**QUESTION 6**

A hospital recently deployed a RESTful API with Amazon API Gateway and AWS Lambda.

The hospital uses API Gateway and Lambda to upload reports that are in PDF format and JPEG format.

The hospital needs to modify the Lambda code to identify protected health information (PHI) in the reports.

Which solution will meet these requirements with the LEAST operational overhead?

1. Use existing Python libraries to extract the text from the reports and to identify the PHI from the extracted text.

1. Use Amazon Textract to extract the text from the reports.

Use Amazon SageMaker to identify the PHI from the extracted text.

1. Use Amazon Textract to extract the text from the reports.

Use Amazon Comprehend Medical to identify the PHI from the extracted text.

1. Use Amazon Rekognition to extract the text from the reports.

Use Amazon Comprehend Medical to identify the PHI from the extracted text.

**Answer:** C

**QUESTION 24**

A company's dynamic website is hosted using on-premises servers in the United States.

The company is launching its product in Europe, and it wants to optimize site loading times for new European users.

The site's backend must remain in the United States.

The product is being launched in a few days, and an immediate solution is needed.

What should the solutions architect recommend?

1. Launch an Amazon EC2 instance in us-east-1 and migrate the site to it.

1. Move the website to Amazon S3.

Use cross-Region replication between Regions.

1. Use Amazon CloudFront with a custom origin pointing to the on-premises servers.
2. Use an Amazon Route 53 geo-proximity routing policy pointing to on-premises servers.

**Answer:** C

**Explanation:**

<https://aws.amazon.com/pt/blogs/aws/amazon-cloudfront-support-for-custom-origins/>

You can now create a CloudFront distribution using a custom origin.

Each distribution will can point to an S3 or to a custom origin. This could be another storage service, or it could be something more interesting and more dynamic, such as an EC2 instance or even an Elastic Load Balancer

**QUESTION 16**

A company wants to move a multi-tiered application from on-premises to the AWS Cloud to improve the application's performance.

The application consists of application tiers that communicate with each other by way of RESTful services.

Transactions are dropped when one tier becomes overloaded.

A solutions architect must design a solution that resolves these issues and modernizes the application.

Which solution meets these requirements and is the MOST operationally efficient?

1. Use Amazon API Gateway and direct transactions to the AWS Lambda functions as the application layer.

Use Amazon Simple Queue Service (Amazon SQS) as the communication layer between application services.

1. Use Amazon CloudWatch metrics to analyze the application performance history to determine the server's peak utilization during the performance failures.

Increase the size of the application server's Amazon EC2 instances to meet the peak requirements.

1. Use Amazon Simple Notification Service (Amazon SNS) to handle the messaging between application servers running on Amazon EC2 in an Auto Scaling group.

Use Amazon CloudWatch to monitor the SNS queue length and scale up and down as required.

1. Use Amazon Simple Queue Service (Amazon SQS) to handle the messaging between application servers running on Amazon EC2 in an Auto Scaling group.

Use Amazon CloudWatch to monitor the SQS queue length and scale up when communication failures are detected.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/getting-started/hands-on/build-serverless-web-app-lambda-apigateways3-dynamodb-cognito/module-4/>

**QUESTION 31**

A company is using a SQL database to store movie data that is publicly accessible.

The database runs on an Amazon RDS Single-AZ DB instance.

A script runs queries at random intervals each day to record the number of new movies that have been added to the database.

The script must report a final total during business hours.

The company's development team notices that the database performance is inadequate for development tasks when the script is running.

A solutions architect must recommend a solution to resolve this issue.

Which solution will meet this requirement with the LEAST operational overhead?

1. Modify the DB instance to be a Multi-AZ deployment.

1. Create a read replica of the database.

Configure the script to query only the read replica.

1. Instruct the development team to manually export the entries in the database at the end of each day.
2. Use Amazon ElastiCache to cache the common queries that the script runs against the database.

**Answer:** D

**QUESTION 41**

A company hosts a containerized web application on a fleet of on-premises servers that process incoming requests.

The number of requests is growing quickly.

The on-premises servers cannot handle the increased number of requests.

The company wants to move the application to AWS with minimum code changes and minimum development effort.

Which solution will meet these requirements with the LEAST operational overhead?

1. Use AWS Fargate on Amazon Elastic Container Service (Amazon ECS) to run the containerized web application with Service Auto Scaling.

