



This architecture diagram represents a three tier application of the frontend, backend and database. The frontend is the react.js application where the code is placed inside the S3 bucket as a static host website which was configured by using terraform. The infrastructure is created from Terraform where changes can be pushed to the CICD pipeline and deployed to the Elasticbeanstalk for the backend Python FastAPI and other resources such as deploying the Postgres database, security and load balancers.

For security measures, the backend is provisioned in the private subnet as users do not need to access the instances via ssh. The environment variables and database credentials are configured on elastic beanstalk and stored in secrets for security. The VPC has been set up to isolate the resource from public use by creating security groups and private subnets to protect from any threats to affect the infrastructure. The use of auto-scaling is used for high availability in case of a failover and monitoring is in place to check the metrics which CloudWatch has configured. Moreover, the application load balancer is configured to even out incoming traffic to the EC2 instances in the private subnet.