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Exam Code: AWS Certified Solutions Architect - Associate

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Question 1
Amazon EC2 provides virtual computing environments known as .
A. instances
B. volumes
C. microsystems
D. servers
Answer: A
Explanation:
Amazon EC2 provides virtual computing environments known as instances. When you launch an instance, the instance type that you specify determines the hardware of the host computer used for your instance. Each instance type offers different compute, memory, and storage capabilities and are grouped in instance families based on these capabilities. Select an instance type based on the requirements of the application or software that you plan to run on your instance. http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/concepts.html

Question 2
You are migrating an existing enterprise application to AWS. It requires standard file system access from multiple instances. It also requires high storage throughput with consistently low latencies.
You are looking for a storage solution that will grow and shrink capacity automatically. How can you accomplish this in AWS?
A. Create an Amazon S3 bucket that the application can use for its storage requirements.
B. Create an Amazon EFS file system and mount it on all of the application instances.
C. Launch an EBS-backed EC2 instance. Create and share an NFS mount with the application.
D. Launch an Amazon Redshift cluster with dense storage nodes to use with the application.
Answer: B

Question 3
Which Auto Scaling features allow you to scale ahead of expected increases in load? (Select
TWO.)
A. Cooldown period
B. Lifecycle hooks
C. Desired capacity
D. Scheduled scaling
E. Health check grace period
F. Metric-based scaling
Answer: DF

Question 4
You have been asked to design a fault-tolerant and scalable web application across three Availability Zones. The presentation logic will reside on web servers behind an ELB Classic Load Balancer, and the application logic will reside on a set of app servers behind a second load balancer.
How should you use Auto Scaling groups?
A. Deploy one Auto Scaling group that includes all the web and app servers across all Availability Zones.
B. Deploy three Auto Scaling groups: one for each Availability Zone that includes both web and app servers.
C. Deploy two Auto Scaling groups: one for the web servers in all Availability Zones and one for the app servers in all Availability Zones.
D. Deploy six Auto Scaling groups: a web server group in each Availability Zone and an app server group in each Availability Zone.
Answer: C

Question 5You are designing a scalable web application with stateless web servers. Which service or feature is well suited to store user session information?

A. Amazon EBS

B. Amazon DynamoDB

C. Amazon EC2 instance store

D. Amazon SQS

Answer: B

Question 6

Your Amazon EC2 instances must access the AWS API, so you created a NAT gateway in an existing subnet.

When you try to access the AWS API, you are unsuccessful.

What could be preventing access?

A. The NAT gateway subnet does not have a route to an Internet gateway.

B. The instances need an IAM granting access to the NAT gateway.

C. The NAT gateway does not have a route to the virtual private gateway.

D. The instances are not in the same subnet as the NAT gateway.

Answer: A

Question 7

A company has a workflow that uploads video files from their data center to AWS for transcoding.

They use Amazon EC2 worker instances that pull transcoding jobs from SQS.

Why is SQS an appropriate service for this scenario?

A. SQS can accommodate message payloads of any size.

B. SQS checks the health of the worker instances.

C. SQS synchronously provides transcoding output.

D. SQS decouples the transcoding task from the upload.

Answer: D

Question 8

Your existing web application requires a persistent key-value store database that must service 50,000 reads/second. Your company is looking at 10% growth in traffic and data volume month over month for the next several years.

Which service meets these requirements?

A. Amazon Redshift

B. Amazon DynamoDB

C. Amazon SQS

D. Amazon RDS

Answer: B

Question 9

You've been tasked with choosing a datastore to persist GPS coordinates for a new app. The service needs consistent, single-digit-millisecond latency at any scale. Which AWS service meets your requirements?

A. Amazon Redshift

B. Amazon DynamoDB

C. Amazon S3

D. Amazon RDS

Answer: B

Question 10

You originally built a VPC for a two-tier application. The subnets for the web and data tiers use all the IP address space in the VPC. Now you want to add subnets for an application tier.How can you accommodate the new subnets in your VPC?

A. Reduce the CIDR block ranges of the existing subnets to make room for the new subnets.

B. Build a new VPC that can accommodate all the subnets, and migrate the application to the new VPC.

C. Change the CIDR block for the VPC to create enough free address space for the new subnets.

D. Create the new subnets in the VPC; the VPC will automatically scale to accommodate the new subnets.

Answer: C

Question 11

An application on an Amazon EC2 instance routinely stops responding to requests and requires a reboot to recover. The application logs are already exported into Amazon CloudWatch, and you notice that the problem consistently follows the appearance of a specific message in the log. The application team is working to address the bug, but has not provided a date for the fix. What workaround can you implement to automate recovery of the instance until the fix is deployed?

A. Create an Amazon CloudWatch alarm on an Amazon CloudWatch Logs filter for that message; based on that alarm, trigger an Amazon CloudWatch action to reboot the instance.

B. Create an AWS CloudTrail alarm on low CPU; based on that alarm, trigger an Amazon SNS message to the Operations team.

C. Create an Amazon CloudWatch alarm on instance memory usage; based on that alarm, trigger an Amazon CloudWatch action to reboot the instance.

D. Create an AWS CloudTrail alarm to detect the deadlock; based on that alarm, trigger an Amazon SNS message to the Operations team.

Answer: A

Question 12

You are architecting a web application that will be backed by a relational database. The application will be read-heavy, and database queries will be computationally intensive. How can you improve overall application response for users?

A. Use ElastiCache to store critical pieces of data in memory for low-latency access.

B. use Amazon SQS to distribute messages among workers that are less busy.

C. Use an Auto Scaling group and ELB Classic Load Balancer for the application tier.

D. Use Data Pipeline to replicate your relational data across all of your web tier nodes.

Answer: A

Question 13

Your Amazon VPC has a public subnet with a route that sends all Internet traffic to the Internet gateway. An Amazon EC2 instance in the public subnet has an assigned private IP address. The instance belongs to a security group set to allow all outbound traffic. The instance cannot access the Internet. Why could the Internet be unreachable from this instance?

A. The instance does not have a public IP address.

B. The internet gateway security group must allow all outbound traffic.

C. The instance security group must allow all inbound traffic.

D. The instance "Source/Destination check" property must be enabled.

Answer: A

Question 14

You are launching an application in an Auto Scaling group. to store the user session state, you need a structured storage service with durability and low latency.
Which service meets your needs?
A. Amazon ElastiCache
B. Amazon S3
C. Amazon EC2 instance storage
D. Amazon DynamoDB
Answer: D

Question 15
You're building an API backend available at services.yourcompany.com. The API is implemented with API Gateway and Lambda. You successfully tested the API using curl. You implemented Javascript to call the API from a webpage on your corporate website, www.yourcompany.com. When you access that page in your browser, you get the following error: "The same origin policy disallows reading the remote resource" How can you allow your
corporate webpages to invoice the API?
A. Disable CORS in the API Gateway.
B. Disable CORS in the Javascript frontend.
C. Enable CORS in the API Gateway.
D. Enable CORS in the Javascript frontend.
Answer: D

Question 16
Your company's IT policies mandate that all critical data must be duplicated in two physical locations at least 100 miles apart.
Which storage option meets this requirement?
A. Two Amazon S3 buckets in different regions
B. One Amazon S3 bucket
C. One Amazon Glacier archive
D. Two Amazon S3 buckets in the same region
Answer: A

Question 17
Which AWS services are valid origins for an Amazon CloudFront distribution? (Select TWO.)
A. Amazon RDS
B. ELB Classic Load Balancer
C. Amazon S3
D. Amazon DynamoDB
E. Amazon Galcier
Answer: BC

Question 18
Your company has separate AWS accounts for development and production. Each developer is assigned an IAM user in the development account. Developers occasionally need to access the production account to roll our changes to that environment. Your company does not allow the creation of IAM users in the production account.
What strategy will allow the development team to access the production account?
A. Create an IAM role in the development account. Allow IAM users in the development account to assume the role.
B. Create an IAM group in the production account. Grant IAM users in the development account

membership in the group.

C. Create an IAM role in the production account. Aloow IAM users in the development account to assume the role.

D. Create an IAM group in the development account. Grant IAM users in the development account membership in the group.

Answer: C

Question 19

A colleague asked for your advice about how to easily deploy, monitor, and scale a three-tier LAMP (Linux, Apache, MySQL, PHP) application on AWS. Your colleague has time and staffing constraints and wants to deploy and manage the application with minimal effort. Which AWS service would you suggest?

A. Elastic Beanstalk

B. Data Pipeline

C. CloudFormation

D. CodeDeploy

Answer: A

Question 20

Which services can invoke AWS Lambda functions? (Select TWO.)

A. Amazon SNS

B. Amazon Redshift

C. Amazon Route53

D. Amazon DynamoDB

E. Elastic Load Balancing

Answer: AD

Question 21

Which aspects of Amazon EC2 security are the responsibility of AWS? (Select TWO.)

A. VPC and security group configuration

B. Physical security of hardware

C. Application authentication

D. Virtualization infrastructure

E. Guest operating systems

Answer: BD

Explanation:

https://aws.amazon.com/compliance/shared-responsibility-model/

Question 22

Your company has set up an application in eu-west-1 with a disaster recovery site in eu-central-1. You want to be notified of any AWS API activity in regions other than these two. How can you monitor AWS API activity in other regions?

A. Create a CloudWatch alarm for CloudTrail events.

B. Create a CloudWatch alarm for Trusted Advisor.

C. Create a CloudWatch alarm for VPC flow logs.

D. Create a CloudWatch alarm for SSH key usage.

Answer: A

Question 23

What services will help identify Amazon EC2 instances with underutilized CPU capacity? (Select TWO.)

A.Amazon CloudWatch

B. Cost Explorer

C. AWS Trusted Advisor

D. AWS CloudTrail

E. Amazon EC2 usage reports

Answer: AE

Question 24

You have a Cassandra cluster running in private subnets in an Amazon VPC. A new application in a different Amazon VPC needs access to the database. How can the new application access the database?

A. Set up a dual-homed instance with ENIs in both Amazon VPCs.

B. Set up a VPC peering connection between the two Amazon VPCs.

C. Set up a NAT Gateway in the database's Amazon VPC.

D. Set up a NAT Gateway in the application's Amazon VPC.

Answer: B

Question 25

Which security functions are based on AWS STS? (Select TWO.)

A. Using IAM roles with Amazon EC2 instances

B. Adding conditions to managed policies

C. Using access keys to authenticate IAM users

D. Using web federated identity to authenticate users

E. Assigning managed policies to IAM groups

Answer: AD

Question 26

You bid $0.22 for an Amazon EC2 Spot Instance when the market price was $0.20. For 90 minutes, the market price remained at $0.20. Then market price changed to $0.25, and your instance was terminated by AWS.

What was your cost of running the instance for the entire duration?

A. $0.47

B. $0.20

C. $0.40

D. $0.22

Answer: B

Question 27

Your organization is looking for a solution that can help the business with streaming data. Several services will require access to read and process the same stream concurrently.

What AWS service meets the business requirements?

A. Amazon Kinesis Firehose

B. Amazon Kinesis Streams

C. Amazon CloudFront

D. Amazon SQS

Answer: B

Question 28

A customer's security team requires the logging of all network access attempts to Amazon EC2 instances in their production VPC on AWS.

Which configuration will meet the security team's requirement?
A. Enable CloudTrail for the production VPC.
B. Enable VPC Flow Logs for the production VPC.
C. Enable both CloudTrail and VPC Flow Logs for the production VPC.
D. Enable both CloudTrail and VPC Flow Logs for the AWS account.
Answer: B

Question 29
Your company runs an application that generates several thousand 1-GB reports a month.
Approximately 10% of these reports will be accessed once during the first 30 days and must be available on demand. After 30 days, reports are no longer accessed as a part of normal business processes but must be retained for compliance reasons.
Which architecture would meet these requirements with the lowest cost?
A. Upload the reports to Amazon S3 Standard storage class. Set a lifecycle configuration on the bucket to transition the reports to Amazon Glacier after 30 days.
B. Upload the reports to Amazon S3 Standard ?Infrequent Access storage class. Set a lifecycle configuration on the bucket to transition the reports to Amazon Glacier after 30 days.
C. Upload the reports to Amazon Glacier. When reports are requested, copy them to Amazon S3 Standard storage class for access. Delete the copied reports after they have been viewed.
D. Upload the reports to Amazon S3 Standard ?Infrequent Access storage class. When reports are requested, copy them to Amazon S3 Standard storage class for access. Delete the copied reports after they have been viewed.
Answer: B

Question 30
A stray Amazon EC2 r3.8xlarge instance is running in your AWS account. Before terminating it, you want to find the owner to confirm that it is not needed. Where can you find the identity that launched this instance?
A. VPC flow logs
B. ELB access logs
C. CloudTrail logs
D. Operating system logs
Answer: C

Question 31
You are running a web application with four Amazon EC2 instances across two Availability Zones. The instances are in an Auto Scaling group behind an ELB Classic Load Balancer. A scaling event adds one instance to the group. After the event, you notice that, although all instances are serving traffic, some instances are serving more traffic than others. Which of the following could be the problem?
A. Cross-zone load balancing is not configured on the ELB Classic Load Balancer.
B. Access logs are not enabled on the ELB Classic Load Balancer.
C. A SSL/TLS certificate has not been deployed on the ELB Classic Load Balancer.
D. Sticky bits is not enabled on the ELB Classic Load Balancer.
Answer: A

Question 32
You are running a mobile media application and are considering API Gateway for the client entrypoint.
What benefits would this provide? (Select TWO.)
A. Caching API responses

B. IP blacklisting
C. Intrusion prevention
D. Load balancing
E. Throttling traffic
Answer: AE

Question 33
Your application currently stores data on an unencrypted EBS volume. A new security policy
mandates that all data must be encrypted at rest. How can you encrypt the data?

