

1. A new application is being deployed on Amazon EC2. The application needs to read/write up to 3 TB of data to an external data store and requires read-after-write consistency across all AWS regions for writing new objects into this data store.

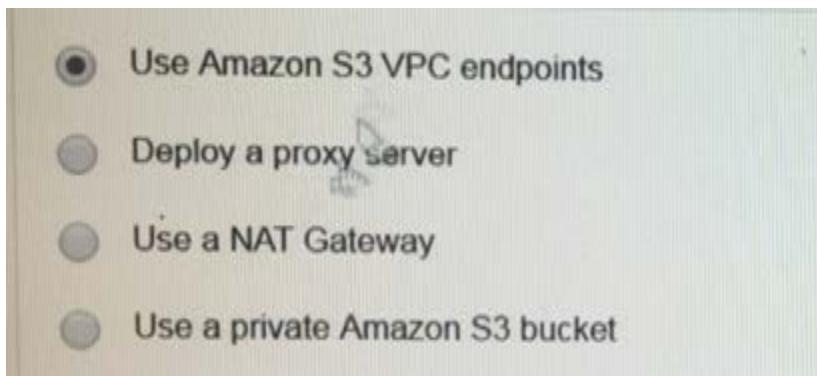
Which is the MOST cost-effective data storage service that meets these requirements?



Ans: D

2. An application server needs to be in a private subnet without access to the Internet. The solution must retrieve and upload files to an Amazon S3 bucket.

How should a Solutions Architect design a solution to meet these requirements?



Ans: A

3. A Solutions Architect needs to design a solution that will enable a security team to detect, review, and perform root cause analysis of security incidents that occur in a cloud environment. The Architect needs a centralized view of all API events for current and future AWS regions.

How should the Architect accomplish this task?

- Enable AWS CloudTrail logging in each individual region. Repeat this for all future regions.
- Enable Amazon CloudWatch logs for all AWS services across all regions and aggregate them in a single Amazon S3 bucket.
- Enable AWS Trusted Advisor security checks and report all security incidents for all regions.
- Enable AWS CloudTrail by creating a new trail and apply the trail to all regions.

Ans: D

4. A Solutions Architect is designing the architecture for a web application that will be hosted on AWS. Internet users will access the application using HTTP and HTTPS.

How should the Architect design the traffic control requirements?

- Use a network ACL to allow outbound ports for HTTP and HTTPS. Deny other traffic for inbound and outbound.
- Use a network ACL to allow inbound ports for HTTP and HTTPS. Deny other traffic for inbound and outbound.
- Allow inbound ports for HTTP and HTTPS in the security group used by the web servers.
- Allow outbound ports for HTTP and HTTPS in the security group used by the web servers.

Ans: C

5. Application servers currently deployed in a private subnet require the ability to integrate with a third-party service accessible through the Internet.

Which changes are required to provide outbound Internet connectivity in the VPC without providing inbound Internet connectivity to the application servers?

- Create a NAT Gateway without attaching an Internet Gateway to the VPC.
- Create a NAT Gateway and attach an Internet Gateway to the VPC.
- Attach an Internet Gateway to the VPC without creating a NAT Gateway.
- Attach a Virtual Private Gateway to the VPC and create a NAT Gateway.

Ans: B

6. A Solutions Architect is designing a web application that will be hosted on Amazon EC2 instances in a public subnet. The web application uses a MySQL database in a private subnet. The database should be accessible to database administrators.

Which of the following options the Architect recommend? (Select TWO.)

- Create a bastion host in a public subnet, and use the bastion host to connect to the database.
- Log in to the web servers in the public subnet to connect to the database.
- Perform DB maintenance after using SSH to connect to the NAT Gateway in a public subnet.
- Create an IPSec VPN tunnel between the customer site and the VPC, and use the VPN tunnel to connect to the database.
- Attach an Elastic IP address to the database.

Ans: A, D

7. An on-premises database is experiencing significant performance problems when running SQL queries. With 10 users, the lookups are performing as expected. As the number of users increases, the lookups take three times longer than expected to return values to an application.

Which action should a Solution Architect take to maintain performance as the user count increases?

- Use Amazon SQS.
- Deploy Multi-AZ RDS MySQL.
- Configure Amazon RDS with additional read replicas.
- Migrate from MySQL to RDS Microsoft SQL Server.

Ans: D

8. Legacy applications currently send messages through a single Amazon EC2 instance. Which than routes the messages to the appropriate destinations. The Amazon EC2 instance is a bottleneck and single point of failure, so the company would like to address these issues.

Which services could address this architectural use case? (Select TWO.)



Ans: A, C

9. A media company must store 10 TB of audio recordings. Retrieval happens infrequently and requestors agree on an 8- hour turnaround time.

What is the MOST cost-effective solution to store the files?

- Amazon S3 Standard – Infrequent Access (Standard – IA)
- EBS Throughput Optimized HDD (st1)
- EBS Cold HDD (sc1)
- Amazon Glacier

Ans: D

10. A Solutions Architect must design a solution that encrypts data in Amazon S3 Corporate policy mandates encryption keys be generated and managed on premises.

Which solution should the Architect use to meet the security requirements?

- AWS CloudHSM
- SSE-KMS: Server-side encryption with AWS KMS managed keys
- SSE-S3: Server-side encryption with Amazon-managed master key
- SSE-C: Server-side encryption with customer-provided encryption keys

Ans: D

11. A company is running a series of national TV campaigns. These 30-second advertisements will introduce sudden traffic peaks targeted at a Node.js application. The company expects traffic to increase from five requests each minute to more than 5,000 requests each minute.

Which AWS service should a Solutions Architect use to ensure traffic surges can be handled?

- AWS Lambda
- Amazon ElastiCache
- Size EC2 instances to handle peak load
- An Auto Scaling group for EC2 instances

Ans: A

12. An application hosted on AWS uses object storage for storing internal reports that are accessed daily by the CFO. Currently, these reports are publicly available.

How should a Solutions Architect re-design this architecture to prevent unauthorized access to these reports?

- Encrypt the files on the client side and store the files on Amazon Glacier, then decrypt the reports on the client side.
- Move the files to Amazon ElastiCache and provide a username and password for downloading the reports.
- Specify the use of AWS KMS server-side encryption at the time of an object creation on Amazon S3.
- Store the files on Amazon S3 and use the application to generate S3 pre-signed URLs to users.

Ans: D

13. A Solutions Architect is building a new feature using Lambda to create metadata when a user uploads a picture to Amazon S3. All metadata must be indexed.

Which AWS service should the Architect use to store this metadata?

- Amazon S3
- Amazon DynamoDB
- Amazon Kinesis
- Amazon EFS

Ans: B

14. A Solutions Architect is designing a solution that must store and retrieve session data and JSON documents. The solution must provide high availability, strong consistency, and data durability.

Which solution meets these requirements?

- Amazon EBS volume with Provisioned IOPS
- Amazon EC2 instance store
- Amazon SQS
- Amazon DynamoDB table

Ans: D

15. A Solutions Architect is designing the storage layer for a production relational database. The database will run on Amazon EC2. The database is accessed by an application that performs intensive reads and writes, so the database requires the LOWEST random I/O latency

Which data storage method fulfills the above requirements?

- Store data in a filesystem backed by Amazon Elastic File System (EFS)
 - Store data in Amazon S3 and use a third-party solution to expose Amazon S3 as a filesystem to the database server.
 - Store data in Amazon DynamoDB and emulate relational database semantics
 - Stripe data across multiple Amazon EBS volumes using RAID 0
- Processing...

Ans: D

16. A company hosted a website on premises. The website has a mix of static and dynamic content, but users experience latency when loading static files.

Which AWS service can help reduce latency?

- Amazon CloudFront with on-premises servers as the origin
- ELB Application Load Balancer
- Amazon Route 53 latency-based routing
- Amazon EFS to store and serve static files

Ans: A

17. A Solutions Architect is about to deploy an API on multiple EC2 instances in an Auto Scaling group behind an ELB. The support team has the following operational requirement:

- They get an alert when the requests per second go over 50,000
- They get an alert when latency goes over 5 second
- They can validate how many times a day users call the API requesting highly-sensitive data

Which combination of steps does the Architect need to take to satisfy these operational requirements? (Select TWO.)

- Ensure that CloudTrail is enabled
- Create a custom CloudWatch metric to monitor the API for data access
- Configure CloudWatch alarms for any metrics the support team requires
- Ensure that detailed monitoring for the EC2 instances is enabled
- Create an application to export and save CloudWatch metrics for longer term trending analysis

Ans: C, D

18. A mobile application serves scientific articles from individual files in an Amazon S3 bucket. Articles older than 30 days are rarely read. Articles older than 60 days no longer need to be available through the application, but the application owner would like to keep them for historical purposes.

