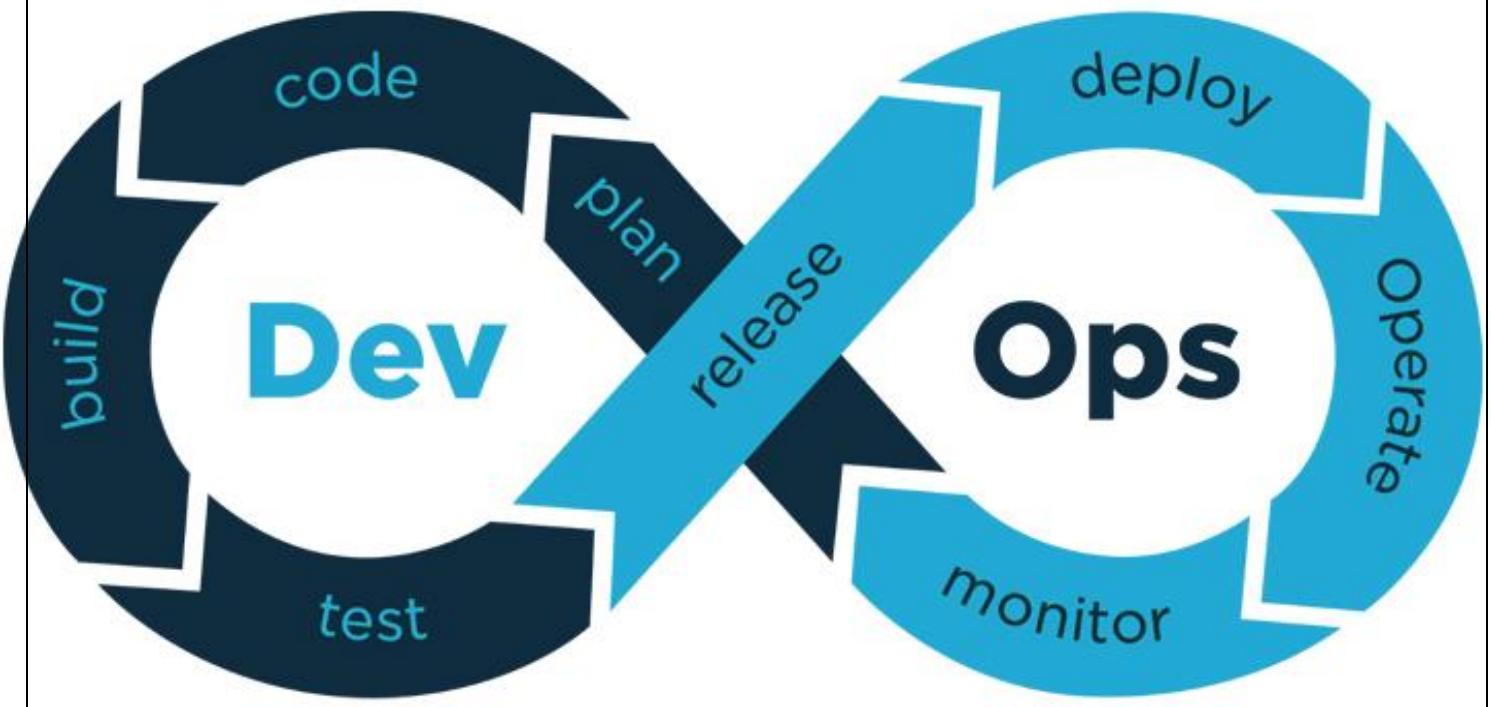
Introduction to DevOps



Introduction to devops

- Define Devops
- What is Devops?
- Why DevOps?
- Who can Learn DevOps?
- What is SDLC?
- Diff b/w agile & waterfall
- Devops and agile
- Devops Functionalities and tools

Source code management

- What is SCM
- What is a version control system
- Types of version controls
- Diff b/w CVS & DVS

Installation of GIT

- Installation in windows
- Installation in centos
- Installation in Ubuntu

GIT command line

- Initialize GIT repository
- Clone Existing GIT Repo
- Code check-in & check-out
- Rollback changes

GITHUB

- Creating Projects
- Creating Users
- Creating Groups
- Branches
- Protecting Branches

