

## INTRODUCTION TO DEVOPS

What is DevOps?

History of DevOps

What is Dev and Ops

DevOps definition

DevOps and Software Development Life Cycle

Build and release workflow

DevOps main objectives

## GIT (SCM)

What is GIT?

Installing Git for Windows

Basic Commands Overview

Diff b/w Git and SVN

Git stages

Creating Branches

Git merge and rebase

Backing Out Changes

Renaming and Moving Files & Deleting Files

Git Repository Setup

Git push, pull and fetch

Git Stash

Git Conflicts

Git fetch, merge

Git Tags

Git cherry pick

How to use Github and Bitbucket

## MAVEN

Over view of Maven

Diff b/w Maven and Ant

How to install Maven in Windows and Linux

Maven Phases

Maven repositories

How to create .Jar, .war and .ear files

How to add dependency files

Sample Maven Projects

How to Deploy Executable files in Application Servers

## TOMCAT

What is Tomcat

How to install Tomcat in windows

How to install Tomcat in Linux

How to deploy code in Tomcat

Deploying code by using Jenkins

## JENKINS (CI/CD)

What is CI/CD

Introduction to Jenkins

History of Jenkins/Hudson

How to install Jenkins in Windows and Linux

How to create Jobs

Diff types of jobs

Working with Github

Working with Build tools

Build from Github Project

Managing Remote Systems with Jenkins

Parameterised Builds

Securing Jenkins

How to install plugins in Jenkins

Scheduling Builds

Setting up Different Types of Automated Builds

How to configure one job to another job

Configure Global Security Jenkins Administration

How to create maven type job

How to create ant type job

Jenkins pipeline

Jenkins Backup

How to deploy code in servers

Authentication and Authorization

How to create Nodes in diff Servers

Build pipeline view

Most useful 20 plugins

## Sonarqube

What is Sonarqube

How to Install Sonarqube

Analyzing with Sonarqube scanner for Maven

Integrate Sonarqube with Maven

Integrate Sonarqube with Jenkins

## CHEF and ANSIBLE

Workflow of Chef

How to install Chef in Linux and Windows

What is Work-station, Chef-Server, Nodes

Servers and Nodes concept

Chef Configuration Concepts

Workstation Setup

Creating Cookbooks and uploading into server

How to use Ruby in Chef

About Bootstrap

Package/service actions

Installing Multiple packages at one time

How to manage Chef-Servers

Create roles and Adding Roles to organization

How to Add Run list to Node

Check node Details

How to create Data bags

Add Database to organization

Create a server and add to organization

Check node details using knife

Create organization

Environments

Add yourself and node to organization

Adding nodes to Chef-Server

Most useful cookbooks

What is Puppet

What is diff b/w Puppet and chef?

What is Ansible

What is Ansible & its features

How to setup Ansible

Understanding Ansible architecture & Execution

Ansible documentation

Installing packages by using Ansible

Ansible Modules, Writing playbook

## AWS

### Introduction to Cloud Computing:

Introduction to cloud computing

Essential Characteristics of Cloud Computing

Service Models in Cloud computing

Introduction to AWS

AWS Account creation & free tier limitations overview

### EC2:

EC2 Instance Launch Wizard

EC2 Instance Types

Generating custom Public Key and Private keys for EC2 instances

Security groups

Volumes and Snapshots

Creating customized Amazon Machine Images

Elastic Load Balancers & Health Checks

Auto Scaling Groups

Cloud Watch

Creating Billing Alarm and EC2 instance alarms.

Elastic File System

### VPC (Virtual Private Cloud):

Networking Basics

Creating custom VPCs and custom Subnets

Route Tables & IGW

VPN Configuration with AWS (OpenVPN)

Elastic IP

### Application Services:

Simple Notification Service

Simple Email Service

### **Databases:**

Launching a RDS Instances (MySQL, MSSQL & Aurora)

DynamoDB

### **Identity Access Management:**

Root Account Vs IAM user

IAM Password Policies

Creating Customer Managed Policies.

Groups

Roles

### **Most useful topics**

#### **Virtulization**

What is virtulization

Diff b/w Bare metal, virtual machine & Docker

installing centos/ RHEL on VMware

installing centos/ RHEL on VirtualBox

#### **Docker**

Learning the Basics of Docker

Introduction to Docker

Containers vs Virtual Machines

Docker Architecture

Docker Hub

Docker Installation

Creating Our First Image

Working with Multiple Images

Packaging a Customized Container

Running Container Commands with Docker

Managing and Removing Base Images

Pushing to Docker Hub

Creating Shared volume groups

Create own images

Creating own docker files

Docker Events

Docker Networking

Docker file for user

Volume management

Docker Link

Docker Compose

## LINUX and Shell Scripting

All basics of Linux

How to create files, dir, and groups

How to change permissions of files, dir, and groups How to create users

Ssh

Scp

Winscp

Scp

Crontab

Passwordless authentication

Working with services

Most use full commands like cp, mv, tar, yum, rpm, wget, rm, find, etc...

## Shell scripting

## Nagios

## Recording videos

## interview questions, pdf material and Resumes