Certified DevOps Foundation

Introduction To DevOps

- What is DevOps?
  - IT Evolution
  - History of DevOps
  - Different Teams Involved DevOps definitions
- DevOps and Software Development Life Cycle
  - Waterfall Model
  - Agile Model
- DevOps main objectives
- Prerequisites for DevOps
- Continuous Testing and Integration
- Continuous Release and Deployment
- Continuous Application Monitoring
- Configuration Management
- DevSecOps & DevChatOps
- Containerization and Orchestration
- What is Cloud?
  - History and evolution of cloud
  - Cloud Computing Concepts
  - Public, Private, Hybrid Clouds
  - IAAS, SAAS, PAAS Cloud Models
- AWS Cloud setup
- DevOps Toolset

GIT

o Version Control System

o Centralized & Distributed Version Control System

o GIT Features

o GIT Commands

o GIT Remote

o Advantages of GIT

Build Tools – Maven

o Maven Life Cycle

o Maven Installation

o Maven POM XML File

Jenkins

o Overview

o About Continuous Integration

o Introduction to Jenkins and the History of Jenkins

o Configuring Jenkins

o Create Our First Jenkins Job

o Run our First Jenkins Job

o Continuous Integration (CI) with Jenkins

o Continuous Delivery with Jenkins

Containers – Docker

o Introduction to Containers

o Docker Setup

o Docker Images

o Docker Commands

Kubernetes

o What and why is Kubernetes

- Comparison with Docker Swarm
- Pods
- Replications
- Services
- Deployment

Configuration Management – Ansible

- Introduction to Configuration Management
- Popular Configuration Management Tools
    - Ansible
    - Puppet
- Ansible commands
- Ansible Playbooks

Logging – Splunk

- What Is Splunk
- About Machine Data
- What does Splunk Do?
- Why Splunk
- Understanding Splunk Architecture & its Components
- Installation of Splunk and Forwarder
- Splunk Search
- Use cases and Examples

Infrastructure Monitoring – Nagios, Prometheus & Grafana

- Introduction to Infrastructure Monitoring
- Various tools
    - Nagios
    - Prometheus

- o Grafana

- o Container monitoring with Prometheus and Grafana