RAISE TECH

CLOUD CAREER PROGRAM

# MULTI-CLOUD ENGINEER

## Professional Course Curriculum

Master AWS, Azure, Linux and Shell Scripting through structured, hands-on training – from cloud fundamentals to containers, serverless and cloud governance




### WHAT YOU WILL MASTER

- AWS — AWS
- AZ — Azure
- LX — Linux
- SH — Shell
- NW — Networking
- ST — Storage
- SL — Serverless
- K8 — Kubernetes

ENROLL TODAY

## Begin your cloud journey with RaiseTech

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- Flat No. 308, Nilgiri Block, Aditya Enclave, Ameerpet, Hyderabad - 500016

OVERVIEW

# Build Cloud Skills on AWS and Azure

This program takes you from cloud fundamentals to day-to-day cloud operations. You will work with Linux and shell scripting, then build and manage compute, identity, storage, networking, databases, serverless and container workloads on both AWS and Azure – and learn to control cost, monitor environments and secure resources.

| 25 | 2 | 4 | 230+ |
|---|---|---|---|
| Modules | Cloud Platforms | Learning Phases | Topics Covered |

## YOUR LEARNING PATH

**01 Cloud & Platform Foundations**
Cloud concepts, AWS and Azure infrastructure, virtual machines, identity and access.

**02 Linux & Automation**
Linux administration, servers, permissions and shell scripting.

**03 Storage & Data Protection**
EBS, EFS, S3, Azure Storage, disks, snapshots and backup strategies.

**04 Networking & Traffic Management**
VPC, VNet, load balancing, auto scaling and DNS with Route 53 and Azure DNS.

**05 Databases, Serverless & Containers**
RDS, SNS, SQS, Lambda, AWS CLI, ECR, EKS, App Service and AKS.

**06 Governance, Monitoring & Security**
Cost management, Azure Policy, Azure Monitor, Defender for Cloud and Key Vault.

## HOW THE PROGRAM IS BUILT

**1 Dual-Cloud Coverage**
The same core areas – compute, storage, networking and security – on AWS and Azure.

**2 Command-Line Skills**
Linux and shell scripting to work confidently with cloud servers.

**3 Hands-On Services**
Launch, configure, connect, scale and monitor cloud resources step by step.

**4 Operations Focus**
Cost control, governance, monitoring and security built into the learning path.

YOUR PROGRESSION

# Multi-Cloud Learning Roadmap

The program moves in four phases. Each phase builds the same capability on AWS and on Azure, so learners see how the two platforms compare before moving on to the next layer.

01

## Cloud & Platform Foundations

Understand the cloud, then set up compute, identity and Linux skills.

- **AWS** Cloud concepts, global infrastructure, budgets, EC2 and IAM.
- **AZURE** Azure portal, regions, subscriptions, virtual machines, Entra ID and RBAC.
- **LINUX** Linux basics and shell scripting for working with cloud servers.

02

## Storage & Data Protection

Store, protect and recover data across both platforms.

- **AWS** EBS, EFS, custom AMIs, S3 and AWS Backup strategies.
- **AZURE** Storage accounts, Blob Storage, Azure Files, disks and snapshots.

03

## Networking & Application Delivery

Connect, secure, balance and scale applications.

- **AWS** VPC, load balancers, Auto Scaling Groups, Route 53 and Certificate Manager.
- **AZURE** VNet, Azure Load Balancer, Application Gateway, Azure DNS and App Service.

04

## Data, Serverless, Containers & Operations

Run data and application services, then govern, monitor and secure them.

- **AWS** RDS, SNS, SQS, Lambda, AWS CLI, Amazon ECR and Amazon EKS.
- **AZURE** AKS, cost management, Azure Policy, Azure Monitor, Defender for Cloud and Key Vault.

WHAT YOU WILL LEARN

# Curriculum at a Glance

Twelve learning areas cover the complete Multi-Cloud Engineer program across AWS, Azure and Linux.