Which cost-effective solution **BEST** meets these requirements?

- Create a Lambda function to move files older than 30 days to Amazon EBS and move files older than 60 days to Amazon Glacier.
- Create a Lambda function to move files older than 30 days to Amazon Glacier and move files older than 60 days to Amazon EBS.
- Create lifecycle rules to move files older than 30 days to Amazon S3 Standard Infrequent Access and move files older than 60 days to Amazon Glacier.
- Create lifecycle rules to move files older than 30 days to Amazon Glacier and move files older than 60 days to Amazon S3 Standard Infrequent Access.

Ans: C

19. A Solutions Architect needs to design an architecture for a new, mission-critical batch processing billing application. The application is required to run Monday, Wednesday, and Friday from 5 AM to 11 AM.

Which is the **MOST** cost-effective Amazon EC2 pricing model?

- Amazon EC2 Spot Instances
- On-Demand Amazon EC2 Instances
- Scheduled Reserved Instances
- Dedicated Amazon EC2 Instances

Ans: A

20. An application is running in single AWS region. The business team adds a requirement to run the application in a second region for multi-region high availability. A solutions architect needs to enable traffic to be distributed to multiple regions for high availability.

Which AWS service meets the requirements?

- Amazon Route 53**
- Elastic Load Balancing**
- Amazon CloudFront**
- Amazon S3 Website Hosting**

Ans :- A

21. An application stack includes an elastic load balancer in a public subnet, a fleet of amazon EC2 instances in an auto scaling group and an amazon RDS MySQL cluster. Users connect to the application from the internet. The application servers and database must be secure.

How should a solutions architect perform this task?

- Create a private subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.
- Create a private subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
- Create a public subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
- Create a public subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.

Ans :- C

22. A user is designing a new service that receives location updates from 3,600 rental cars every hour. The cars upload location to an amazon S3 bucket. Each location must be checked for distance from the original rental location

Which services will process the updates and automatically scale?

- Amazon EC2 and Amazon EBS**
- Amazon Kinesis Firehose and Amazon S3**
- Amazon ECS and Amazon RDS**
- Amazon S3 events and AWS Lambda**

Ans :- B

23. One company wants to share the contents of their amazon S3 bucket with another company security. Security requirements mandate that only the other company AWS accounts have access to the contents of the amazon S3 bucket.

Which amazon S3 feature will allow secure to the amazon S3 bucket?

- Bucket policy**
- Object tagging**
- CORS configuration**
- Lifecycle policy**

Ans :- A

24. A solution architect is designing a three-tier web application that includes an auto scaling group of Amazon EC2 instances running behind an ELB classic load balancer. The security team requires that all web services must be accessible only through the load balancer and that none of the web servers are directly accessible from the internet.

How should the architect meet these requirements?

- Use a Load Balancer installed on an Amazon EC2 instance
- Configure the web servers' security group to deny traffic from the public Internet
- Create an Amazon CloudFront distribution in front of the ELB Classic Load Balancer
- Configure the web tier security group to allow only traffic from the ELB Classic Load Balancer

Ans :- D

25. How can a user track memory usage in an EC2 instance?

- Call Amazon CloudWatch to retrieve the memory usage metric data that exists for the EC2 instance.
- Assign an IAM role to the EC2 instance with an IAM policy granting access to the desired metric.
- Use an instance type that supports memory usage reporting to a metric by default.
- Place an agent on the EC2 instance to push memory usage to an Amazon CloudWatch custom metric.

Ans :- D

26. A solutions architect is designing an elastic application that will have between 10 and 50 Amazon EC2 concurrent instances running, dependent on load. Each instance must mount storage that will read and write to the same 50 GB folder.

Which storage type meets the requirements?

- Amazon S3
- Amazon EFS
- Amazon EBS volumes
- Amazon EC2 instance store

Ans :- B

27. A solution architect is deploying a new production MySQL database on AWS. It is critical that the database is highly available.

What should the architect do not achieve this goal with amazon RDS?

- Create a read replica of the primary database and deploy it in a different AWS Region.
- Enable multi-AZ to create a standby database in a different Availability Zone.
- Enable multi-AZ to create a standby database in a different AWS Region.
- Create a read replica of the primary database and deploy it in a different Availability Zone.

Ans :- B

28. A media company asked a solutions architect to design a highly available storage solution to serve as a centralized document store for their amazon EC2 instances. The storage solution needs to be POSIX compliant, scale dynamically and be able to serve up to 100 concurrent EC2 instances.

Which solution meets these requirements?

- Create an Amazon S3 bucket and store all of the documents in this bucket.
- Create an Amazon EBS volume and allow multiple users to mount that volume to their EC2 instance(s).
- Use Amazon Glacier to store all of the documents.
- Create an Amazon Elastic File System (Amazon EFS) to store and share the documents. 

Ans :- D

29. Before approving the use of AWS for a new application, the InfoSec team has asked if it will be possible for specific IP addresses to be blocked from accessing, in the event that a threat is detected from a particular block of IP addresses on the internet.

What could be used to meet this requirement?



Ans :- D

30. A workload consists of downloading an image from an amazon S3 bucket processing the image and moving it to another amazon S3 bucket. An amazon EC2 instance runs a scheduled task every hour to perform the operation.

How should a solutions architect redesign the process so that it is highly available?

- Change the Amazon EC2 instance to compute optimized.
- Launch a second Amazon EC2 instance to monitor the health of the first.
- Trigger a Lambda function when a new object is uploaded.
- Initially copy the images to an attached Amazon EBS volume.

Ans :- C

31. An application provides a feature that allows users to securely download private and personal files. The web server is currently overwhelmed with serving files for download. A solutions architect must find a more effective solution to reduce web server load and costs and must allow users to download only their own files.

Which solution meets all requirements?

- Store the files securely on Amazon S3 and have the application generate an Amazon S3 pre-signed URL for the user to download.
- Store the files in an encrypted Amazon EBS volume, and use a separate set of servers to serve the downloads.
- Have the application encrypt the files and store them in the local Amazon EC2 Instance Store prior to serving them up for download.
- Create an Amazon CloudFront distribution to distribute and cache the files.

Ans :- A

32. A customer owns a MySQL database that is accessed by various clients who expect at most 100 Ms latency on requests once a record is stored in the database. It is rarely changed. Clients only access one record at a time.

Database access has been increasing exponentially due to increased client demand. The resultant load will soon exceed the capacity of the most expensive hardware available for purchase. The customer wants to migrate to AWS and is willing to change database systems.

Which service would alleviate the database load issue and offer virtually unlimited scalability for the future?

- Amazon RDS
- Amazon DynamoDB
- Amazon Redshift
- AWS Data Pipeline

Ans :- B

33. A solution architect needs a storage solution for a fleet of Linux web application servers. The solution should provide file system interface and be able to support millions of files.

Which AWS service should the architect choose?

- Amazon S3
- Amazon EFS
- Amazon EBS
- Amazon ElastiCache

Ans :- B

34. A solution architect is creating a new relational database. The compliance team will use the database, and mandates that data content must be stored across three different availability zones.

Which of the following options should the architect use?

- Amazon Aurora
- Amazon RDS MySQL with Multi-AZ enabled
- Amazon DynamoDB
- Amazon ElastiCache

Ans :- A

35. An administrator is hosting an application on a single amazon EC2 instance. Which users can access by the public hostname. The administrator is adding a second instance but does not want users to have to decide between many public hostnames.

Which AWS service will decouple the users from specific amazon EC2 instances?

- Amazon SQS
- Auto Scaling group
- Amazon EC2 security group
- Amazon ELB

Ans :- D

36. A team has an application that defects new objects being uploaded into an amazon S3 bucket. The uploads trigger a lambda function to write object metadata into an amazon DynamoDB table and RDS postage SQL Database.

Which action should the team take to ensure high availability?

- Enable cross-region replication in the Amazon S3 bucket.
- Create a Lambda function for each Availability Zone the application is deployed in.
- Enable multi-AZ on the RDS PostgreSQL database.
- Create a DynamoDB stream for the DynamoDB table.

Ans :- C

37. A Solutions Architect is designing a solution to monitor weather changes by the minute. The frontend application is hosted on Amazon EC2 instances. The backend must be scalable to a virtually unlimited size, and data retrieval must occur with minimal latency.

Which AWS service should the Architect use to store the data and achieve these requirements?

- Amazon S3**
- Amazon DynamoDB**
- Amazon RDS**
- Amazon EBS**

Ans: A

38. A Solutions Architect is designing a workload that requires capacity reservation at all times using many r4.2xlarge instances. The workload will run 24/7 for the next two years and uses Amazon Linux.

