**Ansible Galaxy, Playbooks, and Roles - A Beginner's Guide**

**1. What is Ansible?**

Ansible is an open-source automation tool used for configuration management, application deployment, and task automation. It helps system administrators manage multiple servers efficiently.

**2. What is Ansible Galaxy?**

Ansible Galaxy is a public repository of Ansible roles where users can download pre-built roles or share their own. It helps in speeding up automation by providing reusable configurations.

**Example:**

Imagine you want to set up MySQL on multiple servers. Instead of writing everything from scratch, you can use an Ansible role from Galaxy to do it automatically.

**Diagram:**

[Ansible Galaxy] ---> [Download Role] ---> [Use in Playbook] ---> [Apply to Servers]

**3. What are Ansible Playbooks?**

Playbooks are YAML files that define a set of tasks to automate processes on remote servers. They help in organizing and executing automation steps efficiently.

**Example Playbook:**

- name: Install Apache Web Server

hosts: web\_servers

become: yes

tasks:

- name: Install Apache

apt:

name: apache2

state: present

**Table: Key Components of a Playbook**

| **Component** | **Description** |
| --- | --- |
| name | Description of the playbook |
| hosts | Defines target servers |
| become | Runs tasks with admin privileges |
| tasks | List of automation steps |

**4. What are Ansible Roles?**

Roles are structured directories that help organize playbooks by separating tasks, variables, and configurations into reusable components.

**Role Directory Structure:**

my\_role/

├── defaults/

├── files/

├── handlers/

├── meta/

├── tasks/

├── templates/

├── vars/

* tasks/ → Contains YAML files defining automation steps.
* handlers/ → Contains handlers that run after task execution.
* templates/ → Stores Jinja2 template files.

**Example Role Task File (tasks/main.yml)**

- name: Install MySQL

apt:

name: mysql-server

state: present

**5. How to Use Ansible Galaxy?**

You can download and install roles using the command:

ansible-galaxy install geerlingguy.mysql

To use a downloaded role in a playbook:

- name: Apply MySQL Role

hosts: db\_servers

roles:

- geerlingguy.mysql

**6. Managing Multiple Roles with Requirements File**

You can define multiple roles in a requirements.yml file:

- name: geerlingguy.java

- name: geerlingguy.nginx

Then, install them with:

ansible-galaxy install -r requirements.yml

**Conclusion**

* Ansible Galaxy provides pre-built roles.
* Playbooks define automation tasks.
* Roles help organize configurations.
* Using ansible-galaxy, you can download and use roles efficiently.

With this knowledge, you can start automating tasks in a structured and reusable way!