**DevOps Training (Duration: 2 Days – 8 Hours/Day)**

**Day 1: Introduction to DevOps and Source Code Management**

**1. Introduction to DevOps**

* Definition and significance of DevOps.
* The DevOps culture and principles.
* Benefits of DevOps in software development.
* DevOps lifecycle stages.

**2. Source Code Management with Git and GitHub**

* What is Source Code Management (SCM)?
* Introduction to Git and its key concepts (repositories, commits, branches).
* **Handson:** Setting up a Git repository.
* Using Git for version control.
* **Collaboration with GitHub:** Creating repositories, pushing, and pulling code.
* Branching and merging in Git.
* Resolving merge conflicts.
* Collaborative coding on GitHub.
* Best practices for version control.

**Day 2: Continuous Integration, Infrastructure as Code, and Continuous Deployment**

**1. Build Automation with Maven**

* Understanding the need for build automation.
* Introduction to Apache Maven.
* Creating a simple Maven project.
* Configuring dependencies and plugins.
* Building, packaging, and deploying with Maven.

**2. Continuous Integration with Jenkins**

* Exploring Continuous Integration (CI) principles.
* **Introduction to Jenkins:** Installation and setup.
* Creating Jenkins jobs for automated builds.
* Integration with Git repositories.
* Scheduling and triggering builds.

**3. Infrastructure as Code with Terraform and Ansible**

* Understanding Infrastructure as Code (IaC).
* **Introduction to Terraform:** Writing and applying infrastructure code.
* **Introduction to Ansible:** Writing playbooks for configuration management.
* **Handson:** Provisioning and configuring infrastructure with Terraform and Ansible.

**4. Continuous Deployment with Docker and Kubernetes**

* Introduction to Docker and containerization.
* Creating Docker images and containers.
* Introduction to Kubernetes and container orchestration.
* Deploying applications on Kubernetes clusters.
* Monitoring and scaling in Kubernetes.

**Conclusion:**

This two-day outline covers the Concepts of DevOps, source code management, build automation, continuous integration, infrastructure as code, and continuous deployment.

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**P.T.O**

**Delivery Method:**

* This training program is delivered in a Virtual instructor Led Training (VILT) or Classroom Training format, emphasizing real-world application.
* It comprises approximately 70% hands-on labs, and all participants are expected to complete them.

**Prerequisites:**

* Basic understanding of Linux commands.
* Basic knowledge of a Cloud platform such as AWS.
* It's good to have an AWS Free Tier Account for Practice.

**Required Software/Tools:**

* A stable internet connection with open ports for SSH (22) and HTTP (80, 443).
* Access to the AWS Management Console and Playgrounds.
* **For Windows platform users:** Putty, Puttygen, MobaXterm, PowerShell, etc.
* **For Mac users:** Terminal.