

DevOps Introduction:

- Why DevOps and roles and responsibilities
- How DevOps and Cloud exists in today's world
- What is Continuous Integration and Delivery how it's related to DevOps

Linux:

- Linux Introduction, Principles and Linux Distro
- Command line utilities and basic commands
- Linux File system introduction
- Text Editors
- Filters and Redirections
- Users & Groups and Permissions
- Sudo
- Software Distribution / Installation / Management: Redhat & Ubuntu
- Tools: telnet, scp, ssh, rsync, disk utils

Linux Shell scripting:

- variable declarations
- variable scopes
- command substitutions
- operators
 - string operators
 - arithmetic operators
 - file operators
- control statements
 - conditional control statements
 - if
 - if-else
 - if-elif-else
 - case
 - loop control statements
 - for
 - while
 - util
- functions

Networking Fundamentals:

- Computer networks basics like LAN, WAN, P2P etc
- Switches, Routers
- Network Protocols
- Sockets and Ports

- IP address/ DNS/ DHCP / Subnet Mask / CIDR Notation

Git:

- What is version control system?
- Compare Git with others and why is it called Distributed Version
- Create an Local Git Repository
- Operations like commit, pull, push, clone, merge, cherry pick and rebase
- Git Branches and how to use
- GitHub a remote repository
- Setting up GitHub account and publishing our code and managing
- Integration with CommandLine

Virtualization:

- Introduction and Purpose of Virtualization technology
- What is Hypervisor software?
- Virtual box/Vagrant

AWS Cloud:

- 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
- S3 (Simple Storage Service)
 - About AWS Storage services,
 - EBS and S3
 - Creating S3 Buckets and putting objects in bucket and discussion about Bucket Properties
 - S3 Pricing
 - About S3 glacier
- EBS (Elastic Block Storage)
 - Types of EBS Volumes
 - Creation, attaching and Detaching volumes
- RDS (Relational Database server)
 - About RDS and available RDS Engines in AWS
 - Configuring MYSQL RDS service
 - Connecting EC2Instance to RDS Instance
- Networking

- Regions
- Availability domains
- Virtual private Network (VPC)
- Subnet (public/private/hybrid)
- Internet gateway
- Routing Tables
- Security Rules
- Nacl Rules
- NAT gateway
- VPC Peering
- I am
 - creating Users
 - roles
 - Groups
 - Permissions
 - policies

Terraform:

- Introduction
- Architecture
- Terraform CLI
- HCL language
- Infrastructure as a code
- Resources
- Modules
- Provision
- Providers
- Input Variables
- Output Variables
- Remote State

Docker:

- Introduction to Docker
- Virtualization and Containerization differences
- Docker Installation
- Docker CLI
- Run your first Docker Container
- Copy Files in the Docker Image
- Docker, Maven and Jenkins
- Tag and share docker images
- Database Installation with Docker Image
- Learning DockerFile
- Creating our own Docker Image

- Docker Networking

Kubernetes:

- Kubernetes intro Architecture
- Creating Kubernetes cluster on Cloud
- Running Docker containers on Kubernetes
- Kubectl
- What is Pod, Service, Controller and Deployment in Kubernetes

Jenkins:

- Introduction to Continuous Integration.
- Build & Release and relation with DevOps
- Why continuous integration
- Jenkins introduction and setup
- Jenkins projects/jobs
- Jenkins plugins
- Jenkins administration:
 - Users
 - Nodes/Slaves
 - Managing plugins
 - Managing Software Versions