
✅ Playbook: Single Block with Loops

```
---
- name: Update all servers
  hosts: all
  become: yes

  tasks:
    - name: Manage web server (install, start, enable)
      block:
        - name: Ensure web server package is installed
          package:
            name: "{{ item.package }}"
            state: present

        - name: Ensure web server service is started
          service:
            name: "{{ item.service }}"
            state: started

        - name: Ensure web server service is enabled
          service:
            name: "{{ item.service }}"
            enabled: true

      loop:
        - { package: "apache2", service: "apache2", distribution: "Ubuntu" }
        - { package: "httpd",  service: "httpd",  distribution: "CentOS" }

      when: ansible_distribution == item.distribution
```

🟦 Explanation

1️⃣ Block

- The `block:` groups multiple tasks together.
- This is useful because we want to:
    - Install the web server
    - Start the service
    - Enable the service
- All tasks share the **same loop and condition**.

2️⃣ Loop

```
loop:
  - { package: "apache2", service: "apache2", distribution: "Ubuntu" }
  - { package: "httpd",  service: "httpd",  distribution: "CentOS" }
```

- The loop iterates **once per OS**.
- `item.package` → package name to install
- `item.service` → service to manage
- `item.distribution` → OS to check with `when`

3️⃣ When Condition

```
when: ansible_distribution == item.distribution
```

- Ensures the block runs **only on the correct OS**.
- Ubuntu hosts → run apache2 block
- CentOS hosts → run httpd block

- Skips the block if the host doesn’t match the OS in the loop item.

4️⃣ Advantages of Using a Block

- Fewer lines of code → everything in one place
- Easier to maintain → add more OS types by adding another dictionary to the loop
- Cleaner output → tasks grouped together in Ansible logs
- Prevents repetition of `when` conditions for multiple tasks

5️⃣ Example: Adding Fedora

If you want to support Fedora, you just add another dictionary:

```
- { package: "httpd", service: "httpd", distribution: "Fedora" }
```

No need to add separate install/start/enable tasks for Fedora.