

## **DevOPS**

### **Duration - 5 Days**

#### **Day 1**

##### **Introduction to DevOps**

- Comparison > Waterfall, Agile & DevOps methodologies
- Understanding the DevOps movement & culture
- DevOps Lifecycle – All About ‘Continuous’
  - o Continuous Development
  - o Continuous Testing
  - o Continuous Integration
  - o Continuous Deployment
  - o Continuous Monitoring
  - o Continuous Feedback
- DevOps Strategy & Milestone planning – Process, people skills & tools
- DevOps Tools overview

##### **Source Code Version Control using Distributed Version Control Tool – Git**

- Various Git Flavors : GitHub, BitBucket, GitLab etc
- Git 101 using GitHub > Server & Client set up – Registration on GitHub, installing Git
- Git advanced hands on sessions > Add, Commit, log, status, tracking new files, ignoring file types, staging changes, removing files & directories.
- Git Branching Model, Repository Organization and Hooks (Client and web hooks)

#### **Day2**

##### **Continuous Integration Server – Jenkins/Hudson**

###### Creating a Simple Job

- Introduction
- Basic Project
- Our Project
- Looking at the Code
- Moving to Jenkins
- Manually Building
- Build Triggers
- Jenkin Plugins
- Creating a Job
- Build Steps
- First Build Step
- Testing the Trigger
- Add Tests
- Workspaces
- Post Build Actions
- Reporting Test Results
- Failing the Build
- Fixing the Build
- Summary

## **Plugins**

- Introduction
- Plugin Architecture
- Extension Points
- Getting Plugins
- Plugin Wiki
- Useful Plugins Overview
- Source Code Plugins
- Trigger Plugins
- Build Tool Plugins
- Wrapper Plugins
- Notifier Plugins
- Reporting Plugins
- Artifact and UI Plugins
- Installing a Plugin
- Plugin Configuration
- Security Overview
- Summary

## **The Big Picture**

- Introduction
- A Case Study
- The Flow
- Demo: The Flow
- Stay Calm
- Areas of Discipline
- Unit Testing
- Test Coverage
- Acceptance Testing
- Code Quality Metrics
- Notifications
- Documentation
- Deployments
- Growing
- Summary

## **Day 3**

- Introduction To Docker
- Container Vs Virtual Machines
- Docker Architecture
- The Docker Hub
- Docker Installation
- Creating First Image
- Working with Multiple Images
- Packaging a customized container
- Running container commands
- Container Port Redirect
- Container Snapshots
- Attach to a Running Container
- Removing Images

- Understand Directory Structure
- Services on startup
- Dockerfile
- Pushing Images to Docker Hub

#### **Day 4 & 5**

- Ansible Introduction
- Inventory
- Modules
- Plays & playbooks
- Setting up Ansible workstation
- Creating Playbooks
- Roles
- Variables
- Templates
- Dynamic Inventory
- Files
- Handlers
- Meta
- Tasks
- Facts
- Vault
- Download & Using Modules & Plugins from Galaxy
- Setting up three tier setup with Ansible.
- Ansible Unit Testing of Playbooks
- Complete DevOps Journey which include ( Git + Jenkins + Ansible Unit Testing of playbooks + AWS EC2 Instance + Apache Installation + Deploy Dynamic Web Content ).