A. Create a snapshot of the volume. Create a new, encrypted volume from the snapshot. Replace the
volume.
B. Stop the instance. Detach the volume. Modify the EBS settings to encrypt the volume. Reattach the
volume. Start the instance.
C. Create a snapshot of the volume. Make an encrypted copy of the snapshot. Create a new volume from
the new snapshot. Replace the volume.
D. Modify the EBS settings to encrypt the volume. You do need to detach the volume or stop the
instance.
Answer: A

Question 34
You have a web portal composed of two services. Each service must scale independently. Both
services should be served under the same domain. Which configuration allows this?
A. Use two AWS Application Load Balancers: one for each service. Assign the same CNAME to both.
B. Use one AWS Classic Load Balancer. Create a redirect in the web server based on user's source IPs.
C. Use two AWS Classic Load Balancers: one for each service. Assign the same CNAME to both.
D. Use one AWS Application Load Balancer. Specify listener rules to route requests to each service.
Answer: D

Question 35
You need a solution to distribute traffic evenly across all of the containers for a task running on
Amazon ECS. Your task definitions define dynamic host port mapping for your containers. What
AWS feature provides this functionality?
A. Application Load Balancers support dynamic host port mapping.
B. CloudFront custom origins support dynamic host port mapping.
C. All Elastic Load Balancing instances support dynamic host port mapping.
D. Classic Load Balancers support dynamic host port mapping.
Answer: A

Question 36
A Solution Architect is designing a disaster recovery solution for a 5 TB Amazon Redshift cluster. The
recovery site must be at least 500 miles (805 kilometers) from the live site. How should the
Architectmeet these requirements?
A. Use AWS CloudFormation to deploy the cluster in a second region.
B. Take a snapshot of the cluster and copy it to another Availability Zone.
C. Modify the Redshift cluster to span two regions.
D. Enable cross-region snapshots to a different region.
Answer: D

Question 37

A customer has written an application that uses Amazon S3 exclusively as a data store. The application works well until the customer increases the rate at which the application is updating information. The customer now reports that outdated data occasionally appears when the application accesses objects in Amazon S3. What could be the problem, given that the application logic is otherwise correct?
A. The application is reading parts of objects from Amazon S3 using a range header.
B. The application is reading objects from Amazon S3 using parallel object requests.
C. The application is updating records by writing new objects with unique keys.
D. The application is updating records by overwriting existing objects with the same keys.
Answer: D

Question 38
A Solutions Architect is designing a new social media application. The application must provide a secure method for uploading profile photos. Each user should be able to upload a profile photo into a shared storage location for one week after their profile is created. Which approach will meet all of these requirements?
A. Use Amazon Kinesis with AWS CloudTrail for auditing the specific times when profile photos are uploaded.
B. Use Amazon EBS volumes with IAM policies restricting user access to specific time periods.
C. Use Amazon S3 with the default private access policy and generate pre-signed URLs each time a new site profile is created.
D. Use Amazon CloudFront with AWS CloudTrail for auditing the specific times when profile photos are uploaded.
Answer: C

Question 39
An application requires block storage for file updates. The data is 500 GB and must continuously sustain 100 MiB/s of aggregate read/write operations.
Which storage option is appropriate for this application?
A. Amazon S3
B. Amazon EFS
C. Amazon EBS
D. Amazon Glacier
Answer: C

Question 40

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?
A. Create a Lambda function to move files older than 30 days to Amazon EBS and move files older than 60 days to Amazon Glacier.
B. Create a Lambda function to move files older than 30 days to Amazon Glacier and move files older than 60 days to Amazon EBS.
C. 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.
D. 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.
Answer: C

Question 41

An organization is currently hosting a large amount of frequently accessed data consisting of key- value pairs and semi-structured documents in their data center. They are planning to move this data to AWS. Which of one of the following services MOST effectively meets their needs?

A. Amazon Redshift

B. Amazon RDS

C. Amazon DynamoDB

D. Amazon Aurora

Answer: C

Explanation:

https://aws.amazon.com/blogs/aws/amazon-dynamodb-internet-scale-data-storage-the-nosql- way/

Question 42

A Lambda function must execute a query against an Amazon RDS database in a private subnet.

Which steps are required to allow the Lambda function to access the Amazon RDS database? (Select two.)

A. Create a VPC Endpoint for Amazon RDS.

B. Create the Lambda function within the Amazon RDS VPC.

C. Change the ingress rules of Lambda security group, allowing the Amazon RDS security group.

D. Change the ingress rules of the Amazon RDS security group, allowing the Lambda security group.

E. Add an Internet Gateway (IGW) to the VPC, route the private subnet to the IGW.

Answer: BD

Question 43

A Solutions Architect needs to build a resilient data warehouse using Amazon Redshift. The Architect needs to rebuild the Redshift cluster in another region.

Which approach can the Architect take to address this requirement?

A. Modify the Redshift cluster and configure cross-region snapshots to the other region.

B. Modify the Redshift cluster to take snapshots of the Amazon EBS volumes each day, sharing those snapshots with the other region.

C. Modify the Redshift cluster and configure the backup and specify the Amazon S3 bucket in the other region.

D. Modify the Redshift cluster to use AWS Snowball in export mode with data delivered to the other region.

Answer: A

Question 44

A popular e-commerce application runs on AWS. The application encounters performance issues. The database is unable to handle the amount of queries and load during peak times. The database is running on the RDS Aurora engine on the largest instance size available. What should an administrator do to improve performance?

A. Convert the database to Amazon Redshift.

B. Create a CloudFront distribution.

C. Convert the database to use EBS Provisioned IOPS.

D. Create one or more read replicas.

Answer: D

Question 45

A Solutions Architect is designing the architecture for a new three-tier web-based e-commerce site that must be available 24/7. Requests are expected to range from 100 to 10,000 each minute. Usage can vary depending on time of day, holidays, and promotions. The design should be able to handle these volumes, with the ability to

handle higher volumes if necessary. How should the Architect design the architecture to ensure the web tier is cost-optimized and can handle the expected traffic? (Select two.)
A. Launch Amazon EC2 instances in an Auto Scaling group behind an ELB.
B. Store all static files in a multi-AZ Amazon Aurora database.
C. Create an CloudFront distribution pointing to static content in Amazon S3.
D. Use Amazon Route 53 to route traffic to the correct region.
E. Use Amazon S3 multi-part uploads to improve upload times.
Answer: AC

Question 46
A Solution Architect is designing a three-tier web application. The Architect wants to restrict access to the database tier to accept traffic from the application servers only. However, these application servers are in an Auto Scaling group and may vary in quantity.
How should the Architect configure the database servers to meet the requirements?
A. Configure the database security group to allow database traffic from the application server IP addresses.
B. Configure the database security group to allow database traffic from the application server security group.
C. Configure the database subnet network ACL to deny all inbound non-database traffic from the application-tier subnet.
D. Configure the database subnet network ACL to allow inbound database traffic from the application-tier subnet.
Answer: B

Question 47
A call center application consists of a three-tier application using Auto Scaling groups to automatically scale resources as needed. Users report that every morning at 9:00 AM the system becomes very slow for about 15 minutes. A Solution Architect determines that a large percentage of the call center staff starts work at 9:00 AM, so Auto Scaling does not have enough time to scale out to meet demand. How can the Architect fix the problem?
A. Change the Auto Scaling group's scale out event to scale based on network utilization.
B. Create an Auto Scaling scheduled action to scale out the necessary resources at 8:30 AM every morning.
C. Use Reserved Instances to ensure the system has reserved the right amount of capacity for the scale-up events.
D. Permanently keep a steady state of instances that is needed at 9:00 AM to guarantee available resources, but leverage Spot instances.
Answer: B

Question 48
An e-commerce application is hosted in AWS. The last time a new product was launched, the application experienced a performance issue due to an enormous spike in traffic. Management decided that capacity must be doubled the week after the product is launched.
Which is the MOST efficient way for management to ensure that capacity requirements are met?
A. Add a Step Scaling policy.
B. Add a Dynamic Scaling policy.
C. Add a Scheduled Scaling action.
D. Add Amazon EC2 Spot Instances.
Answer: C

Question 49

Developers are creating a new online transaction processing (OLTP) application for a small database that is very read-write intensive. A single table in the database is updated continuously throughout the day, and the developers want to ensure that the database performance is consistent. Which Amazon EBS storage option will achieve the MOST consistent performance to help maintain application performance?

A. Provisioned IOPS SSD
B. General Purpose SSD
C. Cold HDD
D. Throughput Optimized HDD

Answer: A

Question 50
A Solutions Architect is designing a log-processing solution that requires storage that supports up to 500 MB/s throughput. The data is sequentially accessed by an Amazon EC2 instance. Which Amazon storage type satisfies these requirements?

A. EBS Provisioned IOPS SSD (io1)
B. EBS General Purpose SSD (gp2)
C. EBS Throughput Optimized HDD (st1)
D. EBS Cold HDD (sc1)

Answer: C
Explanation:
https://aws.amazon.com/ebs/faqs/

Question 51
A company's development team plans to create an Amazon S3 bucket that contains millions of images. The team wants to maximize the read performance of Amazon S3. Which naming scheme should the company use?

A. Add a date as the prefix.
B. Add a sequential id as the suffix.
C. Add a hexadecimal hash as the suffix.
D. Add a hexadecimal hash as the prefix.

Answer: D
Explanation:
https://aws.amazon.com/premiumsupport/knowledge-center/s3-bucket-performance-improve/

Question 52
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 must provide a centralized view of all API events for current and future AWS regions. How should the Architect accomplish this task?

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

Answer: D

Question 53
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?

A. Amazon DynamoDB

B. Amazon S3

C. Amazon EBS

D. Amazon EFS

Answer: D

Question 54

A company plans to use AWS for all new batch processing workloads. The company's developers use Docker containers for the new batch processing. The system design must accommodate critical and non-critical batch processing workloads 24/7.

How should a Solutions Architect design this architecture in a cost-efficient manner?

A. Purchase Reserved Instances to run all containers. Use Auto Scaling groups to schedule jobs.

B. Host a container management service on Spot Instances. Use Reserved Instances to run Docker containers.

C. Use Amazon ECS orchestration and Auto Scaling groups: one with Reserve Instances, one with Spot Instances.

D. Use Amazon ECS to manage container orchestration. Purchase Reserved Instances to run all batch workloads at the same time.

Answer: C

Question 55

A company is evaluating Amazon S3 as a data storage solution for their daily analyst report. 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?

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

B. Create an Amazon S3 bucket to store the reports and use Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3).

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

D. 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: C

Explanation:https://noise.getoto.net/tag/customer-stories/

Question 56

A customer has a production application that frequently overwrites and deletes data, the application requires the most up-to-date version of the data every time it is requested. Which storage should a Solutions Architect recommend to bet accommodate this use case?

A. Amazon S3

B. Amazon RDS

C. Amazon RedShift

D. AWS Storage Gateway

Answer: B

Question 57

A manufacturing company captures data from machines running at customer sites. Currently, thousands of machines send data every 5 minutes, and this is expected to grow to hundreds of thousands of machines in the near future. The data is logged with the intent to be analyzed in the future as needed. What is the SIMPLEST method to store this streaming data at scale?
A. Create an Amazon Kinesis Firehouse delivery stream to store the data in Amazon S3.
B. Create an Auto Scaling group of Amazon EC2 servers behind ELBs to write the data into Amazon RDS.
C. Create an Amazon SQS queue, and have the machines write to the queue.
D. Create an Amazon EC2 server farm behind an ELB to store the data in Amazon EBS Cold HDD volumes.
Answer: A

Question 58
A bank is writing new software that is heavily dependent upon the database transactions for write consistency. The application will also occasionally generate reports on data in the database, and will do joins across multiple tables. The database must automatically scale as the amount of data growth. Which AWS service should be used to run the database?
A. Amazon S3
B. Amazon Aurora
C. Amazon DynamoDB
D. Amazon Redshift
Answer: B

Question 59
A Solutions Architect is designing a new application that needs to access data in a different AWS account located within the same region. The data must not be accessed over the Internet. Which solution will meet these requirements with the LOWEST cost?
A. Add rules to the security groups in each account.
B. Establish a VPC Peering connection between accounts.
C. Configure Direct Connect in each account.
D. Add a NAT Gateway to the data account.
Answer: B

Question 60
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?
A. Upload directly to S3 using a pre-signed URL.
B. Upload to a second bucket, and have a Lambda event copy the image to the primary bucket.
C. Upload to a separate Auto Scaling group of servers behind an ELB Classic Load Balancer, and have them write to the Amazon S3 bucket.
D. Expand the web server fleet with Spot Instances to provide the resources to handle the images.
Answer: A

Question 61
A company requires that the source, destination, and protocol of all IP packets be recorded when traversing a private subnet.
What is the MOST secure and reliable method of accomplishing this goal.
A. Create VPC flow logs on the subnet.
B. Enable source destination check on private Amazon EC2 instances.

C. Enable AWS CloudTrail logging and specify an Amazon S3 bucket for storing log files.
D. Create an Amazon CloudWatch log to capture packet information.
Answer: A

Question 62
A Solutions Architect has a multi-layer application running in Amazon VPC. The application has an ELB
Classic Load Balancer as the front end in a public subnet, and an Amazon EC2-based reverse proxy
that performs content-based routing to two backend Amazon EC2 instances hosted in a private
subnet. The Architect sees tremendous traffic growth and is concerned that the reverse proxy and
current backend set up will be insufficient.
Which actions should the Architect take to achieve a cost-effective solution that ensures the application
automatically scales to meet traffic demand? (Select two.)
A. Replace the Amazon EC2 reverse proxy with an ELB internal Classic Load Balancer.
B. Add Auto Scaling to the Amazon EC2 backend fleet.
C. Add Auto Scaling to the Amazon EC2 reverse proxy layer.
D. Use t2 burstable instance types for the backend fleet.
E. Replace both the frontend and reverse proxy layers with an ELB Application Load Balancer.
Answer: BE

Question 63
A company is launching a marketing campaign on their website tomorrow and expects a significant
increase in traffic. The website is designed as a multi-tiered web architecture, and the increase in
traffic could potentially overwhelm the current design.
What should a Solutions Architect do to minimize the effects from a potential failure in one or more of the
tiers?
A. Migrate the database to Amazon RDS.
B. Set up DNS failover to a statistic website.
C. Use Auto Scaling to keep up with the demand.
D. Use both a SQL and a NoSQL database in the design.
Answer: C

Question 64
A web application experiences high compute costs due to serving a high amount of static web content. How
should the web server architecture be designed to be the MOST cost-efficient?
A. Create an Auto Scaling group to scale out based on average CPU usage.
B. Create an Amazon CloudFront distribution to pull static content from an Amazon S3 bucket.
C. Leverage Reserved Instances to add additional capacity at a significantly lower price.
D. Create a multi-region deployment using an Amazon Route 53 geolocation routing policy.
Answer: B

Question 65
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?
A. Remove source/destination check on NAT instances.
B. Launch a NAT gateway in each Availability Zone.
C. Use a mix of NAT instances and NAT gateway.
D. Add an ELB Application Load Balancer in front of NAT gateway.
Answer: B

Question 66
A Solutions Architect is designing a solution to store a large quantity of event data in Amazon S3. The Architect anticipates that the workload will consistently exceed 100 requests each second. What should the Architect do in Amazon S3 to optimize performance?
A. Randomize a key name prefix.
B. Store the event data in separate buckets.
C. Randomize the key name suffix.
D. Use Amazon S3 Transfer Acceleration.
Answer: A
Explanation:
https://docs.aws.amazon.com/AmazonS3/latest/dev/request-rate-perf-considerations.html

Question 67
A user is testing a new service that receives location updates from 3,600 rental cars every hour. Which service will collect data and automatically scale to accommodate production workload?
A. Amazon EC2
B. Amazon Kinesis Firehose
C. Amazon EBS
D. Amazon API Gateway
Answer: B

Question 68
A Solutions Architect is designing a web application. The web and application tiers need to access the Internet, but they cannot be accessed from the Internet. Which of the following steps is required?
A. Attach an Elastic IP address to each Amazon EC2 instance and add a route from the private subnet to the public subnet.
B. Launch a NAT gateway in the public subnet and add a route to it from the private subnet.
C. Launch Amazon EC2 instances in the public subnet and change the security group to allow outbound traffic on port 80.
D. Launch a NAT gateway in the private subnet and deploy a NAT instance in the private subnet.
Answer: B

Question 69
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?
A. Create a private subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.
B. Create a private subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
C. Create a public subnet for the Amazon EC2 instances and a private subnet for the Amazon RDS cluster.
D. Create a public subnet for the Amazon EC2 instances and a public subnet for the Amazon RDS cluster.
Answer: B

Question 70

A Solutions Architect is designing a solution for a media company that will stream large amounts of data from an Amazon EC2 instance. The data streams are typically large and sequential, and must be able to support up to 500 MB/s.

