4.7 ANSIBLE PLAYBOOKS

These are the ordered list of tasks that are saved so you can run those tasks in that order repeatedly. Playbooks are written in YAML and are easy to read, write, share and understand. Ansible playbooks can perform wide variety of tasks as mentioned below

- Deploying and configuring applications
- Managing system configurations
- Orchestrating complex workflows

Example

The language used to write the ansible playbooks was YAML which is human redable.Following sections will consists in ansible playbook.

Example

```
---
- hosts: all
  tasks:
    - name: Install the Apache web server
      apt:
        name: apache2
        state: present
```

Playbooks are the files where Ansible code is written. Playbooks are written in YAML format. YAML stands for Yet Another Markup Language. Playbooks are one of the core features of Ansible and tell Ansible what to execute. They are like a to-do list for Ansible that contains a list of tasks.Playbooks contain the steps which the user wants to execute on a particular machine.

Playbooks are run sequentially. Playbooks are the building blocks for all the use cases of Ansible.

Playbook Structure

- Each playbook is an aggregation of one or more plays in it. Playbooks are structured using Plays. There can be more than one play inside a playbook.
- The function of a play is to map a set of instructions defined against a particular host.

YAML is a strict typed language; so, extra care needs to be taken while writing the YAML files. There are different YAML editors but we will prefer to use a simple editor like notepad++. Just open notepad++ and copy and paste the below yaml and change the language to YAML (Language → YAML).

- A YAML starts with --- (3 hyphens)

Example : Create a Playbook

```
---
  name: install and configure DB
  hosts: testServer
  become: yes
  vars:
    oracle_db_port_value : 1521
  tasks:
  -name: Install the Oracle DB
    yum: <code to install the DB>
   -name: Ensure the installed service is enabled and running
  service:
    name: <your service name>
```

The above is a sample Playbook where we are trying to cover the basic syntax of a playbook. Save the above content in a file as test.yml. A YAML syntax needs to follow the correct indentation and one needs to be a little careful while writing the syntax.

The Different YAML Tags

Let us now go through the different YAML tags. The different tags are described below −

name

This tag specifies the name of the Ansible playbook. As in what this playbook will be doing. Any logical name can be given to the playbook.

hosts

This tag specifies the lists of hosts or host group against which we want to run the task. The hosts field/tag is mandatory. It tells Ansible on which hosts to run the listed tasks. The tasks can be run on the same machine or on a remote machine. One can run the tasks on multiple machines and hence hosts tag can have a group of hosts entry as well.

vars

Vars tag lets you define the variables which you can use in your playbook. Usage is similar to variables in any programming language.

tasks

All playbooks should contain tasks or a list of tasks to be executed. Tasks are a list of actions one needs to perform. A tasks field contains the name of the task. This works as the help text for the user. It is not mandatory but proves useful in debugging the playbook. Each task internally links to a piece of code called a module. A module that should be executed, and arguments that are required for the module you want to execute.