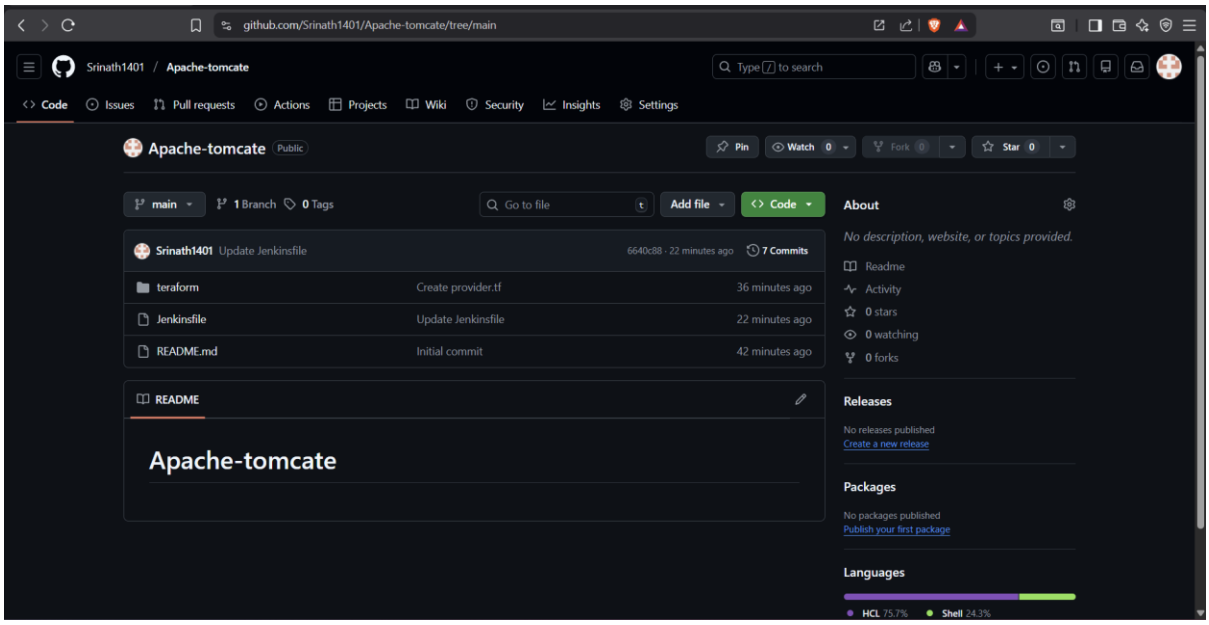
Task-23

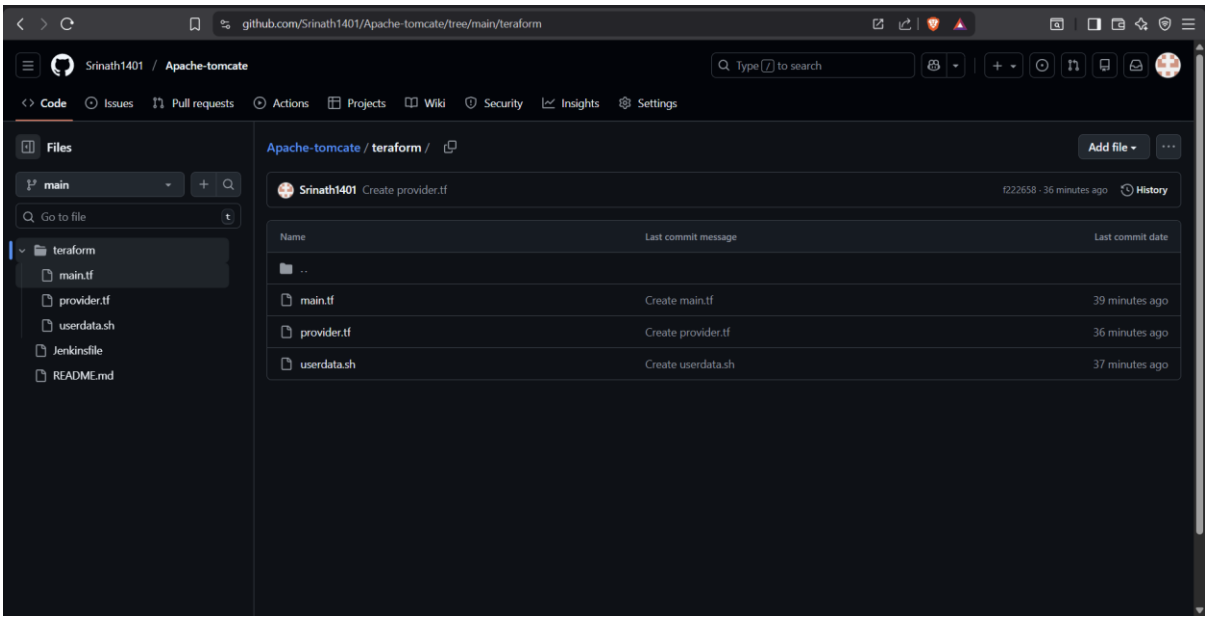
Java - Tomcat Server Automation

Tomcat:

A Tomcat primarily refers to Apache Tomcat, a popular, open-source Java servlet container and web server that runs Java-based web applications, implementing Jakarta EE specs like Servlets, JSP, and WebSockets, allowing developers to build and deploy dynamic web apps

Create Terraform folder and file:





Code:

Main.tf:

```
resource "aws_security_group" "web_sg" {
  name = "web-sg"

  ingress {
    from_port   = 22
    to_port     = 22
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  ingress {
    from_port   = 80
    to_port     = 80
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  ingress {
    from_port   = 8080
    to_port     = 8080
    protocol    = "tcp"
