

# DevOps



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# **Module 01 - DevOps Essentials**

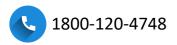
- · Why DevOps?
- · What is DevOps?
- Agile and DevOps
- DevOps Lifecycle
- DevOps Market Trends
- DevOps Delivery Pipeline
- DevOps Ecosystem & Use Case
- Introduction to Virtualization
- Introduction to Cloud Computing

# Module 02 - Managing Source Code - Git and GitHub

- Overview of Version Control systems
- Central vs Distributed Control systems
- Introduction to Git
- Git file workflow
- Important Git Commands
- Branching and Merging, Stashing, Rebasing, Reverting and Resetting
- Introduction to GitHub
- Using Git and GitHub together.

# **Module 03 - Understanding and Using Build Tools**

- Overview of Various Build tools
- What is Maven?
- Maven Plugins
- Maven Archetypes







- Project Object Model (POM)
- Source Control Integration

# **Module 04 - Containerization Basics Using Docker**

- What and Why of Containers
- Difference between VMs and Containers
- Docker Architecture and Components
- Image Distribution using Docker Hub
- · Working with Containers and Docker Hub

# Module 05 - Continuous Integration and Delivery Using Jenkins

- Overview of Continuous Integration
- Overview of Jenkins
- Jenkins architecture
- Installing and Configuring Jenkins
- Jenkins Management
- Jenkins Build Pipeline

# **Module 06- Continuous Testing**

- Overview of Continuous Testing
- Software Testing Life cycle
- Different Types of Testing
- Test -Driven Development Approach using J unit
- Testing Web Applications using Selenium
- Working with Apace J Meter and Blaze Meter for Performance Testing







#### **Module 07 - Docker Commands and Use-Cases**

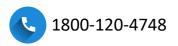
- Docker Files
- Docker Compose
- Docker Networking
- Docker Swarm

#### **Module 08 - Introduction to Kubernetes**

- Basics of Kubernetes container orchestration
- Differences between Docker Swarm and Kubernetes
- Kubernetes Architecture
- Installing Kubernetes using Kubeadm
- Creating Pods and Deployments using YAML
- Selectors & Labels in Kubernetes
- Using ReplicaSets & Rolling Updates
- Scheduling the applications on the container
- Services in Kubernetes

# **Module 09- Configuration Management Using Ansible**

- Overview of Configuration Management
- Introduction to Ansible
- Ansible Architecture
- Ansible Components
- Installation & Configuration
- Writing Ansible Playbooks
- Working with Ansible variables







- Working with Ansible Modules
- Creating Roles using Ansible Galaxy

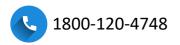
# **Module 10 - Continuous Deployment Using** Terraform

- Infrastructure as Code using Terraform
- Terraform vs other tools (Chef & Puppet)
- Overview of Hash Corp Configuration Language
- Installation of Terraform in Linux
- Terraform commands and usage
- Providers in Terraform

- Variables
   Provisioners in Terraform
   State Management in Terraform
   Understanding Terraform
   Configure
- Configuring a Remote State
- Understanding resources needed in VPC creation
- Configuring EC2 Instances
- Working with Terraform Modules

# **Module 11- Continuous Monitoring Using** Prometheus, Graf Ana and ELK

- Overview of Logging and Monitoring
- Exploring Logs-Kubernetes
- Monitoring using Prometheus and Graf Ana
- Working with ELK







# **Module 12- AWS DevOps Services**

- · Why Cloud?
- Overview of AWS
- Overview of AWS DevOps
- Working with Cloud Formation
- Introduction to Code Commit, Code Build, Code Deploy and Code Pipeline

# Module 13- Agile

#### **Introduction to Agile**

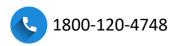
- Project Definition
- Difference Between Traditional & Agile Project Mgmt.
- · Agile Manifesto and Principles
- Agile Methodology
- Agile Principles
- Agile Frameworks and Terminology

