**Q1.** 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 volumes. Restore the snapshots onto EC2 instance store volumes in the test environment.

**B.** Configure the production EBS volumes to use the EBS Multi-Attach feature. Take EBS snapshots of the production EBS volumes. Attach the production EBS volumes to the EC2 instances in the test environment.

**C.** Take EBS snapshots of the production EBS volumes. Create and initialize new EBS volumes. Attach the new EBS volumes to EC2 instances in the test environment before restoring the volumes from the production EBS snapshots.

**D.** Take EBS snapshots of the production EBS volumes. Turn on the EBS fast snapshot restore feature on the EBS snapshots. Restore the snapshots into new EBS volumes. Attach the new EBS volumes to EC2 instances in the test environment.

Ans. D

**Q2.** An application development team is designing a microservice that will convert large images to smaller, compressed images. When a user uploads an image through the web interface, the microservice should store the image in an Amazon S3 bucket, process and compress the image with an AWS Lambda function, and store the image in its compressed form in a different S3 bucket.  
A solutions architect needs to design a solution that uses durable, stateless components to process the images automatically.  
Which combination of actions will meet these requirements? (Choose two.)

**A.** Create an Amazon Simple Queue Service (Amazon SQS) queue. Configure the S3 bucket to send a notification to the SQS queue when an image is uploaded to the S3 bucket.

**B.** Configure the Lambda function to use the Amazon Simple Queue Service (Amazon SQS) queue as the invocation source. When the SQS message is successfully processed, delete the message in the queue.

**C.** Configure the Lambda function to monitor the S3 bucket for new uploads. When an uploaded image is detected, write the file name to a text file in memory and use the text file to keep track of the images that were processed.

**D.** Launch an Amazon EC2 instance to monitor an Amazon Simple Queue Service (Amazon SQS) queue. When items are added to the queue, log the file name in a text file on the EC2 instance and invoke the Lambda function.

**E.** Configure an Amazon EventBridge (Amazon CloudWatch Events) event to monitor the S3 bucket. When an image is uploaded, send an alert to an Amazon Sample Notification Service (Amazon SNS) topic with the application owner's email address for further processing.

**Ans. A and B**

**Q3.** A company is implementing a new business application. The application runs two Amazon EC2 instances and users an Amazon S3 bucket for document storage. A solutions architecture 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. Attach the role to the EC2 instances.

**B.** Create an IAM policy that grants access to the S3 bucket. Attach the policy to the EC2 instances.

**C.** Create an IAM group that grants access to the S3 bucket. Attach the group to the EC2 instances.

**D.** Create an IAM user that grants access to the S3 bucket. Attach the user account to the EC2 instances.

**Ans. A**

**Q5.** A company hosts a data lake on AWS. The data lake consists of data in Amazon S3 and Amazon RDS for PostgreSQL. The company needs a reporting solution that provides data visualization and includes all the data sources within the data lake. Only the company's management team should have full access to all the visualizations. The rest of the company should have only limited access.  
Which solution will meet these requirements?

**A.** Create an analysis in Amazon QuickSight. Connect all the data sources and create new datasets. Publish dashboards to visualize the data. Share the dashboards with the appropriate IAM roles.

**B.** Create an analysis in Amazon QuickSight. Connect all the data sources and create new datasets. Publish dashboards to visualize the data. Share the dashboards with the appropriate users and groups.

**C.** Create an AWS Glue table and crawler for the data in Amazon S3. Create an AWS Glue extract, transform, and load (ETL) job to produce reports. Publish the reports to Amazon S3. Use S3 bucket policies to limit access to the reports.

**D.** Create an AWS Glue table and crawler for the data in Amazon S3. Use Amazon Athena Federated Query to access data within Amazon RDS for PostgreSQL. Generate reports by using Amazon Athena. Publish the reports to Amazon S3. Use S3 bucket policies to limit access to the reports.

**Ans. B**

**Q6.** 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.

**Ans. C**

With Network Firewall, you can filter traffic at the perimeter of your VPC. This includes filtering traffic going to and coming from an internet gateway, NAT gateway, or over VPN or AWS Direct Connect.

<https://docs.aws.amazon.com/network-firewall/latest/developerguide/what-is-aws-network-firewall.html>

**Q7.** 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. Configure Aurora Auto Scaling with Aurora Replicas.

**D.** Use Amazon ElastiCache for Memcached with EC2 Spot Instances.

**Ans. C**

**Q8.** A company performs monthly maintenances on its AWS infrastructure. During these maintenance activities, the company needs to rotate the credentials for its Amazon RDS for MYSQL database across multiple AWS Regions

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

**A.** Store the credentials as secrets in AWS Secrets Manager. Use multi-Region secret replication for the required Regions. Configure Secrets Manager to rotate the secrets on a schedule.

**B.** Store the credentials as secrets in AWS Systems Manager by creating a secure string parameter. Use multi-Region secret replication for the required Regions. Configure Systems Manager to rotate the secrets on a schedule.

**C.** Store the credentials in an Amazon S3 bucket that has server-side encryption (SSE) enabled. Use Amazon EventBridge (Amazon CloudWatch Events) to invoke an AWS Lambda function to rotate the credentials.

**D.** Encrypt the credentials as secrets by using AWS Key Management Service (AWS KMS) multi-Region customer managed keys. Store the secrets in an Amazon DynamoDB global table. Use an AWS Lambda function to retrieve the secrets from DynamoDB. Use the RDS API to rotate the secrets.

**Q11.** A company is building an ecommerce web application on AWS. The application sends information about new orders to an Amazon API Gateway REST API to process. The company wants to ensure that orders are processed in the order that they are received.

Which solution will meet these requirements?

**A.** Use an API Gateway integration to publish a message to an Amazon Simple Notification Service (Amazon SNS) topic when the application receives an order. Subscribe an AWS Lambda function to the topic to perform processing.

**B.** Use an API Gateway integration to send a message to an Amazon Simple Queue Service (Amazon SQS) FIFO queue when the application receives an order. Configure the SQS FIFO queue to invoke an AWS Lambda function for processing.

**C.** Use an API Gateway authorizer to block any requests while the application processes an order.

**D.** Use an API Gateway integration to send a message to an Amazon Simple Queue Service (Amazon SQS) standard queue when the application receives an order. Configure the SQS standard queue to invoke an AWS Lambda function for processing.

**Ans. C**

**Q12**. 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. Create an S3 Lifecycle policy to transition the data to S3 Glacier Deep Archive after 7 days.

**C.** Create an Amazon FSx for Windows File Server file system to extend the company's storage space.

**D.** 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.

**Ans. B**

**Q13.** A company is hosting a web application on AWS using a single Amazon EC2 instance that stores user-uploaded documents in an Amazon EBS volume. For better scalability and availability, the company duplicated the architecture and created a second EC2 instance and EBS volume in another Availability Zone, placing both behind an Application Load Balancer. After completing this change, users reported that, each time they refreshed the website, they could see one subset of their documents or the other, but never all of the documents at the same time.  
What should a solutions architect propose to ensure users see all of their documents at once?

**A.** Copy the data so both EBS volumes contain all the documents.

**B.** Configure the Application Load Balancer to direct a user to the server with the documents.

**C.** Copy the data from both EBS volumes to Amazon EFS. Modify the application to save new documents to Amazon EFS.

**D.** Configure the Application Load Balancer to send the request to both servers. Return each document from the correct server.

**Ans. C**

**Q14.** 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 withoutconnectivity 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 Logs. Export the logs to the S3 bucket.

**C.** Create an instance profile on Amazon EC2 to allow S3 access.

**D.** Create an Amazon API Gateway API with a private link to access the S3 endpoint.

**Ans. A**

**Q15.** A company uses AWS Organization 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 department. Add the aws:PrincipalOrgPaths global condition key to the S3 bucket policy.

**C.** Use AWS CloudTrail to monitor the CreateAccount, InviteAccountToOrganization, LeaveOrganization, and RemoveAccountFromOrganization events. Update the S3 bucket policy accordingly.

**D.** Tag each user that needs access to the S3 bucket. Add the aws:PrincipalTag global condition key to the S3 bucket policy.

**Ans. A**

**Q16**. 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?

Proprietary: Relating to an owner or ownership.

**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 ad needed.

**Ans. C**

**Q17.** A company collects data for temperature, humidity, and atmospheric pressure in cities across multiple continents. The average volume of data that the company collects from each site daily 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. Use multipart uploads to directly upload site data to the destination bucket.

**B.** Upload site data to an Amazon S3 bucket in the closest AWS Region. Use S3 cross-Region replication to copy objects to the destination bucket.

**C.** Schedule AWS Snowball jobs daily to transfer data to the closest AWS Region. Use S3 cross-Region replication to copy objects to the destination bucket.

**D.** Upload the data to an Amazon EC2 instance in the closest Region. Store the data in an Amazon Elastic Block Store (Amazon EBS) volume. Once a day take an EBS snapshot and copy it to the centralized Region. Restore the EBS volume in the centralized Region and run an analysis on the data daily.

**Ans. A**

**Q18.** 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 request 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. 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.

**Ans. D**

**Q19.** 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)

**Ans. B**

**Q20.** A company is storing backup files by using Amazon S3 Standard storage. The files are accessed frequently for 1 month. However, the files are not accessed after 1 month. The company must keep the files indefinitely.

Which storage solution will meet these requirements MOST cost-effectively?

**A.** Configure S3 Intelligent-Tiering to automatically migrate objects.

**B.** Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 Glacier Deep Archive after 1 month.

**C.** Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 Standard-Infrequent Access (S3 Standard-IA) after 1 month.

**D.** Create an S3 Lifecycle configuration to transition objects from S3 Standard to S3 One Zone-Infrequent Access (S3 One Zone-IA) after 1 month.

**Ans. B**

**Q21.** A company observes an increase in Amazon EC2 costs in its most recent bill. The billing team notices unwanted vertical scaling of instance types for a couple of EC2 instances. A solutions architect needs to create a graph comparing the last 2 months of EC2 costs and perform an in-depth analysis to identify the root cause of the vertical scaling.  
How should the solutions architect generate the information with the LEAST operational overhead?

**A.** Use AWS Budgets to create a budget report and compare EC2 costs based on instance types.

**B.** Use Cost Explorer's granular filtering feature to perform an in-depth analysis of EC2 costs based on instance types.

**C.** Use graphs from the AWS Billing and Cost Management dashboard to compare EC2 costs based on instance types for the last 2 months.

**D.** Use AWS Cost and Usage Reports to create a report and send it to an Amazon S3 bucket. Use Amazon QuickSight with Amazon S3 as a source to generate an interactive graph based on instance types.

**Ans. B**

**Q22.** 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 instances. Connect the database by using native Java Database Connectivity (JDBC) drivers.

**B.** Change the platform from Aurora to Amazon DynamoDProvision a DynamoDB Accelerator (DAX) cluster. Use the DAX client SDK to point the existing DynamoDB API calls at the DAX cluster.

**C.** Set up two Lambda functions. Configure one function to receive the information. Configure the other function to load the information into the database. Integrate the Lambda functions by using Amazon Simple Notification Service (Amazon SNS).

**D.** Set up two Lambda functions. Configure one function to receive the information. Configure the other function to load the information into the database. Integrate the Lambda functions by using an Amazon Simple Queue Service (Amazon SQS) queue.

**Ans. D**

**Q23.** A company needs to review its AWS Cloud deployment to ensure that its Amazon S3 buckets do not have unauthorized configuration changes.  
What should a solutions architect do to accomplish this goal?

**A.** Turn on AWS Config with the appropriate rules.

**B.** Turn on AWS Trusted Advisor with the appropriate checks.

**C.** Turn on Amazon Inspector with the appropriate assessment template.

**D.** Turn on Amazon S3 server access logging. Configure Amazon EventBridge (Amazon Cloud Watch Events).

**Ans. A**

**Q24.** A Company is launching a new application and will display application metrics on an Amazon CloudWatch dashboard. The company’s product manager needs to access this dashboard periodically. The product manager does not have an AWS account. A solutions architect must provide access to the product manager by following the principle of least privilege.  
Which solution will meet these requirements?

**A.** Share the dashboard from the CloudWatch console. Enter the product manager's email address, and complete the sharing steps. Provide a shareable link for the dashboard to the product manager.

