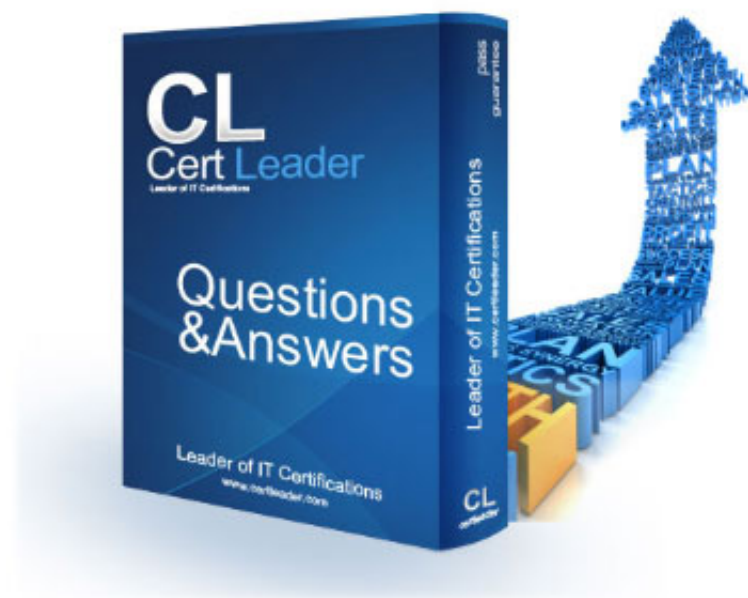


## SAA-C03 Dumps

### AWS Certified Solutions Architect - Associate (SAA-C03)

<https://www.certleader.com/SAA-C03-dumps.html>



**NEW QUESTION 1**

- (Topic 1)

A company is running a popular social media website. The website gives users the ability to upload images to share with other users. The company wants to make sure that the images do not contain inappropriate content. The company needs a solution that minimizes development effort.

What should a solutions architect do to meet these requirements?

- A. Use Amazon Comprehend to detect inappropriate content
- B. Use human review for low- confidence predictions.
- C. Use Amazon Rekognition to detect inappropriate content
- D. Use human review for low- confidence predictions.
- E. Use Amazon SageMaker to detect inappropriate content
- F. Use ground truth to label low- confidence predictions.
- G. Use AWS Fargate to deploy a custom machine learning model to detect inappropriate content
- H. Use ground truth to label low-confidence predictions.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/rekognition/latest/dg/moderation.html?pg=ln&sec=ft> <https://docs.aws.amazon.com/rekognition/latest/dg/a2i-rekognition.html>

**NEW QUESTION 2**

- (Topic 1)

A company runs an online marketplace web application on AWS. The application serves hundreds of thousands of users during peak hours. The company needs a scalable, near- real-time solution to share the details of millions of financial transactions with several other internal applications. Transactions also need to be processed to remove sensitive data before being stored in a document database for low-latency retrieval.

What should a solutions architect recommend to meet these requirements?

- A. Store the transactions data into Amazon DynamoDB. Set up a rule in DynamoDB to remove sensitive data from every transaction upon write. Use DynamoDB Streams to share the transactions data with other applications.
- B. Stream the transactions data into Amazon Kinesis Data Firehose to store data in Amazon DynamoDB and Amazon S3. Use AWS Lambda integration with Kinesis Data Firehose to remove sensitive data.
- C. Other applications can consume the data stored in Amazon S3.
- D. Stream the transactions data into Amazon Kinesis Data Streams. Use AWS Lambda integration to remove sensitive data from every transaction and then store the transactions data in Amazon DynamoDB. Other applications can consume the transactions data off the Kinesis data stream.
- E. Store the batched transactions data in Amazon S3 as file.
- F. Use AWS Lambda to process every file and remove sensitive data before updating the files in Amazon S3. The Lambda function then stores the data in Amazon DynamoDB. Other applications can consume transaction files stored in Amazon S3.

**Answer:** C

**Explanation:**

The destination of your Kinesis Data Firehose delivery stream. Kinesis Data Firehose can send data records to various destinations, including Amazon Simple Storage Service (Amazon S3), Amazon Redshift, Amazon OpenSearch Service, and any HTTP endpoint that is owned by you or any of your third-party service providers. The following are the supported destinations:

- \* Amazon OpenSearch Service
- \* Amazon S3
- \* Datadog
- \* Dynatrace
- \* Honeycomb
- \* HTTP Endpoint
- \* Logic Monitor
- \* MongoDB Cloud
- \* New Relic
- \* Splunk
- \* Sumo Logic <https://docs.aws.amazon.com/firehose/latest/dev/create-name.html>

<https://aws.amazon.com/kinesis/data-streams/>

Amazon Kinesis Data Streams (KDS) is a massively scalable and durable real-time data streaming service. KDS can continuously capture gigabytes of data per second from hundreds of thousands of sources such as website clickstreams, database event streams, financial transactions, social media feeds, IT logs, and location-tracking events.

**NEW QUESTION 3**

- (Topic 1)

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?

- A. Create an Auto Scaling group so that EC2 instances can scale out.
- B. 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.
- C. Create an Amazon AppFlow flow to transfer data between each SaaS source and the S3 bucket.
- D. 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.
- E. Create an Amazon EventBridge (Amazon CloudWatch Events) rule for each SaaS source to send output data.
- F. Configure the S3 bucket as the rule's target.
- G. Create a second EventBridge (CloudWatch Events) rule to send events when the upload to the S3 bucket is complete.
- H. Configure an Amazon Simple Notification Service (Amazon SNS) topic as the second rule's target.
- I. Create a Docker container to use instead of an EC2 instance.
- J. 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

**Explanation:**

Amazon AppFlow is a fully managed integration service that enables you to securely transfer data between Software-as-a-Service (SaaS) applications like Salesforce, SAP, Zendesk, Slack, and ServiceNow, and AWS services like Amazon S3 and Amazon Redshift, in just a few clicks.  
<https://aws.amazon.com/appflow/>

**NEW QUESTION 4**

- (Topic 1)

A company has an application that generates a large number of files, each approximately 5 MB in size. The files are stored in Amazon S3. Company policy requires the files to be stored for 4 years before they can be deleted. Immediate accessibility is always required as the files contain critical business data that is not easy to reproduce. The files are frequently accessed in the first 30 days of the object creation but are rarely accessed after the first 30 days. Which storage solution is MOST cost-effective?

- A. Create an S3 bucket lifecycle policy to move files from S3 Standard to S3 Glacier 30 days from object creation. Delete the files 4 years after object creation.
- B. Create an S3 bucket lifecycle policy to move files from S3 Standard to S3 One Zone- Infrequent Access (S3 One Zone-IA) 30 days from object creation. Delete the files 4 years after object creation.
- C. Delete the files 4 years after object creation.
- D. Create an S3 bucket lifecycle policy to move files from S3 Standard-Infrequent Access (S3 Standard-IA) 30 days from object creation. Delete the files 4 years after object creation.
- E. Delete the files 4 years after object creation.
- F. Create an S3 bucket lifecycle policy to move files from S3 Standard to S3 Standard- Infrequent Access (S3 Standard-IA) 30 days from object creation. Move the files to S3 Glacier 4 years after object creation.

**Answer:** B

**Explanation:**

[https://aws.amazon.com/s3/storage-classes/?trk=66264cd8-3b73-416c-9693-ea7cf4fe846a&sc\\_channel=ps&s\\_kwid=AL1442213!536452716950!p!!g!!aws%20s3%20pricing&ef\\_id=Cj0KCQjwnbmaBhD-ARIsAGTPcfVHUZN5\\_BMrzI5zBcaC8KnqpnNZvbZzqPkH6k7q4JcYO5KFLx0YYgaAm6nEALw\\_wcB:G:s&s\\_kwid=AL1442213!536452716950!p!!g!!aws%20s3%20pricing](https://aws.amazon.com/s3/storage-classes/?trk=66264cd8-3b73-416c-9693-ea7cf4fe846a&sc_channel=ps&s_kwid=AL1442213!536452716950!p!!g!!aws%20s3%20pricing&ef_id=Cj0KCQjwnbmaBhD-ARIsAGTPcfVHUZN5_BMrzI5zBcaC8KnqpnNZvbZzqPkH6k7q4JcYO5KFLx0YYgaAm6nEALw_wcB:G:s&s_kwid=AL1442213!536452716950!p!!g!!aws%20s3%20pricing)

**NEW QUESTION 5**

- (Topic 1)

A company hosts more than 300 global websites and applications. The company requires a platform to analyze more than 30 TB of clickstream data each day. What should a solutions architect do to transmit and process the clickstream data?

- A. Design an AWS Data Pipeline to archive the data to an Amazon S3 bucket and run an Amazon EMR cluster with the data to generate analytics.
- B. Create an Auto Scaling group of Amazon EC2 instances to process the data and send it to an Amazon S3 data lake for Amazon Redshift to use for analysis.
- C. Cache the data to Amazon CloudFront. Store the data in an Amazon S3 bucket. When an object is added to the S3 bucket, run an AWS Lambda function to process the data for analysis.
- D. Collect the data from Amazon Kinesis Data Stream.
- E. Use Amazon Kinesis Data Firehose to transmit the data to an Amazon S3 data lake. Load the data in Amazon Redshift for analysis.

**Answer:** D

**Explanation:**

<https://aws.amazon.com/es/blogs/big-data/real-time-analytics-with-amazon-redshift-streaming-ingestion/>

**NEW QUESTION 6**

- (Topic 1)

A company has an on-premises application that generates a large amount of time-sensitive data that is backed up to Amazon S3. The application has grown and there are user complaints about internet bandwidth limitations. A solutions architect needs to design a long-term solution that allows for both timely backups to Amazon S3 and with minimal impact on internet connectivity for internal users. Which solution meets these requirements?

- A. Establish AWS VPN connections and proxy all traffic through a VPC gateway endpoint.
- B. Establish a new AWS Direct Connect connection and direct backup traffic through this new connection.
- C. Order daily AWS Snowball devices. Load the data onto the Snowball devices and return the devices to AWS each day.
- D. Submit a support ticket through the AWS Management Console. Request the removal of S3 service limits from the account.

**Answer:** B

**Explanation:**

To address the issue of bandwidth limitations on the company's on-premises application, and to minimize the impact on internal user connectivity, a new AWS Direct Connect connection should be established to direct backup traffic through this new connection. This solution will offer a secure, high-speed connection between the company's data center and AWS, which will allow the company to transfer data quickly without consuming internet bandwidth.

Reference:

AWS Direct Connect documentation: <https://aws.amazon.com/directconnect/>

**NEW QUESTION 7**

- (Topic 1)

A company's website uses an Amazon EC2 instance store for its catalog of items. The company wants to make sure that the catalog is highly available and that the catalog is stored in a durable location. What should a solutions architect do to meet these requirements?

- A. Move the catalog to Amazon ElastiCache for Redis.
- B. Deploy a larger EC2 instance with a larger instance store.
- C. Move the catalog from the instance store to Amazon S3 Glacier Deep Archive.
- D. Move the catalog to an Amazon Elastic File System (Amazon EFS) file system.

**Answer:** D

**Explanation:**

Moving the catalog to an Amazon Elastic File System (Amazon EFS) file system provides both high availability and durability. Amazon EFS is a fully-managed, highly-available, and durable file system that is built to scale on demand. With Amazon EFS, the catalog data can be stored and accessed from multiple EC2 instances in different availability zones, ensuring high availability. Also, Amazon EFS automatically stores files redundantly within and across multiple availability zones, making it a durable storage option.

**NEW QUESTION 8**

- (Topic 1)

A development team runs monthly resource-intensive tests on its general purpose Amazon RDS for MySQL DB instance with Performance Insights enabled. The testing lasts for 48 hours once a month and is the only process that uses the database. The team wants to reduce the cost of running the tests without reducing the compute and memory attributes of the DB instance.

Which solution meets these requirements MOST cost-effectively?

- A. Stop the DB instance when tests are complete
- B. Restart the DB instance when required.
- C. Use an Auto Scaling policy with the DB instance to automatically scale when tests are completed.
- D. Create a snapshot when tests are complete
- E. Terminate the DB instance and restore the snapshot when required.
- F. Modify the DB instance to a low-capacity instance when tests are complete
- G. Modify the DB instance again when required.

**Answer:** A

**Explanation:**

To reduce the cost of running the tests without reducing the compute and memory attributes of the Amazon RDS for MySQL DB instance, the development team can stop the instance when tests are completed and restart it when required. Stopping the DB instance when not in use can help save costs because customers are only charged for storage while the DB instance is stopped. During this time, automated backups and automated DB instance maintenance are suspended. When the instance is restarted, it retains the same configurations, security groups, and DB parameter groups as when it was stopped.