#### **Agile Methodologies**

- Scrum
- XP

### **Agile Analysis and Design**

- Product Roadmap
- Product Backlog
- Story Maps
- Agile Modeling
- Wireframes







- Charting
- Personas

#### **Planning and Monitoring**

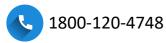
- · Iteration and Release Planning
- Progressive Elaboration
- · Time Boxing
- Cumulative Flow Diagram
- Kanban Boards
- WIP Limits
- Burn Charts
- Retrospectives
- Innovation Games

#### Agile Metrics and Estimations

- Relative Sizing
- Story Points
- Wideband Delphi Technique
- Planning Poker
- Affinity Diagram
- Ideal time
- Velocity
- Cycle Time
- EVM
- Escaped Defects

#### Quality

Frequent Verification and Validation







- Test Driven Development
- Definition of Done
- Continues Integration
- Feedback Techniques
- Incremental Delivery
- Continuous Improvement

#### Value-Based Prioritization

- Customer Valued Prioritization
- Compliance
- Relative Prioritization
- Value Stream Mapping
- ts Knowledge To St Minimum Marketable Feature

#### **Risk Management**

- Risk-adjusted backlog
- Risk Burn down charts
- Risk-based spike

#### **Agile Communications**

- Team Space
- Information Radiator
- · Agile Tooling
- · Daily Stand-ups
- Osmotic Communication





#### **Module 14 - AWS Technical Essentials**

#### **Cloud Basics and Introduction to AWS**

- Overview of Cloud Computing
- Introduction to Cloud Terminologies
- Primary Benefits of Cloud/AWS
- AWS Global Infrastructure
- Getting Started with AWS
- Overview of AWS
- Access and Tour the AWS Console
- AWS Free Tier

#### **AWS Networking**

- Networking Basics in AWS
- Understanding CIDR and Subnets
- Understanding VPC
- AWS Compute

#### **Compute Basics**

- Overview of AWS Compute Services
- Understanding EC2 Instances
- · Working with AMIs

#### **ELB and Scaling EC2**

- What is Elastic Load Balancing (ELB)?
- Types of ELB
- Overview of Auto Scaling
- Auto scaling Components
- What is AWS Global Accelerator?







#### **Identity and Access Management (IAM)**

- Understanding IAM
- Managing Users, Groups, and Roles

#### **AWS Storage**

- Overview of AWS Storage Services
- Working with EBS
- S3 Properties
- S3 Storage Classes
- Working with Storage Gateway
- · Overview of AWS Glacier

#### **Database Service**

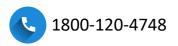
- Differences between SQL and No SQL
- Working Relational Database Service (RDS)

#### Monitoring, Logging, and Notifications

- Monitoring and Logging Basics
- Working with Cloud Watch (Monitoring, Metrics, and Logs)
- Working with Cloud Trail

### **Module 15 - Java Overview**

- Introduction to Java
- Installing the tools (JDK, JRE, IntelliJ)
- Java Basics
- Java Operators
- Control Flow in Java







- · Classes,
- · Objects and methods

#### **Module 16 - LINUX Fundamentals**

#### What is LINUX?

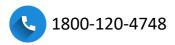
- Why choose LINUX?
- Navigating LINUX?
- The LINUX? Kernel
- Versions and distributions
- Installing LINUX?
- Slack ware

#### **LINUX? Exploration and User Interaction**

- Using the Command-Line Interface
- Common commands
- Managing files and directories
- Using the Graphical Interface
- Configuring the system
- Networking with LINUX?
- Using security features
- Switching User Contexts
- Graphical Desktop
- · Editing Text

#### **LINUX? Files**

- LINUX? File System Features
- Navigating the File System







- LINUX? Disk Usage
- Basic LINUX? Troubleshooting
- Changing File Permissions
- Directory Manipulation
- Archiving

#### **Self-Paced Modules**

- Atlassian
- MAVEN
- ransferring Experts Knowledge To Students SONARQUBE
- XLDEPLOY
- TEAMCITY
- JFROG
- MS BUILD
- NEXUS
- NPM
- ELK







# Why Teks Academy?



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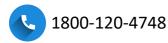
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ISO

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