Use an Application Load Balancer to distribute the incoming requests.

1. Use two Amazon EC2 instances to host the containerized web application.

Use an Application Load Balancer to distribute the incoming requests.

1. Use AWS Lambda with a new code that uses one of the supported languages.

Create multiple Lambda functions to support the load.

Use Amazon API Gateway as an entry point to the Lambda functions.

1. Use a high performance computing (HPC) solution such as AWS ParallelCluster to establish an HPC cluster that can process the incoming requests at the appropriate scale.

**Answer:** A

**QUESTION 43**

A company has created an image analysis application in which users can upload photos and add photo frames to their images.

The users upload images and metadata to indicate which photo frames they want to add to their images.

The application uses a single Amazon EC2 instance and Amazon DynamoDB to store the metadata.

The application is becoming more popular, and the number of users is increasing.

The company expects the number of concurrent users to vary significantly depending on the time of day and day of week.

The company must ensure that the application can scale to meet the needs of the growing user base.

Which solution meats these requirements?

1. Use AWS Lambda to process the photos.

Store the photos and metadata in DynamoDB.

1. Use Amazon Kinesis Data Firehose to process the photos and to store the photos and metadata.

1. Use AWS Lambda to process the photos.

Store the photos in Amazon S3.

Retain DynamoDB to store the metadata.

1. Increase the number of EC2 instances to three.

Use Provisioned IOPS SSD (io2) Amazon Elastic Block Store (Amazon EBS) volumes to store the photos and metadata.

**Answer:** A (?) C

**QUESTION 49**

A company has implemented a self-managed DNS solution on three Amazon EC2 instances behind a Network Load Balancer (NLB) in the us-west-2 Region.

Most of the company's users are located in the United States and Europe.

The company wants to improve the performance and availability of the solution.

The company launches and configures three EC2 instances in the euwest-1 Region and adds the EC2 instances as targets for a new NLB.

Which solution can the company use to route traffic to all the EC2 instances?

1. Create an Amazon Route 53 geolocation routing policy to route requests to one of the two NLBs.

Create an Amazon CloudFront distribution.

Use the Route 53 record as the distribution's origin.

1. Create a standard accelerator in AWS Global Accelerator.

Create endpoint groups in us-west-2 and eu-west-1.

Add the two NLBs as endpoints for the endpoint groups.

1. Attach Elastic IP addresses to the six EC2 instances.

Create an Amazon Route 53 geolocation routing policy to route requests to one of the six EC2 instances.

Create an Amazon CloudFront distribution.

Use the Route 53 record as the distribution's origin.

1. Replace the two NLBs with two Application Load Balancers (ALBs).

Create an Amazon Route 53 latency routing policy to route requests to one of the two ALBs.

Create an Amazon CloudFront distribution.

Use the Route 53 record as the distribution's origin.

**Answer:** A

**QUESTION 46**

A company stores its application logs in an Amazon CloudWatch Logs log group.

A new policy requires the company to store all application logs in Amazon OpenSearch Service (Amazon Elasticsearch Service) in near-real time.

Which solution will meet this requirement with the LEAST operational overhead?

1. Configure a CloudWatch Logs subscription to stream the logs to Amazon OpenSearch Service (Amazon Elasticsearch Service).

1. Create an AWS Lambda function.

Use the log group to invoke the function to write the logs to Amazon OpenSearch Service (Amazon Elasticsearch Service).

1. Create an Amazon Kinesis Data Firehose delivery stream.

Configure the log group as the delivery stream's source.

Configure Amazon OpenSearch Service (Amazon Elasticsearch Service) as the delivery stream's destination.

1. Install and configure Amazon Kinesis Agent on each application server to deliver the logs to Amazon Kinesis Data Streams.

Configure Kinesis Data Streams to deliver the logs to Amazon OpenSearch Service (Amazon Elasticsearch Service)

**Answer:** C

**QUESTION 59**

A company runs a web-based portal that provides users with global breaking news, local alerts, and weather updates.

The portal delivers each user a personalized view by using mixture of static and dynamic content.

Content is served over HTTPS through an API server running on an Amazon EC2 instance behind an Application Load Balancer (ALB).

The company wants the portal to provide this content to its users across the world as quickly as possible.

How should a solutions architect design the application to ensure the LEAST amount of latency for all users?

