

# DevOps Basic – Git, Jenkins, Kubernetes and Ansible

**Duration:** 5days (8hrs/day)

**Prerequisites:** Introduction to Linux environment.

**Course Objective:** This course aim to equip learners with the knowledge and basic practical skills needed to proficiently utilize Git, Docker & Kubernetes, Ansible, and Jenkins.

**Git Version:** Latest, **Docker Version:** Latest, **Ansible Version:** Latest Open Source, **Jenkins Version:** Latest

**Lab Requirement:** Koenig DC (CentOS 9)

## Module 1 - Git

Introduction to Version Control System

History of Git

Git Basics

States in Git

**Lab:** Installing Git

**Lab:** Configuration of Git

**Lab:** Working with Repositories

**Lab:** Basic Git Commands

**Lab:** Working with Remotes

**Lab:** Tagging

**Lab:** Git Branching

## Module 2 – Docker and Kubernetes

Introduction to Containers

Introduction to Docker

**Lab:** Downloading and Installing Docker

**Lab:** Docker Essential Commands

**Lab:** Running your First Container

**Lab:** Docker Image with Docker Commit

**Lab:** Build Image with Dockerfile

**Lab:** Storing and Retrieving Docker Images from Docker Hub

Introduction to Kubernetes

Kubernetes Architecture Overview

Lab: Running your First Pod

Understanding Deployment

Lab: Creating Deployment

Understanding Service

Lab: Create Service – ClusterIP

### **Module 3 – Automation with Ansible**

Introduction to Ansible

Ansible Architecture

**Lab:** Installation and Configure Ansible

**Lab:** AD-Hoc Commands

**Lab:** Managing Playbooks

**Lab:** Managing Variables Basics

**Lab:** Managing Loops Basics

**Lab:** Jinja2 Templates Basics

### **Module 4 - Jenkins**

Introduction to CI and CD

Introduction to Jenkins

Jenkins Process

**Lab:** Jenkins Installation

Jenkins User Interface

**Lab:** Build First Job: Deploy Web Server Automatically on Jenkins Machine

**Lab:** Add Remote Machines and Credentials

**Lab:** Deploy Web Server Automatically on Remote Machine

**Lab:** Add Parameters in Jenkins

**Lab:** Integrate Jenkins with Ansible