**B.** Create an IAM user specifically for the product manager. Attach the CloudWatchReadOnlyAccess AWS managed policy to the user. Share the new login credentials with the product manager. Share the browser URL of the correct dashboard with the product manager.

**C.** Create an IAM user for the company's employees. Attach the ViewOnlyAccess AWS managed policy to the IAM user. Share the new login credentials with the product manager. Ask the product manager to navigate to the CloudWatch console and locate the dashboard by name in the Dashboards section.

**D.** Deploy a bastion server in a public subnet. When the product manager requires access to the dashboard, start the server and share the RDP credentials. On the bastion server, ensure that the browser is configured to open the dashboard URL with cached AWS credentials that have appropriate permissions to view the dashboard.

**Ans B**

**Q25.** A company is migrating applications to AWS. The applications are deployed in different accounts. The company managers the account centrally by using AWS Organization. The company's security team needs a single sign-on (SSO) solution across all the company's accounts. The company must continue managing the users and groups in its on-premises self-managed Microsoft Active Directory.  
Which solution will meet these requirements?

A. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console. Create a one-way forest trust or a one-way domain trust to connect the company's self-managed Microsoft Active Directory with AWS SSO by using AWS Directory Service for Microsoft Active Directory.

B. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console. Create a two-way forest trust to connect the company's self-managed Microsoft Active Directory with AWS SSO by using AWS Directory Service for Microsoft Active Directory.

C. Use AWS Directory Service. Create a two-way trust relationship with the company's self-managed Microsoft Active Directory.

D. Deploy an identity provider (IdP) on premises. Enable AWS Single Sign-On (AWS SSO) from the AWS SSO console.

**Ans. A and B(95%)**

**Use AWS Managed Microsoft AD as a resource forest for Amazon RDS, Amazon FSx for Windows File Server, or Amazon EC2 instances**

In this scenario, you might want to use AWS Managed Microsoft AD as a resource forest for [Amazon RDS](https://aws.amazon.com/rds/), [Amazon FSx for Windows File Server](https://aws.amazon.com/fsx/windows/), or [Amazon Elastic Compute Cloud (Amazon EC2)](https://aws.amazon.com/ec2). AWS Managed Microsoft AD is going to be a resource domain, and user accounts will reside on the on-premises side of the trust and need to be able to access the resources in the AWS Managed Microsoft AD side of the trust.

In this scenario, the AWS applications (Amazon RDS, Amazon FSx for Windows File Server, or Amazon EC2) don’t require a two-way trust to function, because they are natively integrated with Active Directory. This tells you that you only need authentication to flow one way. This scenario requires a one-way incoming trust on the on-premises domain and one-way outgoing trusts on the AWS Managed Microsoft AD domain.



**Scenario 2: Use AWS Managed Microsoft AD as a resource forest for all other supported AWS applications**

In this scenario, you want to use AWS Managed Microsoft AD as a resource domain for all other [supported AWS applications](https://docs.aws.amazon.com/directoryservice/latest/admin-guide/ms_ad_app_compatibility.html) that aren’t included in Scenario 1. As the previous scenario stated, AWS Managed Microsoft AD will be a resource domain, and the user accounts will reside on the on-premises side of the trust and need to be able to access the resources in the AWS Managed Microsoft AD.

In this scenario, AWS applications ([Amazon Chime](https://aws.amazon.com/chime), [Amazon Connect](https://aws.amazon.com/connect/), [Amazon QuickSight](https://aws.amazon.com/quicksight/), [AWS Single Sign-On](https://aws.amazon.com/single-sign-on/), [Amazon WorkDocs](https://aws.amazon.com/workdocs), [Amazon WorkMail](https://aws.amazon.com/workmail/), [Amazon WorkSpaces](https://aws.amazon.com/workspaces), [AWS Client VPN](https://docs.aws.amazon.com/vpn/latest/clientvpn-admin/what-is.html), [AWS Management Console](https://aws.amazon.com/console/), and [AWS Transfer Family](https://aws.amazon.com/aws-transfer-family)) need to be able to look up objects from the on-premises domain in order for them to function. This tells you that authentication needs to flow both ways. This scenario requires a two-way trust between the on-premises and AWS Managed Microsoft AD domains.



**Q26.** 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. Associate the target group with the Auto Scaling group. Use the NLB as an AWS Global Accelerator endpoint in each Region.

**B.** Deploy an Application Load Balancer (ALB) and an associated target group. Associate the target group with the Auto Scaling group. Use the ALB as an AWS Global Accelerator endpoint in each Region.

**C.** Deploy a Network Load Balancer (NLB) and an associated target group. Associate the target group with the Auto Scaling group. Create an Amazon Route 53 latency record that points to aliases for each NLB. Create an Amazon CloudFront distribution that uses the latency record as an origin.

**D.** Deploy an Application Load Balancer (ALB) and an associated target group. Associate the target group with the Auto Scaling group. Create an Amazon Route 53 weighted record that points to aliases for each ALB. Deploy an Amazon CloudFront distribution that uses the weighted record as an origin.

**Ans. C**

**Q27.** 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 completed. Restart the DB instance when required.

**B.** Use an Auto Scaling policy with the DB instance to automatically scale when tests are completed.

**C.** Create a snapshot when tests are completed. Terminate the DB instance and restore the snapshot when required.

**D.** Modify the DB instance to a low-capacity instance when tests are completed. Modify the DB instance again when required.

**Ans. C**

**Q28.** A company that hosts its web application on AWS wants to ensure all Amazon EC2 instances, Amazon RDS DB instances, and Amazon Redshift clusters are configured with tags. The company wants to minimize the effort of configuring and operating this check.  
What should a solutions architect do to accomplish this?

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

**B.** Use Cost Explorer to display resources that are not properly tagged. Tag those resources manually.

**C.** Write API calls to check all resources for proper tag allocation. Periodically run the code on an EC2 instance.

**D.** Write API calls to check all resources for proper tag allocation. Schedule an AWS Lambda function through Amazon CloudWatch to periodically run the code.

**Ans. A**

**Q29.** 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.

**Ans. B**

**Hosting a static website using Amazon S3**

You can use Amazon S3 to host a static website. On a *static* website, individual webpages include static content. They might also contain client-side scripts.

By contrast, a *dynamic* website relies on server-side processing, including server-side scripts, such as PHP, JSP, or ASP.NET. Amazon S3 does not support server-side scripting, but AWS has other resources for hosting dynamic websites.

**Q30.** A company runs an online marketplace web application on AWS. The application servers 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. Other applications can consume the data stored in Amazon S3.

**C.** 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.

**D.** Store the batched transactions data in Amazon S3 as files. 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.

**Ans. C**

**Q32.** A company hosts its multi-tier applications on AWS. For compliance, governance, auditing, and security, the company must track configuration changes on its AWS resources and record a history of API calls made to these resources.  
What should a solutions architect do to meet these requirements?

**A.** Use AWS CloudTrail to track configuration changes and AWS Config to record API calls.

**B.** Use AWS Config to track configuration changes and AWS CloudTrail to record API calls.

**C.** Use AWS Config to track configuration changes and Amazon CloudWatch to record API calls.

**D.** Use AWS CloudTrail to track configuration changes and Amazon CloudWatch to record API calls.

**Ans. B**

**Q33.** A company is preparing to launch a public-facing web application in the AWS Cloud. The architecture consists of Amazon EC2 instances within a VPC behind an Elastic Load Balancer (ELB). A third-party service is used for the DNS. The company's solutions architect must recommend a solution to detect and protect against large-scale DDoS attacks.  
Which solution meets these requirements?

**A.** Enable Amazon GuardDuty on the account.

**B.** Enable Amazon Inspector on the EC2 instances.

**C.** Enable AWS Shield and assign Amazon Route 53 to it.

**D.** Enable AWS Shield Advanced and assign the ELB to it.

**Ans. D**

**Q34.** A company is building an application in the AWS Cloud. The application will store data in Amazon S3 buckets in two AWS Regions. The company must use an AWS Key Management Service (AWS KMS) customer managed key to encrypt all data that is stored in the S3 buckets. The data in both S3 buckets must be encrypted and decrypted with the same KMS key. The data and the key must be stored in each of the two Regions.  
Which solution will meet these requirements with the LEAST operational overhead?

**A.** Create an S3 bucket in each Region. Configure the S3 buckets to use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Configure replication between the S3 buckets.

**B.** Create a customer managed multi-Region KMS key. Create an S3 bucket in each Region. Configure replication between the S3 buckets. Configure the application to use the KMS key with client-side encryption.

**C.** Create a customer managed KMS key and an S3 bucket in each Region. Configure the S3 buckets to use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Configure replication between the S3 buckets.

**D.** Create a customer managed KMS key and an S3 bucket in each Region. Configure the S3 buckets to use server-side encryption with AWS KMS keys (SSE-KMS). Configure replication between the S3 buckets.

**Ans. C**

**Q35.** A company recently launched a variety of new workloads on Amazon EC2 instances in its AWS account. The company needs to create a strategy to access and administer the instances remotely and securely. The company needs to implement a repeatable process that works with native AWS services and follows the AWS Well-Architected Framework.  
Which solution will meet these requirements with the LEAST operational overhead?

**A.** Use the EC2 serial console to directly access the terminal interface of each instance for administration.

**B.** Attach the appropriate IAM role to each existing instance and new instance. Use AWS Systems Manager Session Manager to establish a remote SSH session.

**C.** Create an administrative SSH key pair. Load the public key into each EC2 instance. Deploy a bastion host in a public subnet to provide a tunnel for administration of each instance.

**D.** Establish an AWS Site-to-Site VPN connection. Instruct administrators to use their local on-premises machines to connect directly to the instances by using SSH keys across the VPN tunnel.

Ans. B

**Q35.** A company is hosting a static website on Amazon S3 and is using Amazon Route 53 for DNS. The website is experiencing increased demand from around the world. The company must decrease latency for users who access the website.  
Which solution meets these requirements MOST cost-effectively?

**A.** Replicate the S3 bucket that contains the website to all AWS Regions. Add Route 53 geolocation routing entries.

**B.** Provision accelerators in AWS Global Accelerator. Associate the supplied IP addresses with the S3 bucket. Edit the Route 53 entries to point to the IP addresses of the accelerators.

**C.** Add an Amazon CloudFront distribution in front of the S3 bucket. Edit the Route 53 entries to point to the CloudFront distribution.

**D.** Enable S3 Transfer Acceleration on the bucket. Edit the Route 53 entries to point to the new endpoint.

**Ans. C**

**Q37.** 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 over 10 million rows. The database has 2 TB of General Purpose SSD (gp2) storage. There are millions of updates against this data every day through the company's website. The company has noticed some operations are taking 10 seconds or longer and has determined that the database storage performance is the bottleneck.  
Which solution addresses the performance issue?

**A.** Change the storage type to Provisioned IOPS SSD (io1).

**B.** Change the instance to a memory-optimized instance class.

**C.** Change the instance to a burstable performance DB instance class.

**D.** Enable Multi-AZ RDS read replicas with MySQL native asynchronous replication.

**Ans. A**

**Q38.** A company has thousands of edge devices that collectively generate 1 TB of status alerts each day. Each alert is approximately 2 KB in size. A solutions architect needs to implement a solution to ingest and store the alerts for future analysis.  
The company wants a highly available solution. However, the company needs to minimize costs and does not want to manage additional infrastructure.  
Additionally, the company wants to keep 14 days of data available for immediate analysis and archive any data older than 14 days.  
What is the MOST operationally efficient solution that meets these requirements?

**A.** Create an Amazon Kinesis Data Firehose delivery stream to ingest the alerts. Configure the Kinesis Data Firehose stream to deliver the alerts to an Amazon S3 bucket. Set up an S3 Lifecycle configuration to transition data to Amazon S3 Glacier after 14 days.

**B.** Launch Amazon EC2 instances across two Availability Zones and place them behind an Elastic Load Balancer to ingest the alerts. Create a script on the EC2 instances that will store the alerts in an Amazon S3 bucket. Set up an S3 Lifecycle configuration to transition data to Amazon S3 Glacier after 14 days.

