LAB EXTERNAL DEVOPS

**Experiment -1: Source code management on GitHub. Experiment with the source code of Student event**

**registration form**

CREATE REGISTRATION.HTML AND REGISTER.CSS FILES IN A FOLDER

* git clone <https://github.com/Adivishnu15/Test.git>

**Commands To Push into git repo:**

* Create a new git repository first in github copy link
* Open terminal in files folder start typing below commands

$sudo apt-get update

$sudo apt-get install git (if not there)

$git --version

$ git init

$ git config --global user.name "yourname"

$ git config --global user.email "youremail@example.com"

$ git add registration.html register.css (or) git add .

$ git commit -m "Initial commit - student registration"

$ git remote add origin https://github.com/yourusername/repo.git

$ git branch -M main

$ git push -u origin main (if asked for login password create a token in github )

**Jenkins start : commands**

->open localhost:8080 first if Jenkins not come try these

* sudo systemctl start Jenkins
* sudo systemctl enable Jenkins
* sudo systemctl status Jenkins
* open localhost:8080

**Experiment 2:**  **Calculate sum and average of first ten numbers using Java in Jenkins.**

code from -> git clone <https://github.com/Adivishnu15/Jenkins.git>

* Open Jenkins -> new item -> select freestyle -> give name -> ok
* Give any description -> select git -> copy paste the url -> branch main
* Build steps -> execute shell -> type these commands
* javac SumAvg.java
* java SumAvg
* Click on save ->click on (1)->build now -> wait for green mark ->console output

**Experiment 3. Perform arithmetic operations on two integers using Java in Jenkins**

Code from -> git clone <https://github.com/Adivishnu15/Jenkins.git>

* Open Jenkins -> new item -> select freestyle -> give name -> ok
* Give any description -> checkbox parameterized -> add parameters ->string parameter->( name: a , default :10 name:b ,default :11)
* select git -> copy paste the url -> branch main -> execute shell commands

javac Arithmetic.java  
java Arithmetic $a $b

* save->build with parameters -> change values-> build now ->console output

**Experiment 4. .Display student details (Name, Rollno, Dept.) using Java in Jenkins**

Code from -> git clone <https://github.com/Adivishnu15/Jenkins.git>

* Open Jenkins -> new item -> select freestyle -> give name -> ok
* Give any description -> checkbox parameterized -> add parameters ->string parameter->( name: name , default :adi name:rollno ,default :303, name:Dept ,default : cse)
* select git -> copy paste the url -> branch main -> execute shell commands

javac StudentDetails.java

java StudentDetails "$name" "$roll" "$dept"

* save->build with parameters -> change values-> build now ->console output

**Experiment 13.Write a simple program in JavaScript and perform testing using Selenium.**

Code from-> git clone <https://github.com/Adivishnu15/Selenium.git>

In folder 13 code will be there before that check for chrome extension selenium ide and pin it

* create new directory/folder and save the file as .js
* open terminal here commands
* sudo apt update
* sudo apt install nodejs npm –y
* npm init –y
* npm install selenium-webdriver
* (if chrome is not there try to install )
* google-chrome –version (check version exist or no, if not install below commands)
* wget https://dl.google.com/linux/direct/google-chrome-stable\_current\_amd64.deb
* sudo apt install ./google-chrome-stable\_current\_amd64.deb -y
* sudo apt install chromium-chromedriver –y
* For installation of higher version of node :

curl -o- https://raw.githubusercontent.com/nvm-sh/nvm/v0.39.3/install.sh | bash

source ~/.bashrc

nvm list-remote

nvm install v16.14.0

* **To run**
* node filename.js

**Experiment 14.Write a program to perform Login form testing using Selenium**

Code from-> git clone <https://github.com/Adivishnu15/Selenium.git>

In folder 14 code will be there

* create new directory/folder and save the file as .js and .html files
* open terminal here commands
* sudo apt update
* sudo apt install nodejs npm –y
* npm init –y
* npm install selenium-webdriver
* node test\_login.js (run command/node filename.js )

**Experiment 15: Write a program to perform Testing on results.mvsrec.edu.in using Selenium.**

Code from-> git clone <https://github.com/Adivishnu15/Selenium.git>

In folder 15 code will be there

* create new directory/folder and save the file as .js
* open terminal here commands
* sudo apt update
* sudo apt install nodejs npm –y
* npm init –y
* npm install selenium-webdriver
* node result.js (run command/node filename.js )

INSTALLATION Docker installation steps

$ sudo apt-get update

$ sudo apt-get install docker.io

$ docker –version

For all java python web steps are same just run code will be changed just change it

* git clone <https://github.com/Adivishnu15/Docker.git>
* try to change image names & cntr+c for web code when it pause in a state after run
* create a new folder and add required file and Dockerfile
* $ docker build –t javaimage .
* $ docker run -it javaimage
* $ docker login -u username (enter actual password ,no need of tokens)
* $ docker tag image username/image
* $ docker push username/image
* $ docker pull username/ image
* $ docker run -it username/ image

**(remember changes made below everything is same steps for all)**

**Experiment 5. Explore Docker commands for calculating sum and average of first ten numbers using Java.**

**Experiment 6. Explore Docker commands for perform arithmetic operations on two integers using Java**

* **docker build -t arithjava .**
* **docker run arithjava 10 20**

**Experiment 7. Explore Docker commands to display student details (Name, Rollno, Dept) using Java**

**8. Explore Docker commands for calculating sum and average of first ten numbers using Python.**

**9. Explore Docker commands for perform arithmetic operations on two integers using Python**

* **docker build -t arithpy .**
* **docker run arithpy 10 20**

**10.Explore Docker commands for display student details (Name, Rollno, Dept) using Python**

**11.Explore Docker commands for change of background color of webpage.**

* **docker build -t bgcolor-demo .**
* **docker run -d -p 8080:80 bgcolor-demo**

**12.Explore Docker commands for Login form validation**

* **docker build -t bgcolor-demo .**
* **docker run -d -p 8080:80 bgcolor-demo**