1. Deploy the application stack in a single AWS Region.

Use Amazon CloudFront to serve all static and dynamic content by specifying the ALB as an origin.

1. Deploy the application stack in two AWS Regions.

Use an Amazon Route 53 latency routing policy to serve all content from the ALB in the closest Region.

1. Deploy the application stack in a single AWS Region.

Use Amazon CloudFront to serve the static content.

Serve the dynamic content directly from the ALB.

1. Deploy the application stack in two AWS Regions.

Use an Amazon Route 53 geolocation routing policy to serve all content from the ALB in the closest Region.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/blogs/networking-and-content-delivery/deliver-your-apps-dynamiccontent-using-amazon-cloudfront-getting-started-template/>

**QUESTION 60**

A gaming company is designing a highly available architecture.

The application runs on a modified Linux kernel and supports only UDP-based traffic.

The company needs the front-end tier to provide the best possible user experience.

That tier must have low latency, route traffic to the nearest edge location, and provide static IP addresses for entry into the application endpoints.

What should a solutions architect do to meet these requirements?

1. Configure Amazon Route 53 to forward requests to an Application Load Balancer.

Use AWS Lambda for the application in AWS Application Auto Scaling.

1. Configure Amazon CloudFront to forward requests to a Network Load Balancer.

Use AWS Lambda for the application in an AWS Application Auto Scaling group.

1. Configure AWS Global Accelerator to forward requests to a Network Load Balancer.

Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.

1. Configure Amazon API Gateway to forward requests to an Application Load Balancer.

Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.

**Answer:** C

**QUESTION 61**

A company wants to migrate its existing on-premises monolithic application to AWS.

The company wants to keep as much of the front-end code and the backend code as possible.

However, the company wants to break the application into smaller applications.

A different team will manage each application.

The company needs a highly scalable solution that minimizes operational overhead.

Which solution will meet these requirements?

1. Host the application on AWS Lambda Integrate the application with Amazon API Gateway.

1. Host the application with AWS Amplify.

Connect the application to an Amazon API Gateway API that is integrated with AWS Lambda.

1. Host the application on Amazon EC2 instances.

Set up an Application Load Balancer with EC2 instances in an Auto Scaling group as targets.

1. Host the application on Amazon Elastic Container Service (Amazon ECS).

Set up an Application Load Balancer with Amazon ECS as the target.

**Answer:** D

**QUESTION 73**

A large media company hosts a web application on AWS.

The company wants to start caching confidential media files so that users around the world will have reliable access to the files.

The content is stored in Amazon S3 buckets.

The company must deliver the content quickly, regardless of where the requests originate geographically.

Which solution will meet these requirements?

1. Use AWS DataSync to connect the S3 buckets to the web application.

1. Deploy AWS Global Accelerator to connect the S3 buckets to the web application.
2. Deploy Amazon CloudFront to connect the S3 buckets to CloudFront edge servers.
3. Use Amazon Simple Queue Service (Amazon SQS) to connect the S3 buckets to the web application.

**Answer:** C

**Explanation:**

CloudFront uses a local cache to provide the response, AWS Global accelerator proxies requests and connects to the application all the time for the response.

<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/private-contentrestricting-access-to-s3.html#private-content-granting-permissions-to-oai>

**QUESTION 75**

A gaming company has a web application that displays scores.

The application runs on Amazon EC2 instances behind an Application Load Balancer.

The application stores data in an Amazon RDS for MySQL database.

Users are starting to experience long delays and interruptions that are caused by database read performance.

The company wants to improve the user experience while minimizing changes to the application's architecture.

What should a solutions architect do to meet these requirements?

1. Use Amazon ElastiCache in front of the database.

1. Use RDS Proxy between the application and the database.
2. Migrate the application from EC2 instances to AWS Lambda.
3. Migrate the database from Amazon RDS for MySQL to Amazon DynamoDB.

**Answer:** C

**QUESTION 89**

A company's application Is having performance issues.

The application staleful and needs to complete in-memory tasks on Amazon EC2 instances.

The company used AWS CloudFormation to deploy infrastructure and used the M5 EC2 Instance family.

As traffic increased, the application performance degraded.

Users are reporting delays when the users attempt to access the application.

Which solution will resolve these issues in the MOST operationally efficient way?

1. Replace the EC2 Instances with T3 EC2 instances that run in an Auto Scaling group.

Made the changes by using the AWS Management Console.

