CREDO SYSTEMZ
Simplifying IT

DEVOPS TRAINING COURSE CONTENT

SECTION 1 – Introduction to DevOps Certification

- ➢ What is DevOps?
- ➢ Why DevOps?
- ➢ Benefits of DevOps
- ➢ Overview of DevOps

SECTION 2- Provisioning
- ➢ Vargant-What is vagrant-Compare with Terraform and Docker
- ➢ Installation and setup
- ➢ Vargant Commands

> *Real-time Practicals*
> *Create a ubuntu machine using vagrant*
> *Shared folders*
> *Install Apache and port forward.*

SECTION 3 – DevOps Installation and setup

- ➢ Installation of DevOps Tools
- ➢ Installing the required tools Git, Jenkins, Ansible, Puppet, Docker
- ➢ Installing the Chef, CVS, Clearcase, Nagios, Maven, Database

> *Real-time Practicals*
> *All Devops tools setup*

SECTION 4 – Software Version Control

- ➢ Basics of Software Version Control
- ➢ Complete concepts in Version Control Systems
- ➢ Study about SCM, Command Line, CI tool Jenkins, SVN, CVS, Clearcase
- ➢ Real time **project** study in Maven Project and Jenkins

Real-time Practicals
Create a git project
Checkout a branch
Create a file and add to git, Edit file, Commit the code,
Set up Jenkins and integrate with Git

SECTION 5 – Automation Build and Test

- ➢ Basics about the Automating Builds – Maven, Ant
- ➢ Overview of Jenkins Pipeline
- ➢ Setting up continuous Delivery Pipeline using Jenkins
- ➢ Building a continuous Delivery Pipeline Using Jenkins
- ➢ DevOps Test Automation tools and framework
- ➢ DevOps Testing Strategy

Real-time Practicals
Create a Maven Project
Edit pom.xml file
Set up build delivery pipeline
Set up notification alerts in Jenkins and Configure test plan in Jenkins

SECTION 6 – Continuous Integration(CI)

- ➢ Study about DevOps Continuous Integration
- ➢ DevOps Continuous Integration Tools Comparison
- ➢ DevOps Continuous Integration and Continuous Delivery
- ➢ DevOps Continuous Integration Pipeline, Jenkins, Testing
- ➢ Benefits of DevOps Continuous Integration

Real-time Practicals
Commit code and check if Jenkins runs the build scripts and tests the code using automation script

SECTION 7 – Docker

- ➢ What are Containers
- ➢ Difference between VM and Container,Docker Fundamentals
- ➢ Creating & Running Docker Images, Image Distribution
- ➢ Creating Docker Registry, Compose Scripts, Remote Docker Image

Real time Practicals
Configure a Docker
Create an image in Docker and run it

SECTION 8 – Docker Commands with Best Practices

- ➢ Networking Concepts in Docker
- ➢ Using a Docker volume
- ➢ Creation of a Dockerfile,a text file to contain the commands to create the image

Real time Practicals
Create a docker file with the commands to create an image,create the image

SECTION 9 – Containerization with kubernetes

- ➢ Introduction to Kubernetes,the cluster architecture of kubernates
- ➢ Creating a Kubernetes cluster
- ➢ What is YAML,creating YAML with kubernetes deployment
- ➢ Kubernetes rolling updates,using an app with the dashboard.

SECTION 10 – Puppet Configuration Management Tool

- ➢ Introduction to puppet
- ➢ Architecture of
- ➢ How the Puppet Configuration Management Tool Works
- ➢ Puppet Configuration Management Architecture
- ➢ Different Components of Puppet Architecture

➢ Real Time Study of Puppet Management Tool

Real-time Practicals
Install Puppet, Configure puppet,
Use Knife commands for various operations

SECTION 11 – Chef

➢ Chef fundamentals, Chef Enviorment, Chef cookbooks & Knife Commands
➢ Node Object & Search, Data-bags,Roles
➢ Deploying Nodes in Production and using the open source chef server, vagrant file

Real-time Practicals

Real-time Practicals
Install a chef server
Configure a Vagrant file and setup directory structure to create and run a Chef server,
Install a chef-workstation
Create a user account in manage.chef.io website, Generate a knife.rb file from the website
to create a chef

SECTION 12 – Ansible

➢ Introduction to Ansible.
➢ Configuration,Writing Ansible Playbooks
➢ Ansible Based Configuration Management
➢ Different Roles
➢ Command Line usage

Real-time Practicals
Write Ansible playbook,
Assign different roles in configuration tool

SECTION 13 – Nagios Performance and Automation Monitoring

➢ What is Nagios?
➢ DevOps monitoring with Nagios
➢ Features of Nagios

- ➢ Nagios Architecture
- ➢ Study about Commands, Objects and Notifications
  Configuring Nagios in Monitoring WebServer

Real-time Practicals
Perform Nagios and Netdata monitoring
Setup Syslog and verify the logs are getting generated,
Configure HAProxy server

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Know more about DEVOPS

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