



Lab 9 — Loops in Ansible (`loop`, `with_items`, `dictionary loops`)

Author: Sandeep Kumar Sharma



Learning Objectives

In this lab, you will learn: - What loops are in Ansible - How to use the `loop` keyword - How to install multiple packages in one task - How to create multiple users using loops - How to loop through dictionaries (key-value pairs)



Learning Outcomes

After completing this lab, you will: - Use loops to reduce repetition in tasks - Automate bulk operations in a clean, efficient way - Understand list loops and dictionary loops - Write more compact and scalable playbooks



What Are Loops in Ansible?

Loops allow you to repeat a task multiple times. Examples: - Installing multiple packages - Creating multiple users - Creating directories - Copying multiple files

Loops help you avoid writing the same task repeatedly.



SECTION A — Installing Multiple Packages Using `loop`

Create file:

```
nano loop-packages.yml
```

Add:

```
---
- name: Install multiple packages using loop
  hosts: dev
  become: yes

  tasks:
    - name: Install common utilities
      package:
        name: "{{ item }}"
        state: present
      loop:
        - git
        - curl
        - wget
        - tree
```

Run:

```
ansible-playbook loop-packages.yml
```



SECTION B — Creating Multiple Users with Loop

```
nano loop-users.yml
```

Add:

```
---
- name: Create multiple users
  hosts: dev
  become: yes

  tasks:
    - name: Add users
      user:
        name: "{{ item }}"
        state: present
      loop:
        - user1
        - user2
        - user3
```

Run:

```
ansible-playbook loop-users.yml
```



SECTION C — Creating Directories Using Loop

```
nano loop-directories.yml
```

Add:

```
---
- name: Create directories
  hosts: dev
  become: yes

  tasks:
    - name: Make directories
      file:
        path: "/opt/{{ item }}"
        state: directory
        mode: '0755'
      loop:
        - dir1
        - dir2
        - dir3
```

Run:

```
ansible-playbook loop-directories.yml
```



SECTION D — Dictionary Loop Example (key-value loop)

Create file:

```
nano loop-dictionary.yml
```

Add:

```
---
- name: Dictionary loop example
  hosts: dev
  become: yes

  vars:
    user_info:
      user1: "/bin/bash"
      user2: "/bin/sh"
      user3: "/bin/bash"

  tasks:
    - name: Create users with specific shells
      user:
        name: "{{ item.key }}"
        shell: "{{ item.value }}"
      loop: "{{ user_info | dict2items }}"
```

Run:

```
ansible-playbook loop-dictionary.yml
```

Hands-On Checklist

- [] Install multiple packages using loop
- [] Create multiple users
- [] Create directories with loop
- [] Loop through dictionary key-value pairs

Lab Summary

In this lab, you learned:

- How loops make tasks reusable
- How to install multiple packages
- How to create multiple users
- How to loop through directories
- How to use dictionary loops for advanced automation

Next Lab:  [Lab 10 — Ansible Templates \(Jinja2 Templates\)](#)