1. Modify the CloudFormation templates to run the EC2 instances in an Auto Scaling group. Increase the desired capacity and the maximum capacity of the Auto Scaling group manually when an increase is necessary.

1. Modify the CloudFormation templates.

Replace the EC2 instances with R5 EC2 instances.

Use Amazon CloudWatch built-in EC2 memory metrics to track the application performance for future capacity planning.

1. Modify the CloudFormation templates.

Replace the EC2 instances with R5 EC2 instances.

Deploy the Amazon CloudWatch agent on the EC2 instances to generate custom application latency metrics for future capacity planning.

**Answer:** D

**QUESTION 90**

An ecommerce company has an order-processing application that uses Amazon API Gateway and an AWS Lambda function.

The application stores data in an Amazon Aurora PostgreSQL database.

During a recent sales event, a sudden surge in customer orders occurred.

Some customers experienced timeouts and the application did not process the orders of those customers.

A solutions architect determined that the CPU utilization and memory utilization were high on the database because of a large number of open connections.

The solutions architect needs to prevent the timeout errors while making the least possible changes to the application.

Which solution will meet these requirements?

1. Configure provisioned concurrency for the Lambda function.

Modify the database to be a global database in multiple AWS Regions.

1. Use Amazon RDS Proxy to create a proxy for the database.

Modify the Lambda function to use the RDS Proxy endpoint instead of the database endpoint.

1. Create a read replica for the database in a different AWS Region.

Use query string parameters in API Gateway to route traffic to the read replica.

1. Migrate the data from Aurora PostgreSQL to Amazon DynamoDB by using AWS Database. Migration Service (AWS DMS) Modify the Lambda function to use the OynamoDB table.

**Answer:** D

**QUESTION 95**

A company hosts its product information webpages on AWS.

The existing solution uses multiple Amazon EC2 instances behind an Application Load Balancer in an Auto Scaling group.

The website also uses a custom DNS name and communicates with HTTPS only using a dedicated SSL certificate.

The company is planning a new product launch and wants to be sure that users from around the world have the best possible experience on the new website.

What should a solutions architect do to meet these requirements?

1. Redesign the application to use Amazon CloudFront.

1. Redesign the application to use AWS Elastic Beanstalk.
2. Redesign the application to use a Network Load Balancer.

D. Redesign the application to use Amazon S3 static website hosting.

**Answer:** A

**Explanation:**

as CloudFront can help provide the best experience for global users. CloudFront integrates seamlessly with ALB and provides and option to use custom DNS and SSL certs.

**QUESTION 101**

A company collects temperature, humidity, and atmospheric pressure data in cities across multiple continents.

The average volume of data collected per site each day is 500 GB.

Each site has a high-speed internet connection.

The company's weather forecasting applications are based in a single Region and analyze the data daily.

What is the FASTEST way to aggregate data from all of these global sites?

1. Enable Amazon S3 Transfer Acceleration on the destination bucket.

Use multipart uploads to directly upload site data to the destination bucket.

1. Upload site data to an Amazon S3 bucket in the closest AWS Region.

Use S3 cross-Region replication to copy objects to the destination bucket.

1. Schedule AWS Snowball jobs daily to transfer data to the closest AWS Region.

Use S3 cross-Region replication to copy objects to the destination bucket.

1. Upload the data to an Amazon EC2 instance in the closest Region.

Store the data in an Amazon Elastic Block Store (Amazon EBS) volume.

Once a day take an EBS snapshot and copy it to the centralized Region.

Restore the EBS volume in the centralized Region and run an analysis on the data daily.

**Answer:** A

**Explanation:**

You might want to use Transfer Acceleration on a bucket for various reasons, including the following:

* You have customers that upload to a centralized bucket from all over the world.
* You transfer gigabytes to terabytes of data on a regular basis across continents.
* You are unable to utilize all of your available bandwidth over the Internet when uploading to Amazon S3.

https://docs.aws.amazon.com/AmazonS3/latest/dev/transfer-acceleration.html https://aws.amazon.com/s3/transfer-

acceleration/#:~:text=S3%20Transfer%20Acceleration%20(S3TA)%20reduces,to%20S3%20for%

20remote%20applications

"Amazon S3 Transfer Acceleration can speed up content transfers to and from Amazon S3 by as much as 50-500% for long-distance transfer of larger objects. Customers who have either web or mobile applications with widespread users or applications hosted far away from their S3 bucket can experience long and variable upload and download speeds over the Internet" https://docs.aws.amazon.com/AmazonS3/latest/userguide/mpuoverview.html "Improved throughput -You can upload parts in parallel to improve throughput."

**QUESTION 102**

A company needs the ability to analyze the log files of its proprietary application.

The logs are stored in JSON format in an Amazon S3 bucket Queries will be simple and will run on-demand.

A solutions architect needs to perform the analysis with minimal changes to the existing architecture.

What should the solutions architect do to meet these requirements with the LEAST amount of operational overhead?

1. Use Amazon Redshift to load all the content into one place and run the SQL queries as needed.

1. Use Amazon CloudWatch Logs to store the logs.

Run SQL queries as needed from the Amazon CloudWatch console.

1. Use Amazon Athena directly with Amazon S3 to run the queries as needed.

1. Use AWS Glue to catalog the logs.

Use a transient Apache Spark cluster on Amazon EMR to run the SQL queries as needed.

**Answer:** C

**Explanation:**

Amazon Athena can be used to query JSON in S3.

**QUESTION 111**

A company has an application that runs on Amazon EC2 instances and uses an Amazon Aurora database.

The EC2 instances connect to the database by using user names and passwords that are stored locally in a file.

The company wants to minimize the operational overhead of credential management.

What should a solutions architect do to accomplish this goal?

1. Use AWS Secrets Manager.

Turn on automatic rotation.

1. Use AWS Systems Manager Parameter Store.

Turn on automatic rotation.

1. Create an Amazon S3 bucket lo store objects that are encrypted with an AWS Key.

Management Service (AWS KMS) encryption key.

Migrate the credential file to the S3 bucket.

Point the application to the S3 bucket.

1. Create an encrypted Amazon Elastic Block Store (Amazon EBS) volume or each EC2 instance.

Attach the new EBS volume to each EC2 instance.

Migrate the credential file to the new EBS volume.

Point the application to the new EBS volume.

**Answer:** B

**QUESTION 118**

An entertainment company is using Amazon DynamoDB to store media metadata.

The application is read intensive and experiencing delays.

The company does not have staff to handle additional operational overhead and needs to improve the performance efficiency of DynamoDB without reconfiguring the application.

What should a solutions architect recommend to meet this requirement?

1. Use Amazon ElastiCache for Redis.

1. Use Amazon DynamoDB Accelerate (DAX).
2. Replicate data by using DynamoDB global tables.
3. Use Amazon ElastiCache for Memcached with Auto Discovery enabled.

**Answer:** B

**Explanation:**

Though DynamoDB offers consistent single-digit-millisecond latency, DynamoDB + DAX takes performance to the next level with response times in microseconds for millions of requests per second for read-heavy workloads. With DAX, your applications remain fast and responsive, even when a popular event or news story drives unprecedented request volumes your way. No tuning required.

**QUESTION 134**

A company has developed a database in Amazon RDS for MySQL.

Due to increased support team is reporting slow reads against the DB instance and recommends adding a read replica.

Which combination of actions should a solutions architect take before implementing this change? (Select TWO)

1. Enable binlog replication on the RDS master.

1. Choose a failover priority for the source DB instance.
2. Allow long-running transactions to complete on the source DB instance.
3. Create a global table and specify the AWS Regions where the table will be available.
4. Enable automatic backups on the source instance by settings the backup retention period to a value other than 0.

**Answer:** CD

**Explanation:**

There are two versions of DynamoDB global tables available: Version 2019.11.21 (Current) and Version 2017.11.29.

We recommend using Version 2019.11.21 (Current) of global tables, which enables you to dynamically add new replica tables from a table populated with data.

Version 2019.11.21 (Current) is more efficient and consumes less write capacity than Version 2017.11.29.

Region support for global tables Version 2017.11.29 is limited to US East (N. Virginia), US East (Ohio), US West (N. California), US West (Oregon), Europe (Ireland), Europe (London), Europe (Frankfurt), Asia Pacific (Singapore), Asia Pacific (Sydney), Asia Pacific (Tokyo), and Asia Pacific (Seoul).

If you are using Version 2019.11.21 (Current) of global tables and you also use the Time to Live feature, DynamoDB replicates TTL deletes to all replica tables.

The initial TTL delete does not consume write capacity in the region in which the TTL expiry occurs. However, the replicated TTL delete to the replica table(s) consumes a replicated write capacity unit when using provisioned capacity, or replicated write when using on-demand capacity mode, in each of the replica regions and applicable charges will apply.

Reference:

<https://hevodata.com/learn/aws-rds-postgres-replication/>

<https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GlobalTables.html>

**QUESTION 139**

A company runs an ecommerce application on Amazon EC2 instances behind an Application Load Balancer.

The instances run in an Amazon EC2 Auto Scaling group across multiple Availability Zones.

The Auto Scaling group scales based on CPU utilization metrics.

The ecommerce application stores the transaction data in a MySQL 8.0 database that is hosted on a large EC2 instance.

The database's performance degrades quickly as application load increases.

The application handles more read requests than write transactions.

The company wants a solution that will automatically scale the database to meet the demand of unpredictable read workloads while maintaining high availability.

Which solution will meet these requirements?

1. Use Amazon Redshift with a single node for leader and compute functionality.

1. Use Amazon RDS with a Single-AZ deployment.

Configure Amazon RDS to add reader instances in a different Availability Zone.

1. Use Amazon Aurora with a Multi-AZ deployment.

Configure Aurora Auto Scaling with Aurora Replicas.

1. Use Amazon ElastiCache for Memcached with EC2 Spot Instances.

**Answer:** C

**QUESTION 146**

An ecommerce company wants to launch a one-deal-a-day website on AWS.

Each day will feature exactly one product on sale for a period of 24 hours.

The company wants to be able to handle millions of requests each hour with millisecond latency during peak hours.

Which solution will meet these requirements with the LEAST operational overhead?

1. Use Amazon S3 to host the full website in different S3 buckets.

Add Amazon CloudFront distributions.

Set the S3 buckets as origins for the distributions.

Store the order data in Amazon S3.

1. Deploy the full website on Amazon EC2 instances that run in Auto Scaling groups across multiple Availability Zones.

Add an Application Load Balancer (ALB) to distribute the website traffic.

Add another ALB for the backend APIs.

Store the data in Amazon RDS for MySQL.

1. Migrate the full application to run in containers.

Host the containers on Amazon Elastic Kubernetes Service (Amazon EKS).

Use the Kubernetes Cluster Autoscaler to increase and decrease the number of pods to process bursts in traffic.

Store the data in Amazon RDS for MySQL.

1. Use an Amazon S3 bucket to host the website's static content.

Deploy an Amazon CloudFront distribution.

Set the S3 bucket as the origin.

Use Amazon API Gateway and AWS Lambda functions for the backend APIs.

Store the data in Amazon DynamoDB.

**Answer:** D

**QUESTION 154**

A company is designing an application where users upload small files into Amazon S3.

After a user uploads a file, the file requires one-time simple processing to transform the data and save the data in JSON format for later analysis.

Each file must be processed as quickly as possible after it is uploaded.

Demand will vary.

On some days, users will upload a high number of files.

On other days, users will upload a few files or no files.

Which solution meets these requirements with the LEAST operational overhead?

1. Configure Amazon EMR to read text files from Amazon S3.

Run processing scripts to transform the data.

Store the resulting JSON file in an Amazon Aurora DB cluster.

1. Configure Amazon S3 to send an event notification to an Amazon Simple Queue Service (Amazon SQS) queue.

Use Amazon EC2 instances to read from the queue and process the data. Store the resulting JSON file in Amazon DynamoDB.

1. Configure Amazon S3 to send an event notification to an Amazon Simple Queue Service (Amazon SQS) queue.

Use an AWS Lambda function to read from the queue and process the data.

Store the resulting JSON file in Amazon DynamoDB.

1. Configure Amazon EventBridge (Amazon CloudWatch Events) to send an event to Amazon Kinesis Data Streams when a new file is uploaded.

Use an AWS Lambda function to consume the event from the stream and process the data. Store the resulting JSON file in Amazon Aurora DB cluster.

**Answer:** C

**Explanation:**

Amazon S3 sends event notifications about S3 buckets (for example, object created, object removed, or object restored) to an SNS topic in the same Region. The SNS topic publishes the event to an SQS queue in the central Region.

The SQS queue is configured as the event source for your Lambda function and buffers the event messages for the Lambda function.

The Lambda function polls the SQS queue for messages and processes the Amazon S3 event notifications according to your application's requirements.

<https://docs.aws.amazon.com/prescriptive-guidance/latest/patterns/subscribe-a-lambda-functionto-event-notifications-from-s3-buckets-in-different-aws-regions.html>

**QUESTION 169**

A company is experiencing growth as demand for its product has increased.

The company's existing purchasing application is slow when traffic spikes.

The application is a monolithic three tier application that uses synchronous transactions and sometimes sees bottlenecks in the application tier.

A solutions architect needs to design a solution that can meet required application response times while accounting for traffic volume spikes.

Which solution will meet these requirements?

1. Vertically scale the application instance using a larger Amazon EC2 instance size.

1. Scale the application's persistence layer horizontally by introducing Oracle RAC on AWS.
2. Scale the web and application tiers horizontally using Auto Scaling groups and an Application Load Balancer.
3. Decouple the application and data tiers using Amazon Simple Queue Service (Amazon SQS) with asynchronous AWS Lambda calls.

**Answer:** C

**Explanation:**

The Application uses synchronous transactions each operation is dependent on the previous one. Using asynchronous lambda calls may not work here.

**QUESTION 196**

A company's website provides users with downloadable historical performance reports.

The website needs a solution that will scale to meet the company's website demands globally.

The solution should be cost-effective, limit the provisioning of infrastructure resources, and provide the fastest possible response time.

Which combination should a solutions architect recommend to meet these requirements?

1. Amazon CloudFront and Amazon S3.

1. AWS Lambda and Amazon DynamoDB.
2. Application Load Balancer with Amazon EC2 Auto Scaling.
3. Amazon Route 53 with internal Application Load Balancers.

**Answer:** A

**Explanation:**

Cloudfront for rapid response and s3 to minimize infrastructure.

**QUESTION 173**

A company is designing an application.

The application uses an AWS Lambda function to receive information through Amazon API Gateway and to store the information in an Amazon Aurora PostgreSQL database.

During the proof-of-concept stage, the company has to increase the Lambda quotas significantly to handle the high volumes of data that the company needs to load into the database.

A solutions architect must recommend a new design to improve scalability and minimize the configuration effort.

Which solution will meet these requirements?

1. Refactor the Lambda function code to Apache Tomcat code that runs on Amazon EC2 instances.

Connect the database by using native Java Database Connectivity (JDBC) drivers.

1. Change the platform from Aurora to Amazon DynamoDB.

Provision a DynamoDB Accelerator (DAX) cluster.

Use the DAX client SDK to point the existing DynamoDB API calls at the DAX cluster.

1. Set up two Lambda functions.

Configure one function to receive the information.

Configure the other function to load the information into the database.

Integrate the Lambda functions by using Amazon Simple Notification Service (Amazon SNS).

1. Set up two Lambda functions. Configure one function to receive the information. Configure the other function to load the information into the database.

Integrate the Lambda functions by using an Amazon Simple Queue Service (Amazon SQS) queue.

**Answer:** D

**Explanation:**

bottlenecks can be avoided with queues (SQS).

**QUESTION 193**

A company is running a multi-tier web application on premises.

The web application is containerized and runs on a number of Linux hosts connected to a PostgreSQL database that contains user records.

The operational overhead of maintaining the infrastructure and capacity planning is limiting the company's growth.

A solutions architect must improve the application's infrastructure.

Which combination of actions should the solutions architect take to accomplish this? (Choose TWO)

1. Migrate the PostgreSQL database to Amazon Aurora.
2. Migrate the web application to be hosted on Amazon EC2 instances.
3. Set up an Amazon CloudFront distribution for the web application content.
4. Set up Amazon ElastiCache between the web application and the PostgreSQL database.
5. Migrate the web application to be hosted on AWS Fargate with Amazon Elastic Container Service (Amazon ECS).

**Answer:** AE

**QUESTION 179**

A company that hosts its web application on AWS wants to ensure all Amazon EC2 instances.

Amazon RDS DB instances and Amazon Redshift clusters are configured with tags.

The company wants to minimize the effort of configuring and operating this check.

What should a solutions architect do to accomplish this?

1. Use AWS Config rules to define and detect resources that are not properly tagged.

1. Use Cost Explorer to display resources that are not properly tagged.

Tag those resources manually.

1. Write API calls to check all resources for proper tag allocation.

Periodically run the code on an EC2 instance.

