**Project Overview:**

1. **Set up the environment** (WSL, Linux, Apache web server)
2. **Create and deploy a simple website** using Jenkins for CI/CD.
3. **Automate configuration** using Ansible.
4. **Enable monitoring** with Nagios.
5. **Integrate** deployment using VMware Workstation & Aws

Step 1: Environment Setup on WSL (Ubuntu)

Open **PowerShell** in Admin mode:

wsl –install

sudo apt update && sudo apt upgrade –y

Step 2: Install Apache Web Server

sudo apt install apache2 –y

sudo systemctl start apache2

sudo systemctl enable apache2

Sudo systemctl status apache2

Verify that Apache is running by opening http://localhost in your browser.

Step 3: Create a Simple Website

Replace the default Apache page with your website

sudo nano /var/www/html/index.html

Add this Content – Remove lines if needed : ctrl +K

<html>

<head>

<title>Welcome to Sathish's Web Page</title>

</head>

<body>

<h1>Hello, World! </h1><br><p>This is my first website using WSL and Linux Ubuntu.</p>

</body>

</html>

To Save Nano file ::: Ctrl + X Type Yes Hit Enter

**Step 4: Install Jenkins for CI/CD** :

Install Java (Jenkins needs Java):

sudo apt install openjdk-11-jdk –y

Install Jenkins:

sudo wget -O /usr/share/keyrings/jenkins-keyring.asc \

https://pkg.jenkins.io/debian-stable/jenkins.io-2023.key

echo "deb [signed-by=/usr/share/keyrings/jenkins-keyring.asc]" \

https://pkg.jenkins.io/debian-stable binary/ | sudo tee \

/etc/apt/sources.list.d/jenkins.list > /dev/null

sudo apt-get update

sudo apt-get install Jenkins –y

* Sudo systemctl restart Jenkins
* Sudo systemctl status Jenkins
* Sudo systemctl enable Jenkins
* Access Jenkins on <http://localhost:8080>
* Jenkins administrator password file /var/lib/jenkins/secrets/initialAdminPassword
* sudo cat /var/lib/jenkins/secrets/initialAdminPassword
* cee84df75bf9444c8c62568f67a64ef7

Step 5: Automate Configuration with Ansible:

Install Ansible - sudo apt install ansible –y

Create a playbook to deploy your website

* nano deploy\_website.yml
* ---
* - hosts: localhost
* become: yes
* tasks:
* - name: Install Apache
* apt:
* name: apache2
* state: present
* - name: Copy website content
* copy:
* dest: /var/www/html/index.html
* content: |
* <html>
* <head><title>Ansible Deployed Web Page</title></head>
* <body><h1>Deployed using Ansible!</h1></body>
* </html>
* - name: Restart Apache
* service:
* name: apache2
* state: restarted

Run the Play book

* ansible-playbook deploy\_website.yml

**Step 6: Install Nagios for Monitoring:**

SSH into the server where you want to install Nagios (can be the same WSL instance):

-sudo apt install nagios3 –y

-sudo systemctl start nagios3

-sudo systemctl enable nagios3