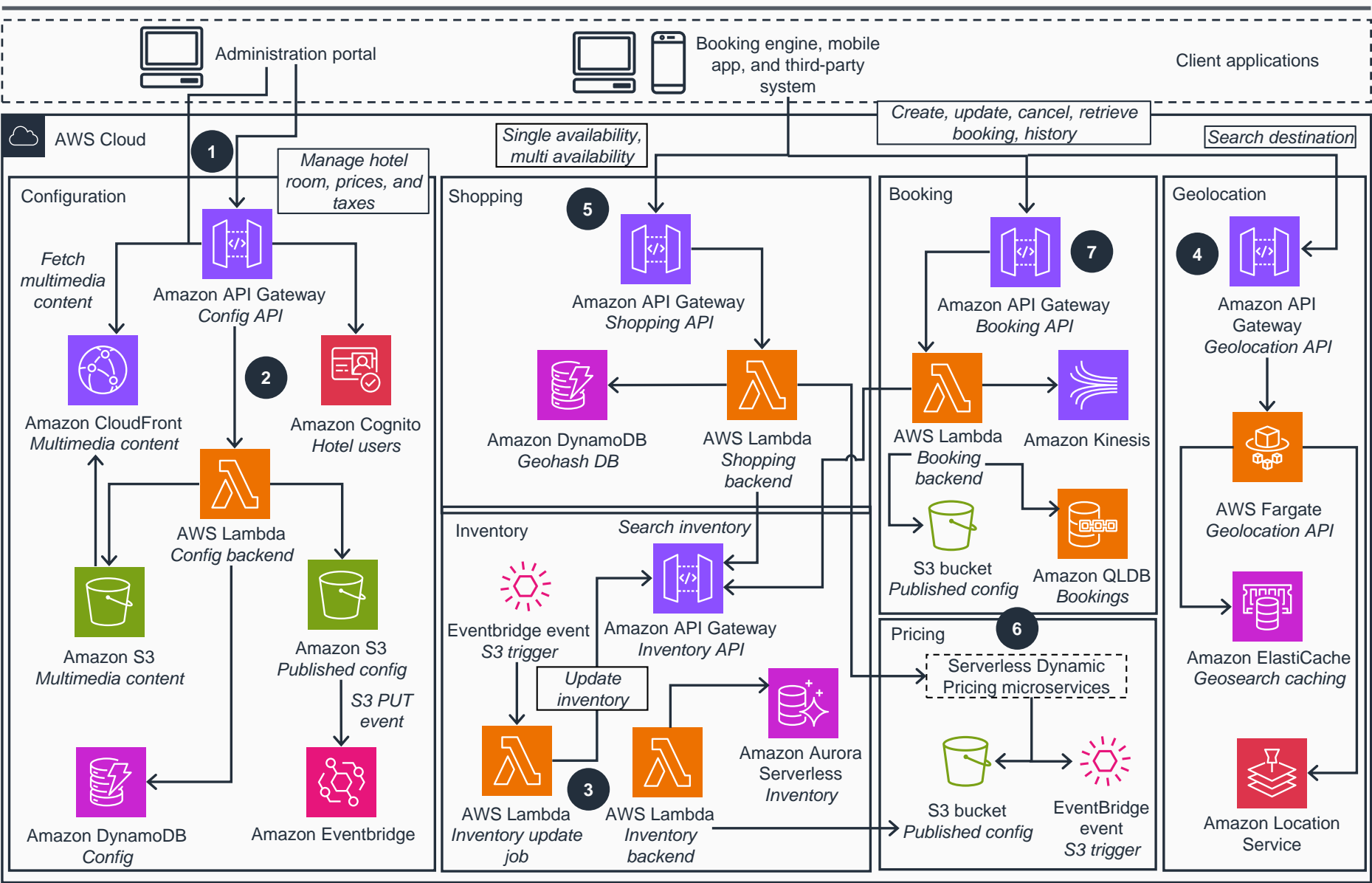


Guidance for Serverless Reservation System for Lodging on AWS

This architecture diagram shows how to build a serverless, microservice-based, and central reservation system.



- 1 The property administrator access for the administrator portal is stored in an **Amazon Simple Storage Service (Amazon S3)** bucket and served by **Amazon CloudFront**. The property administrator creates business objects such as room types, rates, shopping and booking rules, taxes, and more through **Amazon API Gateway**, which calls **Amazon Cognito** to validate credentials in the requests.
- 2 **AWS Lambda** processes the configuration requests and stores them in **Amazon S3** and **Amazon DynamoDB**. Configuration changes invoke **Amazon EventBridge** events for processing by other parts of the application.
- 3 New configuration events from **EventBridge** invoke a **Lambda** function, which reads the published configuration from **Amazon S3** and updates the inventory data in an **Amazon Aurora** serverless relational database.
- 4 Client applications pass the searched destination to the geolocation service hosted in **AWS Fargate**. The geolocation service calls **Amazon Location Service** to determine the GeoHash. **Amazon ElastiCache** caches results to improve performance and reduce cost.
- 5 Client applications use the GeoHash to call the shopping API using **API Gateway** and **Lambda** to search for properties in the location. The service retrieves the Geohash mapping from **DynamoDB**, a NoSQL database, and retrieves properties from the Inventory API and the dynamic pricing microservice.
- 6 The pricing microservice provides dynamic hotel prices to the shopping service. It reads the published hotel configuration from **Amazon S3**.
- 7 The booking microservice uses **API Gateway**, **Lambda**, and **Amazon S3** to process client booking requests. It creates booking records in **Amazon Quantum Ledger Database (Amazon QLDB)**. It then publishes bookings to **Amazon Kinesis** for consumption by the dynamic pricing microservice and other analytical or third-party applications.

