What is an Ansible?

Ansible is an open-source software, powerful and agentless automation platform. It is used while deploying an application using ssh with zero downtime. It is also used in Configuration management, Cloud Provisioning, Application Deployment, Intra-Service Orchestration easily. It runs on many Unix-like systems, and can manage configurations of both Unix-like systems as well as Windows systems. And YAML is its declarative script. It is developed in Ruby, Python and PowerShell languages by Michael DeHaan and acquired by Red Hat in 2015.

What is configuration management

Managing configurations of the project like in IT-Infrastructure identifying the configuration, controlling configuration and configuration audit. So this is like a practice of managing and automating all the configurations required for the applications, so that the application can run seamlessly on readily tuned infrastructure. And this reduces the product release time as well.

What is an Ansible Task?

Ansible Tasks are small blocks of code in the playbook that can be used to execute any job. For example, if you want to install a package or update a software, you can follow the below code notation, it is a single task to install git software:

tasks:

- name: Installing Git Application

yum: git

state: present

What are the advantages of using Ansible?

The main three advantages of Ansible are:

Agentless: Ansible is fast and performs all functions over SSH and doesn't require agent installation. As long as the machine has ssh and python installed.

Very Simple: Has very simple architecture, simple installation and easily manageable.

Idempotent: Architecture of Ansible is structured around the concept of idempotency. Means the things which you do on a daily basis regularly, can be automated.

Declarative: No procedural approach, Ansible is declarative, needs to be defined at a high level in Yaml and Ansible makes the things done.

Ansible Modules: Ansible has so many built in modules, which gives Ansible more power to execute various variety of tasks.

Ansible Galaxy: A website where Ansible users share their customized roles to make it reusable.

What is ansible-playbook?

The Ansible Playbooks contains details of remote hosts, user variables, tasks, handlers in it. Playbook may have one or more tasks and these tasks are executed by Ansible. Usually playbooks are .yaml files.

Here is a sample playbook:

---

- name: Install Git

hosts: linux

gather\_facts: false

become: true

vars:

version: 2.19.1

tasks:

- name: Install yum package

yum: git

state: present

Ansible Playbooks vs Roles?

Roles Playbooks

Roles are reusable subsets of a Play. Playbooks may contain one or more Plays.

A Role is a set of tasks to be done. Defines hosts, where roles should be executed. As it knows inventory.

Example: general, git. Example: site.yml, myplay.yml.

What is inventory or host-file in ansible?

Inventories are the host files where information of target servers are written. Inventory also known as host-file. By default this file is located in "/etc/ansible/hosts". It contains the group of the servers, IP’s, and connection type etc.

What is an Ansible Galaxy?

Ansible Galaxy is a GUI service that lets Ansible users share their roles and modules. The Ansible Galaxy command line tool comes with normal Ansible. It is used to install roles from Galaxy or from a SCM system like GIT. Use this command to get roles from the Galaxy: $ ansible-galaxy install username.role\_name

What is the Use of Ansible?

From the day one Ansible focused on multi-tier deployments. So it is used to manage and deploy applications to remote nodes. It manages how the entire IT-Infrastructure inter relates. You were using commands or scripts to manage infrastructure or some automation scripts which would take a lot of time and effort. Now Using Ansible there are reusable roles and inventories, you just need to write a YAML script and you are done. By this you can automate repetitive tasks.

What is Ansible tower?

Ansible Tower is a commercial product(Ansible with support and extra features) from RedHat . It is used in simplifying the job of ansible automation. Ansible is very easy to use in towers as it acts like a hub for all automation tasks. The Ansible tower is free for usage of upto 10 nodes.

What are Ansible vaults?

The Ansible vaults are used to keep your sensitive data like passwords or keys in encrypted files, rather than as plaintext in playbooks or roles so that the data can be protected. Not only about protecting data but also makes it access into the playbooks. The files can be encrypted and unencrypted as the Vault is implemented with file-level granularity. These are very user friendly.

What about Ansible architecture?

Ansible has a very simple architecture. It has control over the configurations of your IT-Infrastructure. Automates the cloud provisioning, configuration management, infrastructure as a code, application deployment, intra-service orchestration, and many other IT needs. It has no agent, just needs ssh and python installed in target servers. The SSH protocol and python interpreter enables Ansible to copy modules and executes them in target servers. At last it removes copied modules from target serves. The main components of Ansible architecture are:

Ansible Modules

Plugins & API

Inventory/hosts file

Playbooks

How does Ansible work? Please explain in detail?

There are so many configuration management tools like Puppet, Chef, CEFengine, Salt, etc. And the most popular tool is Ansible, in this tool infrastructure is categorized into two type:

1. Ansible Server

2. Target Servers

As Ansible is an agentless tool so it doesn’t require any installations on target servers (remote nodes). So setup and managing nodes is very simple. Ansible can handle huge no.of nodes over SSH connection and entire operations can be executed by one single command “ansible”. Playbooks written in YAML contain one or more play, each play has one or more tasks.

$ ansible-playbook playbook\_name.yml

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

Yes, Ansible Inc makes a great efficient GUI tool. It is very easy to use.

What is the use of –start-at-task in ansible?

start-at-task option, will start executing the play from the task you specify and subsequent tasks are executed. The prior tasks are skipped.

Explain Ansible facts?

Ansible Facts are unchangeable information about the remote hosts. Ansible collects almost all the information about the target hosts as it runs a playbook. The task of collecting this remote system information is called Gathering Facts. To generate facts, ansible runs the setup module. And the command is:

$ ansible- m setup hostname

this will print out a dictionary of all the facts available for that host.

You can also see all the facts using the below command

$ ansible all- m setup

What is Role in Ansible?

Roles are collections of certain tasks variables and handlers. These Roles are shared over Ansible Galaxy to be reusable/redistributable for other Ansible users as well.

What are the different components of Ansible?

Ansible consist of the following components:

Inventories

Modules

Variables

Plugins & APIs

Hosts

Playbooks

Facts

Roles

Vault and

Handlers

How do I handle different machines needing different user accounts or ports to log in with?

Let say, suppose these hosts have different ports, username and connection type as one is linux and other is windows machine.

Setting variables in the inventory file is the easiest way for this as shown:

[web\_servers]

abc.example.com ansible\_port=8000 ansible\_user=user1 ansible\_connection=ssh

xyz.example.com ansible\_port=8001 ansible\_user=user2 ansible\_connection=winrm