Ansible is a product from Red Hat.

Ansible is an IT automation tool. It helps in managing configuration, running playbooks for continuous deployments, basically streamlining the deployment, and orchestrating different environments.

**What is CI/CD?**

Continuous Integration is something that is used for streamlining the development and deployment process. These lead to the more rapid development of cohesive software.   
Continuous Delivery is on the other hand is a process where your code after being pushed to a remote repository can be taken to production at any time.

### What is Configuration Management?

It’s a practice that we should follow in order to keep track of all updates that are going into the system over a period of time. This also helps in a situation where a major bug has been introduced to the system due to some new changes and we need to fix it with minimum downtime. Instead of fixing the bug, we can roll back the new changes(which caused this bug) as we have been tracking those.

### What are the features of Ansible?

It has the following features:

* **Agentless** – Unlike puppet or chef there is no software or agent managing the nodes.
* **Python** – Built on top of python which is very easy to learn and write scripts and one of the robust programming languages.
* **SSH**– Password less network authentication which makes it more secure and easy to set up.
* **Push architecture** – The core concept is to push multiple small codes to the configure and run the action on client nodes.
* **Setup** – This is very easy to set up with a very low learning curve and any open source so that anyone can get hands-on.
* **Manage Inventory** – Machines’ addresses are stored in a simple text format and we can add different sources of truth to pull the list using plugins such as Open stack, Rackspace, etc.

IAC :- Infrastucur as a CODE :- MEASN WITH THE HELP OF CODE WE CAN BUILD INFRASTRUCTURE

### What is Ansible Vault?

Ansible vault is used to keep sensitive data such as passwords instead of placing it as plaintext in playbooks or roles. Any structured data file or any single value inside the YAML file can be encrypted by Ansible.

To encrypt a file

ansible-vault encrypt foo.yml bar.yml baz.yml

And similarly to decrypt

ansible-vault decrypt foo.yml bar.yml baz.yml

### What is the ad-hoc command in Ansible?

Ad-hoc commands are like one-line playbooks to perform a specific task only. The syntax for the ad-hoc command is

ansible [pattern] -m [module] -a "[module options]"

For example, we need to reboot all servers in the staging group

ansible atlanta -a "/sbin/reboot" -u username --become [--ask-become-pass]

### What is Ansible?

**Ans:** Ansible is developed in [Python language](https://mindmajix.com/python-training). It is a software tool. It is useful while deploying any application using ssh without any downtime. Using this tool one can manage and configure software applications very easily.

### How Ansible Works?

**Ans:** There are many similar automation tools available like [Puppet](https://mindmajix.com/puppet-training), Capistrano, Chef, Salt, Space Walk etc, but Ansible categorize into two types of server: controlling machines and nodes.

The controlling machine, where Ansible is installed and Nodes are managed by this controlling machine over SSH. The location of nodes are specified by controlling machine through its inventory.

The controlling machine (Ansible) deploys modules to nodes using SSH protocol and these modules are stored temporarily on remote nodes and communicate with the Ansible machine through a JSON connection over the standard output.

Ansible is agent-less, that means no need of any agent installation on remote nodes, so it means there are no any background daemons or programs are executing for Ansible, when it’s not managing any nodes.

Ansible can handle 100’s of nodes from a single system over SSH connection and the entire operation can be handled and executed by one single command ‘ansible’. But, in some cases, where you required to execute multiple commands for a deployment, here we can build playbooks.  
Playbooks are bunch of commands which can perform multiple tasks and each playbooks are in YAML file format.

### What’s the Use of Ansible.

**Ans:** Ansible can be used in IT Infrastructure to manage and deploy [software applications](https://mindmajix.com/software-application-development-courses) to remote nodes. For example, let’s say you need to deploy a single software or multiple software to 100’s of nodes by a single command, here ansible comes into picture, with the help of Ansible you can deploy as many as applications to many nodes with one single command, but you must have a little programming knowledge for understanding the ansible scripts.

* **APIs:** These used for commuting public or private cloud services.

### Can you create reusable content with Ansible?

**Ans:**Yes, Ansible has the concept of roles that helps to create reusable content. To create a role, you need to follow Ansible's conventions of structuring directories and naming files.

### Is Ansible a Configuration management tool?

**Ans:** Configuration management is the practice to handle updates and manage consistency of a product's performance over a particular period of time. Ansible is an open-source IT Configuration Management tool, which automates a wide variety of challenges in complex multi-tier IT application environments.

### Do we have any Web Interface/ Rest API etc for this?

**Ans:** Yes, Ansible Inc makes a great efficient tool. It is easy to use.

Ansible Tower :-

Patch management.

Know all version

Git rev-parse –short HEAD (It will give you lasted commit id)

Strong experience with Container orchestration platforms (Kubernetes), Ingress/Egress, Access control and Containerization (Docker)