Lab2:

Q1:tags

Dockerfile | inventory | playbook.yml | index.html | ansible.cfg | Welcome

playbook.yml

```yaml
- name: Lab2

  tasks:
  - name: update_cache
    apt:
      update_cache: true
    tags: update
  - name: instsall Nginx
    apt:
      name: nginx
      state: latest
    tags: instsall
  - name: Restart nginx service
    service:
      name: nginx
      state: restarted
      use: service
    tags: always
```

PROBLEMS | OUTPUT | TERMINAL | PORTS | COMMENTS

TERMINAL

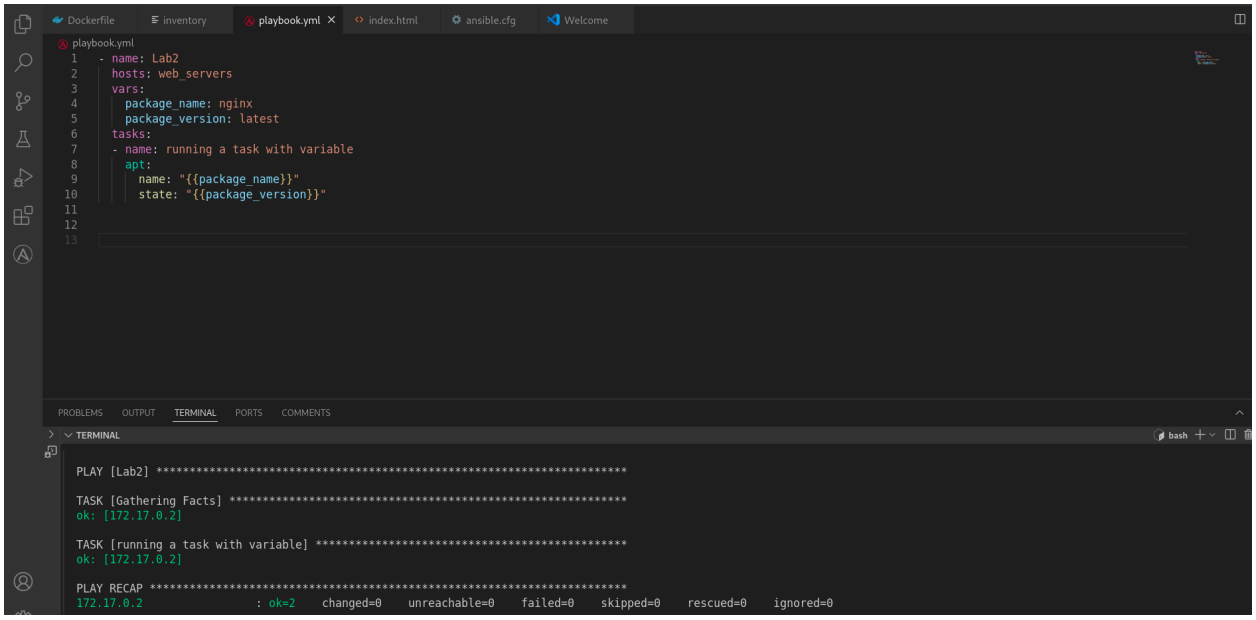
```
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml --tags update
BECOME password:

PLAY [Lab2] ********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [172.17.0.2]

TASK [update_cache] ************************************************************
ok: [172.17.0.2]

TASK [Restart nginx service] ***************************************************
changed: [172.17.0.2]

PLAY RECAP *********************************************************************
172.17.0.2                 : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Another time using instal tag:

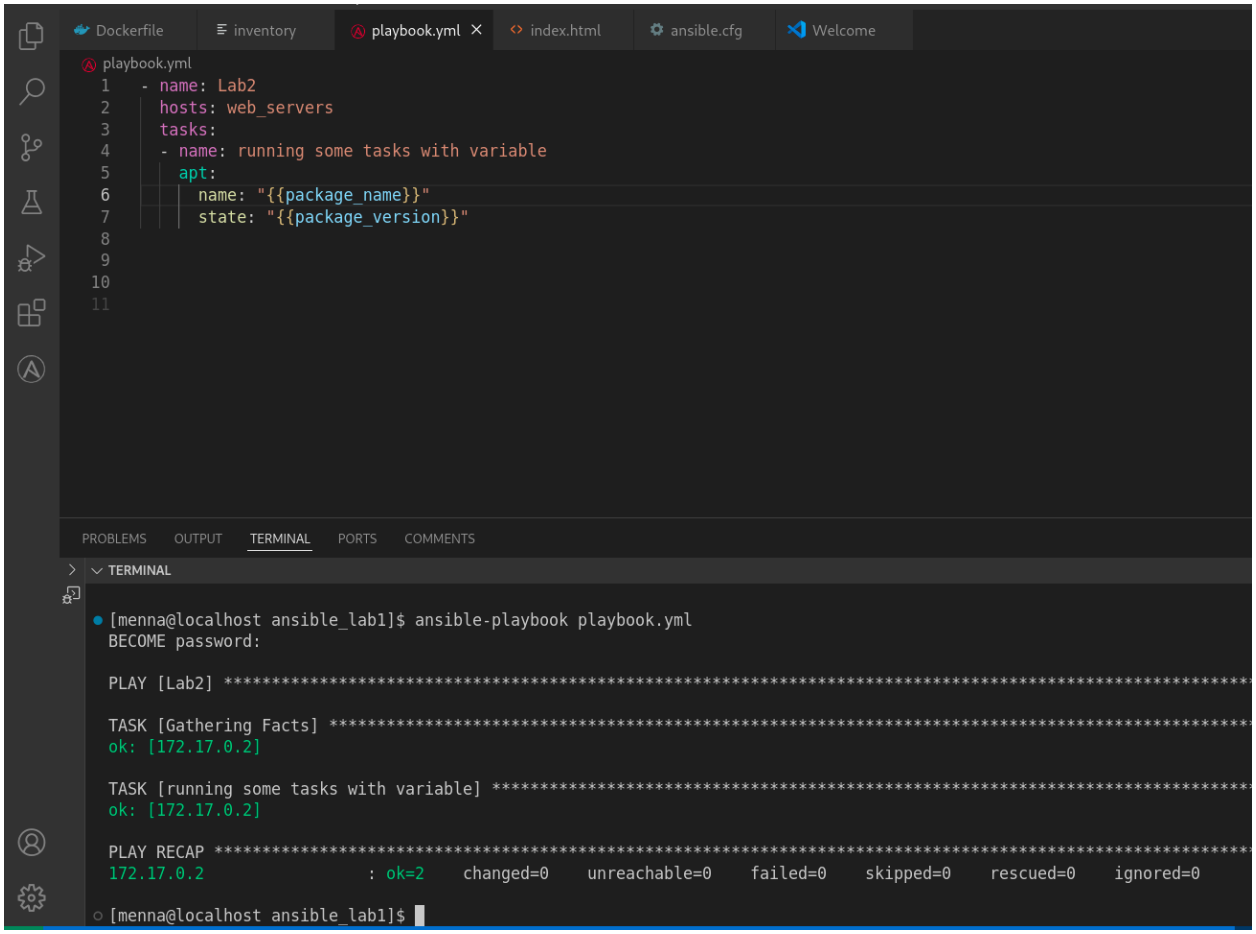
```
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml --tags instal
BECOME password:

PLAY [Lab2] ********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [172.17.0.2]

TASK [instsall Nginx] **********************************************************
ok: [172.17.0.2]

TASK [Restart nginx service] ***************************************************
changed: [172.17.0.2]

PLAY RECAP *********************************************************************
172.17.0.2                 : ok=3    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

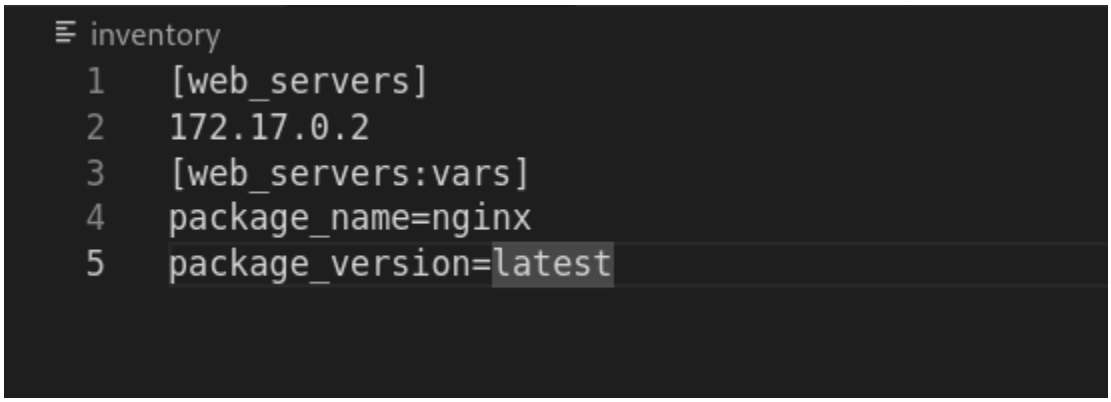
Q2. variables

using playbook



Using inventory level





Using command line level

playbook.yml

```yaml
- name: Lab2
  hosts: web_servers
  tasks:
  - name: running some tasks with variable
    apt:
      name: "{{package_name}}"
      state: "{{package_version}}"
```

PROBLEMS OUTPUT TERMINAL PORTS COMMENTS

TERMINAL

```
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml -e "package_name=nginx package_version=latest"
BECOME password:

PLAY [Lab2] ********************************************************************************************************************************

TASK [Gathering Facts] *********************************************************************************************************************
ok: [172.17.0.2]

TASK [running some tasks with variable] ****************************************************************************************************
ok: [172.17.0.2]

PLAY RECAP *********************************************************************************************************************************
172.17.0.2                 : ok=2    changed=0    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[menna@localhost ansible_lab1]$
```

Q3.Loops:

Part1:

playbook.yml

```yaml
- name: Lab2
  hosts: web_servers
  tasks:
  - name: running some tasks with variable
    apt:
      name: "{{item}}"
      state: latest
    loop:
      - nginx
      - mariadb-server
      - curl
```

PROBLEMS OUTPUT TERMINAL PORTS COMMENTS

TERMINAL

```
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml
BECOME password:

PLAY [Lab2] ********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [172.17.0.2]

TASK [running some tasks with variable] ****************************************
ok: [172.17.0.2] => (item=nginx)
changed: [172.17.0.2] => (item=mariadb-server)
changed: [172.17.0.2] => (item=curl)

PLAY RECAP *********************************************************************
172.17.0.2                 : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0

[menna@localhost ansible_lab1]$
```

Part2:

```yaml
- name: Lab2
  hosts: web_servers
  tasks:
  - name: running some tasks with loops
    apt:
      name: "{{item.package_name}}"
      state: "{{item.package_state}}"
    loop:
    - { package_name: "nginx", package_state: "latest"}
    - { package_name: "mariadb-server", package_state: "present"}
    - { package_name: "curl", package_state: "absent"}
```

```
PROBLEMS  OUTPUT  TERMINAL  PORTS  COMMENTS

TERMINAL
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml
BECOME password:

PLAY [Lab2] ********************************************************************

TASK [Gathering Facts] *********************************************************
ok: [172.17.0.2]

TASK [running some tasks with loops] *******************************************
ok: [172.17.0.2] => (item={'package_name': 'nginx', 'package_state': 'latest'})
ok: [172.17.0.2] => (item={'package_name': 'mariadb-server', 'package_state': 'present'})
changed: [172.17.0.2] => (item={'package_name': 'curl', 'package_state': 'absent'})

PLAY RECAP *********************************************************************
172.17.0.2                 : ok=2    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

<u>Q4:When:</u>

I pulled a centos docker image and entered the container then ran some commands to solve the yml issue which are:

sudo sed -i 's/mirrorlist/#mirrorlist/g' /etc/yum.repos.d/CentOS-*

sudo sed -i 's|#baseurl=http://mirror.centos.org|baseurl=http://vault.centos.org|g' /etc/yum.repos.d/CentOS-*

Then i made yum update

Then i installed the openssh-server in my centos container and i made a user named:centosManouna with password :1234

```
[menna@localhost ansible_lab1]$ sudo docker inspect d6c7247255dd
[
    {
```

```
                    "Gateway": "172.17.0.1",
                    "IPAddress": "172.17.0.2",
                    "IPPrefixLen": 16,
```

And i used the already running docker container of ubuntu:

```
[menna@localhost ansible_lab1]$ sudo docker container run -itd target
99de0eba91acef3dd3c9132cf6102d6860546b977476a41400739f861d66498c
```

```
[menna@localhost ansible_lab1]$ sudo docker inspect 99de0eba91acef3dd3c9132cf6102d6860546b977476a41400739f861d66498c
[
```

```
                    "Gateway": "172.17.0.1",
                    "IPAddress": "172.17.0.3",
                    "IPPrefixLen": 16,
```

Then i used the ssh-copy-id for both containers to access them using ssh only without the password

```
[menna@localhost ansible_lab1]$ ssh centosManouna@172.17.0.2
Last login: Mon Feb  3 15:18:15 2025 from gateway
[centosManouna@d6c7247255dd ~]$ exit
```

```
[menna@localhost ansible_lab1]$ ssh manouna@172.17.0.3
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 5.14.0-554.el9.x86_64 x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:     https://landscape.canonical.com
 * Support:        https://ubuntu.com/pro

This system has been minimized by removing packages and content that are
not required on a system that users do not log into.

To restore this content, you can run the 'unminimize' command.
Last login: Mon Feb  3 15:29:42 2025 from 172.17.0.1
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

manouna@99de0eba91ac:~$ exit
```

```
1   [web_servers]
2   172.17.0.2
3   172.17.0.3
```

Playbook:

There is an unknown issue considering the centos container that i don’t know how to solve:

```
[menna@localhost ansible_lab1]$ ansible-playbook playbook.yml
BECOME password:

PLAY [playbook with conditions] ************************************************************************************

TASK [Gathering Facts] *********************************************************************************************
ok: [172.17.0.3]
```

playbook.yml

```yaml
- name: playbook with conditions
  hosts: all
  tasks:
  - name: ubuntu task with conditions
    apt:
      name: nginx
      state: latest
    when: ansible_facts['distribution'] == "Ubuntu"
    remote_user: "{{ ansible_ssh_user_ubuntu }}"

  - name: centos task with conditions
    yum:
      name: httpd
      state: latest
    when: ansible_facts['distribution'] == "CentOS"
    remote_user: "{{ ansible_ssh_user_centos }}"

```

inventory

```
[centos]
172.17.0.2 ansible_ssh_user=centosManouna

[ubuntu]
172.17.0.3 ansible_ssh_user=manouna
```

ansible.cfg

```
[defaults]
inventory = ./inventory
private_key = /home/menna/.ssh/id_rsaManouna

[privilege_escalation]
become = true
become_ask_pass = true

[vars]
ansible_ssh_user_ubuntu = manouna
ansible_ssh_user_centos = centosManouna

```

Registers:

playbook.yml

```yaml
- name: playbook with conditions
  hosts: webservers
  tasks:
  - name: ubuntu task with conditions
    apt:
      name: nginx
      state: latest
      update_cache: yes
    register: install_result

  - name: result
    debug:
      var: install_result

```

```
TASK [result] ******************************************************************************************
ok: [172.17.0.3] => {
    "install_result": {
        "cache_update_time": 1738661517,
        "cache_updated": false,
        "changed": false,
        "failed": false
    }
}

PLAY RECAP *********************************************************************************************
172.17.0.3                 : ok=3    changed=0    unreachable=0    failed=0    skipped=0    rescued=0
```

Question2:

playbook.yml

```yaml
- name: playbook with conditions
  hosts: webservers
  tasks:
  - name: ubuntu task with conditions
    apt:
      name: nginx
      state: latest
      update_cache: yes
    register: install_result

  - name: result
    debug:
      var: install_result
  - name: restart service
    service:
      name: nginx
      state: restarted
      use: service
    when: install_result.changed or not install_result.failed
```

```
TASK [Gathering Facts] *********************************************************
ok: [172.17.0.3]

TASK [ubuntu task with conditions] *********************************************
ok: [172.17.0.3]

TASK [result] ******************************************************************
ok: [172.17.0.3] => {
    "install_result": {
        "cache_update_time": 1738661517,
        "cache_updated": false,
        "changed": false,
        "failed": false
    }
}

TASK [restart service] *********************************************************
changed: [172.17.0.3]

PLAY RECAP *********************************************************************
172.17.0.3                 : ok=4    changed=1    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```