Which storage type will meet the performance requirements of this application?

A. EBS Provisioned IOPS SSD

B. EBS General Purpose SSD

C. EBS Cold HDD

D. EBS Throughput Optimized HDD

Answer: D

Question 71

A legacy application running in 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?

A. Create an IAM role that allows access from the corporate network to Amazon S3.

B. Configure a proxy on Amazon EC2 and use an Amazon S3 VPC endpoint.

C. Use Amazon API Gateway to do IP whitelisting.

D. Configure IP whitelisting on the customer's gateway.

Answer: A

Question 72

A Solutions Architect is designing a database solution that must support a high rate of random disk reads and writes. It must provide consistent performance, and requires long-term persistence.

Which storage solution BEST meets these requirements?

A. An Amazon EBS Provisioned IOPS volume

B. An Amazon EBS General Purpose volume

C. An Amazon EBS Magnetic volume

D. An Amazon EC2 Instance Store

Answer: A

Question 73

A Solutions Architect is designing solution with AWS Lambda where different environments require different database passwords.

What should the Architect do to accomplish this in a secure and scalable way?

A. Create a Lambda function for each individual environment.

B. Use Amazon DynamoDB to store environmental variables.

C. Use encrypted AWS Lambda environmental variables.

D. Implement a dedicated Lambda function for distributing variables.

Answer: C

Question 74

A news organization plans to migrate their 20 TB video archive to AWS. The files are rarely accessed, but when they are, a request is made in advance and a 3 to 5-hour retrieval time frame is acceptable. However, when there is a breaking news story, the editors require access to archived footage within minutes.

Which storage solution meets the needs of this organization while providing the LOWEST cost of storage?

A. Store the archive in Amazon S3 Reduced Redundancy Storage.

B. Store the archive in Amazon Glacier and use standard retrieval for all content.

C. Store the archive in Amazon Glacier and pay the additional charge for expedited retrieval when needed.

D. Store the archive in Amazon S3 with a lifecycle policy to move this to S3 Infrequent Access after 30 days.

Answer: C

Question 75

A Solutions Architect is building a multi-tier website. The web servers will be in a public subnet, and the database servers will be in a private subnet. Only the web servers can be accessed from the Internet. The database servers must have Internet access for software updates. Which solution meets the requirements?

A. Assign Elastic IP addresses to the database instances.

B. Allow Internet traffic on the private subnet through the network ACL.

C. Use a NAT Gateway.

D. Use an egress-only Internet Gateway.

Answer: C

Question 76

A Solutions Architect is designing a Lambda function that calls an API to list all running Amazon RDS instances.

How should the request be authorized?

A. Create an IAM access and secret key, and store it in the Lambda function.

B. Create an IAM role to the Lambda function with permissions to list all Amazon RDS instances.

C. Create an IAM role to Amazon RDS with permissions to list all Amazon RDS instances.

D. Create an IAM access and secret key, and store it in an encrypted RDS database.

Answer: B

Question 77

A Solutions Architect is building an application on AWS that will require 20,000 IOPS on a particular volume to support a media event. Once the event ends, the IOPS need is no longer required. The marketing team asks the Architect to build the platform to optimize storage without incurring downtime. How should the Architect design the platform to meet these requirements?

A. Change the Amazon EC2 instant types.

B. Change the EBS volume type to Provisioned IOPS.

C. Stop the Amazon EC2 instance and provision IOPS for the EBS volume.

D. Enable an API Gateway to change the endpoints for the Amazon EC2 instances.

Answer: B

Question 78

A Solutions Architect is building a new feature using a 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?

A. Amazon S3

B. Amazon DynamoDB

C. Amazon Kinesis

D. Amazon EFC

Answer: B

Question 79

An interactive, dynamic website runs on Amazon EC2 instances in a single subnet behind an ELB Classic Load Balancer.

Which design changes will make the site more highly available?

A. Move some Amazon EC2 instances to a subnet in a different way.

B. Move the website to Amazon S3.

C. Change the ELB to an Application Load Balancer.

D. Move some Amazon EC2 instances to a subnet in the same Availability Zone.

Answer: A

Question 80

A Solutions Architect is designing a web application that is running on an Amazon EC2 instance.
The application stores data in DynamoDB. The Architect needs to secure access to the
DynamoDB table. What combination of steps does AWS recommend to achieve secure authorization?
(Select two.)

A. Store an access key on the,Amazon EC2 instance with rights to the Dynamo DB table.

B. Attach an IAM user to the Amazon EC2 instance.

C. Create an IAM role with permissions to write to the DynamoDB table.

D. Attach an IAM role to the Amazon EC2 instance.

E. Attach an IAM policy to the Amazon EC2 instance.

Answer: CD

Question 81

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 requirements:
1 They get an alert when the requests per second go over 50,000 2 They get an alert when
latency goes over 5 seconds
3 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.)

A. Ensure that CloudTrail is enabled.

B. Create a custom CloudWatch metric to monitor the API for data access.

C. Configure CloudWatch alarms for any metrics the support team requires.

D. Ensure that detailed monitoring for the EC2 instances is enabled.

E. Create an application to export and save CloudWatch metrics for longer term trending analysis.

Answer: BD

Question 82

A Solutions Architect is designing a highly-available website that is served by multiple web servers hosted
outside of AWS. If an instance becomes unresponsive, the Architect needs to remove it from the rotation. What
is the MOST efficient way to fulfill this requirement?

A. Use Amazon CloudWatch to monitor utilization.

B. Use Amazon API Gateway to monitor availability.

C. Use an Amazon Elastic Load Balancer.

D. Use Amazon Route 53 health checks.

Answer: D

Question 83

A company hosts a popular web application. The web application connects to a database running
in a private VPC subnet. The web servers must be accessible only to customers on an SSL
connection. The RDS MySQL database server must be accessible only from the web servers.
How should the Architect design a solution to meet the requirements without impacting running
applications?

A. Create a network ACL on the web server's subnet, and allow HTTPS inbound and MySQL outbound. Place both database and web servers on the same subnet.

B. Open an HTTPS port on the security group for web servers and set the source to 0.0.0.0/0. Open the MySQL port on the database security group and attach it to the MySQL instance. Set the source to Web Server Security Group.

C. Create a network ACL on the web server's subnet, and allow HTTPS inbound, and specify the source as 0.0.0.0/0. Create a network ACL on a database subnet, allow MySQL port inbound for web servers, and deny all outbound traffic.

D. Open the MySQL port on the security group for web servers and set the source to 0.0.0.0/0. Open the HTTPS port on the database security group and attach it to the MySQL instance. Set the source to Web Server Security Group.

Answer: B

Question 84
Which service should an organization use if it requires an easily managed and scalable platform to host its web application running on Nginx?
A. AWS Lambda
B. Auto Scaling
C. AWS Elastic Beanstalk
D. Elastic Load Balancing
Answer: C

Question 85
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?
A. Amazon SQS
B. Auto Scaling group
C. Amazon EC2 security group
D. Amazon ELB
Answer: D

Question 86
A Solutions Architect is designing a microservices-based application using Amazon ECS. The application includes a WebSocket component, and the traffic needs to be distributed between microservices based on the URL.
Which service should the Architect choose to distribute the workload?
A. ELB Classic Load Balancer
B. Amazon Route 53 DNS
C. ELB Application Load Balancer
D. Amazon CloudFront
Answer: C
Explanation:
https://docs.aws.amazon.com/aws-technical-content/latest/microservices-on-aws/microservices-on-aws.pdf?icmpid=link_from_whitepapers_page (13)

Question 87

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?

A. Store data in a filesystem backed by Amazon Elastic File System (EFS).

B. Store data in Amazon S3 and use a third-party solution to expose Amazon S3 as a filesystem to the database server.

C. Store data in Amazon Dynamo DB and emulate relational database semantics.

D. Stripe data across multiple Amazon EBS volumes using RAID 0.

Answer: D

Question 88

A Solutions Architect is designing a VPC. Instances in a private subnet must be able to establish IPv6 traffic to the Internet. The design must scale automatically and not incur any additional cost. This can be accomplished with:

A. an egress-only internet gateway

B. a NAT gateway

C. a custom NAT instance

D. a VPC endpoint

Answer: A

Explanation:

https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Scenario2.html

Question 89

A web application stores all data in an Amazon RDS Aurora database instance. A Solutions Architect wants to provide access to the data for a detailed report for the Marketing team, but is concerned that the additional load on the database will affect the performance of the web application.

How can the report be created without affecting the performance of the application?

A. Create a read replica of the database.

B. Provision a new RDS instance as a secondary master.

C. Configure the database to be in multiple regions.

D. Increase the number of provisioned storage IOPS.

Answer: A

Question 90

A company has an application that stores sensitive data. The company is required by government regulations to store multiple copies of its data.

What would be the MOST resilient and cost-effective option to meet this requirement?

A. Amazon EFS

B. Amazon RDS

C. AWS Storage Gateway

D. Amazon S3

Answer: D

Explanation:

https://aws.amazon.com/s3/storage-classes/

Question 91

A company is using AWS Key Management Service (AWS KMS) to secure their Amazon RDS databases.

An auditor has recommended that the company log all use of their AWS KMS keys.

What is the SIMPLEST solution?

A. Associate AWS KMS metrics with Amazon CloudWatch.

B. Use AWS CloudTrail to log AWS KMS key usage.

C. Deploy a monitoring agent on the RDS instances.

D. Poll AWS KMS periodically with a scheduled job.

Answer: B

Explanation:

https://aws.amazon.com/kms/

Question 92

A Solutions Architect is designing a stateful web application that will run for one year (24/7) and then be decommissioned. Load on this platform will be constant, using a number of r4.8xlarge instances. Key drivers for this system include high availability, but elastically is not required.

What is the MOST cost-effective way to purchase compute for this platform?

A. Scheduled Reserved Instances

B. Convertible Reserved Instances

C. Standard Reserved Instances

D. Spot Instances

Answer: C

Question 93

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?

A. Create an Amazon S3 bucket and store all of the documents in this bucket.

B. Create an Amazon EBS volume and allow multiple users to mount that volume to their EC2 instance (s).

C. Use Amazon Glacier to store all of the documents.

D. Create an Amazon Elastic File System (Amazon EFS) to store and share the documents.

Answer: D

Explanation:

https://aws.amazon.com/efs/enterprise-applications/

Question 94

A Solution Architect has a two-tier 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? (Choose two.)

A. Auto Scaling group

B. AWS CloudTrail

C. ELB Classic Load Balancer

D. Amazon DynamoDB

E. Amazon ElastiCache

Answer: AC

Question 95

A company is migrating its data center to AWS. As part of this migration, there is a three-tier web application that has strict data-at-rest encryption requirements. The customer deploys this application on Amazon EC2 using Amazon EBS, and now must provide encryption at-rest.

How can this requirement be met without changing the application?
A. Use AWS Key Management Service and move the encrypted data to Amazon S3.
B. Use an application-specific encryption API with AWS server-side encryption.
C. Use encrypted EBS storage volumes with AWS-managed keys.
D. Use third-party tools to encrypt the EBS data volumes with Key Management Service Bring Your
Own Keys.
Answer: C

Question 96
An AWS workload in a VPC is running a legacy database on an Amazon EC2 instance. Data is stored on a 200GB
Amazon EBS (gp2) volume. At peak load times, logs show excessive wait time.
What solution should be implemented to improve database performance using persistent storage?
A. Migrate the data on the Amazon EBS volume to an SSD-backed volume.
B. Change the EC2 instance type to one with EC2 instance store volumes.
C. Migrate the data on the EBS volume to provisioned IOPS SSD (io1).
D. Change the EC2 instance type to one with burstable performance.
Answer: C
Explanation:
https://docs.aws.amazon.com/aws-technical-content/latest/oracle-database-aws-best-practices/architecting-for-security-and-performance.html

Question 97
A company's website receives 50,000 requests each second, and the company wants to use multiple
applications to analyze the navigation patterns of the users on their website so that the experience can be
personalized.
What can a Solutions Architect use to collect page clicks for the website and process them sequentially for
each user?
A. Amazon Kinesis Stream
B. Amazon SQS standard queue
C. Amazon SQS FIFO queue
D. AWS CloudTrail trail
Answer: A
Explanation:
https://aws.amazon.com/blogs/aws/amazon-kinesis-real-time-processing-of-streamed-data/

Question 98
A company wants to migrate a highly transactional database to AWS. Requirements state that the database has
more than 6 TB of data and will grow exponentially. Which solution should a Solutions Architect recommend?
A. Amazon Aurora
B. Amazon Redshift
C. Amazon DynamoDB
D. Amazon RDS MySQL
Answer: A
Explanation:
https://aws.amazon.com/dms/

Question 99
A company hosts a two-tier application that consists of a publicly accessible web server that communicates with
a private database. Only HTTPS port 443 traffic to the web server must be allowed from the Internet. Which of
the following options will achieve these requirements? (Choose two.)

A. Security group rule that allows inbound Internet traffic for port 443.

B. Security group rule that denies all inbound Internet traffic except port 443.

C. Network ACL rule that allows port 443 inbound and all ports outbound for Internet traffic.

D. Security group rule that allows Internet traffic for port 443 in both inbound and outbound.

E. Network ACL rule that allows port 443 for both inbound and outbound for all Internet traffic.

Answer: AC

Question 100

A Solutions Architect is designing an Amazon VPC. Applications in the VPC must have private connectivity to Amazon DynamoDB in the same AWS Region.