**01 Cloud Fundamentals**
Cloud Computing · IaaS, PaaS, SaaS · Public, Private and Hybrid Cloud · Global Infrastructure

**02 Compute & Virtual Machines**
Amazon EC2 · AMIs · Azure Virtual Machines · Scale Sets · Azure Bastion

**03 Identity & Access**
AWS IAM · Policies · CloudTrail · Microsoft Entra ID · RBAC · MFA

**04 Linux**
Architecture · File Commands · Users and Permissions · Processes · Package Managers

**05 Shell Scripting**
Variables · Strings · Arithmetic · Conditions · Loops · case Statements

**06 Storage & Backup**
EBS · EFS · S3 · AWS Backup · Blob Storage · Azure Files · Disks and Snapshots

**07 Networking**
VPC · VNet · Subnets · Peering · Transit Gateway · NSG · VPN Gateway

**08 Load Balancing, Scaling & DNS**
ALB · NLB · Auto Scaling Groups · Route 53 · ACM · Application Gateway · Azure DNS

**09 Databases**
Relational and NoSQL Concepts · Amazon RDS · Multi-AZ · Read Replicas · Recovery

**10 Serverless & Application Services**
SNS · SQS · AWS Lambda · AWS CLI · Azure App Service · Deployment Slots

**11 Containers & Kubernetes**
Amazon ECR · Amazon EKS · ACR · Container Instances · AKS · kubectl

**12 Governance, Monitoring & Security**
Cost Management · Azure Policy · Azure Monitor · Defender for Cloud · Key Vault

PART 01

# AWS CLOUD

13 MODULES

Compute · Identity · Storage · Networking · Databases · Serverless · Containers

AWS

MODULE 01

## Introduction to Cloud & AWS

### Core Topics

- Introduction to Cloud and Cloud Computing
- Cloud Service Models (IaaS, PaaS, SaaS)
- Types of Cloud: Public, Private and Hybrid
- Introduction to AWS
- AWS Global Infrastructure
- AWS Account Creation and Initial Setup
- AWS Budgets and Cost Alerts
- AWS Cost Explorer and Cost Analysis

AWS

MODULE 02

## Amazon EC2 – Elastic Compute Cloud

### EC2 Fundamentals

- Introduction to Amazon EC2
- Launching Your First EC2 Instance (Part 1 and Part 2)
- Connecting to EC2 Using PuTTY, Git Bash and SSH
- Understanding Security Groups

### Images, Addressing & Instance Data

- Amazon Machine Images (AMI)
- Public IP, Private IP and Elastic IP
- EC2 User Data and Metadata
- Creating Custom Amazon Machine Images (AMIs)

### Monitoring EC2

- Creating CloudWatch Dashboards for EC2
- Creating CloudWatch Alarms for EC2 Instances

AWS

MODULE 03

## IAM – Identity & Access Management

### Users, Groups & Roles

- AWS Root User vs IAM Users
- Creating and Managing IAM Users and Groups
- Understanding IAM Roles and Permissions

### Account Security

- Securing IAM Users with Multi-Factor Authentication (MFA)
- IAM Password and Account Security Policies
- IAM Security Best Practices

### Policies & Auditing

- Designing and Creating Customer Managed Policies
- Creating Custom Inline Policies
- Building Policies Using AWS Policy Generator
- Testing Permissions with IAM Policy Simulator
- Tracking and Auditing User Activity with AWS CloudTrail

AWS

MODULE 04

## AWS Storage & Image Management

### Amazon EBS

- Introduction to Amazon Elastic Block Store (EBS)
- EBS Volume Types and Use Cases
- Creating and Attaching Additional EBS Volumes
- Managing and Expanding EBS Storage

### EBS Snapshots

- Creating and Restoring EBS Snapshots
- Automating EBS Snapshot Management
- Copying EBS Snapshots Across AWS Regions

### Amazon EFS

- Introduction to Amazon Elastic File System (EFS)
- Creating and Mounting EFS on EC2 Instances
- EBS vs EFS – Differences and Use Cases

### Image Management

- Creating Custom Amazon Machine Images (AMIs)

AWS

MODULE 05

## Amazon S3 & Backup Strategies

### S3 Fundamentals

- Introduction to Amazon S3 and Object Storage
- S3 Storage Classes and Cost Optimization
- Enabling and Managing S3 Versioning
- S3 Lifecycle Rules

### S3 Security & Access

- S3 Security, Access Control and Encryption
- S3 Bucket Policies and Access Permissions

### S3 Features

- Hosting Static Websites Using Amazon S3
- Configuring S3 Event Notifications

### Best Practices & Backup

- S3 Best Practices for Security, Backup and Cost Optimization
- AWS Backup Strategies

AWS

MODULE 06

## VPC – Virtual Private Cloud

### Networking Foundations

- Fundamentals of IP Addressing and CIDR
- Core Networking Concepts for AWS

### VPC Design

- Designing Custom VPC Architecture
- Creating Public and Private Subnets
- Configuring Internet Gateways and Route Tables
- Securing Subnets with Network ACLs

### VPC Connectivity

- Connecting VPCs Using VPC Peering
- Accessing AWS Services Privately Using VPC Endpoints
- Gateway and Interface Endpoints
- Connecting Multiple Networks with AWS Transit Gateway

### Operations

- Troubleshooting Best Practices

AWS

MODULE 07

## Elastic Load Balancing

### Core Topics

- Load Balancing Concepts in AWS
- Configuring Application Load Balancers (ALB)
- Network Load Balancers (NLB) and Their Use Cases
- Load Balancer Listeners and Routing Rules
- Creating and Managing Target Groups
- Configuring Health Checks and Traffic Distribution
- ALB vs NLB – Key Differences and Selection Criteria

