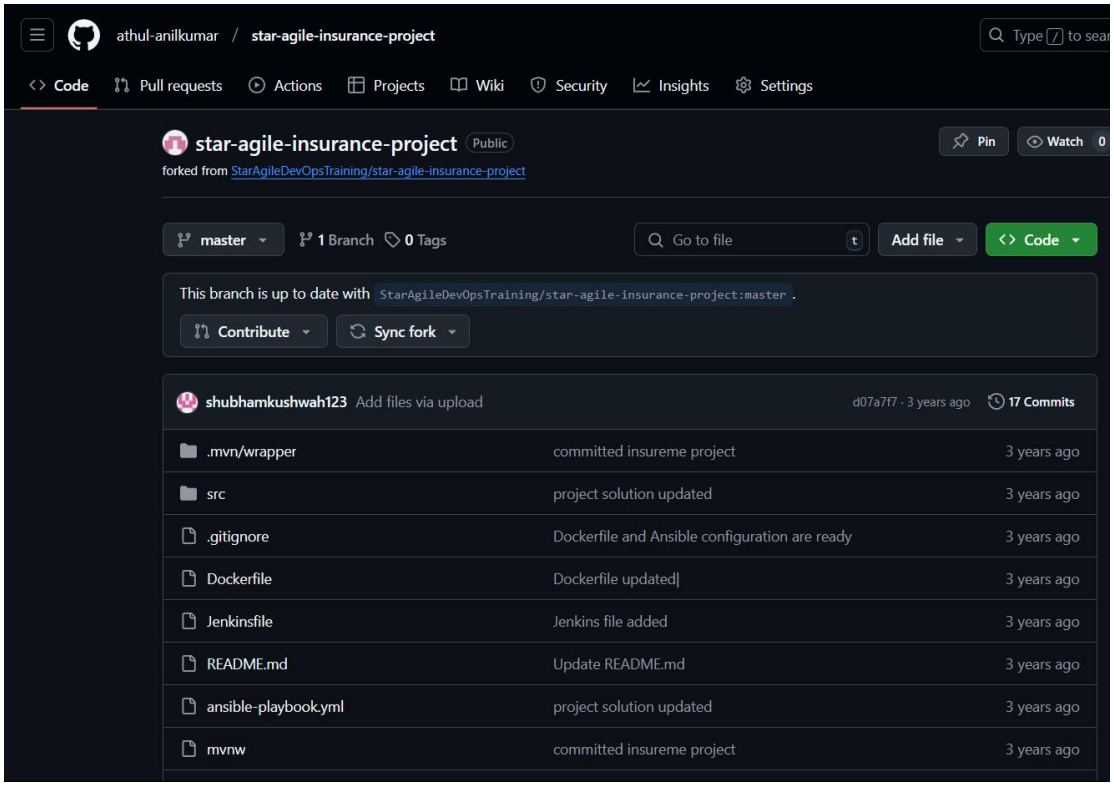
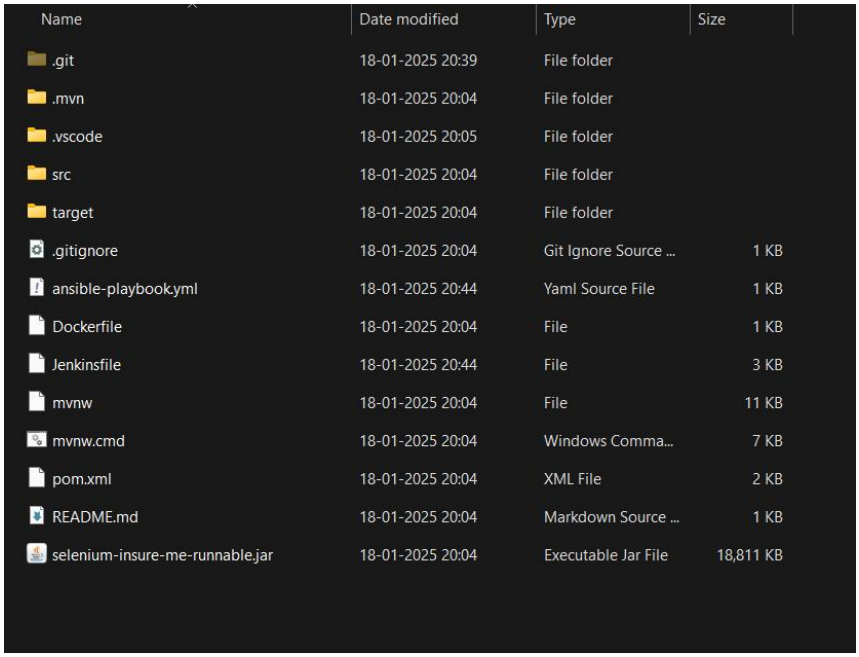
# INSURANCE CAPSTONE PROJECT

