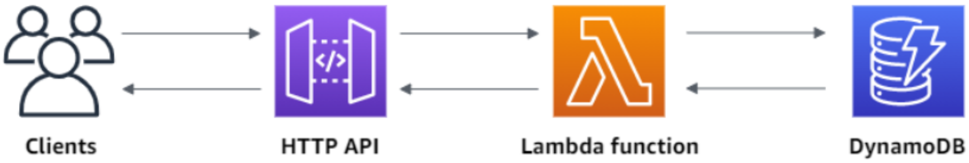
AWS API Gateway

What is API Gateway :

- Helps customers for creating, publishing, maintaining, monitoring, and securing REST, HTTP, and WebSocket APIs at any scale
- Using API Gateway you can create public API endpoints as well as private API endpoints

Sample Architecture :



Features :

- API Gateway creates RESTful APIs as below :
  - HTTP-based
  - Enable stateless client-server communication.
  - Implement standard HTTP methods such as GET, POST, PUT, PATCH, and DELETE
- API Gateway creates WebSocket APIs that:
  - These are sticked to WebSocket protocol, which enables stateful, full-duplex communication between client and server
  - Route incoming messages based on message content

Components :

- **API Endpoint :**
  - A hostname for an API in API Gateway that is deployed to a specific Region
- **API Key :**
  - An alphanumeric string that API Gateway uses to identify an app developer who uses your REST or WebSocket API
- **API Stage :**
  - A logical reference to a lifecycle state of your API (for example, 'dev', 'prod', 'beta', 'v2'). API stages are identified by API ID and stage name
- **Route :**
  - is used to direct incoming messages to a specific integration, such as an AWS Lambda function, based on the content of the message
  - A default route can also be set for non-matching route keys or to specify a proxy model that passes the message through as-is to backend components that perform the routing and process the request
- **CORS :** (Cross-origin resource sharing)
  - It is a browser security feature that restricts cross-origin HTTP requests that are initiated from scripts running in the browser
  - Examples :

        - A different domain (for example, from example.com to amazondomains.com)
        - A different subdomain (for example, from example.com to petstore.example.com)
        - A different port (for example, from example.com to example.com:10777)
        - A different protocol (for example, from https://example.com to http://example.com)
- **Integrations :**
    - A backend endpoint is also referred to as an integration endpoint and can be a Lambda function, an HTTP webpage, or an AWS services
- **Authorizers :**
    - A Lambda authorizer is useful if you want to implement a custom authorization scheme that uses a bearer token authentication strategy such as OAuth or SAML, or that uses request parameters to determine the caller's identity

Study Material :

- https://docs.aws.amazon.com/apigateway/latest/developerguide/getting-started.html