AWS Data Engineering Roadmap: Skills and Steps to Success 🚀

AWS Official Page - [Link](#)

The Data Engineer Associate exam is designed to validate the technical skills and knowledge of candidates in developing and maintaining applications on the AWS platform.

The AWS Certified Data Engineer — Associate (DEA-C01) exam validates your skills and knowledge in designing, building, and maintaining data processing systems on the AWS platform. It covers a range of topics related to data engineering, including:

## Data Ingestion and Transformation (34% of scored content):

This domain focuses on techniques for extracting, transforming, and loading data into AWS services. You'll need to understand how to use services like AWS Glue, AWS Lambda, and Amazon S3 to efficiently move and process data.
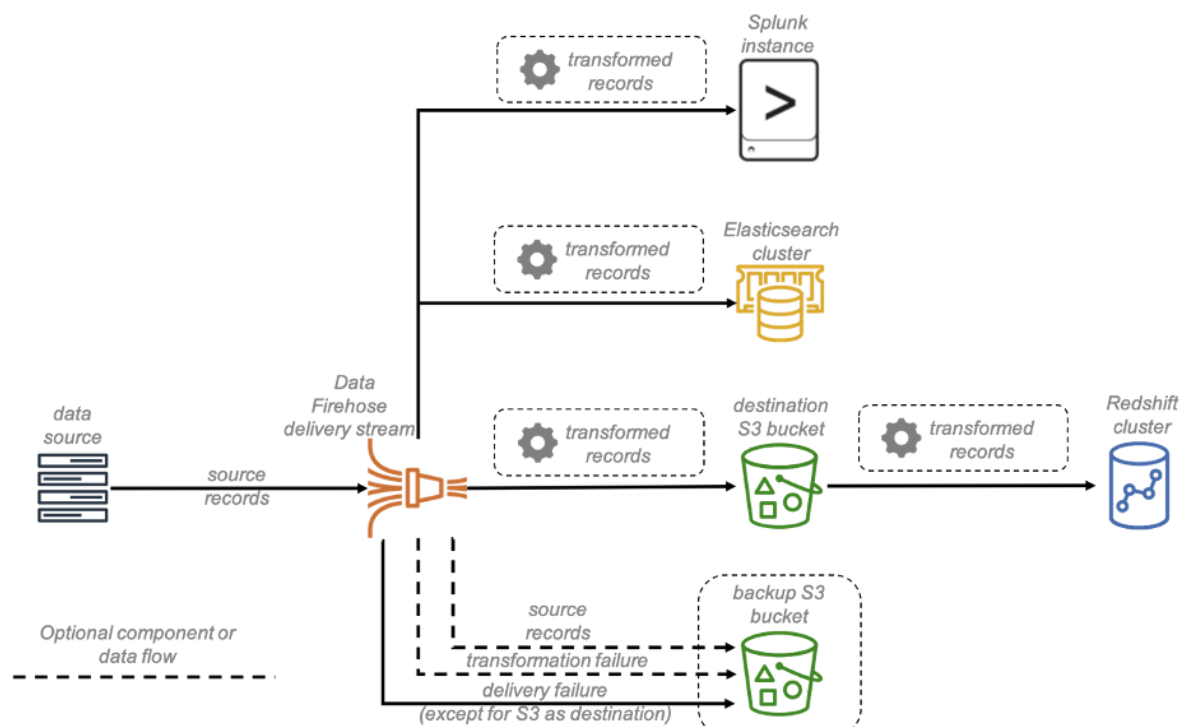
Data Store Management (26% of scored content):