## Creating Repositories



Forked the required files from Staragile git repo to my repo

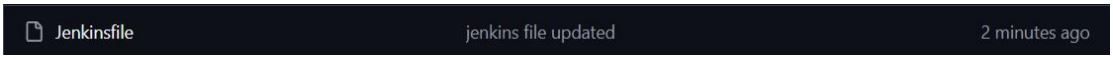


Created a local repo from github

# Creating Jenkins File

```
node{

    def mavenHome
    def mavenCMD
    def docker
    def dockerCMD
    def tagName

    stage('prepare environment'){
        echo 'initialize all the variables'
        mavenCMD = "/usr/share/maven/bin/mvn"
        docker = tool name: 'docker' , type: 'org.jenkinsci.plugins.docker.commons.tools.DockerTool'
        dockerCMD = "${docker}/bin/docker"
        tagName="3.0"
    }

    stage('git code checkout'){
            echo 'checkout the code from git repository'
            git 'https://github.com/athul-anilkumar/star-agile-insurance-project.git'
    }

    stage('Build the Application'){
        echo "Cleaning... Compiling...Testing... Packaging..."
        //sh 'mvn clean package'
        sh "${mavenCMD} clean package"
    }

    stage('Containerize the application'){
        echo 'Creating Docker image'
        sh "${dockerCMD} build -t athulanil/insure-me:${tagName} ."
    }

    stage('Pushing it ot the DockerHub'){
        echo 'Pushing the docker image to DockerHub'
        withCredentials([string(credentialsId: 'dock-password', variable: 'dockerHubPassword')]) {
        sh "${dockerCMD} login -u athulanil -p ${dockerHubPassword}"
        sh "${dockerCMD} push athulanil/insure-me:${tagName}"

        }

    stage('Configure and Deploy to the test-server'){
        ansiblePlaybook become: true, credentialsId: 'ansible-key', disableHostKeyChecking: true, installation: 'ansible', inventory: '/etc/ansible/hosts', playbook: 'ansible-playbook.yml'
    }
```

Created a jenkins file with all the necessary steps.

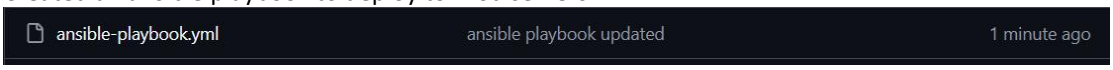



Uploaded updated file to remote repo.

# Creation of ansible playbook

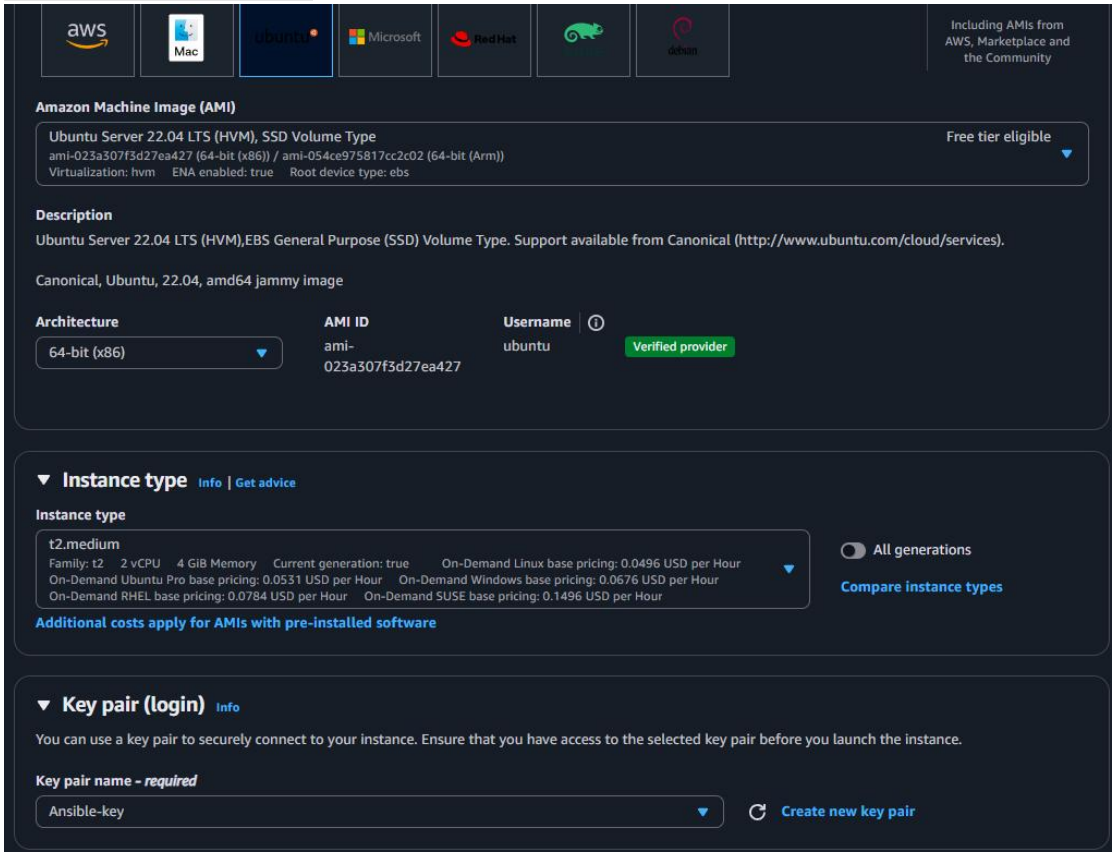
```
ansible-playbook.yml
- name : Configure Docker on EC2 Instances
  hosts : all
  become: true
  connection : ssh
  tasks :
  - name: updating apt
    command : sudo apt-get update

  - name : Install Docker
    command : sudo apt-get install -y docker.io
    become : yes
    become_user : root

  - name : Start Docker Service
    command : sudo systemctl start docker
    become : yes
    become_user : root

  - name: Deploy Docker Container
    command: docker run -itd -p 8084:8081 athulanil/insurance:3.0
```

