Course Curriculum

CLOUD VISION TECHNOLOGIES

AWS DevOps

The Best Training Institute in Hyderabad

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AWS + DevOps Course Content

This comprehensive AWS + DevOps course is designed to take learners from foundational concepts to advanced, real-world implementation. The curriculum blends theory with hands-on practice, ensuring participants gain practical experience with industry-standard tools and platforms used in modern DevOps environments.

DevOps Fundamentals

1. What is DevOps?
2. Benefits of DevOps over other software development processes
3. Insights into the DevOps environment
4. Overview of different DevOps tools
5. Understanding the DevOps delivery pipeline
6. Working with DevOps as a culture
7. DevOps in real-world scenarios
8. IaaS (Infrastructure as a Service)
9. PaaS (Platform as a Service)
10. SaaS (Software as a Service)
11. SDLC models – Software Development Life Cycle

DevOps Fundamentals

1. Linux boot process
2. Linux basics
3. Files and directory management

4. User and group management
5. Process management
6. Soft links and hard links
7. File security and permissions
8. Changing ownership (chown)
9. File compression and extraction
10. Managing disk storage
11. Creating partitions
12. SSH configuration
13. Web server – creating your first website using NGINX

AWS Concepts

1. EC2 – Elastic Compute Cloud (1–2 sessions)
2. Elastic Load Balancers – ALB, NLB (1 session)
3. S3 – Simple Storage Service (1–2 sessions)
4. VPC – Virtual Private Cloud (1–2 sessions)
5. Auto Scaling Groups (1 session)
6. IAM – Identity and Access Management (1 session)
7. SNS – Simple Notification Service (1 session)
8. RDS – Relational Database Service (1–2 sessions)
9. EBS – Elastic Block Store (1–2 sessions)

Git (Source Code Management & Version Control System)

1. Source code management and version control concepts
2. Managing files for small and large projects
3. Role of Git in the DevOps lifecycle
4. Installing Git
5. Working with remote repositories
6. Branching and merging in Git
7. Handling merge conflicts
8. Common Git commands
9. Installing GitLab server
10. Forking repositories
11. Branching and merging operations
12. Pull requests
13. Tags (version releases)
14. Managing remote repositories
15. Issues
16. Projects
17. SSH authentication

Jenkins (CI/CD Automation)

1. Getting started with Jenkins
2. Continuous Integration and its importance
3. Understanding Jenkins and its features

4. Installation on Linux
5. Plugins and their uses
6. Managing authorization in Jenkins
7. Setting up build jobs
8. Build jobs and security
9. Implementing automated testing
10. Introduction to Maven
11. Using Maven in the Jenkins environment
12. Automated deployment and continuous delivery
13. Job triggering methods
14. Creating pipelines
15. Declarative pipelines in Jenkins
16. Build pipeline projects using Groovy scripts

Ansible (Configuration Management)

1. Ansible overview
2. Introduction to YAML for Ansible
3. Configuring Ansible server and node architecture
4. Automating infrastructure with playbooks
5. Inventory management
6. Ansible modules
7. Creating playbooks
8. Using variables in playbooks
9. Using handlers
10. Ansible concepts
11. Ansible roles
12. Using Ansible CLI

Docker (Containerization)

1. Understanding containerization
2. Docker architecture
3. Evolution from virtualization to containers
4. Installing Docker
5. Docker CLI commands
6. Building Docker images using Dockerfiles
7. Binding container ports to host machine ports
8. Running containers in different modes
9. Container storage
10. Volume sharing between containers
11. Persistent storage using Docker volumes
12. Setting up Docker Hub
13. Storing custom images in Docker Hub

Maven (Build Automation Tool)

1. Introduction to Maven
2. Maven architecture
3. Dependencies in Maven
4. Maven build lifecycle and phases
5. Compiling source code
6. Testing source code
7. Building source code
8. Installing Maven
9. Running Maven phases using a real-time sample project

Nagios (Monitoring Tool)

1. Introduction to Nagios
2. Operating continuous monitoring systems
3. Concepts behind Nagios
4. Installing Nagios
5. Nagios plugins (NRPE) and objects
6. Monitoring different servers using Nagios

Tomcat Web Server

1. Installation and configuration
2. Tomcat Manager
3. Application management
4. Application deployment methods

Kubernetes (Container Orchestration)

1. Understanding container orchestration
2. Kubernetes core concepts
3. Understanding pods
4. Deploying pods
5. Creating deployments to manage pods
6. ReplicaSets and replication controllers
7. Updating and rolling back deployments
8. Scaling in Kubernetes
9. Scaling containerized applications

10. Setting up Kubernetes clusters
11. Rolling updates and rollbacks
12. kubectl common commands
13. Services in Kubernetes
14. Deploying services

AI Models and Developer Productivity

1. GitHub Copilot: AI-powered coding assistant
2. Intelligent code suggestions and completions
3. Reducing development time
4. Improving code quality
5. Enhancing developer productivity

Terraform (Infrastructure as Code)

1. Introduction to Terraform
2. Infrastructure automation concepts
3. Installing Terraform
4. Providers
5. Resources
6. Basic Terraform syntax
7. Environment consistency
8. Faster deployments
9. Improved collaboration
10. Version-controlled infrastructure

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