Reference:

Amazon RDS Documentation: Stopping and Starting a DB instance ([https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER\\_StopInstance.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_StopInstance.html))

**NEW QUESTION 9**

- (Topic 1)

A global company hosts its web application on Amazon EC2 instances behind an Application Load Balancer (ALB). The web application has static data and dynamic data. The company stores its static data in an Amazon S3 bucket. The company wants to improve performance and reduce latency for the static data and dynamic data. The company is using its own domain name registered with Amazon Route 53.

What should a solutions architect do to meet these requirements?

- A. Create an Amazon CloudFront distribution that has the S3 bucket and the ALB as origins Configure Route 53 to route traffic to the CloudFront distribution.
- B. Create an Amazon CloudFront distribution that has the ALB as an origin Create an AWS Global Accelerator standard accelerator that has the S3 bucket as an endpoint
- C. Configure Route 53 to route traffic to the CloudFront distribution.
- D. Create an Amazon CloudFront distribution that has the S3 bucket as an origin Create an AWS Global Accelerator standard accelerator that has the ALB and the CloudFront distribution as endpoints Create a custom domain name that points to the accelerator DNS name Use the custom domain name as an endpoint for the web application.
- E. Create an Amazon CloudFront distribution that has the ALB as an origin
- F. Create an AWS Global Accelerator standard accelerator that has the S3 bucket as an endpoint Create two domain name
- G. Point one domain name to the CloudFront DNS name for dynamic content, Point the other domain name to the accelerator DNS name for static content Use the domain names as endpoints for the web application.

**Answer:** C

**Explanation:**

Static content can be cached at Cloud front Edge locations from S3 and dynamic content EC2 behind the ALB whose performance can be improved by Global Accelerator whose one endpoint is ALB and other Cloud front. So with regards to custom domain name endpoint is web application is R53 alias records for the custom domain point to web application <https://aws.amazon.com/blogs/networking-and-content-delivery/improving-availability-and-performance-for-application-load-balancers-using-one-click-integration-with-aws-global-accelerator/>

**NEW QUESTION 10**

- (Topic 1)

A company is migrating a distributed application to AWS The application serves variable workloads The legacy platform consists of a primary server that coordinates jobs across multiple compute nodes The company wants to modernize the application with a solution that maximizes resiliency and scalability.

How should a solutions architect design the architecture to meet these requirements?

- A. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination for the jobs Implement the compute nodes with Amazon EC2 instances that are managed in an Auto Scaling group
- B. Configure EC2 Auto Scaling to use scheduled scaling
- C. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a destination for the jobs Implement the compute nodes with Amazon EC2 Instances that are managed in an Auto Scaling group Configure EC2 Auto Scaling based on the size of the queue
- D. Implement the primary server and the compute nodes with Amazon EC2 instances that are managed In an Auto Scaling group
- E. Configure AWS CloudTrail as a destination for the jobs Configure EC2 Auto Scaling based on the load on the primary server
- F. implement the primary server and the compute nodes with Amazon EC2 instances that are managed in an Auto Scaling group Configure Amazon EventBridge (Amazon CloudWatch Events) as a destination for the jobs Configure EC2 Auto Scaling based on the load on the compute nodes

**Answer:** B

**Explanation:**

To maximize resiliency and scalability, the best solution is to use an Amazon SQS queue as a destination for the jobs. This decouples the primary server from the



compute nodes, allowing them to scale independently. This also helps to prevent job loss in the event of a failure. Using an Auto Scaling group of Amazon EC2 instances for the compute nodes allows for automatic scaling based on the workload. In this case, it's recommended to configure the Auto Scaling group based on the size of the Amazon SQS queue, which is a better indicator of the actual workload than the load on the primary server or compute nodes. This approach ensures that the application can handle variable workloads, while also minimizing costs by automatically scaling up or down the compute nodes as needed.

**NEW QUESTION 10**

- (Topic 1)

A company stores call transcript files on a monthly basis. Users access the files randomly within 1 year of the call, but users access the files infrequently after 1 year. The company wants to optimize its solution by giving users the ability to query and retrieve files that are less than 1-year-old as quickly as possible. A delay in retrieving older files is acceptable.

Which solution will meet these requirements MOST cost-effectively?

- A. Store individual files with tags in Amazon S3 Glacier Instant Retrieval
- B. Query the tags to retrieve the files from S3 Glacier Instant Retrieval.
- C. Store individual files in Amazon S3 Intelligent-Tiering
- D. Use S3 Lifecycle policies to move the files to S3 Glacier Flexible Retrieval after 1 year
- E. Query and retrieve the files that are in Amazon S3 by using Amazon Athena
- F. Query and retrieve the files that are in S3 Glacier by using S3 Glacier Select.
- G. Store individual files with tags in Amazon S3 Standard storage
- H. Store search metadata for each archive in Amazon S3 Standard storage
- I. Use S3 Lifecycle policies to move the files to S3 Glacier Instant Retrieval after 1 year
- J. Query and retrieve the files by searching for metadata from Amazon S3.
- K. Store individual files in Amazon S3 Standard storage
- L. Use S3 Lifecycle policies to move the files to S3 Glacier Deep Archive after 1 year
- M. Store search metadata in Amazon Redshift
- N. Query the files from Amazon Redshift
- O. Retrieve the files from S3 Glacier Deep Archive.

**Answer:** B

**Explanation:**

"For archive data that needs immediate access, such as medical images, news media assets, or genomics data, choose the S3 Glacier Instant Retrieval storage class, an archive storage class that delivers the lowest cost storage with milliseconds retrieval. For archive data that does not require immediate access but needs the flexibility to retrieve large sets of data at no cost, such as backup or disaster recovery use cases, choose S3 Glacier Flexible Retrieval (formerly S3 Glacier), with retrieval in minutes or free bulk retrievals in 5- 12 hours." <https://aws.amazon.com/about-aws/whats-new/2021/11/amazon-s3-glacier-instant-retrieval-storage-class/>

**NEW QUESTION 14**

- (Topic 1)

A company is implementing a new business application. The application runs on two Amazon EC2 instances and uses an Amazon S3 bucket for document storage. A solutions architect needs to ensure that the EC2 instances can access the S3 bucket.

What should the solutions architect do to meet this requirement?

- A. Create an IAM role that grants access to the S3 bucket
- B. Attach the role to the EC2 instances.
- C. Create an IAM policy that grants access to the S3 bucket
- D. Attach the policy to the EC2 instances.
- E. Create an IAM group that grants access to the S3 bucket
- F. Attach the group to the EC2 instances.
- G. Create an IAM user that grants access to the S3 bucket
- H. Attach the user account to the EC2 instances.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/premiumsupport/knowledge-center/ec2-instance-access-s3-bucket/>

**NEW QUESTION 17**

- (Topic 1)

A company has a production workload that runs on 1,000 Amazon EC2 Linux instances. The workload is powered by third-party software. The company needs to patch the third-party software on all EC2 instances as quickly as possible to remediate a critical security vulnerability.

What should a solutions architect do to meet these requirements?

- A. Create an AWS Lambda function to apply the patch to all EC2 instances.
- B. Configure AWS Systems Manager Patch Manager to apply the patch to all EC2 instances.
- C. Schedule an AWS Systems Manager maintenance window to apply the patch to all EC2 instances.
- D. Use AWS Systems Manager Run Command to run a custom command that applies the patch to all EC2 instances.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/systems-manager/latest/userguide/about-windows-app-patching.html>

**NEW QUESTION 21**

- (Topic 1)

A development team needs to host a website that will be accessed by other teams. The website contents consist of HTML, CSS, client-side JavaScript, and images. Which method is the MOST cost-effective for hosting the website?

- A. Containerize the website and host it in AWS Fargate.

- B. Create an Amazon S3 bucket and host the website there
- C. Deploy a web server on an Amazon EC2 instance to host the website.
- D. Configure an Application Load Balancer with an AWS Lambda target that uses the Express.js framework.

**Answer:** B

**Explanation:**

In Static Websites, Web pages are returned by the server which are prebuilt. They use simple languages such as HTML, CSS, or JavaScript.

There is no processing of content on the server (according to the user) in Static Websites. Web pages are returned by the server with no change therefore, static Websites are fast.

There is no interaction with databases.

Also, they are less costly as the host does not need to support server-side processing with different languages.

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In Dynamic Websites, Web pages are returned by the server which are processed during runtime means they are not prebuilt web pages but they are built during runtime according to the user's demand.

These use server-side scripting languages such as PHP, Node.js, ASP.NET and many more supported by the server.

So, they are slower than static websites but updates and interaction with databases are possible.

**NEW QUESTION 23**

- (Topic 1)

A company runs an on-premises application that is powered by a MySQL database. The company is migrating the application to AWS to increase the application's elasticity and availability.

The current architecture shows heavy read activity on the database during times of normal operation. Every 4 hours the company's development team pulls a full export of the production database to populate a database in the staging environment. During this period, users experience unacceptable application latency. The development team is unable to use the staging environment until the procedure completes.

A solutions architect must recommend replacement architecture that alleviates the application latency issue. The replacement architecture also must give the development team the ability to continue using the staging environment without delay.

Which solution meets these requirements?

- A. Use Amazon Aurora MySQL with Multi-AZ Aurora Replicas for production.
- B. Populate the staging database by implementing a backup and restore process that uses the mysqldump utility.
- C. Use Amazon Aurora MySQL with Multi-AZ Aurora Replicas for production. Use database cloning to create the staging database on-demand.
- D. Use Amazon RDS for MySQL with a Multi-AZ deployment and read replicas for production. Use the standby instance for the staging database.
- E. Use Amazon RDS for MySQL with a Multi-AZ deployment and read replicas for production.
- F. Populate the staging database by implementing a backup and restore process that uses the mysqldump utility.

**Answer:** B

**Explanation:**

<https://aws.amazon.com/blogs/aws/amazon-aurora-fast-database-cloning/>

**NEW QUESTION 26**

- (Topic 1)

A company provides a Voice over Internet Protocol (VoIP) service that uses UDP connections. The service consists of Amazon EC2 instances that run in an Auto Scaling group. The company has deployments across multiple AWS Regions.

The company needs to route users to the Region with the lowest latency. The company also needs automated failover between Regions.

Which solution will meet these requirements?

- A. Deploy a Network Load Balancer (NLB) and an associated target group.
- B. Associate the target group with the Auto Scaling group.
- C. Use the NLB as an AWS Global Accelerator endpoint in each Region.
- D. Deploy an Application Load Balancer (ALB) and an associated target group.
- E. Associate the target group with the Auto Scaling group.
- F. Use the ALB as an AWS Global Accelerator endpoint in each Region.
- G. Deploy a Network Load Balancer (NLB) and an associated target group.
- H. Associate the target group with the Auto Scaling group.
- I. Create an Amazon Route 53 latency record that points to aliases for each NLB.
- J. Create an Amazon CloudFront distribution that uses the latency record as an origin.
- K. Deploy an Application Load Balancer (ALB) and an associated target group.
- L. Associate the target group with the Auto Scaling group.
- M. Create an Amazon Route 53 weighted record that points to aliases for each ALB.
- N. Deploy an Amazon CloudFront distribution that uses the weighted record as an origin.

**Answer:** D

**Explanation:**

<https://aws.amazon.com/global-accelerator/faqs/>

HTTP /HTTPS - ALB ; TCP and UDP - NLB; Lowest latency routing and more throughput. Also supports failover, uses Anycast IP addressing - Global Accelerator Caching at Edge Locations – CloudFront

AWS Global Accelerator automatically checks the health of your applications and routes user traffic only to healthy application endpoints. If the health status changes or you make configuration updates, AWS Global Accelerator reacts instantaneously to route your users to the next available endpoint..

**NEW QUESTION 28**

- (Topic 1)

A solutions architect is using Amazon S3 to design the storage architecture of a new digital media application. The media files must be resilient to the loss of an Availability Zone. Some files are accessed frequently while other files are rarely accessed in an unpredictable pattern. The solutions architect must minimize the costs of storing and retrieving the media files.

Which storage option meets these requirements?

