AWS Cloud Engineer

Level 1 course

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AWS Certified - Trainer

Introduction

This training program is in collaboration with AWS and developed to help software engineers to architect their solutions on Amazon Web Services - AWS. During this program, they will learn to build secure, high-performing, resilient, and efficient infrastructure for their application's backend. The architecture is based on five pillars — operational excellence, security, reliability, performance efficiency, and cost optimization.

The course is designed with interactive sessions, demonstrations, assignments, and hands-on labs.

What is AWS - Amazon Web Services

Amazon Web Services (AWS) is a subsidiary of Amazon that provides on-demand cloud computing platforms and APIs to individuals, companies, and governments, on a metered pay-as-you-go basis. In aggregate, these cloud computing web services provide a set of primitive abstract technical infrastructure and distributed computing building blocks and tools. One of these services is Amazon Elastic Compute Cloud, which allows users to have at their disposal a virtual cluster of computers, available all the time, through the Internet.

Training Progression / Objectives

During this training program, we will do the following modules

- AWS Technical Professional - Accreditation
- AWS Cloud Practitioner Essentials
- AWS Well-Architecture Best Practices
- AWS Serverless APIs & Apps
- AWS Certified Solution Architect (Optional)

Schedule

Course Duration	1 month
Days	3 days a week
Time Duration	3 hours per session

Learning Material

AWS Documentation: Find user guides, developer guides, API references, tutorials, and more on the following URL:

https://docs.aws.amazon.com/

Linux Academy: Learn real skills for real-world applications. Experience interactive courses in Cloud Computing, AWS, and much more - master the tools that shape technology on the following URL:

https://linuxacademy.com/

Who Should Attend

- Designed for software engineers (entry-level to professional) to design Cloud-Native application architectures.
- A CS/EE graduate or final year student can join this course.
- The course is also valuable for architects, testers, and product managers as they too should understand the Cloud-Native architecture and how development works with AWS Cloud.

Code of Conduct

Attendance: Students are expected to attend every class to the best of their ability - Emergencies may happen, therefore, we understand. If something comes up we ask that you notify the instructor or the management team ahead of time when possible. This includes calling or emailing if you are going to be late for a class. If you miss three or more classes for any reason, we may ask that you make up that time to ensure maximum learning opportunities.

Conduct: Please remember that this training is a job preparedness program for your future career. Conduct yourself in a professional manner and participate regularly in class. Remember that we operate in a diverse environment. Please be respectful to your fellow students, instructor, and management team members. Avoid distractions such as phone calls and texting.

Homework: Homework opportunities will be given regularly and should not take more than a day. The first few minutes of class will be consumed to go over homework and any questions students have regarding the homework. Although homework is optional, it is encouraged to increase understanding of subject matter.

Course Outline

- Introduction to AWS Services
- A Simple Architectures
  - Server Based
  - Serverless
- Manage permissions and access policies
  - IAM (Identity and Access Management)
  - Policies
- Databases
  - SQL and NoSQL
  - Servers-Based and Serverless
- Compute
  - Servers - EC2
  - Serverless - Lambda, Fargate, Batch and more
- Elasticity, High Availability, and Monitoring
- Infrastructure as Code
  - Cloud Formation
- AWS Well-Architectured
  - Serverless Architectures
  - Microservices
  - High-Performance Computing (HPC)
- Building Decoupled Architectures
- VPC on AWS - Networking
- AWS S3 (Simple Storage Service)
  - Storage and Archiving
  - Versioning and Triggering
  - Static Web Hosting
- Serverless API Gateways
- Notification and Queuing services
- Add user authentication to serverless applications
  - User Credentials
  - Federated Logins
  - AWS Cognito
- EMR - Cluster
- Introduction to Data Lake
  - Ingestion
  - Transformation
  - Curation
  - Consumption
- Introduction to Big Data
  - Variety, Velocity, Volume
  - Intro to AWS EMR
  - Intro to AWS Red Shift
  - Intro to Apache Hadoop
  - Intro to Apache Spark