

1. Frontend: React Application

- **Amazon S3:** Host your React static files (HTML, CSS, JS).
- **Amazon CloudFront:** Use for CDN to serve your React app globally with low latency.
- **AWS ACM:** Secure your frontend with SSL certificates for HTTPS.

2. Backend: Python API

- **Amazon Elastic Beanstalk** or **EKS:** Deploy the Python API. EKS for containerized apps or Elastic Beanstalk for simplicity.
- **API Gateway:** Expose your Python backend APIs.
- **Auto Scaling:** Ensure backend scales based on demand.

3. Database: MySQL

- **Amazon RDS (MySQL):** Use with **Multi-AZ** deployment for high availability and automatic failover.
- **Read Replicas :** Scale read operations.
- **ElastiCache:** Use Redis/Memcached for caching.

4. Security & Best Practices

- **IAM:** Use roles and policies with least privilege.
- **WAF:** Protect your application from common web exploits.
- **VPC:** Isolate resources with private subnets.
- **SSL/TLS:** Ensure encrypted communication with ACM and RDS encryption.
- **CloudWatch:** Monitor logs, metrics, and set alarms for automated scaling and alerts.

5. High Availability & Scalability

- **Multi-AZ:** Deploy backend and database across multiple Availability Zones.
- **Auto Scaling:** Automatically scale backend instances/pods and manage traffic spikes.