Git LAB

- Install and Configure GitLab in Centos
- Creating Projects
- Adding SSH keys
- Creating Users
- Creating Groups
- Branches

*Git Rebase Concepts

Continuous integration

- Introduction to continuous integration
- Understanding continuous integration and Continuous Delivery
- Introduction about Jenkins
- Jenkins architecture
- Creating Jenkins Jobs
- Manage Jenkins Plugins
- Jenkins Global Tool Configuration
- Setup Git with jenkins
- Setup Maven in Jenkins
- Setup Nexus OSS in Jenkins
- Integrating With All DevOps Tools
- Creating Jenkins CI/CD Flow using Pipelines

- Jenkins master slave configuration
- Introduction to jenkins CLI
- Jenkinsfile
- Scripted pipelines
- Declarative Pipelines

Build Tools

- What is Maven?
- Maven Evolution
- Objective
- Convention over Configuration
- Features of Maven

ENVIRONMENT SETUP

- System Requirment

POM

- Super POM

BUILD LIFE CYCLE

- What is Build Lifecycle?
- Clean Lifecycle
- Default (or Build) Lifecycle
- Site Lifecycle

REPOSITORIES

- What is a Maven Repository?
- Local Repository
- Central Repository
- Remote Repository
- Maven Dependency Search Sequence

PLUGINS

- What are Maven Plugins?
- Plugin Types

*CREATING JAVA PROJECT
BUILD AND TEST JAVA PROJECT

- Adding Java Source Files

Artifact Management

- What is Repo Management
- Install and Configure Sonatype Nexus OSS 3.X
- Create Repositories in NExus OSS
- Integrate Nexus OSS with Maven
- Integrate Nexus OSS with jenkins
- Upload artifacts into Nexus Repo

Configuration management

- What is cm
- Puppet introduction
- Puppet overview
- Installing puppet on centos
- Configuring puppet master and agent
- Connecting agent and puppet master

Puppet language basics

- Resources
- Using basic resources like file,exec,package service
- Resource collectors
- Virtual resources
- Exported resources Manifests

PUPPET FORGE

- Understanding the puppet forge
- Module struct forge
- Install lamp with pre existing modules
- Installing apache tomcat with puppet

Ansible

- Ansible Overview
- Installing Ansible on centos
- Inventory File setup
- Introduction to Ansible Playbooks
- Ansible Ad Hoc Commands

- Ansible Roles
- Ansible Galaxy
- Introduction to Ansible Tower

Containerization

- Introduction of Virtualization
- Introduction of Containerization
- Dockers vs. VMs
- Docker Key Concepts
- Docker CLI
- Docker Daemon
- Docker Engine
- Docker Machine
- Docker Images
- Docker Container
- Docker Architecture
- Dockers hub
- Downloading docker images
- Understanding the containers
- Docker Basic Workflow
- Running commands in container
- Backup (Containers & Images)
- Dockerfiles
- Docker Registry
- Docker Volumes
- Docker Networking

Container Orchestration

- Configure Docker Swarm Cluster
- Adding Nodes to Docker Swarm
- Swarm commands
- install and configure docker-compose
- writing first compose file
- deploy stack APP using compose file

Kubernetes

- Features of Kubernetes
- Architecture of Kubernetes
- Install and Configure Kubernetes Cluster
- Introduction to Kubectl
- Kubernetes Node
- Kubernetes Jobs
- Kubernetes Service
- Kubernetes Pod
- Kubernetes Replication Controls
- Intro to Kubernetes Network policies

DURATION : - 50 **HRS**

Key Features

- Real TimeProjects
- ExamPreparation
- MockTest
- Job Assistance
- TrainingMaterial
- LabVideos
- Mock test forCertification
- ResumeUpdating
- InterviewPreparation

WHO SHOULD ATTEND

Students should have at least one year of hands-on experience securing Azure workloads and experience with security controls for workloads on Azure.

PREREQUISITES

Before attending this course, students must have knowledge of:

- Microsoft Azure Administrator Associate.

Course Objectives

After completing this course, students will be able to:

- Describe specialized data classifications on Azure.
- Identify Azure data protection mechanisms.
- Implement Azure data encryption methods.
- Secure Internet protocols and how to implement them on Azure.
- Describe Azure security services and features.