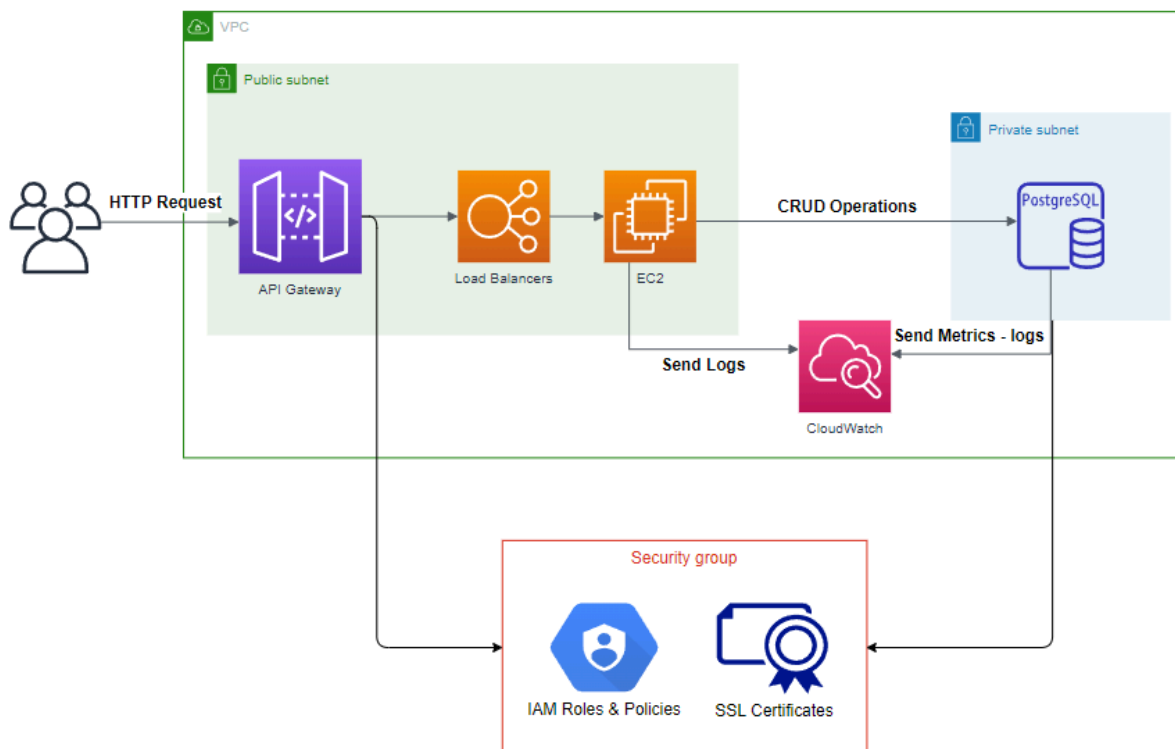


# Cloud Assessment

The CMS Application allows users to perform CRUD operations. In a cloud-native environment, AWS services will host, scale, and secure the application.

## Architecture Representation:



- ❖ EC2 runs virtual servers in the cloud to host applications and services. Provides:
  - Auto Scaling using traffic ensures that the application can handle the traffic spikes.
  - High Availability because EC2 instances can be deployed in multiple available zones.
  - Integration with other AWS services
- ❖ API Gateway manages requests, authentication, and rate limiting. Provides:
  - Centralized management.
  - Scalability to handle large volumes of requests.
  - Support for JWT authentication.
  - It provides built-in integration with CloudWatch for logging and monitoring

- ❖ RDS PostgreSQL Database manages the relational database for storing structured data. Provides:
  - Automated patching and backups.
  - High availability options.
  - Scalability to handle increased load
- ❖ Amazon Virtual Private Cloud (VPC). Provides:
  - Network isolation and security
  - Ability to create subnets
  - Both IPv4 and IPv6
- ❖ CloudWatch will monitor the performance and alert us of any problem.
- ❖ Elastic Load Balancer (ELB) distributes incoming traffic across multiple EC2 instances, ensuring high availability and fault tolerance.
- ❖ Service-Level Security :
  - AWS IAM → Manages fine-grained permissions for services (EC2, S3, RDS), ensuring the principle of least privilege.
  - SSL Certificates ensure that API traffic is encrypted.

## Conclusion

The utilization of AWS cloud-native services for the Content Management System (CMS) application presents a variety of advantages, such as enhanced scalability, improved reliability, robust security, and increased cost efficiency. Using services such as RDS, EC2, API Gateway, and CloudWatch, can decrease operational burdens while maintaining high levels of availability, security, and performance for this application.

## Resources

[https://aws.amazon.com/documentation-overview/?nc2=h\\_ql\\_doc\\_do](https://aws.amazon.com/documentation-overview/?nc2=h_ql_doc_do)