# Take-Home Assignment

## Scenario:

You are tasked with designing the AWS architecture for a legal domain application that will be used by law firms to manage case documents, track legal matters, and facilitate collaboration among legal professionals. This application should be highly available, scalable, and secure, considering sensitive legal data. Please design the AWS architecture for this application, taking into account the following key considerations:

- Security: Legal data is highly sensitive and confidential. How will you ensure data security, access control, encryption, and compliance with legal regulations like GDPR or HIPAA?
- Identity and Access Management: Explain how you would manage user access and permissions, considering different user roles and ensuring least privilege access.
- High Availability: Law firms require 24/7 access to their case data. How will you design a highly available system to minimize downtime and ensure data resilience?
- Scalability: Legal firms often deal with varying workloads based on case volumes. How will you ensure the application can scale to meet the demand during peak periods and scale down during low periods?
- Data Backup and Disaster Recovery: What strategies will you implement for data backup and disaster recovery to protect against data loss and system failures?
- Compliance and Auditing: How will you address compliance requirements for the legal domain, including audit trails and record-keeping?
- Monitoring and Logging: Describe the monitoring and logging solutions you would implement to proactively detect and respond to issues, as well as to maintain audit trails.
- AWS Services: Which AWS services and tools will you leverage to build this architecture? Explain your rationale for choosing these services.

## Deliverables:

- An architectural diagram that illustrates the AWS services, components, and how they interact to create the solution.
- A written explanation of the architecture, detailing each component's role and the reasons behind your design choices.
- A list of security best practices and measures you would implement to protect the application's data.

## Instructions:

- Design the architecture with a focus on security, high availability, scalability, and compliance.
- Consider cost-effectiveness and optimization while choosing AWS services.
- Describe how each AWS service you choose fits into the overall architecture, steps for setting those up and the rationale behind those choices.
- Provide any additional information or considerations that you believe are relevant.
- Discuss any trade-offs and potential challenges in your design.
- A set of screenshots showing the AWS services set up in the AWS Free Tier (if applicable) to demonstrate the practical implementation of your design.