KDN INFOTECH PVT LTD

Diploma in Devops with AWS Syllabus(98 hrs)

Introduction to Devops	What Is Devops
(3 hrs)	History of Devops
	DevOps and Software Development Life Cycle - Waterfall Model o Agile Model
	Continuous Integration & Deployment(Jenkins)
	Containers and Virtual Development(Docker)
	Configuration Management Tools
Cloud Computing	What is Cloud?
(2 hrs)	IAAS (Infrastructure as a Service)
	SAAS (Software as a Service)
	PAAS (Platform as a Service)
	Private, Public and Hybrid Cloud
LINUX Basics	Histor of Unix and linux
(10 hrs)	Advantages of linux
	Linux File system structure
	Basic linux/unix commands
	Changing file permissions and ownership
	Types of links soft and hard link

	Filter commands
	Simple filter and advance filter commands
	Start and stop services
	Find and kill the process with id and name
	Package installation using RPM and YUM
Python Scripting	Introduction
(8 hrs)	Variables
	Flow Controls
	Loops
	Functions
	Lists
	Manipulating Strings
	Reading and Writing Files
	Positional Parameter
Version Control-GIT	GIT Features
(5 hrs)	3-Tree Architecture
	GIT – Clone /Commit / Push
	GIT Rebase & Merge
	GIT Stash, Reset, Checkout
	GIT Clone, Fetch, Pull
Chef	Overview of Chef
(7 hrs)	Chef Configuration Concepts
	Workstation Setup
	Attribute, Attribute types

	Test Node Setup
	Create a server
	Understanding of Attributes
	Creating Custom Attributes, Defining in Cookbooks
Docker	What is Docker and its need
(12 hrs)	O.S. level Virtualization
	Docker Installation
	Working with Docker Containers
	Docker Command Line Interphase
	Docker Hub
	Docker File & Commands
ANSIBLE	Introduction to Ansible
(7 hrs)	Ansible Server Configuration
	Everything about Playbooks
	Infrastructure Management
	SSH Connection in Ansible Master
	YAML Scripts
	Host file and Host Pattern
	Ad-hoc Commands
	Ansible Roles
CI/CD	Everything About CI/CD pipeline
Jenkins	introduction and Understanding continuous integration
(6 hrs)	Introduction about Jenkins

	Jenkins Architecture and Installation
	Master-slave concept
	Everything About Jobs
	Tomcat installation and configuration
	Jenkins Plugin
	Best Practices for Jenkins
Maven	Maven Installation
(4 hrs)	Maven Build requirements
	Maven Build Life Cycle
	Maven Local Repository
	Maven Global Repository
	Group ID, Artifact ID, Snapshot
	Maven Plugins
AWS	Creating AWS account
(10 hrs)	Launch windows and Linux Instances in AWS
	About AWS Storage services, EBS and S3
	Creating S3 Buckets and putting objects in bucket
	Creation, attaching and Detaching volumes o ELB (Elastic Load Balancer)
	Auto Scaling
	IAM (Identity Access Management)
	Configuring MYSQL RDS service
Negios	What is Nagios?
(4 hrs)	Why Nagios?
	Installation of Nagios on EC2 linux Machine

	Advantages of Nagios Application
	Disadvantages of Nagios
Kubernetes	Introduction to Kubernetes
(16 hrs)	Kubernetes Architecture
	Setting up Environment
	Provisioning and configuring on AWS
	Everything about Minikube
	Labels,Selectors,ReplicationController and replicaset in Kubernetes
	Deployment Object in Kubernetes
	Kubernetes Services, Nodeport and Volumes
	Launching Replica Set and Fault Tolerance
	Solution part - Deploying a worker app
	Writing pod Specification
	Launching and Operating Pods (Login to the pod, browsing the web UI of the pod)
	Attaching a volume to a Pod and autoscalling
	Everything about namespace
Helm	What is Helm
(4 hrs)	Helm chart
	Helm installation and commands