AWS
MODULE 08
## Auto Scaling Groups (ASG)

### Scaling Concepts
- Vertical and Horizontal Scaling
- Introduction to AWS Auto Scaling Groups

### Configuring Auto Scaling
- Creating and Configuring Auto Scaling Groups
- Manually Adjusting Auto Scaling Capacity
- Configuring Step Scaling Policies
- Implementing Target Tracking Scaling Policies

### Health & Strategy
- Auto Scaling Health Checks and Instance Replacement
- Choosing the Right Scaling Strategy for Different Workloads

AWS
MODULE 09
## Amazon Route 53 & DNS

### DNS Fundamentals
- Fundamentals of DNS and Domain Name Resolution
- Common DNS Record Types

### Amazon Route 53
- Introduction to Amazon Route 53
- Creating and Managing Hosted Zones
- Hosting and Routing Websites Using Route 53

### Routing Policies
- Route 53 Routing Policies and Traffic Management
- Simple Routing Policy
- Weighted Routing Policy
- Latency-Based Routing Policy
- Failover Routing Policy

### Health Checks & HTTPS
- DNS Health Checks and Automatic Failover
- Introduction to AWS Certificate Manager (ACM)
- Configuring HTTPS for Applications Hosted on AWS

AWS
MODULE 10
## AWS Database Services

### Database Concepts
- Relational and NoSQL Database Concepts
- Database Types and Use Cases

### Amazon RDS
- Introduction to Amazon RDS
- Creating and Configuring Amazon RDS Instances
- Connecting Applications to RDS Databases

### Availability, Scaling & Recovery
- High Availability with RDS Multi-AZ
- Scaling Read Workloads Using RDS Read Replicas
- RDS Backup, Snapshot and Recovery Concepts

AWS
MODULE 11
## Application Integration & Serverless

### Amazon SNS
- Introduction to Amazon Simple Notification Service (SNS)
- Building Notification and Pub/Sub Workflows with SNS

### Amazon SQS
- Introduction to Amazon Simple Queue Service (SQS)
- Standard and FIFO Queues
- Message Queues, Dead-Letter Queues and Delivery Concepts

### AWS Lambda

- Introduction to AWS Lambda and Serverless Computing
- Creating and Managing Lambda Functions
- Lambda Triggers, Permissions and Event-Driven Workflows

AWS

MODULE 12

## AWS Command Line Interface (CLI)

### CLI Setup

- Introduction to AWS CLI
- Installing and Configuring AWS CLI
- Configuring Access Keys and AWS Profiles
- Working with Multiple AWS CLI Profiles

### Managing Resources with the CLI

- Running EC2 Commands Using AWS CLI
- Managing Amazon S3 Using AWS CLI
- Working with IAM Using AWS CLI
- Managing VPC Resources Using AWS CLI

AWS

MODULE 13

## Containers & Orchestration

### Container Services

- Introduction to Container Services in AWS

### Amazon ECR

- Introduction to Amazon Elastic Container Registry (ECR)
- Creating and Managing ECR Repositories
- Pushing and Pulling Docker Images with ECR

### Amazon EKS

- Introduction to Amazon Elastic Kubernetes Service (EKS)
- Understanding EKS Architecture
- Creating and Managing EKS Clusters
- Deploying Applications on Amazon EKS

PART 02

# AZURE CLOUD

10 MODULES

Compute · Identity · Storage · Networking · App Services · AKS · Governance · Security

AZ

MODULE 01

## Introduction to Cloud & Azure

### Core Topics

- Introduction to Microsoft Azure
- Azure Global Infrastructure
- Azure Portal Overview
- Azure Regions and Availability Zones
- Azure Subscriptions and Resource Groups

AZ

MODULE 02

## Azure Virtual Machines

### Creating Virtual Machines

- Creating Linux and Windows Virtual Machines
- VM Sizes and Instance Selection
- OS Disk and Data Disk

### Networking & Availability

- Public IP and Private IP
- Network Security Groups (NSG)
- Availability Zones

### Scaling & Secure Access

- Virtual Machine Scale Sets
- Azure Bastion Overview

AZ

MODULE 03

## Azure Identity & Access

### Core Topics

- Introduction to Microsoft Entra ID
- Users and Groups
- Role-Based Access Control (RBAC)
- Built-in Roles
- Multi-Factor Authentication
- Basic Access Management

AZ

MODULE 04

## Azure Storage

### Core Topics

- Introduction to Azure Storage Accounts
- Blob Storage
- Azure Files
- Storage Access Tiers
- Lifecycle Management
- Shared Access Signature (SAS)
- Storage Security Basics

AZ

MODULE 05

## Azure Disks & Snapshots

### Snapshots

- Introduction to Azure Snapshots
- Creating Snapshots in Multiple Ways
- Snapshot Policies
- Converting a Snapshot to a Disk