What is the MOST cost-effective way to obtain this required compute capacity?

- Regional Standard Reserved Instances**
- Spot Fleet**
- Regional Convertible Reserved Instances**
- Standard Reserved Instances**

Ans: D

39. A Solutions Architect needs to use AWS to implement pilot light disaster recovery for a three-tier web application hosted in an on-premises datacenter.

Which solution allows rapid provision of a working, fully-scaled production environment?

- Continuously replicate the production database server to Amazon RDS. Use AWS CloudFormation to deploy the application and any additional servers if necessary.
- Continuously replicate the production database server to Amazon RDS. Create one application load balancer and register on-premises servers. Configure ELB Application Load Balancer to automatically deploy Amazon EC2 instances for application and additional servers if the on-premises application is down.
- Use a scheduled Lambda function to replicate the production database to AWS. Use Amazon Route 53 health checks to deploy the application automatically to Amazon S3 if production is unhealthy.
- Use a scheduled Lambda function to replicate the production database to AWS. Register on-premises servers to an Auto Scaling group and deploy the application and additional servers if production is unavailable

Ans: A

40. A Solutions Architect is designing a mobile application that will capture receipt images to track expenses. The Architect wants to store the images on Amazon S3. However, uploading images through the web server will create too much traffic.

What is the MOST efficient method to store images from a mobile application on Amazon S3?

- Upload directly to S3 using a pre-signed URL.
- Upload to a second bucket, and have a Lambda event copy the image to the primary bucket.
- Upload to a separate Auto Scaling group of servers behind an ELB Classic Load Balancer, and have them write to the Amazon S3 bucket.
- Expand the web server fleet with Spot Instances to provide the resources to handle the images

Ans: A

41. A Solutions Architect plans to migrate NAT instances to NAT gateway. The Architect has NAT instances with scripts to manage high availability.

What is the MOST efficient method to achieve similar high availability with NAT gateway?

- Remove source/destination check on NAT instances
- Launch a NAT gateway in each Availability Zone
- Use a mix of NAT instances and NAT gateway
- Add an ELB Application Load Balancer in front of NAT gateway

Ans: B

42. A company wants to improve the performance of their web application after receiving customer complaints. An analysis concluded that the same complex database queries were causing increased latency.

What should a Solutions Architect recommend to improve the application's performance?

- Migrate the database to MySQL.
- Use Amazon RedShift to analyze the queries.
- Integrate Amazon ElastiCache into the application.
- Use a Lambda-triggered request to the backend database.

Ans: C

43. A Solutions Architect is developing a new web application on AWS. The Architect expects the application to become very popular, so the application must scale to support the load. The Architect wants to focus on software development and deploying new features without provisioning or managing instances.

Which solution is appropriate?

- Amazon API Gateway and AWS Lambda
- Elastic Load Balancing with Auto Scaling groups and Amazon EC2
- Amazon API Gateway and Amazon EC2
- Amazon CloudFront and AWS Lambda

Ans: A

44. A Solutions Architect notices slower response times from an application. The CloudWatch metrics on the MySQL RDS indicate Read IOPS are high and fluctuate significantly when the database is under load.

How should the database environment be re-designed to resolve the IOPS fluctuation?

- Change the RDS instance type to get more RAM.
- Change the storage type to Provisioned IOPS.
- Scale the web server tier horizontally
- Split the DB layer into separate RDS instances.

Ans: B

45. A Solutions Architect is designing an application that is expected to have millions of users. The Architect needs options to store session data.

Which option is the MOST performant?

- Amazon ElastiCache**

- Amazon RDS
- Amazon S3
- Amazon EFS

Ans: A

46. A Solutions Architect must select the storage type for a big data application that requires very high sequential I/O. The data must persist if the instance is stopped.

Which of the following storage types will provide the best fit at the LOWEST cost for the application?

- An Amazon EC2 instance store local SSD volume
- An Amazon EBS provisioned IOPS SSD volume
- An Amazon EBS throughput optimized HDD volume
- An Amazon EBS general purpose SSD volume

Ans: C

47. An organization hosts 10 microservices, each in an Auto Scaling group behind individual Classic Load Balancers. Each EC2 instance is running at optimal load.

Which of the following actions would allow the organization to reduce costs without impacting performance?

- Reduce the number of EC2 instances behind each Classic Load Balancer.
- Change instance types in the Auto Scaling group launch configuration.
- Change the maximum size but leave the desired capacity of the Auto Scaling groups.
- Replace the Classic Load Balancers with a single Application Load Balancer.

Ans: D

48. A Solutions Architect needs to allow developer to have SSH connectivity to web servers. The requirements are as follows:

- Limit access to users originating from the corporate network.
- Web servers cannot have SSH access directly from the Internet.
- Web servers reside in a private subnet.

Which combination of steps must the Architect complete to meet these requirements? (select TWO.)

- Create a bastion host that authenticates users against the corporate directory.
- Create a bastion host with security group rules that only allow traffic from the corporate network.
- Attach an IAM role to the bastion host with relevant permissions.
- Configure the web servers' security group to allow SSH traffic from a bastion host.
- Deny all SSH traffic from the corporate network in the inbound network ACL.

Ans: B & D

49. A Solutions Architect is designing an application that stores objects encrypted in an Amazon S3 bucket. The company's security requirements state that the encryption key is stored by the organization.

Which methods meet this requirement? (select TWO.)

- Use S3 server-side encryption with customer-provided keys.
- Use S3 client-side encryption.
- Use S3 server-side encryption with Amazon S3 managed keys.
- Use S3 server-side encryption with AWS KMS managed keys.
- Use S3 server-side encryption with the company's own keys imported into AWS KMS.

Ans: A & B

50. A three-tier application is being created to host small news articles. The application is expected to serve millions of user when breaking news occurs, the site must handle very large spikes in traffic without significantly impacting database performance.

Which design meets these requirements while minimizing costs?

- Use Auto Scaling groups to increase the number of Amazon EC2 instances delivering the web application.
- Use Auto Scaling groups to increase the size of the Amazon RDS instances delivering the database.
- Use Amazon DynamoDB strongly consistent reads to adjust for the increase in traffic.
- Use Amazon DynamoDB Accelerator (DAX) to cache read operations to the database.

Ans: A

51. An application uses a single-instance deployment of Amazon RDS MySQL database. The database has intensive read operations, and the heavy load is causing performance issues.

How can a user improve performance?

- Create read replicas
- Stripe the data across multiple Amazon EBS volumes
- Switch to a Multi-AZ RDS database
- Take hourly database snapshots

Ans: A

52. A legacy application running on premises requires a Solutions Architect to be able to open a firewall to allow access to several Amazon S3 buckets. The Architect has a VPN connection to AWS in place.

How should the architect meet this requirement?

- Create an IAM role that allows access from the corporate network to Amazon S3.
- Configure a proxy on Amazon EC2 and use an Amazon S3 VPC endpoint.
- Use Amazon API Gateway to do IP whitelisting
- Configure IP whitelisting on the customer's gateway

Ans: B

53. A company runs a legacy application with a single-tier architecture on an Amazon EC2 instance. Disk I/O is low, with occasional small spikes during business hours. The company requires the instance to be stopped from 8 PM to 8 AM daily.

Which storage option is MOST appropriate for this workload?

- Amazon EC2 instance storage
- Amazon EBS General Purpose SSD (gp2) storage
- Amazon S3
- Amazon EBS Provision IOPS SSD (io1) storage

Ans: B

54. A Solutions Architect is designing a solution that includes a managed VPN connection.

To monitor whether the VPN connection is up or down, the Architect should use.

- an external service to ping the VPN endpoint from outside the VPC.
- AWS CloudTrail to monitor the endpoint.
- the CloudWatch TunnelState Metric
- an AWS Lambda function that parses the VPN connection logs.

Ans: C

55. A Solutions Architect has a two-tier blog application with a single Amazon EC2 instance web server and Amazon RDS MySQL Multi-AZ-DB instances. The Architect is re-architecting the application for high availability by adding instances in a second Availability Zone.

Which additional services will improve the availability of the application? (select TWO.)

- Auto Scaling group
- AWS CloudTrail
- ELB Classic Load Balancer
- Amazon DynamoDB
- Amazon ElastiCache

Ans: A & C

56. A legacy application needs to internet with local storage using iSCSI. A team needs to design a reliable storage solution to provision all new storage on AWS.

Which storage solution meets the legacy application requirements?

- AWS Snowball storage for the legacy application until the application can be re-architected
- AWS Storage Gateway in cached mode for the legacy application storage to write data to Amazon S3
- AWS Storage Gateway in stored mode for the legacy application storage to write data to Amazon S3
- An Amazon S3 volume mounted on the legacy application server locally using the File Gateway service

Ans: C

57. A company has a legacy application using a proprietary file system and plans to migrate the application to AWS

Which storage service should the company use?

