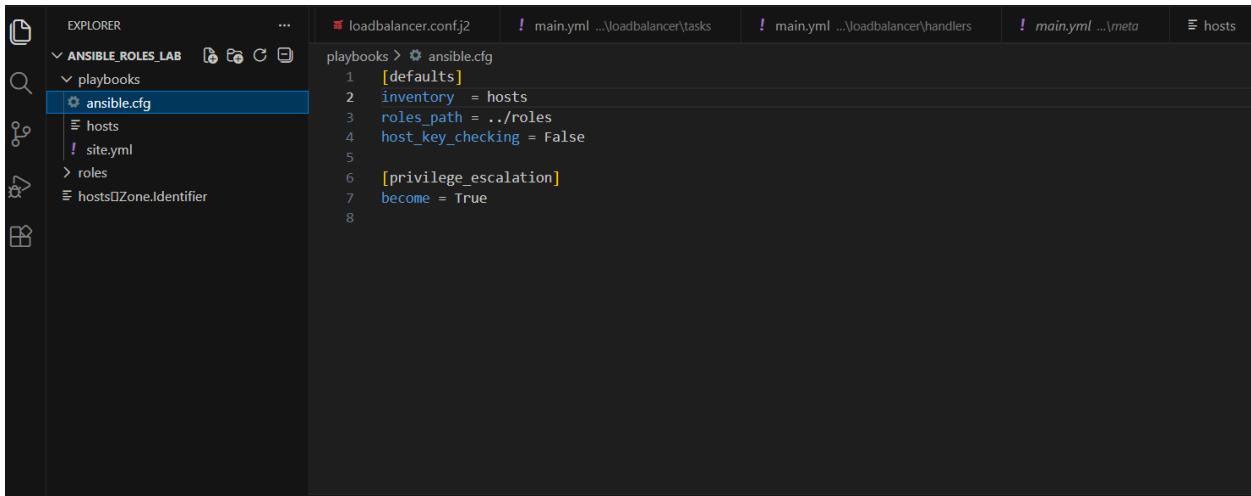


LAB | Create Ansible Roles

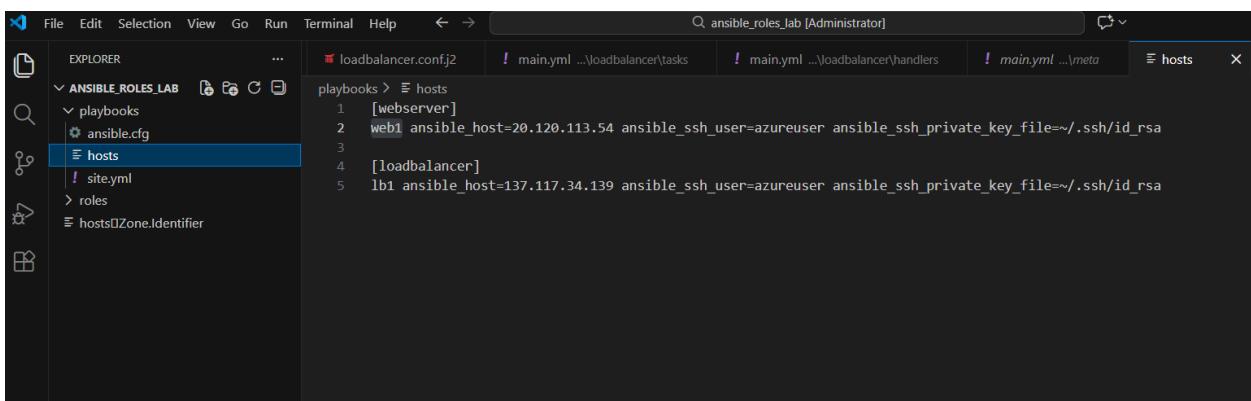
Ansible Project

```
└── playbooks
    ├── ansible.cfg
    ├── hosts
    └── site.yml
└── roles
    ├── loadbalancer
    │   ├── README.md
    │   ├── defaults
    │   │   └── main.yml
    │   ├── files
    │   ├── handlers
    │   │   └── main.yml
    │   ├── meta
    │   │   └── main.yml
    │   ├── tasks
    │   │   └── main.yml
    │   ├── templates
    │   │   └── loadbalancer.conf.j2
    │   ├── tests
    │   │   ├── inventory
    │   │   └── test.yml
    │   └── vars
    │       └── main.yml
    └── webserver
        ├── README.md
        ├── defaults
        │   └── main.yml
        ├── files
        │   └── index.php
        ├── handlers
        │   └── main.yml
        ├── meta
        │   └── main.yml
        ├── tasks
        │   └── main.yml
        ├── templates
        ├── tests
        │   ├── inventory
        │   └── test.yml
        └── vars
            └── main.yml
```