Created an ansible playbook to deploy to Prod servers.

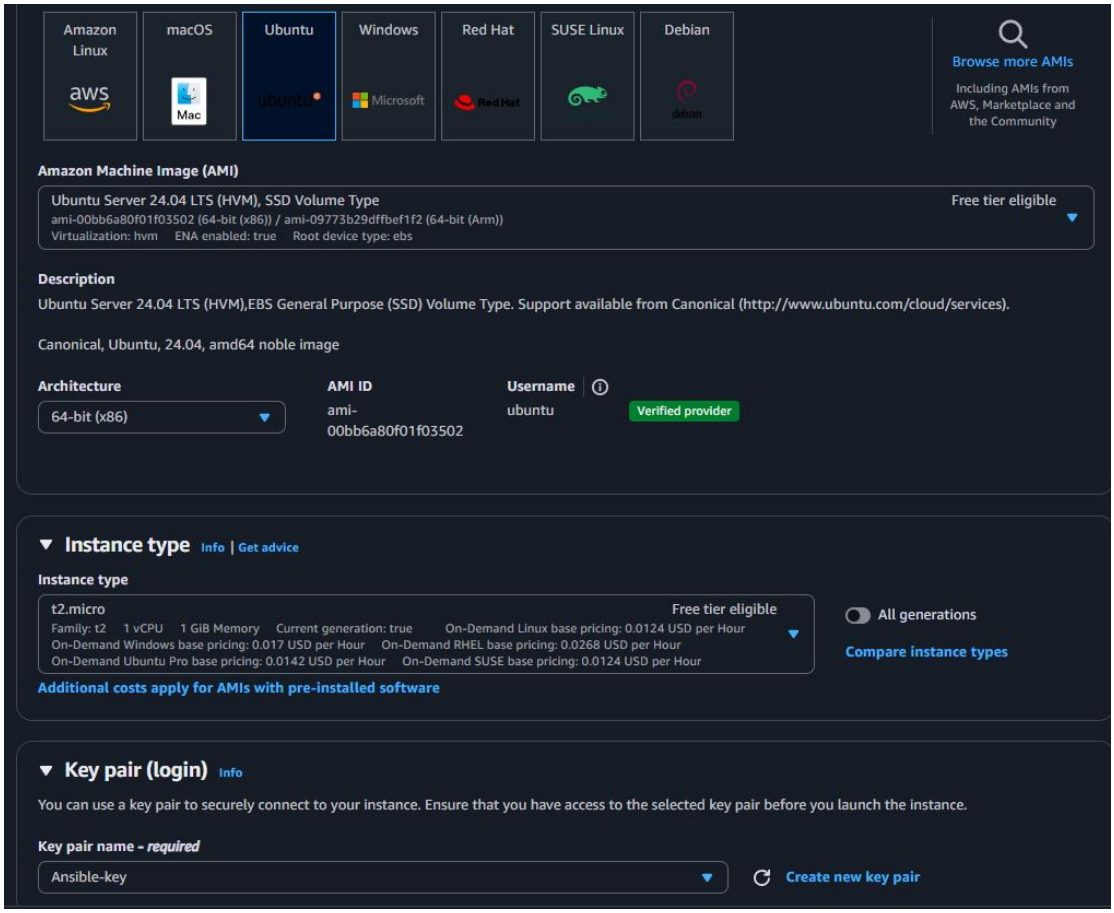



Commited the playbook to remote repo.

# Server Creation




Created a server named Jenkins server To implement CI/CD setup



Created another server to deploy the packaged docker image into using ansible

# Jenkins Server Setup

```
ubuntu@ip-172-31-40-89:~$ jenkins --version
2.479.3
ubuntu@ip-172-31-40-89:~$ ansible --version
ansible [core 2.17.7]
  config file = /etc/ansible/ansible.cfg
  configured module search path = ['/home/ubuntu/.ansible/plugins/modules', '/usr/share/ansible/plugins/modules']
  ansible python module location = /usr/lib/python3/dist-packages/ansible
  ansible collection location = /home/ubuntu/.ansible/collections:/usr/share/ansible/collections
  executable location = /usr/bin/ansible
  python version = 3.10.12 (main, Nov  6 2024, 20:22:13) [GCC 11.4.0] (/usr/bin/python3)
  jinja version = 3.0.3
  libyaml = True
```

Installed Jenkins and ansible.

```
ubuntu@ip-172-31-40-89:~$ docker --version
Docker version 27.5.0, build a187fa5
```

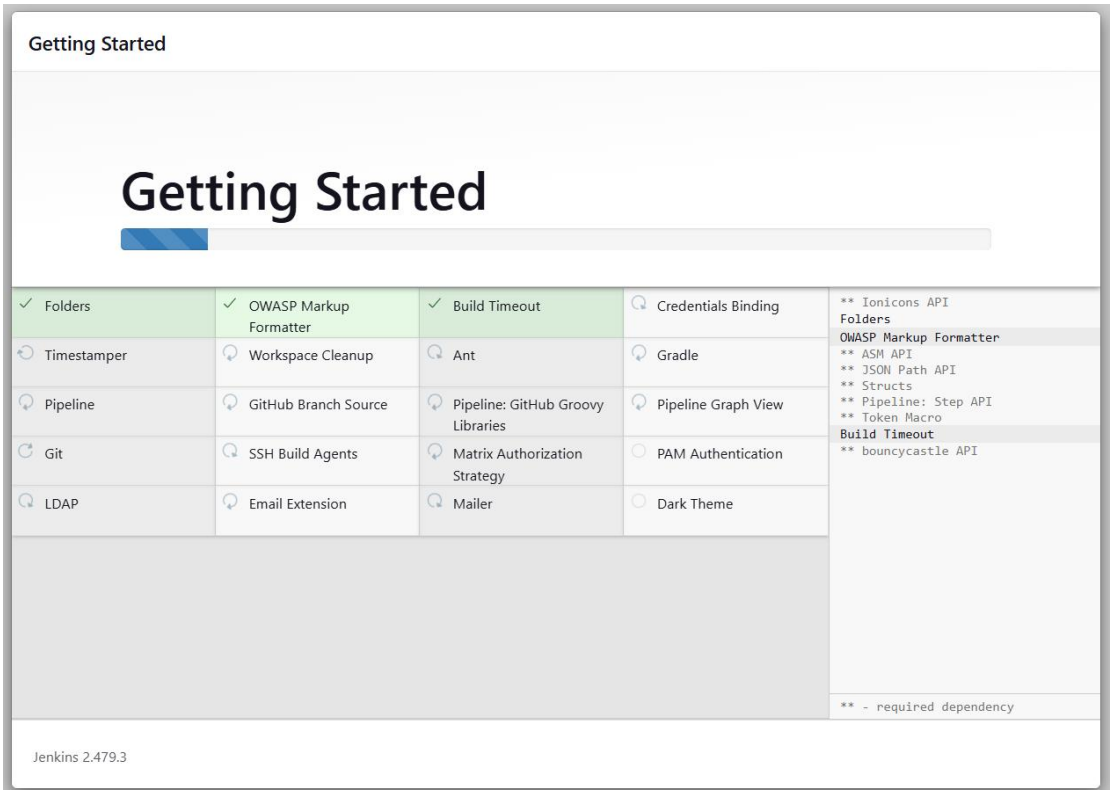
Installed Docker

# Ansible Setup

```
# This is the default ansible 'hosts' file.
#
# It should live in /etc/ansible/hosts
#
#   - Comments begin with the '#' character
#   - Blank lines are ignored
#   - Groups of hosts are delimited by [header] elements
#   - You can enter hostnames or ip addresses
#   - A hostname/ip can be a member of multiple groups
[Prod-server]
43.204.140.59
# Ex 1: Ungrouped hosts, specify before any group headers:

## green.example.com
## blue.example.com
## 192.168.100.1
## 192.168.100.10

# Ex 2: A collection of hosts belonging to the 'webservers' group:

## [webservers]
## alpha.example.org
## beta.example.org
## 192.168.1.100
## 192.168.1.110

# If you have multiple hosts following a pattern, you can specify
# them like this:

"hosts" 55L, 1202B
```