**C.** Create an Amazon Kinesis Data Firehose delivery stream to ingest the alerts. Configure the Kinesis Data Firehose stream to deliver the alerts to an Amazon Elasticsearch Service (Amazon ES) cluster. Set up the Amazon ES cluster to take manual snapshots every day and delete data from the cluster that is older than 14 days.

**D.** Create an Amazon Simple Queue Service (Amazon SQS) standard queue to ingest the alerts, and set the message retention period to 14 days. Configure consumers to poll the SQS queue, check the age of the message, and analyze the message data as needed. If the message is 14 days old, the consumer should copy the message to an Amazon S3 bucket and delete the message from the SQS queue.

**Ans. A**

**Q39.** 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. 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.

**B.** Create an Amazon AppFlow flow to transfer data between each SaaS source and the S3 bucket. Configure an S3 event notification to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

**C.** Create an Amazon EventBridge (Amazon CloudWatch Events) rule for each SaaS source to send output data. Configure the S3 bucket as the rule's target. Create a second EventBridge (CloudWatch Events) rule to send events when the upload to the S3 bucket is complete. Configure an Amazon Simple Notification Service (Amazon SNS) topic as the second rule's target.

**D.** Create a Docker container to use instead of an EC2 instance. Host the containerized application on Amazon Elastic Container Service (Amazon ECS). Configure Amazon CloudWatch Container Insights to send events to an Amazon Simple Notification Service (Amazon SNS) topic when the upload to the S3 bucket is complete.

**Ans. C**

**Q40.** A company runs a highly available image-processing application on Amazon EC2 instances in a single VPC. The EC2 instances run inside several subnets across multiple Availability Zones. The EC2 instances do not communicate with each other. However, the EC2 instances download images from Amazon S3 and upload images to Amazon S3 through a single NAT gateway. The company is concerned about data transfer charges.  
What is the MOST cost-effective way for the company to avoid Regional data transfer charges?

**A.** Launch the NAT gateway in each Availability Zone.

**B.** Replace the NAT gateway with a NAT instance.

**C.** Deploy a gateway VPC endpoint for Amazon S3.

**D.** Provision an EC2 Dedicated Host to run the EC2 instances.

**Ans. C**

**Q41.** 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.

**Ans: B**

**Q42.** A company has an Amazon S3 bucket that contains critical data. The company must protect the data from accidental deletion. Which combination of steps should a solutions architect take to meet these requirements? (Choose two.)

**A.** Enable versioning on the S3 bucket.

**B.** Enable MFA Delete on the S3 bucket.

**C.** Create a bucket policy on the S3 bucket.

**D.** Enable default encryption on the S3 bucket.

**E.** Create a lifecycle policy for the objects in the S3 bucket.

**Ans: A & B**

**Q43.** A company has a data ingestion workflow that consists of the following:  
• An Amazon Simple Notification Service (Amazon SNS) topic for notifications about new data deliveries  
• An AWS Lambda function to process the data and record metadata.

The company observes that the ingestion workflow fails occasionally because of network connectivity issues. When such a failure occurs, the Lambda function does not ingest the corresponding data unless the company manually reruns the job. Which combination of actions should a solutions architect take to ensure that the Lambda function ingests all data in the future? (Choose two.)

**A.** Deploy the Lambda function in multiple Availability Zones.

**B.** Create an Amazon Simple Queue Service (Amazon SQS) queue and subscribe it to the SNS topic.

**C.** Increase the CPU and memory that are allocated to the Lambda function.

**D.** Increase provisioned throughput for the Lambda function.

**E.** Modify the Lambda function to read from an Amazon Simple Queue Service (Amazon SQS) queue.

**Ans**: **B & E**

**Q44.** A company has an application that provides marketing services to stores. The services based on previous purchases by store customers. The stores upload transaction data to the company through SFTP, and the data is processed and analyzed to generate new marketing offers. Some of the files can exceed 200 GB in size. Recently, the company discovered that some of the stores have uploaded files that contain personally identifiable information (PII) that should not have been included. The company wants administrators to be alerted if PII is shared again. The company also wants to automate remediation. What should a solutions architect do to meet these requirements with the LEAST development effort?

**A.** Use an Amazon S3 bucket as a secure transfer point. Use Amazon Inspector to scan the objects in the bucket. If objects contain PII, trigger an S3 Lifecycle policy to remove the objects that contain PII.

**B.** Use an Amazon S3 bucket as a secure transfer point. Use Amazon Macie to scan the objects in the bucket. If objects contain PII, use Amazon Simple Notification Service (Amazon SNS) to trigger a notification to the administrators to remove the objects that contain PII.

**C.** Implement custom scanning algorithms in an AWS Lambda function. Trigger the function when objects are loaded into the bucket. If objects contain PII, use Amazon Simple Notification Service (Amazon SNS) to trigger a notification to the administrators to remove the objects that contain PII.

**D.** Implement custom scanning algorithms in an AWS Lambda function. Trigger the function when objects are loaded into the bucket. If objects contain PII, use Amazon Simple Email Service (Amazon SES) to trigger a notification to the administrators and trigger an S3 Lifecycle policy to remove the objects that contain PII.

**Ans: B**

Amazon Macie is a data security service that discovers sensitive data by using machine learning and pattern matching, provides visibility into data security risks, and enables automated protection against those risks.

To help you manage the security posture of your organization's Amazon Simple Storage Service (Amazon S3) data estate, Macie provides you with an inventory of your S3 buckets, and automatically evaluates and monitors the buckets for security and access control. If Macie detects a potential issue with the security or privacy of your data, such as a bucket that becomes publicly accessible, Macie generates a finding for you to review and remediate as necessary.

Macie also automates discovery and reporting of sensitive data to provide you with a better understanding of the data that your organization stores in Amazon S3. To detect sensitive data, you can use built-in criteria and techniques that Macie provides, custom criteria that you define, or a combination of the two. If Macie detects sensitive data in an S3 object, Macie generates a finding to notify you of the sensitive data that Macie found.

**Q45.** A company needs guaranteed Amazon EC2 capacity in three specific Availability Zones in a specific AWS Region for an upcoming event that will last 1 week. What should the company do to guarantee the EC2 capacity?

**A.** Purchase Reserved Instances that specify the Region needed.

**B.** Create an On-Demand Capacity Reservation that specifies the Region needed.

**C.** Purchase Reserved Instances that specify the Region and three Availability Zones needed.

**D.** Create an On-Demand Capacity Reservation that specifies the Region and three Availability Zones needed.

**Ans: D**

**Q46.** 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.

**Ans: D**

**Q47.** 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?

1. Store individual files with tags in Amazon S3 Glacier Instant Retrieval. Query the tags to retrieve the files from S3 Glacier Instant Retrieval.
2. Store individual files in Amazon S3 Intelligent-Tiering. Use S3 Lifecycle policies to move the files to S3 Glacier Flexible Retrieval after 1 year. Query and retrieve the files that are in Amazon S3 by using Amazon Athena. Query and retrieve the files that are in S3 Glacier by using S3 Glacier Select.
3. Store individual files with tags in Amazon S3 Standard storage. Store search metadata for each archive in Amazon S3 Standard storage. Use S3 Lifecycle policies to move the files to S3 Glacier Instant Retrieval after 1 year. Query and retrieve the files by searching for metadata from Amazon S3.
4. Store individual files in Amazon S3 Standard storage. Use S3 Lifecycle policies to move the files to S3 Glacier Deep Archive after 1 year. Store search metadata in Amazon RDS. Query the files from Amazon RDS. Retrieve the files from S3 Glacier Deep Archive.

**Ans: B**

**Q48.** 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.

**Ans: B (as per him) but D (as per the dumps website)**

**AWS Systems Manager Patch Manager**

Patch Manager, a capability of AWS Systems Manager, automates the process of patching managed nodes with both security-related updates and other types of updates.

You can use Patch Manager to apply patches for both operating systems and applications. (On Windows Server, application support is limited to updates for applications released by Microsoft.) You can use Patch Manager to install Service Packs on Windows nodes and perform minor version upgrades on Linux nodes. You can patch fleets of Amazon Elastic Compute Cloud (Amazon EC2) instances, edge devices, on-premises servers, and virtual machines (VMs) by operating system type. This includes supported versions of several operating systems, as listed in [Patch Manager prerequisites](https://docs.aws.amazon.com/systems-manager/latest/userguide/patch-manager-prerequisites.html). You can scan instances to see only a report of missing patches, or you can scan and automatically install all missing patches.

**Q49.** A company stores call transcript files on 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. Query the tags to retrieve the files from S3 Glacier Instant Retrieval.

**B.** Store individual files in Amazon S3 Intelligent-Tiering. Use S3 Lifecycle policies to move the files to S3 Glacier Flexible Retrieval after 1 year. Query and retrieve the files that are in Amazon S3 by using Amazon Athena. Query and retrieve the files that are in S3 Glacier by using S3 Glacier Select.

**C.** Store individual files with tags in Amazon S3 Standard storage. Store search metadata for each archive in Amazon S3 Standard storage. Use S3 Lifecycle policies to move the files to S3 Glacier Instant Retrieval after 1 year. Query and retrieve the files by searching for metadata from Amazon S3.

**D.** Store individual files in Amazon S3 Standard storage. Use S3 Lifecycle policies to move the files to S3 Glacier Deep Archive after 1 year. Store search metadata in Amazon RDS. Query the files from Amazon RDS. Retrieve the files from S3 Glacier Deep Archive.

**Ans: B**

**Q50.** 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-lime 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

**Ans: B**

**Q51.** A company is developing an application that provides order shipping statistics for retrieval by a REST API. The company wants to extract the shipping statistics, organize the data into an easy-to-read HTML format, and send the report to several email addresses at the same time every morning.  
Which combination of steps should a solutions architect take to meet these requirements? (Choose two.)

**A.** Configure the application to send the data to Amazon Kinesis Data Firehose.

**B.** Use Amazon Simple Email Service (Amazon SES) to format the data and to send the report by email.

**C.** Create an Amazon EventBridge (Amazon CloudWatch Events) scheduled event that invokes an AWS Glue job to query the application's API for the data.

**D.** Create an Amazon EventBridge (Amazon CloudWatch Events) scheduled event that invokes an AWS Lambda function to query the application's API for the data.

**E.** Store the application data in Amazon S3. Create an Amazon Simple Notification Service (Amazon SNS) topic as an S3 event destination to send the report by email.

**Ans: B & D**

**Q52.** A company wants to migrate its on-premises application to AWS. The application produces output files that vary in size from tens of gigabytes to hundreds of terabytes. The application data must be stored in a standard file system structure. The company wants a solution that scales automatically. is highly available, and requires minimum operational overhead.  
Which solution will meet these requirements?

**A.** Migrate the application to run as containers on Amazon Elastic Container Service (Amazon ECS). Use Amazon S3 for storage.

**B.** Migrate the application to run as containers on Amazon Elastic Kubernetes Service (Amazon EKS). Use Amazon Elastic Block Store (Amazon EBS) for storage.

**C.** Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group. Use Amazon Elastic File System (Amazon EFS) for storage.

**D.** Migrate the application to Amazon EC2 instances in a Multi-AZ Auto Scaling group. Use Amazon Elastic Block Store (Amazon EBS) for storage.

**Ans: C**

**Q53.** A company needs to store its accounting records in Amazon S3. The records must be immediately accessible for 1 year and then must be archived for an additional 9 years. No one at the company, including administrative users and root users, can be able to delete the records during the entire 10-year period. The records must be stored with maximum resiliency. Which solution will meet these requirements?

**A.** Store the records in S3 Glacier for the entire 10-year period. Use an access control policy to deny deletion of the records for a period of 10 years.

**B.** Store the records by using S3 Intelligent-Tiering. Use an IAM policy to deny deletion of the records. After 10 years, change the IAM policy to allow deletion.

**C.** Use an S3 Lifecycle policy to transition the records from S3 Standard to S3 Glacier Deep Archive after 1 year. Use S3 Object Lock in compliance mode for a period of 10 years.

**D.** Use an S3 Lifecycle policy to transition the records from S3 Standard to S3 One Zone-Infrequent Access (S3 One Zone-IA) after 1 year. Use S3 Object Lock in governance mode for a period of 10 years.

**Ans: C**

**Q54.** A company runs multiple Windows workloads on AWS. The company's employees use Windows file shares that are hosted on two Amazon EC2 instances. The file shares synchronize data between themselves and maintain duplicate copies. The company wants a highly available and durable storage solution that preserves how users currently access the files. What should a solutions architect do to meet these requirements?

