DevOps Syllabus

1) Version Control System

Introduction to Version Control System

Types of Version Control systems & Types

Differences between CVCS & DVCS

Short history of GIT and SVN

BitBucket

Installation of BitBucket

Git Basics

Creating Projects

Creating Repositories

Branching strategies

SVN

Installation of SVN

SVN Basics

Creating repos

Merging strategies

Backups & Restoration

2) Build Automation Tools

Need of Build Automation

ANT

Introduction to ANT

What is build.xml

Targets

Tasks

Writing custom build.xml

Maven

Introduction to Maven

What is pom.xml

 Maven lifecycle

 Plugins

Dependency management

Repository Management

3) Continuous Integration tools

Introduction to Continuous Integration

Jenkins

Introduction to Jenkins

Installation and Configuration of Jenkins

Plug-in Management in Jenkins

Creating Build & Deployment Pipelines in Jenkins

Integration of Jenkins with different deployment tools

Bamboo

Introduction to Bamboo

Installation and configuring Bamboo

Creating Build & Deployment jobs in Bamboo

Integration of Bamboo with different deployment tools

4) Continuous Deployment tools

Introduction to Continuous Deployment

RUNDECK

Introduction to RUNDECK

Installation and Configuration of RUNDECK

Creating deployment jobs in RUNDECK

Integration of RUNDECK with external tools

5) Repository Management tool

Nexus

What is Nexus

Installation of Nexus Repository Management server

Types of repos available in Nexus

Creation of repos for maven and npm

Integration of Nexus with external tools

6) Log Management stack

Need of Log Management tool in DevOps

What is ELK/EFK stack

Elk installation

Elasticsearch

Logstash/FluentD

Kibana

Creating Dashboards in Kiabana

7) Monitoring Stack

Need of monitoring tool in DevOps

Introduction to Prometheus, AlertManager and Grafana

Installation and Configuration of Prometheus, AlertManager and Grafana.

Adding application to Monitoring stack

Creating Dashboard in Grafana for realtime metrics.

Writing Alert rules

8) Virtualisation tool

Vagrant

Introduction

Uses of Vagrant

Installation and configuration

Vagrant CLI commands

Creating first VM with Vagrant

Operations on VM

Vagrant Provisioning

Box Management with Vagrant

9) Containerization Orchestration tools

Docker

What is Containerization?

Need of Docker in DevOps

What are images and containers?

Installation on Docker on Linux machine

Docker commands

Docker Trusted Registry

Docker Compose

Kubernetes

What is container orchestration tool

Need of Kubernetes in DevOps

Kubernetes Architecture and its components

Installation of Kubernetes

Kubernetes terminology

Kubernetes Objects

Storage and Resources

Monitoring and Logging

Cluster Administration

10)   Configuration Management tool

Need of configuration management tool in DevOps

Ansible

Introduction to Ansible

Ansible Architecture

Ansible terminology

Ansible commands

How to add nodes to server

Ansible installation and configuration

Components of Ansbile

Global Configuration

Roles

Tags

How to write playbooks

Ansbible Roles

Ansible Galaxy

How to download playbooks from Galaxy

Ansible Vault

Realtime playbooks