

Configuration Management with Ansible

Duration: 4 days (8hrs/day)

Prerequisites: Basic knowledge of Linux Server Administration.

Course Objective: The course aims to equip participants with a comprehensive understanding of Ansible, covering its introduction, deployment, playbook creation, variable usage, role implementation, security with Ansible Vault, optimization techniques, and real-world application scenarios for efficient configuration management in IT automation.

Ansible Version: Latest Open Source

Lab Requirement: Koenig-DC

Chapter 1 – Introduction to Configuration Management with Ansible

Introduction to Infrastructure as Code

Current IT Automation State

Configuration Management

Ansible History

Introducing Ansible

How Ansible Works

Chapter 2 – Understanding of Ansible Framework

Case Study

Ansible Way of Configuration Management

Infrastructure as a Code (IaC)

Idempotency

Ansible Terminology

Chapter 3 – Ansible Deployment

Pre-Requisites for Controller Node

Lab: Installation and Configuration

Understanding Ansible Configuration File

Lab: Creating Ansible Configuration File

Pre-Requisites for Managed Node

Understanding Ansible Inventory

Lab: Creating Ansible Inventory

Ansible Communication

Ansible Architecture

Chapter 4 – Ad-Hoc Execution with Ansible

Understanding Ansible Modules

Lab: Ad-Hoc Remote Executions

Lab: Ansible Commands

Connections and Privilege Escalations

Chapter 5 – Ansible Playbooks

YAML Structure

Creating Ansible Playbooks

Understanding Playbooks Structure

Lab: Playbooks Syntax Checks

Lab: Playbooks Smoke Test

Lab: Playbooks Real-Time Run

Lab: Playbook Examples

Chapter 6 – Variables in Ansible

Ansible Variables: An Introduction

Lab: Defining Variable in Ansible Code

Use Cases

Lab: Methods of Defining Variables

Understanding Variable Precedence

Understanding and Reading Ansible Facts

Lab: Using Facts in Playbooks

Disabling Facts Gathering

Chapter 7 – Conditionals, Loops, Error Handling & Handlers,

Understanding Conditions, Loops, Error Handling & Handlers

Lab: Using Conditions in Ansible

Lab: Using Loops in Ansible

Lab: Using ignore_errors

Lab: Using Handlers in Ansible

Chapter 8 – Ansible Roles

Introduction to Ansible Roles

Understanding Directory Structure of Roles

Lab: Manually Creating a Role

Understanding Include and Dependency Management

Lab: Using Roles in Playbooks

Chapter 9 – Ansible Vault

Introduction to Ansible Vault

Lab: Ansible Vault CLI Commands

Lab: Using Ansible-Vault with playbook

Chapter 10 – Ansible Galaxy

Ansible Galaxy: An Overview

Lab: Using Roles from Ansible Galaxy

Lab: Download Roles using requirements.yml

Chapter 11 – Ansible Playbook Optimization

Lab: Difference in Copy and Fetch Modules

Understanding Forks

Understanding Serial

Lab: Using Forks and Serial in playbooks

Tags

Jinja2 Templates

Lab: Using Jinja2 to create hosts file