1. Write API calls to check all resources for proper tag allocation.

Schedule an AWS Lambda function through Amazon CloudWatch to periodically run the code.

**Answer:** A

**QUESTION 205**

A company has thousands of edge devices that collectively generate 1 TB of status alerts each day.

Each alert is approximately 2 KB in size.

A solutions architect needs to implement a solution to ingest and store the alerts for future analysis.

The company wants a highly available solution.

However, the company needs to minimize costs and does not want to manage additional infrastructure.

Additionally, the company wants to keep 14 days of data available for immediate analysis and archive any data older than 14 days.

What is the MOST operationally efficient solution that meets these requirements?

1. Create an Amazon Kinesis Data Firehose delivery stream to ingest the alerts.

Configure the Kinesis Data Firehose stream to deliver the alerts to an Amazon S3 bucket.

Set up an S3 Lifecycle configuration to transition data to Amazon S3 Glacier after 14 days.

1. Launch Amazon EC2 instances across two Availability Zones and place them behind an Elastic Load Balancer to ingest the alerts.

Create a script on the EC2 instances that will store tne alerts m an Amazon S3 bucket.

Set up an S3 Lifecycle configuration to transition data to Amazon S3 Glacier after 14 days.

1. Create an Amazon Kinesis Data Firehose delivery stream to ingest the alerts.

Configure the Kinesis Data Firehose stream to deliver the alerts to an Amazon Elasticsearch Service (Amazon ES) duster.

Set up the Amazon ES cluster to take manual snapshots every day and delete data from the duster that is older than 14 days.

1. Create an Amazon Simple Queue Service (Amazon SQS) standard queue to ingest the alerts and set the message retention period to 14 days.

Configure consumers to poll the SQS queue check the age of the message and analyze the message data as needed If the message is 14 days old the consumer should copy the message to an Amazon S3 bucket and delete the message from the SQS queue.

**Answer:** A

**Explanation:**

https://aws.amazon.com/kinesis/data-

firehose/features/?nc=sn&loc=2#:~:text=into%20Amazon%20S3%2C%20Amazon%20Redshift% 2C%20Amazon%20OpenSearch%20Service%2C%20Kinesis,Delivery%20streams

**QUESTION 204**

A company maintains a searchable repository of items on its website.

The data is stored in an Amazon RDS for MySQL database table that contains more than 10 million rows.

The database has 2 TB of General Purpose SSD storage.

There are millions of updates against this data every day through the company's website.

The company has noticed that some insert operations are taking 10 seconds or longer.

The company has determined that the database storage performance is the problem.

Which solution addresses this performance issue?

1. Change the storage type to Provisioned IOPS SSD.

1. Change the DB instance to a memory optimized instance class.
2. Change the DB instance to a burstable performance instance class.
3. Enable Multi-AZ RDS read replicas with MySQL native asynchronous replication.

**nswer:** A

**Explanation:** <https://aws.amazon.com/ebs/features/>

Provisioned IOPS volumes are backed by solid-state drives (SSDs) and are the highest performance EBS volumes designed for your critical, I/O intensive database applications. These volumes are ideal for both IOPS-intensive and throughput-intensive workloads that require extremely low latency.

**QUESTION 206**

A company's application integrates with multiple software-as-a-service (SaaS) sources for data collection.

The company runs Amazon EC2 instances to receive the data and to upload the data to an Amazon S3 bucket for analysis.

The same EC2 instance that receives and uploads the data also sends a notification to the user when an upload is complete.

The company has noticed slow application performance and wants to improve the performance as much as possible.

Which solution will meet these requirements with the LEAST operational overhead?

1. Create an Auto Scaling group so that EC2 instances can scale out.

Configure an S3 event notification to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

1. Create an Amazon AppFlow flow to transfer data between each SaaS source and the S3 bucket.

Configure an S3 event notification to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

1. Create an Amazon EventBridge (Amazon CloudWatch Events) rule for each SaaS source to send output data.

Configure the S3 bucket as the rule's target.

Create a second EventBridge (CloudWatch Events) rule to send events when the upload to the S3 bucket is complete.

Configure an Amazon Simple Notification Service (Amazon SNS) topic as the second rule's target.

1. Create a Docker container to use instead of an EC2 instance.

Host the containerized application on Amazon Elastic Container Service (Amazon ECS).

Configure Amazon CloudWatch Container Insights to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

**Answer:** B