

DevOps Training Course Content

DevOps Engineer

Technology We Cover

1. Computer Hardware
2. Linux Operating System
3. Software Engineering Methodology
4. Shell Scripting
5. Power shell Scripting
6. Virtualization
7. Data Transfer Languages (XML, JSon, YAML)
8. Logical Servers
9. Web Servers (Apache2)
10. Application Server (Apache Tomcat)
11. Relational Database Server (SQL- MySQL)
12. Non Relational DB Server (NoSQL- MongoDB)
13. Version Control System (Git- Github)
14. Build Management Tool (Apache Maven)
15. Continues Integration (Jenkins)
16. Streaming Server (Streamsets, Apache Kafka)
17. Deployment Tools (Docker Repository)
18. Containerization (D 1. Computer Hardware
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16. Streaming Server (Streamsets, Apache Kafka)
17. Deployment Tools (Docker Repository)
18. Containerization (Docker)
19. Orchestration (Kuberenetes)
20. Project (CI/CD)ocker)
19. Orchestration (Kuberenetes)
20. Project (CI/CD)

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Basic Technologies

Hardware &Linux

- Hardware Components
- Bootstrapping Process
- Why Linux

- ✚ Architecture

- ✚ Features

- ✚ Distributions

- How to use Linux
- File in Linux

- ✚ Why Everything as File
- ✚ File & Its Types
- ✚ File based Commands

- Special Files in Linux
- Linux Commands Categories

- ✚ User Management
- ✚ Process, Job Management
- ✚ Storage Commands
- ✚ Monitoring Commands

- Network Commands
- Package Managers(apt, yum, etc)
- I/O Redirections

Shell Scripting (Bash & Power shell)

- Scripting Introduction
- Basic Understanding of Shell Scripting
- Shell Variable
- Shell Decision Making
- Shell Functions and Array's
- **Troubleshooting:**
 - ✚ ○ Syntactic & Logical Errors
 - ✚ ○ Verifying Input
 - ✚ ○ Debugging & Tracing

Virtualization

- **Virtualization Categories**
 - ✚ **Terminal**
- **Citrix & WTS**
 - ✚ Hypervisor
- **Oracle VirtualBox**

- **Virtualization Types**
 - ✚ Full Virtualization
 - ✚ Para Virtualization
 - ✚ Hardware Assisted Virtualization
- **IaaS in Bare metal & Virtualization**
 - ✚ Vagrant
 - ✚ Terraform

SDLC/Agile Process:

- **SDLC**
 - ✚ Water fall vs Spiral vs Prototype models
 - ✚ Agile Methodology
- **Documentation Tools**
 - ✚ Confluence
 - ✚ Github Wiki
- **Ticketing/Collaboration Tools**
 - ✚ Jira & Github Issues
 - ✚ Creating and Configuring Workflows/issues/attributes
 - ✚ Integration of Git
- **VCS**
 - ✚ Bitbucket & Github
 - ✚ Basic of Repository
 - ✚ Working Area
- Building & Integration
- Testing & Reporting
- Deployments in different Environments
- Orchestration

Data Transfer Language

- XML, XSLT, XSD
- JSon & BSon
- Apache Parquet
- Apache Avro

Logical Servers

- Tomcat, Apache2, httpd
- IIS, Flask
- Web Server
- Application Server
- Web Vs Container Vs Application Server
- Database Servers(SQL & NoSQL)

DevOps Tools

Web Server (Apache Apache2)

- Installation of Apache Apache2
- Apache2 vs httpd
- Adding Modules in Apache2

Application Server (Apache Tomcat)

- Installation of Apache Tomcat
- Directory Structure
- Architecture & Configuration
- Manual application deployment
- Application deployment automation
- Monitoring & Managing Resources
- Securing & Performance Tuning
- HA & Scalability of Tomcat Server
- Multi Container in Tomcat Server

Database Server (SQL- MySQL)

- MySQL Installation
 - ✚ LAMP Application based o Single Server based o Cluster based
- MySQL Configuration
- Database(Schema & Data)
- Performance Tuning

NoSQL Database Server (Apache MongoDB)

- Why NoSQL and Types of NoSQL
- Why Cassandra
- Architecture of Apache Cassandra
- Apache Cassandra
 - ✚ Capacity Planning o Cluster Deployment
- Why MongoDB
- MongoDB on AWS

Version Control System (Git- Scrum Master)

- GIT Introduction
- Setup own repository with GitHub
- Installation of GIT Client in Linux & Windows
- Initial Setup
- Working on local / remote repository
- Clone vs Fork repository
- Principal of Branching
- Managing Merging & Conflicts

- Managing releases

Build Management Tool (Maven)

- MSBuild, Apache Ant and Apache Maven
- Why Maven
- Build Lifecycle of Maven
- POM File and its Important
- Profiles and Repositories
- Standard Directory Structure
- Dependency Mechanism
- Archetypes in Maven
- Unit Test Report
- Deployment Automation with Maven

Continues Integration (Jenkins)

- Installation of Jenkins
 - binary, source and bundle o war & distributed
- Creating Projects in Jenkins
- Plugins, Global Configuration
- Reporting & Code Analysis
- Application Deployment & Managements
 - Java o MS.Net o Python
- Logging Monitoring
- Troubleshooting & Notifications
- Build Pipeline(Jenkins File, Scripting)
- Groovy Script
- Continues Deployments & Developments
- Continues Integration(CI)
- Jenkins Master-Slave High Availability(HA)

Advance Technologies

Streaming Server

- Apache Kafka
- Architecture of Streaming System
- Streamsets
 - Installation
 - Configuration
- What is Streamsets Data Collector
- Streamsets Edge, Control Hub

Deployment & Archival Repository

- EC2, Master-Slave, Docker
- Hub Docker Repository

Containerization (Docker)

- Introduction to containers
- Differences between Containers & Virtual Machines
- Difference between Docker Engine Vs Hypervisors
- Docker Architecture
- Docker hub
- Docker Installation
- Working with Images
- Docker run command
- Exposing out container
- Docker file, Builds and Network Configuration
- Docker Commands and structure
- Real time Project

Cluster Orchestration(Kubernetes)

- Docker Swarm
- Kubernetes

- ✚ What is Kubernetes
- ✚ Tasks Perform
- ✚ Why we use
- ✚ Features, Basics
- ✚ Architecture
- ✚ Docker Swarm vs Kubernetes

**FOR DEVOPS TRAINING COMPLETE REAL-TIME AND
PRACTICAL COURSE :**

CONTACT → 91 + 9885022027