- A. S3 Standard

- B. S3 Intelligent-Tiering
- C. S3 Standard-Infrequent Access (S3 Standard-IA)
- D. S3 One Zone-Infrequent Access (S3 One Zone-IA)

**Answer:** B

**Explanation:**

S3 Intelligent-Tiering - Perfect use case when you don't know the frequency of access or irregular patterns of usage. Amazon S3 offers a range of storage classes designed for different use cases. These include S3 Standard for general-purpose storage of frequently accessed data; S3 Intelligent-Tiering for data with unknown or changing access patterns; S3 Standard- Infrequent Access (S3 Standard-IA) and S3 One Zone-Infrequent Access (S3 One Zone- IA) for long-lived, but less frequently accessed data; and Amazon S3 Glacier (S3 Glacier) and Amazon S3 Glacier Deep Archive (S3 Glacier Deep Archive) for long-term archive and digital preservation. If you have data residency requirements that can't be met by an existing AWS Region, you can use the S3 Outposts storage class to store your S3 data on- premises. Amazon S3 also offers capabilities to manage your data throughout its lifecycle. Once an S3 Lifecycle policy is set, your data will automatically transfer to a different storage class without any changes to your application.  
[https://aws.amazon.com/getting-started/hands-on/getting-started-using-amazon-s3-intelligent-tiering/?nc1=h\\_ls](https://aws.amazon.com/getting-started/hands-on/getting-started-using-amazon-s3-intelligent-tiering/?nc1=h_ls)

**NEW QUESTION 31**

- (Topic 1)

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?

- A. Use Amazon Redshift to load all the content into one place and run the SQL queries as needed
- B. Use Amazon CloudWatch Logs to store the logs. Run SQL queries as needed from the Amazon CloudWatch console
- C. Use Amazon Athena directly with Amazon S3 to run the queries as needed
- D. 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.

**NEW QUESTION 36**

- (Topic 1)

A company wants to run its critical applications in containers to meet requirements for scalability and availability. The company prefers to focus on maintenance of the critical applications. The company does not want to be responsible for provisioning and managing the underlying infrastructure that runs the containerized workload. What should a solutions architect do to meet those requirements?

- A. Use Amazon EC2 Instances, and install Docker on the instances
- B. Use Amazon Elastic Container Service (Amazon ECS) on Amazon EC2 worker nodes
- C. Use Amazon Elastic Container Service (Amazon ECS) on AWS Fargate
- D. Use Amazon EC2 instances from an Amazon Elastic Container Service (Amazon ECS)- optimized Amazon Machine Image (AMI).

**Answer:** C

**Explanation:**

using AWS ECS on AWS Fargate since they require less maintenance for scalability and availability without having to provision and manage the underlying infrastructure to run the containerized workload. <https://docs.aws.amazon.com/AmazonECS/latest/userguide/what-is-fargate.html>

**NEW QUESTION 37**

- (Topic 1)

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?

- A. Change the storage type to Provisioned IOPS SSD
- B. Change the DB instance to a memory optimized instance class
- C. Change the DB instance to a burstable performance instance class
- D. Enable Multi-AZ RDS read replicas with MySQL native asynchronous replication.

**Answer:** 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."  
[https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP\\_Storage.html](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Storage.html)

**NEW QUESTION 39**

- (Topic 1)

A company's containerized application runs on an Amazon EC2 instance. The application needs to download security certificates before it can communicate with other business applications. The company wants a highly secure solution to encrypt and decrypt the certificates in near real time. The solution also needs to store data in highly available storage after the data is encrypted. Which solution will meet these requirements with the LEAST operational overhead?



- A. Create AWS Secrets Manager secrets for encrypted certificate
- B. Manually update the certificates as needed
- C. Control access to the data by using fine-grained IAM access.
- D. Create an AWS Lambda function that uses the Python cryptography library to receive and perform encryption operation
- E. Store the function in an Amazon S3 bucket.
- F. Create an AWS Key Management Service (AWS KMS) customer managed key
- G. Allow the EC2 role to use the KMS key for encryption operation
- H. Store the encrypted data on Amazon S3.
- I. Create an AWS Key Management Service (AWS KMS) customer managed key
- J. Allow the EC2 role to use the KMS key for encryption operation
- K. Store the encrypted data on Amazon Elastic Block Store (Amazon EBS) volumes.

**Answer:** D

#### NEW QUESTION 42

- (Topic 1)

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?

- A. Use Amazon Redshift with a single node for leader and compute functionality.
- B. Use Amazon RDS with a Single-AZ deployment. Configure Amazon RDS to add reader instances in a different Availability Zone.
- C. Use Amazon Aurora with a Multi-AZ deployment
- D. Configure Aurora Auto Scaling with Aurora Replicas.
- E. Use Amazon ElastiCache for Memcached with EC2 Spot Instances.

**Answer:** C

#### Explanation:

AURORA is 5x performance improvement over MySQL on RDS and handles more read requests than write,; maintaining high availability = Multi-AZ deployment

#### NEW QUESTION 44

- (Topic 1)

A company has a website hosted on AWS. The website is behind an Application Load Balancer (ALB) that is configured to handle HTTP and HTTPS separately. The company wants to forward all requests to the website so that the requests will use HTTPS.

What should a solutions architect do to meet this requirement?

- A. Update the ALB's network ACL to accept only HTTPS traffic
- B. Create a rule that replaces the HTTP in the URL with HTTPS.
- C. Create a listener rule on the ALB to redirect HTTP traffic to HTTPS.
- D. Replace the ALB with a Network Load Balancer configured to use Server Name Indication (SNI).

**Answer:** C

#### Explanation:

<https://aws.amazon.com/premiumsupport/knowledge-center/elb-redirect-http-to-https-using-alb/>

How can I redirect HTTP requests to HTTPS using an Application Load Balancer? Last updated: 2020-10-30 I want to redirect HTTP requests to HTTPS using Application Load Balancer listener rules. How can I do this? Resolution Reference: <https://aws.amazon.com/premiumsupport/knowledge-center/elb-redirect-http-to-https-using-alb/>

#### NEW QUESTION 48

- (Topic 1)

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?

- A. 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.
- B. 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.
- C. 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.
- D. Use an Amazon S3 bucket to host the website's static content. Deploy an Amazon CloudFront distribution.
- E. 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

#### Explanation:

To launch a one-deal-a-day website on AWS with millisecond latency during peak hours and with the least operational overhead, the best option is to 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, and store the data in Amazon DynamoDB. This option requires minimal operational overhead and can handle millions of requests each hour with millisecond latency during peak hours. Therefore, option D is the correct answer.

Reference: <https://aws.amazon.com/blogs/compute/building-a-serverless-multi-player-game-with-aws-lambda-and-amazon-dynamodb/>

#### NEW QUESTION 50

- (Topic 1)



A company is implementing a shared storage solution for a media application that is hosted in the AWS Cloud. The company needs the ability to use SMB clients to access data. The solution must be fully managed.

Which AWS solution meets these requirements?

- A. Create an AWS Storage Gateway volume gateway.
- B. Create a file share that uses the required client protocol. Connect the application server to the file share.
- C. Create an AWS Storage Gateway tape gateway. Configure it to use Amazon S3. Connect the application server to the tape gateway.
- D. Create an Amazon EC2 Windows instance. Install and configure a Windows file share role on the instance.
- E. Connect the application server to the file share.
- F. Create an Amazon FSx for Windows File Server file system. Attach the file system to the origin server.
- G. Connect the application server to the file system.

**Answer:** D

**Explanation:**

<https://aws.amazon.com/fsx/lustre/>

Amazon FSx has native support for Windows file system features and for the industry-standard Server Message Block (SMB) protocol to access file storage over a network. <https://docs.aws.amazon.com/fsx/latest/WindowsGuide/what-is.html>

**NEW QUESTION 54**

- (Topic 1)

A company has applications that run on Amazon EC2 instances in a VPC. One of the applications needs to call the Amazon S3 API to store and read objects.

According to the company's security regulations, no traffic from the applications is allowed to travel across the internet.

Which solution will meet these requirements?

- A. Configure an S3 interface endpoint.
- B. Configure an S3 gateway endpoint.
- C. Create an S3 bucket in a private subnet.
- D. Create an S3 bucket in the same Region as the EC2 instance.

**Answer:** B

**Explanation:**

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/privatelink-interface-endpoints.html#types-of-vpc-endpoints-for-s3>

<https://docs.aws.amazon.com/vpc/latest/userguide/vpc-endpoints-s3.html>

**NEW QUESTION 57**

- (Topic 1)

A company wants to improve its ability to clone large amounts of production data into a test environment in the same AWS Region. The data is stored in Amazon EC2 instances on Amazon Elastic Block Store (Amazon EBS) volumes. Modifications to the cloned data must not affect the production environment. The software that accesses this data requires consistently high I/O performance.

A solutions architect needs to minimize the time that is required to clone the production data into the test environment.

Which solution will meet these requirements?

- A. Take EBS snapshots of the production EBS volume.
- B. Restore the snapshots onto EC2 instance store volumes in the test environment.
- C. Configure the production EBS volumes to use the EBS Multi-Attach feature.
- D. Take EBS snapshots of the production EBS volume.
- E. Attach the production EBS volumes to the EC2 instances in the test environment.
- F. Take EBS snapshots of the production EBS volume.
- G. Create and initialize new EBS volume.
- H. Attach the new EBS volumes to EC2 instances in the test environment before restoring the volumes from the production EBS snapshots.
- I. Take EBS snapshots of the production EBS volume.
- J. Turn on the EBS fast snapshot restore feature on the EBS snapshot.
- K. Restore the snapshots into new EBS volume.
- L. Attach the new EBS volumes to EC2 instances in the test environment.

**Answer:** C

**Explanation:**

To clone the production data into the test environment with high I/O performance and without affecting the production environment, the best option is to take EBS snapshots of the production EBS volumes and restore them onto new EBS volumes in the test environment. Then, attach the new EBS volumes to EC2 instances in the test environment. This option minimizes the time required to clone the data and ensures that modifications to the cloned data do not affect the production environment. Therefore, option C is the correct answer.

Reference: <https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-restoring-volume.html>

**NEW QUESTION 62**

- (Topic 1)

A company has registered its domain name with Amazon Route 53. The company uses Amazon API Gateway in the ca-central-1 Region as a public interface for its backend microservice APIs. Third-party services consume the APIs securely. The company wants to design its API Gateway URL with the company's domain name and corresponding certificate so that the third-party services can use HTTPS.

Which solution will meet these requirements?

- A. Create stage variables in API Gateway with Name="Endpoint-URL" and Value="Company Domain Name" to overwrite the default URL.
- B. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM).
- C. Create Route 53 DNS records with the company's domain name.
- D. Point the alias record to the Regional API Gateway stage endpoint.
- E. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the us-east-1 Region.
- F. Create a Regional API Gateway endpoint.
- G. Associate the API Gateway endpoint with the company's domain name.

- H. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the same Region
- I. Attach the certificate to the API Gateway endpoint
- J. Configure Route 53 to route traffic to the API Gateway endpoint.
- K. Create a Regional API Gateway endpoint
- L. Associate the API Gateway endpoint with the company's domain name
- M. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the us-east-1 Region
- N. Attach the certificate to the API Gateway API
- O. Create Route 53 DNS records with the company's domain name
- P. Point an A record to the company's domain name.

**Answer:** C

**Explanation:**

To design the API Gateway URL with the company's domain name and corresponding certificate, the company needs to do the following: 1. Create a Regional API Gateway endpoint: This will allow the company to create an endpoint that is specific to a region. 2. Associate the API Gateway endpoint with the company's domain name: This will allow the company to use its own domain name for the API Gateway URL. 3. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the same Region: This will allow the company to use HTTPS for secure communication with its APIs. 4. Attach the certificate to the API Gateway endpoint: This will allow the company to use the certificate for securing the API Gateway URL. 5. Configure Route 53 to route traffic to the API Gateway endpoint: This will allow the company to use Route 53 to route traffic to the API Gateway URL using the company's domain name.

**NEW QUESTION 66**

- (Topic 1)

A company is running an SMB file server in its data center. The file server stores large files that are accessed frequently for the first few days after the files are created. After 7 days the files are rarely accessed.

The total data size is increasing and is close to the company's total storage capacity. A solutions architect must increase the company's available storage space without losing low-latency access to the most recently accessed files. The solutions architect must also provide file lifecycle management to avoid future storage issues.

Which solution will meet these requirements?

- A. Use AWS DataSync to copy data that is older than 7 days from the SMB file server to AWS.
- B. Create an Amazon S3 File Gateway to extend the company's storage space
- C. Create an S3 Lifecycle policy to transition the data to S3 Glacier Deep Archive after 7 days.
- D. Create an Amazon FSx for Windows File Server file system to extend the company's storage space.
- E. Install a utility on each user's computer to access Amazon S3. Create an S3 Lifecycle policy to transition the data to S3 Glacier Flexible Retrieval after 7 days.

