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PROFESSIONAL CLOUD TRAINING

AWS Cloud Engineer / Architect

12-Week Training Curriculum

Course	AWS Cloud Engineer / Solutions Architect Training
Level	Beginner to Intermediate
Duration	12 Weeks
Schedule	Monday, Wednesday & Friday · 7:00–9:00 PM EST
Delivery	Live remote sessions (all sessions recorded)
Format	Instructor-led lessons, guided demos, and hands-on labs

Program Overview

Audience & Skills. This program is designed for individuals entering the IT field or looking to advance their cloud computing skills. Whether you are beginning your career or transitioning into a cloud role, this training equips you with the foundational knowledge and practical, job-ready skills needed to succeed as an AWS Cloud Engineer or Solutions Architect. You will develop a deep understanding of AWS infrastructure and learn to leverage AWS services to support clients across a range of industries.

Hands-on Learning. The program emphasizes real-world application through hands-on labs, guided demonstrations, expert-led lessons, and interactive group discussions. Every session is focused on building practical, job-ready skills in AWS infrastructure and services.

Delivery. Training is delivered through live remote sessions. Students work directly in the AWS Management Console, integrated development environments (IDEs), and the AWS Command Line Interface (CLI) to complete exercises and projects. All sessions are recorded, so learners can revisit the material at their convenience for continued practice and reinforcement.

Learning Outcomes

By the end of this program, learners will be able to:

1. Explain AWS global infrastructure and core cloud computing concepts.
2. Secure AWS resources and manage access with IAM and related identity services.
3. Select and configure appropriate compute, storage, database, and networking services for a given workload.
4. Design highly available, fault-tolerant, and scalable architectures.

5. Apply security, reliability, performance, and cost-optimization best practices using the AWS Well-Architected Framework.
6. Analyze real-world architecture scenarios and identify the right services to meet requirements.
7. Sit for the AWS Certified Solutions Architect – Associate exam with confidence.

Curriculum

WEEK 1 — Foundation & IAM

Get oriented to the program, understand the AWS Cloud Engineer role, and set up your working environment.

TOPICS

- Course overview: objectives, audience, and structure
- Why pursue AWS certification, and what a Cloud Engineer does
- Working with the AWS playgrounds
- Setting up your own AWS account (guided walkthrough)
- Preparing your cloud environment and installing all required tools
- IAM: users, groups, roles, MFA, and access/secret key management
- IAM Identity Center (SSO)
- Cognito
- Verified Permissions (policy management)

LABS

- Create your first user, group, and role, and write your first customer-managed policy
- Install and configure all tools required for your environment

WEEK 2 — Networking Services

Build the networking foundation for every AWS architecture.

TOPICS

- VPC fundamentals: custom and default VPCs, subnets, and route tables
- Internet Gateways, NAT Gateways, and public vs. private subnets
- Security Groups and NACLs
- DNS in the VPC, Elastic IPs, Route 53, CloudFront, and Certificate Manager

LABS — CONSOLE, TERRAFORM & GITHUB

- Create a VPC with public and private subnets, security groups, and route tables
- Configure VPC Peering and Transit Gateway
- Domain registration, hosted zones, record sets, and routing policies

WEEKS 3 & 4 — Compute Services

Explore the full range of AWS compute options.

TOPICS

- EC2: instance types, AMIs, EBS volumes, and snapshots
- Serverless: Lambda, Step Functions, Serverless Application Repository, and Amplify
- Elastic Beanstalk and Lightsail

- Containers: ECS, EKS, ECR, ECS/EKS Anywhere, and App Runner
- Launch templates, Auto Scaling, load balancers, and target groups

LABS — CONSOLE, TERRAFORM & GITHUB

- Launch an EC2 instance; attach, extend, and snapshot a volume
- Deploy your first Lambda function (EBS volume conversion / cost-optimization solution)
- Deploy a highly available, fault-tolerant infrastructure

WEEKS 5 & 6 — Database & Storage Services

Match database and storage services to workload requirements.

