

Top 50 Ansible Interview Questions & Answers (DevOps)

1. 1. Q: What is Ansible?

A: Ansible is an open-source IT automation tool used for configuration management, application deployment, orchestration, and provisioning.

2. 2. Q: Why is Ansible agentless?

A: Ansible uses SSH (or WinRM for Windows) to connect to nodes, so no agent is needed on client machines.

3. 3. Q: What language is Ansible written in?

A: Python.

4. 4. Q: What is an Ansible Inventory?

A: It's a file (usually `/etc/ansible/hosts`) where managed nodes and groups are defined.

5. 5. Q: What is the default location of the Ansible configuration file?

A: `/etc/ansible/ansible.cfg`.

6. 6. Q: What is an Ansible Playbook?

A: YAML file that defines tasks to automate configuration and deployment on nodes.

7. 7. Q: What is an Ansible Task?

A: A single action in a playbook, e.g., installing a package or copying a file.

8. 8. Q: What is a Handler in Ansible?

A: A handler runs only when notified by a task (e.g., restart service after config change).

9. 9. Q: What are Tags in Ansible?

A: Tags allow selective execution of specific tasks in a playbook.

10. 10. Q: Difference between `tasks` and `roles` in Ansible?

A: Tasks are individual actions, roles are reusable collections of tasks, variables, files, and templates.

11. 11. Q: How do you define variables in Ansible?

A: Using ``vars``, ``group_vars``, ``host_vars``, or external variable files.

12. 12. Q: What is the precedence order of Ansible variables?

A: Command line > role defaults > inventory vars > playbook vars > role vars.

13. 13. Q: How can you use dynamic inventory?

A: By writing scripts or using cloud inventory plugins (AWS, Azure, GCP).

14. 14. Q: What are Ansible Facts?

A: System information (OS, IP, CPU, memory) collected from managed nodes.

15. 15. Q: How do you disable fact gathering?

A: ``gather_facts: no`` in the playbook.

16. 16. Q: What is an Ansible module?

A: Reusable unit of code that executes tasks (e.g., ``yum``, ``copy``, ``service``).

17. 17. Q: Difference between ``command`` and ``shell`` module?

A: ``command`` runs commands without shell features, while ``shell`` allows pipes, redirects, etc.

18. 18. Q: What is the ``raw`` module in Ansible?

A: Executes commands directly on remote nodes without Python.

19. 19. Q: Which module is used to install packages in Linux?

A: ``yum`` (RHEL/CentOS), ``apt`` (Debian/Ubuntu).

20. 20. Q: How to copy files in Ansible?

A: Using the ``copy`` module.

21. 21. Q: What is an Ansible Role?

A: A way to organize playbooks into reusable components (tasks, handlers, vars, templates, files).

22. 22. Q: How do you create a role?

A: ``ansible-galaxy init rolename``.

23. 23. Q: What is Ansible Galaxy?

A: A repository for sharing and downloading Ansible roles.

24. 24. Q: Difference between include and import in Ansible?

A: ``import`` is static (loaded at parse time), ``include`` is dynamic (loaded at runtime).

25. 25. Q: How do you pass variables to a role?

A: Using ``vars`` section inside the playbook or ``defaults`` in role.

26. 26. Q: What are templates in Ansible?

A: Dynamic configuration files using Jinja2 (``j2``) syntax.

27. 27. Q: Example use case of Jinja2 in Ansible?

A: Injecting variables into config files (``nginx.conf``, ``httpd.conf``).

28. 28. Q: How do you use loops in Ansible templates?

A: Using Jinja2 ``{% for item in list %} ... {% endfor %}``.

29. 29. Q: What is ``with_items`` in Ansible?

A: Used to loop over a list of values.

30. 30. Q: How do you conditionally execute a task in Ansible?

A: Using ``when`` statement.

31. 31. Q: How do you debug Ansible playbooks?

A: Using ``-vvv`` verbose option or ``debug`` module.

32. 32. Q: What is ``ignore_errors`` in Ansible?

A: Allows a playbook to continue execution even if a task fails.

33. 33. Q: How to run only one task from a playbook?

A: Use ``tags`` or ``--start-at-task`` flag.

34. 34. Q: How do you check syntax errors in Ansible playbooks?

A: ``ansible-playbook --syntax-check playbook.yml``.

35. 35. Q: How do you test Ansible playbooks locally?

A: Using ``ansible-playbook -i localhost, -c local playbook.yml``.

36. 36. Q: Difference between Ansible Pull and Push?

A: Push = Control node pushes configs, Pull = Clients pull from SCM (Git).

37. 37. Q: What is Ansible Vault?

A: A feature to encrypt sensitive data (passwords, keys).

38. 38. Q: How do you create an encrypted file with Ansible Vault?

A: ``ansible-vault create secrets.yml``.

39. 39. Q: How do you run a playbook with vault password?

A: ``ansible-playbook playbook.yml --ask-vault-pass``.

40. 40. Q: What is Ansible Tower / AWX?

A: A web-based UI and REST API for managing and scheduling Ansible automation.

41. 41. Q: How can you improve Ansible performance?

A: Use ``pipelining = True``, enable SSH multiplexing, and limit fact gathering.

42. 42. Q: What is Forks in Ansible?

A: Number of parallel processes to run tasks on nodes (default = 5).

43. 43. Q: Can Ansible be integrated with Jenkins?

A: Yes, via Jenkins plugins or shell execution.

44. 44. Q: How do you ensure idempotency in Ansible?

A: By using modules properly (e.g., ``state=present``).

45. 45. Q: How do you perform rolling updates with Ansible?

A: Using ``serial`` keyword in playbooks.

46. 46. Q: How do you deploy an application using Ansible?

A: Define playbooks for prerequisites (packages, configs), copy app files, and restart services.

47. 47. Q: How to manage different environments (dev/test/prod) in Ansible?

A: Use separate inventories or environment-specific variable files.

48. 48. Q: How can you rollback in Ansible?

A: By writing reverse playbooks or keeping backup tasks.

49. 49. Q: Can Ansible be used for network automation?

A: Yes, it supports Cisco, Juniper, Arista, and other network devices.

50. 50. Q: Why is Ansible preferred in DevOps pipelines?

A: Simple YAML-based automation, agentless, scalable, integrates well with CI/CD.