

DevOps Training

Duration: 40-50 Hours

Prerequisites

- Basic Knowledge of Operation & Infrastructure

Basics for DevOps

1. Linux Basics

- Intro to Linux
- Basic Commands
- Network Configuration
- Software Management
- User and Group management.

2. Networking Basics

- IP assignment.
- Dns(Domain name systems)
- Service Ports usage.

- Firewall.

- Troubleshooting network.

- Secure Copy and login.

3. Storage Basics

- Filesystem usage.
- Mount Options.
- Checking free space.
- Giving permissions.
- Increasing Filesystem space.

DevOps: Basic to Advanced

1. Introduction To DevOps

- What is DevOps
- History of DevOps
- Dev and Ops DevOps Definitions
- DevOps and Software Development Life Cycle
- DevOps Main Objectives
- Infrastructure as a Code
- IaaS Overview
- Paas Overview
- DevOps on the Cloud
- Prerequisites for DevOps
- Tools (Jenkins, Chef, Docker, Vagrant and so on.)
- Continuous Testing and Integration
- Continuous Release and Deployment
- Continuous Application Monitoring

2. Cloud Computing & Virtualization

- History and Evolution of Cloud
- Cloud computing concepts
- Grid Computing vs. Cloud Computing Characteristics
- Benefits of Cloud IaaS, PaaS and SaaS
- Cloud service model implementations
- Virtualization
- Virtual Machines
- Virtual bootable OS Images
- Cloud Storage
- SOA and Cloud
- Virtual Private Cloud (VPC)

- Risk in Cloud and DevOps security concerns

- Introduction to AWS and AZURE

3. DevOps Adoption

- Tools
- Things to Look For and Avoid
- IT Assets Ownership
- Viewing Applications As Products, not Projects
- DevOps in the Enterprise
- IT Governance
- Governance and Risk Mitigation
- DevOps Adoption Steps
- Select DevOps Techniques and Practices
- Service Quality Metrics
- The Choice of Cloud Platform
- IaaS for DevOps PaaS for DevOps Containerization Tools
- System Configuration Automation and Management
- Continuous Integration (CI) Systems
- Build and Dependency Management Systems
- Select DevOps Tools

4. DevOps Tools: Chef

- Overview of Chef Workstation Setup Organization Setup
 - Common Chef Terminology (Server, Workstation, Client, Repository etc.) Servers and Nodes
 - Chef Configuration Concepts
-

- How to configure knife
 - Execute some commands to test connection between knife and workstation.
 - Test Node Setup
 - Databags
 - Node Objects and Search
 - Environments
 - Advanced Chef
 - Add yourself and node to organization
Create a server and add to organization
Check node details using knife
 - How to create Databags
 - Add Databags to organization How to Add Run list to Node Check node Details
 - How to create Environments Add servers to environments Create roles
 - Add Roles to organization
 - What is foodcritic and TestKitchen
 - Improve and expand on the existing recipes
 - One-click system launching
5. **DevOps Tools: Puppet**
- Introduction to Puppet
 - Installation and Configuration of Master server and agents
 - Managing Manifests
 - Creating and Managing modules
 - Version control with Puppet
6. **Agile Practices**
- Introduction Need for agile Scrum
 - Roles in agile development. Sprints
 - Agile terminologies
 - Best practices for agile development.
 - Prioritizing product backlogs.
7. **DevOps: Source Code Management**
- GIT Repository Continuous Integration
 - Introduction to Jenkins-CI Git cli usage
 - Continuous Integration with Jenkins
Overview
 - Installation
 - Configure Jenkins as stand-alone application
 - Configure Jenkins on an Application Server Jenkins management
 - Support for the Git version control systems
- Different types of Jenkins Jobs Setting up a Jenkins job Scheduling build Jobs
 - Maven Build Scripts Securing Jenkins
 - Jenkins Plugin Authentication Authorization Confidentiality Creating users
 - Installing Jenkins Plugins
 - SCM plugin
 - Build and test
 - Best Practices for Jenkins
8. **General Environment Setup Steps In AWS**
- Creating Servers and Networks in Cloud
 - Setting up rules and Application Difficult Scenarios in environments. Scaling
 - Environment Testing
 - Monitoring logs
9. **Miscellaneous**
- Other Tools used in Github, Docker
-