Architecting Solutions On AWS > Module 4 > Capstone Project

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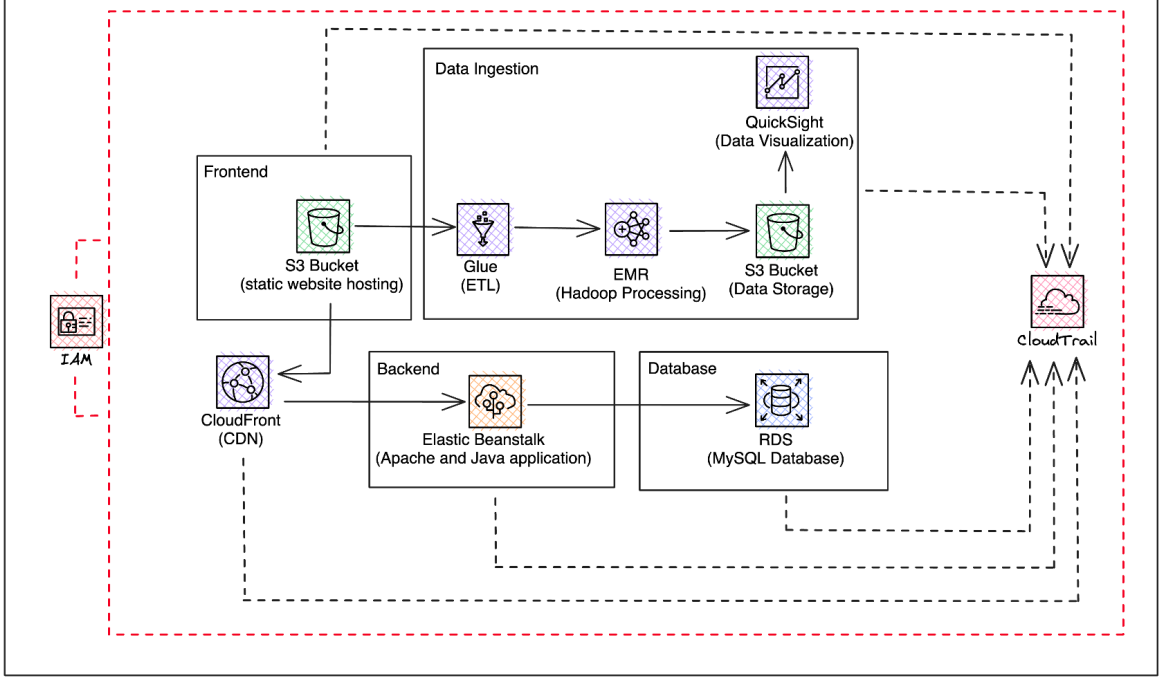
Architecture Diagram



Explanation:

Three-Tier Application:

Frontend: Hosted on S3 with CloudFront delivering content.
Backend: Managed by Elastic Beanstalk.
Database: Hosted on RDS for automatic management.

Data Analytics Workload:

Data Ingestion: AWS Glue for ETL.
Processing: Amazon EMR for Hadoop processing.
Storage: S3 for both raw and processed data.
Visualization: QuickSight for insights.

Solution for Both Workloads:

We chose a cloud-native approach, using AWS managed services for automated scaling and efficient operations.

For the three-tier application, we're using S3 for static content, CloudFront for delivery, Elastic Beanstalk for the backend, and RDS for the MySQL database. For the data analytics workload, we employ AWS Glue for ETL, EMR for Hadoop processing, S3 for storage, and QuickSight for visualization.

Justification:

Scalability: AWS services auto-scale as per demand.
Reduced Operational Overhead: AWS manages the infrastructural tasks.
Cost-Effective: Pay only for what you use.
Improved Performance: Services like CloudFront improve application performance.