TOPICS

- Amazon RDS, Aurora and Aurora Serverless, and RDS Proxy
- Redshift and Redshift Serverless
- DynamoDB and DynamoDB Accelerator (DAX)
- OpenSearch, ElastiCache, and MemoryDB for Redis
- S3: overview, storage classes, versioning, ACLs, and resource policies
- S3 static website hosting, pre-signed URLs, and access points

LABS — CONSOLE, TERRAFORM & GITHUB

- Set up an RDS database and connect it to a server (create a database and table, insert records, and more)
- Create S3 buckets, folders, and event triggers; configure static website hosting, lifecycle management, and versioning

WEEK 7 — Messaging, Application, Monitoring & Analytics Services

Decouple and scale applications with integration and observability services.

TOPICS

- Messaging: SNS, SQS, SWF, and Amazon MQ
- Application: Auto Scaling groups, load balancers, and API Gateway
- Monitoring & observability: CloudWatch, VPC Flow Logs, CloudTrail, and X-Ray
- Streaming and processing: Kinesis and EMR

LABS

- Deploy the CloudWatch agent (manually and through automation)
- Stream and process files with AWS analytics services
- Deploy a highly available, fault-tolerant application (VPN deployment project)

WEEKS 8 & 9 — Migration & Transfer • Management & Governance

Plan and execute workload migrations, then govern AWS environments at scale.

TOPICS

- Migration Hub and Application Discovery Service
- Application Migration Service, Database Migration Service, and Elastic Disaster Recovery
- Multi-account governance: AWS Organizations, Control Tower, and infrastructure management with Ansible
- Resource Groups & Tag Manager, Resilience Hub, Resource Explorer, and Resource Access Manager

LABS

- Move files from a file server to EFS with DataSync
- Deploy Ansible control and managed nodes

WEEK 10 — Interview-Ready Project 1 • Highly Available Web Application

Design and deploy a production-style, three-tier web application that demonstrates core architecture skills employers look for.

WHAT YOU'LL BUILD

- A custom VPC spanning two Availability Zones with public and private subnets, route tables, and security groups
- An Application Load Balancer distributing traffic to an Auto Scaling group of EC2 web servers
- A Multi-AZ Amazon RDS database backend with least-privilege IAM roles
- CloudWatch dashboards and alarms for monitoring health and performance
- Full infrastructure provisioned as code with Terraform and version-controlled in GitHub

DELIVERABLES

- A working, high-availability deployment you can launch and tear down on demand
- An architecture diagram and a concise README documenting your design decisions
- A short walkthrough you can present and defend in technical interviews

WEEK 11 — Interview-Ready Project 2 • Serverless Event-Driven Application

Build a modern, event-driven serverless solution that showcases automation, integration, and cost-efficient design.

WHAT YOU'LL BUILD

- An S3 event that triggers a Lambda function to process uploaded files automatically
- Processed results stored in DynamoDB, with notifications delivered through SNS
- A REST endpoint exposed via API Gateway and secured with IAM and Cognito
- Centralized logging and tracing with CloudWatch and X-Ray
- End-to-end deployment automated with Terraform and a GitHub-based workflow

DELIVERABLES

- A fully serverless application repository with reusable infrastructure code
- An architecture diagram illustrating the event-driven data flow
- A recorded demo and talking points suitable for portfolio and interview use

WEEK 12 • FINAL WEEK — Certification & Career Preparation

Consolidate your skills and prepare to launch your cloud career.

FOCUS AREAS

- AWS Certified Solutions Architect – Associate exam preparation
- Continued resume and interview preparation, including resume uploads to LinkedIn, Glassdoor, Indeed, Monster, and Dice

Please note: Every session is recorded. Each class includes a review of selected past exam questions, and a copy of the class recording is emailed to students after every session.