Linux AWS DevOps Course Content

LINUX

Introduction to UNIX & LINUX

- ❖ History of UNIX and LINUX
- ❖ Basic concepts of Operating System, Kernel, Shell & File System structure
- ❖ Basic concepts of Linux Differences between CentOS, Red Hat Enterprise Linux & Fedora
- ❖ Basic commands of Linux Advanced Linux Commands

Commands

- ❖ File commands
- ❖ Network commands
- ❖ Compression commands
- ❖ Shortcuts

Installation of LINUX

- ❖ Interactive Installation
- ❖ Network Based Installation

Introduction to Graphical environment

- ❖ Use and customize the GNOME interface
- ❖ Perform command tasks using the GNOME GUI
- ❖ Launch applications from command line & GNOME interface
- ❖ Customize X Window System

Software package Administration

- ❖ Installing and deleting software packages
- ❖ Querying and updating software packages

User & Group Administration

- ❖ Creating and deleting users from the systems
- ❖ Modifying users profile
- ❖ Creating and deleting groups
- ❖ Important system files related to user administration

Advanced file permissions

- ❖ Assigning advanced files permissions i.e. chmod, chown, chgrp & Sticky bit
- ❖ Creating, modifying and deleting ACL's

Web server(Apache)

- ❖ Basics of Web Service
- ❖ Introduction to Apache
- ❖ Configuring Apache for main site
- ❖ Configuring Apache for multiple sites
- ❖ using IP-based, port-based and
- ❖ name-based virtual hosting

Web Based Administration

- ❖ Installing Webmin on Linux
- ❖ Administrating Linux machine remotely
- ❖ Using Webmin as a tool for configuring various services on Linux

AMAZON WEB SERVICES

Introduction to Cloud Computing

- ❖ Introduction to cloud computing world
- ❖ History
- ❖ Cloud business models
- ❖ Public, Private and Hybrid cloud models
- ❖ Advantages of cloud computing

Overview

- ❖ AWS Regions and Availability zones.
- ❖ Tools to access services.
- ❖ Overview of the console.

AWS ec2(elastic compute cloud)

- ❖ Introduction to EC2.
- ❖ Pricing models On-demand vs Reserved vs Spot instances.
- ❖ Using Amazon Machine Images (AMIs) to create the instances.
- ❖ Public vs Private Images.
- ❖ Sharing Images to other accounts.
- ❖ Logging into instances using key pairs.
- ❖ Converting pem files to ppk.
- ❖ Volumes and types.
- ❖ Using snapshots for backup.
- ❖ Increasing the size of the volumes.
- ❖ Backup and restore process of the EC2 instances.
- ❖ Adding network interfaces.
- ❖ Assigning static IPs using Elastic IPs.
- ❖ Control access to instances using Security Groups.

Elastic Load Balancer

- ❖ Introduction to Elastic Load Balancing.
- ❖ Creating ELB from Console.
- ❖ Attaching instances to ELB.
- ❖ Configuring Ports, Protocols and health checks.
- ❖ Enabling sticky sessions.
- ❖ Connection draining.
- ❖ Enabling SSL Certificates for https transactions.

Cloud Watch

- ❖ Introduction to CloudWatch monitoring service.
- ❖ Monitoring CPU, Memory and network utilization of different resources.
- ❖ Creating notifications.

Simple Notification Services

- ❖ Introduction to SNS.
- ❖ Subscribing to receive notifications.
- ❖ Sending alerts using SNS.

Relational Database Service

- ❖ Introduction to Managed database.
- ❖ Creating RDS instances using AWS console.
- ❖ Choosing an RDS engine and version.
- ❖ Public vs Private database instances.
- ❖ Multi-AZ setup.
- ❖ Backup using snapshots and point in restore.
- ❖ Parameter Group.
- ❖ Options Group.
- ❖ Control access to instances using Security Groups

Auto scaling

- ❖ Overview.
- ❖ Creating launch configuration.
- ❖ Creating an auto-scaling group.
- ❖ Auto-scaling policies.

AWS s3(simple storage service)

- ❖ Introduction to Simple Storage Server (S3)
- ❖ Storage options (default vs reduced
- ❖ redundancy vs Glacier).
- ❖ Creating buckets using Console.
- ❖ Uploading and downloading data to S3.
- ❖ Building static websites using S3.
- ❖ Enable version control on S3.
- ❖ S3 access policies.

