Problem Statement and Motivation

Real-time scenario:

You have joined as a DevOps engineer in XYZ Pvt. Ltd. It is a platform where individuals can create their profile and start blogging on various topics. The application is ready to be hosted on a server.

You are tasked with implementing an Ansible script to deploy this application on a remote Nginx server.

Step1. Creating inventory / host file

```
localhost

[node1]

192.168.0.170 # node1  centos

[node2]

192.168.0.171 # node2  kali
```

Step2. Write the playbook

Main.yml

```
---

- name: Deploy application on Nginx server

  hosts: node2

  become: yes

  tasks:

   - name: Install Nginx

     apt:

       name: nginx

       state: present

       #update_cache: yes

   - name: Start and enable Nginx service

     systemd:

       name: nginx

       state: started

       enabled: yes

   - name: copy the web file into the hosts

     copy:
```

```yaml
      src: ./index.html
      dest: /var/www/html/
   - name: configure nginx
     template:
       src: ./nginx_config.j2
       dest: /etc/nginx/sites-available/default
   - name: test nginx configuration
     command: nginx -t
     register: nginx_test
   - name: display the output of nxgin test
     debug:
       var: nginx_test
   - name: reload nginx
     systemd:
       name: nginx
       state: reloaded
```

Step3. Creating J2 (jinja2 template)

nginx_config.j2

```
server {
    listen 80;
    server_name node2; # 192.168.0.171
    location / {
        root /var/www/html;
        index index.html index.htm;
    }
}
```

Step4. Web application sample

Index.html

<!DOCTYPE html>

<html>

<head>

   <meta charset="UTF-8" />

   <title>Ansible Lab</title>

</head>

<body>

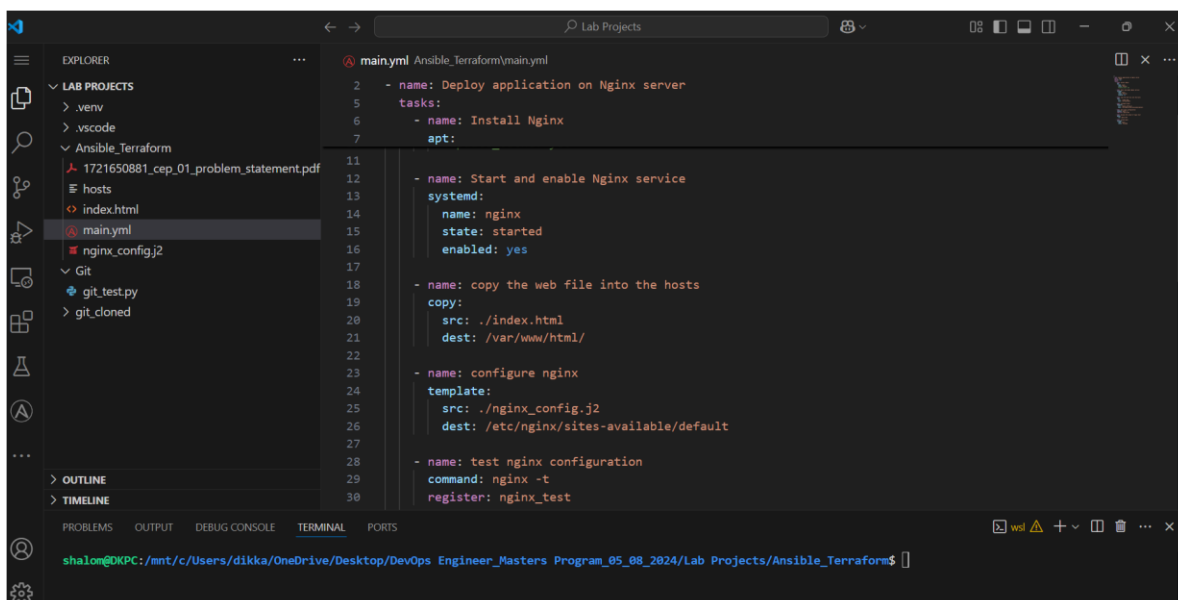   <h1> This is the demo of using Ansible to install nginx
and depolying the web application.

</h1>

<h2>This is the first project from Simplilearn about CM - Ansible</h2>

</body>

</html>

Step5. Run playbook / Ansible commands

      ansible-playbook –i hosts –b –k –K main.yml

main.yml Ansible_Terraform\main.yml

```
2   - name: Deploy application on Nginx server
5      tasks:
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
TASK [Gathering Facts] *********************************************************************************************
[WARNING]: Platform linux on host 192.168.0.171 is using the discovered Python interpreter at /usr/bin/python, but future installation of another Python
interpreter could change the meaning of that path. See https://docs.ansible.com/ansible/2.10/reference_appendices/interpreter_discovery.html for more information.
ok: [192.168.0.171]

TASK [Install Nginx] ***********************************************************************************************
ok: [192.168.0.171]

TASK [Start and enable Nginx service] ******************************************************************************
ok: [192.168.0.171]

TASK [copy the web file into the hosts] ****************************************************************************
ok: [192.168.0.171]

TASK [configure nginx] *********************************************************************************************
ok: [192.168.0.171]

TASK [test nginx configuration] ************************************************************************************
changed: [192.168.0.171]

TASK [display the output of nxgin test] ****************************************************************************
ok: [192.168.0.171] => {
    "nginx_test": {
        "changed": true,
        "cmd": [
            "nginx",
            "-t"
        ],
```

---

main.yml

```
2   - n
5     t
```

PROBLEMS   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
ok: [192.168.0.171] => {
    "nginx_test": {
        "changed": true,
        "cmd": [
            "nginx",
            "-t"
        ],
        "delta": "0:00:00.008931",
        "end": "2025-01-26 03:18:14.721979",
        "failed": false,
        "rc": 0,
        "start": "2025-01-26 03:18:14.713048",
        "stderr": "nginx: the configuration file /etc/ng                                           uccessful",
        "stderr_lines": [
            "nginx: the configuration file /etc/ngi
            "nginx: configuration file /etc/nginx/
        ],
        "stdout": "",
        "stdout_lines": []
    }
}

TASK [reload nginx] ************************                                                       **********************
changed: [192.168.0.171]

PLAY RECAP ********************************                                                        **********************
192.168.0.171              : ok=8    changed=2

shalom@DKPC:/mnt/c/Users/dikka/OneDrive/Desktop/Devops Engineer_Masters Program_05_06_2024/Lab Projects/Ansible_Terraform$
```

kali [Em execução] - Oracle VM VirtualBox

Ficheiro   Máquina   Ver   Entrada   Dispositivos   Ajuda

kali@kali: /etc/nginx/sites-available

File   Actions   Edit   View   Help

Ansible Lab

192.168.0.171

Kali Linux   Kali Tools   Kali Docs   Kali Forums   Kali NetHunter   Exploit-DB   Google Hacking DB   OffSec

This is the demo of using Ansible to install nginx and depolying the web application.

This is the first project from Simplilearn about CM - Ansible

Screenshot taken

View image

Right Ctrl