Faysal Aziz

DevOps with Jenkins

FA-0170 · 10 days

DevOps, Cloud & Infrastructure

Introduction

This course is designed to take the trainee from the bottom up using CLI to Continuous Integration and Development pipeline using Jenkins. This module also covers deployment in the cloud. Although any generic cloud service would suffice, this syllabus uses bare metal services from Digital Ocean and Managed services from AWS to give the learner a complete spectrum.

Duration: 10 days

Training outline

1. Module 1

1. Basics of Linux
2. Server Management in Linux
3. Vagrant
4. Basics of networking
5. Case Study with Project and Assessment
6. Vprofile Intro & Setup on VM's

2. Module 2

1. Bash Scripting
2. Basics of scripting
3. Variables, Conditions, Loops etc
4. Automating day to day admin tasks
5. Git
6. Git Services

3. Module 3

1. Cloud Computing Intro
2. Services

   Digital Ocean

   1. Droplets
   2. DNS
   3. Teams
   4. Managed Services

   AWS

   1. IAM
   2. Ec2 Instances, EBS Volumes, ELB
   3. S3
   4. Cloudwatch
   5. RDS
   6. Autoscaling
5. Cloud For Case Study with Project and Assessment
6. Re-Architecting Web App

4. Module 4

1. Version control system revisit
2. Build Tools | Build & Test Java Code = Maven
3. Continuous Integration Intro
4. Jenkins
5. Jenkins as a Build Server
6. Jenkins Jobs | Build , Test, Deploy, Notify
7. Jenkins Master/Slave, Nexus, Sonarqube
8. Jenkins CI Pipeline
9. Jenkins Administration
10. Case Study with Project and Assessment
11. Continuous Integration Using Jenkins, Nexus, Sonarqube & Slack

5. Module 5

1. Python Scripting
2. Basics of python programming

3. vars, data types, conditions, loops, function, modules etc
4. Pythons for automating OS tasks

6. Module 6

1. Ansible Intro
2. Ad Hoc commands
3. Modules
4. YAML into
5. Playbooks
6. vars, conditions, loops,
7. handlers, templates etc etc etc
8. Variables deep dive
9. Roles
10. Ansible for AWS
11. Case Study with Project and Assessment
12. Continuous Delivery and Configuration Management [Jenkins plus Ansible]

7. Module 7

1. VPC in depth
2. Log management and custom metrics
3. Case Study with Project and Assessment
4. Vprofile on Beanstalk & RDS
5. Code Commit, Code Build & Code Pipeline
6. CI & CD on AWS Cloud for Vprofile
7. Beanstalk, RDS, CodePipeline etc

8. Module 8

1. Docker Intro
2. Understanding and Implementing Containers
3. Volumes, Network, logs etc
4. Building Images for Vprofile project
5. Docker compose to run vprofile multi containers
6. Kubernetes Intro
7. Kubernetes setup for production Env

8. Kubernetes objects
9. Pods, Services, Controllers, Deployment
10. Replication, Autoscaling, Resource quotas, secret, configmap, namespace.
11. Case Study with Project and Assessment
12. Vprofile deployment on Kubernetes

9. Module 9

1. Nginx
2. Apache
3. Tomcat
4. Certbot / SSL / Let’s Encrypt
5. Capstone Project

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