Experiment 1   Introduction to Maven and gradle:

sudo apt update

sudo apt install openjdk-17-jdk

 java --version

sudo apt update

sudo apt install maven -y

mvn –version

sudo apt update

sudo apt install openjdk-17-jdk

java --version

sudo apt update && sudo apt install gradle -y

sudo mkdir /opt/gradle

sudo unzip gradle-8.6-bin.zip -d /opt/gradle

sudo ln -s /opt/gradle/gradle-8.6 /opt/gradle/latest

gradle -v

Experiment 3   Working with Gradle:

sudo apt update

sudo apt install openjdk-17-jdk

java –version

```
code:

build.gradle ->

plugins {

id 'java'

id 'application'

}

group = 'com.example'

version = '1.0.0'

java {

sourceCompatibility = JavaVersion.VERSION_17

targetCompatibility = JavaVersion.VERSION_17

}

application {

mainClass = 'com.example.Main'

}

 repositories {

mavenCentral()

}

 dependencies {

testImplementation 'org.junit.jupiter:junit-jupiter:5.9.2'

implementation 'com.google.code.gson:gson:2.10'

}
```

```
tasks.withType(JavaCompile).configureEach {

options.encoding = 'UTF-8'

}


test {

useJUnitPlatform()

}
```

gradle init

gradle build

gradle clean build

gradle dependencies

mkdir -p src/main/java/com/example

 vi src/main/java/com/example/Main.java

```
 code:

package com.example;

public class Main {

public static void main(String[] args) {

System.out.println("Hello, Gradle!");

}

}
```

 gradle run

Experiment 5: Introduction to Jenkins

sudo apt install fontconfig openjdk-17-jre -y

wget -O - https://pkg.jenkins.io/debian/jenkins.io.key

sudo apt update

sudo apt install curl -y

curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key

sudo apt update

sudo apt install jenkins -y

jenkins –version

sudo systemctl enable --now jenkins

sudo systemctl status Jenkins

sudo systemctl start Jenkins

sudo ufw allow 8080

 sudo ufw enable

sudo ufw status

http://localhost:8080

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

Experiment 6: Continuous Intergration with jenkins:

sudo apt update && sudo apt upgrade -y

sudo apt install git -y

git –version

git init

git config --global user.name " "

git config --global user.email " "

git add

git commit -m "adding pom.xml"

git branch exp6

git checkout exp6

git push –all

git remote -v

git remote add master https://github.com/namrathank/jenkins-ci-pipeline.git

git push –all

git push -u origin –all

sudo apt install fontconfig openjdk-17-jre -y

wget -O - https://pkg.jenkins.io/debian/jenkins.io.key

sudo apt update

sudo apt install curl -y

curl -fsSL https://pkg.jenkins.io/debian/jenkins.io-2023.key

sudo apt update

sudo apt install jenkins -y

jenkins –version

sudo systemctl enable --now jenkins

sudo systemctl status Jenkins

sudo systemctl start Jenkins

sudo ufw allow 8080

 sudo ufw enable

sudo ufw status

http://localhost:8080

sudo cat /var/lib/jenkins/secrets/initialAdminPassword

Experiment 7: Configuration Management with Ansible:

sudo apt update

sudo apt install software-properties-common -y

sudo add-apt-repository --yes --update ppa:ansible/ansible

sudo locale-gen en_US.UTF-8

sudo update-locale LANG=en_US.UTF-8

export LANG=en_US.UTF-8

export LC_ALL=en_US.UTF-8

locale

sudo apt install ansible -y

ansible –version

vi inventory.ini

code: [local]

 localhost ansible_connection=local

vi create-file.yml

code:

name: Create a file on remote hosts

 hosts: all

 become: true

tasks: - name: Create a file called /tmp/hello.txt

file: path: /tmp/hello.txt state: touch

ansible-playbook -i inventory.ini create-file.yml

ls -l /tmp/hello.txt

 (or)

 cat /tmp/hello.txt