The design should route DynamoDB traffic through:

A. VPC peering connection.

B. NAT gateway

C. VPC endpoint

D. AWS Direct Connect

Answer: C

Explanation:

https://aws.amazon.com/blogs/database/how-to-configure-a-private-network-environment-for -amazon-dynamodb-using-vpc-endpoints/

Question 101

A Solutions Architect is developing a solution for sharing files in an organization. The solution must allow multiple users to access the storage service at once from different virtual machines and scale automatically. It must also support file-level locking.

Which storage service meets the requirements of this use case?

A. Amazon S3

B. Amazon EFS

C. Amazon EBS

D. Cached Volumes

Answer: B

Question 102

A company runs a legacy application with a single-tier architecture on an Amazon EC2 instance. Disk I/O islow, 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?

A. Amazon EC2 instance storage

B. Amazon EBS General Purpose SSD (gp2) storage

C. Amazon S3

D. Amazon EBS Provision IOPS SSD (io1) storage

Answer: B

Question 103

As part of securing an API layer built on Amazon API gateway, a Solutions Architect has to authorize users who are currently authenticated by an existing identity provider. The users must be denied access for a period of one hour after three unsuccessful attempts.

How can the Solutions Architect meet these requirements?

A. Use AWS IAM authorization and add least-privileged permissions to each respective IAM role.

B. Use an API Gateway custom authorizer to invoke an AWS Lambda function to validate each user's identity.

C. Use Amazon Cognito user pools to provide built-in user management.

D. Use Amazon Cognito user pools to integrate with external identity providers.

Answer: D

Question 104

An organization runs an online media site, hosted on-premises. An employee posted a product review that contained videos and pictures. The review went viral and the organization needs to handle the resulting spike in website traffic.

What action would provide an immediate solution?

A. Redesign the website to use Amazon API Gateway, and use AWS Lambda to deliver content.

B. Add server instances using Amazon EC2 and use Amazon Route 53 with a failover routing policy.

C. Serve the images and videos via an Amazon CloudFront distribution created using the news site as the origin.

D. Use Amazon ElasticCache for Redis for caching and reducing the load requests from the origin.

Answer: C

Question 105

A client notices that their engineers often make mistakes when creating Amazon SQS queues for their backend system.

Which action should a Solutions Architect recommend to improve this process?

A. Use the AWS CLI to create queues using AWS IAM Access Keys.

B. Write a script to create the Amazon SQS queue using AWS Lambda.

C. Use AWS Elastic Beanstalk to automatically create the Amazon SQS queues.

D. Use AWS CloudFormation Templates to manage the Amazon SQS queue creation.

Answer: D

Explanation:

https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-create-queue.html#create-queue-cloudformation

Question 106

A development team is building an application with front-end and backend application tiers. Each tier consists of Amazon EC2 instances behind an ELB Classic Load Balancer. The instances run in Auto Scaling groups across multiple Availability Zones. The network team has allocated the 10.0.0.0/24 address space for this application. Only the front-end load balancer should be exposed to the Internet. There are concerns about the limited size of the address space and the ability of each tier to scale. What should the VPC subnet design be in each Availability Zone?

A. One public subnet for the load balancer tier, one public subnet for the front-end tier, and one private subnet for the backend tier.

B. One shared public subnet for all tiers of the application.

C. One public subnet for the load balancer tier and one shared private subnet for the application tiers.

D. One shared private subnet for all tiers of the application.

Answer: C

Question 107

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?

A. An Amazon EC2 instance store local SSD volume.

B. An Amazon EBS provisioned IOPS SSD volume.

C. An Amazon EBS throughput optimized HDD volume.

D. An Amazon EBS general purpose SSD volume.

Answer: C

Question 108

Two Auto Scaling applications, Application A and Application B, currently run within a shared set of subnets. A Solutions Architect wants to make sure that Application A can make requests to Application B, but Application B should be denied from making requests to Application A.

Which is the SIMPLEST solution to achieve this policy?

A. Using security groups that the security groups of the other application

B. Using security groups that the application server's IP addresses

C. Using Network Access Control Lists to allow/deny traffic based on application IP addresses

D. Migrating the applications to separate subnets from each other

Answer: A

Question 109

Legacy applications currently send messages through a single Amazon EC2 instance, which then 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? (Choose two.)

A. Amazon SNS

B. AWS STS

C. Amazon SQS

D. Amazon Route 53

E. AWS Glue

Answer: AC

Question 110

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?

A. Amazon EC2 Spot Instances

B. On-Demand Amazon EC2 Instances

C. Scheduled Reserved Instances

D. Dedicated Amazon EC2 Instances

Answer: C

Question 111

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?

A. Change the Amazon EC2 instance to compute optimized.

B. Launch a second Amazon EC2 instance to monitor the health of the first.

C. Trigger a Lambda function when a new object is uploaded.

D. Initially copy the images to an attached Amazon EBS volume.

Answer: C

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/compute-optimized-instances.html

Question 112

An application is running on an Amazon EC2 instance in a private subnet. The application needs to read and write data onto Amazon Kinesis Data Streams, and corporate policy requires that this traffic should not go to the internet.

How can these requirements be met?

A. Configure a NAT gateway in a public subnet and route all traffic to Amazon Kinesis through the
NAT gateway.

B. Configure a gateway VPC endpoint for Kinesis and route all traffic to Kinesis through the gateway VPC
endpoint.

C. Configure an interface VPC endpoint for Kinesis and route all traffic to Kinesis through the
gateway VPC endpoint.

D. Configure an AWS Direct Connect private virtual interface for Kinesis and route all traffic to
Kinesis through the virtual interface.

Answer: C

Question 113

A Solutions Architect is building an application that stores object data. Compliance requirements state that the data stored is immutable.

Which service meets these requirements?

A. Amazon S3

B. Amazon Glacier

C. Amazon EFS

D. AWS Storage Gateway

Answer: B

Explanation:Data stored in Amazon Glacier is immutable, meaning that after an archive is created it cannot be updated. This ensures that data such as compliance and regulatory records cannot be altered after they have been archived. https://aws.amazon.com/glacier/features/380

Question 114

A Solutions Architect is defining a shared Amazon S3 bucket where corporate applications will saveobjects. How can the Architect ensure that when an application uploads an object to the Amazon S3 bucket, the object is encrypted?

A. Set a CORS configuration.

B. Set a bucket policy to encrypt all Amazon S3 objects.

C. Enable default encryption on the bucket.

D. Set permission for users.

Answer: C

Explanation:

https://aws.amazon.com/blogs/security/how-to-prevent-uploads-of-unencrypted-objects-to-
amazon-s3/

Question 115

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?

A. AWS Application Load Balancer

B. Amazon CloudFront

C. Amazon Classic Load Balancer

D. Amazon Route 53

Answer: A

Explanation:

https://docs.aws.amazon.com/elasticloadbalancing/latest/application/tutorial-load-balancer-routing.html

Question 116

A data analytics startup company asks a Solutions Architect to recommend an AWS data store options for indexed data. The data processing engine will generate and input more than 64 TB of processed data every day, with item sizes reaching up to 300 KB. The startup is flexible with data storage and is more interested in a database that requires minimal effort to scale with a growing dataset size.

Which AWS data store service should the Architect recommend?

A. Amazon RDS

B. Amazon Redshift

C. Amazon DynamoDB

D. Amazon S3

Answer: C

Question 117

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

Limit access to users origination 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? (Choose two.)

A. Create a bastion host that authenticates users against the corporate directory.

B. Create a bastion host with security group rules that only allow traffic from the corporate network.

C. Attach an IAM role to the bastion host with relevant permissions.

D. Configure the web servers' security group to allow SSH traffic from a bastion host.

E. Deny all SSH traffic from the corporate network in the inbound network ACL.

Answer: BD

Question 118

A Solutions Architect needs to use AWS to implement pilot light disaster recovery for a three-tier web380 application hosted in an on-premises datacenter.

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

A. Continuously replicate the production database server to Amazon RDS. Use AWS CloudFormation to deploy the application and any additional servers if necessary.

B. 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.

C. 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.

D. 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.

Answer: A

Question 119

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?
A. Change the RDS instance type to get more RAM.
B. Change the storage type to Provisioned IOPS.
C. Scale the web server tier horizontally.
D. Split the DB layer into separate RDS instances.
Answer: B

Question 120
A Solutions Architect is designing a solution that can monitor memory and disk space utilization of all Amazon EC2 instances running Amazon Linux and Windows.
Which solution meets this requirement?
A. Default Amazon CloudWatch metrics.
B. Custom Amazon CloudWatch metrics.
C. Amazon Inspector resource monitoring.
D. Default monitoring of Amazon EC2 instances.
Answer: B
Explanation:
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/monitoring_ec2.html

Question 121
A Solutions 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?
A. Amazon Aurora
B. Amazon RDS
C. Amazon DynamoDB
D. Amazon ElastiCache
Answer: A
Explanation:
https://aws.amazon.com/blogs/database/introducing-the-aurora-storage-engine/

Question 122
A company needs to quickly ensure that all files created in an Amazon S3 bucket in us-east-1 are also available in another bucket in ap-southeast-2.
Which option represents the SIMPLIEST way to implement this design?
A. Add an S3 lifecycle rule to move any files from the bucket in us-east-1 to the bucket in ap-southeast-2.
B. Create a Lambda function to be triggered for every new file in us-east-1 that copies the file to the bucket in ap-southeast-2.
C. Use SNS to notify the bucket in ap-southeast-2 to create a file whenever the file is created in the bucket in us-east-1.
D. Enable versioning and configure cross-region replication from the bucket in us-east-1 to the bucket in ap-southeast-2.
Answer: D

Question 123
An organization has a long-running image processing application that runs on Spot Instances that will be terminated when interrupted. A highly available workload must be designed to respond to Spot Instance

interruption notices. The solution must include a two-minute warning when there is not enough capacity. How can these requirements be met?

A. Use Amazon CloudWatch Events to invoke an AWS Lambda function that can launch On-Demand Instances.

B. Regularly store data from the application on Amazon DynamoDB. Increase the maximum number of instances in the AWS Auto Scaling group.

C. Manually place a bid for additional Spot Instances at a higher price in the same AWS Region and Availability Zone.

D. Ensure that the Amazon Machine Image associated with the application has the latest configurations for the launch configuration.

Answer: A

Question 124

A company has an Amazon RDS-managed online transaction processing system that has very heavy read and write. The Solutions Architect notices throughput issues with the system. How can the responsiveness of the primary database be improved?

A. Use asynchronous replication for standby to maximize throughput during peak demand.

B. Offload SELECT queries that can tolerate stale data to READ replica.

C. Offload SELECT and UPDATE queries to READ replica.

D. Offload SELECT query that needs the most current data to READ replica.

Answer: B

Explanation:

https://aws.amazon.com/rds/faqs/

Question 125

A company is designing a failover strategy in Amazon Route 53 for its resources between two AWS Regions.

The company must have the ability to route a user's traffic to the region with least latency, and if both regions are healthy, Route 53 should route traffic to resources in both regions.

Which strategy should the Solutions Architect recommend?

A. Configure active-active failover using Route 53 latency DNS records.

B. Configure active-passive failover using Route 53 latency DNS records.

C. Configure active-active failover using Route 53 failover DNS records.

D. Configure active-passive failover using Route 53 failover DNS records.

Answer: A

Question 126

A company is developing several critical long-running applications hosted on Docker.How should a Solutions Architect design a solution to meet the scalability and orchestration requirements on AWS?

A. Use Amazon ECS and Service Auto Scaling.

B. Use Spot Instances for orchestration and for scaling containers on existing Amazon EC2 instances.

C. Use AWS OpsWorks to launch containers in new Amazon EC2 instances.

D. Use Auto Scaling groups to launch containers on existing Amazon EC2 instances.

Answer: A

Explanation:

https://aws.amazon.com/getting-started/tutorials/deploy-docker-containers/

Question 127

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. What solution is appropriate?

A. Amazon API Gateway and AWS Lambda

B. Elastic Load Balancing with Auto Scaling groups and Amazon EC2

C. Amazon API Gateway and Amazon EC2

D. Amazon CloudFront and AWS Lambda

Answer: A

Explanation:

https://aws.amazon.com/blogs/aws/new-aws-load-balancing-automatic-scaling-and-cloud-monitoring-services/

Question 128

An organization designs a mobile application for their customers to upload photos to a site. The application needs a secure login with MFA. The organization wants to limit the initial build time and maintenance of the solution.

Which solution should a Solutions Architect recommend to meet the requirements?

A. Use Amazon Cognito Identity with SMS-based MFA.

B. Edit AWS IAM policies to require MFA for all users.

C. Federate IAM against corporate AD that requires MFA.

D. Use Amazon API Gateway and require SSE for photos.

Answer: A

Question 129

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?

A. Amazon S3

B. Amazon DynamoDB

C. Amazon RDS

D. Amazon EBS

Answer: B

Question 130

A company hosts 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?

A. Amazon CloudFront with on-premises servers as the origin

B. ELB Application Load Balancer

C. Amazon Route 53 latency-based routing

D. Amazon EFS to store and server static files

Answer: A

Question 131

A company wants to analyze all of its sales information aggregated over the last 12 months. The company expects there to be over 10TB of data from multiple sources. What service should be used?

A. Amazon DynamoDB

B. Amazon Aurora MySQL

C. Amazon RDS MySQL

D. Amazon Redshift

Answer: D

Question 132

A media company has deployed a multi-tier architecture on AWS. Web servers are deployed in two Availability Zones using an Auto Scaling group with a default Auto Scaling termination policy. The web servers' Auto Scaling group currently has 15 instances running.

Which instance will be terminated first during a scale-in operation?

A. The instance with the oldest launch configuration.

B. The instance in the Availability Zone that has most instances.

C. The instance closest to the next billing hour.

D. The oldest instance in the group.

Answer: B

Question 133

A retail company has sensors placed in its physical retail stores. The sensors send messages over HTTP when customers interact with in-store product displays. A Solutions Architect needs to implement a system for processing those sensor messages; the results must be available for the Data Analysis team.

Which architecture should be used to meet these requirements?

A. Implement an Amazon API Gateway to server as the HTTP endpoint. Have the API Gateway trigger an AWS Lambda function to process the messages, and save the results to an Amazon DynamoDB table.

B. Create an Amazon EC2 instance to server as the HTTP endpoint and to process the messages. Save the results to Amazon S3 for the Data Analysis team to download.

C. Use Amazon Route 53 to direct incoming sensor messages to a Lambda function to process the message and save the results to a Amazon DynamoDB table.

D. Use AWS Direct Connect to connect sensors to DynamoDB so that data can be written directly to a DynamoDB table where it can be accessed by the Data Analysis team.

Answer: A

Question 134

A client is migrating a legacy web application to the AWS Cloud. The current system uses an Oracle database as a relational database management system solution. Backups occur every night, and the data is stored on-premises. The Solutions Architect must automate the backups and identity a storage solution while keeping costs low.

Which AWS service will meet these requirements?