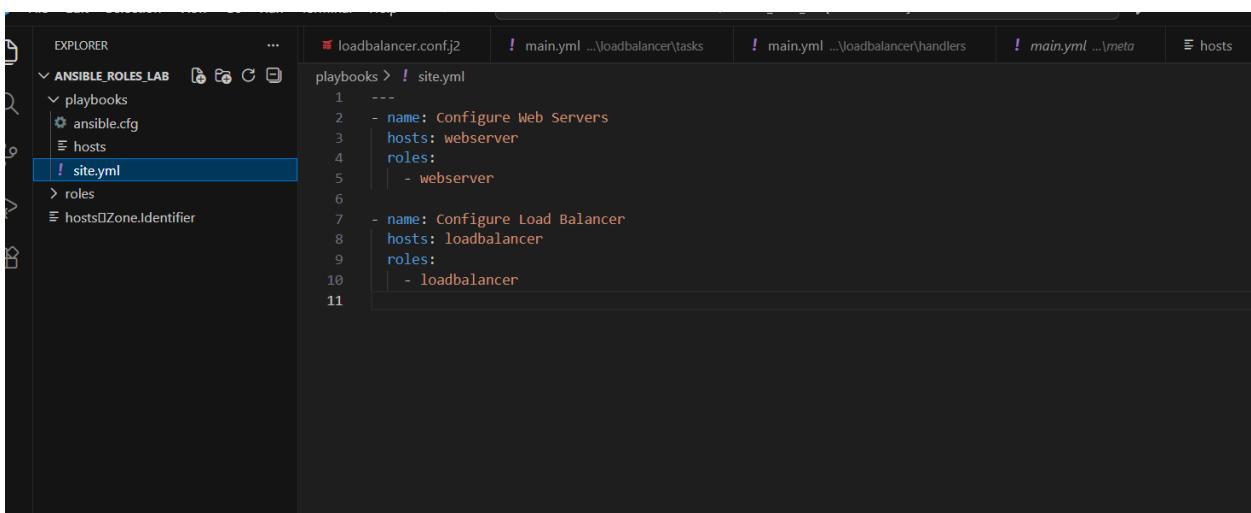
The screenshot shows the VS Code interface with the Explorer sidebar open, displaying the project structure under 'ANSIBLE_ROLES_LAB'. The 'playbooks' folder contains 'ansible.cfg'. The main editor area shows the contents of 'ansible.cfg'.

```
playbooks > ansible.cfg
1 [defaults]
2 inventory = hosts
3 roles_path = ../roles
4 host_key_checking = False
5
6 [privilegeEscalation]
7 become = True
```



The screenshot shows the VS Code interface with the Explorer sidebar open, displaying the project structure under 'ANSIBLE_ROLES_LAB'. The 'playbooks' folder contains 'hosts'. The main editor area shows the contents of 'hosts'.

```
playbooks > hosts
1 [webserver]
2 web1 ansible_host=20.120.113.54 ansible_ssh_user=azureuser ansible_ssh_private_key_file=~/ssh/id_rsa
3
4 [loadbalancer]
5 lb1 ansible_host=137.117.34.139 ansible_ssh_user=azureuser ansible_ssh_private_key_file=~/ssh/id_rsa
```