AWS Cloud Front (Content Delivery Network Service)

- ❖ Introduction to CloudFront.
- ❖ Configure S3 backend for CloudFront.
- ❖ Configure ELB backend from CloudFront

Simple Email Services(SES)

- ❖ Introduction to SES.

Identity Access Management (IAM)

- ❖ Introduction to IAM.
- ❖ Access controls using IAM.
- ❖ Creating users, groups and roles.
- ❖ Assigning policies.
- ❖ Inline vs Managed policies.

Virtual Private Cloud (VPC)

- ❖ Introduction.
- ❖ Choosing a network design and CIDR.
- ❖ Design a simple network.
- ❖ Creating Subnets and setup routing as per the design.
- ❖ Using IGW to enable internet access.
- ❖ Access controls using Network ACLs.
- ❖ Network ACLs vs Security Groups.
- ❖ Creating Private connections from data centre to AWS.
- ❖ Enabling VPC peering between VPCs

Cloud Formation

- ❖ Introduction.
- ❖ Understanding the template format.
- ❖ Cloudformation designer.
- ❖ Create a simple cloudformation template.
- ❖ Managing dependencies.
- ❖ Updating the existing stacks.
- ❖ Intrinsic functions.
- ❖ Pseudo parameters.
- ❖ Updating cloudformation stacks.
- ❖ Understanding event.
- ❖ Cloudformer

Using CLI

- ❖ Installing AWSCLI .
- ❖ Installing CLI tools using rpm or pip.
- ❖ Configuring credentials.
- ❖ AWS CLI syntax.
- ❖ Creating and managing resource using CLI.

Best Practices

- ➢ *Cloud Optimization.*
- ➢ *Cloud migration*
- ➢ *Using 3rd party tools for health and billing monitoring.*

DevOps

Introduction

- ❖ What is DevOps?
- ❖ What is SDLC?
- ❖ Why DevOps?
- ❖ DevOps principles.
- ❖ Waterfall vs Agile vs
- ❖ DevOps
- ❖ DevOps tools

Configure Management Systems

- ❖ Introduction
- ❖ What is Idempotency
- ❖ Abstract layers
- ❖ Ansible vs Chef vs Puppet
- ❖ Push or Pull modes

Fundamentals of Ruby

- ❖ Ruby Overview
- ❖ Command-line Tools
- ❖ Core Ruby
- ❖ Syntax
- ❖ Functions
- ❖ Control Flow
- ❖ Built-in Types
- ❖ Collections
- ❖ Blocks and Iterators
- ❖ How ruby helps in chef cookbooks and recipes.

Ansible

- ❖ Installing Ansible using RPM or Python PIP
- ❖ Inventory
- ❖ Ansible Modules
- ❖ Running ansible ad-hoc commands
- ❖ Creating ansible playbooks
- ❖ Creating ansible roles
- ❖ What is Ansible Galaxy
- ❖ How to download ansible roles from Ansible galaxy

GIT

- ❖ Introduction to version control systems
- ❖ Centralized vs Distributed
- ❖ GIT advantages
- ❖ Installing GIT

- ❖ Creating repository
- ❖ Adding code and creating commits
- ❖ Creating GitHub account
- ❖ Push code to GitHub
- ❖ Cloning repo from GitHub
- ❖ Forking GitHub repo and working on it.

Jenkins

- ❖ Overview
- ❖ Installation
- ❖ Setting up authentication
- ❖ Manage plugins from console
- ❖ Installing GitHub plugin from repository
- ❖ Adding Ant/Maven support
- ❖ Configuring email notifications
- ❖ Continuous deployments using Jenkins
- ❖ Explore Jenkins system configuration
- ❖ Analysing system logs

Docker

- ❖ What is Docker
- ❖ Containers Vs Virtual Machines
- ❖ Docker platform overview and Terminology
- ❖ Docker engine
- ❖ Images
- ❖ Containers
- ❖ Registry
- ❖ Repositories
- ❖ Docker hub
- ❖ Docker orchestration tools

Terraform

- ❖ Terraform introduction
- ❖ Resource
- ❖ Interpolation syntax
- ❖ Variables
- ❖ Terraform workflow

Maven

- ❖ Creating a maven project
- ❖ SDK

And ALSO…….

✓ RESUME PREPARATION

✓ INTERVIEW GUIDANCE

✓ CAREER GUIDANCE