**Ansible Interview Questions**

1. Why ansible is famouse and list me 3 points on why do I need to adopt ?

Opensource,

Agentless

Purely works on SSH

Ansible server should be able to SSH with config management

Other tools such as chef or puppet needs agent to run on it

1. What is the default ansible mechanism ?

By default, Ansible represents which machines it manages using a very simple INI file that puts all of your managed machines in groups of your own choosing.

1. If you're asked to decided on the usage of Pull vs Push, what would you select and would be the factors that determine the usage ?

Pull mechanism-Use push mechnasim when you can auto scale also when we are able to have 10 catalogues at the same time.Install ansible in 1 server

Push mechanism-No concept of autoscaling use push mechanism in which you install anisble on a server and create and work on components on the same.

Install ansible on all the servers

1. Assume your infra is dynamic that scales out & in dynamically and in this case, would you prefer to use push or pull ?

Pull mechanism

1. What is the need of ROLES in ansible ?

Organization. Ansible Roles provide a structured way to organize tasks, templates, files, and variables. This structure makes it easier to manage complex automation setups, as everything related to a specific role is contained within its directory.

1. If the values of the variables are declared both in vars/main.yml and default/main.yml, which among these will have priority ?

Priority will be given to the variable declared in the vars/main.yml

1. What is the eariest way to organize the variables in files based on the environment ? Can we supply the variables in files ?

Yes we can supply variables in files by structuring the main.yml file below the vars tree structure.

1. How to call a role from another rle using the task name ?

**-** **name:** Run tasks/other.yaml instead of 'main'

**ansible.builtin.include\_role:**

**name:** myrole

**tasks\_from:** other

- name: Creating {{APPUSER}} user account

ansible.builtin.include\_role:

name: common

tasks\_from: create\_user

1. What all modules have you used in Ansible and which version of ansible are you using ?

Ansible version used is 9

Modules used are as below:

**Configuring template or file:**

Ansible.buildin.template

**Restart the service:**

Ansible.buildin.service/systemd\_service

**User Creation:**

Ansible.buildin.user

**Download and extract a file:**

Ansible.buildin.unarchieve

**Copy file:**

Ansible.buildin.copy

**Dnf installs:**

Ansible.buildin.dnf

**To refer to the task:**

Ansible.buildin.include\_role

**Shell command execution:**

Ansible.buildin.shell

**Npm installs:**

Communit.general.npm

**Python pip installation:**

Ansible.buildin.pip

**Package installation:**

Ansible.buildin.package

Fetch information from the log:

Ansible.buildin.slurp

**Module for mysql community:**

Community.mysql.mysql\_info

**To register the output of the particular execution:**

Ansible.buildin.set\_fact

**Mysql:**

Community.mysql.mysql\_db:

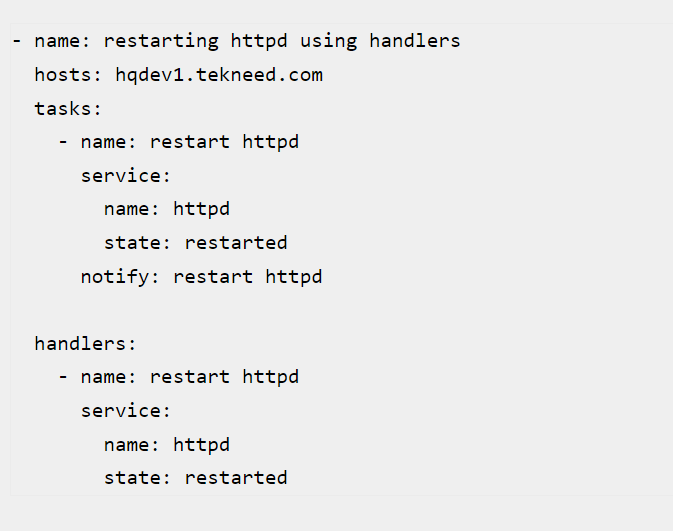
**Rabbit mq:**

Community.rabbitmq.rabbitmq\_user:

**Replace a IP:**

Ansible.buildin.replace:

1. What is the notify keyword in Ansible? Scenario, I want to make sure that service should only be restarted if there is a change in the file, how can you accomplish that ?