- Amazon DynamoDB
- Amazon S3
- Amazon EBS
- Amazon EFS

Ans. C

58. A solutions architect is designing on application in AWS. The architect must not expose the application or database tier over the internet for security reasons. The application must be low-cost and have a scalable front end. The databases and application tier must have only one-way internet access to download software and patch updates.

Which solution helps to meet these requirements?

- Use a NAT Gateway as the front end for the application tier and to enable the private resources to have Internet access.
- Use an Amazon EC2-based proxy server as the front end for the application tier, and a NAT Gateway to allow Internet access for private resources.
- Use an ELB Classic Load Balancer as the front end for the application tier, and an Amazon EC2 proxy server to allow Internet access for private resources.
- Use an ELB Classic Load Balancer as the front end for the application tier, and a NAT Gateway to allow Internet access for private resources.

Ans. D

59. An application tier currently hosts two web services on the same set of instances, listening on different ports.

Which AWS service should a solutions architect use to route traffic to the service based on the incoming request path?

- AWS Application Load Balancer
- Amazon CloudFront
- Amazon Route 53
- AWS Classic Load Balancer

Ans. A

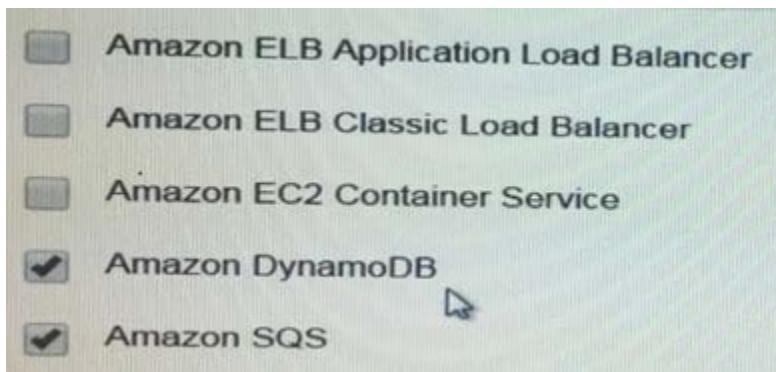
60. A solutions architect needs to convert potential single points of failure to a highly-available configuration. The currently architecture contains amazon EC2 instances with databases running in one availability zone. Web-tier resources have not been given public addresses, but still require internet access.

Which solution should the architect use to maintain high availability?

- Use ELB Classic Load Balancer with the web tier. Deploy EC2 instances in two Availability Zones and enable Multi-AZ RDS. Deploy a NAT gateway in one Availability Zone.
- Use ELB Classic Load Balancer with the web tier. Deploy EC2 instances in two Availability Zones and enable Multi-AZ RDS. Deploy NAT gateways in both Availability Zones.
- Use ELB Classic Load Balancer with the database tier. Deploy Amazon EC2 instances in two Availability Zones and enable Multi-AZ RDS. Deploy NAT gateways in both Availability Zones.
- Use ELB Classic Load Balancer with the database tier. Deploy Amazon EC2 instances in two Availability Zones and enable Multi-AZ RDS. Deploy a NAT gateway in one Availability Zone.

Ans. C

61. A solutions architect is designing a multicontainer-based web application. Parts of the web application, /orders event, must scale independently while maintaining a single fully qualified domain name.



Ans. D & E

62. An application consists of microservices. The microservices need to communicate asynchronously and the solution must ensure that each message is consumed only once.

- Amazon Kinesis
- Amazon SNS
- Amazon SQS
- AWS STS

Ans. C

63. A business team requires a structured storage solution to store all of a company's historical sales 4 TB of data, which will grow to hundreds of terabytes within a few years. The team must be able against the data using current business intelligence tools. Fast performance is required despite the.

Which solution should the company use?

- Amazon Redshift
- Amazon Aurora
- Amazon DynamoDB
- Amazon S3

Ans. A

A company has thousands of files stored in an Amazon S3 bucket that has a well-defined access pattern. The files are accessed by an application multiple times a day for the first 30 days. Files are rarely accessed within the next 90 days. After that, the files are never accessed again. During the first 120 days, accessing these files should never take more than a few seconds.

Which lifecycle policy should be used for the S3 objects to minimize costs based on the access pattern?

- Use Amazon S3 Standard-Infrequent Access (S3 Standard-IA) storage for the first 30 days. Then move the files to the GLACIER storage class for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard storage for the first 30 days. Then move the files to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard storage for first 30 days. Then move the files to the GLACIER storage class for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard-Infrequent Access (S3 Standard-IA) for the first 30 days. After that, move the data to the GLACIER storage class, where it will be deleted automatically.

A company is migrating on-premises databases to AWS. The company's backend application produces a large amount of database queries for reporting purposes, and the company wants to offload some of those reads to a Read Replica, allowing the primary database to continue performing efficiently.

Which AWS database platforms will accomplish this? (Select TWO.)

- Amazon RDS for Oracle
- Amazon RDS for PostgreSQL
- Amazon RDS for MariaDB
- Amazon DynamoDB
- Amazon RDS for Microsoft SQL Server

Answer

A retail company operates an e-commerce environment that runs on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Amazon EC2 Auto Scaling group. Images are hosted in an Amazon S3 bucket using a custom domain name. During a flash sale with 10,000 simultaneous users, some images on the website are not loading.

What should be done to resolve the performance issue?

- Move the images to the EC2 instances in the Auto Scaling group.
- Enable Transfer Acceleration for the S3 bucket.
- Configure an Amazon CloudFront distribution with the S3 bucket as the origin.
- Increase the number of minimum, desired, and maximum EC2 instances in the Auto Scaling group.

Answer

A retail company runs hourly flash sales and has a performance issue on its Amazon RDS for PostgreSQL database. The Database Administrators have identified that the issue with performance happens when finance and marketing employees refresh sales dashboards that are used for reporting real-time sales data.

What should be done to resolve the issue without impacting performance?

- Create a Read Replica of the RDS PostgreSQL database and point the dashboards at the Read Replica.
- Move data from the RDS PostgreSQL database to Amazon Redshift nightly and point the dashboards at Amazon Redshift.
- Monitor the database with Amazon CloudWatch and increase the instance size, as necessary. Make no changes to the dashboards.
- Take an hourly snapshot of the RDS PostgreSQL database, and load the hourly snapshots to another database to which the dashboards are pointed.

Answer

A company is setting up a new website for online sales. The company will have a web tier and a database tier. The web tier consists of load-balanced, auto-scaled Amazon EC2 instances in multiple Availability Zones (AZs). The database tier is an Amazon RDS Multi-AZ deployment. The EC2 instances must connect securely to the database.

How should the resources be launched?

- EC2 instances: public subnet
RDS database instances: public subnet
Load balancer: public subnet
- EC2 instances: public subnet
RDS database instances: private subnet
Load balancer: private subnet
- EC2 instances: private subnet
RDS database instances: public subnet
Load balancer: public subnet
- EC2 instances: private subnet
RDS database instances: private subnet
Load balancer: public subnet

Answer

A company has a web application that makes requests to a backend API service. The API service is behind an Elastic Load Balancer running on Amazon EC2 instances.

Most backend API service endpoint calls finish very quickly, but one endpoint that makes calls to create objects in an external service takes a long time to complete. These long-running calls are causing client timeouts and increasing overall system latency.

What should be done to minimize the system throughput impact of the slow-running endpoint?

- Change the EC2 instance size to increase memory and compute capacity.
- Use Amazon SQS to offload the long-running requests for asynchronous processing by separate workers.
- Increase the load balancer idle timeout to allow the long-running requests to complete.
- Use Amazon ElastiCache for Redis to cache responses from the external service.

Answer

A company has an application running as a service in Amazon ECS using the Amazon EC2 launch type. The application code makes AWS API calls to publish messages to Amazon SQS.

What is the MOST secure method of giving the application permission to publish messages to Amazon SQS?

- Use AWS IAM to grant SQS permissions to the role used by the launch configuration for the Auto Scaling group of the ECS cluster.
- Create a new identity and access management (IAM) user with SQS permissions, and then update the task definition to declare the access key ID and secret access key as environment variables.
- Create a new identity and access management (IAM) role with SQS permissions, and then update the task definition to use this role for the task role setting.
- Update the security group used by the ECS cluster to allow access to Amazon SQS.

Answer

A company will run different data analytics jobs on large petabyte-scale datasets, using standard SQL and existing business intelligence tools. The data is mostly structured, but part of the data is unstructured and resides in Amazon S3.

What technology should be used to support this use case?