A. Amazon RDS

B. Amazon RedShift

C. Amazon DynamoDB Accelerator

D. Amazon ElastiCache

Answer: A

Question 135

A company has an Amazon RDS database backing its production website. The Sales team needs to run queries against the database to track training program effectiveness. Queries against the production database cannot impact performance, and the solution must be easy to maintain. How can these requirements be met?

A. Use an Amazon Redshift database. Copy the product database into Redshift and allow the team to query it.

B. Use an Amazon RDS read replica of the production database and allow the team to query against it.

C. Use multiple Amazon EC2 instances running replicas of the production database, placed behind a load balancer.

D. Use an Amazon DynamoDB table to store a copy of the data.

Answer: B

Question 136

A company must collect temperature data from thousands of remote weather devices. The company must also store this data in a data warehouse to run aggregations and visualizations. Which services will meet these requirements? (Choose two.)

A. Amazon Kinesis Data Firehouse

B. Amazon SQS

C. Amazon Redshift

D. Amazon SNS

E. Amazon DynamoDB

Answer: AC

Question 137

A company has a legal requirement to store point-in-time copies of its Amazon RDS PostGreSQL database instance in facilities that are at least 200 miles apart.

Use of which of the following provides the easiest way to comply with this requirement?

A. Cross-region read replica

B. Multiple Availability Zone snapshot copy

C. Multiple Availability Zone read replica

D. Cross-region snapshot copy

Answer: D

Question 138

After reviewing their logs, a startup company noticed large, random spikes in traffic to their web application. The company wants to configure a cost-efficient Auto Scaling solution to support high availability of the web application.

Which scaling plan should a Solutions Architect recommend to meet the company's needs?

A. Dynamic

B. Scheduled

C. Manual

D. Lifecycle

Answer: A

Question 139

To meet compliance standards, a company must have encrypted archival data storage. Data will be accessed infrequently, with lead times well in advance of when archived data must be recovered. The company requires that the storage be secure, durable, and provided at the lowest price per 1TB of data stored.What type of storage should be used?

A. Amazon S3

B. Amazon EBS

C. Amazon Glacier

D. Amazon EFS

Answer: C

Question 140

An online company wants to conduct real-time sentiment analysis about its products from its social media channels using SQL.

Which of the following solutions has the LOWEST cost and operational burden?

A. Set up a streaming data ingestion application on Amazon EC2 and connect it to a Hadoop cluster for data processing. Send the output to Amazon S3 and use Amazon Athena to analyze the data.

B. Configure the input stream using Amazon Kinesis Data Streams. Use Amazon Kinesis Data Analytics to write SQL queries against the stream.

C. Configure the input stream using Amazon Kinesis Data Streams. Use Amazon Kinesis Data Firehose to send data to an Amazon Redshift cluster, and then query directly against Amazon Redshift

D. Set up streaming data ingestion application on Amazon EC2 and send the output to Amazon S3 using Kinesis Data Firehose. Use Athena to analyze the data.

Answer: B

Question 141

An organization must process a stream of large-volume hashtag data in real time and needs to run custom SQL queries on the data to get insights on certain tags. The organization needs this solution to be elastic and does not want to manage clusters.

Which of the following AWS services meets these requirements?

A. Amazon Elasticsearch Service

B. Amazon Athena

C. Amazon Redshift

D. Amazon Kinesis Data Analytics

Answer: D

Explanation:

https://aws.amazon.com/blogs/machine-learning/build-a-social-media-dashboard-using-machine learning-and-bi-services/

Question 142

Which requirements must be met in order for a Solutions Architect to specify that an Amazon EC2 instance should stop rather than terminate when its Spot Instance is interrupted? (Choose two.)

A. The Spot Instance request type must be one-time.

B. The Spot Instance request type must be persistent.

C. The root volume must be an Amazon EBS volume.

D. The root volume must be an instance store volume.

E. The launch configuration is changed.

Answer: BC

Explanation:

https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/spot-interruptions.html#interruption-behavior

Question 143

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?

A.   Encrypt the files on the client side and store the files on Amazon Glacier, then decrypt the reports on the client side.

B.   Move the files to Amazon ElastiCache and provide a username and password for downloading the reports.

C. Specify the use of AWS KMS server-side encryption at the time of an object creation on Amazon S3.

D. Store the files on Amazon S3 and use the application to generate S3 pre-signed URLs to users.

Answer: D

Question 144

A Solutions Architect is designing an application on AWS that will connect to the on-premise data center through a VPN connection. The solution must be able to log network traffic over the VPN. Which service logs this network traffic?

A. AWS CloudTrail logs

B. Amazon VPC flow logs

C. Amazon S3 bucket logs

D. Amazon CloudWatch Logs

Answer: B

Question 145

A company wants to durably store data in 8 KB chunks. The company will access the data once every few months. However, when the company does access the data, it must be done with as little latency as possible. Which AWS service should a Solutions Architect recommend if cost is NOT a factor?

A. Amazon DynamoDB

B. Amazon EBS Throughput Optimized HDD Volumes

C. Amazon EBS Cold HDD Volumes

D. Amazon ElastiCache

Answer: A

Question 146

A Solutions Architect is deploying a new production MySQL database on AWS. It is critical that the database is highly available.

What should the Architect do to achieve this goal with Amazon RDS?

A. Create a read replica of the primary database and deploy it in a different AWS Region.

B. Enable multi-AZ to create a standby database in a different Availability Zone.

C. Enable multi-AZ to create a standby database in a different AWS Region.

D. Create a read replica of the primary database and deploy it in a different Availability Zone.

Answer: B

Question 147

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 Solutions Architect take to maintain performance as the user count increases?

A. Use Amazon SQS.

B. Deploy Multi-AZ RDS MySQL

C. Configure Amazon RDS with additional read replicas.

D. Migrate from MySQL to RDS Microsoft SQL Server.

Answer: C

Question 148

A team has an application that detects new objects being uploaded into an Amazon S3 bucket. The uploadstrigger a Lambda function to write object metadata into an Amazon DynamoDB table and RDS PostgreSQL database.

Which action should the team take to ensure high availability?

A. Enable cross-region replication in the Amazon S3 bucket.

B. Create a Lambda function for each Availability Zone the application is deployed in.

C. Enable multi-AZ on the RDS PostgreSQL database.

D. Create a DynamoDB stream for the DynamoDB table.

Answer: C

Question 149

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?

A. Migrate the database to MySQL.

B. Use Amazon RedShift to analyze the queries.

C. Integrate Amazon ElastiCache into the application.

D. Use a Lambda-triggered request to the backend database.

Answer: C

Question 150

A Solutions Architect is designing a public-facing web application for employees to upload images to their social media account. The application consists of multiple Amazon EC2 instances behind an elastic load balancer, an Amazon S3 bucket where uploaded images are stored, and an Amazon DynamoDB table for storing image metadata.

Which AWS service can the Architect use to automate the process of updating metadata in the DynamoDB table upon image upload?

A. Amazon CloudWatch

B. AWS CloudFormation

C. AWS Lambda

D. Amazon SQS

Answer: C

Question 151

An Internet-facing multi-tier web application must be highly available. An ELB Classic Load Balancer is deployed in front of the web tier. Amazon EC2 instances at the web application tier are deployed evenly across two Availability Zones. The database is deployed using RDS Multi-AZ. A NAT instance is launched for Amazon EC2 instances and database resources to access the Internet. These instances are not assigned with public IP addresses.

Which component poses a potential single point of failure in this architecture?

A. Amazon EC2

B. NAT instance

C. ELB Classic Load Balancer

D. Amazon RDS

Answer: B

Question 152

A customer owns a simple API for their website that receives about 1,000 requests each day and has an average response time of 50 ms. It is currently hosted on one c4.large instance.

Which changes to the architecture will provide high availability at the LOWEST cost?

A. Create an Auto Scaling group with a minimum of one instance and a maximum of two instances, then use an Application Load Balancer to balance the traffic.

B. Recreate the API using Amazon API Gateway and use AWS Lambda as the service backend.

C. Create an Auto Scaling group with a maximum of two instances, then use an Application Load Balancer to balance the traffic.

D. Recreate the API using Amazon API Gateway and integrate the new API with the existingbackend service.

Answer: B

Question 153

A Solution Architect is designing an application that uses Amazon EBS volumes. The volumes must be backed up to a different region.

How should the Architect meet this requirement?

A. Create EBS snapshots directly from one region to another.

B. Move the data to an Amazon S3 bucket and enable cross-region replication.

C. Create EBS snapshots and then copy them to the desired region.

D. Use a script to copy data from the current Amazon EBS volume to the destination Amazon EBS volume.

Answer: C

Question 154

A company is using an Amazon S3 bucket located in us-west-2 to serve videos to their customers. Their customers are located all around the world and the videos are requested a lot during peak hours. Customers in Europe complain about experiencing slow downloaded speeds, and during peak hours, customers in all locations report experiencing HTTP 500 errors. What can a Solutions Architect do to address these issues?

A. Place an elastic load balancer in front of the Amazon S3 bucket to distribute the load during peak hours.

B. Cache the web content with Amazon CloudFront and use all Edge locations for content delivery.

C. Replicate the bucket in eu-west-1 and use an Amazon Route 53 failover routing policy to determine which bucket it should serve the request to.

D. Use an Amazon Route 53 weighted routing policy for the CloudFront domain name to distribute the GET request between CloudFront and the Amazon S3 bucket directly.

Answer: B

Question 155

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:

A. an external service to ping the VPN endpoint from outside the VPC.

B. AWS CloudTrail to monitor the endpoint.

C. the CloudWatch TunnelState Metric.

D. an AWS Lambda function that parses the VPN connection logs.

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/monitoring-cloudwatch-vpn.html

Question 156

A social networking portal experiences latency and throughput issues due to an increased number of users. Application servers use very large datasets from an Amazon RDS database, which creates a performance bottleneck on the database. Which AWS service should be used to improve performance?

A. Auto Scaling

B. Amazon SQS

C. Amazon ElastiCache

D. ELB Application Load Balancer

Answer: C

Question 157

A Solutions Architect is designing network architecture for an application that has compliance requirements. The application will be hosted on Amazon EC2 instances in a private subnet and

will be using Amazon S3 for storing data. The compliance requirements mandate that the data

cannot traverse the public Internet.

What is the MOST secure way to satisfy this requirement?

A. Use a NAT Instance.

B. Use a NAT Gateway.

C. Use a VPC endpoint.

D. Use a Virtual Private Gateway.

Answer: C

Explanation:

https://aws.amazon.com/blogs/aws/new-vpc-endpoint-for-amazon-s3/

Question 158

A Solutions Architect is designing a photo application on AWS. Every time a user uploads a photo to Amazon S3,

the Architect must insert a new item to a DynamoDB table.

Which AWS-managed service is the BEST fit to insert the item?

A. Lambda@Edge

B. AWS Lambda

C. Amazon API Gateway

D. Amazon EC2 instances

Answer: B

Explanation: https://aws.amazon.com/blogs/machine-learning/build-your-own-face-recognition-service-using-amazon-rekognition/

Question 159

An application relies on messages being sent and received in order. The volume will never

exceed more than 300 transactions each second.

Which service should be used?

A. Amazon SQS

B. Amazon SNS

C. Amazon ECS

D. AWS STS

Answer: A

Question 160

A Solutions Architect is designing an application on AWS that uses persistent block storage.

Data must be encrypted at rest.

Which solution meets the requirement?

A. Enable SSL on Amazon EC2 instances.

B. Encrypt Amazon EBS volumes on Amazon EC2 instances.

C. Enable server-side encryption on Amazon S3.

D. Encrypt Amazon EC2 Instance Storage.

Answer: B

Explanation:

https://aws.amazon.com/blogs/aws/protect-your-data-with-new-ebs-encryption/

Question 161

A company is launching a static website using the zone apex (mycompany.com). The company wants to use Amazon Route 53 for DNS.

Which steps should the company perform to implement a scalable and cost-effective solution? (Choose two.)

A. Host the website on an Amazon EC2 instance with ELB and Auto Scaling, and map a Route 53 alias record to the ELB endpoint.

B. Host the website using AWS Elastic Beanstalk, and map a Route 53 alias record to the Beanstalk stack.

C. Host the website on an Amazon EC2 instance, and map a Route 53 alias record to the public IP address of the Amazon EC2 instance.

D. Serve the website from an Amazon S3 bucket, and map a Route 53 alias record to the website endpoint.

E. Create a Route 53 hosted zone, and set the NS records of the domain to use Route 53 name servers.

Answer: DE

Question 162

A Solutions Architect is developing software on AWS that requires access to multiple AWS services, including an Amazon EC2 instance. This is a security sensitive application, and AWS credentials such as Access Key ID and Secret Access Key need to be protected and cannot be exposed anywhere in the system.What security measure would satisfy these requirements?

A. Store the AWS Access Key ID/Secret Access Key combination in software comments.

B. Assign an IAM user to the Amazon EC2 instance.

C. Assign an IAM role to the Amazon EC2 instance.

D. Enable multi-factor authentication for the AWS root account.

Answer: C

Explanation:

https://aws.amazon.com/premiumsupport/knowledge-center/potential-account-compromise/

Question 163

A Solutions Architect is architecting a workload that requires a performant object-based storage system that must be shared with multiple Amazon EC2 instances.

Which AWS service meets this requirement?

A. Amazon EFS

B. Amazon S3

C. Amazon EBS

D. Amazon ElastiCache

Answer: B

Explanation:

https://aws.amazon.com/efs/

Question 164

A media company has more than 100TB of data to be stored and retrieved infrequently. However, the company occasionally receives requests for data within an hour. The company needs a low- cost retrieval method to handle the requests.

Which service meets this requirement?

A. Amazon S3 Standard

B. Amazon Glacier standard retrievals

C. Amazon Glacier bulk retrievals

D. Amazon S3 Standard Infrequent Access

Answer: D

Explanation:

https://aws.amazon.com/blogs/aws/aws-storage-update-s3-glacier-price-reductions/

Question 165

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?

A. Amazon S3 Standard ?Infrequent Access (Standard ?IA)

B. EBS Throughput Optimized HDD (st1)

C. EBS Cold HDD (sc1)

D. Amazon Glacier

Answer: D

Explanation: https://aws.amazon.com/about-aws/whats-new/2016/11/access-your-amazon-glacier-data-in-minutes-with-new-retrieval-options/

Question 166

Which tool analyzes account resources and provides a detailed inventory of changes over time?

A. AWS Config

B. AWS CloudFormation

C. Amazon CloudWatch

D. AWS Service Catalog

Answer: A

Explanation:

https://docs.aws.amazon.com/config/latest/developerguide/WhatIsConfig.html

Question 167

A Solutions Architect is designing a solution that will include a database in Amazon

RDS. Corporate security policy mandates that the database, its logs, and its backups are all encrypted.

