

Creating roles in Ansible

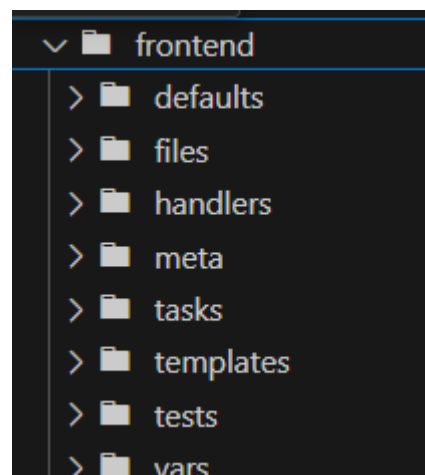
Create a folder for your Project: Ansible_roles

Move to the folder `cd ansible_roles`

Inside that open terminal or wsl where your ansible is installed.

- `ansible-galaxy init frontend` (runn command)

```
sonam@DESKTOP-4F8ELLU:/mnt/d/PhysicsWalla/Devops-  
e$ ansible-galaxy init frontend  
- Role frontend was created successfully
```



This Folder structure was generated.

- `defaults` -- keep default variables
- `files` -- keep static files to copy
- `handlers` -- restart services etc..
- `meta` -- role dependencies
- `tasks` -- main task
- `templates` -- jinja2 templates
- `tests` -- write test cases
- `vars` -- role specific variables add here

Now Let's Code the same.

Tasks folder – `main.yml` file

```
---
- name: Install Nginx
  apt:
    name: nginx
    state: present
    update_cache: yes

- name: Copy Custom index.html
  template:
    src: index.html.j2
    dest: /var/www/html/index.html
  notify: restart nginx
```

handlers – main.yml

```
---
- name: restart nginx
  service:
    name: nginx
    state: restarted
```

--defaults – main.yml

```
---
nginx_title: "Welcome to My Website"
nginx_message: "Deployed using Ansible Role"
```

Templates folder create → index.html.j2

```
<html>
  <head>
    <title>
      {{ nginx_title }}
    </title>
    <body>
      <h1>{{ nginx_message }}</h1>
    </body>
  </head>
</html>
```

Create main playbook.yml outside the frontend folder.

```
---
- hosts: aws1
  become: yes
  roles:
    - frontend
```

Create inventory:

```
all:
  children:
    web:
      hosts:
        aws1:
          ansible_host: ec2-18-234-221-87.compute-
1.amazonaws.com
          ansible_user: ubuntu
          ansible_ssh_private_key_file: ~/.ssh/testsonam.pem
```

Give your Public IP or DNS accordingly and run below command.

```
ansible-playbook -i inventory.yml playbook.yml
```

```
PLAY [aws1] *****

TASK [Gathering Facts] *****
ok: [aws1]

TASK [frontend : Install Nginx] *****
changed: [aws1]

TASK [frontend : Copy Custom index.html] *****
changed: [aws1]

RUNNING HANDLER [frontend : restart nginx] *****
changed: [aws1]

PLAY RECAP *****
aws1                : ok=4    changed=3    unreachable=0    failed=0    skipped=0    rescued=0    ignored=0
```

Create 1 more Role:

Ansible-galaxy init backend

Opne tasks—main.yml

```
---
- name: Install Python3 and pip
  apt:
    name:
      - python3
      - python3-pip
      - python3-flask
    state: present
    update_cache: yes

# - name: Install flask
#   pip:
#     name: flask

- name: upload simple server code
  copy:
    dest: /home/ubuntu/app.py
    content: |
      from flask import Flask
      app = Flask(__name__)
      @app.route('/')
      def hello():
```

```

        return "Hello From Backend"

    if __name__ == '__main__':
        app.run(port=5000)

- name: Run Flask app in background
  shell: nohup python3 /home/ubuntu/app.py &

```

```

TASK [backend : Install Python3 and pip] *****
changed: [aws1]

TASK [backend : upload simple server code] *****
changed: [aws1]

TASK [backend : Run Flask app in background] *****
changed: [aws1]

PLAY RECAP *****
aws1                : ok=6    changed=3    unreachable=0    failed=0    skipped=0
ignored=0

```

Go to your Security group and Open 5000 port in inbound rules and then check output with

Publicip:5000

It should revert with hello from backend.