AWS & DEVOPS TRACK

1. **Linux O/s Fundamentals**
2. **Python Programming Basics**
3. **AWS Solution Architect (Associate)**
4. **DevOps (Generic)**

LINUX OS FUNDAMENTALS – COURSE CONTENT

1. Introduction

Unix and Linux, Unix System Architecture, Unix Philosophy, What is Linux?, Using a Linux System Linux Command Line, Logging Out, Command Syntax, Files, Creating Files with cat, Displaying Files' Contents with cat, Deleting Files with rm, Unix Command Feedback, Copying and Renaming Files with cp and mv, Filename Completion, Command History, Lab Exercises

2. Getting Started

Files and Directories,Examples of Absolute Paths,Current Directory,Making and Deleting Directories,Relative Paths,Special Dot Directories,Using Dot Directories in Paths,Hidden Files,Paths to Home Directories,Looking for Files in the System,Running Programs,Specifying Multiple Files,Finding Documentation for Programs,Specifying Files with Wildcards,Chaining Programs Together,Graphical and Text Interfaces,Text Editors,Lab Exercises

3. Work Effectively on the Unix Command Line

Shells,The Bash Shell,Shell Commands,Command-Line Argument Syntax of Command-Line Options,Examples of Command-Line Options,Setting Shell Variables,Environment Variables,Where Programs are Found,Bash Configuration Variables,Using History,Reusing History Items,Retrieving Arguments from the History, Summary of Bash Editing Keys,Combining Commands on One Line,Repeating Commands with for,Command Substitution,Finding Files More Flexibly:find,Find Criteria,Find Actions: Executing Programs,Lab Exercises

4. Perform Basic File Management Filesystem Objects

Directory and File Names ,File extensions ,Going Back to Previous Directories,Filename completion,Wildcard Patterns,Copying files with cp,Examples of cp,Moving Files with mv,Deleting Files with rm,Deleting files with Peculiar Names,making Directories with mkdir,Removing Directories with rmdir ,Identifying Types of Files,Changing Timestamps with touch,Exercise

5. Search Text Files Using Regular Expressions

Searching Files with grep, Pattern Matching,Matching Repeated Patterns,Matching Alternative Patterns, Extended Regular Expression Syntax,Exercises

6. Manage File Ownership

Users and Groups,The Superuser: Root,Changing File Ownership with chown.,Changing File Group Ownership with chgrp.,Changing the Ownership of a Directory and Its Contents,Changing Ownership and Group Ownership Simultaneously,Exercises

7. Use File Permissions to Control Access to Files

Basic Concepts: Permissions on Files,Basic Concepts: Permissions on Directories,Basic Concepts: Permissions for Different Groups of People,Examining Permissions:ls -l.,Preserving Permissions When Copying Files,How Permissions are Applied,Changing File and Directory Permissions:chmod., Specifying Permissions for chmod.,Exercises

PYTHON PROGRAMMING MODULE – COURSE CONTENT

1. What is Python? 2. Python - Overview 3. Features of Python 4. Applications of Python 5. Differences between Python 2 & 3 6. Environment Setup 7. Basic Syntax 8. Variable Types 9. Basic Operators 10. Decision Making 11. Loops 12. Numbers 13. Strings 14. Lists 15. Tuples 16. Dictionary 17. Date & Time 18. Functions 19. Modules

INDUSTRY READINESS WORKSHOP

Introduction. SWOT Analysis, Immunity Building, Goal Setting, Resume Review, Tell me about yourself, Grammar Refresher, Confident Communication, Business Email, Tools, Ticketing, Email Client & AGILE framework methodologies.