**A.** Migrate all the data to Amazon S3. Set up IAM authentication for users to access files.

**B.** Set up an Amazon S3 File Gateway. Mount the S3 File Gateway on the existing EC2 instances.

**C.** Extend the file share environment to Amazon FSx for Windows File Server with a Multi-AZ configuration. Migrate all the data to FSx for Windows File Server.

**D.** Extend the file share environment to Amazon Elastic File System (Amazon EFS) with a Multi-AZ configuration. Migrate all the data to Amazon EFS

**Ans: C**

**Q55.** A solutions architect is developing a VPC architecture that includes multiple subnets. The architecture will host applications that use Amazon EC2 instances and Amazon RDS DB instances. The architecture consists of six subnets in two Availability Zones. Each Availability Zone includes a public subnet, a private subnet, and a dedicated subnet for databases. Only EC2 instances that run in the private subnets can have access to the RDS databases. Which solution will meet these requirements?

**A.** Create a new route table that excludes the route to the public subnets' CIDR blocks. Associate the route table with the database subnets.

**B.** Create a security group that denies inbound traffic from the security group that is assigned to instances in the public subnets. Attach the security group to the DB instances.

**C.** Create a security group that allows inbound traffic from the security group that is assigned to instances in the private subnets. Attach the security group to the DB instances.

**D.** Create a new peering connection between the public subnets and the private subnets. Create a different peering connection between the private subnets and the database subnets.

**Ans: C**

**Q56.** 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. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM).

**B.** Create Route 53 DNS records with the company's domain name. Point the alias record to the Regional API Gateway stage endpoint. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the us-east-1 Region.

**C.** Create a Regional API Gateway endpoint. Associate the API Gateway endpoint with the company's domain name. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the same Region. Attach the certificate to the API Gateway endpoint. Configure Route 53 to route traffic to the API Gateway endpoint.

**D.** Create a Regional API Gateway endpoint. Associate the API Gateway endpoint with the company's domain name. Import the public certificate associated with the company's domain name into AWS Certificate Manager (ACM) in the us-east-1 Region. Attach the certificate to the API Gateway APIs. Create Route 53 DNS records with the company's domain name. Point an A record to the company's domain name.

**Ans: C**

**Q57.** 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. Use human review for low-confidence predictions.

**B.** Use Amazon Rekognition to detect inappropriate content. Use human review for low-confidence predictions.

**C.** Use Amazon SageMaker to detect inappropriate content. Use ground truth to label low-confidence predictions.

**D.** Use AWS Fargate to deploy a custom machine learning model to detect inappropriate content. Use ground truth to label low-confidence predictions.

**Ans: B**

**Q58.** 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 these requirements?

1. Use Amazon EC2 instances and install Docker on the instances.
2. Use Amazon Elastic Container Service (Amazon ECS) on Amazon EC2 worker nodes.
3. Use Amazon Elastic Container Service (Amazon ECS) on AWS Fargate.
4. Use Amazon EC2 instances from an Amazon Elastic Container Service (Amazon ECS)-optimized Amazon Machine Image (AMI).

**Ans: C**

**Q59.** 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 Streams. Use Amazon Kinesis Data Firehose to transmit the data to an Amazon S3 data lake. Load the data in Amazon Redshift for analysis.

**Ans: D**

**Q60.** 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 solution 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).

**Ans: C**

**Q61.** A company is developing a two-tier web application on AWS. The company's developers have deployed the application on an Amazon EC2 instance that connects directly to a backend Amazon RDS database. The company must not hardcode database credentials in the application. The company must also implement a solution to automatically rotate the database credentials on a regular basis.

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

**A.** Store the database credentials in the instance metadata. Use Amazon EventBridge (Amazon CloudWatch Events) rules to run a scheduled AWS Lambda function that updates the RDS credentials and instance metadata at the same time.

**B.** Store the database credentials in a configuration file in an encrypted Amazon S3 bucket. Use Amazon EventBridge (Amazon CloudWatch Events) rules to run a scheduled AWS Lambda function that updates the RDS credentials and the credentials in the configuration file at the same time. Use S3 Versioning to ensure the ability to fall back to previous values.

**C.** Store the database credentials as a secret in AWS Secrets Manager. Turn on automatic rotation for the secret. Attach the required permission to the EC2 role to grant access to the secret.

**D.** Store the database credentials as encrypted parameters in AWS Systems Manager Parameter Store. Turn on automatic rotation for the encrypted parameters. Attach the required permission to the EC2 role to grant access to the encrypted parameters.

**Ans: C**

**Q62.** A company is deploying a new public web application to AWS. The application will run behind an Application Load Balancer (ALB). The application needs to be encrypted at the edge with an SSL/TLS certificate that is issued by an external certificate authority (CA). The certificate must be rotated each year before the certificate expires. What should a solutions architect do to meet these requirements?

**A.** Use AWS Certificate Manager (ACM) to issue an SSL/TLS certificate. Apply the certificate to the ALB. Use the managed renewal feature to automatically rotate the certificate.

**B.** Use AWS Certificate Manager (ACM) to issue an SSL/TLS certificate. Import the key material from the certificate. Apply the certificate to the ALUse the managed renewal feature to automatically rotate the certificate.

**C.** Use AWS Certificate Manager (ACM) Private Certificate Authority to issue an SSL/TLS certificate from the root CA. Apply the certificate to the ALB. Use the managed renewal feature to automatically rotate the certificate.

**D.** Use AWS Certificate Manager (ACM) to import an SSL/TLS certificate. Apply the certificate to the ALB. Use Amazon EventBridge (Amazon CloudWatch Events) to send a notification when the certificate is nearing expiration. Rotate the certificate manually.

**Ans: D**

Imported certificates – If you want to use a third-party certificate with Amazon CloudFront, Elastic Load Balancing, or Amazon API Gateway, you may import it into ACM using the AWS Management Console, AWS CLI, or ACM APIs. ACM cannot renew imported certificates, but it can help you manage the renewal process. You are responsible for monitoring the expiration date of your imported certificates and for renewing them before they expire. You can use ACM CloudWatch metrics to monitor the expiration dates of an imported certificates and import a new third-party certificate to replace an expiring one.

**Q63.** A company runs its infrastructure on AWS and has a registered base of 700,000 users for its document management application. The company intends to create a product that converts large .pdf files to .jpg image files. The .pdf files average 5 MB in size. The company needs to store the original files and the converted files. A solutions architect must design a scalable solution to accommodate demand that will grow rapidly over time. Which solution meets these requirements MOST cost-effectively?

**A.** Save the .pdf files to Amazon S3. Configure an S3 PUT event to invoke an AWS Lambda function to convert the files to .jpg format and store them back in Amazon S3.

**B.** Save the .pdf files to Amazon DynamoDB. Use the DynamoDB Streams feature to invoke an AWS Lambda function to convert the files to .jpg format and store them back in DynamoDB.

**C.** Upload the .pdf files to an AWS Elastic Beanstalk application that includes Amazon EC2 instances, Amazon Elastic Block Store (Amazon EBS) storage, and an Auto Scaling group. Use a program in the EC2 instances to convert the files to .jpg format. Save the .pdf files and the .jpg files in the EBS store.

**D.** Upload the .pdf files to an AWS Elastic Beanstalk application that includes Amazon EC2 instances, Amazon Elastic File System (Amazon EFS) storage, and an Auto Scaling group. Use a program in the EC2 instances to convert the file to .jpg format. Save the .pdf files and the .jpg files in the EBS store.

**Ans: A**

**Q64.** 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. Move the on-premises file data to FSx for Windows File Server. Reconfigure the workloads to use FSx for Windows File Server on AWS.

**B.** 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.

**C.** 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.

**D.** 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.

**Ans: D**

**Q65.** 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.

**Ans: C**

**Q66.** A company has an application that generates 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.** 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. Delete the files 4 years after object creation.

**D.** 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.

**Ans: C**

**Q67.** A company hosts an application on multiple Amazon EC2 instances. The application processes messages from an Amazon SQS queue, writes for an Amazon

RDS table, and deletes -  
the message from the queue. Occasional duplicate records are found in the RDS table. The SQS queue does not contain any duplicate messages.  
What should a solutions architect do to ensure messages are being processed once only?

**A.** Use the CreateQueue API call to create a new queue.

**B.** Use the AddPermission API call to add appropriate permissions.

**C.** Use the ReceiveMessage API call to set an appropriate wait time.

**D.** Use the ChangeMessageVisibility API call to increase the visibility timeout.

**Ans: D**

**Q68.** A solutions architect is designing a new hybrid architecture to extend a company's on-premises infrastructure to AWS. The company requires a highly available connection with consistent low latency to an AWS Region. The company needs to minimize costs and is willing to accept slower traffic if the primary connection fails.  
What should the solutions architect do to meet these requirements?

**A.** Provision an AWS Direct Connect connection to a Region. Provision a VPN connection as a backup if the primary Direct Connect connection fails.

**B.** Provision a VPN tunnel connection to a Region for private connectivity. Provision a second VPN tunnel for private connectivity and as a backup if the primary VPN connection fails.

**C.** Provision an AWS Direct Connect connection to a Region. Provision a second Direct Connect connection to the same Region as a backup if the primary Direct Connect connection fails.

**D.** Provision an AWS Direct Connect connection to a Region. Use the Direct Connect failover attribute from the AWS CLI to automatically create a backup connection if the primary Direct Connect connection fails.

**Ans: A**

A hybrid infrastructure, or hybrid cloud is an **IT infrastructure design and environment made up of a mix of on-premises data centers, private clouds and/or public clouds**. Operating systems and applications can be deployed on any part of this environment, depending on the business needs and requirements.

**Q69.** 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 Regions. Use Amazon Route 53 health checks to redirect traffic. Use Aurora PostgreSQL Cross-Region Replication.

**B.** Configure the Auto Scaling group to use multiple Availability Zones. Configure the database as Multi-AZ. Configure an Amazon RDS Proxy instance for the database.

**C.** Configure the Auto Scaling group to use one Availability Zone. Generate hourly snapshots of the database. Recover the database from the snapshots in the event of a failure.

**D.** Configure the Auto Scaling group to use multiple AWS Regions. 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.

**Ans: B**

**Q70.** A company's HTTP application is behind a Network Load Balancer (NLB). The NLB's target group is configured to use an Amazon EC2 Auto Scaling group with multiple EC2 instances that run the web service.  
The company notices that the NLB is not detecting HTTP errors for the application. These errors require a manual restart of the EC2 instances that run the web service. The company needs to improve the application's availability without writing custom scripts or code.   
What should a solutions architect do to meet these requirements?

**A.** Enable HTTP health checks on the NLB, supplying the URL of the company's application.

**B.** Add a cron job to the EC2 instances to check the local application's logs once each minute. If HTTP errors are detected, the application will restart.

**C.** Replace the NLB with an Application Load Balancer. Enable HTTP health checks by supplying the URL of the company's application. Configure an Auto Scaling action to replace unhealthy instances.

**D.** Create an Amazon CloudWatch alarm that monitors the UnhealthyHostCount metric for the NLB. Configure an Auto Scaling action to replace unhealthy instances when the alarm is in the ALARM state.

**Ans: C**

**Q71.** 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 tables. For RPO recovery, point the application to a different AWS Region.

**B.** Configure DynamoDB point-in-time recovery. For RPO recovery, restore to the desired point in time.

**C.** Export the DynamoDB data to Amazon S3 Glacier on a daily basis. For RPO recovery, import the data from S3 Glacier to DynamoDB.

**D.** Schedule Amazon Elastic Block Store (Amazon EBS) snapshots for the DynamoDB table every 15 minutes. For RPO recovery, restore the DynamoDB table by using the EBS snapshot.

**Ans: B**

**point-in-time recovery**

[Amazon DynamoDB](https://aws.amazon.com/dynamodb/) enables you to back up your table data continuously by using point-in-time recovery (PITR). When you enable PITR, DynamoDB backs up your table data automatically with per-second granularity so that you can restore to any given second in the preceding 35 days.

PITR helps protect you against accidental writes and deletes. For example, if a test script writes accidentally to a production DynamoDB table or someone mistakenly issues a "DeleteItem" call, PITR has you covered.

