DevOps Course

Zetlan Technologies

e-Learning Course

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COURSE MODULES

Introduction to DevOps

- What is DevOps?
- History of Devops
- Devops definition
- DevOps Main Objectives
- DevOps and Software Development Life Cycle
  - oWaterfall Model
  - oAgile Model
- Continuous Integration & Deployment
  - oJenkins
- Containers and Virtual Development
  - oDocker
  - oVagrant
- Configuration Management Tools
  - oAnsible
  - oPuppet
  - oChef

Cloud Computing

- What is Cloud?
- Evolution of Cloud Computing
- IAAS (Infrastructure as a Service)
- SAAS (Software as a Service)
- PAAS (Platform as a Service)
- Private, Public and Hybrid Cloud
- Public Clouds
  - oAmazon Web Services
  - oMicrosoft Azure
  - oGoogle Cloud Services

Shell Scripting

- Introduction
- Variables
- Flow Controls
- Loops
- Functions
- Lists
- Manipulating Strings
- Reading and Writing Files
- Positional Parameters

Continuous Integration – Jenkins

- Introduction to Jenkins
- Continuous Integration with Jenkins
- Configure Jenkins
- Jenkins Management
- Scheduling build Jobs
  - oPOLL SCM
  - oBuild Periodically
- Maven Build Scripts
- Support for the GIT version control System
- Different types of Jenkins Jobs
- Jenkins Build Pipe Line
  - oParent and Child Builds
  - oSequential Builds
- Jenkins Master & Slave Node Configuration
- Jenkins Workspace Management
- Securing Jenkins
  - oAuthentication
  - oAuthorization
  - oConfidentiality
  - oCreating Users
- Jenkins Plugins
  - oInstalling Jenkins Plugins
  - oSCM plugin
  - oBuild and test

Version Control-GIT

- GIT Features
- 3-Tree Architecture
- GIT – Clone /Commit / Push
- GIT Hub Projects
- GIT Hub Management
- GIT Rebase & Merge
- GIT Stash, Reset, Checkout
- GIT Clone, Fetch, Pull

Build tool- Maven

- Maven Installation
- Maven Build requirements
- Maven POM Builds (pom.xml)
- Maven Build Life Cycle
- Maven Local Repository (.m2)
- Maven Global Repository
- Group ID, Artifact ID, Snapshot
- Maven Dependencies
- Maven Plugins

ANSIBLE

- Introduction to Ansible
- Ansible Server Configuration
- Infrastructure Management
- SSH Connection in Ansible Master
- YAML Scripts
- Host Inventory
  - oHosts and Groups
  - oHost Variables
  - oGroup Variables
  - oHost and Group Specific Data
- Ad-hoc Commands
- Playbooks
  - oVariables
  - oConditionals
  - oLoops
  - oBlocks
  - oHandlers
  - oTemplates

- Modules
  - oCore Modules
  - oExtra Modules
- Ansible Roles

Docker

- How to get Docker Image?
- What is Docker Image
- Docker Installation
- Working with Docker Containers
  - oWhat is Container
  - oDocker Engine
  - oCrating Containers with an Image
  - oWorking with Images
- Docker Command Line Interphase
- Docker Compose
- Docker Hub
- Docker Trusted Registry
- Docker swarm
- Docker attach
- Docker File & Commands