



# AWS DATA ENGINEERING



Programming & development

Course Curriculum



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## **Module 1 : Introduction to Cloud**

- What is Cloud?
- What are the different Cloud provider?
- Public cloud vs private cloud vs hybrid cloud
- Cloud service model
- IAAS VS PAAS VS SAAS

## **Module 2: Services**

- What is services
- Types of services
  - S3 – Simple Storage Service
  - AWS Glue
  - Amazon EMR (Elastic Map Reduce)
  - Amazon Redshift
  - Amazon Athena
  - AWS Lambda
  - AWS Kinesis
  - AWS DMS (Database Migration Service)

## **Module 3: Other important Services**

- AWS Lake Formation
- Amazon EC2
- Amazon Managed Workflows for Apache Airflow
- Amazon QuickSight
- Amazon VPC
- Amazon SNS
- AWS Cloudwatch
- AWS IAM
- Amazon RDS (Relational Database Services)
  - Amazon Aurora
  - MySQL



- MariaDB
- PostgreSQL
- Oracle
- Microsoft SQL Server

## **Module 4: EC2 Instance**

- What is EC2 Instance
- Create windows AWS EC2 Instance
- Create Linux AWS EC2 Instance

## **Module 5: Cloud Storage (S3)**

- Introduction to Cloud Storage
- S3 (Simple Storage Service)
- Features of S3
- Advantages of S3



## **Module 6: AWS Identity and Access Management (IAM)**

- Introduction to IAM
- IAM User
- IAM Group
- IAM Role
- IAM Policy

## **Module 7: LAMBDA**

- What is AWS Lambda?
- When to use Lambda
- Key features
  - Configuring functions options
  - Environment variables
  - Versions
  - Container images
  - Layers
  - Lambda extensions



- Functions URLs
- Response streaming
- Concurrency and scaling controls
- Code signing
- Private networking
- File system access

## **Module 8: AWS Glue**

- What is ETL?
- What is AWS Glue?
- Glue Architecture
- What is Glue Crawler

## **Module 9: AWS Athena**

- What is AWS Athena?
- AWS Athena importance



## **Module 10: AWS Kinesis**

- What is Amazon Kinesis?
- Amazon Kinesis Services
  - Amazon Kinesis Video Streams
  - Amazon Kinesis Data Streams
  - Amazon Kinesis Data Firehose
  - Amazon Kinesis Data Analytics

## **Module 11: AWS CLOUDWATCH**

- Amazon CloudWatch Architecture
- List of services
- Set Alarms



## **Module 12: AWS EMR**

- Introduction to AWS EMR
- How to use Amazon EMR

## **Module 13: AWS REDSHIFT**

- What is Amazon Redshift?
- Create Amazon redshift account

## **Module 14: Case Study**

Real world data engineering cases