The screenshot shows the VS Code interface with the Explorer sidebar open, displaying the project structure under 'ANSIBLE_ROLES_LAB'. The 'playbooks' folder contains 'site.yml'. The main editor area shows the contents of 'site.yml'.

```
playbooks > site.yml
1 ---
2 - name: Configure Web Servers
3   hosts: webserver
4   roles:
5     - webserver
6
7 - name: Configure Load Balancer
8   hosts: loadbalancer
9   roles:
10    - loadbalancer
```

The screenshot shows the VS Code interface with the following details:

- EXPLORER** sidebar: Shows the project structure under **ANSIBLE_ROLES LAB**, including playbooks, ansible.cfg, hosts, site.yml, roles (loadbalancer), defaults, files, handlers, meta, tasks, templates, tests, vars, README.md, webserver, and hostsZone.Identifier.
- main.yml** file content (selected in the Explorer):

```
1 ---  
2 - name: Install Apache and proxy modules  
3   apt:  
4     name:  
5       - apache2  
6     state: present  
7     update_cache: yes  
8   become: true  
9  
10  - name: Enable required proxy modules  
11    command: a2enmod proxy proxy_http proxy_balancer lbmethod_byrequests  
12    become: true  
13    notify: Restart Apache  
14  
15  - name: Deploy load balancer vhost  
16    template:  
17      src: loadbalancer.conf.j2  
18      dest: /etc/apache2/sites-available/000-default.conf  
19      mode: '0644'  
20    become: true  
21    notify: Restart Apache  
22
```

The screenshot shows the VS Code interface with the following details:

- EXPLORER** sidebar: Shows the project structure under **ANSIBLE_ROLES LAB**, including playbooks, ansible.cfg, hosts, site.yml, roles (loadbalancer), defaults, files, handlers, meta, tasks, main.yml, and templates.
- loadbalancer.conf.j2** file content (selected in the Explorer):

```
1 <VirtualHost *:80>  
2   ProxyRequests Off  
3  
4   <Proxy "balancer://webcluster">  
5     {% for host in groups['webserver'] %}  
6       BalancerMember http://{{ hostvars[host]['ansible_host'] }}:80  
7     {% endfor %}  
8     ProxySet lbmethod-byrequests  
9   </Proxy>  
10  
11  ProxyPass / "balancer://webcluster/"  
12  ProxyPassReverse / "balancer://webcluster/"  
13  ErrorLog ${APACHE_LOG_DIR}/lb-error.log  
14  CustomLog ${APACHE_LOG_DIR}/lb-access.log combined  
15 </VirtualHost>  
16
```

Playbook Output

```
vijayagagla@DESKTOP-FP4OP26:~/ansible_roles_lab/playbooks$ ansible-playbook site.yml

PLAY [Configure Web Servers] ****
TASK [Gathering Facts] ****
ok: [web1]

TASK [webserver : Install Apache & PHP] ****
ok: [web1]

TASK [webserver : Copy index.php to Apache docroot] ****
ok: [web1]

PLAY [Configure Load Balancer] ****
TASK [Gathering Facts] ****
ok: [lb1]

TASK [loadbalancer : Install Apache and proxy modules] ****
ok: [lb1]

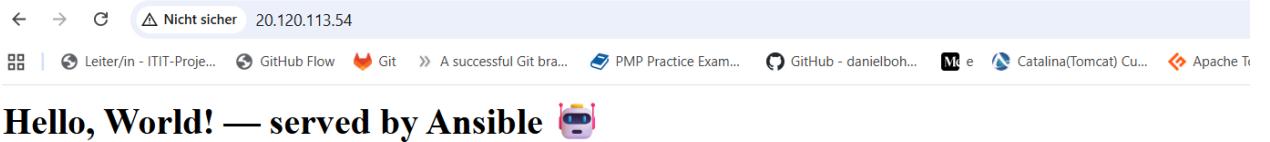
TASK [loadbalancer : Enable required proxy modules] ****
changed: [lb1]

TASK [loadbalancer : Deploy load balancer vhost] ****
changed: [lb1]

RUNNING HANDLER [loadbalancer : Restart Apache] ****
changed: [lb1]

PLAY RECAP ****
lb1           : ok=5    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
web1          : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

WebServer



Load Balancer