This domain covers selecting and managing appropriate data storage solutions for different use cases. You'll learn about services like Amazon Redshift, Amazon DynamoDB, and Amazon S3 and how to choose the right one based on factors like data volume, access patterns, and cost.
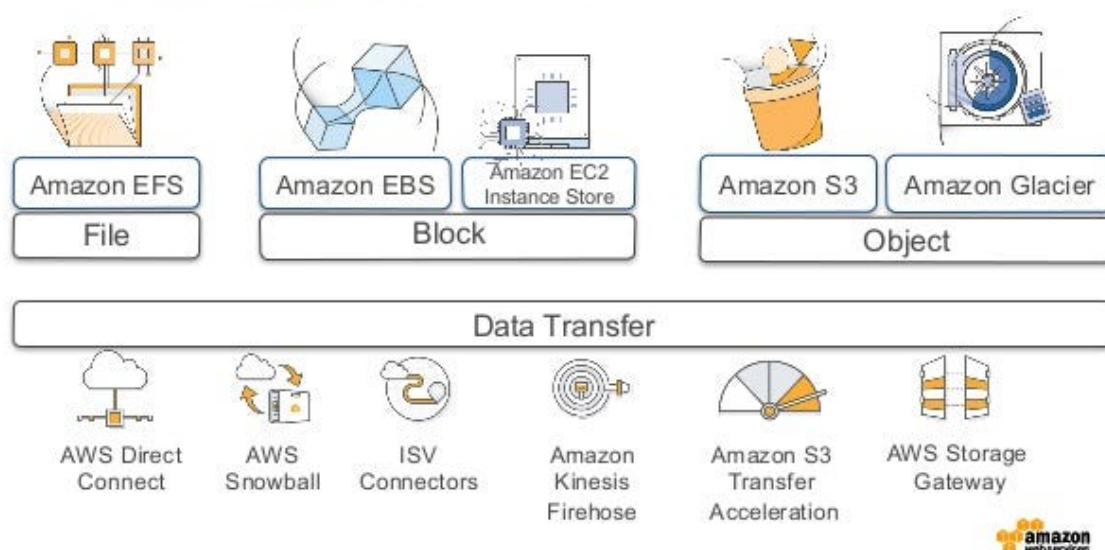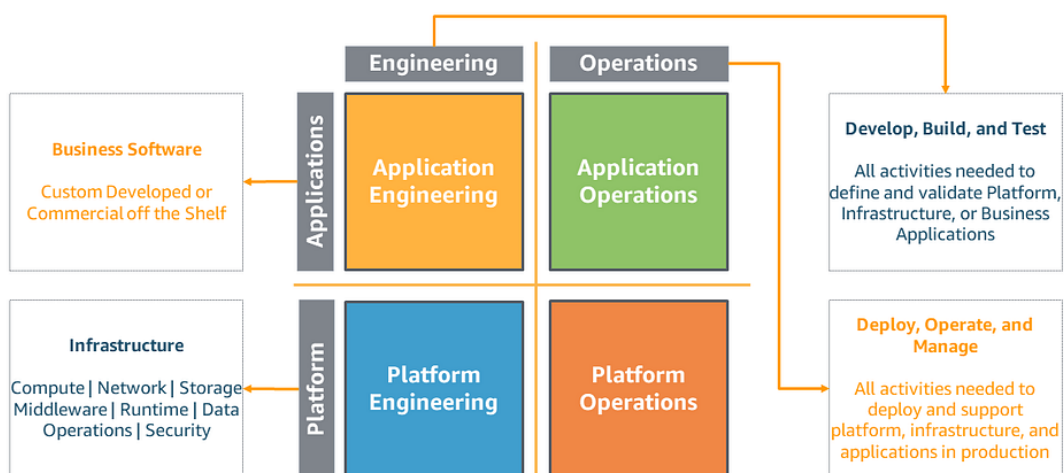
## Data Operations and Support (22% of scored content):

This domain covers the tasks involved in operating and maintaining data pipelines, including scheduling, monitoring, and troubleshooting. You'll learn about services like AWS CloudTrail, Amazon CloudWatch, and AWS Step Functions to automate and monitor your data pipelines.

Traditional Model

Data Security and Governance (18% of scored content):

This domain covers securing your data and ensuring it is compliant with relevant regulations. You'll learn about services like AWS IAM, AWS KMS, and AWS Lake Formation to implement data access controls, encryption, and data lineage.
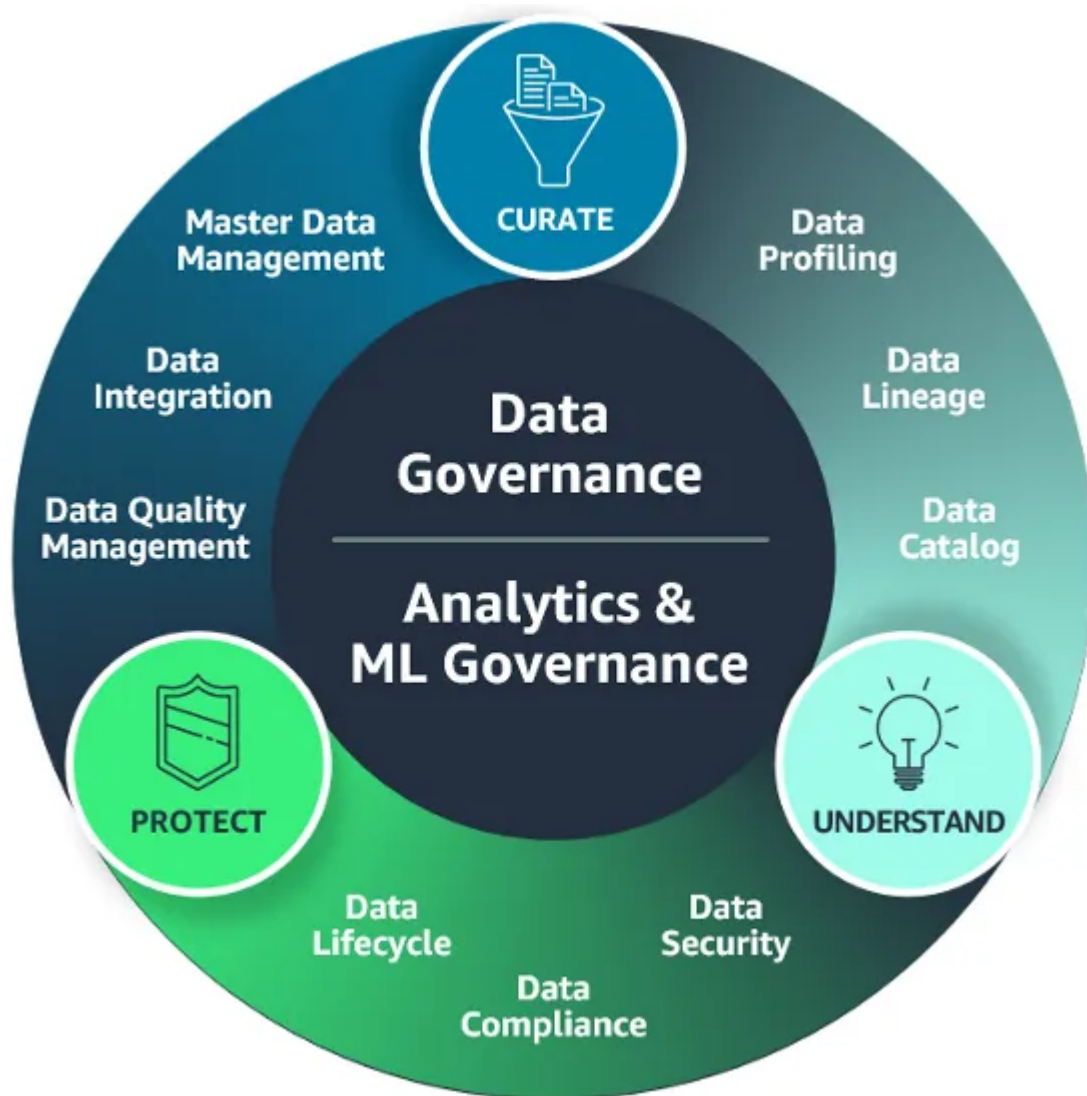
Services to learn:

- Analytics
    - AWS EMR
    - AWS Lake Formation
    - AWS Redshift
    - AWS Kinesis
    - AWS Glue
    - AWS managed streaming services for Apache Kafka
    - AWS OpenSearch Service

- AWS QuickSight
    - AWS Athena
- App Integration
    - AWS EventBridge
    - AWS Step Functions
    - AWS AppFlow
    - AWS SNS
    - AWS SQS
    - AWS managed workflows for Apache Airflow
- Financial Management
    - AWS Budgets
    - AWS Cost Explorer
- Compute
    - AWS EC2
    - AWS Lambda
    - AWS Serverless Application Repository
- Containers
    - AWS ECR
    - AWS ECS
    - AWS EKS
- Databases
    - AWS DocumentDB (Mongo)
    - AWS DynamoDB
    - AWS Keyspaces (Cassandra)
    - AWS MemoryDB (Redis)
    - AWS Neptune
    - AWS RDS
- Management & Governance

- AWS CloudFormation

- AWS CloudTrail

- AWS CloudWatch

- AWS Config

- AWS managed Grafana

- AWS Systems Manager

- AWS Well-Architected Tool

- Networking & Content Delivery

  - AWS CloudFront

  - AWS PrivateLink

  - AWS Route 53

  - AWS VPC

- Security, Identity and Compliance

  - AWS IAM

  - AWS KMS

  - AWS Macie

  - AWS Secrets Manager

  - AWS Shield

  - AWS WAF

- Storage

  - AWS S3

  - AWS EBS

  - AWS EFS

  - AWS Backup