

## Day - 1

- **Introduction to DevOps**

- Welcome and Registration
- Course Overview and Objectives
- What is DevOps and its importance
- Key DevOps principles and benefits
- The DevOps culture and mindset

- **DevOps Principles and Practices**

- DevOps Lifecycle stages
- Continuous Integration (CI) and Continuous Delivery (CD)
- Introduction to DevOps tools and their role

- **Introduction to Git**

- What is version control and why it's essential
- Introduction to Git and its significance
- Setting up Git and configuring user details

- **Git Basics**

- Git fundamentals (repositories, commits, branches)
- Making changes and committing in Git
- Git workflows and collaborative practices

- **Git in DevOps Workflows**

- Git in the context of DevOps
- Version control in a CI/CD pipeline
- Using Git for code collaboration

- **Advanced Git Topics**

- Branching strategies (feature branching, Gitflow, etc.)
- Git best practices (commit messages, code reviews)
- Handling merge conflicts and resolving issues

- **Git Integration and Automation**

- Integrating Git with CI/CD pipelines
- Automated testing and deployment with Git
- Code quality and security checks with Git hooks

- **Q&A and Certification Information**

- Open floor for questions and discussions
- Review of key takeaways
- Information on DevOps Foundation certification and next steps

- **Introduction to DevOps**
  - DevOps principles and objectives
  - The need for DevOps in modern software development
- **Introduction to Docker**
  - What is Docker?
  - Docker architecture and components
  - Installing Docker
- **Docker Images and Containers**
  - Creating Docker images
  - Running Docker containers
  - Basic Docker commands
- **Docker Compose**
  - Introduction to Docker Compose
  - Defining multi-container applications with Docker Compose
- **Docker Networking and Volumes**
  - Docker networking concepts
  - Managing data with Docker volumes
- **Best Practices and Tips**
  - Docker best practices
  - Common Docker mistakes and how to avoid them

- **Introduction to DevOps**
  - DevOps principles and objectives
  - The need for DevOps in modern software development
- **Introduction to Ansible**
  - What is Ansible?
  - Key Ansible components and concepts
- **Setting Up Ansible**
  - Installing Ansible on your system
  - Basic configuration and host file setup
- **Ansible Playbooks**
  - Understanding playbooks and their structure
  - Creating a simple playbook
- **Running Ansible**
  - Executing Ansible playbooks
  - Common Ansible command-line options
- **Best Practices and Tips**
  - Ansible best practices
  - Common Ansible mistakes and how to avoid them

## Day - 4

- **Introduction to DevOps**
  - DevOps principles and objectives
  - The need for DevOps in modern software development
- **Introduction to Terraform**
  - What is Terraform?
  - Key Terraform concepts and terminology
  - Installing Terraform
- **Creating and Managing Infrastructure**
  - Declaring infrastructure with Terraform configuration files
  - Initializing and applying configurations
  - Managing state files
- **Provisioning and Resource Management**
  - Defining resources in Terraform
  - Provisioners and resource attributes
  - Interpolations and variables
- **Terraform Best Practices**
  - Terraform best practices and coding guidelines
  - Avoiding common Terraform pitfalls

## Day - 5

- **Introduction to DevOps**
  - DevOps principles and objectives
  - The need for DevOps in modern software development
- **Introduction to Jenkins**
  - What is Jenkins?
  - Key Jenkins concepts and terminology
  - Installing and setting up Jenkins
- **Creating Your First Jenkins Job**
  - Creating a basic Jenkins job (freestyle project)
  - Configuring source code management (e.g., Git)
- **Jenkins Pipeline Fundamentals**
  - Introduction to Jenkins pipelines
  - Creating and configuring a simple Jenkins pipeline
- **Jenkins Plugins and Extensibility**
  - Overview of Jenkins plugins
  - Installing and using plugins to extend Jenkins functionality
- **Jenkins Pipeline Fundamentals**
  - Introduction to Jenkins pipelines
  - Creating and configuring a simple Jenkins pipeline
- **Best Practices and Tips**
  - Jenkins best practices
  - Common Jenkins mistakes and how to avoid them