    cidr_blocks = ["0.0.0.0/0"]
  }
  egress {
    from_port   = 0
    to_port     = 0
    protocol    = "-1"
    cidr_blocks = ["0.0.0.0/0"]
  }
}
resource "aws_instance" "web" {
  ami                    = "ami-068c0051b15cdb816" # Ubuntu 22.04 ap-south-1
  instance_type          = "t2.micro"
  key_name               = "mykey"
  vpc_security_group_ids = [aws_security_group.web_sg.id]
  user_data = file("userdata.sh")
  tags = {
    Name = "Jenkins-Tomcate-Server"
  }
}
```

Provider.tf:

```
provider "aws" {
  region = "us-east-1"
```

}

Userdata.sh:

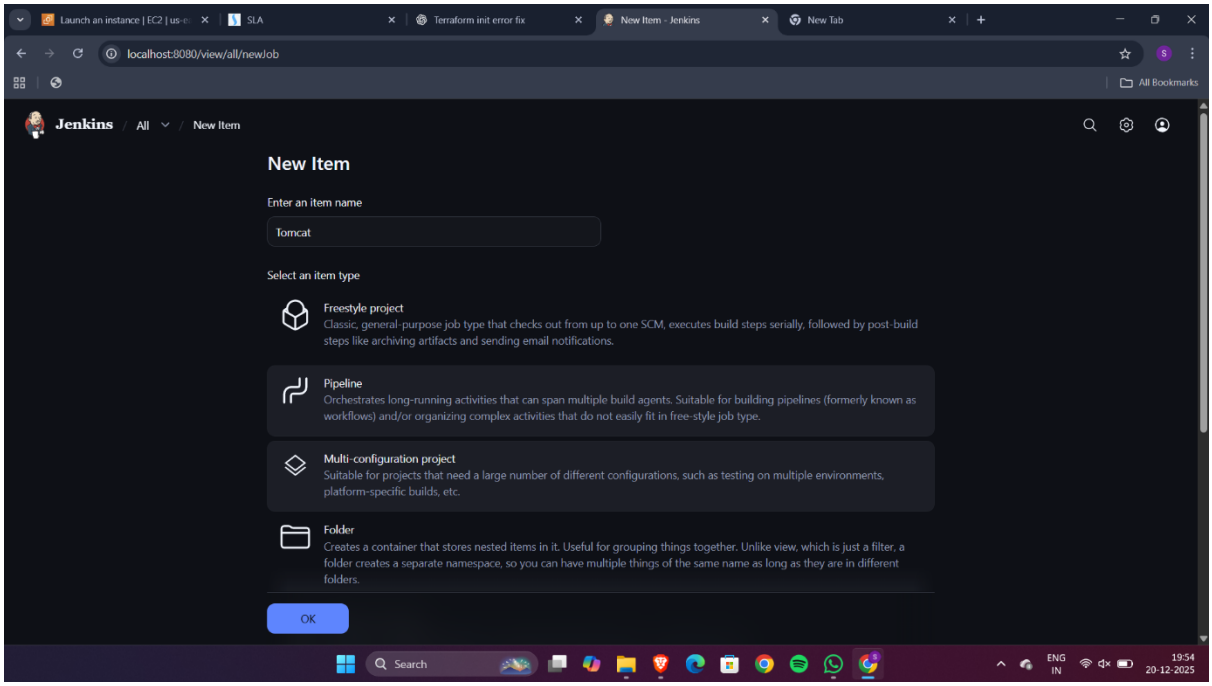
```
#!/bin/bash
yum update -y
yum install docker -y
systemctl start docker
systemctl enable docker
usermod -aG docker ec2-user
docker pull tomcat:9.0
docker run -d \
  --name tomcat-server \
  -p 8080:8080 \
  tomcat:9.0
```