**Answer:** B

**Explanation:**

Amazon S3 File Gateway is a hybrid cloud storage service that enables on-premises applications to seamlessly use Amazon S3 cloud storage. It provides a file interface to Amazon S3 and supports SMB and NFS protocols. It also supports S3 Lifecycle policies that can automatically transition data from S3 Standard to S3 Glacier Deep Archive after a specified period of time. This solution will meet the requirements of increasing the company's available storage space without losing low-latency access to the most recently accessed files and providing file lifecycle management to avoid future storage issues.

Reference:

<https://docs.aws.amazon.com/storagegateway/latest/userguide/WhatIsStorageGateway.html>

**NEW QUESTION 69**

- (Topic 1)

A solutions architect is designing the cloud architecture for a new application being deployed on AWS. The process should run in parallel while adding and removing application nodes as needed based on the number of jobs to be processed. The processor application is stateless. The solutions architect must ensure that the application is loosely coupled and the job items are durably stored.

Which design should the solutions architect use?

- A. Create an Amazon SNS topic to send the jobs that need to be processed Create an Amazon Machine Image (AMI) that consists of the processor application Create a launch configuration that uses the AMI Create an Auto Scaling group using the launch configuration Set the scaling policy for the Auto Scaling group to add and remove nodes based on CPU usage
- B. Create an Amazon SQS queue to hold the jobs that need to be processed Create an Amazon Machine image (AMI) that consists of the processor application Create a launch configuration that uses the AMI Create an Auto Scaling group using the launch configuration Set the scaling policy for the Auto Scaling group to add and remove nodes based on network usage
- C. Create an Amazon SQS queue to hold the jobs that need to be processed Create an Amazon Machine image (AMI) that consists of the processor application Create a launch template that uses the AMI Create an Auto Scaling group using the launch template Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of items in the SQS queue
- D. Create an Amazon SNS topic to send the jobs that need to be processed Create an Amazon Machine Image (AMI) that consists of the processor application Create a launch template that uses the AMI Create an Auto Scaling group using the launch template Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of messages published to the SNS topic

**Answer:** C

**Explanation:**

"Create an Amazon SQS queue to hold the jobs that need to be processed. Create an Amazon EC2 Auto Scaling group for the compute application. Set the scaling policy for the Auto Scaling group to add and remove nodes based on the number of items in the SQS queue"

In this case we need to find a durable and loosely coupled solution for storing jobs. Amazon SQS is ideal for this use case and can be configured to use dynamic scaling based on the number of jobs waiting in the queue. To configure this scaling you can use the backlog per instance metric with the target value being the acceptable backlog per instance to maintain. You can calculate these numbers as follows: Backlog per instance: To calculate your backlog per instance, start with the `ApproximateNumberOfMessages` queue attribute to determine the length of the SQS queue

**NEW QUESTION 72**

- (Topic 1)

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?

- A. Enable Amazon S3 Transfer Acceleration on the destination bucket
- B. Use multipart uploads to directly upload site data to the destination bucket.
- C. Upload site data to an Amazon S3 bucket in the closest AWS Region
- D. Use S3 cross-Region replication to copy objects to the destination bucket.
- E. Schedule AWS Snowball jobs daily to transfer data to the closest AWS Region
- F. Use S3 cross-Region replication to copy objects to the destination bucket.
- G. Upload the data to an Amazon EC2 instance in the closest Region
- H. Store the data in an Amazon Elastic Block Store (Amazon EBS) volume
- I. Once a day take an EBS snapshot and copy it to the centralized Region
- J. 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:](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."

**NEW QUESTION 77**

- (Topic 1)

A solutions architect must design a highly available infrastructure for a website. The website is powered by Windows web servers that run on Amazon EC2 instances. The solutions architect must implement a solution that can mitigate a large-scale DDoS attack that originates from thousands of IP addresses.

Downtime is not acceptable for the website.

Which actions should the solutions architect take to protect the website from such an attack? (Select TWO.)

- A. Use AWS Shield Advanced to stop the DDoS attack.
- B. Configure Amazon GuardDuty to automatically block the attackers.
- C. Configure the website to use Amazon CloudFront for both static and dynamic content.
- D. Use an AWS Lambda function to automatically add attacker IP addresses to VPC network ACLs.
- E. Use EC2 Spot Instances in an Auto Scaling group with a target tracking scaling policy that is set to 80% CPU utilization

**Answer:** AC

**Explanation:**

(<https://aws.amazon.com/cloudfront>)

**NEW QUESTION 81**

- (Topic 1)

A company has more than 5 TB of file data on Windows file servers that run on premises. Users and applications interact with the data each day.

The company is moving its Windows workloads to AWS. As the company continues this process, the company requires access to AWS and on-premises file storage with minimum latency. The company needs a solution that minimizes operational overhead and requires no significant changes to the existing file access patterns. The company uses an AWS Site-to-Site VPN connection for connectivity to AWS.

What should a solutions architect do to meet these requirements?

- A. Deploy and configure Amazon FSx for Windows File Server on AWS.
- B. Move the on-premises file data to FSx for Windows File Server.
- C. Reconfigure the workloads to use FSx for Windows File Server on AWS.
- D. Deploy and configure an Amazon S3 File Gateway on premises. Move the on-premises file data to the S3 File Gateway. Reconfigure the on-premises workloads and the cloud workloads to use the S3 File Gateway.
- E. Deploy and configure an Amazon S3 File Gateway on premises. Move the on-premises file data to Amazon S3. Reconfigure the workloads to use either Amazon S3 directly or the S3 File Gateway, depending on each workload's location.
- F. Deploy and configure Amazon FSx for Windows File Server on AWS. Deploy and configure an Amazon FSx File Gateway on premises. Move the on-premises file data to the FSx File Gateway. Configure the cloud workloads to use FSx for Windows File Server on AWS. Configure the on-premises workloads to use the FSx File Gateway.

**Answer:** D

**Explanation:**

<https://docs.aws.amazon.com/filegateway/latest/filefsxw/what-is-file-fsxw.html>

To meet the requirements of the company to have access to both AWS and on-premises file storage with minimum latency, a hybrid cloud architecture can be used. One solution is to deploy and configure Amazon FSx for Windows File Server on AWS, which provides fully managed Windows file servers. The on-premises file data can be moved to the FSx File Gateway, which can act as a bridge between on-premises and AWS file storage. The cloud workloads can be configured to use FSx for Windows File Server on AWS, while the on-premises workloads can be configured to use the FSx File Gateway. This solution minimizes operational overhead and requires no significant changes to the existing file access patterns. The connectivity between on-premises and AWS can be established using an AWS Site-to-Site VPN connection.

Reference:

AWS FSx for Windows File Server: <https://aws.amazon.com/fsx/windows/> AWS FSx File Gateway: <https://aws.amazon.com/fsx/file-gateway/>

AWS Site-to-Site VPN: <https://aws.amazon.com/vpn/site-to-site-vpn/>

**NEW QUESTION 83**

- (Topic 1)



A social media company allows users to upload images to its website. The website runs on Amazon EC2 instances. During upload requests, the website resizes the images to a standard size and stores the resized images in Amazon S3. Users are experiencing slow upload requests to the website. The company needs to reduce coupling within the application and improve website performance. A solutions architect must design the most operationally efficient process for image uploads. Which combination of actions should the solutions architect take to meet these requirements? (Choose two.)

- A. Configure the application to upload images to S3 Glacier.
- B. Configure the web server to upload the original images to Amazon S3.
- C. Configure the application to upload images directly from each user's browser to Amazon S3 through the use of a presigned URL.
- D. Configure S3 Event Notifications to invoke an AWS Lambda function when an image is uploaded.
- E. Use the function to resize the image.
- F. Create an Amazon EventBridge (Amazon CloudWatch Events) rule that invokes an AWS Lambda function on a schedule to resize uploaded images.

**Answer:** CD

**Explanation:**

Amazon S3 is a highly scalable and durable object storage service that can store and retrieve any amount of data from anywhere on the web<sup>1</sup>. Users can configure the application to upload images directly from each user's browser to Amazon S3 through the use of a presigned URL. A presigned URL is a URL that gives access to an object in an S3 bucket for a limited time and with a specific action, such as uploading an object<sup>2</sup>. Users can generate a presigned URL programmatically using the AWS SDKs or AWS CLI. By using a presigned URL, users can reduce coupling within the application and improve website performance, as they do not need to send the images to the web server first. AWS Lambda is a serverless compute service that runs code in response to events and automatically manages the underlying compute resources<sup>3</sup>. Users can configure S3 Event Notifications to invoke an AWS Lambda function when an image is uploaded. S3 Event Notifications is a feature that allows users to receive notifications when certain events happen in an S3 bucket, such as object creation or deletion. Users can configure S3 Event Notifications to invoke a Lambda function that resizes the image and stores it back in the same or a different S3 bucket. This way, users can offload the image resizing task from the web server to Lambda.

**NEW QUESTION 86**

- (Topic 1)

A company has several web servers that need to frequently access a common Amazon RDS MySQL Multi-AZ DB instance. The company wants a secure method for the web servers to connect to the database while meeting a security requirement to rotate user credentials frequently. Which solution meets these requirements?

- A. Store the database user credentials in AWS Secrets Manager. Grant the necessary IAM permissions to allow the web servers to access AWS Secrets Manager.
- B. Store the database user credentials in AWS Systems Manager OpsCenter. Grant the necessary IAM permissions to allow the web servers to access OpsCenter.
- C. Store the database user credentials in a secure Amazon S3 bucket. Grant the necessary IAM permissions to allow the web servers to retrieve credentials and access the databases.
- D. Store the database user credentials in files encrypted with AWS Key Management Service (AWS KMS) on the web server file system.
- E. The web server should be able to decrypt the files and access the database.

**Answer:** A

**Explanation:**

AWS Secrets Manager helps you protect secrets needed to access your applications, services, and IT resources. The service enables you to easily rotate, manage, and retrieve database credentials, API keys, and other secrets throughout their lifecycle.

<https://docs.aws.amazon.com/secretsmanager/latest/userguide/intro.html>

Secrets Manager enables you to replace hardcoded credentials in your code, including passwords, with an API call to Secrets Manager to retrieve the secret programmatically. This helps ensure the secret can't be compromised by someone examining your code, because the secret no longer exists in the code. Also, you can configure Secrets Manager to automatically rotate the secret for you according to a specified schedule. This enables you to replace long-term secrets with short-term ones, significantly reducing the risk of compromise.

**NEW QUESTION 91**

- (Topic 1)

A company is preparing to deploy a new serverless workload. A solutions architect must use the principle of least privilege to configure permissions that will be used to run an AWS Lambda function. An Amazon EventBridge (Amazon CloudWatch Events) rule will invoke the function. Which solution meets these requirements?

- A. Add an execution role to the function with `lambda: InvokeFunction` as the action and `*` as the principal.
- B. Add an execution role to the function with `lambda: InvokeFunction` as the action and `Service:amazonaws.com` as the principal.
- C. Add a resource-based policy to the function with `lambda:*` as the action and `Service:events.amazonaws.com` as the principal.
- D. Add a resource-based policy to the function with `lambda: InvokeFunction` as the action and `Service:events.amazonaws.com` as the principal.

**Answer:** D

**Explanation:**

<https://docs.aws.amazon.com/eventbridge/latest/userguide/resource-based-policies-eventbridge.html#lambda-permissions>

**NEW QUESTION 92**

- (Topic 1)

A company receives 10 TB of instrumentation data each day from several machines located at a single factory. The data consists of JSON files stored on a storage area network (SAN) in an on-premises data center located within the factory. The company wants to send this data to Amazon S3 where it can be accessed by several additional systems that provide critical near-real-time analytics. A secure transfer is important because the data is considered sensitive. Which solution offers the MOST reliable data transfer?

- A. AWS DataSync over public internet
- B. AWS DataSync over AWS Direct Connect
- C. AWS Database Migration Service (AWS DMS) over public internet
- D. AWS Database Migration Service (AWS DMS) over AWS Direct Connect

**Answer:** B



**Explanation:**

These are some of the main use cases for AWS DataSync: • Data migration

– Move active datasets rapidly over the network into Amazon S3, Amazon EFS, or FSx for Windows File Server. DataSync includes automatic encryption and data integrity validation to help make sure that your data arrives securely, intact, and ready to use.

"DataSync includes encryption and integrity validation to help make sure your data arrives securely, intact, and ready to use."

<https://aws.amazon.com/datasync/faqs/>

**NEW QUESTION 95**

- (Topic 1)

A company recently signed a contract with an AWS Managed Service Provider (MSP) Partner for help with an application migration initiative. A solutions architect needs to share an Amazon Machine Image (AMI) from an existing AWS account with the MSP Partner's AWS account. The AMI is backed by Amazon Elastic Block Store (Amazon EBS) and uses a customer managed customer master key (CMK) to encrypt EBS volume snapshots.