Using PITR, you can back up tables with hundreds of terabytes of data, with no impact on the performance or availability of your production applications. You also can recover PITR-enabled DynamoDB tables that were deleted in the preceding 35 days, and restore tables to their state just before they were deleted.

**Q 72:** A company runs a photo processing application that needs to frequently upload and download pictures from Amazon S3 buckets that are located in the same AWS Region. A solutions architect has noticed an increased cost in data transfer fees and needs to implement a solution to reduce these costs.  
How can the solutions architect meet this requirement?

**A.** Deploy Amazon API Gateway into a public subnet and adjust the route table to route S3 calls through it.

**B.** Deploy a NAT gateway into a public subnet and attach an endpoint policy that allows access to the S3 buckets.

**C.** Deploy the application into a public subnet and allow it to route through an internet gateway to access the S3 buckets.

**D.** Deploy an S3 VPC gateway endpoint into the VPC and attach an endpoint policy that allows access to the S3 buckets.

**Ans: D**

**Q 73:** A company recently launched Linux-based application instances on Amazon EC2 in a private subnet and launched a Linux-based bastion host on an Amazon EC2 instance in a public subnet of a VPC. A solutions architect needs to connect from the on-premises network, through the company's internet connection, to the bastion host, and to the application servers. The solutions architect must make sure that the security groups of all the EC2 instances will allow that access. Which combination of steps should the solutions architect take to meet these requirements? (Choose two.)

**A.** Replace the current security group of the bastion host with one that only allows inbound access from the application instances.

**B.** Replace the current security group of the bastion host with one that only allows inbound access from the internal IP range for the company.

**C.** Replace the current security group of the bastion host with one that only allows inbound access from the external IP range for the company.

**D.** Replace the current security group of the application instances with one that allows inbound SSH access from only the private IP address of the bastion host.

**E.** Replace the current security group of the application instances with one that allows inbound SSH access from only the public IP address of the bastion host.

**Ans: C and D**

**Q 74:** A solutions architect is designing a two-tier web application. The application consists of a public-facing web tier hosted on Amazon EC2 in public subnets. The database tier consists of Microsoft SQL Server running on Amazon EC2 in a private subnet. Security is a high priority for the company.  
How should security groups be configured in this situation? (Choose two.)

**A.** Configure the security group for the web tier to allow inbound traffic on port 443 from 0.0.0.0/0.

**B.** Configure the security group for the web tier to allow outbound traffic on port 443 from 0.0.0.0/0.

**C.** Configure the security group for the database tier to allow inbound traffic on port 1433 from the security group for the web tier.

**D.** Configure the security group for the database tier to allow outbound traffic on ports 443 and 1433 to the security group for the web tier.

**E.** Configure the security group for the database tier to allow inbound traffic on ports 443 and 1433 from the security group for the web tier.

**Ans: A and C**

**Q 75:** A company wants to move a multi-tiered application from on premises to the AWS Cloud to improve the application's performance. The application consists of application tiers that communicate with each other by way of RESTful services. Transactions are dropped when one tier becomes overloaded. A solutions architect must design a solution that resolves these issues and modernizes the application.  
Which solution meets these requirements and is the MOST operationally efficient?

**A.** Use Amazon API Gateway and direct transactions to the AWS Lambda functions as the application layer. Use Amazon Simple Queue Service (Amazon SQS) as the communication layer between application services.

**B.** Use Amazon CloudWatch metrics to analyze the application performance history to determine the server's peak utilization during the performance failures. Increase the size of the application server's Amazon EC2 instances to meet the peak requirements.

**C.** Use Amazon Simple Notification Service (Amazon SNS) to handle the messaging between application servers running on Amazon EC2 in an Auto Scaling group. Use Amazon CloudWatch to monitor the SNS queue length and scale up and down as required.

**D.** Use Amazon Simple Queue Service (Amazon SQS) to handle the messaging between application servers running on Amazon EC2 in an Auto Scaling group. Use Amazon CloudWatch to monitor the SQS queue length and scale up when communication failures are detected.

**Ans: A**

**Q 76:** A company has a web application that is based on Java and PHP. The company plans to move the application from on premises to AWS. The company needs the ability to test new site features frequently. The company also needs a highly available and managed solution that requires minimum operational overhead.  
Which solution will meet these requirements?

**A.** Create an Amazon S3 bucket. Enable static web hosting on the S3 bucket. Upload the static content to the S3 bucket. Use AWS Lambda to process all dynamic content.

**B.** Deploy the web application to an AWS Elastic Beanstalk environment. Use URL swapping to switch between multiple Elastic Beanstalk environments for feature testing.

**C.** Deploy the web application to Amazon EC2 instances that are configured with Java and PHP. Use Auto Scaling groups and an Application Load Balancer to manage the website’s availability.

**D.** Containerize the web application. Deploy the web application to Amazon EC2 instances. Use the AWS Load Balancer Controller to dynamically route traffic between containers that contain the new site features for testing.

**Ans: B**

**Q 77:** A company needs to store contract documents. A contract lasts for 5 years. During the 5-year period, the company must ensure that the documents cannot be overwritten or deleted. The company needs to encrypt the documents at rest and rotate the encryption keys automatically every year.  
Which combination of steps should a solutions architect take to meet these requirements with the LEAST operational overhead? (Choose two.)

**A.** Store the documents in Amazon S3. Use S3 Object Lock in governance mode.

**B.** Store the documents in Amazon S3. Use S3 Object Lock in compliance mode.

**C.** Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Configure key rotation.

**D.** Use server-side encryption with AWS Key Management Service (AWS KMS) customer managed keys. Configure key rotation.

**E.** Use server-side encryption with AWS Key Management Service (AWS KMS) customer provided (imported) keys. Configure key rotation.

**Ans: B and D**

**Q 78:** A company uses Amazon S3 as its data lake. The company has a new partner that must use SFTP to upload data files. A solutions architect needs to implement a highly available SFTP solution that minimizes operational overhead. Which solution will meet these requirements?

**A.** Use AWS Transfer Family to configure an SFTP-enabled server with a publicly accessible endpoint. Choose the S3 data lake as the destination.

**B.** Use Amazon S3 File Gateway as an SFTP server. Expose the S3 File Gateway endpoint URL to the new partner. Share the S3 File Gateway endpoint with the new partner.

**C.** Launch an Amazon EC2 instance in a private subnet in a VPC. Instruct the new partner to upload files to the EC2 instance by using a VPN. Run a cron job script on the EC2 instance to upload files to the S3 data lake.

**D.** Launch Amazon EC2 instances in a private subnet in a VPC. Place a Network Load Balancer (NLB) in front of the EC2 instances. Create an SFTP listener port for the NLB. Share the NLB hostname with the new partner. Run a cron job script on the EC2 instances to upload files to the S3 data lake.

**Ans: A**

**Q 79:** A company is developing an ecommerce application that will consist of a load-balanced front end, a container-based application, and a relational database. A solutions architect needs to create a highly available solution that operates with as little manual intervention as possible.  
Which solutions meet these requirements? (Choose two.)

**A.** Create an Amazon RDS DB instance in Multi-AZ mode.

**B.** Create an Amazon RDS DB instance and one or more replicas in another Availability Zone.

**C.** Create an Amazon EC2 instance-based Docker cluster to handle the dynamic application load.

**D.** Create an Amazon Elastic Container Service (Amazon ECS) cluster with a Fargate launch type to handle the dynamic application load.

**E.** Create an Amazon Elastic Container Service (Amazon ECS) cluster with an Amazon EC2 launch type to handle the dynamic application load.

**Ans: A and D**

**Q 80:** A company has a Windows-based application that must be migrated to AWS. The application requires the use of a shared Windows file system attached to multiple Amazon EC2 Windows instances that are deployed across multiple Availability Zones. What should a solutions architect do to meet this requirement?

**A.** Configure AWS Storage Gateway in volume gateway mode. Mount the volume to each Windows instances.

**B.** Configure Amazon FSx for Windows File Server. Mount the Amazon FSx file system to each Windows instance.

**C.** Configure a file system by using Amazon Elastic File System (Amazon EFS). Mount the EFS file system to each Windows instance.

**D.** Configure an Amazon Elastic Block Store (Amazon EBS) volume with the required size. Attach each EC2 instance to the volume. Mount the file system within the volume to each Windows instance.

**Ans: B**

**Q 81:** A company runs an application using Amazon ECS. The application creates resized versions of original image and then makes Amazon S3 API calls to store the resized images in Amazon S3.

How can a solutions architect ensure that the application has permission to access Amazon S3?

**A.** Update the S3 role in AWS IAM to allow read/write access from Amazon ECS, and then relaunch the container.

**B.** Create an IAM role with S3 permissions, and then specify that role as the taskRoleArn in the task definition.

**C.** Create a security group that allows access from Amazon ECS to Amazon S3, and update the launch configuration used by the ECS cluster.

**D.** Create an IAM user with S3 permissions, and then relaunch the Amazon EC2 instances for the ECS cluster while logged in as this account.

**Ans. B**

**Q 82.** A company has an AWS account used for software engineering. The AWS account has access to the company’s on-premises data center through a pair of AWS Direct Connect connections. All non-VPC traffic routes to the virtual private gateway.  
A development team recently created an AWS Lambda function through the console. The development team needs to allow the function to access a database that runs in a private subnet in the company’s data center.  
Which solution will meet these requirements?

**A.** Configure the Lambda function to run in the VPC with the appropriate security group.

**B.** Set up a VPN connection from AWS to the data center. Route the traffic from the Lambda function through the VPN.

**C.** Update the route tables in the VPC to allow the Lambda function to access the on-premises data center through Direct Connect.

**D.** Create an Elastic IP address. Configure the Lambda function to send traffic through the Elastic IP address without an elastic network interface.

**Ans C (A is most rated answer in examtopics.com)**

**Q 83**. A company is building a new dynamic ordering website. The company wants to minimize server maintenance and patching. The website must be highly available and must scale read and write capacity as quickly as possible to meet changes in user demand.  
Which solution will meet these requirements?

**A.** Host static content in Amazon S3. Host dynamic content by using Amazon API Gateway and AWS Lambda. Use Amazon DynamoDB with on-demand capacity for the database. Configure Amazon CloudFront to deliver the website content.

**B.** Host static content in Amazon S3. Host dynamic content by using Amazon API Gateway and AWS Lambda. Use Amazon Aurora with Aurora Auto Scaling for the database. Configure Amazon CloudFront to deliver the website content.

**C.** Host all the website content on Amazon EC2 instances. Create an Auto Scaling group to scale the EC2 instances. Use an Application Load Balancer to distribute traffic. Use Amazon DynamoDB with provisioned write capacity for the database.

**D.** Host all the website content on Amazon EC2 instances. Create an Auto Scaling group to scale the EC2 instances. Use an Application Load Balancer to distribute traffic. Use Amazon Aurora with Aurora Auto Scaling for the database.

**Ans A.**

**Q 84.** 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.

**Ans B.**

**Q 85.** A company has a legacy data processing application that runs on Amazon EC2 instances. Data is processed sequentially, but the order of results does not matter. The application uses a monolithic architecture. The only way that the company can scale the application to meet increased demand is to increase the size of the instances.  
The company’s developers have decided to rewrite the application to use a microservices architecture on Amazon Elastic Container Service (Amazon ECS).  
What should a solutions architect recommend for communication between the microservices?

**A.** Create an Amazon Simple Queue Service (Amazon SQS) queue. Add code to the data producers, and send data to the queue. Add code to the data consumers to process data from the queue.

**B.** Create an Amazon Simple Notification Service (Amazon SNS) topic. Add code to the data producers, and publish notifications to the topic. Add code to the data consumers to subscribe to the topic.

**C.** Create an AWS Lambda function to pass messages. Add code to the data producers to call the Lambda function with a data object. Add code to the data consumers to receive a data object that is passed from the Lambda function.

**D.** Create an Amazon DynamoDB table. Enable DynamoDB Streams. Add code to the data producers to insert data into the table. Add code to the data consumers to use the DynamoDB Streams API to detect new table entries and retrieve the data.

**Ans A.**

**Option B**, using Amazon Simple Notification Service (SNS), would not be suitable for this use case, as SNS is a pub/sub messaging service that is designed for one-to-many communication, rather than point-to-point communication between specific microservices.