- An Amazon Aurora database cluster with 15 replicas distributed across Availability Zones.
- Amazon Redshift with Amazon Redshift Spectrum.
- Amazon DynamoDB with Amazon DynamoDB Accelerator (DAX).
- Amazon ElastiCache for Redis with cluster mode enabled.

Answer

Users submit requests to a service that takes several minutes to process. A Solutions Architect needs to ensure that these requests are processed at least once, and that the service has the ability to handle large increases in the number of requests.

How should these requirements be met?

- Put the requests into an Amazon SQS queue and configure Amazon EC2 instances to poll the queue.
- Publish the message to an Amazon SNS topic that an Amazon EC2 subscriber can receive and process.
- Save the request to an Amazon DynamoDB table with a DynamoDB stream that triggers an Amazon EC2 Spot Instance.
- Use Amazon S3 to store the requests and configure an event notification to have Amazon EC2 instances process the new object.

Answer

A web application runs on Amazon EC2 instances behind an ELB Application Load Balancer. The instances run in an EC2 Auto Scaling group across multiple Availability Zones. Every night, the Auto Scaling group doubles in size. Traffic analysis shows that users in a particular region are requesting the same static content stored locally on the EC2 instances.

How can a Solutions Architect reduce the need to scale and improve application performance for the users?

- Re-deploy the application in a new VPC that is closer to the users making the requests.
- Create an Amazon CloudFront distribution for the site and redirect user traffic to the distribution.
- Store the contents on Amazon EFS instead of the EC2 root volume.
- Implement Amazon Redshift to create a repository of the content closer to the users.

Answer

A customer set up an Amazon VPC with one private subnet and one public subnet with a NAT gateway. The VPC will contain a group of Amazon EC2 instances. All instances will configure themselves at startup by downloading a bootstrap script from an Amazon S3 bucket with a policy that only allows access from the customer's Amazon EC2 instances and then deploys an application through GIT. A Solutions Architect has been asked to design a solution that provides the highest level of security regarding network connectivity to the Amazon EC2 instances.

How should the Architect design the infrastructure?

- Place the Amazon EC2 instances in the public subnet, with no EIPs; route outgoing traffic through the internet gateway.
- Place the Amazon EC2 instances in a public subnet, and assign EIPs; route outgoing traffic through the NAT gateway.
- Place the Amazon EC2 instances in a private subnet, and assign EIPs; route outgoing traffic through the internet gateway.
- Place the Amazon EC2 instances in a private subnet, with no EIPs; route outgoing traffic through the NAT gateway.

Answer

An application runs on Amazon EC2 instances in multiple Availability Zones (AZs) behind an Application Load Balancer. The load balancer is in public subnets; the EC2 instances are in private subnets and must not be accessible from the internet. The EC2 instances must call external services on the internet. If one AZ becomes unavailable, the remaining EC2 instances must still be able to call the external services.

How should these requirements be met?

- Create a NAT gateway attached to the VPC. Add a route to the gateway to each private subnet route table.
- Configure an internet gateway. Add a route to the gateway to each private subnet route table.
- Create a NAT instance in the private subnet of each AZ. Update the route tables for each private subnet to direct internet-bound traffic to the NAT instance.
- Create a NAT gateway in each AZ. Update the route tables for each private subnet to direct internet-bound traffic to the NAT gateway.

Answer

A Solutions Architect is reviewing an application that writes data to an Amazon DynamoDB table on a daily basis. Random table reads occur many times per second.

The company needs to allow thousands of low-latency reads and avoid any negative impact to the rest of the application.

What should the Solutions Architect do to meet the company's goals?

- Use DynamoDB Accelerator to cache reads.
- Increase DynamoDB write capacity units.
- Add Amazon SQS to decouple requests.
- Implement Amazon Kinesis to decouple requests.

Answer

A Solutions Architect is designing a new architecture that will use an Amazon EC2 Auto Scaling group.

Which of the following factors determine the health check grace period? (Select TWO.)

- How frequently the Auto Scaling group scales up or down.
- How many Amazon CloudWatch alarms are configured for status checks.
- How much of the application code is embedded in the AMI.
- How long it takes for the Auto Scaling group to detect a failure.
- How long the bootstrap script takes to run.

Answer

A company processed 10 TB of raw data to generate quarterly reports. Although it is unlikely to be used again, the raw data needs to be preserved for compliance and auditing purposes.

What is the MOST cost-effective way to store the data in AWS?

- Amazon EBS Cold HDD (sc1)
- Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)
- Amazon S3 Standard-Infrequent Access (S3 Standard-IA)
- Amazon Glacier

 Answer

A company needs to store data for 5 years. The company will need to have immediate and highly available access to the data at any point in time, but will not require frequent access.

What lifecycle action should be taken to meet the requirements while reducing costs?

- Transition objects from Amazon S3 Standard to Amazon S3 Standard-Infrequent Access (S3 Standard-IA).
- Transition objects to expire after 5 years.
- Transition objects from Amazon S3 Standard to Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA).
- Transition objects from Amazon S3 Standard to the GLACIER storage class.

Answer

A company is creating a web application that will run on an Amazon EC2 instance. The application on the instance needs access to an Amazon DynamoDB table for storage.

What **should** be done to meet these **requirements**?

- Create another AWS account root user with permissions to the DynamoDB table.
- Create an IAM role and assign the role to the EC2 instance with permissions to the DynamoDB table.
- Create an identity provider and assign the identity provider to the EC2 instance with permissions to the DynamoDB table.
- Create identity federation with permissions to the DynamoDB table.

Answer

A Solutions Architect is designing an Amazon VPC that requires access to a remote API server using IPv6. Resources within the VPC should not be accessed directly from the internet.

How should this be achieved?

- Use a NAT gateway and deny public access using security groups.
- Attach an egress-only internet gateway and update the routing tables.
- Use a NAT gateway and update the routing tables.
- Attach an internet gateway and deny public access using security groups.

Answer

A company will host a static website within an Amazon S3 bucket. The website will serve millions of users globally, and the company wants to minimize data transfer costs.

What should the Solutions Architect do to ensure costs are kept to a minimum?

- Implement an AWS Auto Scaling group for the website to ensure it grows with use.
- Use cross-region replication to copy the website to an additional S3 bucket in a different region.
- Create an Amazon CloudFront distribution, with the S3 bucket as the origin server.
- Move the website to large compute-optimized Amazon EC2 instances.

Answer

A company is running its application in a single region on Amazon EC2 with Amazon EBS and Amazon S3 as part of the storage design.

What should be done to reduce data transfer costs?

- Create a copy of the compute environment in another region.
- Convert the application to run on Lambda@Edge.
- Create an Amazon CloudFront distribution with Amazon S3 as the origin.
- Replicate Amazon S3 data to buckets in regions closer to the requester.

Answer

A Security team reviewed their company's VPC Flow Logs and found that traffic is being directed to the internet. The application in the VPC uses Amazon EC2 instances for compute and Amazon S3 for storage. The company's goal is to eliminate internet access and allow the application to continue to function.

What change should be made in the VPC before updating the route table?

- Create a NAT gateway for Amazon S3 access.
- Create a VPC endpoint for Amazon S3 access.
- Create a VPC endpoint for Amazon EC2 access.
- Create a NAT gateway for Amazon EC2 access.

Answer

An application launched on Amazon EC2 instances needs to publish personally identifiable information (PII) about customers using Amazon SNS. The application is launched in private subnets within an Amazon VPC.

Which is the MOST secure way to allow the application to access service endpoints in the same region?

- Use an internet gateway.
- Use AWS PrivateLink.
- Use a NAT gateway.
- Use a proxy instance.

Answer

A company hosts a website using Amazon API Gateway on the front end. Recently, there has been heavy traffic on the website, and the company wants to control access by allowing authenticated traffic only.

How should the company limit access to authenticated users only? (Select TWO.)

- Allow users that are authenticated through Amazon Cognito.
- Limit traffic through API Gateway.
- Allow X.509 certificates to authenticate traffic.
- Deploy AWS KMS to identify users.
- Assign permissions in AWS IAM to allow users.

Answer

A Solutions Architect is investigating purchasing options for a batch processing application on Amazon EC2. The batch job downloads an image from an Amazon S3 bucket, adds copyright information, and uploads it back to Amazon S3. It normally takes 5 to 10 hours to process all the files uploaded each week. The application has built-in capabilities to process files in parallel, recover from the instance failures, and continue the processing from where it left off.

What is the MOST cost-effective purchasing option the Solutions Architect can recommend?

- Standard Reserved Instances
- Scheduled Reserved Instances
- Spot Instances
- On-Demand Instances

Answer



A company is developing an application to deliver dynamic content to users around the globe. The content should be customized according to a user's device and be delivered with very low latency.

Which service should be used?