Introduction to Devops (3 hrs)	What Is Devops
	History of Devops
	DevOps and Software Development Life Cycle - Waterfall Model o Agile Model
	Continuous Integration & Deployment(Jenkins)
	Containers and Virtual Development(Docker)
	Configuration Management Tools
Cloud Computing (2 hrs)	What is Cloud?
	IAAS (Infrastructure as a Service)
	SAAS (Software as a Service)
	PAAS (Platform as a Service)
	Private, Public and Hybrid Cloud
LINUX Basics (10 hrs)	Histor of Unix and linux
	Advantages of linux
	Linux File system structure
	Basic linux/unix commands
	Changing file permissions and ownership
	Types of links soft and hard link
	Filter commands
	Simple filter and advance filter commands
	Start and stop services
	Find and kill the process with id and name
	Package installation using RPM and YUM
Python Scripting (8 hrs)	Introduction
	Variables

		Flow Controls
		Loops
		Functions
		Lists
		Manipulating Strings
		Reading and Writing Files
		Positional Parameter
Version Control-GIT		GIT Features
(5 hrs)		3-Tree Architecture
		GIT – Clone /Commit / Push
		GIT Rebase & Merge
		GIT Stash, Reset, Checkout
		GIT Clone, Fetch, Pull
Chef		Overview of Chef
(7 hrs)		Chef Configuration Concepts
		Workstation Setup
		Attribute, Attribute types
		Test Node Setup
		Create a server
		Understanding of Attributes
		Creating Custom Attributes, Defining in Cookbooks
Docker		What is Docker and its need
(12 hrs)		O.S. level Virtualization
		Docker Installation

	Working with Docker Containers
	Docker Command Line Interphase
	Docker Hub
	Docker File & Commands
ANSIBLE	Introduction to Ansible
(7 hrs)	Ansible Server Configuration
	Everything about Playbooks
	Infrastructure Management
	SSH Connection in Ansible Master
	YAML Scripts
	Host file and Host Pattern
	Ad-hoc Commands
	Ansible Roles
CI/CD	Everything About CI/CD pipeline
Jenkins	introduction and Understanding continuous integration
(6 hrs)	Introduction about Jenkins
	Jenkins Architecture and Installation
	Master-slave concept
	Everything About Jobs
	Tomcat installation and configuration
	Jenkins Plugin
	Best Practices for Jenkins
Maven	Maven Installation

(4 hrs)	Maven Build requirements
	Maven Build Life Cycle
	Maven Local Repository
	Maven Global Repository
	Group ID, Artifact ID, Snapshot
	Maven Plugins
AWS	Creating AWS account
(10 hrs)	Launch windows and Linux Instances in AWS
	About AWS Storage services, EBS and S3
	Creating S3 Buckets and putting objects in bucket
	Creation, attaching and Detaching volumes o ELB (Elastic Load Balancer)
	Auto Scaling
	IAM (Identity Access Management)
	Configuring MYSQL RDS service
Negios	What is Nagios?
(4 hrs)	Why Nagios?
	Installation of Nagios on EC2 linux Machine
	Advantages of Nagios Application
	Disadvantages of Nagios
Kubernetes	Introduction to Kubernetes
(16 hrs)	Kubernetes Architecture
	Setting up Environment
	Provisioning and configuring on AWS
	Everything about Minikube

	Labels,Selectors,ReplicationController and replicaset in Kubernetes
	Deployment Object in Kubernetes
	Kubernetes Services, Nodeport and Volumes
	Launching Replica Set and Fault Tolerance
	Solution part - Deploying a worker app
	Writing pod Specification
	Launching and Operating Pods (Login to the pod, browsing the web UI of the pod)
	Attaching a volume to a Pod and autoscalling
	Everything about namespace
Helm	What is Helm
(4 hrs)	Helm chart
	Helm installation and commands