

Advanced DevOps Course, That makes you ready to Work

1. Introduction to DevOps

- a. What is DevOps?
- b. DevOps Responsibilities
- c. Continuous Integration
- d. Continuous Delivery & Deployments
- e. Configuration Management & Monitoring
- f. Advantages of DevOps
- g. DevOps Jobs & Future

2. Introduction to Version Control System

- a. Git with Bitbucket
- b. Benefits of SCM tools
- c. Installation & Configuration
- d. Git clone, add, commit, fetch & pull
- e. Managing Branches & Branching Strategies
- f. Managing Branch permissions
- g. Git Init & Git fork
- h. Resolving Merge Conflicts using diffmerge tool
- i. Merging Strategies
- j. Git Tags
- k. Git Stash, Rebase, Reset, Revert Checkout

3. Maven - Build Tool

- a. Introduction to build tools
- b. Importance of build tools
- c. Going through pom.xml
- d. Working with build commands
- e. Build life cycles, Maven Plugins
- f. Understanding artifacts
- g. Maven Repositories
- h. Maven dependency management

- i. Integrating with Sonatype Nexus
- j. Integrating with Docker

4. Jenkins - Automation Tool

- a. Jenkins Installation & Configuration
- b. Freestyle Jobs
- c. Jenkins Pipeline Jobs (Groovy DSL)
- d. Parameterized builds
- e. Build triggers
- f. Git Push Triggers
- g. Running Parallel Tasks
- h. Master Slave Configurations
- i. Managing Users Permissions
- j. Managing plugins
- k. Managing Credentials
- l. Email Slack Notifications
- m. Implementing CI & CD
- n. Git Maven & Docker Integration
- o. SonarQube Integration
- p. Maven Nexus Integration

5. Ansible - Configuration Management

- a. Introduction to Ansible
- b. Ansible vs Other tools
- c. Learning YAML
- d. Ansible Config file
- e. Static & Dynamic inventory
- f. Hosts Groups Variables & Group Variables
- g. Ansible connection types
- h. Encrypting sensitive data using Vault
- i. Ansible rolling deployments
- j. Ad-hoc commands
- k. Playbooks
- l. Configuring web servers Load balancers & MySQL
- m. Automating SQL user schema and data loading
- n. Limiting playbook executions by hosts and tags
- o. Writing reusable playbooks

- p. Ansible modules
- q. Dynamic includes
- r. Including plays and tasks
- s. Dry-runs tags, Conditions loops

6. Docker - Containerization

- a. Introduction to Dockers
- b. Docker vs VMs
- c. Microservices Architecture
- d. Monolithic applications
- e. Why Dockers & benefits
- f. Dockerizing Applications using Docker Instructions
- g. Docker Architecture & Demons
- h. Volumes Environments
- i. Dockers in CI/CD workflow
- j. Integrating with Jenkins
- k. Docker Compose
- l. Docker in Production With Swarm Cluster
- m. Manager & Worker nodes
- n. Scheduling, Services & Stacks Deploys
- o. Networking, Rolling updates

7. Monitoring - Nagios

- a. Installing & Configuring Nagios
- b. Monitoring VMs using Nagios
- c. Configuring Alerts

8. Linux Essentials for DevOps

- a. Linux fundamentals
- b. Linux important commands
- c. Managing Users Groups & Permissions
- d. Linux troubleshooting commands
- e. Password less Authentication
- f. Troubleshooting Issues
- g. ssh scp ps grep sed & find
- h. Package managers (RPM & YUM)
- i. top netstat vmstat & vi editors

9. *Project Management Tools*

- a. JIRA, Slack & Agile Methodology