

## **Ansible Course Content**

### **Module 1: Introduction to Ansible**

#### **Learning Objective**

- Learn about how Ansible can be used for Configuration Management and how to deploy resources using Infrastructure as a code.

#### **Topics**

- Evolution of Infrastructure
- Overview of Infrastructure as a Code
- What is Configuration Management
- Ansible Overview
- Case Study

### **Module 2: Ansible Architecture & Installation**

#### **Learning Objective**

- Learn about Ansible Architecture, Installation and Configuration of Ansible and how to work with Command Line Tools.

#### **Topics**

- Ansible Architecture and its working
- Ansible in DevOps
- Installation and Configuration
- Working with Command Line Tools

### **Module 3: The Playbook Grammar.**

#### **Learning Objective**

- Learn how to write using Ansible Playbooks using various parameters and templates.

## Topics

- Playbook YAML definition
- Playbook terms
- Playbook tasks
- Writing Ansible Playbooks
  - Hosts and Users
  - Variables
  - Tasks
  - Handlers
  - Jinja2 Templates

## Module 4: Ansible Modules.

### Learning Objective

- Learn how to work with Ansible Modules which are used for controlling system resources.

### Topics

- Overview of Modules
- Types of Modules
  - Core Modules
  - Extras Modules
- Return Values
- Ad Hoc Commands
  - Case Study

## Module 5: Ansible Roles.

### Learning Objective

- Understand about Roles that provide a framework for fully independent or interdependent collections of variables, tasks, templates, and modules.

### Topics

- Overview of Roles
- Role Directory Structure
- Using Roles
- Working with Ansible Galaxy

## **Module 6: Ansible on Cloud**

### **Topics:**

- Launch EC2 Instance on AWS
- Install Ansible on AWS
- Preparing Ansible to Work with AWS
- Module Support for Docker Interaction

### **Hands On:**

- Configuration of Ansible on EC2 windows.
- Configuration of Ansible on EC2 Amazon Linux EC2.
- Password less authentication on AWS with Ansible.
- Ansible playbook with Docker module.

## **Module 7: Automating Continuous Integration**

### **Topics:**

- EC2 Instance for Jenkins, Ansible and Tomcat
- Git
- GitHub
- Jenkins
- Maven plugin
- Ansible and Tomcat server integration

### **Hands On:**

- Automating Continuous Integration

## **Module 8: Infrastructure Automation using Terraform**

### **Topics:**

- Terraform Features
- Terraform vs Ansible
- Terraform Configuration
- Terraform Commands
- Managing Resources in Terraform

## **Hands On:**

- Creating and destroying an EC2 instance using Terraform
- Setting up infrastructure

## **Module 9: Transfer data with Filters & Plugins**

- Populate, manipulate, and manage data in variables using filters and plugins.

## **Modules 10 : Co-ordinate Rolling Updates**

- Minimize downtime and Ensure maintainability & Simplicity of Ansible Playbooks by using advance features of Ansible to manage rolling updates

## **Module 11: Manage Access with Users & Team**

- Create User Accounts & organize them in Red Hat Ansible Tower, then assign the user and teams permission to administrator and access the resource in the Ansible tower service

## **Module 12: Create simple CI/CD Pipeline with Ansible Tower**

- Build and operate a proof-of-concept CI/CD pipeline based on Ansible Automation and integrating red hat Ansible Tower

## **Module 13: Maintain Ansible Tower**

- Perform routine maintenance and administration of Red hat Ansible Tower