1. What is ROLE DEPENDENCY and what's the purpose of it and when to use that ?

roles/

common/ *# this hierarchy represents a "role"*

tasks/ *#*

main.yml *# <-- tasks file can include smaller files if warranted*

handlers/ *#*

main.yml *# <-- handlers file*

templates/ *# <-- files for use with the template resource*

ntp.conf.j2 *# <------- templates end in .j2*

files/ *#*

bar.txt *# <-- files for use with the copy resource*

foo.sh *# <-- script files for use with the script resource*

vars/ *#*

main.yml *# <-- variables associated with this role*

defaults/ *#*

main.yml *# <-- default lower priority variables for this role*

meta/ *#*

main.yml *# <-- role dependencies*

library/ *# roles can also include custom modules*

module\_utils/ *# roles can also include custom module\_utils*

lookup\_plugins/ *# or other types of plugins, like lookup in this case*

webtier/ *# same kind of structure as "common" was above, done for the webtier role*

monitoring/ *# ""*

fooapp/ *# ""*

What is the purpose of the become directive in Ansible? Can we run a playbook with 5 tasks as a root user and x-task in that 5 tasks as centos user

**-** **name:** Run a command as the apache user

**command:** somecommand

**become:** true

**become\_user:** apache

1. For example, to manage a system service (which requires root privileges) when connected as a non-root user, you can use the default value of become\_user (root):

**-** **name:** Ensure the httpd service is running

**service:**

**name:** httpd

**state:** started

**become:** true

1. What's the purpose of rescue module and when do you use that ?
2. # These 3 tasks I would like to run only for the first time and not if the password is already changes
3. # If any of the task in the block fails, then all the tasks in the rescue will be executed
4. # It's like IF ELSE Condition
5. Situation, if any of the 3 tasks in a playbook fails then I would like to run 5 specific tasks on the 3 tasks failure, how can we deal that ?
6. What is a BLOCK in ansible ?
7. - name: validating the password
8. block:
9. - name: Get MySQL version with non-default credentials
10. community.mysql.mysql\_info:
11. login\_user: root
12. login\_password: "{{MYSQL\_PSW}}"
13. filter: version
14. How can we extract a specific string consider a password from a file that's available on a remote host
15. What's the main purpose of SLURP function in ansible ?

Fetch infor from the log:

Ansible.buildin.slurp

- name: Extracting {{COMPONENT}} password file

  ansible.builtin.slurp:

    src: /var/log/mysqld.log

  register: psw\_log

1. What is the different between collections vs module ?

Collections are a distribution format for Ansible content that can include playbooks, roles, modules, and plugins

Modules-In Ansible all the works are done by importing the module such as ansible.builtin.debug,copy,templetes

1. How can we control the facts not to be collected by Ansible Controller ?

Ansible facts are gathered using the setup module, which runs in the background every time. But this can be switched off by using mentioning gather\_facts: no in the playbook

1. What is the port number used by ansible ?

Port is SSH

1. What are the packages that needs to be installed on remote nodes that needs to be controlled by ansible ?

Should install Ansible on the control node if it is Push.

Ensure to install asible on all the servers if it is pull.

1. Why ansible is referred as AGENT-lESS

Ansible is agentless, which means the nodes it manages do not require any software to be installed on them. Ansible reads information about which machines you want to manage from your inventory. Ansible has a default inventory file, but you can create your own and define which servers you want to be managed

1. If there are any sensitive pieces of information on your playbook like API Tokens, what's the strategy that you would follow to encrypt them ?

To run a playbook containing an encrypted string, use the ansible-playbook command, adding the --ask-vault-pass option. In this example, you can ignore the warnings about valid hosts, because you're just testing an example playbook: $ ansible-playbook --ask-vault-pass ssh-config.

1. How can extract all the facts gather by ANSIBLE ?

This module is part of ansible-core and included in all Ansible installations. In most cases, you can use the short module name gather\_facts even without specifying the [collections keyword](https://docs.ansible.com/ansible/latest/collections_guide/collections_using_playbooks.html#collections-keyword). However, we recommend you use the [Fully Qualified Collection Name (FQCN)](https://docs.ansible.com/ansible/latest/reference_appendices/glossary.html#term-Fully-Qualified-Collection-Name-FQCN) ansible.builtin.gather\_facts for easy linking to the module documentation and to avoid conflicting with other collections that may have the same module name.

https://docs.ansible.com/ansible/latest/collections/ansible/builtin/gather\_facts\_module.html

1. How do you manage package installations using Ansible?

Package installation can be done in ansible by using the module ansible.builtin.pakage

1. What is the difference between register and set\_fact? When to use what ?

Ansible register will help to store the output from the task execution and store it in the variable.