Which is the MOST efficient option to fulfill the security policy using Amazon RDS?

A. Launch an Amazon RDS instance with encryption enabled. Enable encryption for logs and backups.

B. Launch an Amazon RDS instance. Enable encryption for database, logs and backups.

C. Launch an Amazon RDS instance with encryption enabled. Logs and backups are automatically encrypted.

D. Launch an Amazon RDS instance. Enable encryption for backups. Encrypt logs with a database- engine feature.

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Overview.Encryption.html

Question 168

A Solutions Architect is designing a public-facing web application for employees to upload images to their social media account. The application consists of multiple Amazon EC2 instances behind an elastic load balancer, an Amazon S3 bucket where uploaded images are stored, and an Amazon DynamoDB table for storing image metadata.

Which AWS service can the Architect use to automate the process of updating metadata in the DynamoDB table upon image upload?

A. Amazon CloudWatch
B. AWS CloudFormation
C. AWS Lambda
D. Amazon SQS
Answer: C

Question 169
A company's policy requires that all data stored in Amazon S3 is encrypted. The company wants to use the option with the least overhead and does not want to manage any encryption keys.
Which of the following options will meet the company's requirements?
A. ASW CloudHSM
B. AWS Trusted Advisor
C. Server Side Encryption (SSE-S3)
D. Server Side Encryption (SSE-KMS)
Answer: C
Explanation: https://docs.aws.amazon.com/AmazonS3/latest/dev/bucket-encryption.html

Question 170
A company has gigabytes of web log files stored in an Amazon S3 bucket. A Solutions Architect wants to copy those files into Amazon Redshift for analysis. The company's security policy mandates that data is encrypted at rest both in the Amazon Redshift cluster and the Amazon S3 bucket.
Which process will fulfill the security requirements?
A. Enable server-side encryption on the Amazon S3 bucket. Launch an unencrypted Amazon Redshift cluster. Copy the data into the Amazon Redshift cluster.
B. Enable server-side encryption on the Amazon S3 bucket. Copy data from the Amazon S3 bucket into an unencrypted Redshift cluster. Enable encryption on the cluster.
C. Launch an encrypted Amazon Redshift cluster. Copy the data from the Amazon S3 bucket into the Amazon Redshift cluster. Copy data back to the Amazon S3 bucket in encrypted form.
D. Enable server-side encryption on the Amazon S3 bucket. Launch an encrypted Amazon Redshift cluster. Copy the data into the Amazon Redshift cluster.
Answer: D
Explanation: https://aws.amazon.com/blogs/big-data/encrypt-your-amazon-redshift-loads-with-amazon-s3-and-aws-kms/

Question 171
An application runs on Amazon EC2 instances in an Auto Scaling group. When instances are terminated, the Systems Operations team cannot determine the route cause, because the logs reside on the terminated instances and are lost.
How can the root cause be determined?
A. Use ephemeral volumes to store the log files.
B. Use a scheduled Amazon CloudWatch Event to take regular Amazon EBS snapshots.
C. Use an Amazon CloudWatch agent to push the logs to Amazon CloudWatch Logs.
D. Use AWS CloudTrail to pull the logs from the Amazon EC2 instances.
Answer: C

Question 172
A Solutions Architect is designing a customer order processing application that will likely have high usage spikes.
What should the Architect do to ensure that customer orders are not lost before being written to an Amazon RDS database? (Choose two.)
A. Use Amazon CloudFront to deliver the application front end.

B. Use Elastic Load Balancing with a round-robin routing algorithm.

C. Have the orders written into an Amazon SQS queue.

D. Scale the number of processing nodes based on pending order volume.

E. Have a standby Amazon RDS instance in a separate Availability Zone.

Answer: CD

Question 173

Employees from several companies use an application once a year during a specific 30-day period. The periods are different for each company. Traffic to the application spikes during these 30-day periods.

How can the application be designed to handle these traffic spikes?

A. Use an Amazon Route 53 latency routing policy to route traffic to an Amazon EC2 instance with the least lag time.

B. Use Amazon S3 to cache static elements of the website requests.

C. Use an Auto Scaling group to scale the number of EC2 instances to match the site traffic.

D. Use Amazon Cloud Front to serve static assets to decrease the load on the EC2 instances.

Answer: C

Question 174

A restaurant reservation application needs the ability to maintain a waiting list. When a customer tries to reserve a table, and none are available, the customer must be put on the waiting list, and the application must notify the customer when a table becomes free.

What service should the Solutions Architect recommend to ensure that the system respects the order in which the customer requests are put onto the waiting list?

A. Amazon SNS

B. AWS Lambda with sequential dispatch

C. A FIFO queue in Amazon SQS

D. A standard queue in Amazon SQS

Answer: C

Question 175

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 redirected 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?

A. Amazon CloudFront with geolocation routing

B. Amazon Route 53

C. Application Load Balancer

D. Network Load Balancer deployed across multiple regions

Answer: B

Explanation:https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html

Question 176

A company has a popular multi-player mobile game hosted in its on-premises datacenter. The current infrastructure can no longer keep up with demand and the company is considering a move to the cloud. Which solution should a Solutions Architect recommend as the MOST scalable and cost-effective solution to meet these needs?

A. Amazon EC2 and an Application Load Balancer

B. Amazon S3 and Amazon CloudFront

C. Amazon EC2 and Amazon Elastic Transcoder
D. AWS Lambda and Amazon API Gateway
Answer: A

Question 177
A company has instances in private subnets that require outbound access to the
internet.This requires:
A. Assigning a public IP address to the instance.
B. Updating the route table associated with the subnet to point internet traffic through a NAT
gateway.
C. Updating the security group associated with the subnet to allow ingress on 0.0.0.0/0.
D. Routing traffic from the instance through a VPC endpoint that has internet access.
Answer: B

Question 178
An organization regularly backs up their application data. The application backups are required to be
stored on Amazon S3 for a certain amount of time. The backups should be accessed instantly in the
event of a disaster recovery.
Which of the following Amazon S3 storage classes would be the MOST cost-effective option to meet the needs
of this scenario?
A. Glacier Storage Class
B. Standard Storage Class
C. Standard ?Infrequent Access (IA)
D. Reduced Redundancy Class (RRS)
Answer: C
Explanation:
https://aws.amazon.com/s3/features/

Question 179
An organization runs an online voting system for a television program. During broadcasts, hundreds of
thousands of votes are submitted within minutes and sent to a front-end fleet of auto- scaled Amazon EC2
instance, The EC2 instances push the votes to an RDBMS database. The database is unable to keep up with the
front-end connection requests.
What is the MOST efficient and cost-effective way of ensuring that votes are processed in a timely manner?
A. Each front-end node should send votes to an Amazon SQS queue. Provision worker instances to read
the SQS queue and process the message information into RDBMS database.
B. As the load on the database increases, horizontally-scale the RDBMS database with additional
memory-optimized instances. When voting has ended, scale down the additional instances.
C. Re-provision the RDBMS database with larger, memory-optimized instances. When voting ends, re-
provision the back-end database with smaller instances.
D. Send votes from each front-end node to Amazon DynamoDB. Provision worker instances to
process the votes in DynamoDB into the RDBMS database.
Answer: A

Question 180
An application publishes Amazon SNS messages in response to several events. An
AWS Lambda function subscribes to these messages. Occasionally the function will failwhile processing a
message, so the original event message must be preserved for root cause analysis.
What architecture will meet these requirements without changing the workflow?

A. Subscribe an Amazon SQS queue to the Amazon SNS topic and trigger the Lambda function from the queue.

B. Configure Lambda to write failures to an SQS Dead Letter Queue.

C. Configure a Dead Letter Queue for the Amazon SNS topic.

D. Configure the Amazon SNS topic to invoke the Lambda function synchronously.

Answer: B

Question 181

An application uses an Amazon RDS MySQL cluster for the database layer. Database growth requires periodic resizing of the instance. Currently, administrators check the available disk space manually once a week.

How can this process be improved?

A. Use the largest instance type for the database.

B. Use AWS CloudTrail to monitor storage capacity.

C. Use Amazon CloudWatch to monitor storage capacity.

D. Use Auto Scaling to increase storage size.

Answer: C

Question 182

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 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?

A. Amazon RDS

B. Amazon DynamoDB

C. Amazon Redshift

D. AWS Data Pipeline

Answer: B

Question 183

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

Which solution should the company use?

A. Amazon Redshift

B. Amazon Aurora

C. Amazon DynamoDB

D. Amazon S3

Answer: A

Explanation:

https://aws.amazon.com/blogs/aws/category/amazon-redshift/

Question 184

A prediction process requires access to a trained model that is stored in an Amazon S3 bucket.

The process takes a few seconds to process an image and make a prediction. The process takes a few seconds to process an image and make a prediction. The process is not overly resource- intensive, does not require any specialized hardware, and takes less than 512 MB of memory to run.

What would be the MOST effective compute solution for this use case?

A. Amazon ECS
B. Amazon EC2 Spot instances
C. AWS Lambda functions
D. AWS Elastic Beanstalk
Answer: C

Question 185
An application that runs on an Amazon EC2 instance must make secure calls to Amazon S3 buckets.
Which steps can a Solutions Architect take to ensure that the calls are made without exposing credentials?
A. Generate an access key ID and a secret key, and assign an IAM role with least privilege.
B. Create an IAM policy granting access to all services and assign it to the Amazon EC2 instance profile.
C. Create an IAM role granting least privilege and assign it to the Amazon EC2 instance profile.
D. Generate temporary access keys to grant users temporary access to the Amazon EC2 instance.
Answer: C

Question 186
A Solutions Architect needs to design a centralized logging solution for a group of web applications running on Amazon EC2 instances. The solution requires minimal development effort due to budget constraints.
Which of the following should the Architect recommend?
A. Create a crontab job script in each instance to push the logs regularly to Amazon S3.
B. Install and configure Amazon CloudWatch Logs agent in the Amazon EC2 instances.
C. Enable Amazon CloudWatch Events in the AWS Management Console.
D. Enable AWS CloudTrail to map all API calls invoked by the applications.
Answer: B

Question 187
A company is using Amazon S3 as its local repository for weekly analysis reports. One of the company-wide requirements is to secure data at rest using encryption. The company chose Amazon S3 server-side encryption. The company wants to know how the object is decrypted when a GET request is issued.
Which of the following answers this question?
A. The user needs to place a PUT request to decrypt the object.
B. The user needs to decrypt the object using a private key.
C. Amazon S3 manages encryption and decryption automatically.
D. Amazon S3 provides a server-side key for decrypting the object.
Answer: C

Question 188
A company is looking for a fully-managed solution to store its players' state information for a rapidly growing game. The application runs on multiple Amazon EC2 nodes, which can scale according to the incoming traffic. The request can be routed to any of the nodes, therefore, the state information must be stored in a centralized database. The players' state information needs to be read with strong consistency and needs conditional updates for any changes. Which service would be MOST cost-effective, and scale seamlessly?
A. Amazon S3
B. Amazon DynamoDB
C. Amazon RDS
D. Amazon Redshift
Answer: B

Question 189
An application is running on Amazon EC2 instances behind an Application Load Balancer. The instances run in an Auto Scaling group across multiple Availability Zones. Four instances are required to handle a predictable traffic load. The Solutions Architect wants to ensure that the operation is fault-tolerant up to the loss of one Availability Zone. Which is the MOST cost-efficient way to meet these requirements?
A. Deploy two instances in each of three Availability Zones.
B. Deploy two instances in each of two Availability Zones.
C. Deploy four instances in each of two Availability Zones.
D. Deploy one instance in each of three Availability Zones.
Answer: A

Question 190
A Solutions 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 servers 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?
A. Use a Load Balancer installed on an Amazon EC2 instance.
B. Configure the web servers' security group to deny traffic from the public Internet.
C. Create an Amazon CloudFront distribution in front of the ELB Classic Load Balancer.
D. Configure the web tier security group to allow only traffic from the ELB Classic Load Balancer.
Answer: D

Question 191
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 should the Architect recommend? (Choose two.)
A. Create a bastion host in a public subnet, and use the bastion host to connect to the database.
B. Log in to the web servers in the public subnet to connect to the database.
C. Perform DB maintenance after using SSH to connect to the NAT Gateway in a public subnet.
D. Create an IPSec VPN tunnel between the customer site and the VPC, and use the VPN tunnel to connect to the database.
E. Attach an Elastic IP address to the database.
Answer: AD

Question 192
A web application running on Amazon EC2 instances writes data synchronously to an Amazon DynamoDB table configured for 60 write capacity units. During normal operation the application writes 50 KB/s to the tale, but can scale up to 500 KB/ s during peak hours. The application is currently throttling errors from the DynamoDB table during peak hours.
What is the MOST cost-efficient change to support the increased traffic with minimal changes to the application?
A. Use Amazon SQS to manage the write operations to the DynamoDB table.
B. Change DynamoDB table configuration to 600 write capacity units.
C. Increase the number of Amazon EC2 instances to support the traffic.
D. Configure Amazon DynamoDB Auto Scaling to handle the extra demand.
Answer: D

Question 193
One company wants to share the contents of their Amazon S3 bucket with another company. Security requirements mandate that only the other company's AWS accounts have access to the contents of the Amazon S3 bucket.
Which Amazon S3 feature will allow secure access to the Amazon S3 bucket?
A. Bucket policy
B. Object tagging
C. CORS configuration
D. Lifecycle policy
Answer: A
Explanation:
https://aws.amazon.com/s3/features/#Access_management_and_security

Question 194

A Solutions Architect is designing a service that must have four Amazon EC2 instances running between 8 AM and 6 PM daily. The service requires one EC2 instance outside of those hours.
What is the MOST cost-effective way to provide enough compute?
A. Use one Amazon EC2 Reserved Instance and use an Auto Scaling group to add and removeEC2 instances based on CPU utilization.
B. Use one Amazon EC2 On-Demand instance and use an Auto Scaling group to add and remove EC2 instances based on CPU utilization.
C. Use one Amazon EC2 On-Demand instance and use an Auto Scaling Group scheduled action to add three EC2 Spot instances at 7:30 AM and remove three instances at 6:10 PM.
D. Use one Amazon EC2 Reserved Instance and use an Auto Scaling Group scheduled action to add three EC2 On-Demand instances at 7:30 AM and remove three instances at 6:10 PM.
Answer: D

Question 195
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?
A. Two public subnets for the elastic load balancer, two public subnets for the web servers, and two public subnets for Amazon RDS.
B. One public subnet for the elastic load balancer, two private subnets for the web servers, and two private subnets for Amazon RDS.
C. One public subnet for the elastic load balancer, one public subnet for the web servers, and one private subnet for the database.
D. Two public subnets for the elastic load balancer, two private subnets for the web servers, and two private subnets for RDS.
Answer: B

Question 196
A workload in an Amazon VPC consists of a single web server launched from a custom AMI. Session state is stored in a database.
How should the Solutions Architect modify this workload to be both highly available and scalable?
A. Create a launch configuration with a desired capacity of two web servers across multiple Availability Zones. Create an Auto Scaling group with the AMI ID of the web server image. Use Amazon Route 53 latency-based routing to balance traffic across the Auto Scaling group.

