

# **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
  - $\circ$  Variables
  - o 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
  - $\circ \quad \text{Core Modules}$
  - 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

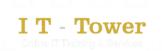
#### Hands On:

• 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