Lab3:
Question 1: roles

```yaml
playbook.yml
1    - name: playbook with roles
2      hosts: webservers
3      roles:
4        - web
5
6
7
```

```yaml
- name: Install nginx
  apt:
    name: "{{ package_name }}"
    state: latest
  register: installing_nginx

- name: Ensure nginx is installed (debug)
  debug:
    var: installing_nginx

- name: Copy files (always execute)
  copy:
    src: "{{ item }}"
    dest: "/tmp/{{ item }}"
  loop: "{{ files }}"
  register: copy_files

- name: Ensure files are copied(debug)
  debug:
    var: copy_files

- name: Restart nginx if files were copied
  service:
    name: "{{ package_name }}"
    state: restarted
    use: service
  when: copy_files.changed
```

```
TASK [web : Restart nginx if files were copied] ******************************
changed: [172.17.0.2]

PLAY RECAP ********************************************************************
172.17.0.2                 : ok=6    changed=2    unreachable=0    failed=0    skipped=
0    rescued=0    ignored=0
```

```
PLAY [playbook with roles] ***************************************************

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

TASK [web : Install nginx] ***************************************************
ok: [172.17.0.2]

TASK [web : Ensure nginx is installed (debug)] *******************************
ok: [172.17.0.2] => {
    "installing_nginx": {
        "cache_update_time": 1738693065,
        "cache_updated": false,
        "changed": false,
        "failed": false
    }
}

TASK [web : Copy files (always execute)] *************************************
changed: [172.17.0.2] => (item=file1.html)
changed: [172.17.0.2] => (item=file2.html)
changed: [172.17.0.2] => (item=file3.html)
```
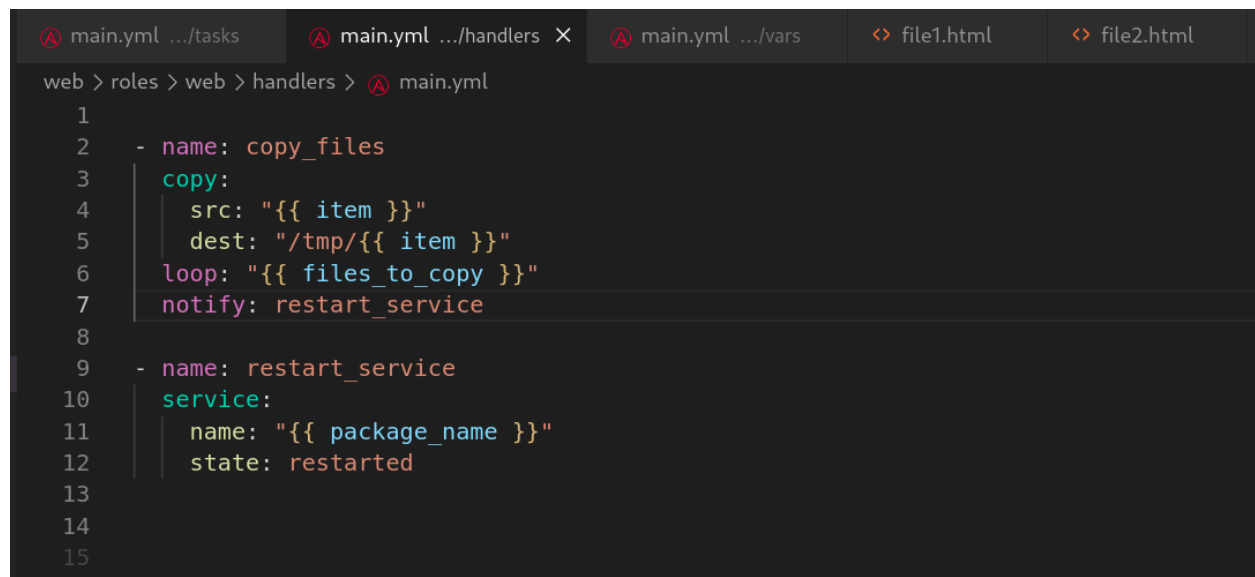
web > roles > web > vars > Ⓐ main.yml

```yaml
1    package_name: "nginx"
2
3    files:
4      - "file1.html"
5      - "file2.html"
6      - "file3.html"
```
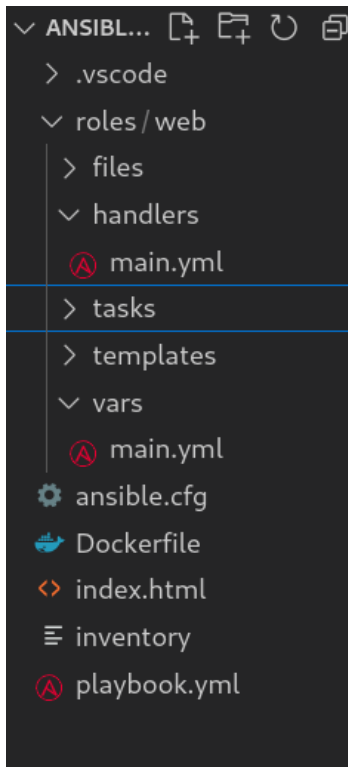
Question2: handlers

```
1    package_name: "nginx"
2
3    files_to_copy:
4      - "file1.html"
5      - "file2.html"
6      - "file3.html"
7
8
```