B. Create a launch configuration with the AMI ID of the web server image. Create an Auto Scaling group using the newly-created launch configuration, and a desired capacity of two web servers across multiple regions. Use an Application Load Balancer (ALB) to balance traffic across the Auto Scaling group.

C. Create a launch configuration with the AMI ID of the web server image. Create an Auto Scaling group using the newly-created launch configuration, and a desired capacity of two web servers across multiple Availability Zones. Use an ALB to balance traffic across the Auto Scaling group.

D. Create a launch configuration with the AMI ID of the web server image. Create an Auto Scaling group using the newly-created launch configuration, and a desired capacity of two web servers across multiple Availability Zones. Use Amazon Route 53 weighted routing to balance traffic across the Auto Scaling group.

Answer: C

Question 197

A Solutions Architect is developing a new web application on AWS. The services must scale to support an increasing load. The Architect wants to focus on software development and deploying new features rather than provisioning or managing servers. Which AWS service is appropriate?

A. Auto Scaling

B. Elastic Beanstalk

C. EC2 Container Service

D. CloudFormation

Answer: B

Explanation:

https://aws.amazon.com/elasticbeanstalk/

Question 198A company wants to migrate a three-tier web application to AWS. The company wants to control the placement of the instances and have visibility into underlying sockets and cores for licensing purposes.

Which compute model should a Solutions Architect choose to accomplish this task?

A. EC2 Reserved Instances

B. EC2 Spot Instances

C. EC2 Dedicated Hosts

D. EC2 Placement Groups

Answer: C

Explanation:

https://aws.amazon.com/ec2/faqs/

Question 199

An application runs on multiple Amazon EC2 instances. Each running instance of the application must have access to a shared file system.

Where should the data be stored?

A. Amazon S3

B. Amazon DynamoDB

C. Amazon EFS

D. Amazon EBS

Answer: C

Explanation:

https://aws.amazon.com/ec2/features/

Question 200

A Solutions Architect is designing a microservice to process records from Amazon Kinesis Streams. The metadata must be stored in Amazon DynamoDB. The microservice must be capable of concurrently processing 10,000 records daily as they arrive in the Kinesis stream. The MOST scalable way to design the microservice is:

A. As an AWS Lambda function.
B. As a process on an Amazon EC2 instance.
C. As a Docker container running on Amazon ECS.
D. As a Docker container on an EC2 instance.

Answer: C

Question 201

A university is running an internal web application on AWS that students can access from the university network to check their exam results. The web application runs on Amazon EC2 instances and pulls results from an Amazon DynamoDB table. Auto Scaling is currently configured to add a new web server when CPU is greater than 80% for 5 minutes. DynamoDB is configured to increase both read and write capacity units by five when utilization is greater than 80%. Exam results are released at 9:00 a.m. each Monday, and 80% of students, attempt to access their unique result within the first 30 minutes. Despite Auto Scaling being enabled,
students are complaining of slow response times and errors when they view the site.
There are no performance complaints after 9:30 a.m. on Monday.
Which recommendation should a Solutions Architect make to improve performance in a cost- effective manner?

A. Scale out the EC2 instances to ensure that the environment scales up and down based on the highest load.
B. Implement Amazon DynamoDB Accelerator to improve database performance and remove the need to scale the read/write units.
C. Use a scheduled job to scale out EC2 before 9:00 a.m. on Monday and to scale down after 9:30a.m.
D. Use Amazon CloudFront to cache web request and reduce the load on EC2 and DynamoDB.

Answer: C

Question 202

As part of a migration strategy, a Solutions Architect needs to analyze workloads thatcan be optimized for performance and cost. The Solutions Architect has identified a
stateless application that serves static content as a potential candidate to move to the cloud. The Solutions Architect has the flexibility to choose an identity solution between Facebook, Twitter, and Amazon.
Which AWS solution offers flexibility and ease of use, and the LEAST operational overhead for this migration?

A. Use AWS Identity and Access Management (IAM) for managing identities, and migrate the application to run on Amazon S3, Amazon API Gateway, and AWS Lambda.
B. Use a third-party solution for managing identities, and migrate the application to run on Amazon S3, EC2 Spot Instances, and Amazon EC2.
C. Use Amazon Cognito for managing identities, and migrate the application to run on Amazon S3, Amazon API Gateway, and AWS Lambda.
D. Use Amazon Cognito for managing identities, and migrate the application to run on Amazon S3, EC2 Spot Instances, and Amazon EC2.

Answer: C

Question 203

A company needs to capture all client connection information from its Application Load Balancer

every five minutes. This data will be used to analyze traffic patterns and troubleshoot the application.

How can a Solutions Architect meet this requirement?

A. Enable AWS CloudTrail for the Application Load Balancer.

B. Enable Access Logs on the Application Load Balancer.

C. Install CloudWatch Agent on the Application Load Balancer.

D. Enable CloudWatch metrics on the Application Load Balancer.

Answer: B

Question 204

An application runs on EC2 instances behind an Elastic Load Balancing Application Load Balancer. The instances run in an EC2 Auto Scaling group across multiple Availability Zones. The application provides a RESTful interface with both synchronous and asynchronous operations.

The asynchronous operations require up to 5 minutes to complete. Although the application must remain available at all times, after business hours, the traffic going to the application is greatly reduced and often results in the Auto Scaling group running the minimum number of On-Demand Instances.

What should the Solutions Architect recommend to optimize the cost of the environment after business hours?

A. Change the Availability Zones in which the instances were created to another Availability Zone in the same region with a lower cost.

B. Replace all On-Demand Instances with Spot Instances in the Auto Scaling group.

C. Purchase Reserved Instances for the minimum number of Auto Scaling instances.

D. Reduce the number of minimum instances to 0. New requests to the Application Load Balancer create new instances.

Answer: C

Question 205

A Solutions Architect is designing a web application for document sharing. The users will upload documents that are then made available to other users. There will be tens of thousands of these

documents.

What is the MOST cost-effective storage solution?

A. Amazon EFS

B. Amazon S3

D. Amazon Glacier

E. Amazon EBS

Answer: B

Explanation:

https://dzone.com/articles/confused-by-aws-storage-options-s3-ebs-amp-efs-explainedQuestion 206

A Solutions Architect was tasked with reviewing several templates that build VPCs and ensuring

that they meet specific security requirements. After reviewing the templates, the Architect realizes that all of

the templates are missing important security best practices.

What should the Architect do to implement security best practices in an efficient manner?

A. Use VPC peering to enforce network consistency

B. Restrict users from deploying an AWS CloudFormation template

C. Provide the teams a nested AWS CloudFormation template that builds the VPC correctly

D. Create AWS Identity and Access Management (IAM) policies that enforce the corporate VPC

architecture standards

Answer: C

Question 207

A Solutions Architect has been given the following requirements for a company's VPC:

The solution is a two-tiered application with a web tier and a database tier.

All web traffic to the environment must be directed from the Internet to an Application Load Balancer.

The web servers and the databases should not obtain public IP addresses or be directly accessible from the public Internet.

Because of security requirements, databases may not share a route table or subnet with any other service.

The environment must be highly available within the same VPC for all services.

What is the minimum number of subnets that the Solutions Architect will need based on these requirements and best practices?

A. 2
B. 3
C. 4
D. 6

Answer: C

Question 208

An application currently stores objects in Amazon S3-Standard. The application accesses new objects frequently for one week. After one week, they are accessed occasionally for analysis batch jobs. A Solutions Architect has been asked to reduce storage costs for the application while allowing immediate access for batch jobs.

How can costs be reduced without reducing data durability?

A. Create a lifecycle policy that moves Amazon S3 data to Amazon S3 One Zone-Infrequent Access storage after 7 days. After 30 days, move the data to Amazon Glacier.

B. Keep the data on Amazon S3, and create a lifecycle policy to move S3 data to Amazon Glacier after 7 days.

C. Move all Amazon S3 data to S3 Standard-Infrequent Access storage, and create a lifecycle policy to move the data to Amazon Glacier after 7 days.

D. Keep the data on Amazon S3, then create a lifecycle policy to move the data to S3 Standard Infrequent Access storage after 7 days.

Answer: D

Explanation:

https://aws.amazon.com/blogs/aws/new-automatic-cost-optimization-for-amazon-s3-via intelligent-tiering/

Question 209

A company is building a critical ingestion service on AWS that will receive 1,000 incoming events per second. The events must be processed in order, and no events may be lost. Multiple applications will need to process each event. The company will expose the service as RESTful calls through an API Gateway.

What should a Solutions Architect use to receive the events based on these requirements?

A. Amazon Kinesis Data Stream
B. Amazon DynamoDB
C. Amazon SQS
D. Amazon SNS

Answer: C

Question 210

An AWS Lambda function requires access to an Amazon RDS for SQL Server instance. It is against company policy to store passwords in Lambda functions.

How can a Solutions Architect enable the Lambda function to retrieve the database password without violating company policy?

A. Add an IAM policy for IAM database access to the Lambda execution role.

B. Store a one-way hash of the password in the Lambda function.

C. Have the Lambda function use the AWS Systems Manager Parameter Store.

D. Connect to the Amazon RDS for SQL Server instance by using a role assigned to the Lambda function.

Answer: C

Question 211

A company has two different types of reporting needs on their 200-GB data warehouse: Data scientists run a small number of concurrent ad hoc SQL queries that can take several minutes each to run.

Display screens throughout the company run many fast SQL queries to populate dashboards. Which design would meet these requirements with the LEAST cost?

A. Replicate relevant data between Amazon Redshift and Amazon DynamoDB. Data scientists use Redshift. Dashboards use DynamoDB.

B. Configure auto-replication between Amazon Redshift and Amazon RDS. Data scientists use Redshift.Dashboards use RDS.

C. Use Amazon Redshift for both requirements, with separate query queues configured in workload management.

D. Use Amazon Redshift for Data Scientists. Run automated dashboard queries against Redshift and store the results in Amazon ElastiCache. Dashboards query ElastiCache.

Answer: D

Question 212

A company has an application that uses Amazon CloudFront for content that is hosted on an Amazon S3 bucket. After an unexpected refresh, the users are still seeing old content. Which step should the Solutions Architect take to ensure that new content is displayed?

A. Perform a cache refresh on the CloudFront distribution that is serving the content.

B. Perform an invalidation on the CloudFront distribution that is serving the content.

C. Create a new cache behavior path with the updated content.

D. Change the TTL value for removing the old objects.

Answer: B

Question 213

A company expects its user base to increase five times over one year. Its application is hosted in one region and uses an Amazon RDS MySQL database, an ELB Application Load Balancer, and Amazon ECS to host the website and its microservices.

Which design changes should a Solutions Architect recommend to support the expected growth? (Choose two.)

A. Move static files from ECS to Amazon S3

B. Use an Amazon Route 53 geolocation routing policy

C. Scale the environment based on real-time AWS CloudTrail logs

D. Create a dedicated Elastic Load Balancer for each microservice

E. Create RDS read replicas and change the application to use these replicas

Answer: AE

Question 214

A company is rolling out a new web service, but is unsure how many customers the service will attract. However, the company is unwilling to accept any downtime.

What could a Solutions Architect recommend to the company in order to keep track ofcustomers' current session data?

A. Amazon EC2
B. Amazon RDS
C. AWS CloudTrail
D. Amazon DynamoDB

Answer: D

Question 215
A web application is running on Amazon EC2 instances behind an Elastic Load Balancing Application Load Balancer (ALB). The EC2 instances should receive no traffic, except for web requests to the application.

Based on these requirements, what security group rules should be put on the Amazon EC2 instances?

A.   An inbound rule allowing traffic from the security group attached to the
      ALB
B.   An inbound rule allowing traffic from the network ACLs attached to the ALB
C.   An outbound rule allowing traffic to the security group attached to the ALB
D.   An outbound rule blocking all traffic to the Internet

Answer: A

Question 216
A Solutions Architect must migrate a monolithic on-premises application to AWS. It is a web application with a load balancer, web server, application server, and relational database. The key requirement driving the migration is that the application should perform better and be more elastic.

Which of the following architectures would meet these requirements?

A. Re-host the application on Amazon EC2 with lift and shift of existing application code. Configure an Elastic Load Balancing load balancer to handle incoming requests. Use Amazon CloudWatch alarms to receive notification of scaling issues. Increase and decrease the size of the Amazon EC2 instances using AWS CLI or AWS Management Console as required.

B. Re-architect the application as a three-tier application. Move the database to Amazon RDS. Use read replicas and Amazon ElastiCache with RDS for better performance. Use an Application Load Balancer to forward incoming requests to web and application servers running on-premises.

C. Re-platform the application as a three-tier application. Use Elastic Load Balancing for incoming requests. Use EC2 for web and application tiers. Use RDS at the database tier. Use CloudWatch alarms and Auto Scaling for horizontal scaling at the web tier.

D. Re-architect the application as Service Oriented Architecture (SOA). Run database and application servers on-premises. Run web-facing EC2 servers. Use an Enterprise Service Bus to handle communications between different parts of the application running on-premises and in the cloud.

Answer: C

Question 217
A company has asked the Solutions Architect to modify its AWS-hosted internal application to allow for load balancing. The customer requests always come from the company domain (example.net). The company requires that incoming HTTP and HTTPS traffic is routed based on the path element of the URL in the request.

Which implementation can satisfy all requirements?

A. Configure a Network Load Balancer with listeners for appropriate path patterns for the target groups.

B. Configure an Application Load Balancer with host-based routing based on the domain field in the HTTP header.

C. Configure a Network Load Balancer and enable cross-zone load balancing to ensure that all EC2 instances are used.

D. Configure an Application Load Balancer with listeners for appropriate path patterns for the target group.

Answer: D

Question 218

A Solutions Architect is asked to improve the fault tolerance of an existing Python application. The web application places 1-MB images is an S3 bucket. The application then uses a single t2.large instance to transform the image to include a watermark with the company's brand before writing the image back to the S3 bucket.

What should the Solutions Architect recommend to increase the fault tolerance of the solution?

A. Convert the code to a Lambda function triggered by scheduled Amazon CloudWatch Events.

B. Increase the instance size to m4.xlarge and configure Enhanced Networking.

C. Convert the code to a Lambda function triggered by Amazon S3 events.

D. Create an Amazon SQS queue to send the images to the t2.large instance.

Answer: C

Question 219

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?

