

DevOps Course

Contents

1 DevOps Course Overview

- 1.1 Objectives of the Course
- 1.2 Pre-requisites

2 Cloud Technologies - AWS

- 2.1 EC2
- 2.2 S3
- 2.3 VPC
- 2.4 CloudWatch
- 2.5 CloudTrail
- 2.6 RDS
- 2.7 CloudFormation

3 Linux

- 3.1 OS Structure
- 3.2 Linux Commands
- 3.3 File Structure
- 3.4 Tar & Zip
- 3.5 Users and groups
- 3.6 Hard link & softlink

4 Terraform

- 4.1 Installation
- 4.2 Configuration
- 4.3 Variables
- 4.4 Outputs
- 4.5 Modules

5 Apache web server

- 5.1 Installation
- 5.2 Configuration

6 MySQL / MariaDB

- 6.1 Configuration
- 6.2 User mgmt.



- 6.3 Permission
- 6.4 DB Creation
- 6.5 DB Backup
- 6.6 DBGUI
- 6.7 DB CLI
- 6.8 DB tools

7 Source code management (SCM) - Gitlab

- 7.1 Gitlab installation,
- 7.2 Git commands
- 7.3 Repo structure

8 Continuous deployment – Jenkins

- 8.1 Installation
- 8.2 pipeline configuration.
- 8.3 Groovy scripting.
- 8.4 Jenkins plugins
- 8.5 Password management and secrets.

9 Artifactory – Nexus.

- 9.1 Installation and running Nexus
- 9.2 Configuring maven to use nexus.

10 Ansible (Configuration Management tool)

- 10.1 Configuration Management
- 10.2 History
- 10.3 Advantages of CM tool
- 10.4 Why Ansible, Ansible Advantages
- 10.5 Ansible Architecture setup
- 10.6 Install & configure Ansible
- 10.7 Ansible Inventory
- 10.8 Test Environment setup
- 10.9 Host Patterns
- 10.10 Ad-Hoc commands
- 10.11 Modules
- 10.12 Gathering facts
- 10.13 Playbooks



- 10.14 YAML Language
- 10.15 Target section
- 10.16 Variable section
- 10.17 Task section
- 10.18 Handle section
- 10.19 Dry run
- 10.20 Loops
- 10.21 Conditionals
- 10.22 Ansible Roles

11 Maven (Build Management)

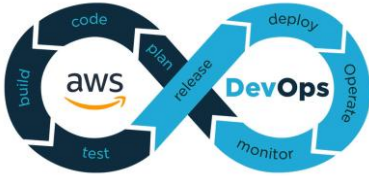
- 11.1 Build management
- 11.2 Advantages of Build tool
- 11.3 Build tools
- 11.4 Architecture of Maven
- 11.5 Maven build life-cycle
- 11.6 Maven directory structure
- 11.7 Maven repositories
- 11.8 Pom.xml
- 11.9 Multi module project

12 Tomcat web Server

- 12.1 Installation, Configuration
- 12.2 Tomcat manager
- 12.3 Application management
- 12.4 App deployment methods

13 Docker (Containerization)

- 13.1 Container
- 13.2 Docker history
- 13.3 Docker usage
- 13.4 OS-Level-Virtualization
- 13.5 Layered file system
- 13.6 VM Ware vs Docker
- 13.7 Docker components, Docker workflow
- 13.8 Docker benefits, Docker images
- 13.9 Docker Container, Docker file



- 13.10 Docker hub/registry
- 13.11 Docker daemon
- 13.12 Docker Install & Configure
- 13.13 Docker all commands
- 13.14 Docker Volumes
- 13.15 Volume (container-container)
- 13.16 Volume (Host- Container)
- 13.17 Port mapping
- 13.18 Registry server
- 13.19 Pull/push images from /to registry
- 13.20 CMD, RUN, ENTRYPOINT

14 Kubernetes (Container Orchestration Technology)

- 14.1 What is kubernetes
- 14.2 Features of kubernetes
- 14.3 Architecture of kubernetes
- 14.4 Kubernetes Master
- 14.5 Kubernetes nodes
- 14.6 Kubernetes components
- 14.7 Kube-api server
- 14.8 etcd (cluster store)
- 14.9 Kube-scheduler
- 14.10 Node
- 14.11 Kube-proxy
- 14.12 Kubelet
- 14.13 pods
- 14.14 Multi container pod
- 14.15 Pod limitations
- 14.16 Replica sets