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**DEVOPS**

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Introduction about DEVOPS

Linux:

• Linux Introduction & architecture

• Setup AWS Account & Linux server provision

• Basic Linux commands - file/dir creation, cp, mv..etc

• User managment & softlink/Hardlink

• Permissions management & Package management

Git:

• Git and github repository creation

• git commands - all 21 commands with practical

• working with linux and windows environment

• working with java code on git and github.

Maven:

• Build the code using maven tool

• maven dependencies

• maven repository

• maven lifecycle/phases

• java artifacts.

• pom.xml configuration

Sonarqube:

• Sonarqube server setup & Purpose of sonarqube setup

• Publish sonarqube reports to sonarqube server

• Setup quality gates

• Quality profile setup

Jenkins

• Continous integration

• Jnekins overview

• Jenkins installation

• dependencies of jenkins

• Job configuration

o Free style job

o Pipeline job

• scripted pipeline

• declarative pipeline

• Plugin managment

• Global tool configuration and integration

• Security in jenkins

o global securty

o user management

o credential management

o role based autherisation

• master slave configuration

• github webhook with jenkins.

• maven and other tool configuration

• Jfrog integration

JFROG:

• Artifactory management

• Jfrog overview

• Jfrog installation

• types of repository in Jfrog

• creating maven repository

• integrating with jenkins and push the artifact to Jfrog.

Ansible

• Continous delivery/deployment

• Configuration management

• push based/pull based, agent based/agentlesss

• Ansible overview

• IT orchestration

• Ansible installation

• Playbook

o YAML basics

o Modules

o Roles

o Galaxy

o tasks

o variables

o Adhoc cmd execution

• Tower

• Inventories

o Static inventory

o Dynamic inventory

• Playbook to install any package in target

• playbook to CD operation

Docker:

• Containerisation

• difference between container and vm

• Docker components

• Docker deamon/engine/clinet

• Docker container

• docker images

• dockerfile

• dockerhub

• docker port

• docker volume

• docker instructions

• write dockerfile to create an apache image.

• dockerising an applicaiton by writing the dockerfile

• managing the images in dockerhub-

• Deploying the applicaiton in web - apache server

• deploymeing spring boot applciation in tomcat server.

Kubernetes:

• overview and highlevel session.

• What is pod

deploy

service

ingress

ConfigMap

Project1: CI & CD pipeline setup using jenkinsfile into Kubernetes by handling the different environments

Project2: Handling the CI/CD pipeline with different branching strategy into dev/qa/prod environments