DevOps Course Content

Trainer: Sobha

Duration: Near about 45 Days

Each Session: 1.5 Hours

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► Introduction to DevOps

* 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

► Git

* What is version control system?
* Compare Git with others and why is it called Distributed Version Control System?
* Create an Local Git Repository
* Operations like commit, pull, push, clone, merge, cherry pick and rebase
* Git Branches and how to use
* Git Hub a remote repository
* Git hub collaboration,
* Import fork and branch creation and pull requests.

► Maven

* What are build tools?
* Build a Java Application using Maven
* Dependency Management
* Plugins as a building block in maven build
* Building and deploying java web application using maven

► 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/Salves
* Managing plugins
* Managing Software Versions
* Groovy scripting,

► 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 Docker File
* Creating our own Docker Image
* Docker Networking
* Docker volumes
* Docker-compose files using with yaml file
* Microservices deployment using docker-compose files in Dev, Pre-Prod and Production environments.
* Production backups and re-deployments.

► Ansible

* Ansible Introduction & Setup
* Foundation
* Modules and Ad hoc Commands
* YML Scripting
* Play Book for CM automation
* Roles

Kubernetes

►

* Introduction to Kubernetes
* Understanding the components of Kubernetes Master ( Control Plane}
* Understanding the components of Kubernetes Node ( Minion }
* Working with Pod
* Elements used in definition file.
* Creating Replication Controller.
* Creating Replica Set.
* Working with Deployment Object
* Creating Service Object,
* Rolling updates,
* Persistent volumes and persistent volume claims.
* Application and config Maps
* Blue-green deployments
* Horizontal pod auto scaler

► Terraform

* Introduction to Terraform
  + Installation to terraform \* Working with IDE
  + Creating EC2 Machine using terraform
* Understanding Terraform initialization
  + Understanding the term resources
  + Creating Infrastructure in GitHub
  + Deleting the Infrastructure
  + Terraform State file
* Understanding desired and current state
  + Output value and Attributes
  + Cross resource Attributes

 Understanding with terraform modules.