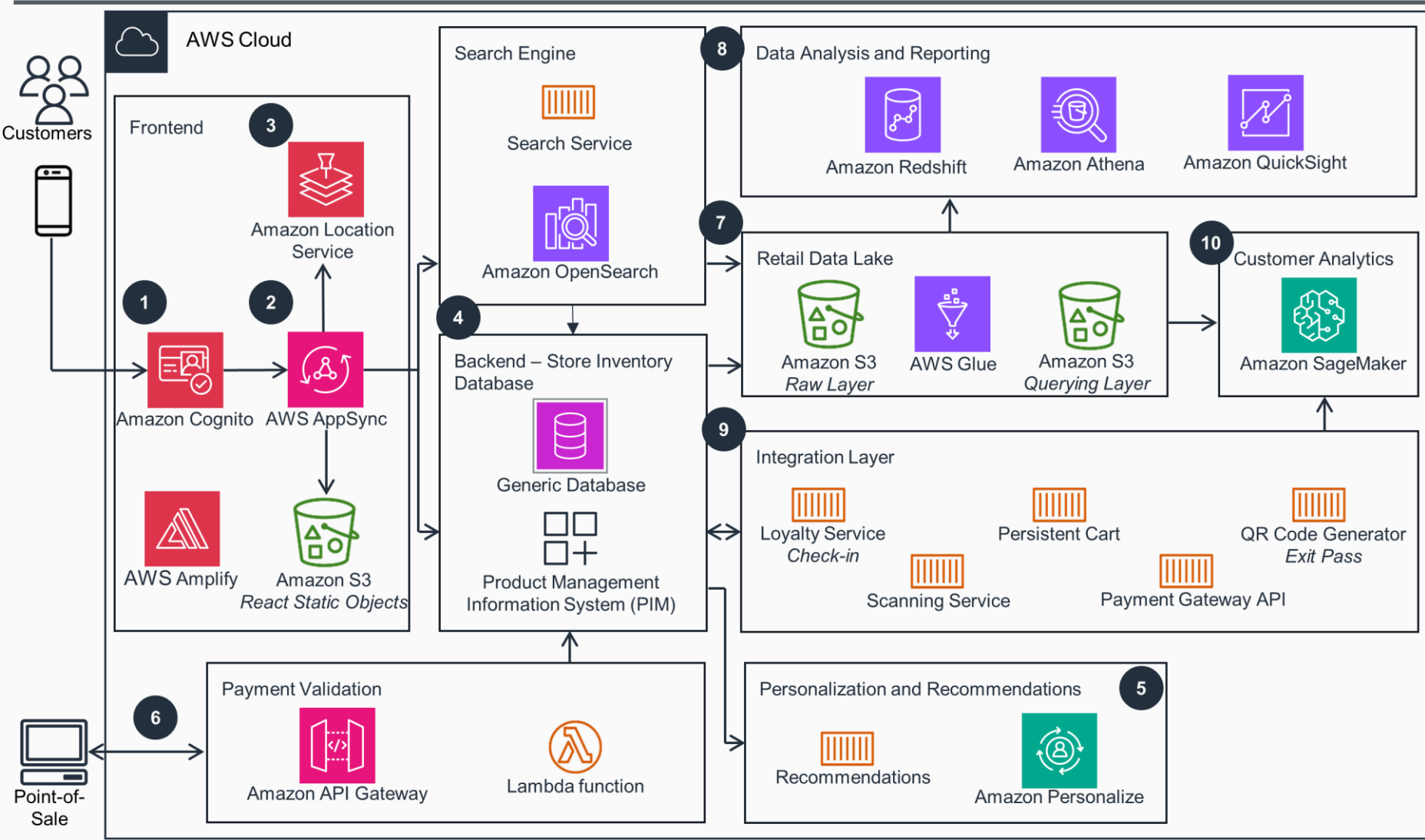


Guidance for Mobile Scan & Go on AWS

This architecture diagram demonstrates how you can build and use scan and go technology on AWS. Configuring this Guidance helps you to streamline in-store experiences, efficiently handle transactions, and offer tailored product suggestions to elevate your customer's journey.

Slide 1: Steps 1-8. For Steps 9-10, go to slide 2.



- 1 Users start with an application built by **AWS Amplify** and that is authenticated with **Amazon Cognito** for barcode scanning or visual searches.
- 2 After successful authentication, users are directed to relevant screens. **AWS AppSync** handles all queries received by the system.
- 3 [optional] **Amazon Location Services** requests permissions from the user and then provides the user's location to the application to push the relevant product catalog for the store.
- 4 Depending on specific needs, **AWS AppSync** requests data from the store's relevant database. **Amazon OpenSearch Service**, using search microservice, retrieves and returns this information to the user. The Product Information Management (PIM) system can also serve as a product catalog.
- 5 **Amazon Personalize**, powering recommendations microservice, provides recommendations for items, generates personalized promotions or coupons, guides the customers in the store, personalizes the search results based on past behaviors, and reminds of abandoned carts.
- 6 **Amazon API Gateway** invokes **AWS Lambda** to validate point of sale (POS) transactions. **Lambda** performs tasks, like database checks and updates, then relays responses back to POS.
- 7 All operations and data from the search engine and store inventory are streamed into a centralized data lake. This data undergoes cleaning and normalization using **AWS Glue**, ensuring it is prepared and optimized for querying purposes.
- 8 The reportable data can be consumed on demand through **Amazon Athena**, or loaded into **Amazon Redshift**. This allows different users, tools, and resources to efficiently access and utilize the data as needed. **Amazon QuickSight** is available for visual analysis.