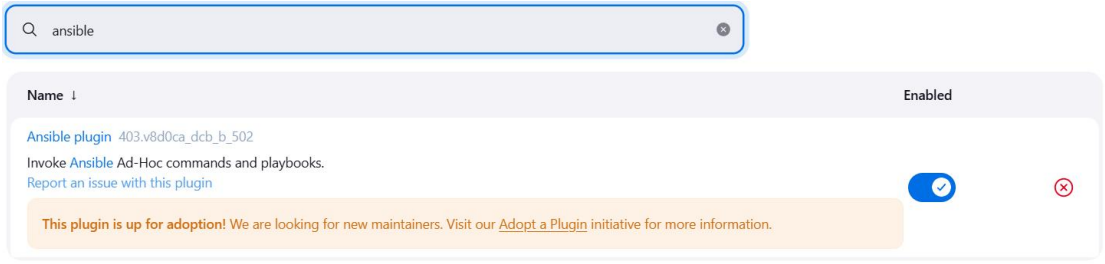
Edited ansible hosts file to include Deployment server

# Jenkins Setup

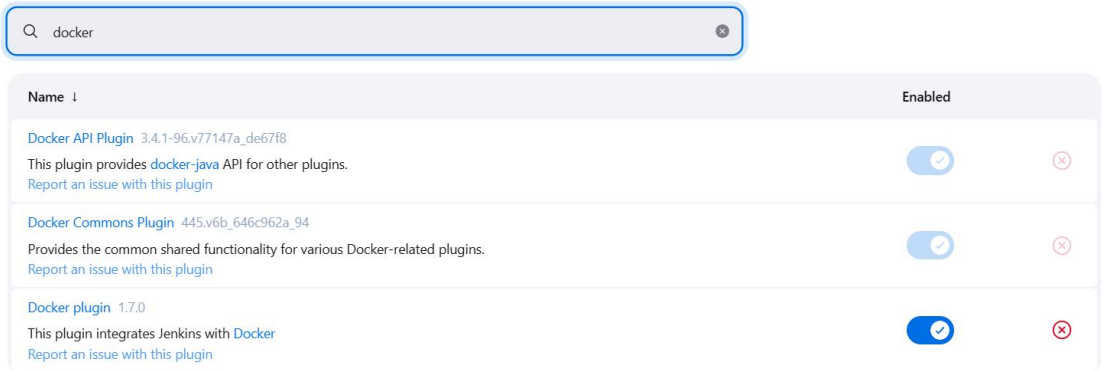



Logged in and setup jenkins

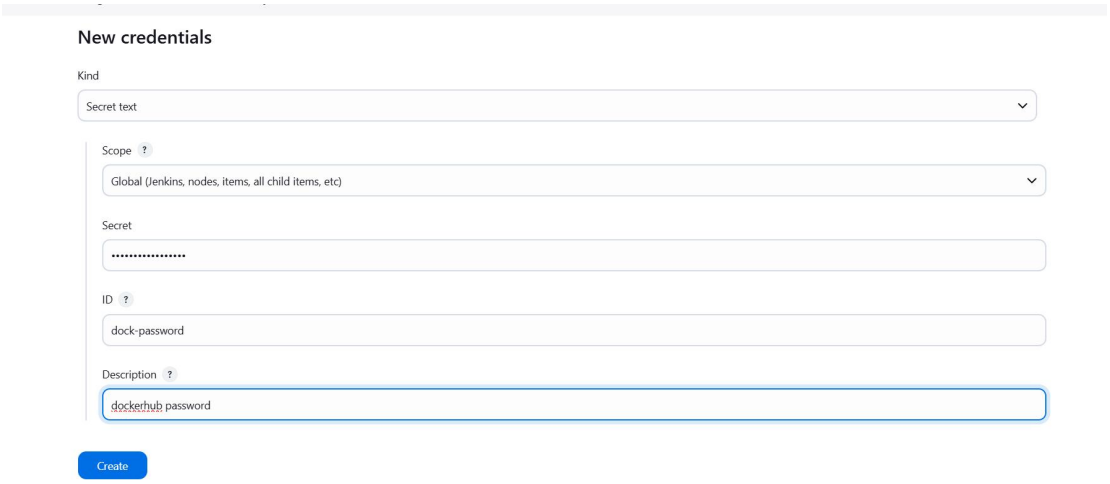
Added credentials for dockerhub




Installed ansible plugin for jenkins

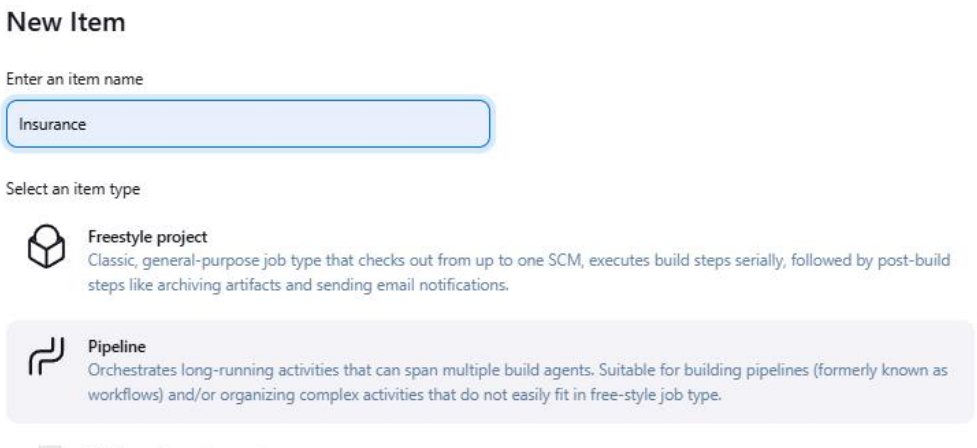


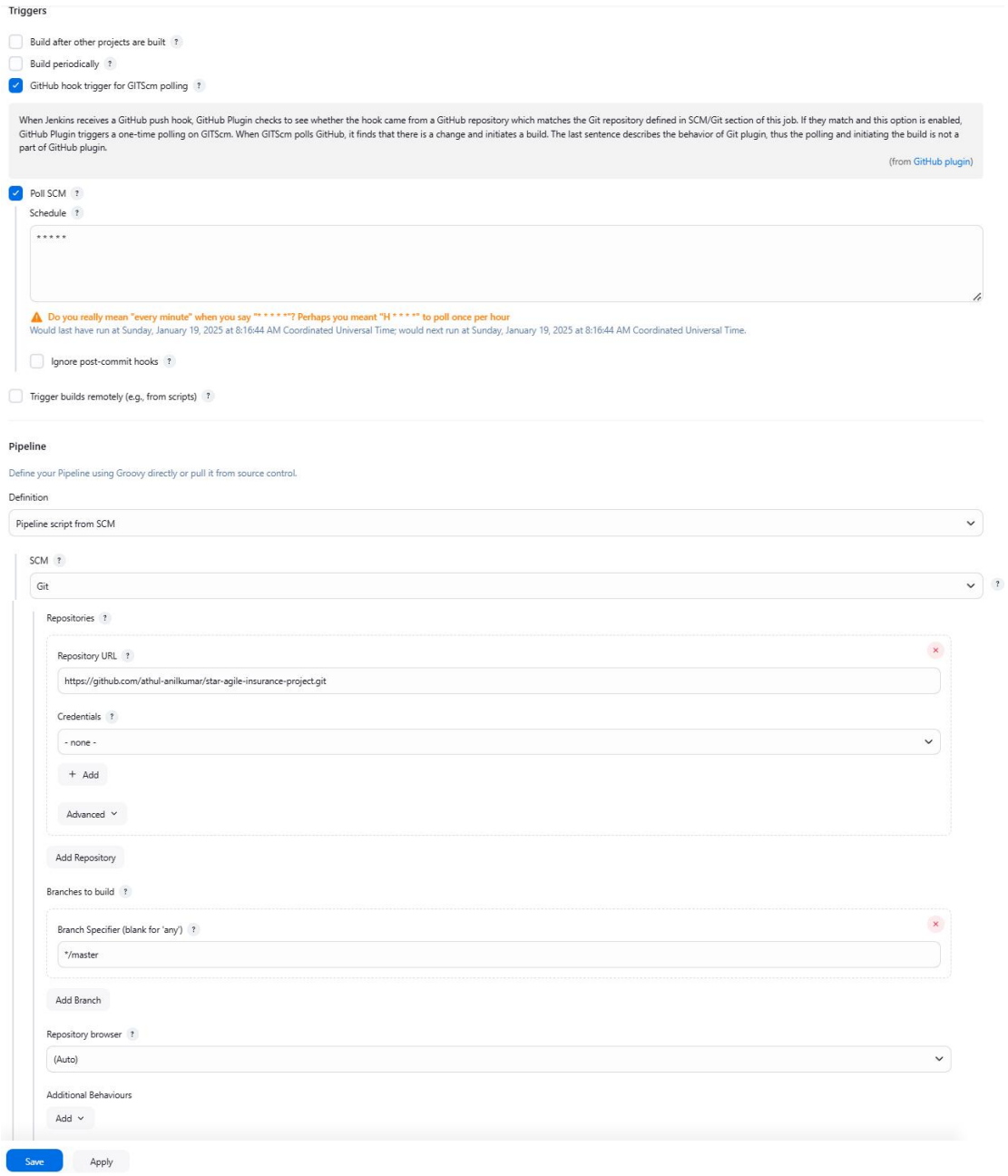

Installed docker plugin for jenkins



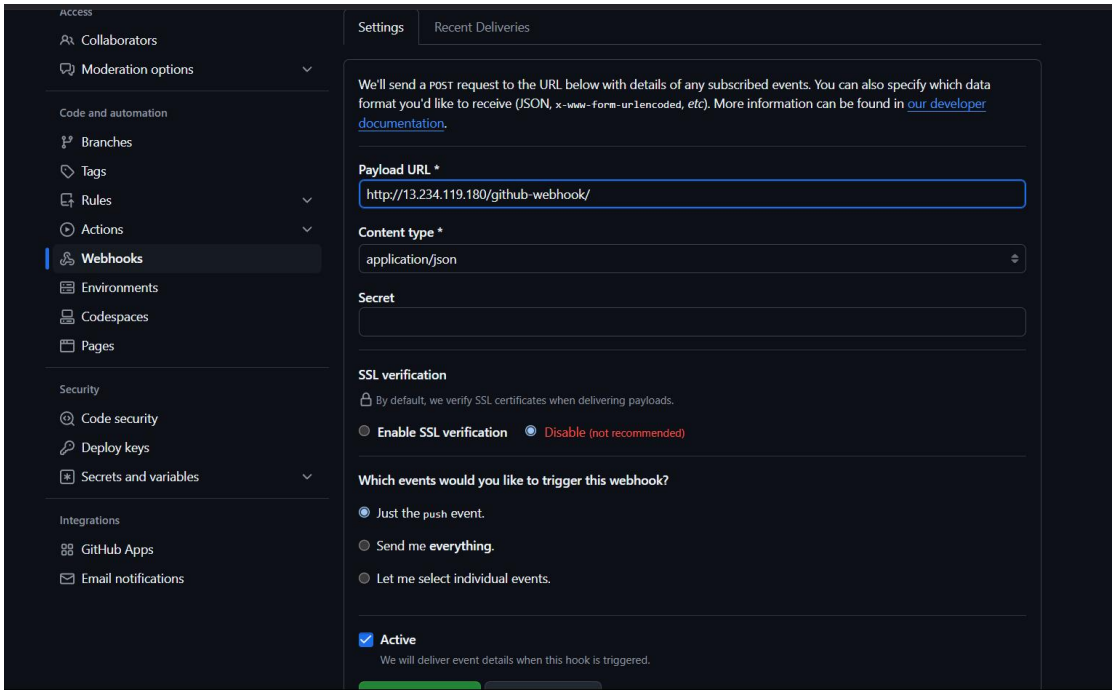

Added dockerhub credentials

Added Key to access deployment server

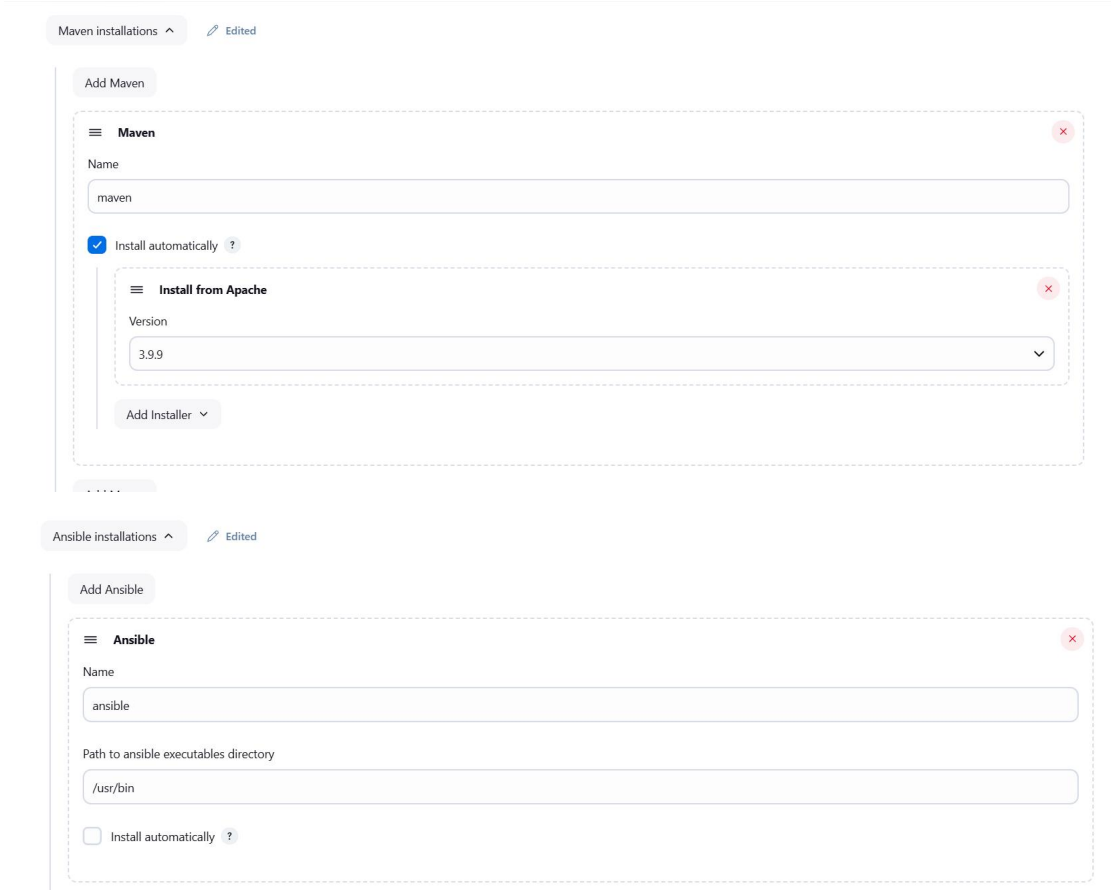