web > roles > web > handlers > Ⓐ main.yml

```yaml
1
2    - name: copy_files
3      copy:
4        src: "{{ item }}"
5        dest: "/tmp/{{ item }}"
6      loop: "{{ files_to_copy }}"
7      notify: restart_service
8
9    - name: restart_service
10     service:
11       name: "{{ package_name }}"
12       state: restarted
13
14
15
```

```
∨ ANSIBL...  ☐₊  ☐₊  ↻  ⊟
  > .vscode
  ∨ roles / web
    > files
    ∨ handlers
      ⒶΫ main.yml
    > tasks
    > templates
    ∨ vars
      ⒶΫ main.yml
  ⚙ ansible.cfg
  🐳 Dockerfile
  <> index.html
  ☰ inventory
  Ⓐ playbook.yml
```

```
Ⓐ main.yml .../tasks ✕      Ⓐ main.yml .../handlers      Ⓐ main.yml .../vars

web > roles > web > tasks > Ⓐ main.yml
   1      - name: installing nginx
   2        apt:
   3          name: "{{ package_name }}"
   4          state: latest
   5        notify: copy_files
   6
```

Since that the install nginx is already made before so nothing changed that is why the handler isn't called

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

PLAY [playbook with roles] *****************************************
************

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

TASK [web : Install nginx] *****************************************
************
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
```

Question 3: Templates

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

PLAY [playbook with roles] *****************************************

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

TASK [web : Install nginx] *****************************************
changed: [172.17.0.2]

RUNNING HANDLER [web : copy files] *********************************
ok: [172.17.0.2] => (item=file1.html)
ok: [172.17.0.2] => (item=file2.html)
ok: [172.17.0.2] => (item=file3.html)
```

```
1    <html>
2    <body>
3    <h1> {{ template_message }} <h1>
4    </body>
5    <html>
```

```
1    package_name: "nginx"
2
3    files_to_copy:
4        - "file1.html"
5        - "file2.html"
6        - "file3.html"
7    template_name: "temp.j2"
8    template_message: "hello from manouna"
9
```

```
1
2    - name: Install nginx
3      apt:
4        name: "{{ package_name }}"
5        state: latest
6      notify: copy files
7
8
```

roles > web > handlers > Ⓐ main.yml

```yaml
1
2  - name: copy files
3    copy:
4      src: "{{ item }}"
5      dest: "/tmp/{{ item }}"
6    loop: "{{ files_to_copy }}"
7    notify: restart_service
8
9  - name: restart_service
10    service:
11      name: "{{ package_name }}"
12      state: restarted
13      use: service
14
15
16
```