What is the MOST secure way for the solutions architect to share the AMI with the MSP Partner's AWS account?

- A. Make the encrypted AMI and snapshots publicly availabl
- B. Modify the CMK's key policy to allow the MSP Partner's AWS account to use the key
- C. Modify the launchPermission property of the AM
- D. Share the AMI with the MSP Partner's AWS account onl
- E. Modify the CMK's key policy to allow the MSP Partner's AWS account to use the key.
- F. Modify the launchPermission property of the AMI Share the AMI with the MSP Partner's AWS account onl
- G. Modify the CMK's key policy to trust a new CMK that is owned by the MSP Partner for encryption.
- H. Export the AMI from the source account to an Amazon S3 bucket in the MSP Partner's AWS accoun
- I. Encrypt the S3 bucket with a CMK that is owned by the MSP Partner Copy and launch the AMI in the MSP Partner's AWS account.

**Answer: B**

**Explanation:**

Share the existing KMS key with the MSP external account because it has already been used to encrypt the AMI snapshot.

<https://docs.aws.amazon.com/kms/latest/developerguide/key-policy-modifying-external-accounts.html>

**NEW QUESTION 96**

- (Topic 1)

A company recently migrated to AWS and wants to implement a solution to protect the traffic that flows in and out of the production VPC. The company had an inspection server in its on-premises data center. The inspection server performed specific operations such as traffic flow inspection and traffic filtering. The company wants to have the same functionalities in the AWS Cloud.

Which solution will meet these requirements?

- A. Use Amazon GuardDuty for traffic inspection and traffic filtering in the production VPC
- B. Use Traffic Mirroring to mirror traffic from the production VPC for traffic inspection and filtering.
- C. Use AWS Network Firewall to create the required rules for traffic inspection and traffic filtering for the production VPC.
- D. Use AWS Firewall Manager to create the required rules for traffic inspection and traffic filtering for the production VPC.

**Answer: C**

**Explanation:**

AWS Network Firewall supports both inspection and filtering as required

**NEW QUESTION 98**

- (Topic 1)

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?

- A. Modify the DB instance to be a Multi-AZ deployment
- B. Create a read replica of the database Configure the script to query only the read replica
- C. Instruct the development team to manually export the entries in the database at the end of each day
- D. Use Amazon ElastiCache to cache the common queries that the script runs against the database

**Answer: B**

**NEW QUESTION 99**

- (Topic 1)

A company runs a shopping application that uses Amazon DynamoDB to store customer information. In case of data corruption, a solutions architect needs to design a solution that meets a recovery point objective (RPO) of 15 minutes and a recovery time objective (RTO) of 1 hour.

What should the solutions architect recommend to meet these requirements?

- A. Configure DynamoDB global table
- B. For RPO recovery, point the application to a different AWS Region.
- C. Configure DynamoDB point-in-time recover
- D. For RPO recovery, restore to the desired point in time.
- E. Export the DynamoDB data to Amazon S3 Glacier on a daily basi
- F. For RPO recovery, import the data from S3 Glacier to DynamoDB.
- G. Schedule Amazon Elastic Block Store (Amazon EBS) snapshots for the DynamoDB table every 15 minute
- H. For RPO recovery, restore the DynamoDB table by using the EBS snapshot.

**Answer: B**

**Explanation:**

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

**NEW QUESTION 103**

- (Topic 1)

A company has an AWS Glue extract, transform, and load (ETL) job that runs every day at the same time. The job processes XML data that is in an Amazon S3 bucket.

New data is added to the S3 bucket every day. A solutions architect notices that AWS Glue is processing all the data during each run.

What should the solutions architect do to prevent AWS Glue from reprocessing old data?

- A. Edit the job to use job bookmarks.
- B. Edit the job to delete data after the data is processed
- C. Edit the job by setting the NumberOfWorkers field to 1.
- D. Use a FindMatches machine learning (ML) transform.

**Answer: C**

**Explanation:**

This is the purpose of bookmarks: "AWS Glue tracks data that has already been processed during a previous run of an ETL job by persisting state information from the job run. This persisted state information is called a job bookmark. Job bookmarks help AWS Glue maintain state information and prevent the reprocessing of old data." <https://docs.aws.amazon.com/glue/latest/dg/monitor-continuations.html>

**NEW QUESTION 106**

- (Topic 1)

A company is preparing to store confidential data in Amazon S3. For compliance reasons the data must be encrypted at rest. Encryption key usage must be logged for auditing purposes. Keys must be rotated every year.

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

- A. Server-side encryption with customer-provided keys (SSE-C)
- B. Server-side encryption with Amazon S3 managed keys (SSE-S3)
- C. Server-side encryption with AWS KMS (SSE-KMS) customer master keys (CMKs) with manual rotation
- D. Server-side encryption with AWS KMS (SSE-KMS) customer master keys (CMKs) with automatic rotation

**Answer: D**

**Explanation:**

<https://docs.aws.amazon.com/kms/latest/developerguide/rotate-keys.html> When you enable automatic key rotation for a customer managed key, AWS KMS generates new cryptographic material for the KMS key every year. AWS KMS also saves the KMS key's older cryptographic material in perpetuity so it can be used to decrypt data that the KMS key encrypted.

Key rotation in AWS KMS is a cryptographic best practice that is designed to be transparent and easy to use. AWS KMS supports optional automatic key rotation only for customer managed CMKs. Enable and disable key rotation. Automatic key rotation is disabled by default on customer managed CMKs. When you enable (or re-enable) key rotation, AWS KMS automatically rotates the CMK 365 days after the enable date and every 365 days thereafter.

**NEW QUESTION 108**

- (Topic 1)

An application runs on an Amazon EC2 instance in a VPC. The application processes logs that are stored in an Amazon S3 bucket. The EC2 instance needs to access the S3 bucket without connectivity to the internet.

Which solution will provide private network connectivity to Amazon S3?

- A. Create a gateway VPC endpoint to the S3 bucket.
- B. Stream the logs to Amazon CloudWatch Log
- C. Export the logs to the S3 bucket.
- D. Create an instance profile on Amazon EC2 to allow S3 access.
- E. Create an Amazon API Gateway API with a private link to access the S3 endpoint.

**Answer: A**

**Explanation:**

VPC endpoint allows you to connect to AWS services using a private network instead of using the public Internet.

**NEW QUESTION 112**

- (Topic 1)

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?

- A. Use AWS Secrets Manager
- B. Turn on automatic rotation.
- C. Use AWS Systems Manager Parameter Store
- D. Turn on automatic rotation.
- E. Create an Amazon S3 bucket to store objects that are encrypted with an AWS Key Management Service (AWS KMS) encryption key
- F. Migrate the credential file to the S3 bucket
- G. Point the application to the S3 bucket.
- H. Create an encrypted Amazon Elastic Block Store (Amazon EBS) volume (on each EC2 instance)
- I. Attach the new EBS volume to each EC2 instance
- J. Migrate the credential file to the new EBS volume
- K. Point the application to the new EBS volume.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/cn/blogs/security/how-to-connect-to-aws-secrets-manager-service-within-a-virtual-private-cloud/>  
<https://aws.amazon.com/blogs/security/rotate-amazon-rds-database-credentials-automatically-with-aws-secrets-manager/>

**NEW QUESTION 117**

- (Topic 1)

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?

- A. Refactor the Lambda function code to Apache Tomcat code that runs on Amazon EC2 instance
- B. Connect the database by using native Java Database Connectivity (JDBC) drivers.
- C. Change the platform from Aurora to Amazon DynamoD
- D. Provision a DynamoDB Accelerator (DAX) cluste
- E. Use the DAX client SDK to point the existing DynamoDB API calls at the DAX cluster.
- F. Set up two Lambda function
- G. Configure one function to receive the informatio
- H. Configure the other function to load the information into the databas
- I. Integrate the Lambda functions by using Amazon Simple Notification Service (Amazon SNS).
- J. Set up two Lambda function
- K. Configure one function to receive the informatio
- L. Configure the other function to load the information into the databas
- M. Integrate the Lambda functions by using an Amazon Simple Queue Service (Amazon SQS) queue.

**Answer:** B

**Explanation:**

bottlenecks can be avoided with queues (SQS).

**NEW QUESTION 121**

- (Topic 1)

A company uses AWS Organizations to manage multiple AWS accounts for different departments. The management account has an Amazon S3 bucket that contains project reports. The company wants to limit access to this S3 bucket to only users of accounts within the organization in AWS Organizations.

Which solution meets these requirements with the LEAST amount of operational overhead?

- A. Add the aws:PrincipalOrgID global condition key with a reference to the organization ID to the S3 bucket policy.
- B. Create an organizational unit (OU) for each departmen
- C. Add the aws:PrincipalOrgPaths global condition key to the S3 bucket policy.
- D. Use AWS CloudTrail to monitor the CreateAccount, InviteAccountToOrganization, LeaveOrganization, and RemoveAccountFromOrganization event
- E. Update the S3 bucket policy accordingly.
- F. Tag each user that needs access to the S3 bucke
- G. Add the aws:PrincipalTag global condition key to the S3 bucket policy.

**Answer:** A

**Explanation:**

<https://aws.amazon.com/blogs/security/control-access-to-aws-resources-by-using-the-aws-organization-of-iam-principals/>

The aws:PrincipalOrgID global key provides an alternative to listing all the account IDs for all AWS accounts in an organization. For example, the following Amazon S3 bucket policy allows members of any account in the XXX organization to add an object into the examtopics bucket.

```
{"Version": "2020-09-10",  
"Statement": {  
  "Sid": "AllowPutObject", "Effect": "Allow",  
  "Principal": "*",  
  "Action": "s3:PutObject",  
  "Resource": "arn:aws:s3:::examtopics/*", "Condition": {"StringEquals":  
    {"aws:PrincipalOrgID":["XXX"]}}}}
```

[https://docs.aws.amazon.com/IAM/latest/UserGuide/reference\\_policies\\_condition- keys.html](https://docs.aws.amazon.com/IAM/latest/UserGuide/reference_policies_condition- keys.html)

**NEW QUESTION 126**

- (Topic 1)

A company is running a business-critical web application on Amazon EC2 instances behind an Application Load Balancer. The EC2 instances are in an Auto Scaling group. The application uses an Amazon Aurora PostgreSQL database that is deployed in a single Availability Zone. The company wants the application to be highly available with minimum downtime and minimum loss of data.

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

- A. Place the EC2 instances in different AWS Region
- B. Use Amazon Route 53 health checks to redirect traffi
- C. Use Aurora PostgreSQL Cross-Region Replication.
- D. Configure the Auto Scaling group to use multiple Availability Zone
- E. Configure the database as Multi-A
- F. Configure an Amazon RDS Proxy instance for the database.
- G. Configure the Auto Scaling group to use one Availability Zon
- H. Generate hourly snapshots of the databas
- I. Recover the database from the snapshots in the event of a failure.
- J. Configure the Auto Scaling group to use multiple AWS Region



K. Write the data from the application to Amazon S3. Use S3 Event Notifications to launch an AWS Lambda function to write the data to the database.

**Answer:** B

**Explanation:**

To achieve high availability with minimum downtime and minimum loss of data, the Auto Scaling group should be configured to use multiple Availability Zones to ensure that there is no single point of failure. The database should be configured as Multi- AZ to enable automatic failover in case of an outage in the primary Availability Zone. Additionally, an Amazon RDS Proxy instance can be used to improve the scalability and availability of the database by reducing connection failures and improving failover times.

**NEW QUESTION 129**

- (Topic 1)

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?

- A. Use existing Python libraries to extract the text from the reports and to identify the PHI from the extracted text.
- B. Use Amazon Textract to extract the text from the reports. Use Amazon SageMaker to identify the PHI from the extracted text.
- C. Use Amazon Textract to extract the text from the reports. Use Amazon Comprehend Medical to identify the PHI from the extracted text.
- D. Use Amazon Rekognition to extract the text from the reports. Use Amazon Comprehend Medical to identify the PHI from the extracted text.

**Answer:** C

**Explanation:**

To meet the requirements of the company to have access to both AWS and on-premises file storage with minimum latency, a hybrid cloud architecture can be used. One solution is to deploy and configure Amazon FSx for Windows File Server on AWS, which provides fully managed Windows file servers. The on-premises file data can be moved to the FSx File Gateway, which can act as a bridge between on-premises and AWS file storage. The cloud workloads can be configured to use FSx for Windows File Server on AWS, while the on-premises workloads can be configured to use the FSx File Gateway. This solution minimizes operational overhead and requires no significant changes to the existing file access patterns. The connectivity between on-premises and AWS can be established using an AWS Site-to-Site VPN connection.

