

DEVOPS - Course Contents

LINUX Basics

- Unix and linux difference
- Linux File system structure
- Basic linux/unix commands
- Changing file permissions and ownership
- Types of links soft and hard link
- Filter commands
- Simple filter and advance filter commands
- Start and stop services
- Find and kill the process with id and name
- Package installation using RPM and YUM

Introduction to Devops

- Define Devops
- What is Devops
- SDLC models, ITIL, Agile
- Why Devops?
- History of Devops
- Devops Goals
- Important terminology
- Devops Tools
- Configuration management
- Continuous Integration and Deployment

GIT: Version Control

- Introduction
- What is Git
- Create repository
- About Version Control System and Types
- Difference between CVCS and DVCS
- A short history of GIT

- GIT Basics
- GIT Command Line
- Cloning, check-in and committing
- Fetch pull and remote
- Branching
- Creating the Branches, switching the branches, merging the branches.
- Installing Git
- Git administration
- Git branch strategy

Jenkins – Continuous Integration

- Introduction
- Understanding continuous integration
- Introduction about Jenkins
- Build Cycle
- Jenkins Architecture
- Installation
- Installing and configuring Jenkins using WAR and RPM
- Exploring Jenkins Dashboard
- Jobs
- Creating Jobs
- Running the Jobs
- Setting up the global environments for Jobs
- Adding and updating Plugins
- Disabling and deleting jobs
- Build Deployments
- Understanding Deployment.
- Securing Jenkins
- Authentication
- Jenkins Plugin
- Authorization
- Confidentiality
- Creating users
- Best Practices for Jenkins

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Maven

- Java installation and configuration
- Maven Installation
- Create a project in maven and understand the maven life cycle

Tomcat installation and configuration

- Deploy war file using tomcat.

Puppet for configuration management

- What is Puppet?
- How puppet works
- Puppet Architecture
- Installation and Configuration
- Configuring Puppet Master and Agent
- Puppet Language Basics
- Using Basic resources like file, exec, package service
- Manifests & Modules and Classes
- Understanding the Puppet Forge
- Installing Apache Tomcat with Puppet Modules

Chef for configuration management

- Overview of Chef
- Common Chef Terminology (Server, Workstation Setup)
- Chef Configuration Concepts
- Workstation Setup
- How to configure knife
- Execute some commands to test connection between knife and workstation
- How to Add Run list to Node
- Defining in Cookbook

Docker- Containers.

- Introduction
- What is a Docker
- Use case of Docker
- Dockers vs. Virtualization

- Understanding the Docker components
- Installing Docker on Linux
- Downloading Docker images
- Exposing container ports

Introduction to Cloud computing

- What is cloud computing?
- Cloud implementation models

AWS

- Creating AWS account
- Free tier Eligible services
- Understanding AWS Regions and availability zones
- EC2 (Elastic Cloud Compute)
- About EC2 and types, Pricing
- EIP (Elastic IP address), Allocating, associating, releasing
- Launch windows and Linux Instances in AWS
- Connecting windows and Linux instances
- from windows desktop and Linux machines
- S3 (Simple Storage Service)
- EBS (Elastic Block Storage)
- Types of EBS Volumes
- Creation, attaching and detaching volumes
- ELB (Elastic Load Balancer)
- Understanding the load balancing
- Configuring ELB and adding the webservers under ELB
- Auto Scaling
- IAM (Identity Access Management)
- Elastic Bean stack

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