Course Curriculum

AWS + DEVOPS COURSE CONTENT

Trainer Name	Hari Krishna
TrainerExperience	14 Years
CourseDuration	2.5 Months
Course Fee	20000/-

1. AWS Cloud

2. Linux Basic

3. Introduction to DevOps CI/CD Flow

4. Git

5. GitHub

6. Jenkins

7. Maven

8. Ansible

9. Nexus Artifactory

10. Docker

11. Kubernetes

12. Terraform

13. Apache Tomcat

14. Projects

   1.Live CI/CD with Git,Jenkens, Maven, Tomcat

   2.Live CI/CD with Git,Jenkins, Maven, Ansible, Docker, Tomcat

AWS:

- Introdction to Cloud
- Creating AWS Free tire account
- Understanding Regions and availability Zones
- EC2 (Elastic Cloud Compute)
- S3 (Simple Storage Service)
- EBS (Elastic Block Storage)
- IAM (Identity Access Management)
- AMI (Amazon Machine Images)
- Introduction to cloudwatch
- Concepts of cloudwatch
- Configuring Cloud trail
- Concepts of Cloud trail
- Virtual private cloud (VPC) Creation/subnets
- Creating storage services i.e S3/EFS
- Creating Auto Scaling group & assign instances to auto scaling group

Course Curroculum

Linux basics:

- Linux Overview
- Architecture of Linux
- Linux Folder Structure
- Linux Origins
- What is Operating System
- Unix and Linux Difference
- Linux file system Structure
- Basic Linux Commands
- Changing file permission and ownership
- User management
- Editors
- Filter Commandes
- Simple filter and Advance filter commands
- Start and stop services
- Find and kill process with id and name
- Packege Installation using RPM and YUM

Introduction to DevOps:

- What is DevOps?
- DevOps principles
- Challenges
- Importence of DevOps
- What is Continuous Integration
- What is Continuous Delivery
- What is continuous Deployment
- Faster deployment using Devops
- DevOps job market

GIT & GITHUB: Version control System

- Introduction to GIT
- GIT Installation and configuration
- Git Command Line
- Subversion Controls/Git/Git HUB
- Working with local repositories
- Branching Strategies
- Merging Code
- Cloning repositories
- Fetch /full Repositories
- GIT cherry-pick,

- GIT redase
- Real time scenarios & Issues

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Jenkins:

- Introduction to Jenkins
- Installation and configuration of Jankins
- Jenkins Architecture
- How to achieve Continuius Integration with Jenkins
- Creating Jenkins Jobs
- Jenkins dashboard
- Jenkins authentication
- Jenkins plugins –how to download and use
- Generate Reports & Enable Mail Notifications
- Add Jenkins node/slave
- Continuous Delivery Pipeline

Maven/Build Tool:

- Introduction to Maven
- Maven folder structure
- Maven Phases
- Installation of Maven
- Integrate Maven with Jenkins
- Maven dependencies/plugins
- Jar/war/ear project structure
- Explain pom.xml
- Automate build process

Nexus Artifactory tool:

- Introduction to Nexus Artifactory tool
- Install and Configure nexus artifactory tool
- Integrate Nuxus with Jenkins
- Moving war file to Nexus
- Continuous deployment
- Automate the process using Jenkins

Apache Tomcat:

- Introduction to Apache Tomcat
- Inatalling and configuring Tomcat
- Tomcat Directory Structure
- Deploying Jar and War files
- The Tomcat Manager
- JNDI Data Source and JDBC
- Monitoring and Performance Tuning Tomcat

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Ansible:

- Introduction to Ansible
- Ansible terminology
- Ansible Architecture
- Advantages of Ansible
- Ansible installation and configuration
- How to add nodes to Ansible server
- Ad-Hoc Commands
- Ansible inventory
- Configuration
- Cerating Ansible Modules
- How to write Ansible Playbooks
- Implementing Roles
- Implementing Tags
- Ansible modules
- Explain Ansible Galaxy
- How to download playbooks from Galaxy
- Real-time playbooks

Docker:

- Introduction to Docker
- Docker Installation and Configuration
- Docker Components
- Manage Docker Images & containers
- Manage Docker Images from Docker file
- Explain Docker Vaults
- Encryption/Decryption of Docker Vaults
- Docker pull
- Docker run
- Docker Volume
- Docker Networking

Kubernetes:

- Getting Started with kubernetes
- Configure and manage kubernetes
- Building A Kubernetes Cluster
- Networking Kubernetes Pods
- Migrating from On-premise to AWS
- Integrate Kubernetes with Continuous Integration (CI)
- Ensuring High Availability and Disaster Recovery in Kubernetes.
- Using Fargate to Manage
- Troubleshooting
- Migrate an existing Kubernetes environment from on-premise to AWS cloud
- Integrate Kubernetes with third-party continuous integration (CI) software
- Ensuer high availability and disaster recovery in Kubernetes
- Understand and adopt the tools available to efficiently manage

Terraform:

- Introduction to Terraform
- Getting started with Terraform
- Terraform Modules
- Terraform: Writting in a more organized way
- Installing Terraform - Windows Users
- Installing Terraform – Linux Users
- Creating first EC2 instance with Terraform
- Terrafoem Code – First EC2 Instance
- Understanding Resources & Providers
- Understanding Resource & Providers – Part 2
- Terraform Code – DO Droplet
- Destroying Infrastructure with Terraform
- Document – Destroying Specific Resource
- Understanding Terraform State files
- Understanding Desired & Current States
- Challenges with the current state on computed values
- Terraform Commands – State Files
- Terraform Provider Versioning
- Types of Terraform Providers
- Note – Community Provider
- Notes – Deploying Infrastructure with Terraform
- Understanding Attributes and Output Values in Terraform
- Referencing Cross-Account Resurce Attributes
- Terraform Variables
- Approaches for Variable Assignment
- Date Type for Variables
- Fetching Data from maps and List in Variable
- Count and Count Index
- Conditional Expression
- Local Values
- Terraform Functions
- Data Sourses
- Debugging in Terraform
- Terraform Format
- Validateing Terraform Configuration Files
- Load Order & Semantics
- Dynomic Blocks
- Tainting Resources
- Splat Expressions
- Terraform Graph
- Saving Terraform Plan to File
- Terraform Output
- Terraform Settings
- Notes – Read, Genarate, Modify Configuration

Course highlights:

- o 3 Real time Projects
- o Interview sessions topic wise
- o Interview preparation
- o 3 months End to End training…

- Operations Hands-on like:
  - ➢ What is server and configure servers?
  - ➢ Clusters Configuration
  - ➢ Day to Day operations
  - ➢ Deep Drive about HUBS and Switches. Etc.
- Also Internal applications like:
  - ➢ Development Environments
  - ➢ Test Environment
  - ➢ UAT Environment
  - ➢ Production Environment

- Internal Team Structure:
  - ➢ Emails & communication (way of communication)
  - ➢ Roles & Responsibility's
  - ➢ Stand up Calls
  - ➢ Internal Team Meetings
  - ➢ Releases and purpose
  - ➢ KT Sessions
  - ➢ Working on Daily tasks like Tickets