### Disks

- Managing Disks
- Creating Data Disks
- Attaching Data Disks to Virtual Machines

AZ

MODULE 06

## Azure Networking

### Virtual Network Design

- Virtual Network (VNet)
- Subnets
- IP Addressing
- Network Security Groups (NSG)
- Route Tables

### Connectivity & Traffic

- VNet Peering
- Azure Load Balancer
- Application Gateway
- Azure DNS
- VPN Gateway Overview

AZ

MODULE 07

## Azure Application Services

### Azure App Service

- Introduction to Azure App Service
- Deploying Web Applications
- Application Scaling
- Deployment Slots

### Container Services

- Azure Container Registry (ACR)
- Azure Container Instances

AZ

MODULE 08

## Azure Kubernetes Service (AKS)

### Core Topics

- Introduction to AKS
- AKS Architecture Basics
- Creating an AKS Cluster
- Connecting to AKS Using kubectl
- Deploying Applications on AKS
- Exposing Applications Using Services
- Scaling Applications in AKS

AZ

MODULE 09

## Cost Management & Governance

### Core Topics

- Azure Cost Management
- Budgets and Alerts
- Resource Tags
- Resource Locks
- Azure Policy Basics

AZ

MODULE 10

## Monitoring & Security

### Monitoring

- Azure Monitor
- Log Analytics
- Alerts and Action Groups
- Application Insights Overview

### Security & Backup

- Microsoft Defender for Cloud
- Azure Key Vault
- Azure Backup

PART 03

# LINUX & SHELL SCRIPTING

Linux administration commands and shell automation for cloud servers

2 MODULES

## MODULE 01 — Linux Basics

### Linux Fundamentals
- Linux Introduction
- History of Linux
- Advantages of Linux
- Flavors of Linux
- Linux Architecture

### System & Hardware Information
- System Information
- Hardware Information
- System Information Commands

### Linux Servers
- Server Launching – Ubuntu, Amazon Linux and Red Hat Linux
- Web Servers Installation
- Website Hosting

### File & Directory Operations
- File Commands
- File and Directory Operation Commands

### Users & Groups
- Users and Groups
- User Management Commands

### File Permissions
- File Permissions
- File Permission Commands

### Networking
- Linux Networking

### Process Management
- Process Management Commands

### Compression & Archiving
- File Compression and Archiving Commands

### Filtering & Searching
- Filter Commands
- Find Commands

### VI Editor
- VI Shortcut Commands

### Linux Distributions & Package Management
- Linux Distribution Families
- Linux Package Managers
- Package Installation
- Installing Packages Using yum and apt-get

### Additional Commands
- Additional Linux Commands

## MODULE 02 — Shell Scripting

### Shell Fundamentals
- Introduction to Shell Scripting
- What Is a Shell?
- Types of Shells
- What Is Shell Scripting?

### Creating Scripts
- Writing Your First Shell Script
- Shell Script File Naming Conventions
- Adding Comments in Scripts

### Variables, Strings & Arithmetic

- Working with Variables
- Escape Characters in Output
- String Handling Techniques
- Arithmetic Operations in Shell

### Conditions & Loops

- if, else and elif Conditions
- for Loops
- while Loops
- case Statements (Switch-Case Style)

PUT SKILLS TO WORK

# Skills & Career Outcomes

## SKILLS YOU WILL GAIN

- Cloud Computing Fundamentals
- AWS EC2 & Auto Scaling
- AWS IAM & Security
- Amazon S3, EBS & EFS
- VPC Networking
- Elastic Load Balancing
- Route 53 & DNS
- Amazon RDS
- SNS, SQS & Lambda
- AWS CLI
- Amazon ECR & EKS
- Azure Virtual Machines
- Microsoft Entra ID & RBAC
- Azure Storage & Disks
- Azure Networking
- Azure App Service
- AKS & kubectl
- Azure Cost Management
- Azure Policy & Governance
- Azure Monitor & Log Analytics
- Defender for Cloud & Key Vault
- Linux Administration
- Shell Scripting

AWS

### FROM SETUP TO OPERATIONS

Go beyond launching servers. Learn to secure access, connect and scale networks, run databases and serverless workloads, deploy containers on EKS and AKS, and keep every environment monitored, cost-controlled and protected on both AWS and Azure.

AZ

### ROLES THIS PREPARES YOU FOR

- Cloud Engineer (AWS / Azure)
- Cloud Support Engineer
- AWS Cloud Administrator
- Azure Cloud Administrator
- Linux System Administrator

RAISE TECH

# BUILD YOUR CLOUD CAREER

Join RaiseTech to learn AWS, Azure, Linux and Shell Scripting through structured, hands-on training designed around real cloud services.

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## Ready to start your cloud career?

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