Fundamentally both works same except set\_fact will

*# Example setting host facts using complex arguments*

**-** set\_fact**:**

one\_fact**:** something

other\_fact**:** "{{ **local\_var** **\*** 2 }}"

1. How do you loop over items in Ansible?

- name: Demo on using loops

  hosts: all

  tasks:

      - name: Demo on Loops

        ansible.builtin.debug:

          msg: "value is: {{item}}" #item is the keyword to represent the element in the loop

        loop:

          - 10

          - 20

          - 30

1. How do you handle errors in Ansible playbooks?  Use ignore\_errors or failed\_when to manage task failures.
2. What is an inventory file in ansible ?

The inventory file in ansible help to track the resources on which the modules to be applied

1. When to use ansible vs ansible-playbook vs ansible-pull ?

Ansible- Ansible is used to configure infrastructure. After you deploy infrastructure, you might need to make changes to configurations to support new software or upgraded features. DevOps can write automation scripts to change configurations across multiple cloud resources.

Ansible-playbook-

Ansible Playbooks offer a repeatable, reusable, simple configuration management and multi-machine deployment system, one that is well suited to deploying complex applications. If you need to execute a task with Ansible more than once, write a playbook and put it under source control. Then you can use the playbook to push out new configuration or confirm the configuration of remote systems. The playbooks in the [ansible-examples repository](https://github.com/ansible/ansible-examples) illustrate many useful techniques. You may want to look at these in another tab as you read the documentation.

https://docs.ansible.com/ansible/latest/playbook\_guide/playbooks\_intro.html

Ansible-pull-When the environment is not scalable then we need to use pull mechanism.

1. If your playbook is on DRIVE, can you run it using ansible-pull ?
2. What are the pre-requisites for ansible to operate using ansible-pull

Need to install ansible on all the servers.

1. How does Ansible differ from other configuration management tools like Puppet or Chef?
   * Ansible is agentless, meaning it doesn’t require any agents on managed nodes.
   * It uses YAML-based playbooks for defining tasks.
   * Ansible is easy to learn and doesn’t require a master-agent architecture.
2. What is the difference between list vs dictionary vs map object in YAML ?

List-a Key with multiple value pairs

Dictionary- Key with value pairs

Map-a key with multiple keys

1. How can you leverage Ansible Vault to manage secrets for different environments (e.g., dev, test, prod)?

Ansible Vault is seamlessly integrated into Ansible playbooks. To encrypt a variable or file, users simply use the ansible-vault encrypt command, and Ansible Vault prompts them to set a password. Once encrypted, the playbook can be shared or stored in version control without compromising sensitive data.

1. Can we use ANSIBLE to create infrastructure on cloud ? If yes, why it's not at all preferred

environments

├── dev

│   └── group\_vars

│   └── all

│   └── secrets

└── prod

└── group\_vars

└── all

└── secrets

1. How can you achieve variable precedence and inheritance in Ansible?

## Role Defaults-Lowest precedence

## 2. Inventory Variables

These variables are defined in the inventory file. They typically relate to specific hosts and are generally used for setting host-specific values.

## Inventory Group\_vars and Host\_vars

Group\_vars and host\_vars are specified for groups and hosts inside the inventory directory. The latter will take precedence if an inventory variable and a group variable conflict.

Use Vars to have the higher precedence.

## . Set Facts

Variables set using the set\_fact module have higher precedence.

1. Discuss different ways to manage complex data structures (e.g., loops, conditionals) within Ansible playbooks. What are the conditions that you've used in ansible ?
2. Explain me how would you handle this situation, If you have 300 vm's ( Combined ) of Redhat Linux,7,8,9 and ubuntu 18,20,22. Due to the security findings, you were asked to patch the package xyz on all the Redhat 9 machines of the inventory that you have, how can you do that ?
3. Scenario : You have 500+ VM's and you would like to restart all the VM's whose uptime is greater than 100 days
4. Scenario: You need to deploy a complex application with dependencies between different servers. How would you model this in your Ansible playbooks using handlers ?
5. How would you configure secure access for your Ansible control node using SSH key management?
6. Explain best practices for managing secrets and sensitive data within Ansible playbooks using Ansible Vault.
7. How to run the playbook on debug mode

If you are running legacy playbooks or roles, you may see the debugger enabled as a strategy. You can do this at the play level, in ansible. cfg , or with the environment variable ANSIBLE\_STRATEGY=debug .