AMAZON WEB SERVICES (AWS) – CLOUD COMPUTING

INTRODUCTION

This comprehensive course is designed to introduce learners to the fundamentals of cloud computing with a strong focus on Amazon Web Services (AWS). It covers essential cloud concepts, AWS global infrastructure, core services such as EC2, S3, RDS, VPC, and Lambda, and dives into pricing models, cost optimization, and security best practices including the shared responsibility model. Learners will gain practical experience through hands-on labs and guided activities, including setting up IAM roles, configuring virtual networks, launching scalable compute instances, and implementing storage solutions. The course also includes dedicated sessions on monitoring tools, compliance, and AWS billing mechanisms. Aligned with the AWS Certified Cloud Practitioner (CLF-C02) exam, this program is ideal for beginners and professionals seeking foundational cloud knowledge or preparing for certification. By the end of the course, students will be equipped with the skills and confidence to pursue a cloud computing career or further specialization in AWS.

Module 1: Introduction to AWS Cloud & Core Services

This module introduces cloud computing concepts and deployment models (IaaS, PaaS, SaaS), followed by an overview of AWS's global infrastructure including regions and availability zones. Learners will explore Identity and Access Management (IAM) and practice creating users, roles, and policies to understand access control in cloud environments.

Module 2: Compute Services – EC2, Lambda, and Auto Scaling

Learn the fundamentals of Amazon EC2 instances, pricing models, and how to launch and configure instances. This module also introduces Auto Scaling, Elastic Load Balancing (ELB), and AWS Lambda basics. Learners will compare EC2, Lambda, and ECS while implementing hands-on labs with compute scaling and load balancing.

Module 3: AWS Storage Solutions

This module covers Amazon S3 buckets, versioning, lifecycle policies, and hands-on static website hosting. It also introduces EBS, EFS, Snowball, and Storage Gateway, explaining their use cases for scalable and hybrid storage architectures. Learners gain practical experience in configuring and managing cloud-based storage systems.

Module 4: Networking & Virtual Private Cloud (VPC)

Dive into the networking layer of AWS by learning about Amazon VPC, subnets, route tables, and internet gateways. This module also covers security configurations using Security Groups and Network ACLs. Learners will design a VPC with public and private subnets and launch EC2 instances within this setup.

Module 5: Databases & Data Services

Explore Amazon RDS fundamentals, Multi-AZ deployment, and Aurora. The module also covers NoSQL with DynamoDB, along with analytics and data integration tools such as Redshift, Athena, and AWS Glue. Learners will set up RDS and DynamoDB environments in hands-on sessions for real-world database application use.

Module 6: Security, Identity & Compliance

Understand AWS's Shared Responsibility Model, IAM policy management, and Multi-Factor Authentication (MFA). This module introduces AWS security services including WAF, AWS Shield, KMS, and compliance programs. Learners will perform labs on setting up secure access control and managing encryption using AWS KMS and federated identities.

Module 7: AWS Pricing & Cost Optimization

Gain insights into AWS pricing calculators, the AWS Free Tier, and how different pricing models work. This module also explores budgeting tools, billing alerts, cost explorers, and consolidated billing. Students will perform hands-on exercises with billing dashboards and evaluate cost optimization strategies using support plans.

Module 8: Migration, Monitoring & Operational Tools

Learn about AWS migration strategies using tools like the Cloud Adoption Framework and Server Migration Services. This module also includes monitoring tools such as CloudWatch, CloudTrail, and Trusted Advisor. Hands-on labs will guide learners through configuring alerts, tracking usage, and applying best practices for operational excellence.

Module 9: Final Exam Prep & Career Guidance

The final module is focused on certification preparation. Learners will review key topics, explore the AWS Cloud Practitioner exam format, and complete two full-length mock tests. The course concludes with a Q&A session, project showcase, and guidance on cloud career paths including freelancing and AWS certifications.

Career Scope in Cloud Computing with AWS

Cloud computing is one of the fastest-growing and most in-demand technology fields globally. With Amazon Web Services (AWS) leading the cloud services market, professionals trained in AWS are highly valued across industries including IT, finance, healthcare, e-commerce, education, and more.

After completing this course, learners can pursue roles such as:

- **Cloud Support Associate / Engineer**
- **AWS Cloud Practitioner**
- **DevOps Engineer (AWS-focused)**
- **Cloud Solutions Architect (Entry-Level)**
- **IT System Administrator (Cloud-enabled)**
- **Freelance Cloud Consultant**

As companies increasingly migrate to cloud infrastructure, skilled AWS professionals are essential for managing, scaling, and securing cloud-based solutions. Freelancing and remote job opportunities are abundant, and AWS certifications significantly enhance your chances of landing global roles.

With continuous learning and certification, individuals can quickly progress to mid-level and senior cloud positions with highly competitive salaries and long-term career growth.

Salary Package After Learning the Course

Professionals with AWS skills, even at the foundational level, are in high demand across the globe. Here is an overview of expected salary ranges based on role and experience:

🔹 **AWS Cloud Practitioner (Entry-Level)**
₹3 – ₹6 LPA (INR) / $40,000 – $70,000 annually (USD)

🔹 **Cloud Support Engineer / SysOps Admin (1–3 years)**
₹6 – ₹10 LPA (INR) / $60,000 – $90,000 annually (USD)

🔹 **Cloud Solutions Architect / DevOps Engineer (3–5 years)**
₹10 – ₹20+ LPA (INR) / $90,000 – $150,000 annually (USD)

🔹 **Freelance Cloud Consultant / Remote Roles**
₹5,000 – ₹1,00,000+ per project depending on complexity and client location

Salaries increase significantly with certifications (like AWS Solutions Architect or DevOps Engineer) and hands-on project experience. Opportunities in freelancing and remote work further enhance earning potential.