

DevOps with AWS

What is DevOps

- Introduction
- Stakeholders of DevOps
- What is SDLC
- Phases of SDLC
- Role Of Dev in SDLC
- Role of Ops in SDLC

SDLC (Software Development Lifecycle)

- What is SDLC?
- SDLC Methodologies
- Waterfall Model
- Advantages of Waterfall
- Dis-Advantages of Waterfall

What is Agile and Scrum

- Agile Development Process
- Agile Manifesto
- Agile Scrum Work Flow
- Agile Analysis Estimation Techniques
- Types of Roles and Responsibilities
- Problem That DevOps Solves

DevOps Life Cycle

- Introduction
- Tools
- DevOps Technology Categories
- Collaboration
- Planning
- Configuration Management
- Source Control
- Dev Environments
- Continuous Integration
- Continuous Testing
- Continuous Deployment

Linux

- Linux Overview
- What is Operating system
- What is Unix, Linux
- Linux vs Windows
- Linux flavors
- Linux Architecture
- Linux commands
- Reading files
- Redirection operators
- User management
- Group management
- File system management
- Editors

Shell Scripting

- Shell history and introduction
- Types of shells
- Shebang line in shell
- Command line arguments
- Variables
- Types of Operators
- Loops
- Case statement
- Functions

GIT (Source Code Management)

- Introduction
- What is a Version Control System (VCS)? Distributed Vs Non-distributed VCS
- What is Git and where did it come from?
- Alternatives to Git
- Git Hub Account Setup
- Obtaining Git Installing Git
- Key Terminology
- Staging Vs Un-Staging
- Adding Files to Staging Area
- Removing Files from Staging Area
- Commit to Local Repository
- Push to Central Repository

- Repository Cloning
- Stashes & Stash Apply
- Branching in Git
- Why We need Branches
- Cloning & Switching Branches
- Fetching Changes (git fetch)
- Rebasing (git rebase)
- Git Pull
- Git Conflicts
- Branch Merging
- Pull Request
- Merging & Re Basing
- Deleting a Branch

MAVEN (Build Tool)

- What is Build Tool
- Automated build process
- Maven Introduction & Objectives
- Maven Installation
- Maven Terminology
- Maven Archetypes
- Maven Project Creation
- Maven Dependencies
- Maven Repositories
 - o Local Repo
 - o Central Repo
 - o Remote Repo
- Maven Goals

Continuous Integration Tool (Jenkins)

- Introduction
- How to achieve Continuous Integration with Jenkins
- JENKINS Server Setup
- Jenkins Jobs
- How to integrate Jenkins with Maven
- Jenkins dashboard
- Jenkins plugins – how to download and use
- Setup and Running Jenkins Jobs
- Configure Dashboard Configure System Environment Global Properties
- Create and configure a job Run a job manually Triggering a Build Scheduled Build job Manual Build job
- Polling SCM
- Post-Build Actions Archiving Build Results Notifications
- Jenkins Plugins
- Jenkins Master Slave Architecture
- Jenkins Pipeline Introduction
- Multi Stage Pipeline
- Jenkins with Maven & Git Integration
- Jenkins with Sonar Integration
- Jenkins with Nexus Integration
- Jenkins with Docker Integration
- Jenkins with Kubernetes Integration

Sona Type Nexus (Artifactory Repo)

- Introduction
- What is Artifact Repo
- Nexus Introduction
- Nexus Setup
- Snap Short Repository
- Release Repository
- Shared Libs
- Maven with Nexus Repo Integration
- Uploading Build Artifacts

Configuration Management (ANSIBLE)

- What is Configuration Management
- What is Ansible
- Introduction
- Installing Ansible
- Testing with First Ansible Commands
- Introduction to Play Books
- YML File
- Writing Play Books
- Play Books Execution

- Tags
- Handlers
- Introduction to Roles
- Role Basics
- Creating Role
- Ansible Galaxy
- Ansible Tower

DOCKER

(Containerization Tool)

Introduction

- What is Docker
- Life without Docker
- Life with Docker
- Installing Docker on Linux
- What is container
- Docker run command
- Working with images
- Container Life cycle
- Docker File
- Docker Network
- Docker Volumes
- Docker Compose
- Docker Swarm
- Spring Boot App with Docker
- Python App with Docker
- MySql with Docker

KUBERNETES

- What is Kubernetes
- Docker Swarm Vs Kubernetes
- Kubernetes Architecture
- Control Plane
- Worker Nodes
- Namespaces
- Pods
 - o Cluster IP
 - o Node Port
 - o Load Balancer
- Replication Controller
- Replication Set
- Daemon Set
- Stateful Set
- Deployment
 - o Recreate
 - o Rolling Update
 - o Blue Green Deployment
- Config Map
- Secrets
- Ingress Controller
- HELM Charts

Monitoring Tools

- Grafana
- Prometheus
- ELK Stack

INFRASTRUCTURE AS CODE (IAC)

TERRAFORM

- Introduction to Terraform
- Terraform Vs Ansible
- Terraform installation
- Terraform Architecture
- Terraform Scripts
- Infrastructure Creation
- Credentials Management