Reference:

AWS FSx for Windows File Server: <https://aws.amazon.com/fsx/windows/> AWS FSx File Gateway: <https://aws.amazon.com/fsx/file-gateway/>

AWS Site-to-Site VPN: <https://aws.amazon.com/vpn/site-to-site-vpn/>

**NEW QUESTION 134**

- (Topic 2)

A company wants to migrate its on-premises data center to AWS. According to the company's compliance requirements, the company can use only the ap-northeast-3 Region. Company administrators are not permitted to connect VPCs to the internet.

Which solutions will meet these requirements? (Choose two.)

- A. Use AWS Control Tower to implement data residency guardrails to deny internet access and deny access to all AWS Regions except ap-northeast-3.
- B. Use rules in AWS WAF to prevent internet access.
- C. Deny access to all AWS Regions except ap-northeast-3 in the AWS account settings.
- D. Use AWS Organizations to configure service control policies (SCPs) that prevent VPCs from gaining internet access.
- E. Deny access to all AWS Regions except ap-northeast-3.
- F. Create an outbound rule for the network ACL in each VPC to deny all traffic from 0.0.0.0/0. Create an IAM policy for each user to prevent the use of any AWS Region other than ap-northeast-3.
- G. Use AWS Config to activate managed rules to detect and alert for internet gateways and to detect and alert for new resources deployed outside of ap-northeast-3.

**Answer:** AC

**Explanation:**

[https://docs.aws.amazon.com/organizations/latest/userguide/orgs\\_manage\\_policies\\_scps\\_examples\\_vpc.html#example\\_vpc\\_2](https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scps_examples_vpc.html#example_vpc_2)

**NEW QUESTION 139**

- (Topic 2)

A company produces batch data that comes from different databases. The company also produces live stream data from network sensors and application APIs. The company needs to consolidate all the data into one place for business analytics. The company needs to process the incoming data and then stage the data in different Amazon S3 buckets. Teams will later run one-time queries and import the data into a business intelligence tool to show key performance indicators (KPIs).

Which combination of steps will meet these requirements with the LEAST operational overhead? (Choose two.)

- A. Use Amazon Athena for one-time queries. Use Amazon QuickSight to create dashboards for KPIs.
- B. Use Amazon Kinesis Data Analytics for one-time queries. Use Amazon QuickSight to create dashboards for KPIs.
- C. Create custom AWS Lambda functions to move the individual records from the databases to an Amazon Redshift cluster.
- D. Use an AWS Glue extract transform and load (ETL) job to convert the data into JSON format. Load the data into multiple Amazon OpenSearch Service (Amazon Elasticsearch Service) clusters.
- E. Use blueprints in AWS Lake Formation to identify the data that can be ingested into a data lake. Use AWS Glue to crawl the source, extract the data, and load the data into Amazon S3 in Apache Parquet format.

**Answer:** AE

**Explanation:**

Amazon Athena is the best choice for running one-time queries on streaming data. Although Amazon Kinesis Data Analytics provides an easy and familiar standard SQL language to analyze streaming data in real-time, it is designed for continuous queries rather than one-time queries[1]. On the other hand, Amazon Athena is a serverless interactive query service that allows querying data in Amazon S3 using SQL. It is optimized for ad-hoc querying and is ideal for running one-time queries on streaming data[2]. AWS Lake Formation uses as a central place to have all your data for analytics purposes (E). Athena integrates perfectly with S3 and can make queries (A).



**NEW QUESTION 140**

- (Topic 2)

A solutions architect needs to help a company optimize the cost of running an application on AWS. The application will use Amazon EC2 instances, AWS Fargate, and AWS Lambda for compute within the architecture.

The EC2 instances will run the data ingestion layer of the application. EC2 usage will be sporadic and unpredictable. Workloads that run on EC2 instances can be interrupted at any time. The application front end will run on Fargate, and Lambda will serve the API layer. The front-end utilization and API layer utilization will be predictable over the course of the next year.

Which combination of purchasing options will provide the MOST cost-effective solution for hosting this application? (Choose two.)

- A. Use Spot Instances for the data ingestion layer
- B. Use On-Demand Instances for the data ingestion layer
- C. Purchase a 1-year Compute Savings Plan for the front end and API layer.
- D. Purchase 1-year All Upfront Reserved instances for the data ingestion layer.
- E. Purchase a 1-year EC2 instance Savings Plan for the front end and API layer.

**Answer:** AC

**Explanation:**

EC2 instance Savings Plan saves 72% while Compute Savings Plans saves 66%. But according to link, it says "Compute Savings Plans provide the most flexibility and help to reduce your costs by up to 66%. These plans automatically apply to EC2 instance usage regardless of instance family, size, AZ, region, OS or tenancy, and also apply to Fargate and Lambda usage." EC2 instance Savings Plans are not applied to Fargate or Lambda

**NEW QUESTION 142**

- (Topic 2)

A company wants to use the AWS Cloud to make an existing application highly available and resilient. The current version of the application resides in the company's data center. The application recently experienced data loss after a database server crashed because of an unexpected power outage.

The company needs a solution that avoids any single points of failure. The solution must give the application the ability to scale to meet user demand.

Which solution will meet these requirements?

- A. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zone
- B. Use an Amazon RDS DB instance in a Multi-AZ configuration.
- C. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group in a single Availability Zon
- D. Deploy the database on an EC2 instanc
- E. Enable EC2 Auto Recovery.
- F. Deploy the application servers by using Amazon EC2 instances in an Auto Scalinggroup across multiple Availability Zone
- G. Use an Amazon RDS DB instance with a read replica in a single Availability Zon
- H. Promote the read replica to replace the primary DB instance if the primary DB instance fails.
- I. Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones Deploy the primary and secondary database servers on EC2 instances across multiple Availability Zones Use Amazon Elastic Block Store (Amazon EBS) Multi-Attach to create shared storage between the instances.

**Answer:** A

**Explanation:**

Deploy the application servers by using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones. Use an Amazon RDS DB instance in a Multi-AZ configuration. To make an existing application highly available and resilient while avoiding any single points of failure and giving the application the ability to scale to meet user demand, the best solution would be to deploy the application servers using Amazon EC2 instances in an Auto Scaling group across multiple Availability Zones and use an Amazon RDS DB instance in a Multi-AZ configuration. By using an Amazon RDS DB instance in a Multi-AZ configuration, the database is automatically replicated across multiple Availability Zones, ensuring that the database is highly available and can withstand the failure of a single Availability Zone. This provides fault tolerance and avoids any single points of failure.

**NEW QUESTION 147**

- (Topic 2)

A company uses a popular content management system (CMS) for its corporate website. However, the required patching and maintenance are burdensome. The company is redesigning its website and wants anew solution. The website will be updated four times a year and does not need to have any dynamic content available. The solution must provide high scalability and enhanced security.

Which combination of changes will meet these requirements with the LEAST operational overhead? (Choose two.)

- A. Deploy an AWS WAF web ACL in front of the website to provide HTTPS functionality
- B. Create and deploy an AWS Lambda function to manage and serve the website content
- C. Create the new website and an Amazon S3 bucket Deploy the website on the S3 bucket with static website hosting enabled
- D. Create the new websit
- E. Deploy the website by using an Auto Scaling group of Amazon EC2 instances behind an Application Load Balancer.

**Answer:** AD

**Explanation:**

A -> We can configure CloudFront to require HTTPS from clients (enhanced security)

<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/using-https-viewers-to-cloudfront.html> D -> storing static website on S3 provides scalability and less operational overhead, then configuration of Application LB and EC2 instances (hence E is out)

**NEW QUESTION 149**

- (Topic 2)

A security team wants to limit access to specific services or actions in all of the team's AWS accounts. All accounts belong to a large organization in AWS Organizations. The solution must be scalable and there must be a single point where permissions can be maintained.

What should a solutions architect do to accomplish this?

- A. Create an ACL to provide access to the services or actions.
- B. Create a security group to allow accounts and attach it to user groups.

- C. Create cross-account roles in each account to deny access to the services or actions.
- D. Create a service control policy in the root organizational unit to deny access to the services or actions.

**Answer:** D

**Explanation:**

Service control policies (SCPs) are one type of policy that you can use to manage your organization. SCPs offer central control over the maximum available permissions for all accounts in your organization, allowing you to ensure your accounts stay within your organization's access control guidelines. See [https://docs.aws.amazon.com/organizations/latest/userguide/orgs\\_manage\\_policies\\_scp.html](https://docs.aws.amazon.com/organizations/latest/userguide/orgs_manage_policies_scp.html).

**NEW QUESTION 152**

- (Topic 2)

A company is planning to build a high performance computing (HPC) workload as a service solution that is hosted on AWS. A group of 16 Amazon EC2 Linux instances requires the lowest possible latency for node-to-node communication. The instances also need a shared block device volume for high-performing storage.

Which solution will meet these requirements?

- A. Use a cluster placement group
- B. Attach a single Provisioned IOPS SSD Amazon Elastic Block Store (Amazon EBS) volume to all the instances by using Amazon EBS Multi-Attach
- C. Use a cluster placement group
- D. Create shared file systems across the instances by using Amazon Elastic File System (Amazon EFS)
- E. Use a partition placement group
- F. Create shared file systems across the instances by using Amazon Elastic File System (Amazon EFS).
- G. Use a spread placement group
- H. Attach a single Provisioned IOPS SSD Amazon Elastic Block Store (Amazon EBS) volume to all the instances by using Amazon EBS Multi-Attach

**Answer:** A

**Explanation:**

- 1. lowest possible latency + node to node ==> cluster placement (must be within one AZ), so C, D out
- \* 2. For EBS Multi-Attach, up to 16 instances can be attached to a single volume ==> we have 16 Linux instances ==> more close to A
- \* 3. "need a shared block device volume" ==> EBS Multi-attach is Block Storage whereas EFS is File Storage ==> B out
- \* 4. EFS automatically replicates data within and across 3 AZ ==> we use cluster placement so all EC2 are within one AZ.
- \* 5. EBS Multi-attach volumes can be used for clients within a single AZ. <https://repost.aws/questions/QUK2RANw1QTKCwpDUwCCi72A/efs-vs-ebs-mult-attach>

**NEW QUESTION 153**

- (Topic 2)

A media company is evaluating the possibility of moving its systems to the AWS Cloud. The company needs at least 10 TB of storage with the maximum possible I/O performance for video processing, 300 TB of very durable storage for storing media content, and 900 TB of storage to meet requirements for archival media that is not in use anymore.

Which set of services should a solutions architect recommend to meet these requirements?

- A. Amazon EBS for maximum performance, Amazon S3 for durable data storage, and Amazon S3 Glacier for archival storage
- B. Amazon EBS for maximum performance, Amazon EFS for durable data storage and Amazon S3 Glacier for archival storage
- C. Amazon EC2 instance store for maximum performance
- D. Amazon EFS for durable data storage and Amazon S3 for archival storage
- E. Amazon EC2 Instance store for maximum performance
- F. Amazon S3 for durable data storage, and Amazon S3 Glacier for archival storage

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/InstanceStorage.html>

**NEW QUESTION 155**

- (Topic 2)

A corporation has recruited a new cloud engineer who should not have access to the CompanyConfidential Amazon S3 bucket. The cloud engineer must have read and write permissions on an S3 bucket named AdminTools.

Which IAM policy will satisfy these criteria?

A.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": "arn:aws:s3:::AdminTools"
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::CompanyConfidential"
      ]
    }
  ]
}
```

B.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": [
        "arn:aws:s3:::AdminTools",
        "arn:aws:s3:::CompanyConfidential/*"
      ]
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject", "s3>DeleteObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": "arn:aws:s3:::CompanyConfidential"
    }
  ]
}
```

C.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject" ],
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::CompanyConfidential"
      ]
    }
  ]
}
```

D.