**Option C**, using an AWS Lambda function to pass messages, would not be suitable for this use case, as it would require the data producers and data consumers to have a direct connection and invoke the Lambda function, rather than being decoupled through a message queue.

**Option D**, using an Amazon DynamoDB table with DynamoDB Streams, would not be suitable for this use case, as it would require the data consumers to continuously poll the DynamoDB Streams API to detect new table entries, rather than being notified of new data through a message queue.

**Q 86.** A company is designing a cloud communications platform that is driven by APIs. The application is hosted on Amazon EC2 instances behind a Network Load Balancer (NLB). The company uses Amazon API Gateway to provide external users with access to the application through APIs. The company wants to protect the platform against web exploits like SQL injection and also wants to detect and mitigate large, sophisticated DDoS attacks.  
Which combination of solutions provides the MOST protection? (Choose two.)

**A.** Use AWS WAF to protect the NLB.

**B.** Use AWS Shield Advanced with the NLB.

**C.** Use AWS WAF to protect Amazon API Gateway.

**D.** Use Amazon GuardDuty with AWS Shield Standard.

**E.** Use AWS Shield Standard with Amazon API Gateway.

**Ans B and C.**

**Q 87.** A solutions architect needs to securely store a database user name and password that an application uses to access an Amazon RDS DB instance. The application that accesses the database runs on an Amazon EC2 instance. The solutions architect wants to create a secure parameter in AWS Systems Manager Parameter Store.  
What should the solutions architect do to meet this requirement?

**A.** Create an IAM role that has read access to the Parameter Store parameter. Allow Decrypt access to an AWS Key Management Service (AWS KMS) key that is used to encrypt the parameter. Assign this IAM role to the EC2 instance.

**B.** Create an IAM policy that allows read access to the Parameter Store parameter. Allow Decrypt access to an AWS Key Management Service (AWS KMS) key that is used to encrypt the parameter. Assign this IAM policy to the EC2 instance.

**C.** Create an IAM trust relationship between the Parameter Store parameter and the EC2 instance. Specify Amazon RDS as a principal in the trust policy.

**D.** Create an IAM trust relationship between the DB instance and the EC2 instance. Specify Systems Manager as a principal in the trust policy.

**Ans A.**

**Q 88.** A company’s infrastructure consists of Amazon EC2 instances and an Amazon RDS DB instance in a single AWS Region. The company wants to back up its data in a separate Region.  
Which solution will meet these requirements with the LEAST operational overhead?

**A.** Use AWS Backup to copy EC2 backups and RDS backups to the separate Region.

**B.** Use Amazon Data Lifecycle Manager (Amazon DLM) to copy EC2 backups and RDS backups to the separate Region.

**C.** Create Amazon Machine Images (AMIs) of the EC2 instances. Copy the AMIs to the separate Region. Create a read replica for the RDS DB instance in the separate Region.

**D.** Create Amazon Elastic Block Store (Amazon EBS) snapshots. Copy the EBS snapshots to the separate Region. Create RDS snapshots. Export the RDS snapshots to Amazon S3. Configure S3 Cross-Region Replication (CRR) to the separate Region.

**Ans A.**

Amazon EBS snapshots creation, deletion, etc. Creating EBS volume snapshots is very easy by using Amazon Data Lifecycle Manager and can be bound to a schedule. In addition to snapshot creation, lifecycle manager policy configuration enables cross-region copy of the snapshots as well as cross-account sharing of the created EBS volume snapshots.

**1)** Protect valuable data by enforcing a regular backup schedule.

**2)** Create standardized AMIs that can be refreshed at regular intervals.

**3)** Retain backups as required by auditors or internal compliance.

**4)** Reduce storage costs by deleting outdated backups.

**5)** Create disaster recovery backup policies that back up data to isolated accounts.

**Q 89.** An entertainment company is using Amazon DynamoDB to store media metadata. The application is read intensive and experiencing delays. The company does not have staff to handle additional operational overhead and needs to improve the performance efficiency of DynamoDB without reconfiguring the application.  
What should a solutions architect recommend to meet this requirement?

**A.** Use Amazon ElastiCache for Redis.

**B.** Use Amazon DynamoDB Accelerator (DAX).

**C.** Replicate data by using DynamoDB global tables.

**D.** Use Amazon ElastiCache for Memcached with Auto Discovery enabled.

**Ans B.**

**Q 90.** An application runs on Amazon EC2 instances in private subnets. The application needs to access an Amazon DynamoDB table. What is the MOST secure way to access the table while ensuring that the traffic does not leave the AWS network?

**A.** Use a VPC endpoint for DynamoDB.

**B.** Use a NAT gateway in a public subnet.

**C.** Use a NAT instance in a private subnet.

**D.** Use the internet gateway attached to the VPC.

**Ans A.**

**Q 91.** 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.

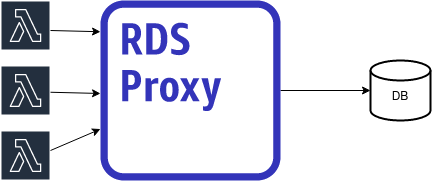
**C.** Create a read replica for the database in a different AWS Region. Use query string parameters in API Gateway to route traffic to the read replica.

**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 DynamoDB table.

**Ans B.**

**How does RDS proxy work?**

Connection Pooling



Connection pooling is an optimization that enables applications to share and re-use database connections, thus reducing the load on the database itself. Opening and closing a new database connection is CPU-intensive whereas additional memory is needed for each open connection. Connection pooling also removes the need to worry about database connections in the application code.

Each database transaction uses one underlying database connection which can be reused once the transaction has finished. This transaction-level reuse is called **connection** **multiplexing** (or connection reuse).

In **connection multiplexing**, database connections are shared between client connections which helps minimize the resource overhead on the database server.

**Pinning**

In some cases, RDS proxy can’t safely reuse a database connection outside of the current session. In such scenarios, the same connection is used for the session until the session ends. This behavior is called **pinning**.

AWS recommends trying to avoid pinning as much as possible since it makes it harder to share connections and thus reduces the benefits of using RDS proxy.

Some reasons why a connection might be pinned are:

* Change of session variable
* Change of configuration parameter

**Q 92.** A company has a multi-tier application that runs six front-end web servers in an Amazon EC2 Auto Scaling group in a single Availability Zone behind an Application Load Balancer (ALB). A solutions architect needs to modify the infrastructure to be highly available without modifying the application.  
Which architecture should the solutions architect choose that provides high availability?

**A.** Create an Auto Scaling group that uses three instances across each of two Regions.

**B.** Modify the Auto Scaling group to use three instances across each of two Availability Zones.

**C.** Create an Auto Scaling template that can be used to quickly create more instances in another Region.

**D.** Change the ALB in front of the Amazon EC2 instances in a round-robin configuration to balance traffic to the web tier.

**Ans B.**

**Q 93.** A gaming company hosts a browser-based application on AWS. The users of the application consume a large number of videos and images that are stored in Amazon S3. This content is the same for all users.  
The application has increased in popularity, and millions of users worldwide accessing these media files. The company wants to provide the files to the users while reducing the load on the origin.  
Which solution meets these requirements MOST cost-effectively?

**A.** Deploy an AWS Global Accelerator accelerator in front of the web servers.

**B.** Deploy an Amazon CloudFront web distribution in front of the S3 bucket.

**C.** Deploy an Amazon ElastiCache for Redis instance in front of the web servers.

**D.** Deploy an Amazon ElastiCache for Memcached instance in front of the web servers.

**Ans B.**

**Q 94.** A solutions architect is creating a new Amazon CloudFront distribution for an application. Some of the information submitted by users is sensitive. The application uses HTTPS but needs another layer of security. The sensitive information should be protected throughout the entire application stack, and access to the information should be restricted to certain applications.  
Which action should the solutions architect take?

**A.** Configure a CloudFront signed URL.

**B.** Configure a CloudFront signed cookie.

**C.** Configure a CloudFront field-level encryption profile.

**D.** Configure CloudFront and set the Origin Protocol Policy setting to HTTPS Only for the Viewer Protocol Policy.

**Ans A (C in examtopics.com)**

**Q 95.** A company provides an API to its users that automates inquiries for tax computations based on item prices. The company experiences a larger number of inquiries during the holiday season only that cause slower response times. A solutions architect needs to design a solution that is scalable and elastic.  
What should the solutions architect do to accomplish this?

**A.** Provide an API hosted on an Amazon EC2 instance. The EC2 instance performs the required computations when the API request is made.

**B.** Design a REST API using Amazon API Gateway that accepts the item names. API Gateway passes item names to AWS Lambda for tax computations.

**C.** Create an Application Load Balancer that has two Amazon EC2 instances behind it. The EC2 instances will compute the tax on the received item names.

**D.** Design a REST API using Amazon API Gateway that connects with an API hosted on an Amazon EC2 instance. API Gateway accepts and passes the item names to the EC2 instance for tax computations.

**Ans B.**

**Q 96.** 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.

**Ans C.**

**Q 97.** A company is concerned about the security of its public web application due to recent web attacks. The application uses an Application Load Balancer (ALB). A solutions architect must reduce the risk of DDoS attacks against the application.  
What should the solutions architect do to meet this requirement?

**A.** Add an Amazon Inspector agent to the ALB.

**B.** Configure Amazon Macie to prevent attacks.

**C.** Enable AWS Shield Advanced to prevent attacks.

**D.** Configure Amazon GuardDuty to monitor the ALB.

**Ans C.**

**Q 98.** 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.

**Ans D.**

**Q 99.** A company runs a production application on a fleet of Amazon EC2 instances. The application reads the data from an Amazon SQS queue and processes the messages in parallel. The message volume is unpredictable and often has intermittent traffic. This application should continually process messages without any downtime.  
Which solution meets these requirements MOST cost-effectively?

**A.** Use Spot Instances exclusively to handle the maximum capacity required.

**B.** Use Reserved Instances exclusively to handle the maximum capacity required.

**C.** Use Reserved Instances for the baseline capacity and use Spot Instances to handle additional capacity.

**D.** Use Reserved Instances for the baseline capacity and use On-Demand Instances to handle additional capacity.

**Ans C.**

**Q 100.** Organizers for a global event want to put daily reports online as static HTML pages. The pages are expected to generate millions of views from users around the world. The files are stored in an Amazon S3 bucket. A solutions architect has been asked to design an efficient and effective solution.  
Which action should the solutions architect take to accomplish this?

**A.** Generate presigned URLs for the files.

**B.** Use cross-Region replication to all Regions.

**C.** Use the geoproximity feature of Amazon Route 53.

**D.** Use Amazon CloudFront with the S3 bucket as its origin.

**Ans. D**

**Q 101.** A solutions architect must design a solution that uses Amazon CloudFront with an Amazon S3 origin to store a static website. The company’s security policy requires that all website traffic be inspected by AWS WAF.  
How should the solutions architect comply with these requirements?

**A.** Configure an S3 bucket policy to accept requests coming from the AWS WAF Amazon Resource Name (ARN) only.

**B.** Configure Amazon CloudFront to forward all incoming requests to AWS WAF before requesting content from the S3 origin.

**C.** Configure a security group that allows Amazon CloudFront IP addresses to access Amazon S3 only. Associate AWS WAF to CloudFront.

**D.** Configure Amazon CloudFront and Amazon S3 to use an origin access identity (OAI) to restrict access to the S3 bucket. Enable AWS WAF on the distribution.

**Ans D.**

CloudFront provides two ways to send authenticated requests to an Amazon S3 origin: origin access control (OAC) and origin access identity (OAI). We recommend using OAC because it supports:

**1)** All Amazon S3 buckets in all AWS Regions, including opt-in Regions launched after December 2022

**2)** Amazon S3 [server-side encryption with AWS KMS](https://docs.aws.amazon.com/AmazonS3/latest/userguide/serv-side-encryption.html) (SSE-KMS)

**3)** Dynamic requests (PUT and DELETE) to Amazon S3

OAI doesn't work for the scenarios in the preceding list, or it requires extra workarounds in those scenarios. The following topics describe how to use OAC with an Amazon S3 origin. For information about how to migrate from OAI to OAC, see [Migrating from origin access identity (OAI) to origin access control (OAC)](https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/private-content-restricting-access-to-s3.html#migrate-from-oai-to-oac).

