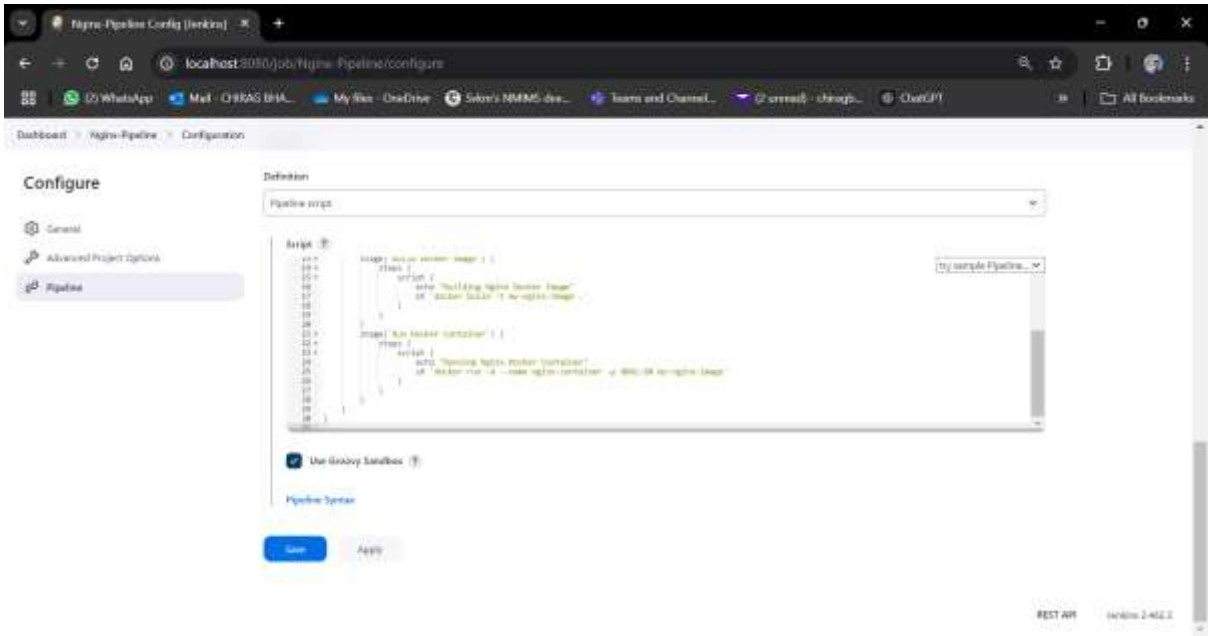

Jenkins
Search (CTRL+K)
admin
log out
Dashboard > Manage Jenkins > Plugins
Plugins
docker pipe
Install
Updates
Available plugins
Installed plugins
Advanced settings
Download progress
Install
Name
Released
Docker
This plugin integrates Jenkins with Docker
1 day 12 hr ago
Docker Pipeline
Build and use Docker containers from pipelines.
4 mo 27 days ago
REST API
Jenkins 2.462.3

