Lab Manual -- Ansible Roles

Steps:

1. Initialize the roles in the ansible first
2. Sample Playbook
3. Distribute the playbook in the structured folders
4. Create the playbook with roles

1. Initialize the roles in the ansible first

```
[root@ansible_con ~]# ansible-galaxy init /etc/ansible/roles/apache --offline
- apache was created successfully
[root@ansible_con ~]#
```

Where, ansible-galaxy would create the roles using its templates.

Offline → create offline mode rather than getting from online repo.

2. Sample playbook that would be used to create roles

```
---
- hosts: all
  tasks:

  - name: Install httpd Package
    yum: name=httpd state=latest
  - name: Copy httpd configuration file
    copy: src=/data/httpd.original dest=/etc/httpd/conf/httpd.conf
  - name: Copy index.html file
    copy: src=/data/index.html dest=/var/www/html
    notify:
    - restart apache
  - name: Start and Enable httpd service
    service: name=httpd state=restarted enabled=yes
  handlers:
  - name: restart apache
    service: name=httpd state=restarted
```

3. Let's now, move the above content in a structured manner as roles

Let's define the tasks.

On the below mentioned fine

`[root@ ansible_con]# cat /etc/ansible/roles/apache/tasks/main.yml`

```
---
# tasks file for /etc/ansible/roles/apache
- import_tasks: install.yml
- import_tasks: configure.yml
- import_tasks: service.yml
```

Further we would be creating 3 different yaml files for the tasks respectively.

a. Tasks / main.yml
i. install.yml
`[root@ansible_con]# cat /etc/ansible/roles/apache/tasks/install.yml`
```
---
- name: Install httpd Package
    yum: name=httpd state=latest
```

ii. configure.yml

`[root@ansible_con]# cat /etc/ansible/roles/apache/tasks/configure.yml`
```
---
- name: Copy httpd configuration file
    copy: src=files/httpd.conf dest=/etc/httpd/conf/httpd.conf
- name: Copy index.html file
    copy: src=files/index.html dest=/var/www/html
    notify:
    - restart apache
```

iii. service.yml

`[root@ansible_con]# cat /etc/ansible/roles/apache/tasks/service.yml`
```
---
- name: Start and Enable httpd service
    service: name=httpd state=restarted enabled=yes
```

b. files

copy the required files in to the *"files"* directory

[root@ansible_con]# ll /etc/ansible/roles/apache/files/*
-rw-r--r-- 1 root root 11753 Feb   4 10:01 files/httpd.conf
-rw-r--r-- 1 root root   66 Feb   4 10:02 files/index.html
[root@ ansible_con]# cat /etc/ansible/roles/apache/files/index.html
This is a homepage created by vishwacloudlab for ansible roles.
[root@ ansible_con]#

c. Handlers

Edit handlers/main.yml

[root@ansible_con]# cat /etc/ansible/roles/apache/handlers/main.yml
---
handlers file for /etc/ansible/roles/apache
- name: restart apache
    service: name=httpd state=restarted

d. Meta

Edit /etc/ansible/roles/apache/meta/main.yml

```
[root@ansible-con apache]# pwd
/etc/ansible/roles/apache
[root@ansible-con apache]# vi meta/main.yml
[root@ansible-con apache]# cat meta/main.yml
galaxy_info:
  author: Vishwa
  description: Apache Webserver Roles
  company: vishwacloudlab

  # If the issue tracker for your role is not on github, uncomment the
  # next line and provide a value
  # issue_tracker_url: http://example.com/issue/tracker

  # Some suggested licenses:
  # - BSD (default)
  # - MIT
  # - GPLv2
  # - GPLv3
  # - Apache
```

Listing all the above files

```
[root@ansible-con apache]# tree /etc/ansible/roles/apache/
/etc/ansible/roles/apache/
├── defaults
│   └── main.yml
├── files
│   └── index.html
├── handlers
│   └── main.yml
├── meta
│   └── main.yml
├── README.md
├── tasks
│   ├── configure.yml
│   ├── install.yml
│   ├── main.yml
│   └── service.yml
├── templates
├── tests
│   ├── inventory
│   └── test.yml
└── vars
    └── main.yml
```

4. Now that we have all the roles defined, let's create the playbook.

```
[root@ansible_con apache]# cat /root/proj1/runsetup.yml
---
- hosts: appserver
  roles:
    - apache
[root@ansible_con apache]#
```

We can check the syntax before running the playbook for making sure.

```
[root@ansible-con role-pb]# cat runsetup1.yml
---
 - hosts: appserver
   roles:
   - apache

[root@ansible-con role-pb]# ansible-playbook runsetup1.yml --syntax-check

playbook: runsetup1.yml
[root@ansible-con role-pb]#
```