```
{
  "Version": "2012-10-17",
  "Statement": [
    {
      "Effect": "Allow",
      "Action": "s3:ListBucket",
      "Resource": "arn:aws:s3:::AdminTools/*"
    },
    {
      "Effect": "Allow",
      "Action": [ "s3:GetObject", "s3:PutObject", "s3:DeleteObject" ],
      "Resource": "arn:aws:s3:::AdminTools/"
    },
    {
      "Effect": "Deny",
      "Action": "s3:*",
      "Resource": [
        "arn:aws:s3:::CompanyConfidential",
        "arn:aws:s3:::CompanyConfidential/*",
        "arn:aws:s3:::AdminTools/*"
      ]
    }
  ]
}
```

A.

**Answer:** A

**Explanation:**

[https://docs.amazonaws.cn/en\\_us/IAM/latest/UserGuide/reference\\_policies\\_examples\\_s3\\_rw-bucket.html](https://docs.amazonaws.cn/en_us/IAM/latest/UserGuide/reference_policies_examples_s3_rw-bucket.html)

The policy is separated into two parts because the ListBucket action requires permissions on the bucket while the other actions require permissions on the objects in the bucket. You must use two different Amazon Resource Names (ARNs) to specify bucket-level and object-level permissions. The first Resource element specifies arn:aws:s3:::AdminTools for the ListBucket action so that applications can list all objects in the AdminTools bucket.

**NEW QUESTION 158**

- (Topic 2)

A company has an event-driven application that invokes AWS Lambda functions up to 800 times each minute with varying runtimes. The Lambda functions access data that is stored in an Amazon Aurora MySQL OB cluster. The company is noticing connection timeouts as user activity increases. The database shows no signs of being overloaded. CPU, memory, and disk access metrics are all low.

Which solution will resolve this issue with the LEAST operational overhead?

- A. Adjust the size of the Aurora MySQL nodes to handle more connection
- B. Configure retry logic in the Lambda functions for attempts to connect to the database
- C. Set up Amazon ElastiCache for Redis to cache commonly read items from the database
- D. Configure the Lambda functions to connect to ElastiCache for reads.
- E. Add an Aurora Replica as a reader node
- F. Configure the Lambda functions to connect to the reader endpoint of the OB cluster rather than to the writer endpoint.



- G. Use Amazon ROS Proxy to create a prox
- H. Set the DB cluster as the target database Configure the Lambda functions lo connect to the proxy rather than to the DB cluster.

**Answer:** D

**Explanation:**

1. database shows no signs of being overloaded. CPU, memory, and disk access metrics are all low==>A and C out. We cannot only add nodes instance or add read replica, because database workload is totally fine, very low. 2. "least operational overhead"==>B out, because b need to configure lambda. 3. ROS proxy: Shares infrequently used connections; High availability with failover; Drives increased efficiency==>proxy can leverage failover to redirect traffic from timeout rds instance to healthy rds instance. So D is right.

**NEW QUESTION 163**

- (Topic 2)

A hospital wants to create digital copies for its large collection of historical written records. The hospital will continue to add hundreds of new documents each day. The hospital's data team will scan the documents and will upload the documents to the AWS Cloud.

A solutions architect must implement a solution to analyze the documents, extract the medical information, and store the documents so that an application can run SQL queries on the data. The solution must maximize scalability and operational efficiency.

Which combination of steps should the solutions architect take to meet these requirements? (Select TWO.)

- A. Write the document information to an Amazon EC2 instance that runs a MySQL database.
- B. Write the document information to an Amazon S3 bucke
- C. Use Amazon Athena to query the data.
- D. Create an Auto Scaling group of Amazon EC2 instances to run a custom application that processes the scanned files and extracts the medical information.
- E. Create an AWS Lambda function that runs when new documents are uploade
- F. Use Amazon Rekognition to convert the documents to raw tex
- G. Use Amazon Transcribe Medical to detect and extract relevant medical information from the text.
- H. Create an AWS Lambda function that runs when new documents are uploade
- I. Use Amazon Textract to convert the documents to raw tex
- J. Use Amazon Comprehend Medical to detect and extract relevant medical information from the text.

**Answer:** BE

**Explanation:**

This solution meets the requirements of creating digital copies for a large collection of historical written records, analyzing the documents, extracting the medical information, and storing the documents so that an application can run SQL queries on the data. Writing the document information to an Amazon S3 bucket can provide scalable and durable storage for the scanned files. Using Amazon Athena to query the data can provide serverless and interactive SQL analysis on data stored in S3. Creating an AWS Lambda function that runs when new documents are uploaded can provide event-driven and serverless processing of the scanned files. Using Amazon Textract to convert the documents to raw text can provide

accurate optical character recognition (OCR) and extraction of structured data such as tables and forms from documents using artificial intelligence (AI). Using Amazon Comprehend Medical to detect and extract relevant medical information from the text can provide natural language processing (NLP) service that uses machine learning that has been pre-trained to understand and extract health data from medical text.

Option A is incorrect because writing the document information to an Amazon EC2 instance that runs a MySQL database can increase the infrastructure overhead and complexity, and it may not be able to handle large volumes of data. Option C is incorrect because creating an Auto Scaling group of Amazon EC2 instances to run a custom application that processes the scanned files and extracts the medical information can increase the infrastructure overhead and complexity, and it may not be able to leverage existing AI and NLP services such as Textract and Comprehend Medical. Option D is incorrect because using Amazon Rekognition to convert the documents to raw text can provide image and video analysis, but it does not support OCR or extraction of structured data from documents. Using Amazon Transcribe Medical to detect and extract relevant medical information from the text can provide speech-to-text transcription service for medical conversations, but it does not support text analysis or extraction of health data from medical text.

References:

- ? <https://aws.amazon.com/s3/>
- ? <https://aws.amazon.com/athena/>
- ? <https://aws.amazon.com/lambda/>
- ? <https://aws.amazon.com/textract/>
- ? <https://aws.amazon.com/comprehend/medical/>

**NEW QUESTION 165**

- (Topic 2)

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?

- A. Configure provisioned concurrency for the Lambda function Modify the database to be a global database in multiple AWS Regions
- B. 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
- C. 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
- D. 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:** B

**Explanation:**

Many applications, including those built on modern serverless architectures, can have a large number of open connections to the database server and may open and close database connections at a high rate, exhausting database memory and compute resources. Amazon RDS Proxy allows applications to pool and share connections established with the database, improving database efficiency and application scalability. <https://aws.amazon.com/id/rds/proxy/>

**NEW QUESTION 168**

- (Topic 2)

A company wants to run a gaming application on Amazon EC2 instances that are part of an Auto Scaling group in the AWS Cloud. The application will transmit data by using UDP packets. The company wants to ensure that the application can scale out and in as traffic increases and decreases. What should a solutions architect do to meet these requirements?

- A. Attach a Network Load Balancer to the Auto Scaling group
- B. Attach an Application Load Balancer to the Auto Scaling group.
- C. Deploy an Amazon Route 53 record set with a weighted policy to route traffic appropriately
- D. Deploy a NAT instance that is configured with port forwarding to the EC2 instances in the Auto Scaling group.

**Answer:** A

**Explanation:**

This solution meets the requirements of running a gaming application that transmits data by using UDP packets and scaling out and in as traffic increases and decreases. A Network Load Balancer can handle millions of requests per second while maintaining high throughput at ultra low latency, and it supports both TCP and UDP protocols. An Auto Scaling group can automatically adjust the number of EC2 instances based on the demand and the scaling policies. Option B is incorrect because an Application Load Balancer does not support UDP protocol, only HTTP and HTTPS. Option C is incorrect because Amazon Route 53 is a DNS service that can route traffic based on different policies, but it does not provide load balancing or scaling capabilities. Option D is incorrect because a NAT instance is used to enable instances in a private subnet to connect to the internet or other AWS services, but it does not provide load balancing or scaling capabilities.

References:

? <https://aws.amazon.com/blogs/aws/new-udp-load-balancing-for-network-load-balancer/>

? <https://docs.aws.amazon.com/autoscaling/ec2/userguide/AutoScalingGroup.html>

**NEW QUESTION 170**

- (Topic 2)

A company owns an asynchronous API that is used to ingest user requests and, based on the request type, dispatch requests to the appropriate microservice for processing. The company is using Amazon API Gateway to deploy the API front end, and an AWS Lambda function that invokes Amazon DynamoDB to store user requests before dispatching them to the processing microservices.

The company provisioned as much DynamoDB throughput as its budget allows, but the company is still experiencing availability issues and is losing user requests. What should a solutions architect do to address this issue without impacting existing users?

- A. Add throttling on the API Gateway with server-side throttling limits.
- B. Use DynamoDB Accelerator (DAX) and Lambda to buffer writes to DynamoDB.
- C. Create a secondary index in DynamoDB for the table with the user requests.
- D. Use the Amazon Simple Queue Service (Amazon SQS) queue and Lambda to buffer writes to DynamoDB.

**Answer:** D

**Explanation:**

By using an SQS queue and Lambda, the solutions architect can decouple the API front end from the processing microservices and improve the overall scalability and availability of the system. The SQS queue acts as a buffer, allowing the API front end to continue accepting user requests even if the processing microservices are experiencing high workloads or are temporarily unavailable. The Lambda function can then retrieve requests from the SQS queue and write them to DynamoDB, ensuring that all user requests are stored and processed. This approach allows the company to scale the processing microservices independently from the API front end, ensuring that the API remains available to users even during periods of high demand.

**NEW QUESTION 173**

- (Topic 2)

A company's web application is running on Amazon EC2 instances behind an Application Load Balancer. The company recently changed its policy, which now requires the application to be accessed from one specific country only. Which configuration will meet this requirement?

- A. Configure the security group for the EC2 instances.
- B. Configure the security group on the Application Load Balancer.
- C. Configure AWS WAF on the Application Load Balancer in a VPC.
- D. Configure the network ACL for the subnet that contains the EC2 instances.

**Answer:** C

**Explanation:**

<https://aws.amazon.com/about-aws/whats-new/2017/10/aws-waf-now-supports-geographic-match/>

**NEW QUESTION 177**

- (Topic 2)

A company has two applications: a sender application that sends messages with payloads to be processed and a processing application intended to receive the messages with payloads. The company wants to implement an AWS service to handle messages between the two applications. The sender application can send about 1.000 messages each hour. The messages may take up to 2 days to be processed. If the messages fail to process, they must be retained so that they do not impact the processing of any remaining messages.

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

- A. Set up an Amazon EC2 instance running a Redis database
- B. Configure both applications to use the instance
- C. Store, process, and delete the messages, respectively.
- D. Use an Amazon Kinesis data stream to receive the messages from the sender application
- E. Integrate the processing application with the Kinesis Client Library (KCL).
- F. Integrate the sender and processor applications with an Amazon Simple Queue Service (Amazon SQS) queue
- G. Configure a dead-letter queue to collect the messages that failed to process.
- H. Subscribe the processing application to an Amazon Simple Notification Service (Amazon SNS) topic to receive notifications to process
- I. Integrate the sender application to write to the SNS topic.

**Answer:** C

**Explanation:**

<https://aws.amazon.com/blogs/compute/building-loosely-coupled-scalable-c-applications-with-amazon-sqs-and-amazon-sns/>  
<https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-dead-letter-queues.html>

**NEW QUESTION 179**

- (Topic 2)

A company hosts a website analytics application on a single Amazon EC2 On-Demand Instance. The analytics software is written in PHP and uses a MySQL database. The analytics software, the web server that provides PHP, and the database server are all hosted on the EC2 instance. The application is showing signs of performance degradation during busy times and is presenting 5xx errors. The company needs to make the application scale seamlessly. Which solution will meet these requirements MOST cost-effectively?

- A. Migrate the database to an Amazon RDS for MySQL DB instance
- B. Create an AMI of the web application
- C. Use the AMI to launch a second EC2 On-Demand Instance
- D. Use an Application Load Balancer to distribute the load to each EC2 instance.
- E. Migrate the database to an Amazon RDS for MySQL DB instance
- F. Create an AMI of the web application
- G. Use the AMI to launch a second EC2 On-Demand Instance
- H. Use Amazon Route 53 weighted routing to distribute the load across the two EC2 instances.
- I. Migrate the database to an Amazon Aurora MySQL DB instance
- J. Create an AWS Lambda function to stop the EC2 instance and change the instance type
- K. Create an Amazon CloudWatch alarm to invoke the Lambda function when CPU utilization surpasses 75%.
- L. Migrate the database to an Amazon Aurora MySQL DB instance
- M. Create an AMI of the web application
- N. Apply the AMI to a launch template
- O. Create an Auto Scaling group with the launch template. Configure the launch template to use a Spot Fleet
- P. Attach an Application Load Balancer to the Auto Scaling group.

