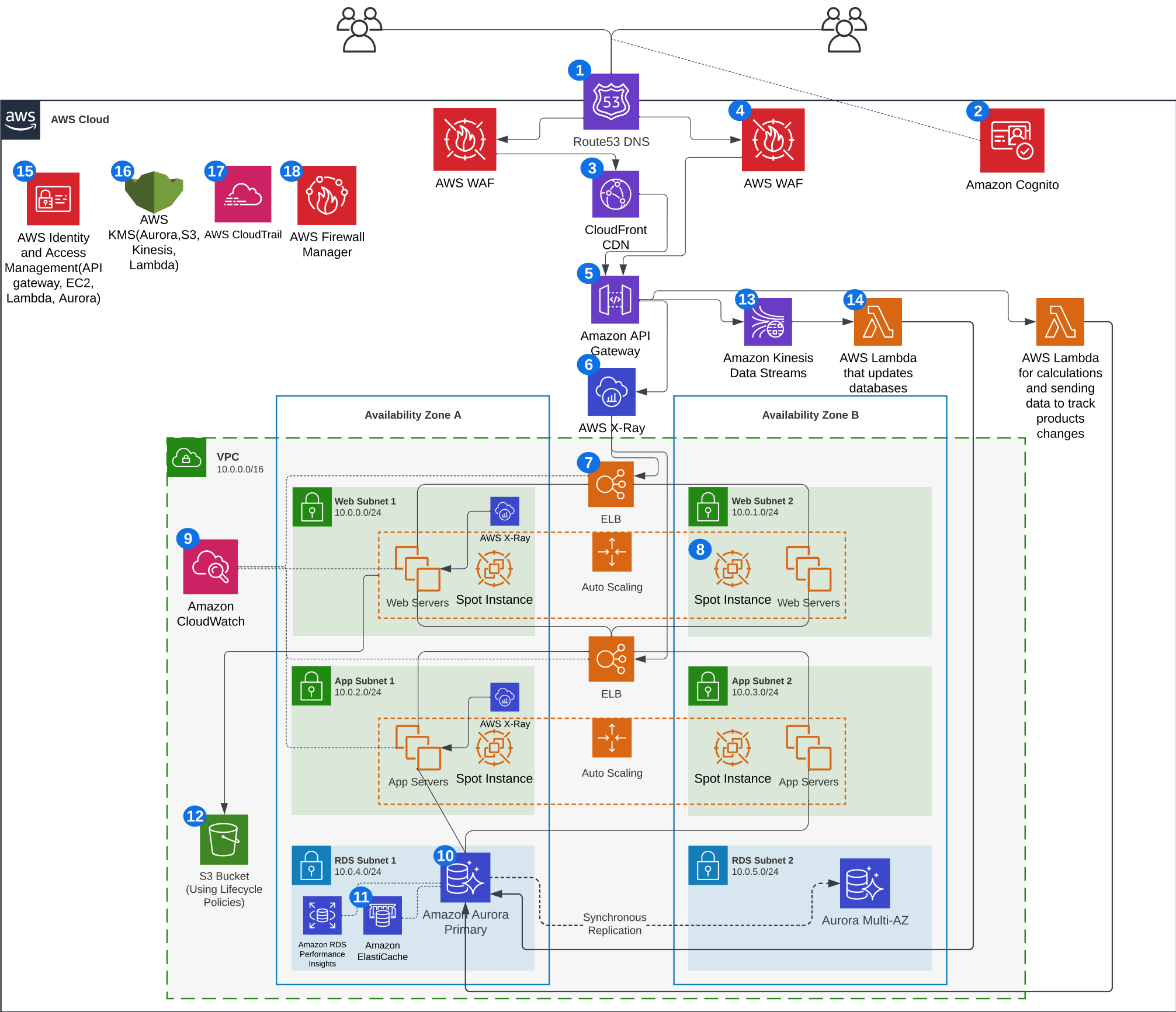


Ecommerce Diagram

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System Elements

- 1 Scalable and high availability DNS web service. Provides domain name registration and routes end-user requests to AWS resources(Like CloudFront, API Gateway). Ensures reliable routing of user requests.
- 2 User Identity and authentication services that can scale up. Manages user signs-up,login and access control. A securable user pool.
- 3 Content delivery network that delivers data, videos, applications and APIs to customers globally with low latency. Reduces latency and improves the user experience
- 4 Firewall service that protects web applications from common attacks(e.g, SQL injection). Adds another security layer to filter malicious web traffic.
- 5 Managed service that creates,publishes, maintains and monitors APIs. Provides a scalable entry point for the system's RESTful API services, handles authentication and rate-limiting.
- 6 Tracing service that helps with analyzing and debugging production applications. Helps to indentify performance and bottlenecks or errors in distributed services.
- 7 Load-Balancing service that destributes incoming traffic across multiple EC2 instances, Lambda functions or containers. Ensures high availability and reliability.
- 8 EC2 spot instances allows purachase of AWS capacity at lower rates, saves cost for non critical workloads like web/app servers.
- 9 Monitoring service for AWS resources and applications running on AWS. Provides logs, metrics and alarms to monitor the performance of EC2, Lambda, Aurora, etc.
- 10 High performance salable, relational database compatible with MySql and PostgreSQL. Ensures fast,reliable database performance for read-heavy workloads.
- 11 Memory caching service that improves performance of data insentive applications. Caches frequently accessed data to improve response times.
- 12 Object Storage service that offers data availability. Stores static assests (images,video,backups), also used as a backup solution.
- 13 Real-time data streaming service for collecting, processing and analyzing streaming data. Helps us to track changes in the stock of products, and other related events.
- 14 Lambda is a serverless compute services that runs as a response to events. In this diagram, there's a Lambda that updates the databases in case of a api call(e.g.,creating a new product) the second Lambda is a trigger event that tracks changes in the stock, and informs relevant Output services(e.g., SES, or SNS).
- 15 Service for managing permissions and controlling access to AWS resources. Manages permissions across all AWS services and enforcing policies.
- 16 Service for managing and encrypting data with enryption keys in AWS. ensures data security in transit across AWS services.
- 17 Service that enables governance and auditing of AWS account activity. Tracks all API calls and actions made within the account. can be filtered by certain parameters.
- 18 Security management service to centrally configure firewall rules across accounts and applications, enforces security policies and protects from common DDoS attacks.