Jenkinsfile:

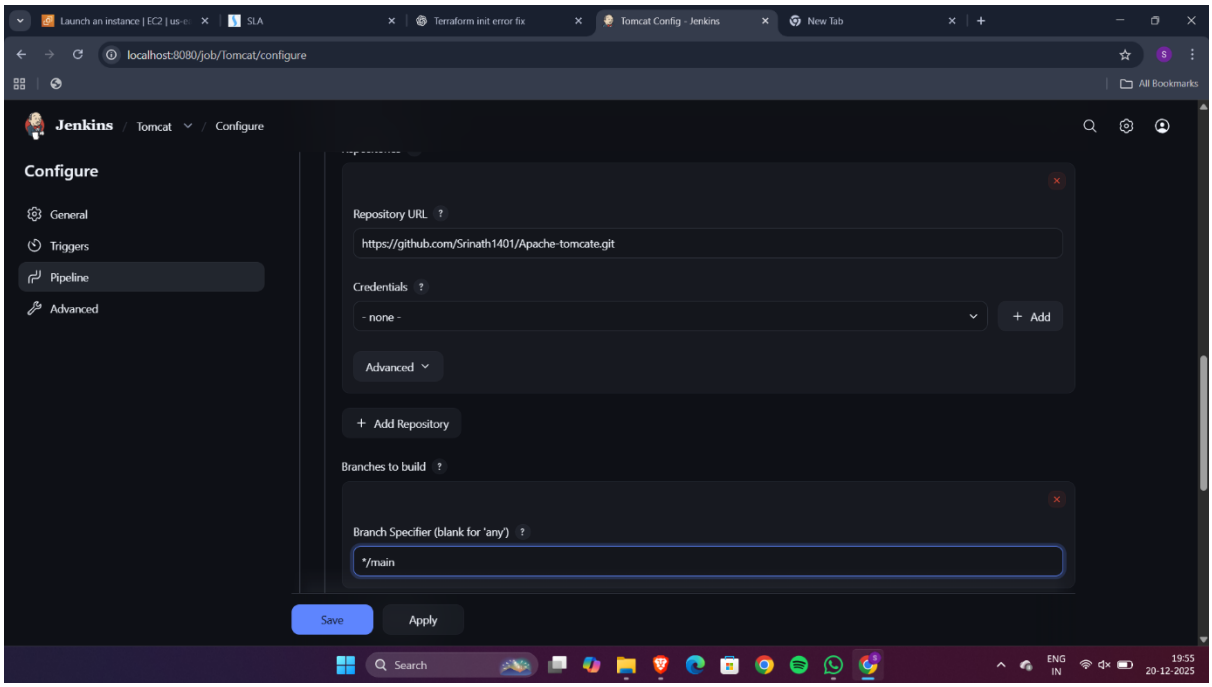
```
pipeline {
    agent any

    environment {
        AWS_DEFAULT_REGION = "us-east-1"
    }

    stages {

        stage('Checkout Code') {
            steps {
                echo "Checking out code from GitHub..."
                git branch: 'main',
                    url: 'https://github.com/Srinath1401/Apache-tomcate.git'
            }
        }

        stage('Terraform Steps') {
            steps {
                withCredentials([[
                    $class: 'AmazonWebServicesCredentialsBinding',
                    credentialsId: 'aws-creds'
                ]]) {
                    script {
                        echo "Checking if Terraform is installed..."

                        // ✅ Absolute path check
                        def terraformCheck = bat(
                            script: 'C:\\terraform\\terraform.exe -version',
```

```
            returnStatus: true
        )

        if (terraformCheck != 0) {
            error "Terraform executable not found at C:\\terraform\\terraform.exe"
        }

        echo "Terraform found. Running Init, Plan, Apply..."

        dir('teraform') {
            bat 'C:\\terraform\\terraform.exe init'
            bat 'C:\\terraform\\terraform.exe plan'
            bat 'C:\\terraform\\terraform.exe apply -auto-approve'
        }

        echo "Terraform execution completed successfully."
    }
  }
 }
}
}
}
```