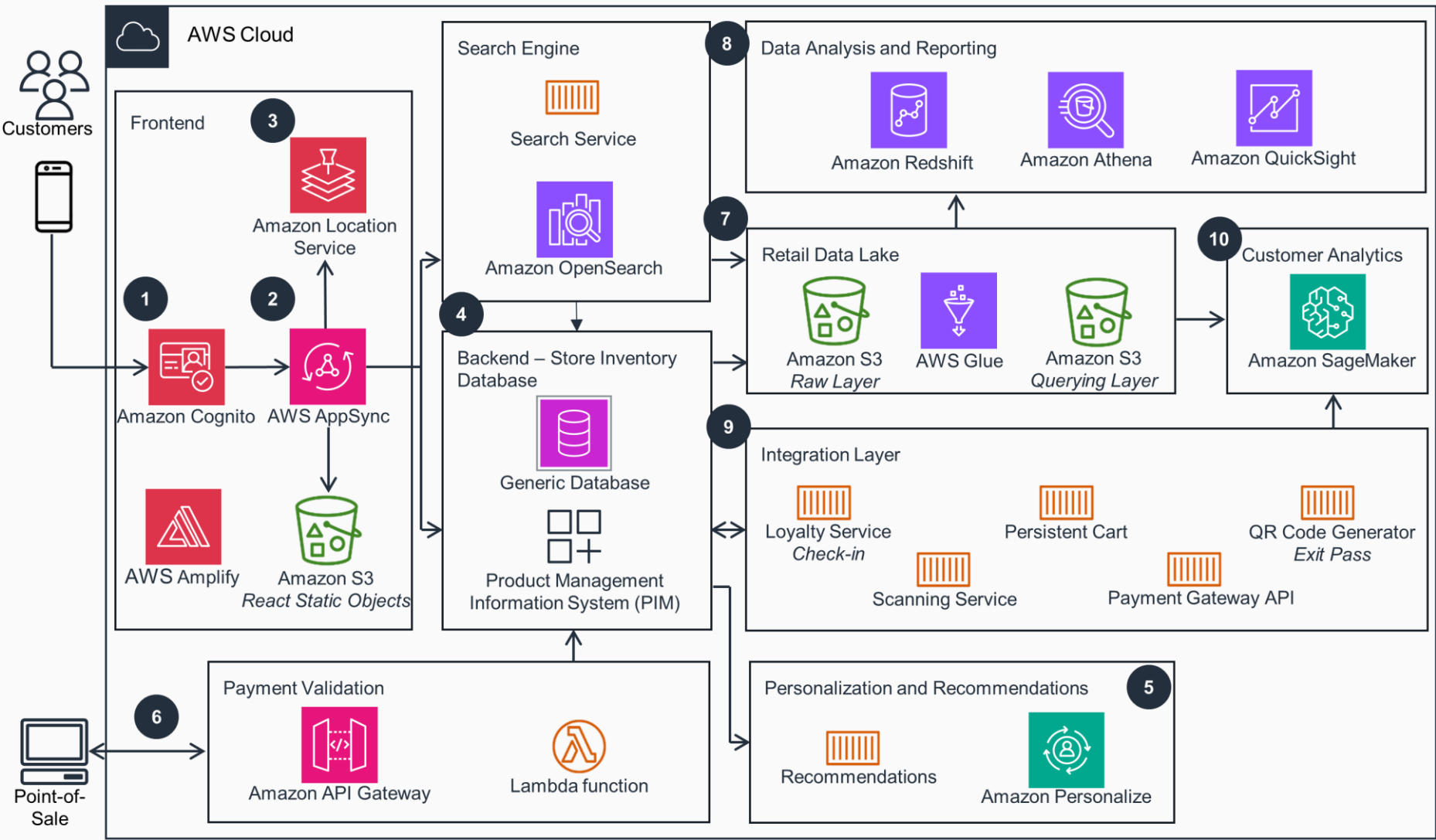


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AWS Reference Architecture

Guidance for Mobile Scan & Go on AWS

Slide 2: Steps 9-10



- 9 The **AWS Amplify**-built application integrates with other microservices within the retail stack, such as a scanning service, payment gateway API, and a QR code generator which follow customer journey.
- 10 Leveraging machine learning capabilities with **Amazon SageMaker**, the application incorporates features such as fraud detection, and near real-time redemption of loyalty points.



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