- Amazon API Gateway
- Amazon CloudFront
- Amazon S3
- Lambda@Edge

Answer


During a review of business applications, a Solutions Architect identifies a critical application with a relational database that was built by a business user and is running on the user's desktop. To reduce the risk of a business interruption, the Solutions Architect wants to migrate the application to a highly available, multi-tiered solution in AWS.

What should the Solutions Architect do to accomplish this with the LEAST amount of disruption to the business?

- Create an import package of the application code for upload to AWS Lambda, and include a function to create another Lambda function to migrate data into an Amazon RDS database.
- Create an image of the user's desktop, migrate it to Amazon EC2 using VM Import, and place the EC2 instance in an Auto Scaling group.
- Pre-stage new Amazon EC2 instances running the application code on AWS behind an Application Load Balancer and an Amazon RDS Multi-AZ DB instance.
- Use AWS DMS to migrate the backend database to an Amazon RDS Multi-AZ DB instance. Migrate the application code to AWS Elastic Beanstalk.

Answer

An online retailer has a series of flash sales occurring every Friday. Sales traffic will increase during the sales only and the platform will handle the increased load. The platform is a three-tier application. The web tier runs on Amazon EC2 instances behind an Application Load Balancer. Amazon CloudFront is used to reduce web server load, but many requests for dynamic content must go to the web servers.

What should be done to the web tier to reduce costs without impacting performance or reliability?

- Use T-series instances.
- Purchase scheduled Reserved Instances.
- Implement Amazon ElastiCache.
- Use Spot Instances.

Answer



An application runs on Amazon EC2 instances in multiple Availability Zones (AZs) behind an Application Load Balancer. The load balancer is in public subnets; the EC2 instances are in private subnets and must not be accessible from the internet. The EC2 instances must call external services on the internet. If one AZ becomes unavailable, the remaining EC2 instances must still be able to call the external services.

How should these requirements be met?

- Create a NAT gateway attached to the VPC. Add a route to the gateway to each private subnet route table.
- Configure an internet gateway. Add a route to the gateway to each private subnet route table.
- Create a NAT instance in the private subnet of each AZ. Update the route tables for each private subnet to direct internet-bound traffic to the NAT instance.
- Create a NAT gateway in each AZ. Update the route tables for each private subnet to direct internet-bound traffic to the NAT gateway.

Answer

A company wants to improve latency by hosting images within a public Amazon S3 bucket fronted by an Amazon CloudFront distribution. The company wants to restrict access to the S3 bucket to include the CloudFront distribution only, while also allowing CloudFront to continue proper functionality.

What should be done after making the bucket private to restrict access with the LEAST operational overhead?

- Create a CloudFront origin access identity and create a security group that allows access from CloudFront.
- Create a CloudFront origin access identity and update the bucket policy to grant access to it.
- Create a bucket policy restricting all access to the bucket to include CloudFront IPs only.
- Enable the CloudFront option to restrict viewer access and update the bucket policy to allow the distribution.

Answer

A website keeps a record of user actions using a globally unique identifier (GUID) retrieved from Amazon Aurora in place of the user name within the audit record. Security protocols state that the GUID content must not leave the company's Amazon VPC.

As the web traffic has increased, the number of web servers and Aurora read replicas has also increased to keep up with the user record reads for the GUID.

What should be done to reduce the number of read replicas required while improving performance?

- Keep the user name and GUID in memory on the web server instance so that the association can be remade on demand. Remove the record after 30 minutes.
- Deploy a Amazon ElastiCache for Redis server into the infrastructure and store the user name and GUID there. Retrieve the GUID from ElastiCache when required.
- Encrypt the GUID using Base64 and store it in the user's session cookie. Decrypt the GUID when an audit record is needed.
- Change the GUID to an MD5 hash of the user name, so that the value can be calculated on demand without referring to the database.

Answer

A company is writing a new service running on Amazon EC2 that must create thumbnail images of thousands of images in a large archive. The system will write scratch data to storage during the process.

Which storage service is best suited for this scenario?

- EC2 instance store
- Amazon EFS
- Amazon CloudSearch
- Amazon EBS Throughput Optimized HDD (st1)

Answer

A Solutions Architect is creating an application running in an Amazon VPC that needs to access AWS Systems Manager Parameter Store. Network security rules prohibit any route table entry with a 0.0.0.0/0 destination.

What infrastructure addition will allow access to the AWS service while meeting the requirements?

- VPC peering
- NAT instance
- NAT gateway
- AWS PrivateLink

Answer

A company is using Amazon S3 for backups from an on-premises environment. Regulatory requirements state that data must be retained for at least 7 years. The data is infrequently accessed for 35 days, but needs to be instantly available. After 35 days, the data is rarely accessed.

Which combination of actions will provide the MOST cost-effective solution? (Select TWO.)

- Change the backup so the data goes to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) directly.
- Create an S3 lifecycle policy that moves the data to the GLACIER storage class after 7 years.
- Change the backup so the data goes to Amazon Glacier directly.
- Create an S3 lifecycle policy that moves the data to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) after 35 days.
- Creates an S3 lifecycle policy that moves the data to the GLACIER storage class after 35 days.

Answer

A company maintains an application on an on-premises server. The company wants to automatically redirect users to a static maintenance page hosted on Amazon S3 when the application is unavailable.

What is the MOST efficient method to ensure the users are automatically redirected?

- Use an Amazon Route 53 failover routing policy, and configure the application as primary and the Amazon S3 static page as secondary.
- Use Amazon CloudWatch Events to trigger an AWS Lambda function that changes the DNS to point to the static page.
- Use an Amazon Route 53 weighted routing policy, and configure the application higher and the Amazon S3 static page lower.
- Use Amazon Route 53 to set up multiple A records for both the application and Amazon S3.

Answer

When designing an Amazon SQS message-processing solution, messages in the queue must be processed before the maximum retention time has elapsed.

Which actions will meet this requirement? (Select TWO.)

- Use AWS STS to process the messages.
- Use Amazon EBS-optimized Amazon EC2 instances to process the messages.
- Use Amazon EC2 instances in an Auto Scaling group with scaling triggered based on the queue length.
- Increase the SQS queue attribute for the message retention period.
- Convert the SQS queue to a first-in first-out (FIFO) queue.

Answer

A company has an application that generates invoices and makes the invoices available online. Invoices are stored as PDFs in an Amazon S3 bucket. Customers typically only view each invoice during the month it is issued. However, past invoices need to be immediately available. There are concerns over rising storage costs as the company gains more customers.

What is the MOST cost-effective method to store the data?

- Use Amazon S3 for current invoices. Set up lifecycle rules to migrate invoices to the GLACIER storage class after 30 days.
- Store the invoices as text files. Use Amazon CloudFront to convert the invoices from text to PDF when customers download invoices.
- Store the invoices as binaries in an Amazon RDS database instance. Retrieve them from the database when customers request invoices.
- Use Amazon S3 for current invoices. Set up lifecycle rules to migrate invoices to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) after 30 days.

Answer

A team has developed a new web application in an AWS Region that has three Availability Zones: AZ-a, AZ-b, and AZ-c. This application must be fault tolerant and needs at least six Amazon EC2 instances running at all times. The application must tolerate the loss of connectivity to any single Availability Zone so that the application can continue to run.

Which configurations will meet these requirements? (Select TWO.)

- AZ-a with six EC2 instances, AZ-b with six EC2 instances, and AZ-c with no EC2 instances.
- AZ-a with four EC2 instances, AZ-b with two EC2 instances, and AZ-c with two EC2 instances.
- AZ-a with two EC2 instances, AZ-b with two EC2 instances, and AZ-c with two EC2 instances.
- AZ-a with three EC2 instances, AZ-b with three EC2 instances, and AZ-c with no EC2 instances.
- AZ-a with three EC2 instances, AZ-b with three EC2 instances, and AZ-c with three EC2 instances.

A company plans to use Amazon GuardDuty to detect unexpected and potentially malicious activity. The company wants to use Amazon CloudWatch to ensure that when findings occur, remediation takes place automatically.

Which CloudWatch feature should be used to trigger an AWS Lambda function to perform the remediation?

- Events
- Dashboards
- Metrics
- Alarms

Answer



A Solutions Architect is designing a web application that runs on Amazon EC2 instances behind a load balancer. All data in transit must be encrypted.

Which solutions will meet the encryption requirement? (Select TWO.)

- Use an Application Load Balancer (ALB) in passthrough mode, then terminate SSL on EC2 instances.
- Use an Application Load Balancer (ALB) with a TCP listener, then terminate SSL on EC2 instances.
- Use an Network Load Balancer (NLB) with a TCP listener, then terminate SSL on EC2 instances.
- Use an Application Load Balancer (ALB) with an HTTPS listener, then install SSL certificates on the ALB and EC2 instances.
- Use a Network Load Balancer (NLB) with an HTTPS listener, then install SSL certificates on the NLB and EC2 instances.

Answer

A company is storing data in an Amazon DynamoDB table and needs to take daily backups and retain them for 6 months.

How should the Solutions Architect meet these requirements without impacting the production workload?

- Use DynamoDB replication and restore the table from the replica.
- Use AWS Data Pipeline and create a scheduled job to back up the DynamoDB table daily.
- Use Amazon CloudWatch Events to trigger an AWS Lambda function that makes an on-demand backup of the table.
- Use AWS Batch to create a scheduled backup with the default template, then back up to Amazon S3 daily.

Answer

A company creates business-critical 3D images every night. The images are batch-processed every Friday and require an uninterrupted 48 hours to complete.

What is the MOST cost-effective Amazon EC2 pricing model for this scenario?

- On-Demand Instances
- Scheduled Reserved Instances
- Reserved Instances
- Spot Instances

Answer

An application produces monthly reports that must be immediately accessible for up to 7 days. After 7 days, the data can be archived. Compliance policies require that the archived data be retrievable within 24 hours of a request.

What is the MOST cost-effective approach to satisfy the compliance requirement?

- Store the data in Amazon S3 Standard storage with a lifecycle rule to transition the data to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) after 7 days, then transition to the GLACIER storage class after 30 days.
- Store the data in Amazon S3 Standard storage with a lifecycle rule to transition the data to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) after 7 days.
- Store the data in Amazon S3 Standard storage with a lifecycle rule to transition the data to the GLACIER storage class after 30 days.
- Store the data in Amazon S3 Standard storage with a lifecycle rule to transition the data to the GLACIER storage class after 7 days.

Answer

A company wants to expand its web services from us-east-1 into ap-southeast-1. The company stores a large amount of static content on its website, and recently received complaints about slow loading speeds and the website timing out.

What should be done to meet the expansion goal while also addressing the latency and timeout issues?

- Store the static content in Amazon S3 and enable S3 Transfer Acceleration.
- Store the static content in an Amazon EBS volume in the ap-southeast-1 region and provision larger Amazon EC2 instances for the website.
- Use an Amazon Route 53 simple routing policy to distribute cached content across three regions.
- Use Amazon S3 to store the static content and configure an Amazon CloudFront distribution.

Answer

A company is deploying a reporting application on Amazon EC2. The application is expected to generate 1,000 documents every hour and each document will be 800 MB. The company is concerned about strong data consistency and file locking, as various applications hosted on other EC2 instances will process the report documents **in parallel** when they become available.

What storage solution will meet these requirements with the **LEAST** amount of administrative overhead?

- Amazon EFS
- Amazon S3
- Amazon ElastiCache
- Amazon EBS

Answer

An application has components running in a public subnet and a private subnet. The components within the private subnet must connect to the internet to receive updates.

How should this be accomplished without moving the components into a public subnet?

- Add an internet gateway to the private subnet and update the private subnet route table.
- Add a NAT gateway to the public subnet and update the public subnet route table.
- Add an internet gateway to the VPC and update the private subnet route table.
- Add a NAT gateway to the public subnet and update the private subnet route table.

Answer

An application generates audit logs of operational activities. Compliance requirements mandate that the application retain the logs for 5 years.

How can these requirements be met?

- Save the logs in an Amazon S3 bucket and enable Multi-Factor Authentication Delete (MFA Delete) on the bucket.
- Save the logs in an Amazon EFS volume and use Network File System version 4 (NFSv4) locking with the volume.
- Save the logs in an Amazon Glacier vault and use the Vault Lock feature.
- Save the logs in an Amazon EBS volume and take monthly snapshots.

Answer

An application running in a private subnet accesses an Amazon DynamoDB table. There is a security requirement that the data never leave the AWS network.

How should this requirement be met?

- Configure a network ACL on DynamoDB to limit traffic to the private subnet.
- Enable DynamoDB encryption at rest using an AWS KMS key.
- Add a NAT gateway and configure the route table on the private subnet.
- Create a VPC endpoint for DynamoDB and configure the endpoint policy.

Answer

A Solutions Architect is creating a multi-tiered architecture for an application that includes a public-facing web tier. Security requirements state that the Amazon EC2 instances running in the application tier must not be accessible directly from the internet.

What should be done to accomplish this?

- Create a multi-VPC peering mesh with network access rules limiting communications to specific ports. Implement an internet gateway on each VPC for external connectivity.
- Place all instances in a single Amazon VPC with AWS WAF as the web front-end communication conduit. Configure a NAT gateway for external communications.
- Use VPC peering to peer with on-premises hardware. Direct enterprise traffic through the VPC peer connection to the instances hosted in the private VPC.
- Deploy the web and application instances in a private subnet. Provision an Application Load Balancer in the public subnet. Install an internet gateway and use security groups to control communications between the layers.

Answer

A company is designing a new application to collect data on user behavior for analysis at a later time. Amazon Kinesis Data Streams will be used to receive user interaction events.

What should be done to ensure the event data is retained indefinitely?

- Configure the stream to write records to an attached Amazon EBS volume.
- Configure an Amazon Kinesis Data Firehose delivery stream to store data on Amazon S3.
- Configure the stream data retention period to retain the data indefinitely.
- Configure an Amazon EC2 consumer to read from the data stream and store records in Amazon SQS.

Answer

An application stack includes an Elastic Load Balancer in a public subnet, a fleet of Amazon EC2 instances in an Auto Scaling group, and an Amazon RDS MySQL cluster. Users connect to the application from the Internet. The application servers and database must be secure.

How should a Solutions Architect perform this task?

- Create a private subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.
- Create a private subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
- Create a public subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
- Create a public subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.

Answer

Solutions Architect is designing a new workload where an AWS Lambda function will access an Amazon DynamoDB table.

What is the MOST secure means of granting the Lambda function access to the DynamoDB table?

Create an identity and access management (IAM) role with the necessary permissions to access the DynamoDB table, and assign the role to the Lambda function.

Create a DynamoDB user name and password and give them to the Developer to use in the Lambda function.

Create an identity and access management (IAM) user, and create access and secret keys for the user. Give the user the necessary permissions to access the DynamoDB table. Have the Developer use these keys to access the resources.

Create an identity and access management (IAM) role allowing access from AWS Lambda and assign the role to the DynamoDB table.

Answer

A company's Data Analysis team needs to perform real-time complex queries against a database. As the team grows, the complex queries are slowing down production transactions. The current environment has an Amazon RDS database with the largest instance type and is still experiencing performance issues.

Which solution will reduce costs and resolve the performance issues?

- Implement an Amazon RDS Read Replica of the production database to be used by the Data Analysis team and reduce the RDS database instance size.
- Implement Amazon ElastiCache and run the query against ElastiCache directly.
- Implement Amazon EC2 instances to run a cluster of the production database and remove the RDS database instance.
- Implement a larger Amazon RDS database instance type and apply Reserved Instances by submitting a limit increase request.

Answer

A company has thousands of files stored in an Amazon S3 bucket that has a well-defined access pattern. The files are accessed by an application multiple times a day for the first 30 days. Files are rarely accessed within the next 90 days. After that, the files are never accessed again. During the first 120 days, accessing these files should never take more than a few seconds.

Which lifecycle policy should be used for the S3 objects to minimize costs based on the access pattern?

- Use Amazon S3 Standard-Infrequent Access (S3 Standard-IA) storage for the first 30 days. Then move the files to the GLACIER storage class for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard storage for the first 30 days. Then move the files to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard storage for first 30 days. Then move the files to the GLACIER storage class for the next 90 days. Allow the data to expire after that.
- Use Amazon S3 Standard-Infrequent Access (S3 Standard-IA) for the first 30 days. After that, move the data to the GLACIER storage class, where it will be deleted automatically.

A Solutions Architect is designing a new architecture that will use an Amazon EC2 Auto Scaling group.

Which of the following factors determine the health check grace period? (Select TWO.)

- How frequently the Auto Scaling group scales up or down.
- How many Amazon CloudWatch alarms are configured for status checks.
- How much of the application code is embedded in the AMI.
- How long it takes for the Auto Scaling group to detect a failure.
- How long the bootstrap script takes to run.

Answer

A company is creating a web application that will run on an Amazon EC2 instance. The application on the instance needs access to an Amazon DynamoDB table for storage.

What should be done to meet these requirements?

- Create another AWS account root user with permissions to the DynamoDB table.
- Create an IAM role and assign the role to the EC2 instance with permissions to the DynamoDB table.
- Create an identity provider and assign the identity provider to the EC2 instance with permissions to the DynamoDB table.
- Create identity federation with permissions to the DynamoDB table.