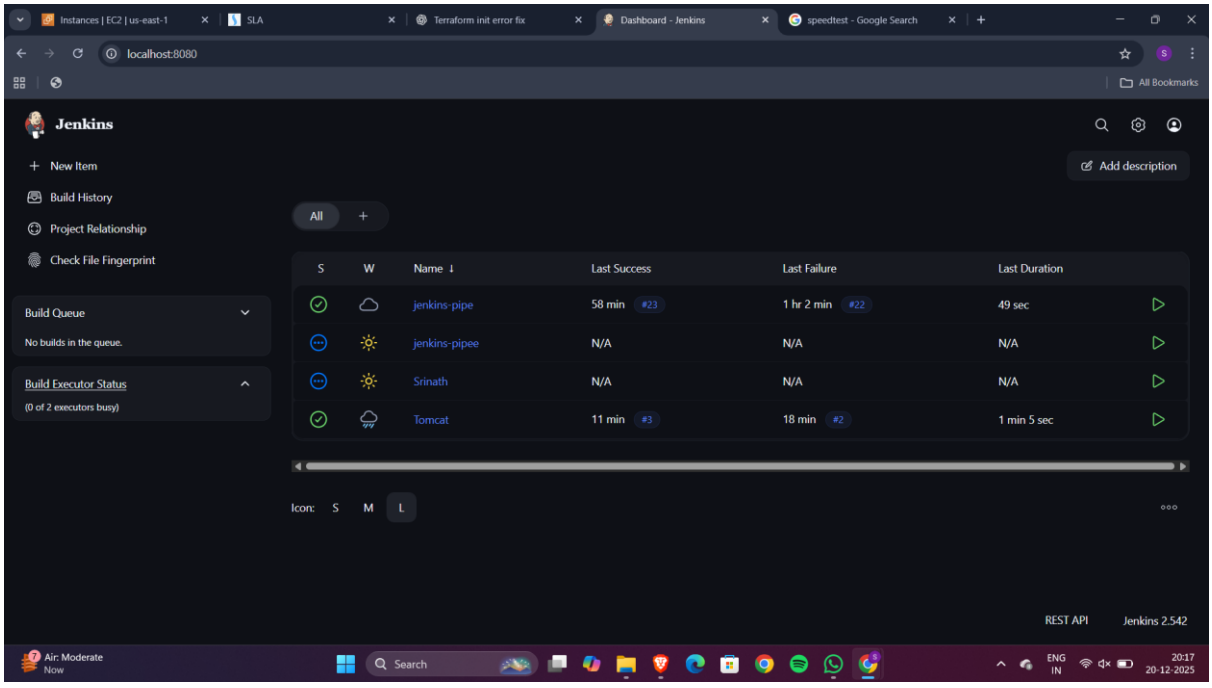
Create Jenkins Pipeline:



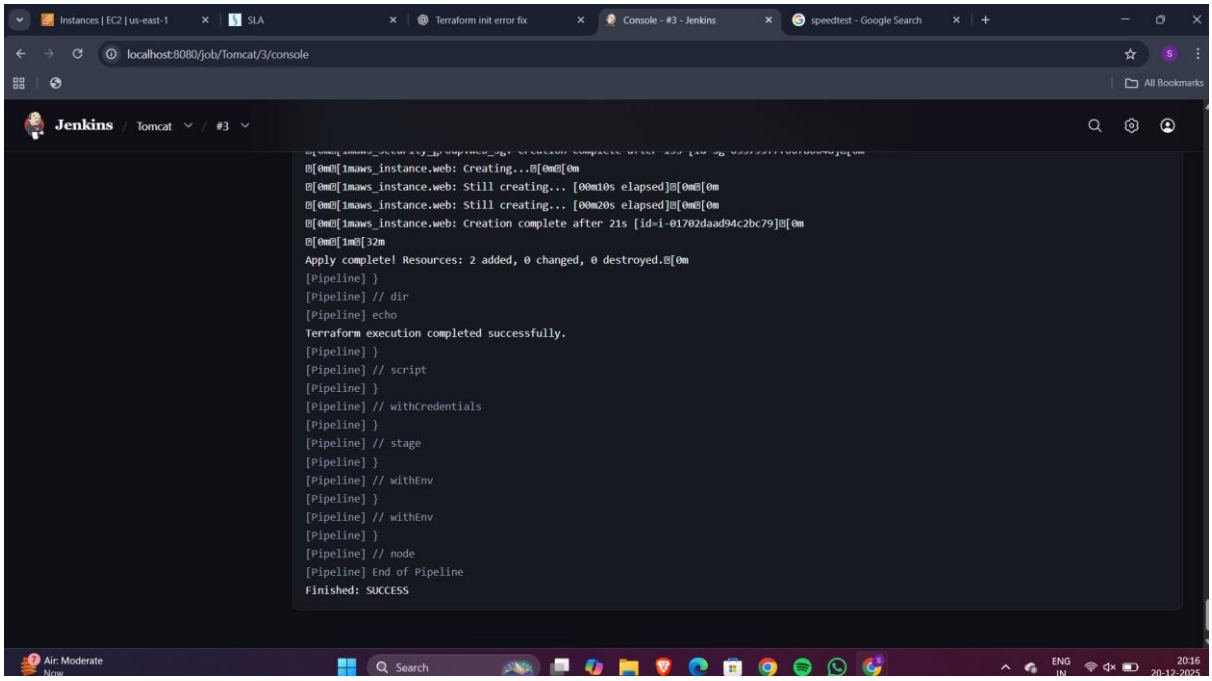
Configure pipeline:



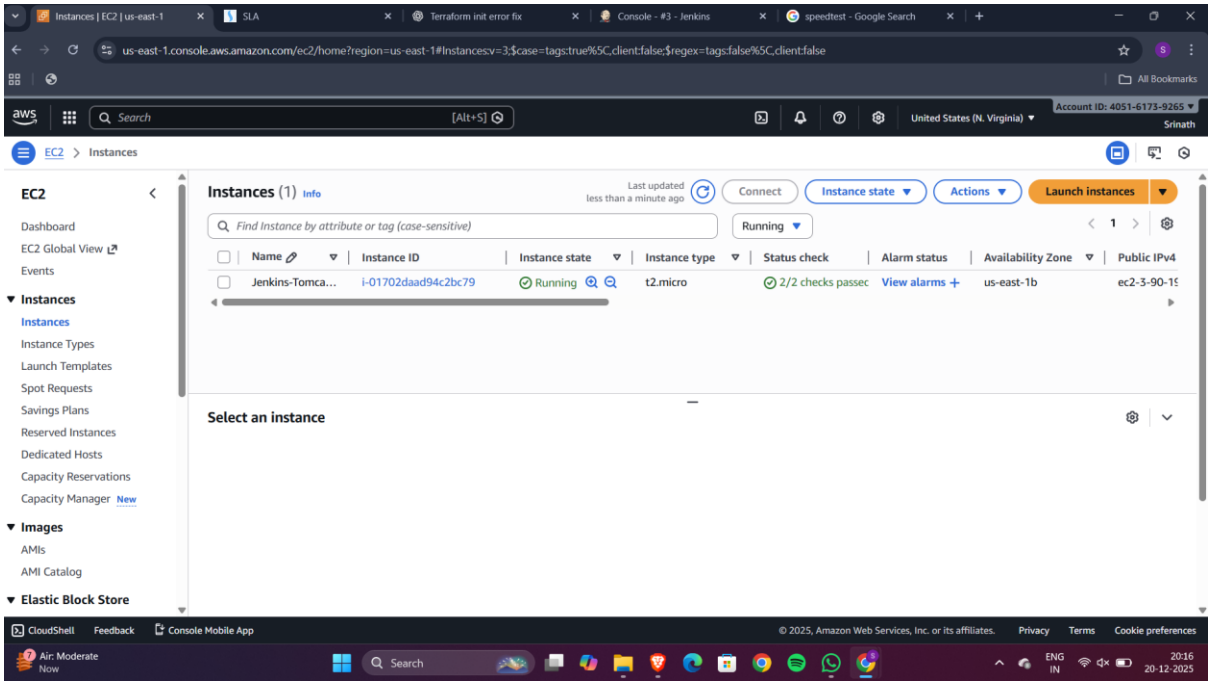
Build the Jenkins:



Build Success:



OUTPUT:



Output of Tomcat: