AWS Learning Accelerator
Module 0 - Core Technology Choices

There are several services we can consider using for our design. Below are the ones discussed in the accompanying video. Services selected for use in this project are tagged with a asterisk(*).

Image Storage

- **EFS** - EFS stands for elastic file system and allows you to easily leverage disk drivers onto compute instances.
- **S3*** - S3 stands for Simple Storage Service and is an excellent choice for blob file storage. S3 supports large files, small files, and files of varying formats. It also has integration with other AWS services. S3 has APIs that support uploading and retrieving data, archiving, event notifications, and many more features.

Compute

- **EC2** - EC2 stands for Elastic Cloud Compute. EC2 makes it easy to rent and use servers that are hosted on AWS. EC2 would need to use a polling mechanism to determine when a new file gets uploaded to S3.
- **Fargate** - Fargate is a serverless compute service that sits ontop of Amazon Elastic Container Service (ECS). Fargate supports one-off tasks or services that maintain "warm" compute nodes to perform jobs. Similarly, Fargate would need to use polling to come to learn of file uploads to S3.
- **Lambda*** - Lambda is a completely serverless Function as a Service (FaaS). Lambda lets you focus on your business problem and not have to worry about maintaining your infrastructure.

Facial Recognition

- **Rekognition*** - Rekognition is a facial detection and analysis service that uses machine learning.

Database

- **RDS** - RDS or Relational Database Service is an RDBMS. This service is well suited for use cases that require relations between your data. RDS supports many different types of RDBMS engines such as MySQL, Postgres, Microsoft SQL Server, and more.
- **Aurora** - Aurora is an inhouse developed and maintained RDBMS database built by AWS. Aurora supports a *Serverless* variation that handles the underlying infrastructure for you. It supports MySQL and Postgres engines.
- **DynamoDB*** - DynamoDB is the most popular NoSQL database on AWS. It is meant for ultra fast key value lookups that scales seamlessly.

Notifications

- **SQS** - SQS stands for Simple Queue Service. It is a distributed queue that persists data for a period of time until the event is processed by another compute layer.
- **Eventbridge** - Eventbridge allows you to leverage a concept called a message bus that supports message publishing and delivery. You can leverage content based filtering to decide which service to route messages to.
- **SNS*** - SNS stands for Simple Notification Service. SNS is a highly scalable pub sub service that is foundational in AWS. It allows you to subscribe clients to a *topic* to receive updates when the topic owner *publishes* a message.

API

- **AppSync** - AppSync is a managed service for GraphQL users.
- **API Gateway** - API Gateway offers a rich set of features that allow you to build HTTP or Websocket based APIs. It supports features like authorization, content validation, rate limiting, and more.