**Migrating from origin access identity (OAI) to origin access control (OAC)**

To migrate from a legacy origin access identity (OAI) to an origin access control (OAC), first update the S3 bucket origin to allow both the OAI and OAC to access the bucket's content. This makes sure that CloudFront never loses access to the bucket during the transition. To allow both OAI and OAC to access an S3 bucket, update the [bucket policy](https://docs.aws.amazon.com/AmazonS3/latest/userguide/bucket-policies.html) to include two statements, one for each kind of principal.

**Q 102.** A company has two applications: a sender application that sends messages with payloads to be processed and a processing application intended to receive 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. Configure both applications to use the instance. Store, process, and delete the messages, respectively.

**B.** Use an Amazon Kinesis data stream to receive the messages from the sender application. Integrate the processing application with the Kinesis Client Library (KCL).

**C.** Integrate the sender and processor applications with an Amazon Simple Queue Service (Amazon SQS) queue. Configure a dead-letter queue to collect the messages that failed to process.

**D.** Subscribe the processing application to an Amazon Simple Notification Service (Amazon SNS) topic to receive notifications to process. Integrate the sender application to write to the SNS topic.

**Ans C.**

**Q 103.** A company is building a containerized application on premises and decides to move the application to AWS. The application will have thousands of users soon after it is deployed. The company is unsure how to manage the deployment of containers at scale. The company needs to deploy the containerized application in a highly available architecture that minimizes operational overhead.  
Which solution will meet these requirements?

**A**. Store container images in an Amazon Elastic Container Registry (Amazon ECR) repository. Use an Amazon Elastic Container Service (Amazon ECS) cluster with the AWS Fargate launch type to run the containers. Use target tracking to scale automatically based on demand.

**B.** Store container images in an Amazon Elastic Container Registry (Amazon ECR) repository. Use an Amazon Elastic Container Service (Amazon ECS) cluster with the Amazon EC2 launch type to run the containers. Use target tracking to scale automatically based on demand.

**C**. Store container images in a repository that runs on an Amazon EC2 instance. Run the containers on EC2 instances that are spread across multiple Availability Zones. Monitor the average CPU utilization in Amazon CloudWatch. Launch new EC2 instances as needed.

**D.** Create an Amazon EC2 Amazon Machine Image (AMI) that contains the container image. Launch EC2 instances in an Auto Scaling group across multiple Availability Zones. Use an Amazon CloudWatch alarm to scale out EC2 instances when the average CPU utilization threshold is breached.

**Ans A.**

**Q 104.** A company wants to use high performance computing (HPC) infrastructure on AWS for financial risk modeling. The company's HPC workloads run on Linux. Each HPC workflow runs on hundreds of Amazon EC2 Spot Instances, is short-lived, and generates thousands of output files that are ultimately stored in persistent storage for analytics and long-term future use.

The company seeks a cloud storage solution that permits the copying of on premises data to long-term persistent storage to make data available for processing by all EC2 instances. The solution should also be a high-performance file system that is integrated with persistent storage to read and write datasets and output files.  
Which combination of AWS services meets these requirements?

**A.** Amazon FSx for Lustre integrated with Amazon S3

**B.** Amazon FSx for Windows File Server integrated with Amazon S3

**C.** Amazon S3 Glacier integrated with Amazon Elastic Block Store (Amazon EBS)

**D.** Amazon S3 bucket with a VPC endpoint integrated with an Amazon Elastic Block Store (Amazon EBS) General Purpose SSD (gp2) volume

**Ans A.**

**Q 105.** A company has a small Python application that processes JSON documents and outputs the results to an on-premises SQL database. The application runs thousands of times each day. The company wants to move the application to the AWS Cloud. The company needs a highly available solution that maximizes scalability and minimizes operational overhead.  
Which solution will meet these requirements?

**A.** Place the JSON documents in an Amazon S3 bucket. Run the Python code on multiple Amazon EC2 instances to process the documents. Store the results in an Amazon Aurora DB cluster.

**B.** Place the JSON documents in an Amazon S3 bucket. Create an AWS Lambda function that runs the Python code to process the documents as they arrive in the S3 bucket. Store the results in an Amazon Aurora DB cluster.

**C.** Place the JSON documents in an Amazon Elastic Block Store (Amazon EBS) volume. Use the EBS Multi-Attach feature to attach the volume to multiple Amazon EC2 instances. Run the Python code on the EC2 instances to process the documents. Store the results on an Amazon RDS DB instance.

**D.** Place the JSON documents in an Amazon Simple Queue Service (Amazon SQS) queue as messages. Deploy the Python code as a container on an Amazon Elastic Container Service (Amazon ECS) cluster that is configured with the Amazon EC2 launch type. Use the container to process the SQS messages. Store the results on an Amazon RDS DB instance.

**Ans B.**

**Q 106.** An ecommerce company hosts its analytics application in the AWS Cloud. The application generates about 300 MB of data each month. The data is stored in JSON format. The company is evaluating a disaster recovery solution to back up the data. The data must be accessible in milliseconds if it is needed, and the data must be kept for 30 days.  
Which solution meets these requirements MOST cost-effectively?

A. Amazon OpenSearch Service (Amazon Elasticsearch Service)

B. Amazon S3 Glacier

C. Amazon S3 Standard

D. Amazon RDS for PostgreSQL

**Ans C.**

**Q 107.** A company is running a publicly accessible serverless application that uses Amazon API Gateway and AWS Lambda. The application’s traffic recently spiked due to fraudulent requests from botnets.  
Which steps should a solutions architect take to block requests from unauthorized users? (Choose two.)

**A.** Create a usage plan with an API key that is shared with genuine users only.

**B.** Integrate logic within the Lambda function to ignore the requests from fraudulent IP addresses.

**C.** Implement an AWS WAF rule to target malicious requests and trigger actions to filter them out.

**D.** Convert the existing public API to a private API. Update the DNS records to redirect users to the new API endpoint.

**E.** Create an IAM role for each user attempting to access the API. A user will assume the role when making the API call.

**Ans C and D.**

A *usage plan* specifies who can access one or more deployed API stages and methods—and optionally sets the target request rate to start throttling requests. The plan uses API keys to identify API clients and who can access the associated API stages for each key.

**Q 108.** A solutions architect is optimizing a website for an upcoming musical event. Videos of the performances will be streamed in real time and then will be available on demand. The event is expected to attract a global online audience.  
Which service will improve the performance of both the real-time and on-demand streaming?

**A.** Amazon CloudFront

**B.** AWS Global Accelerator

**C.** Amazon Route 53

**D.** Amazon S3 Transfer Acceleration

**Ans A.**

**Q 109.** A company stores data in an Amazon Aurora PostgreSQL DB cluster. The company must store all the data for 5 years and must delete all the data after 5 years. The company also must indefinitely keep audit logs of actions that are performed within the database. Currently, the company has automated backups configured for Aurora.  
Which combination of steps should a solutions architect take to meet these requirements? (Choose two.)

**A.** Take a manual snapshot of the DB cluster.

**B.** Create a lifecycle policy for the automated backups.

**C.** Configure automated backup retention for 5 years.

**D.** Configure an Amazon CloudWatch Logs export for the DB cluster.

**E.** Use AWS Backup to take the backups and to keep the backups for 5 years.

**Ans D and E.**

**Q 110.** 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.

**Ans A and E.**

**Q 111.** A  large media company hosts a web application on AWS. The company wants to start caching confidential media files so that users around the world will have reliable access to the files. The content is stored in Amazon S3 buckets. The company must deliver the content quickly, regardless of where the requests originate geographically.  
Which solution will meet these requirements?

**A.** Use AWS DataSync to connect the S3 buckets to the web application.

**B.** Deploy AWS Global Accelerator to connect the S3 buckets to the web application.

**C.** Deploy Amazon CloudFront to connect the S3 buckets to CloudFront edge servers.

**D.** Use Amazon Simple Queue Service (Amazon SQS) to connect the S3 buckets to the web application.

**Ans C.**

**Q 112.** A company needs to save the results from a medical trial to an Amazon S3 repository. The repository must allow a few scientists to add new files and must restrict all other users to read-only access. No users can have the ability to modify or delete any files in the repository. The company must keep every file in the repository for a minimum of 1 year after its creation date.  
Which solution will meet these requirements?

**A.** Use S3 Object Lock in governance mode with a legal hold of 1 year.

**B.** Use S3 Object Lock in compliance mode with a retention period of 365 days.

**C.** Use an IAM role to restrict all users from deleting or changing objects in the S3 bucket. Use an S3 bucket policy to only allow the IAM role.

**D.** Configure the S3 bucket to invoke an AWS Lambda function every time an object is added. Configure the function to track the hash of the saved object so that modified objects can be marked accordingly.

**Ans A.**

**Q 113.** A company sells ringtones created from clips of popular songs. The files containing the ringtones are stored in Amazon S3 Standard and are at least 128 KB in size. The company has millions of files, but downloads are infrequent for ringtones older than 90 days. The company needs to save money on storage while keeping the most accessed files readily available for its users.  
Which action should the company take to meet these requirements MOST cost-effectively?

**A.** Configure S3 Standard-Infrequent Access (S3 Standard-IA) storage for the initial storage tier of the objects.

**B.** Move the files to S3 Intelligent-Tiering and configure it to move objects to a less expensive storage tier after 90 days.

**C.** Configure S3 inventory to manage objects and move them to S3 Standard-Infrequent Access (S3 Standard-1A) after 90 days.

**D.** Implement an S3 Lifecycle policy that moves the objects from S3 Standard to S3 Standard-Infrequent Access (S3 Standard-1A) after 90 days.

**Ans D.**

**Q 114.** A company uses a three-tier web application to provide training to new employees. The application is accessed for only 12 hours every day. The company is using an Amazon RDS for MySQL DB instance to store information and wants to minimize costs.  
What should a solutions architect do to meet these requirements?

**A.** Configure an IAM policy for AWS Systems Manager Session Manager. Create an IAM role for the policy. Update the trust relationship of the role. Set up automatic start and stop for the DB instance.

**B.** Create an Amazon ElastiCache for Redis cache cluster that gives users the ability to access the data from the cache when the DB instance is stopped. Invalidate the cache after the DB instance is started.

**C.** Launch an Amazon EC2 instance. Create an IAM role that grants access to Amazon RDS. Attach the role to the EC2 instance. Configure a cron job to start and stop the EC2 instance on the desired schedule.

**D.** Create AWS Lambda functions to start and stop the DB instance. Create Amazon EventBridge (Amazon CloudWatch Events) scheduled rules to invoke the Lambda functions. Configure the Lambda functions as event targets for the rules.

**Ans D.**

**Q 115**. 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. Deny access to all AWS Regions except ap-northeast-3 in the AWS account settings.

**C.** Use AWS Organizations to configure service control policies (SCPS) that prevent VPCs from gaining internet access. Deny access to all AWS Regions except ap-northeast-3.

**D.** 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.

**E.** 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.

**Ans A and C.**

**Q 116.** A company is migrating an application from on-premises servers to Amazon EC2 instances. As part of the migration design requirements, a solutions architect must implement infrastructure metric alarms. The company does not need to take action if CPU utilization increases to more than 50% for a short burst of time. However, if the CPU utilization increases to more than 50% and read IOPS on the disk are high at the same time, the company needs to act as soon as possible. The solutions architect also must reduce false alarms.  
What should the solutions architect do to meet these requirements?

**A.** Create Amazon CloudWatch composite alarms where possible.

**B.** Create Amazon CloudWatch dashboards to visualize the metrics and react to issues quickly.

**C.** Create Amazon CloudWatch Synthetics canaries to monitor the application and raise an alarm.

**D.** Create single Amazon CloudWatch metric alarms with multiple metric thresholds where possible.

**Ans A.**

**Q 117.** 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. Set up an AWS Lambda function to process messages from the queue independently.

**D.** Create an Amazon Simple Notification Service (Amazon SNS) topic to deliver notifications containing payloads to process. Configure an Amazon Simple Queue Service (Amazon SQS) queue as a subscriber.