Answer

A Solutions Architect is designing an Amazon VPC that requires access to a remote API server using IPv6. Resources within the VPC should not be accessed directly from the internet.

How should this be achieved?

- Use a NAT gateway and deny public access using security groups.
- Attach an egress-only internet gateway and update the routing tables
- Use a NAT gateway and update the routing tables.
- Attach an internet gateway and deny public access using security groups.

Answer

A company will host a static website within an Amazon S3 bucket. The website will serve millions of users globally, and the company wants to minimize data transfer costs.

What should the Solutions Architect do to ensure costs are kept to a minimum?

- Implement an AWS Auto Scaling group for the website to ensure it grows with use.
- Use cross-region replication to copy the website to an additional S3 bucket in a different region.
- Create an Amazon CloudFront distribution, with the S3 bucket as the origin server.
- Move the website to large compute-optimized Amazon EC2 instances.

Answer

A Security team reviewed their company's VPC Flow Logs and found that traffic is being directed to the internet. The application in the VPC uses Amazon EC2 instances for compute and Amazon S3 for storage. The company's goal is to eliminate internet access and allow the application to continue to function.

What change should be made in the VPC before updating the route table?

- Create a NAT gateway for Amazon S3 access.
- Create a VPC endpoint for Amazon S3 access.
- Create a VPC endpoint for Amazon EC2 access.
- Create a NAT gateway for Amazon EC2 access.

Answer

An application launched on Amazon EC2 instances needs to publish personally identifiable information (PII) about customers using Amazon SNS. The application is launched in private subnets within an Amazon VPC.

Which is the MOST secure way to allow the application to access service endpoints in the same region?

- Use an internet gateway.
- Use AWS PrivateLink.
- Use a NAT gateway.
- Use a proxy instance.

Answer

A company hosts a website using Amazon API Gateway on the front end. Recently, there has been heavy traffic on the website, and the company wants to control access by allowing authenticated traffic only.

How should the company limit access to authenticated users only? (Select TWO.)

- Allow users that are authenticated through Amazon Cognito.
- Limit traffic through API Gateway.
- Allow X.509 certificates to authenticate traffic.
- Deploy AWS KMS to identify users.
- Assign permissions in AWS IAM to allow users.

Answer

A company is launching a new static website on Amazon S3 and Amazon CloudFront. The company wants to ensure that all web requests go through only CloudFront.

How can a Solutions Architect meet this requirement?

- Configure the S3 bucket policy to allow only CloudFront IP addresses to read objects.
- Create IAM users in a group that has read access to the S3 bucket. Configure CloudFront to pass credentials to the S3 bucket.
- Create a CloudFront origin access identity (OAI), then update the S3 bucket policy to allow the OAI read access.
- Convert the S3 bucket to an EC2 instance, then give CloudFront access to the instance by using security groups.

Answer

A company is evaluating Amazon S3 as a data storage solution for their daily analyst reports. The company has implemented stringent requirements concerning the security of the data at rest. Specifically, the CISO asked for the use of envelope encryption with separate permissions for the use of an envelope key, automated rotation of the encryption keys, and visibility into when an encryption key was used and by whom.

Which steps should a Solutions Architect take to satisfy the security requirements requested by the CISO?

- Create an Amazon S3 bucket to store the reports and use Server-Side Encryption with Customer-Provided Keys (SSE-C).
- Create an Amazon S3 bucket to store the reports and use Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3).
- Create an Amazon S3 bucket to store the reports and use Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS).
- Create an Amazon S3 bucket to store the reports and use Amazon S3 versioning with Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3).

Answer

A customer has a service based out of Oregon, U.S. and Paris, France. The application is storing data in an S3 bucket located in Oregon, and that data is updated frequently. The Paris office is experiencing slow response times when retrieving objects.

What should a Solutions Architect do to resolve the slow response times for the Paris office?

- Set up an S3 bucket based in Paris, and enable cross-region replication from the Oregon bucket to the Paris bucket.
- Create an Application Load Balancer that load balances data retrieval between the Oregon S3 bucket and a new Paris S3 bucket.
- Create an Amazon CloudFront distribution with the bucket located in Oregon as the origin and set the Maximum Time to Live (TTL) for cache behavior to 0.
- Set up an S3 bucket based in Paris, and enable a lifecycle management rule to transition data from the Oregon bucket to the Paris bucket.

Answer

A Solutions Architect is designing a solution for a dynamic website, "example.com," that is deployed in two regions: Tokyo, Japan and Sydney, Australia. The Architect wants to ensure that users located in Australia are directed to the website deployed in the Sydney region and users located in Japan are directed to the website in the Tokyo region when they browse to "example.com."

Which service should the Architect use to achieve this goal with the LEAST administrative effort?

- Amazon CloudFront with geolocation routing
- Amazon Route 53
- Application Load Balancer
- Network Load Balancer deployed across multiple regions

Answer

A Solutions Architect needs to design an architecture for a new, mission-critical batch processing billing application. The application is required to run Monday, Wednesday, and Friday from 5 AM to 11 AM.

Which is the MOST cost-effective Amazon EC2 pricing model?

- Amazon EC2 Spot Instances
- On-Demand Amazon EC2 Instances
- Scheduled Reserved Instances
- Dedicated Amazon EC2 Instances

Answer

A company plans to use an Amazon VPC to deploy a web application consisting of an elastic load balancer, a fleet of web and application servers, and an Amazon RDS MySQL database that should not be accessible from the Internet. The proposed design must be highly available and distributed over two Availability Zones.

What would be the MOST appropriate VPC design for this specific use case?

- Two public subnets for the elastic load balancer, two public subnets for the web servers, and two public subnets for Amazon RDS
- One public subnet for the elastic load balancer, two private subnets for the web servers, and two private subnets for Amazon RDS
- One public subnet for the elastic load balancer, one public subnet for the web servers, and one private subnet for the database
- Two public subnets for the elastic load balancer, two private subnets for the web servers, and two private subnets for RDS

Answer

A Solutions Architect has been asked to deliver video content stored on Amazon S3 to specific users from Amazon CloudFront while restricting access by unauthorized users.

How can the Architect implement a solution to meet these requirements?

- Configure CloudFront to use signed-URLs to access Amazon S3.
- Store the videos as private objects in Amazon S3, and let CloudFront serve the objects by using only Origin Access Identity (OAI).
- Use Amazon S3 static website as the origin of CloudFront, and configure CloudFront to deliver the videos by generating a signed URL for users.
- Use OAI for CloudFront to access private S3 objects and select the Restrict Viewer Access option in CloudFront cache behavior to use signed URLs.

Answer

A customer owns a MySQL database that is accessed by various clients who expect, at most, 100 ms latency on requests. Once a record is stored in the database, it is rarely changed. Clients only access one record at a time.

Database access has been increasing exponentially due to increased client demand. The resultant load will soon exceed the capacity of the most expensive hardware available for purchase. The customer wants to migrate to AWS, and is willing to change database systems.

Which service would alleviate the database load issue and offer virtually unlimited scalability for the future?

- Amazon RDS
- Amazon DynamoDB
- Amazon Redshift
- AWS Data Pipeline

Answer

A Solutions Architect is designing the architecture for a web application that will be hosted on AWS. Internet users will access the application using HTTP and HTTPS.

How should the Architect design the traffic control requirements?

- Use a network ACL to allow outbound ports for HTTP and HTTPS. Deny other traffic for inbound and outbound.
- Use a network ACL to allow inbound ports for HTTP and HTTPS. Deny other traffic for inbound and outbound.
- Allow inbound ports for HTTP and HTTPS in the security group used by the web servers.
- Allow outbound ports for HTTP and HTTPS in the security group used by the web servers.

Answer

An application provides a feature that allows users to securely download private and personal files. The web server is currently overwhelmed with serving files for download. A Solutions Architect must find a more effective solution to reduce web server load and costs, and must allow users to download only their own files.

Which solution meets all requirements?

- Store the files securely on Amazon S3 and have the application generate an Amazon S3 pre-signed URL for the user to download.
- Store the files in an encrypted Amazon EBS volume, and use a separate set of servers to serve the downloads.
- Have the application encrypt the files and store them in the local Amazon EC2 Instance Store prior to serving them up for download.
- Create an Amazon CloudFront distribution to distribute and cache the files.

Answer

An application calls a service run by a vendor. The vendor charges based on the number of calls. The finance department needs to know the number of calls that are made to the service to validate the billing statements.

How can a Solutions Architect design a system to durably store the number of calls without requiring changes to the application?

- Call the service through an internet gateway.
- Decouple the application from the service with an Amazon SQS queue.
- Publish a custom Amazon CloudWatch metric that counts calls to the service.
- Call the service through a VPC peering connection.

Answer