Hatigen Consulting Services Pvt Ltd

AWS DevOps Course Online

Prerequisites

- Familiarity with Unix type systems
- Knowledge of basic commands
- A laptop (with RAM 4 GB or more preferred)

Program Features:

- Trusted content
- Re-learn for free anytime in a year
- Rigorous assignments and assessments
- Learn at your own pace
- Mandatory feedback sessions
- Mock-interview
- Hands-on real-time experience
- Free Mentorship
- Live chat for instant solutions
- Job-ready employees post-training
- End-to-end training
- Download the certificate after the course

Delivery Mode:

- Online Training

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Topics to be covered during this course (Estimated Time - 50 hours)

Topic 1: Introduction to DevOps (Estimated Time - 2 hours):

Why DevOps?

- A brief history of software development approaches and their challenges
- Agile Vs DevOps
- How DevOps helps with disadvantages of traditional software development models

What is DevOps?

- Reduce Silos
- Accept failure as normal
- Incremental Changes
- Automate
- Measure
- DevOps Vs SRE
- 3 sections to be covered in this course
- Version control and CI/CD
- Configuration management
- Measuring and Monitoring

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Topic 2: Achieving the prerequisites (Estimated Time - 2 hours)

Hands-on with Linux

- Setup a linux machine on Amazon Web Services (AWS)

- Run and learn the commands necessary for DevOps
- Basic (ls, cat, uname, pipe, tail/head, history, sudo, kill, cut, grep)
- Intermediate (redirection, find, sed, ps, kill, du, df, top, curl, wget, xargs, tar, unzip, gunzip, screen, directives, tee)
- Advanced (ssh-keygen, scp, netstat, package-managers, symbolic links, file permissions, daemon, services, /etc/init.d, wheel, nslookup, dig, lsof)
- Setup your own Linux Environments in AWS

Understanding Agile (Estimated Time - 2 hours)

- Scrum
- Kanban
- Setting up your scrum board for your project “My DevOps Learning”

The first Pillar: CI/CD

Topic 3: Version control through Git (Estimated Time - 4 hours)

- What and Why Version Control?
- Types of version control
- Centralized version control: Perforce
- Distributed version control: Git
- Setting up git
- Install git
- Setup git config
- Create github account
- Create your own project on github
- Clone the project to your local
- Git in action
- The concept of Clone, pull. fetch and fork
- Git index and staging area
- The concept of remote and upstream
- Checking history in git
- Conflict resolution
- Push from local to github

- Branching in Git
- Create branch
- Merging
- Rebase
- Review mechanism in version control
- Generate pull request
- Add reviewers
- Approve and merge as admin/approver

Topic 4: CI/CD (Estimated Time - 5 hours)

- Introduction
- What and why CI/CD?
- Difference of Continuous Integration, Continuous Delivery and Continuous Deployment.
- What is a build?
- Introduction to Build Tool 'GNU Make'
- Setup Jenkins
- Setup Jenkins on AWS
- Jenkins UI Tour
- Jobs
- Manage Jenkins
- Global Configurations
- Manage Plugin
- Creating the first job
- Create folder
- Create job
- Job parameters
- Setup Version Control
- Execute Shell
- Invoke build tool
- Post build actions
- Archive Artifacts and test cases
- Email Notifications
- Trigger Downstream builds

- Jenkins Security
- Jenkins own user database
- Matrix based security
- Global and Project based security
- Jenkins Pipeline
- What and why pipeline?
- Stage and steps in pipeline
- Jenkinsfile: Declarative vs Scripted
- Setup your first pipeline
- Parse parameters among steps in pipeline
- Advanced topics
- Jenkins Administration
- Discussion on Certified Jenkins Engineer

The Second Pillar: Configuration Management and Infrastructure as Code

Topic 5: Ansible (Time Estimated - 5 Hours)

- Introduction to Ansible
- Ansible use cases
- Comparison of Ansible and other popular tools
- Getting started with Ansible
- Ansible setup
- Ansible config files
- Ansible modules and arguments
- Ansible Playbooks
- Ansible Roles
- Quick introduction to Ansible AWX and Ansible tower

Topic 6: Terraform (Estimated Time - 6 hours)

- Introduction
- Setting up
- Terraform use-cases
- Deploying infrastructure with Terraform
- Interpolation, attributes and deployment of multi-tier architecture
- Terraform Provisioners
- Terraform Modules and workspaces

- Remote state management
- Security

Topic 7: The curious case of Vagrant and Packer (Estimated Time - 2 hours)

Topic 8: Container and Container Orchestration (Estimated Time - 14 hours)

- Docker
- What are containers?
- Container Vs Virtual machines
- Docker Setup
- Docker in action
- Docker run in details
- Listing runnign containers
- Container lifecycle
- Container operations: Start, stop, remove, check logs
- Docker Images
- What are images?
- Creating a dockerfile
- Base image
- Image build process
- Manual creation and tagging of image

Kubernetes

- What and why of Kubernetes
- Kubernetes architecture
- Kubernetes Pods
- Services in Kubernetes
- Services
- Nodeport and ClusterIP
- Pod selection with labels
- Kubernetes ReplicaSets
- Kubernetes Deployments
- Kubernetes Networking and service discovery
- Microservice Architecture

- Persistent volumes
- Logging in a Kubernetes cluster

Devops Pillar 3: Monitoring

DevOps Monitoring (Estimated Time - 5 hours)

Why Monitor?

- What all to monitor?
- Monitoring in Action
- Monitoring Kubernetes Clusters with Prometheus and Grafana
- The Elastic Search, Logstach, Kibana (ELK) Stack

Topics :

- Webserver – Linux (httpd) & Windows (IIS)
- Database (RDBMS) - MySQL/Aurora/Mariadb
- AWS Basics
- AWS Global Infrastructure
- AWS VPC
- AWS Global Vs Region Based Services
- AWS Bastion/Jumpbox/Proxy

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