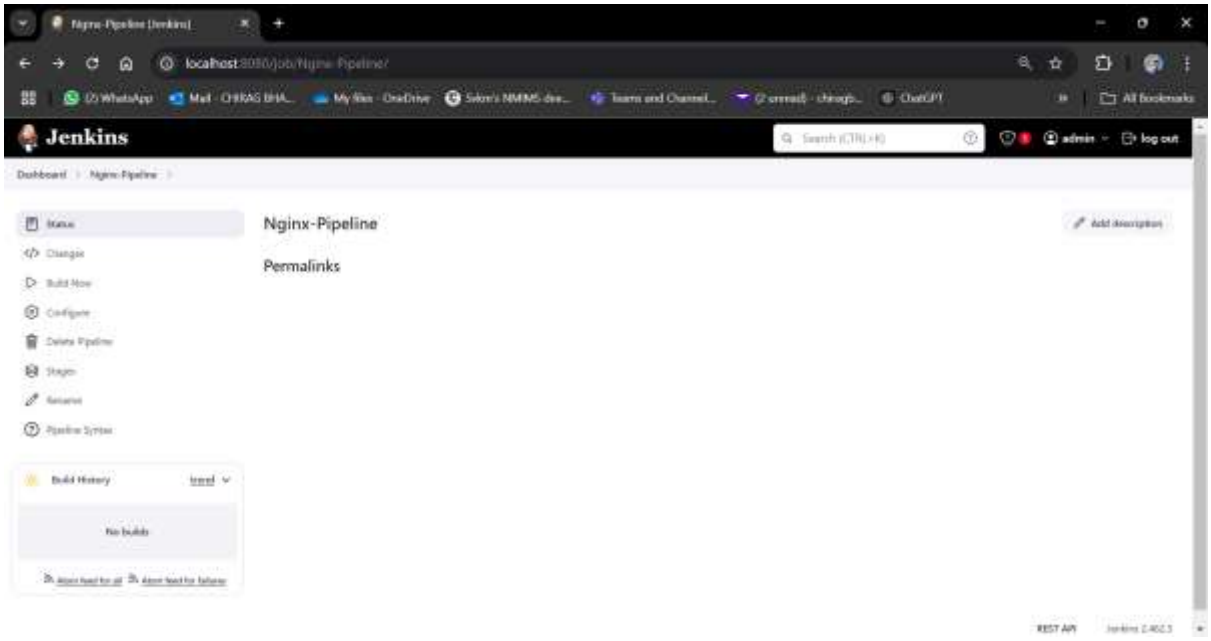

Dashboard > Manage Jenkins > Plugins
Plugins
Updates
Available plugins
Installed plugins
Advanced settings
Download progress
Loading plugin extensions Success
Cloud Statistics Success
Authentication Tokens API Success
Docker Commons Success
Apache HttpComponents Client 5.x API Success
Docker API Success
Docker Success
Docker Pipeline Success
Loading plugin extensions Success
Go back to the top page
(you can start using the installed plugins right away)
Restart Jenkins when installation is complete and no jobs are running
REST API
Jenkins 2.462.3

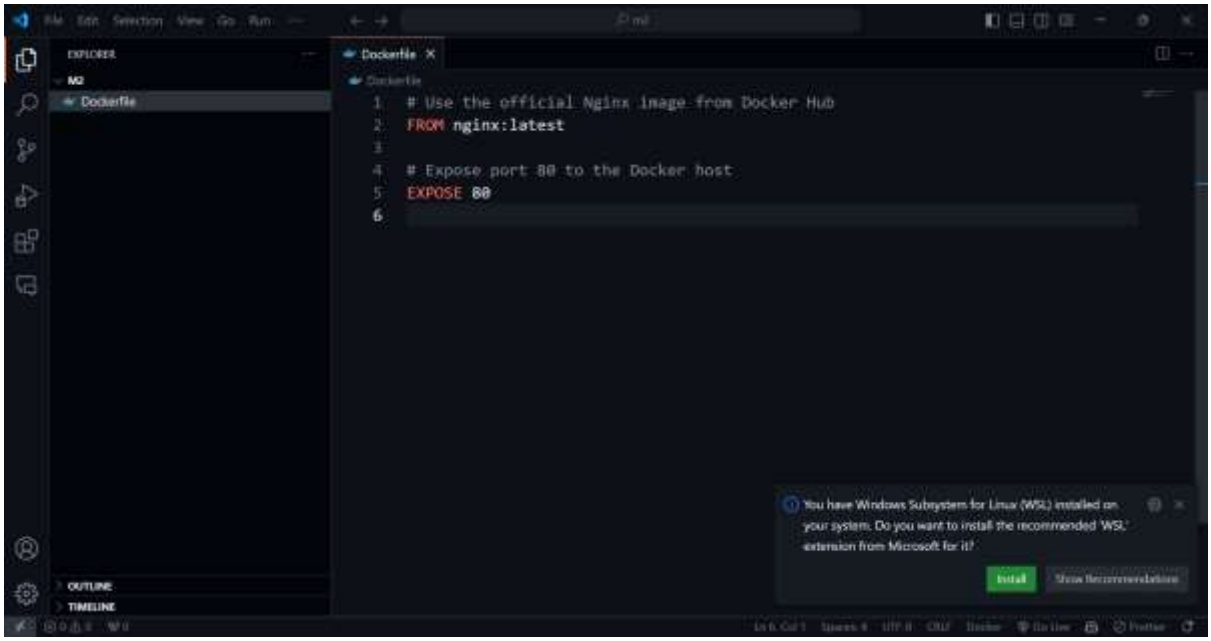

localhost:8080/view/all/newJob
Jenkins
Search (CTRL+K)
admin
log out
Dashboard > All > New Item
New Item
Enter an item name
Select an item type
Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.
Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
OK


localhost:8080/view/all/newJob
Dashboard > All > New Item
New Item
Enter an item name
Nginx-Pipeline
Select an item type
Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.
Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.
Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments,
OK


