Web Frontend

- ● Use an Elastic Load Balancer (ELB) to distribute incoming traffic across multiple Availability Zones (AZs) in a region for high availability.

- ● Use Amazon CloudFront to improve the performance and reliability of web applications, and to offload traffic from ELB.

- ● Use Amazon Route 53 to manage domain names and DNS routing, with health checks enabled to automatically reroute traffic in case of a failure.

- ● I added S3 to store static files like pictures and videos.

API Backend

- ● Use Amazon Elastic Kubernetes Service (EKS) or Amazon Elastic Container Service (ECS) to run containers that host the API backend.

- ● Use an Application Load Balancer (ALB) to distribute incoming traffic across multiple instances of the API backend running in different AZs for high availability.

- ● Use Amazon RDS Multi-AZ deployment to create a highly available and self-recovering database for the API backend.

RDBMS

- ● Use Amazon RDS for a managed database service that provides a highly available and self-recovering RDBMS.

- ● Use RDS Multi-AZ deployment to create a standby replica of the database in a different AZ for automatic failover in case of a primary database failure.

Additionally, you can use Amazon CloudWatch to monitor the health of your infrastructure and set up alarms to alert you in case of any issues. You can also use AWS CloudFormation to create and manage the infrastructure as code.

I hope this high-level overview helps you in designing your cloud infrastructure layout. Let me know if you have any further questions or need more details.