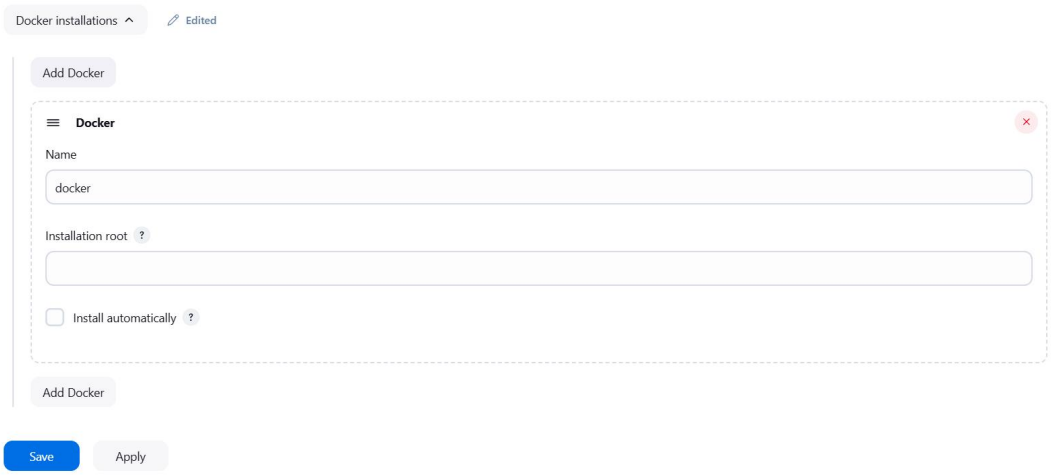



Created new pipeline job called insurance

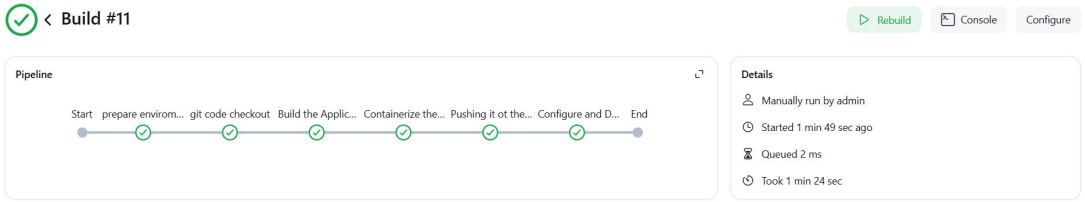


Setup github webhook






Configured Docker maven and ansible installations.




```
interpreter at /usr/bin/python3.12, but future installation of another Python
interpreter could change the meaning of that path. See
https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [43.204.140.59]

TASK [updating apt] ************************************************************
changed: [43.204.140.59]

TASK [Install Docker] **********************************************************
changed: [43.204.140.59]

TASK [Start Docker Service] ****************************************************
changed: [43.204.140.59]

TASK [Deploy Docker Container] *************************************************
changed: [43.204.140.59]

PLAY RECAP *********************************************************************
43.204.140.59              : ok=5    changed=4    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // stage
[Pipeline] }
[Pipeline] // node
[Pipeline] End of Pipeline
Finished: SUCCESS
```

Build complete

Not secure http://43.204.140.59:8084
Dell
My Mail
Aws PPT
project
Cloud Computing S...
Useful CMD Comm...
Other favorites
Staragile
Staragile
devops git and stuff
VPN
INSURE-ME
HOME
ABOUT
SERVICES
CONTACT US
PROTECT YOUR FAMILY AND YOUR FUTURE
Life insurance is the perfect safety net, helping you to protect your family if something unfortunate were to happen to you. Losing someone is a huge loss, and the last thing on anyone's mind is the finances. With life insurance, you can continue protecting your family's finances and future, even when you are not around.
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