AWS DEVOPS COURSE CONTENT DURATION: 50hrs

Module 1: INTRODUCTION TO DEVOPS

- What is Devops?
- Why Devops?
- Devops Tools
- CI/CD concepts
- Devops Delivery Pipeline

Module 2: INTRODUCTION TO CLOUD COMPUTING

- What is cloud computing?
- Introduction to AWS EC2
- Launching an AWS Ec2 Instance
- Connecting to your ec2 instance

Module 3: VERSION CONTROL SYSTEM-GIT

- Introduction to VCS
- Types of VCS
- Difference between CVCS and DVCS
- What is GIT
- GIT Architecture
- GIT installation
- Git commands
- Working with GIT
    - Creating repository
    - Cloning repository
    - check-in and committing
    - Fetch, pull and remote
    - Branching
    - Creating the Branches
    - switching the branches

- merging the branches
- git reset
- git rebase

- Working with Github

Module 4: Build Automation Tool- Maven

- Introduction to Maven
- Installing maven
- Working with maven goals and plugins
- Hands on maven

Module 5: CONTINUOUS INTEGRATION -JENKINS

- what is Jenkins?
- Continuous Integration with Jenkins
- Java installation and configuration
- Exploring Jenkins Dashboard
- Jobs
    - Creating jobs
    - Running the Jobs
    - Setting up the global environment variables for Jobs
    - Adding and updating Plugins
    - Disabling and deleting jobs
- Securing Jenkins
    - Authorization
    - Creating users
    - Best Practices for Jenkins
- Plugin Management in Jenkins
- Triggering emails in Jenkins
- Scheduling jobs automatically in Jenkins
- Compile, test and deploy jobs in Jenkins
- Building Delivery Pipeline in Jenkins with java Project
- Master Slave Architecture in Jenkins

- Adding Windows slave and running job on windows salve
- Adding Linux slave and configuring the job
- Pipeline as code in Jenkins (jenkinsfile)

Module 6: CONTAINERIZATION USING DOCKER

- Introduction
    - What is Docker?
    - what is container?
    - Containerization vs Virtualization
- Docker Fundamentals
- Docker Architecture
- Docker Installation on Linux
- Understanding the Docker components
- Working with Images
- Docker Containers
- Docker Networking
- Docker Files
- Docker Volumes
- Creating our own images
- Deploying the docker container thru Jenkins

Module 7: Docker Tools

- What is Docker Compose?
- Writing Docker Compose File
- Deploying Microservice app with docker compose
- Configuring volumes with compose file
- What is Docker swarm?
- Deploying multitier app in swarm cluster
- Deploying docker compose file swarm cluster

Module 8: CONFIGURATION MANAGEMENT - PUPPET

- Introduction to Puppet
    - what is configuration Management
    - what is Puppet

- Puppet Architecture
- Basic Puppet Terminologies

- Installation and Configuration of Puppet Master
- Installation and Configuration of Puppet agents
- Working with Manifests
    - Creating Manifests
    - Node Definitions
    - Managing Files
    - Managing Packages
    - Managing Services
    - Selectors
    - Classes
    - Variables
- Working with modules
    - Creating Modules
    - Module Structure
    - Customizing Modules
    - Conditionals
    - Declaring Classes and Creating Node Definitions
    - Downloading and Installing modules from Forge
    - Deploying an open-source App

Module 9: CONFIGURATION MANAGEMENT – ANSIBLE

- Introduction to Ansible
    - what is Ansible
    - Ansible Architecture
    - Push configuration in Ansible
- Installation of Ansible
- Adhoc commands in Ansible
- Playbooks in Ansible
- Roles in Ansible
- Creating our own Roles
- Roles from Ansible Galaxy
- Hands on

- Demo - Deploying docker container with ansible

Module 10: CONTAINER ORCHESTRATOR – KUBERNETES

- Introduction to Kubernetes
- Kubernetes Cluster Architecture
- Spinning up a Kubernetes Cluster on AWS
- Exploring your Cluster
- Understanding YAML
- Creating a Deployment in Kubernetes using YAML Preview
- Creating a Service Object in Kubernetes
- Installing Kubernetes Dashboard
- Deploying an App using Dashboard
- Using Rolling Updates in Kubernetes
- Blue Green Deployments in Kubernetes

Module 11: CONTINUOUS MONITORING- NAGIOS

- Nagios Architecture
- Nagios Plugins
- Nagios Objects
- Nagios commands
- Monitoring Webapp with Nagios

Module 12: AWS CODEPIPELINE

- What is AWS Code Pipeline?
- Creating First Pipeline with s3 buckets
- S3 simple storage service on AWS
- Creating an AWS s3 bucket
- Hosting a static website using Amazon s3
- Triggering the pipeline by updating the source
- Understanding Pipeline details and execution history
- Editing, Triggering and deleting our pipeline

Module 13: AWS CODECOMMIT

- What is AWS Code Commit?
- Creating First Code Commit Repository
- Connecting to our code Commit Repository using HTTPS
- Creating Code Pipeline with Code commit repository as source
- Triggering the pipeline with code commit

Module 14: AWS CODEBUILD

- What is AWS Code Build?
- Creating First Code Build Project
- Creating Pipeline with Build Stage
- Creating Build Spec file for your builds
- Triggering the pipeline with code commit changes

Module 15: AWS CODEDEPLOY

- What is AWS Code Deploy?
- Deployments on EC2 instances using Code Deploy
- Creating an AppSpec file for deployments on EC2 instances
- Deployment Lifecycle to EC2 instances without a Load Balancer
- Creating Deployment group with autoscaling and Load Balancer
- Blue Green Deployments

Note: Real Project execution on the devops delivery Pipeline with different tools and services on AWS.