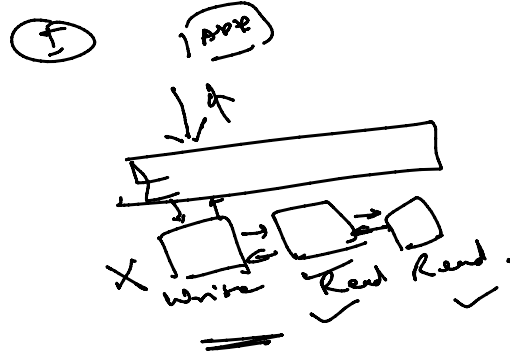**Case study 1:** ABC Company, an e-commerce startup, has recently migrated its application to the cloud and is utilizing Amazon RDS to manage its databases. They are experiencing rapid growth and need to ensure that their database can handle the increasing workload efficiently. ABC Company's database administrator is considering various optimization strategies.

Question:
Based on the case study, which optimization strategy would be most effective for ABC Company's database hosted on Amazon RDS to handle their increasing workload?

✓ Implementing Read Replicas

Vertical Scaling

Horizontal Scaling

Adding indexes to frequently queried columns ✗

(handwritten notes)

① Amazon RDS
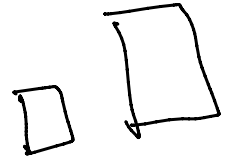⑤ Workload ↑

Ⅰ

Ⅲ Horizontal Scaling:-

Ⅳ

Ⅱ Vertical Scaling:-

Write Read Read

XYZ Corp is a multinational retail company that has recently migrated its IT infrastructure to the AWS cloud. As part of this migration, they have chosen Amazon RDS as their primary database service for managing their critical business data. However, they are facing challenges in optimizing their database performance to meet the demands of their online retail platform, especially during peak shopping seasons.

Question:
Considering the case study, which feature of Amazon RDS would best address XYZ Corp's performance challenges during peak shopping seasons?
(5 Points)

Multi-AZ Deployments

Automated Backups

Performance Insights

Enhanced Monitoring

(handwritten notes)

① Amazon RDS
② Issue with optimizing the Database.

LMN Inc. is a rapidly growing technology startup that offers a social media platform with millions of active users. They have chosen Amazon DynamoDB as their primary NoSQL database to store user profiles, posts, and other social media data. However, they are facing challenges in ensuring high availability and low latency for their users worldwide.

Question:
Considering the case study, which DynamoDB feature would best address LMN Inc.'s challenges of ensuring high availability and low latency for their global user base?
(5 Points)

Global Tables

DynamoDB Streams

Provisioned Capacity

Auto Scaling

(handwritten notes)

Multi region · fully replicated database global distributed. application.

① Amazon DynamoDB
② Challenges → High Availability low latency
③ Global

Provisioned Capacity

Auto Scaling

(3) Global-

PQR Corporation operates a popular online gaming platform with millions of users worldwide. They have chosen Amazon DynamoDB as their primary database to store user profiles, game state information, and in-game transactions. PQR Corporation is looking to optimize their DynamoDB usage to handle spikes in user activity during peak gaming hours.

Question:
Considering the case study, which DynamoDB feature would best help PQR Corporation optimize their database to handle spikes in user activity during peak gaming hours?
(5 Points)

DynamoDB Accelerator (DAX)

Global Tables

On-Demand Capacity Mode

Provisioned Capacity with Auto Scaling

(1) Amazon DynamoDB
(2) DynamoDB usage issue
(3) User Activity

JKL Enterprises is a fast-growing e-commerce company that sells a wide range of products online. They have selected Amazon DynamoDB as their primary database to handle product catalog, user profiles, and order data. JKL Enterprises aims to provide a seamless shopping experience to their customers and is exploring options to improve their database performance and scalability.

Question:
Considering the case study, which DynamoDB feature would best help JKL Enterprises improve their database performance and scalability while ensuring a seamless shopping experience for their customers?
(5 Points)

DynamoDB Streams

Global Tables

DynamoDB Accelerator (DAX)

Provisioned Capacity with Auto Scaling

XYZ Corp is a large media production company that stores and distributes a vast amount of multimedia content, including videos, images, and audio files. They have chosen Amazon S3 as their primary storage solution for its scalability, durability, and accessibility. However, they are concerned about securing their sensitive data and preventing unauthorized access.

Question:
Considering the case study, which feature of Amazon S3 would best address XYZ Corp's concerns about securing their sensitive data and preventing unauthorized access?
(5 Points)

Cross-Region Replication

Bucket Policies

Object Versioning

Server-Side Encryption

ABC Corporation is a financial institution that deals with sensitive customer data, including transaction records and personal information. They have recently migrated their data storage infrastructure to Amazon S3 for its scalability and durability. However, they need to ensure that their data is encrypted both in transit and at rest to comply with regulatory requirements and protect customer confidentiality.

Question:
Considering the case study, which feature of Amazon S3 would best address ABC Corporation's need to encrypt their data both in transit and at rest?
(5 Points)

Bucket Policies

Object Lock

Server-Side Encryption

Client-Side Encryption

XYZ Corp is a software development company that provides a cloud-based collaboration platform for teams to work together on projects. They are experiencing rapid growth and need to scale their infrastructure to meet increasing demand. XYZ Corp is considering using Amazon EC2 as their compute service to deploy and manage their application servers.

Question:
Considering the case study, which characteristic of Amazon EC2 would best address XYZ Corp's need to scale their infrastructure dynamically to accommodate increasing demand?
(5 Points)

Elastic IP Addresses

Instance Types

Auto Scaling

Placement Groups

LMN Corp is a growing e-commerce company that manages a large database of products, customer orders, and user profiles. They are exploring options to optimize their database solutions using Amazon RDS and Amazon DynamoDB. LMN Corp seeks to improve performance, scalability, and cost-effectiveness for their online retail platform.

Question:
Considering the case study, which combination of AWS database services would best suit LMN Corp's requirements for optimizing their database solutions for performance, scalability, and cost-effectiveness?
(5 Points)

Amazon RDS for MySQL and Amazon DynamoDB

Amazon RDS for PostgreSQL and Amazon DynamoDB

Amazon RDS for SQL Server and Amazon DynamoDB

Amazon RDS for Aurora and Amazon DynamoDB

XYZ Corp is a digital media company that produces and distributes multimedia content such as videos, images, and articles. They are looking to modernize their data infrastructure using AWS services to store, process, and deliver their content efficiently. XYZ Corp's requirements include managing a large database of media assets, handling high-volume traffic, and ensuring data durability and availability.

Question:
Considering the case study, which combination of AWS services would best suit XYZ Corp's requirements for modernizing their data infrastructure to store, process, and deliver multimedia content efficiently?
(5 Points)

modernizing their data infrastructure to store, process, and deliver multimedia content efficiently?
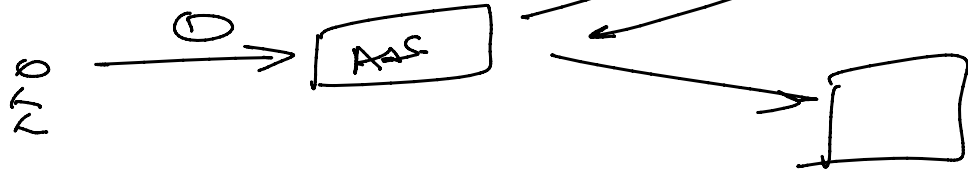(5 Points)

Amazon RDS, Amazon DynamoDB, Amazon S3, and Amazon EC2

Amazon Aurora, Amazon Redshift, Amazon Glacier, and AWS Lambda

Amazon RDS, Amazon DynamoDB, Amazon EBS, and Amazon ECS

Amazon S3, Amazon DynamoDB, Amazon CloudFront, and AWS Lambda

ElastiCache data store

Cache

in your AWS
scope

ABC Corporation is a global e-commerce company that sells a wide range of products through its online platform. They are planning to migrate their existing infrastructure to AWS to improve scalability, reliability, and security. ABC Corp's requirements include managing customer data securely, processing high-volume transactions efficiently, and storing product images and descriptions reliably.

Considering the case study, which AWS service would be most suitable for ABC Corp to securely manage access to their AWS resources and services?
(5 Points)

Amazon RDS
Amazon S3
AWS IAM   (Identity & Access Management)
Amazon DynamoDB

13.Which AWS service would ABC Corp likely use to store and manage their product images and descriptions in a scalable and reliable manner?
(5 Points)

Amazon DynamoDB
Amazon EC2
Amazon S3
AWS IAM

14.To handle high-volume transactions efficiently, which AWS service would ABC Corp likely utilize for their database needs?
(5 Points)

Amazon RDS
Amazon DynamoDB
Amazon EC2
Amazon S3

15.Considering the need for scalability and reliability, which AWS service would be most suitable for hosting ABC Corp's web application?
(5 Points)

Amazon EC2
Amazon S3
Amazon DynamoDB
AWS IAM

16.Which AWS service would ABC Corp use to create and manage database instances with built-in failover and automatic backups?
(5 Points)

Amazon DynamoDB
AWS IAM

① ②

16.Which AWS service would ABC Corp use to create and manage database instances with built-in failover and automatic backups?
(5 Points)

Amazon RDS
Amazon S3
Amazon DynamoDB
AWS IAM

Next week

① SQS   ① Aws Lambda.
② SNS   ② API Gateway
③ Redshift   ③ EMR
④ Aws Glue   ④ VPC