

# Devops Training Syllabus

## Introduction to Devops

- What Is Devops
- History of Devops
- Devops definition
- DevOps Main Objectives
- DevOps and Software Development Life Cycle
- Waterfall Model
- Agile Model
- Continuous Integration & Deployment
- Jenkins
- Containers and Virtual Development
- Docker
- Vagrant
- Configuration Management Tools
- Ansible
- Puppet
- Chef

## Cloud Computing

- What is Cloud?
- Evolution of Cloud Computing
- IAAS (Infrastructure as a Service)
- SAAS (Software as a Service)
- PAAS (Platform as a Service)
- Private, Public and Hybrid Cloud
- Public Clouds
  - ✓ Amazon Web Services
  - ✓ Microsoft Azure
  - ✓ Google Cloud Services

## LINUX Basic and Admin

- Linux OS Introduction
- Importance of Linux in DevOps



- Linux Basic Command Utilities
- Linux Basic Command Utilities
- Linux Administration
- Environment Variables
- Networking
- Linux Server Installation
- RPM and YUM Installation

### **Shell Scripting**

- Introduction
- Variables
- Flow Controls
- Loops
- Functions
- Lists
- Manipulating Strings
- Reading and Writing Files
- Positional Parameters

### **Continuous Integration – Jenkins**

- Introduction to Jenkins
- Continuous Integration with Jenkins
- Configure Jenkins
- Jenkins Management
- Scheduling build Jobs
  - ✓ POLL SCM
  - ✓ Build Periodically
- Maven Build Scripts
- Support for the GIT version control System
- Different types of Jenkins Jobs
- Jenkins Build Pipe Line
  - ✓ Parent and Child Builds
  - ✓ Sequential Builds
- Jenkins Master & Slave Node Configuration
- Jenkins Workspace Management
- Securing Jenkins
  - ✓ Authentication
  - ✓ Authorization



- ✓ Confidentiality
- ✓ Creating Users
- Jenkins Plugins
  - ✓ Installing Jenkins Plugins
  - ✓ SCM plugin
  - ✓ Build and test

### **Version Control-GIT**

- GIT Features
- 3-Tree Architecture
- GIT – Clone /Commit / Push
- GIT Hub Projects
- GIT Hub Management
- GIT Rebase & Merge
- GIT Stash, Reset, Checkout
- GIT Clone, Fetch, Pull

### **Build tool- Maven**

- Maven Installation
- Maven Build requirements
- Maven POM Builds (pom.xml)
- Maven Build Life Cycle
- Maven Local Repository (.m2)
- Maven Global Repository
- Group ID, Artifact ID, Snapshot
- Maven Dependencies
- Maven Plugins

### **ANSIBLE**

- Introduction to Ansible
- Ansible Server Configuration
- Infrastructure Management
- SSH Connection in Ansible Master
- YAML Scripts
- Host Inventory
  - ✓ Hosts and Groups
  - ✓ Host Variables
  - ✓ Group Variables
  - ✓ Host and Group Specific Data

- Ad-hoc Commands
- Playbooks
  - ✓ Variables
  - ✓ Conditionals
  - ✓ Loops
  - ✓ Blocks
  - ✓ Handlers
  - ✓ Templates
- Modules
  - ✓ Core Modules
  - ✓ Extra Modules
- Ansible Roles

## **Docker**

- How to get Docker Image?
- What is Docker Image
- Docker Installation
- Working with Docker Containers
  - ✓ What is Container
  - ✓ Docker Engine
  - ✓ Crating Containers with an Image
  - ✓ Working with Images
- Docker Command Line Interphase
- Docker Compose
- Docker Hub
- Docker Trusted Registry
- Docker swarm
- Docker attach
- Docker File & Commands