

Course Curriculum

1) Overview of DevOps

Learning Objective: In this module you will be introduced to DevOps environment.

- Why DevOps?
- What is DevOps?
- DevOps Market Trends
- DevOps Engineer Skills
- DevOps Delivery Pipeline
- DevOps Ecosystem

2) Version Control with Git

Learning Objective: In this module you will be introduced to DevOps environment.

- What is version control
- What is Git
- Why Git for your organization
- Install Git
- Common commands in Git
- Working with Remote Repositories

3) Git, Jenkins & Maven Integration

Learning Objective: In this module, you will learn about the different actions performed through git and will be introduced to Jenkins and maven.

- Branching and Merging in Git
- Git workflows
- Git cheat sheet
- What is CI
- Why CI is Required
- Introduction to Jenkins (With Architecture)
- Introduction to Maven

4) Continuous Integration using Jenkins

Learning Objective: In this module, you will know how to perform Continuous Integration using Jenkins by building and automating test cases using Maven.

- Jenkins Management
- Adding a slave node to Jenkins
- Building Delivery Pipeline
- Pipeline as a Code
- Implementation of Jenkins in the 's Project

5) Continuous Testing with Selenium

Learning Objective: In this module, you will learn about selenium and how to automate your test cases for testing web elements. You will also get introduced to X-Path, TestNG and integrate Selenium with Jenkins.

- Introduction to Selenium
- Why Selenium?
- Selenium – Webdriver
- Creating Test Cases in Selenium WebDriver (Waits)
- What and why X-Path
- Handling different controls on Webpage
- Framework in Selenium
- Selenium Integration with Jenkins

6) Continuous Deployment: Containerization with Docker

Learning Objective: This module introduces Docker to readers, the core concepts and technology behind Docker. Learn in detail about container and various operations performed on it.

- Shipping Transportation Challenges
- Introducing Docker
- Understanding images and containers
- Running Hello World in Docker
- Introduction to Container
- Container Life Cycle
- Sharing and Copying
- Base Image
- Docker File
- Working with containers

- Publishing Image on Docker Hub

7) Containerization with Docker: Ecosystem and Networking

Learning Objective: In this module, you will learn to integrate different containers using docker.

- Introduction to Docker Ecosystem
- Docker Compose
- Docker Swarm
- Managing Containers
- Running Containers
- Introduction to Docker Networking
- Network Types

8) Continuous Deployment: Configuration Management with Puppet

Learning Objective: In this module, you will learn to install and configure Puppet. Additionally, understand the master-agent architecture in Puppet.

- Introduction to Puppet
- Puppet Installation
- Puppet Configuration
- Puppet Master and Agent Setup
- Puppet Module
- Node Classification
- Puppet Environment
- Puppet Classes
- Automation & Reporting

9) Configuration Management with Ansible

Learning Objective: In this module, you will learn to install Ansible and configure Ansible roles. You will also learn to write playbooks and finally execute ad-commands using Ansible.

- Introduction to Ansible
- Ansible Installation
- Configuring Ansible Roles
- Write Playbooks
- Executing adhoc command

10) Containerization using Kubernetes

Learning Objective: In this module, you will learn the basics of Kubernetes and its integration with Docker.

- Revisiting Kubernetes Cluster Architecture
- Spinning up a Kubernetes Cluster on Ubuntu VMs
- Exploring your Cluster
- Understanding YAML
- Creating a Deployment in Kubernetes using YAML
- Creating a Service in Kubernetes
- Installing Kubernetes Dashboard
- Deploying an App using Dashboard
- Using Rolling Updates in Kubernetes
- Containers and Container Orchestration
- Introduction to Kubernetes

11) Continuous Monitoring with Nagios

Learning Objective: Learn how to continuously monitor your tasks using various plugins and implementing Nagios Commands.

- Introduction to Continuous Monitoring
- Introduction to Nagios
- Installing Nagios
- Nagios Plugins(NRPE) and Objects
- Nagios Commands and Notification