ANSIBLE

1. What is Ansible, and what are its key features?

Ansible is an open-source automation and orchestration tool for software provisioning, configuration management, and software deployment. It uses a playbook to describe automation jobs and YAML as a programming language. Ansible is designed for multi-tier deployment and is agentless, connecting nodes through SSH. It is easy to deploy and use. [Ansible can configure systems, deploy software, and orchestrate advanced workflows to support application deployment, system updates, and more](https://www.guru99.com/ansible-tutorial.html" \t "_blank).

Some of the key features of Ansible are:

* **Agentless**: Ansible does not require any agent installation on the remote machine. It uses SSH to connect to the remote machine.
* **Easy to learn**: Ansible is easy to learn because it uses YAML syntax which is easy to read and write.
* **Idempotent**: Ansible ensures that the state of the system remains the same even after multiple executions of the same playbook.
* **Declarative**: Ansible uses a declarative language which means that you only need to specify what you want to achieve and not how you want to achieve it.
* [**Extensible**: Ansible can be extended using modules which can be written in any programming language](https://www.devopsschool.com/blog/what-are-the-key-features-and-specific-roles-of-ansible/)

1. How do you configure Ansible and nodes in a network environment?

**Set up SSH connections** so Ansible can connect to the managed nodes. Add your public SSH key to the authorized\_keys file on each remote system. Test the SSH connections, for example: ssh username@192.0.2.50 If the username on the control node is different on the host, you need to pass the -u option with the ansible command. Ping the managed nodes.

1. Can you explain the concept of a playbook in Ansible?

In Ansible, a playbook is a file containing a series of tasks that are executed on one or more remote hosts. Playbooks are written in YAML format and are used to define the desired state of the system. They are one of the core features of Ansible and tell Ansible what to execute. Playbooks contain the steps which the user wants to execute on a particular machine.

1. What is configuration management, and how does Ansible facilitate it?