FULL STACK ACADEMY

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AWS SOLUTION ARCHITECT ASSOCIATE LEVEL MODULE

1. AWS Overview - (Week 1) - Fundamentals of Cloud, Fundamentals of Virtualization, Cloud Service Offerings, Cloud Deployment Models, History of AWS, Overview of AWS Products and Services, Free Tier Account, AWS Global Infrastructure, AWS Terminologies
2. Identity And Access Management(IAM) - (Week 1) - Accounts and Services layer, IAM Overview, IAM (Users, Groups, Policies, Roles & Best Practices), IAM - Hands On
3. Elastic Cloud Compute(EC2) - (Week 2) - EC2 Overview, Amazon EC2 Overview, Amazon Machine Images (AMI), EC2 Instance Types, EC2 Purchase Options, User data & Metadata, Amazon Elastic Block Store (EBS), EBS Snapshots, Placements Groups, EFS, EC2 Best Practices, EC2 - Hands On
4. Fault Tolerance - (Week 2) Introduction To Fault Tolerance, Launch Configuration, Auto Scaling Group, Hands-On
5. High Availability - (Week 2) - High Availability VPC Design, Introduction to Load Balancing, Generic Load Balancer - Classic Load Balancer, Network Load Balancer, Application Load Balancer, Hands-On
6. Simple Storage Service (S3) - (Week 3) - Amazon S3 Overview, S3 Buckets, Version Control, Amazon S3 Lifecycle Management, Cloudfront and Cons, Security and Encryption, Amazon S3 Best Practices, Hands-On
7. Databases-(Week4) Databases Overview, Relational Database Service (RDS), Hands-On
8. Network Layer - (Week 5)- Networking Layer, Traditional Network Components, Amazon VPC Overview, VPC Features, Default VPC vs Custom VPC, VPC Routing Basics, Gateways, Subnets, Route Tables, NACL, Security Groups, VPC Best Practices, Hands-On
9. Advanced VPC Concepts - (Week 5) - VPC Peering, Bastion Hosts, Nat Gateway.
10. Route 53 - (Week 6) - Amazon Route 53 Overview, Amazon Route 53 & DNS, Amazon Route 53 Routing Policies, Amazon Route 53 Best Practices, Practice Assignment: Amazon Route 53 Hosted Zone, Hands-On
11. Monitoring Services - (Week 6) - Simple Notification Service (SNS), Monitoring - Cloudwatch, Hands-On
12. Elastic Beanstalk - (Week 6) - Cloudformation, Kinesis.
13.AWS CLI - (Week 6) **14. AWS LAMBDAS - (Week 6)**

DEVOPS MODULE – COURSE CONTENT

1. DevOps Introduction (Week 1) - DevOps Overview, DevOps Tools, Agile methodology, Virtualization.
2. Version Control System – Git (Week 1) - What is VCS? and What is SCM?, Installation of Git on Windows, Linux, Differences of SVN and GIT, Understanding the Git stages, Creating branches in Git and Merge & Rebase, Rename move files and deleting files, Git repository setup, Git push, pull and fetch, Git stash, conflicts, tag
3. CI/CD- Jenkins (Week 2) - Intro to CI/CD, Installation of Jenkins, System Configuration, Using Credentials, SCM poll with, GitHub/Git
4. Code Testing- SonarQube (Week 2) - Setting up SonarQube, Configuring with Git Project, Running Code scan & Analysis, Quality Gates
5. Configuration Management – Ansible (Week 3) - Overview of Ansible, Features of Ansible, Install Ansible, YAML details, Writing Playbook, Ansible flow, Idempotence
6. Containerization – Docker (Week 4) - Containerization Docker concepts, Docker Architecture, Docker Image building, Dockerfile, Docker Network, Docker Storage, Best practices in Docker, Docker repository, Docker Security
7. Orchestration Kubernetes (Week 4) - What is Kubernetes? Why?, Kubernetes Architecture, Components of Master, Slave, Kubernetes Objects, Kubernetes Installation, Kubernetes Networking, Deployment in k8s Replica Sets, Kubernetes Controllers, Services, Labels and selectors.
8. Server & Application Monitoring (Week 5) - Monitoring Services, Terminology, Network Security, Network Monitoring Tools, System Requirements Nagios Terminology, Host Checks & Service Checks, Object Configuration, CGI Configuration, Monitoring Using Nagios, Logging
9. Infrastructure as a Code - IaC (Terraform) - Introduction to IaC and Terraform, Install and set up Terraform, Define infrastructure with Terraform configuration files, ManageTerraform state, and remote state storage, Understand and use Terraform Providers, Variables, and Outputs, Manage Terraform resources and dependencies, Work with Terraform Data Sources