**Answer: D**

**Explanation:**

Migrate the database to Amazon Aurora MySQL - this will let the DB scale on its own; it'll scale automatically without needing adjustment. Create AMI of the web app and using a launch template - this will make the creating of any future instances of the app seamless. They can then be added to the auto scaling group which will save them money as it will scale up and down based on demand. Using a spot fleet to launch instances- This solves the "MOST cost-effective" portion of the question as spot instances come at a huge discount at the cost of being terminated at any time Amazon deems fit. I think this is why there's a bit of disagreement on this. While it's the most cost effective, it would be a terrible choice if Amazon were to terminate that spot instance during a busy period.

**NEW QUESTION 184**

- (Topic 2)

A company has a service that produces event data. The company wants to use AWS to process the event data as it is received. The data is written in a specific order that must be maintained throughout processing. The company wants to implement a solution that minimizes operational overhead. How should a solutions architect accomplish this?

- A. Create an Amazon Simple Queue Service (Amazon SQS) FIFO queue to hold messages. Set up an AWS Lambda function to process messages from the queue.
- B. Create an Amazon Simple Notification Service (Amazon SNS) topic to deliver notifications containing payloads to process. Configure an AWS Lambda function as a subscriber.
- C. Create an Amazon Simple Queue Service (Amazon SQS) standard queue to hold messages.
- D. Set up an AWS Lambda function to process messages from the queue independently.
- E. Create an Amazon Simple Notification Service (Amazon SNS) topic to deliver notifications containing payloads to process.
- F. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a subscriber.

**Answer: A**

**Explanation:**

The details are revealed in below url: <https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/FIFO-queues.html>  
FIFO (First-In-First-Out) queues are designed to enhance messaging between applications when the order of operations and events is critical, or where duplicates can't be tolerated. Examples of situations where you might use FIFO queues include the following: To make sure that user-entered commands are run in the right order. To display the correct product price by sending price modifications in the right order. To prevent a student from enrolling in a course before registering for an account.

**NEW QUESTION 187**

- (Topic 2)

A company is developing a file-sharing application that will use an Amazon S3 bucket for storage. The company wants to serve all the files through an Amazon CloudFront distribution. The company does not want the files to be accessible through direct navigation to the S3 URL. What should a solutions architect do to meet these requirements?

- A. Write individual policies for each S3 bucket to grant read permission for only CloudFront access.
- B. Create an IAM user.
- C. Grant the user read permission to objects in the S3 bucket.
- D. Assign the user to CloudFront.
- E. Write an S3 bucket policy that assigns the CloudFront distribution ID as the Principal and assigns the target S3 bucket as the Amazon Resource Name (ARN).
- F. Create an origin access identity (OAI). Assign the OAI to the CloudFront distribution.
- G. Configure the S3 bucket permissions so that only the OAI has read permission.

**Answer: D**

**Explanation:**

<https://aws.amazon.com/premiumsupport/knowledge-center/cloudfront-access-to-amazon-s3/>  
<https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/private-content-restricting-access-to-s3.html#private-content-restricting-access-to-s3-overview>



**NEW QUESTION 191**

- (Topic 2)

A global company is using Amazon API Gateway to design REST APIs for its loyalty club users in the us-east-1 Region and the ap-southeast-2 Region. A solutions architect must design a solution to protect these API Gateway managed REST APIs across multiple accounts from SQL injection and cross-site scripting attacks.

Which solution will meet these requirements with the LEAST amount of administrative effort?

- A. Set up AWS WAF in both Region
- B. Associate Regional web ACLs with an API stage.
- C. Set up AWS Firewall Manager in both Region
- D. Centrally configure AWS WAF rules.
- E. Set up AWS Shield in both Region
- F. Associate Regional web ACLs with an API stage.
- G. Set up AWS Shield in one of the Region
- H. Associate Regional web ACLs with an API stage.

**Answer:** A

**Explanation:**

Using AWS WAF has several benefits. Additional protection against web attacks using criteria that you specify. You can define criteria using characteristics of web requests such as the following: Presence of SQL code that is likely to be malicious (known as SQL injection). Presence of a script that is likely to be malicious (known as cross-site scripting). AWS Firewall Manager simplifies your administration and maintenance tasks across multiple accounts and resources for a variety of protections. <https://docs.aws.amazon.com/waf/latest/developerguide/what-is-aws-waf.html>

**NEW QUESTION 193**

- (Topic 2)

A company runs a stateless web application in production on a group of Amazon EC2 On- Demand Instances behind an Application Load Balancer. The application experiences heavy usage during an 8-hour period each business day. Application usage is moderate and steady overnight Application usage is low during weekends.

The company wants to minimize its EC2 costs without affecting the availability of the application.

Which solution will meet these requirements?

- A. Use Spot Instances for the entire workload.
- B. Use Reserved instances for the baseline level of usage Use Spot Instances for any additional capacity that the application needs.
- C. Use On-Demand Instances for the baseline level of usage
- D. Use Spot Instances for any additional capacity that the application needs
- E. Use Dedicated Instances for the baseline level of usage
- F. Use On-Demand Instances for any additional capacity that the application needs

**Answer:** B

**Explanation:**

Reserved is cheaper than on demand the company has. And it's meet the availability (HA) requirement as to spot instance that can be disrupted at any time. PRICING BELOW. On- Demand: 0% There's no commitment from you. You pay the most with this option. Reserved : 40%-60% 1-year or 3-year commitment from you. You save money from that commitment. Spot 50%-90% Ridiculously inexpensive because there's no commitment from the AWS side.

**NEW QUESTION 194**

- (Topic 2)

A company needs to retain application logs files for a critical application for 10 years. The application team regularly accesses logs from the past month for troubleshooting, but logs older than 1 month are rarely accessed. The application generates more than 10 TB of logs per month.

Which storage option meets these requirements MOST cost-effectively?

- A. Store the logs in Amazon S3 Use AWS Backup to move logs more than 1 month old to S3 Glacier Deep Archive
- B. Store the logs in Amazon S3 Use S3 Lifecycle policies to move logs more than 1 month old to S3 Glacier Deep Archive
- C. Store the logs in Amazon CloudWatch Logs Use AWS Backup to move logs more than 1 month old to S3 Glacier Deep Archive
- D. Store the logs in Amazon CloudWatch Logs Use Amazon S3 Lifecycle policies to move logs more than 1 month old to S3 Glacier Deep Archive

**Answer:** B

**Explanation:**

You need S3 to be able to archive the logs after one month. Cannot do that with CloudWatch Logs.

**NEW QUESTION 196**

- (Topic 2)

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?

- A. Host the application on AWS Lambda Integrate the application with Amazon API Gateway.
- B. Host the application with AWS Amplify
- C. Connect the application to an Amazon API Gateway API that is integrated with AWS Lambda.
- D. Host the application on Amazon EC2 instance
- E. Set up an Application Load Balancer with EC2 instances in an Auto Scaling group as targets.
- F. Host the application on Amazon Elastic Container Service (Amazon ECS) Set up an Application Load Balancer with Amazon ECS as the target.

**Answer:** D

**Explanation:**



<https://aws.amazon.com/blogs/compute/microservice-delivery-with-amazon-ecs-and-application-load-balancers/>

**NEW QUESTION 201**

- (Topic 2)

A company runs a high performance computing (HPC) workload on AWS. The workload required low-latency network performance and high network throughput with tightly coupled node-to-node communication. The Amazon EC2 instances are properly sized for compute and storage capacity, and are launched using default options.

What should a solutions architect propose to improve the performance of the workload?

- A. Choose a cluster placement group while launching Amazon EC2 instances.
- B. Choose dedicated instance tenancy while launching Amazon EC2 instances.
- C. Choose an Elastic Inference accelerator while launching Amazon EC2 instances.
- D. Choose the required capacity reservation while launching Amazon EC2 instances.

**Answer:** A

**Explanation:**

<https://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/aws-resource-ec2-placementgroup.html>

"A cluster placement group is a logical grouping of instances within a single Availability Zone that benefit from low network latency, high network throughput"

**NEW QUESTION 204**

- (Topic 2)

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?

- A. Configure Amazon Route 53 to forward requests to an Application Load Balance
- B. Use AWS Lambda for the application in AWS Application Auto Scaling.
- C. Configure Amazon CloudFront to forward requests to a Network Load Balance
- D. Use AWS Lambda for the application in an AWS Application Auto Scaling group.
- E. Configure AWS Global Accelerator to forward requests to a Network Load Balance
- F. Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.
- G. Configure Amazon API Gateway to forward requests to an Application Load Balance
- H. Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.

**Answer:** C

**Explanation:**

AWS Global Accelerator and Amazon CloudFront are separate services that use the AWS global network and its edge locations around the world. CloudFront improves performance for both cacheable content (such as images and videos) and dynamic content (such as API acceleration and dynamic site delivery). Global Accelerator improves performance for a wide range of applications over TCP or UDP by proxying packets at the edge to applications running in one or more AWS Regions. Global Accelerator is a good fit for non- HTTP use cases, such as gaming (UDP), IoT (MQTT), or Voice over IP, as well as for HTTP use cases that specifically require static IP addresses or deterministic, fast regional failover. Both services integrate with AWS Shield for DDoS protection.

**NEW QUESTION 208**

- (Topic 2)

A company wants to migrate its MySQL database from on premises to AWS. The company recently experienced a database outage that significantly impacted the business. To ensure this does not happen again, the company wants a reliable database solution on AWS that minimizes data loss and stores every transaction on at least two nodes.

Which solution meets these requirements?

- A. Create an Amazon RDS DB instance with synchronous replication to three nodes in three Availability Zones.
- B. Create an Amazon RDS MySQL DB instance with Multi-AZ functionality enabled to synchronously replicate the data.
- C. Create an Amazon RDS MySQL DB instance and then create a read replica in a separate AWS Region that synchronously replicates the data.
- D. Create an Amazon EC2 instance with a MySQL engine installed that triggers an AWS Lambda function to synchronously replicate the data to an Amazon RDS MySQL DB instance.

**Answer:** B

**Explanation:**

Q: What does Amazon RDS manage on my behalf?

Amazon RDS manages the work involved in setting up a relational database: from provisioning the infrastructure capacity you request to installing the database software. Once your database is up and running, Amazon RDS automates common administrative tasks such as performing backups and patching the software that powers your database. With optional Multi-AZ deployments, Amazon RDS also manages synchronous data replication across Availability Zones with automatic failover. <https://aws.amazon.com/rds/faqs/>

**NEW QUESTION 209**

- (Topic 2)

A company needs to move data from an Amazon EC2 instance to an Amazon S3 bucket. The company must ensure that no API calls and no data are routed through public internet routes. Only the EC2 instance can have access to upload data to the S3 bucket.

Which solution will meet these requirements?

- A. Create an interface VPC endpoint for Amazon S3 in the subnet where the EC2 instance is located
- B. Attach a resource policy to the S3 bucket to only allow the EC2 instance's IAM role for access.
- C. Create a gateway VPC endpoint for Amazon S3 in the Availability Zone where the EC2 instance is located
- D. Attach appropriate security groups to the endpoint
- E. Attach a resource policy to the S3 bucket to only allow the EC2 instance's IAM role for access.
- F. Run the nslookup tool from inside the EC2 instance to obtain the private IP address of the S3 bucket's service API endpoint

- G. Create a route in the VPC route table to provide the EC2 instance with access to the S3 bucket
- H. Attach a resource policy to the S3 bucket to only allow the EC2 instance's IAM role for access.
- I. Use the AWS provided, publicly available ip-ranges.json file to obtain the private IP address of the S3 bucket's service API endpoint
- J. Create a route in the VPC route table to provide the EC2 instance with access to the S3 bucket
- K. Attach a resource policy to the S3 bucket to only allow the EC2 instance's IAM role for access.

**Answer:** A

**Explanation:**

(<https://aws.amazon.com/blogs/security/how-to-restrict-amazon-s3-bucket-access-to-a-specific-iam-role/>)

**NEW QUESTION 214**

- (Topic 2)

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?

- A. Amazon CloudFront and Amazon S3
- B. AWS Lambda and Amazon DynamoDB
- C. Application Load Balancer with Amazon EC2 Auto Scaling
- D. Amazon Route 53 with internal Application Load Balancers

**Answer:** A

**Explanation:**

Cloudfront for rapid response and s3 to minimize infrastructure.

**NEW QUESTION 218**

- (Topic 2)

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.)

- A. Migrate the PostgreSQL database to Amazon Aurora
- B. Migrate the web application to be hosted on Amazon EC2 instances.
- C. Set up an Amazon CloudFront distribution for the web application content.
- D. Set up Amazon ElastiCache between the web application and the PostgreSQL database.
- E. Migrate the web application to be hosted on AWS Fargate with Amazon Elastic Container Service (Amazon ECS).

**Answer:** AE

**Explanation:**

Amazon Aurora is a fully managed, scalable, and highly available relational database service that is compatible with PostgreSQL. Migrating the database to Amazon Aurora would reduce the operational overhead of maintaining the database infrastructure and allow the company to focus on building and scaling the application. AWS Fargate is a fully managed container orchestration service that enables users to run containers without the need to manage the underlying EC2 instances. By using AWS Fargate with Amazon Elastic Container Service (Amazon ECS), the solutions architect can improve the scalability and efficiency of the web application and reduce the operational overhead of maintaining the underlying infrastructure.

**NEW QUESTION 220**

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