DevOps

Program Code:

Program Overview: This program gives an overview of the DevOps landscape highlighting common approaches, practices and provides hands-on approach to learning Linux based DevOps tools.
Program Duration: 5 Days.

Prerequisite Skills:

- Basic understanding of linux/unix system concepts
- Familiarity with Command Line Interface (CLI)
- Familiarity with a Text Editor
- Experience with managing systems/applications/infrastructure or with deployments/automation
- Cloud Subscription for the environments

Who should attend? Designed for anyone involved in the IT value chain. This training is for –

- Anyone in an IT Leadership role
- CIOs / CTOs
- System Administrators
- IT Operations Staff
- Release Engineers
- Configuration Managers
- Anyone involved with IT infrastructure
- Developers and Application Team leads
- Scrum Masters
- Software Managers and Team Leads
- IT Project & Program Managers
- Product Owners and Managers

Contents:

Day1

- Introduction to DevOps
    - DevOps – the business need?
    - What is DevOps?
    - What DevOps is not?
    - How does DevOps work?

- DevOps Practices & Popular Tools
    - Source Code Management
    - Continuous Integration
    - Containerization & Container Orchestration
    - Infrastructure as Code

- Continuous Deployment & Release Management

- Git Basics
  - Getting a Git Repository
  - Recording Changes to the Repository,Viewing the Commit History
  - Undoing Things, Working with Remotes
  - Tagging, Git Aliases
  - Git Branching
  - Branches in a Nutshell, Basic Branching and Merging
  - Branch Management
  - Remote Branches, Rebasing

- GitHub
  - Account Setup and Configuration
  - Contributing to a Project, Maintaining a Project
  - Managing an organization, Scripting GitHub

Day2

- Introducing Jenkins
  - Introduction to Jenkins
  - Features of Jenkins
  - Jenkins Installation
  - Overview of Configuring Jenkins (Manage Jenkins/Plugins/Users/RBAC)
  - Creating Users, Permissions, Roles
  - Jenkins Git/GitHub Integration
  - Creating Configuring and Running Jenkins Jobs
  - Jenkins Cluster (Master/Slave)
  - Jenkins Pipeline
  - Jenkins Backups

Day3

- Introducing Docker
  - Understanding Docker
  - Containerization and virtualization differences
  - Working with Docker
    - Installing Docker on Linux Server, Knowing installation steps on win 2016 server
    - Docker Container,Image and Volume Operations on Linux
  - Docker hub - create your account, Image operations with hub (Pull and push images)

- Build image using Commit/Dockerfile
- Docker Networking Basics
- Docker Swarm Basics
    - Creating a swarm, Scaling services using swarm
- Docker Compose Basics
- Creating and executing docker compose for a sample application, compose operations
- Jenkins Docker Integration

Day4

- Introducing Configuration Management Tools
    - Understanding Ansible
        - Architecture, Components, features of Ansible
        - Running sample configuration
    - Docker containers and configuration Management tools

Day5

- Introducing Nagios XI
    - Installing Nagios XI Free version
        - Architecture, Components
    - Approach to Configuration in Nagios (CLI/GUI)
    - Admin Configuration
    - File Locations and Directory Structure
    - User Creation and User Management
    - Monitoring Linux Machines, adding hosts
    - Using SSH to monitoring Linux Machines
    - RAM, CPU, Processes, and Disk Space Monitoring

On Completion of this program: Participant should be aware of the common approaches, practices, and tools in DevOps.