DevOps
With
AWS
Online Training

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(Devops + Linux + AWS)

Software Development Life Cycle (SDLC)

- Introduction to IT organization
- Organization structure
- organization needs
- Introduction to SDLC
- Purpose of SDLC
- Phases of SDLC
- Various Teams and Roles in SDLC
- Various Models of SDLC
- Waterfall model
- Agile Model
- Dev Vs Ops
- Why Corporates are shifting to Devops

DevOps

- Introduction to DevOps
- History of Devops
- Why Devops
- What is Devops
- Definition of Devops
- DevOps Features
- DevOps Practices
- DevOps Habits
- Dev and ops Roles and Responsibilities

DevOps LIFECYCLE AND TERMINOLOGIES

- Devops Life Cycle Stages
- Continuous Development
- Continuous Integration
- Continuous Delivery
- Continuous Testing
- Continuous Deployment
- Continuous Monitoring
- Continuous Feedback

DEVOPS TOOLS OVERVIEW

- Continuous Development tools
- Continuous Integration tools
- Continuous Delivery tools
- Continuous Testing tools
- Continuous Deployment tools
- Continuous monitoring tools

BASIC LINUX

- Introduction to Operating Systems
- Types of Operating Systems
- Linux Operating Systems basics
  - Kernel
  - Shell
  - System Calls
  - Utilities
- Linux File Hierarchy Structure
- Linux Basic Commands
- File Permissions
- Change Ownership of Files
- Sudo Access
  - What is Sudo
  - About /etc/sudoers file
  - About visudo
  - Steps to give sudo access to a normal user o About su
- Difference between su and sudo

BASH SCRIPTING

- Introduction to Scripting
  - About Shell
  - Shell Scripting
  - Purpose of Shell Scripting o Various Types of Shells
  - Shell Flavors and their default shells
- Scripting Basics
  - How to view available shells in system
  - How to switch to different shells
  - How to exit from shell
  - How to create a script file
  - File permissions for Script file
  - How to Execute Script file using relative and absolute methods

- o Exercise on creating a sample script file
- Commenting in bash scripting
- Variables
- Command Line Arguments
- Control Statements
- Condition statements
- Loops
- Few Sample scripts

CLOUD COMPUTING

- Introduction to cloudcomputing
  - o What is Cloud
  - o Uses of Cloud Computing
  - o Case Study on use of Personal Cloud Services o Why Corporate are opting for Cloud Services o Core terminologies of cloud
  - o Advantages of Cloud o Concerns of Cloud
- Types of Cloud Computing
- Public Cloud
- Private Cloud
- Hybrid Cloud
- Introduction to Cloud Services
- Types of Cloud services
- IAAS
- PAAS
- SAAS

AWS Services

Devops Tools
GIT

- Introduction to VCS
- Purpose of VCS
- VCS Workflow
- Introduction to Git
- Git Features
- Role of Git in Real Time
- Git installation on Windows and Screen shots
- Git installation on Linux
- Git Architecture
- Working Directory
    - Staging Area (Index Area)
    - Local Repo
    - What is Git Repository
- Git with Local Repositories
- Git with Remote Repositories
- Git Configuration Files

JENKINS

- Introduction to Jenkins
  - o Why Jenkins
  - o Relation between Jenkins and Hudson o History of Jenkins
  - o Why Jenkins is so popular
- Features of Jenkins
  - o General Features
  - o Technical Features
- Jenkins Architecture
- Jenkins Prerequisites
  - p Minimum Hardware Requirements
  - o Recommended Hardware Requirements
  - o Docker Container Requirements
  - o Software Requirements
  - o Supported Platforms
- Setup Jenkin Server
  - p Install Software Pre-Requisite softwares (Java)
  - o Setup Environment Variables
  - o Install Jenkins using war file
- Configure Jenkins
  - o How to change the Jenkins Admin Password
- Jenkins Terminologies
  - p Master
  - o Slave or Node
  - o Job or Project
  - o Executor
  - o Build
  - o Plugin
- o Jenkins Dashboard Overview
  - p Job Listing Section

- Jenkins - Creating Jobs in Jenkins
  - o Naming a Project or Job
  - o Choosing right Project Type
  - o About Project Descriptions
  - o Set the storage limits for old discard builds
  - o How to disable the build systems
  - o Source Code Management
  - o Build Triggers
  - o Create a Sample Project
- Understand Jenkins Job Process
  - p How to check Build Information
  - o Jenkins Build Color Code system
- Configure Jenkins Build Server
  - p Configure Java JDK for Jenkins Build Server
  - o Configure Apache Maven for Jenkins Build Server o Configure the JAVA JDK for Build jobs in Jenkins o Configure the Maven for Build Jobs in Jenkins
  - o Configure Github for Build Jobs in Jenkins
  - o Configure SCM-Git Plugin for Build Jobs in Jenkins
- Secure Jenkins
- Jenkins user accounts
- Jenkins Plugins
- Builds Triggers

BUILD TOOLS

- What is Build
- Purpose of Build Tools
- Build Tools Ideology
- Evolution of Build Tools
- Few Notable Build Tools

BUILD TOOL - APACHE MAVEN

- About to Build tools
- Introduction to Apache Maven
- Maven Architecture
- Installation of Maven
- Various Phases of Maven
- Configure path variables for Apache Maven in Jenkins

CONFIGURATION MANAGEMENT

- Introduction Configuration Management
- Configuration Management terminologies
- Configuration Management tools
- Difference between Chef, puppet, Ansible

CHEF

- Introduction to Chef
- Features of Chef
- Architecture of Chef
- Chef Server Hands on
- Chef Workstation setup
- Chef node setup
- Chef Client commands
- Chef knife commands
- Chef concepts - Cookbooks, templates, Resources, Runlist, Recipes, Environment, data bags, Roles etc.

DOCKER

- Introduction to Docker
- Docker Variants
- Setup Docker
- Create Docker images
- Docker Hub
- Docker CLI commands
- Configure Docker file
- Allocate the Resources to Docker Container
- Set Hostname to Docker container
- Set DNS to Docker Container
- Set External Storage to Docker Container
- Docker-Compose and its concepts
- Docker-Swarm set up and concepts

OTHERS

- ✓ AWS Services – Ec2. AMI, S3, RDS, IAM, VPC, Subnets- Pubnlic Private, Auto scaling, EBS Volumes, Snap Shots, Cloud watch, ELB- Load Balancing, Glacier and etc
- ✓ Introduction to Kubernetes
- ✓ Ansible, Terraform
- ✓ Interviews Questions and Answers for all tools
- ✓ Conduct Mock interviews
- ✓ Feedback sessions
- ✓ Resume Preparation Support