



DevOps Training Curriculum

Overview of DevOps

- Introduction of Product and Client SLA
- Product Development process using SDLC
- Understand the benefits of DevOps
- DevOps environment
- DevOps Lifecycle
- DevOps Stages
- DevOps Delivery Pipeline
- Configuring DevOps Infrastructure in (Windows & Linux & Mac)

Introduction about Linux, Windows and Mac Servers

- Version Control with GIT
- Version Control
- Git Introduction
- Git Workflows
- Git Hub Account Creations & Git-Bash Installation
- Commonly used commands in Git
- Working with Remote repository
- Branching and merging in Git Merge & Conflicts
- Perform management of files for small as well as large projects
- Perform various Git commands such as git add, git fetch, git commit, git init, etc.
- SSH Connectivity with GitHub
- Realtime operations with git

Build Tools with MAVEN

- Introduction about various build tools & advantages
- Maven workflow & Lifecycle
- Maven advantages
- Maven repositories
- Installing Maven & dependencies
- Creating own application using Maven
- Create POM.xml from Scratch
- Configurations with Setting.xml and Pom.xml

CI/CD WITH JENKINS

- Continuous Integration & Continuous Delivery using Jenkins
- Jenkins Architecture
- Jenkins installations & Types
- Plugin Management in Jenkins
- Jenkins Jobs & configurations
- Jenkins Master-slave architecture
- Jenkins Declarative pipeline
- Master-slave architecture in Jenkins
- Managing users & authorization in Jenkins
- Build and deploy codes using Jenkins
- Jenkins Security Management
- Build pipeline using multiple tools in Jenkins
- Realtime Jenkins job issues fixes and updates

CODEQUALITY WITH SONARQUBE

- Introduction about sonarqube and advantages
- Configuring projects with multiple development languages
- Installation of sonarqube & sonarscanner
- Creating Sonar Projects
- Sonar QualityProfiles
- Sonar Rules
- Sonar Qualitygate
- Sonar Administration ,
- Sonar API tokens and Configurations
- Users Access Management Creations
- Code Coverages with osnarqube
- Integrate sonar with maven.
- Sonar-project.propertiesfile

ARTIFACTORY MANAGEMENT WITH JFROG

- Introduction about artifactory management & advantages
- Installation of Jfrog
- Working with Multiple Repositories
- Users Mangement
- Jfrog administrations
- Realtime operations with Jfrog

CLOUD

- DevOps on Cloud (Self-Paced)
- Why Cloud?
- Introduction to Cloud Computing
- Understand about cloud and its advantages
- Learn about Various cloud computing services
- Why DevOps on Cloud?
- Sign-up an AWS free-tier account
- Work with AWS Management Console and AWS CLI
- Work with IAM Service
- Components of IAM
- Managing users with IAM
- Amazon Machine Image (AMI)
- Security Groups in AWS
- Amazon Elastic Compute Cloud (EC2) and Its Benefits
- Launching Different EC2 Instances for (Windows & Linux & Mac)
- Different Approaches to connect to an EC2 instance
- Creating a Custom AMI
- Host your Website Inside your EC2 Instance
- To Attach EBS Volume to an EC2 Instance
- Various AWS services
- Creating Virtual Private Cloud Network (VPC)
- Working With LoadBalancers (ELB)
- Working With Autoscaling & Advantages
- Simple Storage Services (S3)
- Simple Notifications Service (SNS)
- Domain name registrations (Route-53)
- AWS CodeCommit, CodeBuild, CodeArtifacts

DOCKER & Containerization:

- Containerization using Docker
- Understand Containerization
- Understand the Docker Architecture
- Perform Various actions using Docker CLI
- Run containers in different modes
- Write and build a Dockerfile to create a Docker Image
- Container Lifecycle
- Docker Realtime Operations with Docker Commands
- Use Docker Hub to store custom Images
- Store data in Container Volumes for persistent storage
- Setup Docker Compose

- Docker Volumes
- Docker Networks
- Docker Swarm Advantages

KUBERNETES

- Orchestration using Kubernetes
- Understand Container Orchestration
- Learn about Kubernetes Core Concept
- Deploy Pods
- Create Deployments to manage Pods
- Launch DaemonSets for Background applications
- Update and Rollback your Deployments
- Scale your containerized Applications
- ReplicaSet and Replication Controller
- Kubectl Common Commands
- Deploy different Kubernetes Services
- Utilize Volumes to store Persistent Data
- Understand Persistent Volume Claims Primitives
- Kubernetes Package managers
- Secrets and ConfigMaps
- StatefulSets
- Nodes management
- Pod Disruption budgets (PDB)

TERRAFORMS

- Provisioning using Terraform
- Understand Provisioning using Terraform
- Learn the Difference between Terraform vs Ansible
- Understand Terraform Architecture
- Deploy a Terraform Configuration File
- Use Basic Terraform Commands
- Manage Terraform Resources
- Terraform Common Commands
- Managing Terraform Resources
- Setting Up AWS and Terraform
- Executing a Terraform Configuration
- Managing Terraform Resources
- Referencing Terraform Resources
- Perform Terraform State Commands
- Deploy a Terraform Project on AWS



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