**Ansible documentation**

**Imp Topics:**

**Basic Setup**: Install Ansible, understand basic configuration and inventory.

**Modules and Playbooks**: Learn about modules, how to create and run simple playbooks.

**Roles and Templates**: Dive into roles, templates, and best practices for structuring playbooks.

**Cloud Integration**: Manage cloud resources with Ansible (AWS, Azure, GCP).

**Automation and Best Practices**: Learn how to manage larger infrastructure using **Ansible Tower** and **AWX**.

**Advanced Topics**: Dive into performance optimization, collections, and integrating with containers like Docker and Kubernetes.

**Roles:**

#### **1.1 Create the Role Using ansible-galaxy**

**ansible-galaxy init create\_users**

**create\_users/**

**├── defaults/**

**│ └── main.yml**

**├── tasks/**

**│ └── main.yml**

**├── handlers/**

**│ └── main.yml**

**├── meta/**

**│ └── main.yml**

**├── vars/**

**│ └── main.yml**

**├── files/**

**└── templates/**

* **defaults/: Holds default variables for the role.**
* **tasks/: Where you’ll define the tasks for the role (e.g., creating users).**
* **handlers/: Tasks triggered by changes in other tasks (e.g., restarting a service).**
* **meta/: Role metadata like dependencies.**
* **vars/: More specific variables for the role.**
* **files/: Static files you want to copy to the remote machine (e.g., configuration files).**
* **templates/: Jinja2 templates for dynamically generated files (e.g., config files).**

**2.1 Example Default Variables (defaults/main.yml):**

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**# Default variables for creating a user**

**username: "newuser"**

**user\_shell: "/bin/bash"**

**user\_home: "/home/{{ username }}"**

**user\_password: "password123" # Optional: Can be replaced with an encrypted password**

**3.1 Create a Task to Create a User (tasks/main.yml):**

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**# Tasks to create a user**

**- name: Create the user**

**user:**

**name: "{{ username }}" # From defaults/main.yml or overridden in the playbook**

**state: present # Ensure the user exists**

**shell: "{{ user\_shell }}"**

**home: "{{ user\_home }}"**

**password: "{{ user\_password | password\_hash('sha512') }}" # Optional password hashing**

**4.1 Example Playbook (create\_users\_playbook.yml):**

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**- name: Create users on web servers**

**hosts: web1, web2**

**become: yes # Ensure the tasks run as root or with sudo**

**roles:**

**- create\_users**

**ansible-playbook -i hosts.ini create\_users\_playbook.yml**