**Ans A.**

**Q 118.** A company has a data ingestion workflow that consists of the following:  
• An Amazon Simple Notification Service (Amazon SNS) topic for notifications about new data deliveries  
• An AWS Lambda function to process the data and record metadata  
The company observes that the ingestion workflow fails occasionally because of network connectivity issues. When such a failure occurs, the Lambda function does not ingest the corresponding data unless the company manually reruns the job.  
Which combination of actions should a solutions architect take to ensure that the Lambda function ingests all data in the future? (Choose two.)

A. Deploy the Lambda function in multiple Availability Zones.

B. Create an Amazon Simple Queue Service (Amazon SQS) queue, and subscribe it to the SNS topic.

C. Increase the CPU and memory that are allocated to the Lambda function.

D. Increase provisioned throughput for the Lambda function.

E. Modify the Lambda function to read from an Amazon Simple Queue Service (Amazon SQS) queue.

**Ans B and E**

**Q 119.** A company needs to retain application log 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.

**Ans B.**

**Q 120.** 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. Use Spot Instances for any additional capacity that the application needs.

**D.** Use Dedicated Instances for the baseline level of usage. Use On-Demand Instances for any additional capacity that the application needs.

**And D.**

**Q 121.** 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. Create an AMI of the web application. Use the AMI to launch a second EC2 On-Demand Instance. Use an Application Load Balancer to distribute the load to each EC2 instance.

**B.** Migrate the database to an Amazon RDS for MySQL DB instance. Create an AMI of the web application. Use the AMI to launch a second EC2 On-Demand Instance. Use Amazon Route 53 weighted routing to distribute the load across the two EC2 instances.

**C.** Migrate the database to an Amazon Aurora MySQL DB instance. Create an AWS Lambda function to stop the EC2 instance and change the instance type. Create an Amazon CloudWatch alarm to invoke the Lambda function when CPU utilization surpasses 75%.

**D.** Migrate the database to an Amazon Aurora MySQL DB instance. Create an AMI of the web application. Apply the AMI to a launch template. Create an Auto Scaling group with the launch template Configure the launch template to use a Spot Fleet. Attach an Application Load Balancer to the Auto Scaling group.

**Ans D.**

**Q 122.** A company recently started using Amazon Aurora as the data store for its global ecommerce application. When large reports are run, developers report that the ecommerce application is performing poorly. After reviewing metrics in Amazon CloudWatch, a solutions architect finds that the ReadIOPS and CPUUtilizalion metrics are spiking when monthly reports run.  
What is the MOST cost-effective solution?

**A.** Migrate the monthly reporting to Amazon Redshift.

**B.** Migrate the monthly reporting to an Aurora Replica.

**C.** Migrate the Aurora database to a larger instance class.

**D.** Increase the Provisioned IOPS on the Aurora instance.

**Ans B.**

**Q 123.** 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. Connect the application to an Amazon API Gateway API that is integrated with AWS Lambda.

**C.** Host the application on Amazon EC2 instances. Set up an Application Load Balancer with EC2 instances in an Auto Scaling group as targets.

**D.** Host the application on Amazon Elastic Container Service (Amazon ECS). Set up an Application Load Balancer with Amazon ECS as the target.

**Ans D.**

**Q 124.** 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 Balancer. Use AWS Lambda for the application in AWS Application Auto Scaling.

**B.** Configure Amazon CloudFront to forward requests to a Network Load Balancer. Use AWS Lambda for the application in an AWS Application Auto Scaling group.

**C.** Configure AWS Global Accelerator to forward requests to a Network Load Balancer. Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.

**D.** Configure Amazon API Gateway to forward requests to an Application Load Balancer. Use Amazon EC2 instances for the application in an EC2 Auto Scaling group.

**Ans C**.

**Q 125.** A company runs a web-based portal that provides users with global breaking news, local alerts, and weather updates. The portal delivers each user a personalized view by using a mixture of static and dynamic content. Content is served over HTTPS through an API server running on an Amazon EC2 instance behind an Application Load Balancer (ALB). The company wants the portal to provide this content to its users across the world as quickly as possible.  
How should a solutions architect design the application to ensure the LEAST amount of latency for all users?

**A.** Deploy the application stack in a single AWS Region. Use Amazon CloudFront to serve all static and dynamic content by specifying the ALB as an origin.

**B.** Deploy the application stack in two AWS Regions. Use an Amazon Route 53 latency routing policy to serve all content from the ALB in the closest Region.

**C.** Deploy the application stack in a single AWS Region. Use Amazon CloudFront to serve the static content. Serve the dynamic content directly from the ALB.

**D.** Deploy the application stack in two AWS Regions. Use an Amazon Route 53 geolocation routing policy to serve all content from the ALB in the closest Region.

**Q 126**. 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.

**Q 127.** A reporting team receives files each day in an Amazon S3 bucket. The reporting team manually reviews and copies the files from this initial S3 bucket to an analysis S3 bucket each day at the same time to use with Amazon QuickSight. Additional teams are starting to send more files in larger sizes to the initial S3 bucket.  
The reporting team wants to move the files automatically analysis S3 bucket as the files enter the initial S3 bucket. The reporting team also wants to use AWS Lambda functions to run pattern-matching code on the copied data. In addition, the reporting team wants to send the data files to a pipeline in Amazon SageMaker Pipelines.  
What should a solutions architect do to meet these requirements with the LEAST operational overhead?

**A.** Create a Lambda function to copy the files to the analysis S3 bucket. Create an S3 event notification for the analysis S3 bucket. Configure Lambda and SageMaker Pipelines as destinations of the event notification. Configure s3:ObjectCreated:Put as the event type.

**B.** Create a Lambda function to copy the files to the analysis S3 bucket. Configure the analysis S3 bucket to send event notifications to Amazon EventBridge (Amazon CloudWatch Events). Configure an ObjectCreated rule in EventBridge (CloudWatch Events). Configure Lambda and SageMaker Pipelines as targets for the rule.

**C.** Configure S3 replication between the S3 buckets. Create an S3 event notification for the analysis S3 bucket. Configure Lambda and SageMaker Pipelines as destinations of the event notification. Configure s3:ObjectCreated:Put as the event type.

**D.** Configure S3 replication between the S3 buckets. Configure the analysis S3 bucket to send event notifications to Amazon EventBridge (Amazon CloudWatch Events). Configure an ObjectCreated rule in EventBridge (CloudWatch Events). Configure Lambda and SageMaker Pipelines as targets for the rule.

**Q 131.** A company runs workloads on AWS. The company needs to connect to a service from an external provider. The service is hosted in the provider's VPC. According to the company’s security team, the connectivity must be private and must be restricted to the target service. The connection must be initiated only from the company’s VPC.  
Which solution will mast these requirements?

**A.** Create a VPC peering connection between the company's VPC and the provider's VPC. Update the route table to connect to the target service.

**B.** Ask the provider to create a virtual private gateway in its VPC. Use AWS PrivateLink to connect to the target service.

**C.** Create a NAT gateway in a public subnet of the company’s VPUpdate the route table to connect to the target service.

**D.** Ask the provider to create a VPC endpoint for the target service. Use AWS PrivateLink to connect to the target service.

**Q 132.** A company wants to move its application to a serverless solution. The serverless solution needs to analyze existing and new data by using SL. The company stores the data in an Amazon S3 bucket. The data requires encryption and must be replicated to a different AWS Region.  
Which solution will meet these requirements with the LEAST operational overhead?

**A.** Create a new S3 bucket. Load the data into the new S3 bucket. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region. Use server-side encryption with AWS KMS multi-Region kays (SSE-KMS). Use Amazon Athena to query the data.

**B.** Create a new S3 bucket. Load the data into the new S3 bucket. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region. Use server-side encryption with AWS KMS multi-Region keys (SSE-KMS). Use Amazon RDS to query the data.

**C.** Load the data into the existing S3 bucket. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region. Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use Amazon Athena to query the data.

**D.** Load the data into the existing S3 bucket. Use S3 Cross-Region Replication (CRR) to replicate encrypted objects to an S3 bucket in another Region. Use server-side encryption with Amazon S3 managed encryption keys (SSE-S3). Use Amazon RDS to query the data.

**Q 133**. A company runs an Oracle database on premises. As part of the company’s migration to AWS, the company wants to upgrade the database to the most recent available version. The company also wants to set up disaster recovery (DR) for the database. The company needs to minimize the operational overhead for normal operations and DR setup. The company also needs to maintain access to the database's underlying operating system.  
Which solution will meet these requirements?

**A.** Migrate the Oracle database to an Amazon EC2 instance. Set up database replication to a different AWS Region.

**B.** Migrate the Oracle database to Amazon RDS for Oracle. Activate Cross-Region automated backups to replicate the snapshots to another AWS Region.

**C.** Migrate the Oracle database to Amazon RDS Custom for Oracle. Create a read replica for the database in another AWS Region.

**D.** Migrate the Oracle database to Amazon RDS for Oracle. Create a standby database in another Availability Zone.

**Q 134**. 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

**Q 135**. 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. Grant the user read permission to objects in the S3 bucket. Assign the user to CloudFront.

**C.** 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).

**D.** Create an origin access identity (OAI). Assign the OAI to the CloudFront distribution. Configure the S3 bucket permissions so that only the OAI has read permission.

**Q 137.** 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).

**Q 138.** A company wants to run applications in containers in the AWS Cloud. These applications are stateless and can tolerate disruptions within the underlying infrastructure. The company needs a solution that minimizes cost and operational overhead.  
What should a solutions architect do to meet these requirements?

**A.** Use Spot Instances in an Amazon EC2 Auto Scaling group to run the application containers.

**B.** Use Spot Instances in an Amazon Elastic Kubernetes Service (Amazon EKS) managed node group.

**C.** Use On-Demand Instances in an Amazon EC2 Auto Scaling group to run the application containers.

**D.** Use On-Demand Instances in an Amazon Elastic Kubernetes Service (Amazon EKS) managed node group.

**Q 139.** 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, Amazon EFS for durable data storage, and Amazon S3 for archival storage

**D.** Amazon EC2 instance store for maximum performance, Amazon S3 for durable data storage, and Amazon S3 Glacier for archival storage

**Q 143.** A company has a dynamic web application hosted on two Amazon EC2 instances. The company has its own SSL certificate, which is on each instance to perform  
SSL termination.  
There has been an increase in traffic recently, and the operations team determined that SSL encryption and decryption is causing the compute capacity of the web servers to reach their maximum limit.  
What should a solutions architect do to increase the application's performance?

**A**. Create a new SSL certificate using AWS Certificate Manager (ACM). Install the ACM certificate on each instance.

**B**. Create an Amazon S3 bucket. Migrate the SSL certificate to the S3 bucket. Configure the EC2 instances to reference the bucket for SSL termination.

**C**. Create another EC2 instance as a proxy server. Migrate the SSL certificate to the new instance and configure it to direct connections to the existing EC2 instances.

**D**. Import the SSL certificate into AWS Certificate Manager (ACM). Create an Application Load Balancer with an HTTPS listener that uses the SSL certificate from ACM.

**Q 144.** A company wants to build a scalable key management infrastructure to support developers who need to encrypt data in their applications.  
What should a solutions architect do to reduce the operational burden?

**A.** Use multi-factor authentication (MFA) to protect the encryption keys.

**B.** Use AWS Key Management Service (AWS KMS) to protect the encryption keys.

**C.** Use AWS Certificate Manager (ACM) to create, store, and assign the encryption keys.

**D.** Use an IAM policy to limit the scope of users who have access permissions to protect the encryption keys.

**Q 155.** A company is running an online transaction processing (OLTP) workload on AWS. This workload uses an unencrypted Amazon RDS DB instance in a Multi-AZ deployment. Daily database snapshots are taken from this instance.  
What should a solutions architect do to ensure the database and snapshots are always encrypted moving forward?

**A.** Encrypt a copy of the latest DB snapshot. Replace existing DB instance by restoring the encrypted snapshot.

**B.** Create a new encrypted Amazon Elastic Block Store (Amazon EBS) volume and copy the snapshots to it. Enable encryption on the DB instance.

**C.** Copy the snapshots and enable encryption using AWS Key Management Service (AWS KMS). Restore encrypted snapshot to an existing DB instance.

**D.** Copy the snapshots to an Amazon S3 bucket that is encrypted using server-side encryption with AWS Key Management Service (AWS KMS) managed keys (SSE-KMS).