

## Advance DevOps

**Duration:** 5 Days

**Hands-On Format:** This hands-on class is approximately 80/20 lab to lecture ratio, combining engaging lecture, demos, group activities and discussions with comprehensive machine-based practical programming labs and project work.

### Module 1 – Git

- Introduction to Version Control System
- History of Git
- Git Basics
- States in Git
- Installing Git
- Configuration of Git
- Working with Repositories
- Basic Git Commands
- Working with Remotes
- Tagging
- Git Branching

### Module 2 – Docker

- Introduction to Containers
- Introduction to Docker
- Downloading and Installing Docker
- Docker Essential Commands
- Docker Engine
- Running your First Container
- Docker Image
- Build Image with Dockerfile
- Private Registry
- Storing and Retrieving Docker Images from Docker Hub
- Networking Docker Containers
- Data Persistence with Volumes

### Module 3 – Automation with Ansible

- Introduction to Ansible
- Ansible Architecture
- Installation and Configure Ansible
- AD-Hoc Commands
- Managing Playbooks
- Managing Variables
- Managing Loops
- Managing Notify and Handlers
- Ansible Vault
- Jinja2 Templates
- Managing Roles

**Module 4 – Jenkins**

Introduction to CI and CD

Introduction to Jenkins

Jenkins Process

Jenkins Installation

Jenkins User Interface

Build First Job: Deploy Web Server Automatically on Jenkins Machine

Add Remote Machines and Credentials

Deploy Web Server Automatically on Remote Machine

Introduction to Git Webhooks

Configure Git Web Hooks for Jenkins

Add Parameters in Jenkins

Integrate Jenkins with Ansible