Nginx-Pipeline Config [Jenkins]
localhost:8080/job/Nginx-Pipeline/configure
Dashboard > Nginx-Pipeline > Configuration
Configure
General
Advanced Project Options
Pipeline
Pipeline
Definition
Pipeline script
Script
try sample Pipeline...
Use Groovy Sandbox
Pipeline Syntax
Save
Apply


Nginx-Pipeline Config [Jenkins]
localhost:8080/job/Nginx-Pipeline/configure
Dashboard > Nginx-Pipeline > Configuration
Configure
General
Advanced Project Options
Pipeline
Definition
Pipeline script
Script
try sample Pipeline...
Use Groovy Sandbox
Pipeline Syntax
Save
Apply
REST API

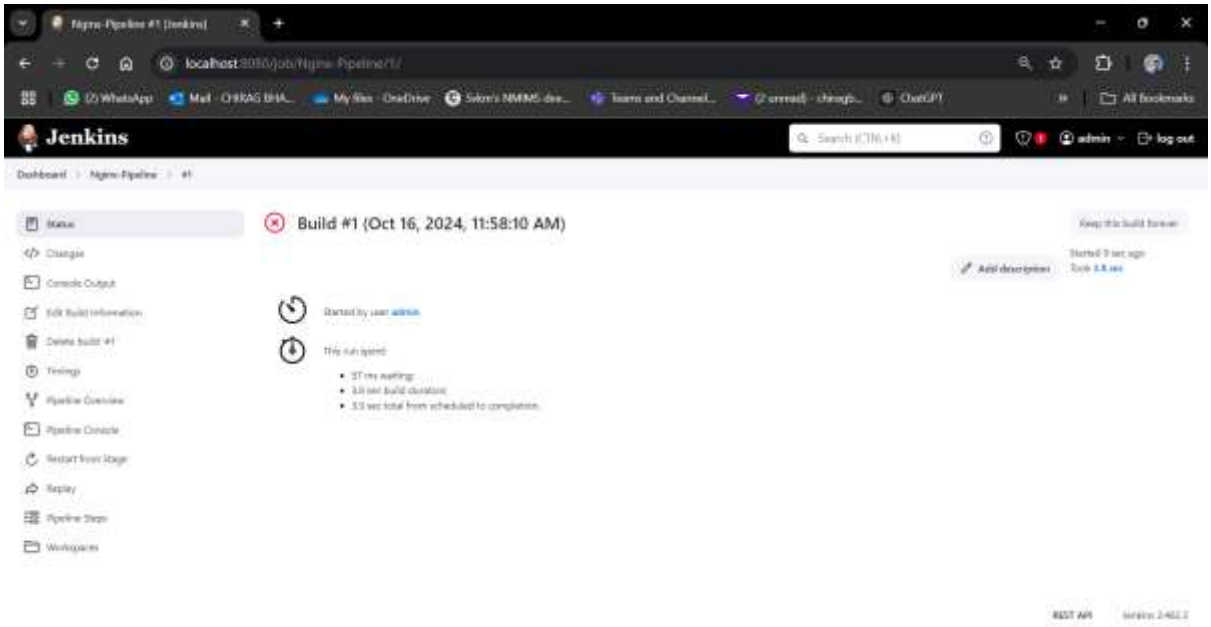


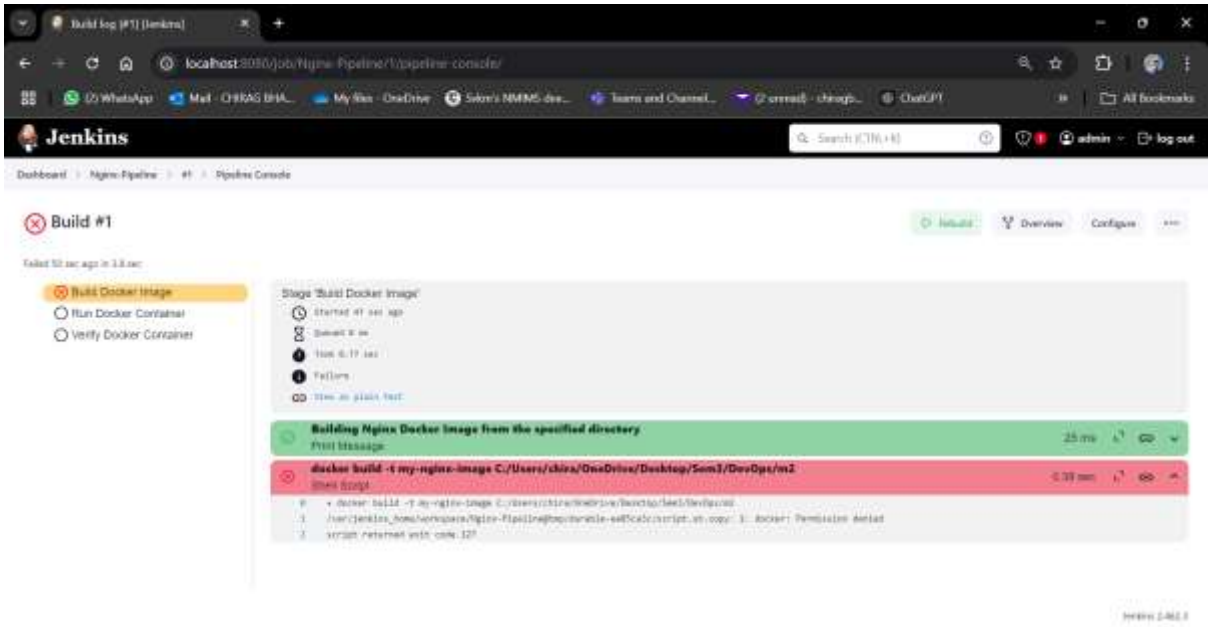


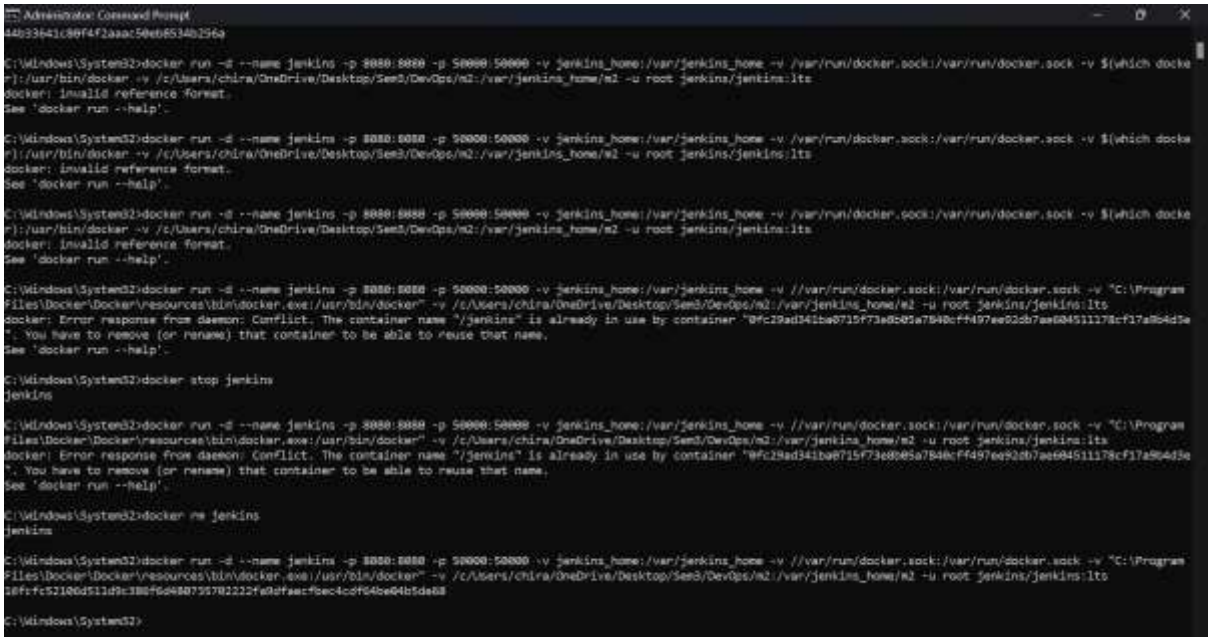
Dockerfile:

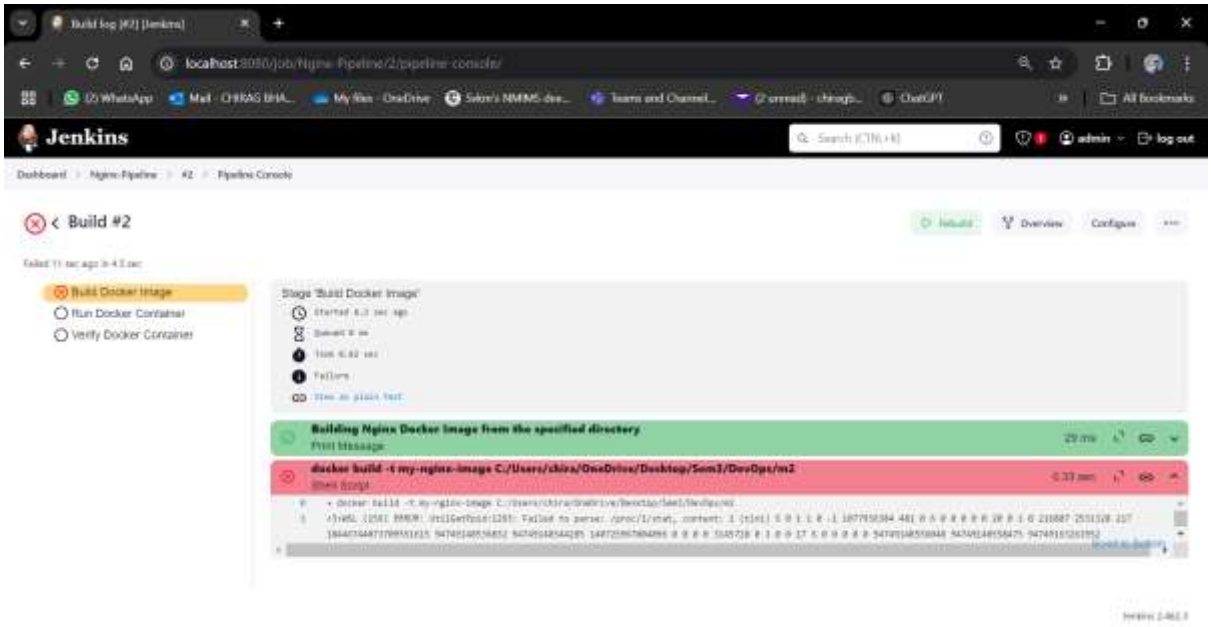
```
pipeline {
  agent any
  stages {
    stage('Build Docker Image') {
      steps {
        script {
          echo "Building Nginx Docker Image from the specified directory"
```

```
            // Specify the path to the directory where your Dockerfile is located
            sh 'docker build -t my-nginx-image
C:/Users/chira/OneDrive/Desktop/Sem3/DevOps/m2'
          }
        }
      }
      stage('Run Docker Container') {
        steps {
          script {
            echo "Running Nginx Docker Container"
            // Run the Docker container using the newly built image
            sh 'docker run -d --name nginx-container -p 8081:80 my-nginx-image'
          }
        }
      }
      stage('Verify Docker Container') {
        steps {
          script {
            echo "Verifying Nginx Docker Container is running"
            // List running containers to verify the Nginx container is up
            sh 'docker ps'
          }
        }
      }
    }
}
```


Jenkins
Build #1 (Oct 16, 2024, 11:58:10 AM)


Jenkins
Build #1
Build Docker Image
Run Docker Container
Verify Docker Container
Building Nginx Docker Image from the specified directory
docker build -t my-nginx-image C:/Users/chira/OneDrive/Desktop/Sem3/DevOps/m2





The build failed due to wsl. Not able to troubleshoot. Rest Jenkins was setup successfully and docker and docker pipeline was installed successfully and a pipeline project was configured from scratch successfully.