A. Configure CloudFront to use signed-URLs to access Amazon S3.

B. Store the videos as private objects in Amazon S3, and let CloudFront serve the objects by using only Origin Access Identity (OAI).

C. Use Amazon S3 static website as the origin of CloudFront, and configure CloudFront to deliver the videos by generating a signed URL for users.

D. 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: D

Explanation: https://docs.aws.amazon.com/AmazonCloudFront/latest/DeveloperGuide/private-content-restricting-access-to-s3.html

Question 220

A Solutions Architect needs to deploy a node.js-based web application that is highly available and scales automatically. The Marketing team needs to roll back on application releases quickly, and they need to have an operational dashboard. The Marketing team does not want to manage deployment of OS patches to the Linux servers.

Use of which AWS service will satisfy these requirements?

A. Amazon EC2

B. Amazon API Gateway

C. AWS Elastic Beanstalk

D. Amazon EC2 Container Service

Answer: C

Explanation:

https://aws.amazon.com/getting-started/projects/deploy-nodejs-web-app/

Question 221

A company has a website running on Amazon EC2. The application DNS name points to an Elastic IP address associated with the EC2 instance. In the event of an attack on the website coming from a specific IP address, the company wants a way to block the offending IP address.

Which tool or service should a Solutions Architect recommend to block the IP address?

A. Security groups

B. Network ACL

C. AWS WAF

D. AWS Shield

Answer: B

Question 222

A customer is looking for a storage archival solution for 1,000 TB of data. The customer requires that the solution be durable and data be available within a few hours of requesting it, but not exceeding a day. The solution should be as cost-effective as possible. To meet security compliance policies, data must be encrypted at rest. The customer expects they will need to fetch the data two times in a year.

Which storage solution should a Solutions Architect recommend to meet these requirements?

A. Copy data to Amazon S3 buckets by using server-side encryption. Move data to Amazon S3 to reduce redundancy storage (RRS).

B. Copy data to encrypted Amazon EBS volumes, then store data into Amazon S3.

C. Copy each object into a separate Amazon Glacier vault, and let Amazon Glacier take care of encryption.

D. Copy data to Amazon S3 with server-side encryption. Configure lifecycle management policies to move data to Amazon Glacier after 0 days.

Answer: D

Question 223

A web application runs on 10 EC2 instances launched from a single customer Amazon Machine Image (AMI). The EC2 instances are behind an Internet Application Load Balancer. Amazon Route 53 provides DNS for the application.

How should a Solutions Architect automate recovery when a web server instance stops replying to request?

A. Launch the instances in an Auto Scaling group with an Elastic Load Balancing health check.

B. Launch instances in multiple Availability Zones and set the load balancer to Multi-AZ.

C. Add CloudWatch alarm actions for each instance to restart if the Status Check (Any) fails.

D. Add Route 53 records for each instance with an instance health check.

Answer: A

Question 224

A company has a Node.js application running on Amazon EC2 that currently retrieves data for customers from a DynamoDB table. The company is seeing many repeat queries for the same items, and the number of queries is continuing to increase as the application gains popularity.

What solution will reduce the number of read capacity units (RCUs) required while minimizing the amount of refactoring that must be done to the application?

A. Use Amazon ElastiCache to provide a caching layer

B. Use a Lambda function to make concurrent requests for caching

C. Use Amazon DynamoDB Accelerator (DAX) to provide a caching layer

D. Obtain Reserved Capacity for Amazon DynamoDB to manage the increased number of queries

Answer: C

Question 225

A company has an application that accesses a MySQL database installed on a single EC2 instance. The instance recently experienced a fault and brought down the entire application for several hours. The company wants to address the issue but is concerned about spending too much time modifying application code or managing the legacy application.

What should the Solutions Architect recommend to remove this single point of failure with the FEWEST changes to the application code and the LEAST amount of administrative effort?

A. Implement a caching layer by using Amazon ElastiCache to store query results of frequently accessed information.

B. Deploy a second EC2 instance with MySQL installed, and configure replication between this instance and the existing MySQL instance.

C. Migrate the database to an RDS MySQL Multi-AZ DB instance, and point the application servers to the new RDS instance.

D. Create a DynamoDB table to use as a cache layer, and update the application to query data from Amazon DynamoDB before querying MySQL.

Answer: C

Explanation:

http://dinus.ac.id/private_lib/fahri/LEARNING_AWS.pdf

Question 226

A team is launching a marketing campaign and the peak database read activity in Amazon

Aurora for MySQL is expected to increase. A Solutions Architect decides to add two Read Replicas to the cluster.

How should the Solutions Architect ensure that the connections for read activities are loadbalanced?

A. Reader endpoint for Amazon Aurora

B. Cluster endpoint for Amazon Aurora

C. Primary DB instance endpoint for Amazon Aurora

D. Replica DB instances endpoint for Aurora

Answer: A

Question 227

A company plans to migrate a website to AWS to use a serverless architecture. The website contains both static and dynamic content and is accessed by users across the world. The website should maintain sessions for returning users to improve the user experience.

Which service should a Solutions Architect use for a cost-efficient solution with the LOWEST latency?

A. Amazon S3, AWS Lambda, Amazon API Gateway, and Amazon DynamoDB

B. Amazon CloudFront, AWS Lambda, API Gateway, and Amazon RDS

C. Amazon CloudFront, Elastic Load Balancing, Amazon EC2, and Amazon RDS

D. Amazon S3, Amazon CloudFront, AWS Lambda, Amazon API Gateway, and Amazon DynamoDB.

Answer: D

Question 228

A Solutions Architect is helping a customer migrate an application to AWS. The application is composed of a fleet of Linux servers that currently use a shared file system to read and write data. One of the goals of moving this application to AWS is to increase the reliability of the storage tier.

What solution would increase reliability while minimizing the operational overhead of managing this infrastructure?

A. Create an EBS volume and mount it to all the servers.

B. Create an EFS file system and mount it to all the servers.

C. Create an S3 bucket that can be accessed through an S3 VPC Endpoint.

D. Create two EC2 instances in separate Availability Zones that act as file servers.
Answer: B

Question 229
A Solution Architect is designing a two-tier application for maximum security, with a web tier running on EC2 instances and the data stored in an RDS DB instance. The web tier should accept user access only through HTTPS connections (port 443) from the Internet, and the data must be encrypted in transit to and from the database.
What combination of steps will MOST securely meet the stated requirements? (Choose two.)
A. Create a security group for the web tier instances that allows inbound traffic only over port 443.
B. Enforce Transparent Data Encryption (TDE) on the RDS database.
C. Create a network ACL that allows inbound traffic only over port 443.
D. Configure the web servers to communicate with RDS by using SSL, and issue certificates to the web tier EC2 instances.
E. Create a customer master key in AWS KMS and apply it to encrypt the RDS instance.
Answer: AD

Question 230
A credit card processing application, hosted on an on-premises server, needs to communicate
directly with a database hosted on an Amazon EC2 instance running in a private subnet of a VPC.
Compliance requirements state that end-to-end communication should be encrypted. Which
solution will ensure that this requirement is met?
A. Use HTTPS for traffic over VPC peering between the VPC and the on-premises datacenter.
B. Use HTTPS for traffic over the Internet between the on-premises server and the Amazon EC2 instance.
C. Use HTTPS for traffic over a VPN connection between the VPC and the on-premises datacenter.
D. Use HTTPS for traffic over gateway VPC endpoints that have been configured for the Amazon EC2 instance.
Answer: C

Question 231
A company has asked a Solutions Architect to ensure that data is protected during data transfer to and from Amazon S3.
Use of which service will protect the data in transit?
A. AWS KMS
B. HTTPS
C. SFTP
D. FTPS
Answer: B
Explanation: https://aws.amazon.com/premiumsupport/knowledge-center/secure-s3-resources/

Question 232
A Solutions Architect is trying to bring a data warehouse workload to an Amazon EC2 instance.
The data will reside in Amazon EBS volumes and full table scans will be executed frequently. What type of Amazon EBS volume would be most suitable in this scenario?
A. Throughput Optimized HDD (st1)
B. Provisioned IOPS SSD (io1)
C. General Purpose SSD (gp2)
D. Cold HDD (sc1)
Answer: A
Explanation:

https://aws.amazon.com/ebs/features/

Question 233

A Solutions Architect has a three-tier web application that serves customers worldwide. Analysis reveals that product images take more time to load than expected.

Which action will improve the image load time?

A. Store product images on Amazon EBS-optimized storage volumes

B. Store product images in an Amazon S3 bucket

C. Use an Amazon CloudFront distribution for product images

D. Use an Auto Scaling group to add instances for product images

Answer: C

Explanation:

https://aws.amazon.com/getting-started/tutorials/deliver-content-faster/

Question 234

A gaming application is heavily dependent on caching and uses Amazon ElastiCache for Redis.

The application performance was recently degraded due to failure of the cache node. What should a Solutions Architect recommend to minimize performance degradation in the future?

A. Migrate from ElastiCache to Amazon RDS

B. Configure automatic backup to save cache data

C. Configure ElastiCache Multi-AZ with automatic failover

D. Use Auto Scaling to provision cache nodes based on CPU usage

Answer: C

Explanation:

https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/WhatIs.html

Question 235

A client has set up an Auto Scaling group associated with a load balancer. The client has noticed that instances launched by the Auto Scaling group are reported unhealthy as the result of an Elastic Load Balancing (ELB) health check, but these unhealthy instances are not being terminated.

What can a Solutions Architect do to ensure that the instances marked unhealthy will be terminated and replaced?

A. Increase the value for the health check interval set on the ELB load balancer.

B. Change the thresholds set on the Auto Scaling group health check.

C. Change the health check type to ELB for the Auto Scaling group.

D. Change the health check set on the ELB load balancer to use TCP rather than HTTP checks.

Answer: C

Explanation:

http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/as-add-elb-healthcheck.html

Question 236

A Solutions Architect must review an application deployed on EC2 instances that currently stores multiple 5-GB files on attached instance store volumes. The company recently experienced a significant data loss after stopping and starting their instances and wants to prevent the data loss from happening again. The solution should minimize performance impact and the number of code changes required.

What should the Solutions Architect recommend?

A. Store the application data in Amazon S3

B. Store the application data in an EBS volume

C. Store the application data in Amazon ElastiCache

D. Store the application data in Amazon DynamoDB

Answer: B

Explanation:

http://jayendrapatil.com/tag/i2/

Question 237

An organization is deploying Amazon ElastiCache for Redis and requires password protection
to improve their data security posture.

Which solution should a Solutions Architect recommend?

A. Redis Auth

B. AWS Single Sign-On

C. IAM database authentication

D. VPC security group for Redis

Answer: A

Explanation:

https://docs.aws.amazon.com/AmazonElastiCache/latest/red-ug/auth.html

Question 238

A Solutions Architect is designing a solution to send Amazon CloudWatch Alarm notifications to
a group of users on a smartphone mobile application.

What are the key steps to this solution? (Choose two.)

A. Configure the CloudWatch Alarm to send the notification to an Amazon SNS topic whenever there is
an alarm.

B. Configure the CloudWatch Alarm to send the notification to a mobile phone number whenever
there is an alarm.

C. Configure the CloudWatch Alarm to send the notification to the email addresses whenever there is
an alarm.

D. Create the platform endpoints for mobile devices and subscribe the SNS topic with platform
endpoints.

E. Subscribe the SNS topic with an Amazon SQL queue, and poll the messages continuously from
the queue. Use each mobile platform's libraries to send the message to the mobile application.

Answer: AD

Explanation:

https://aws.amazon.com/sns/faqs/

Question 239

A company uses Amazon S3 for storing a variety of files. A Solutions Architect needs to design a feature
that will allow users to instantly restore any deleted files within 30 days of deletion. Which is the MOST
cost-efficient solution?

A. Create lifecycle policies that move the objects to Amazon Glacier and delete them after 30 days.

B. Enable cross-region replication. Empty the replica bucket every 30 days using an AWS Lambda
function.

C. Enable versioning and create a lifecycle policy to remove expired versions after 30 days.

D. Enable versioning and MFA Delete. Using a Lambda function, remove MFA delete from objects more
than 30 days old

Answer: C

Question 240
An application running on Amazon EC2 has been experiencing performance issues when accessing an Amazon RDS for Oracle database. The database has been provisioned correctly for average workloads, but there are several usage spikes each day that have saturated the database, causing the application to time out. The application is write-heavy, updating information more often than reading information. A Solutions Architect has been asked to review the application design.
What should the Solutions Architect recommend to improve performance?
A. Put an Amazon ElastiCache cluster in front of the database and use lazy loading to limit database access during peak periods.
B. Put an Amazon Elasticsearch domain in front of the database and use a Write-Through cache to reduce database access during peak periods.
C. Configure an Amazon RDS Auto Scaling group to automatically scale the RDS instance during load spikes.
D. Change the Amazon RDS instance storage type from General Purpose SSD to provisioned IOPS SSD.
Answer: D

Question 241
During performance testing of an application, the Amazon RDS database caused a performance bottleneck.
What steps can be taken to improve the database performance? (Choose two.)
A. Change the RDS database instance to multiple Availability Zones.
B. Scale up to a larger RDS instance type.
C. Redirect read queries to RDS read replicas.
D. Scale out using an Auto Scaling group for RDS.
E. Use RDS in a separate AWS Region.
Answer: BC

Question 242
A Solutions Architect must design an Amazon DynamoDB table to store data about customer activities. The data is used to analyze recent customer behavior, so data that is less than a week old is heavily accessed and older data is accessed infrequently. Data that is more than one month old never needs to be referenced by the application, but needs to be archived for year-end analytics.
What is the MOST cost-efficient way to meet these requirements? (Choose two.)
A. Use DynamoDB time-to-live settings to expire items after a certain time period.
B. Provision a higher write capacity unit to minimize the number of partitions.
C. Create separate tables for each week's data with higher throughput for the current week.
D. Pre-process data to consolidate multiple records to minimize write operations.
E. Export the old table data from DynamoDB to Amazon S3 using AWS Data Pipeline, and delete the old table.
Answer: CE

Question 243
A Solutions Architect is concerned that the current security group rules for a database tier are too

permissive and may permit requests that should be restricted. Below are the current security group

permissions for the database tier:
Protocoleifjccilfhkueujindgukfdnr: TCP
Port Range: 1433 (MS SQL) Source: ALL Currently, the only identified resource that needs to connect to the databases is the application
tier consisting of an Auto Scaling group of EC2 instances.
What changes can be made to this security group that would offer the users LEAST privilege?

A. Change the source to -1 to remove source IP addresses previously unseen.

B. Change the source to the VPC CIDR block.

C. Change the source to the application instances IDs.

D. Change the source to the security group ID attached to the application instances.

Answer: D

Question 244

A large media site has multiple applications in Amazon ECS. A Solutions Architect needs to use content metadata and route traffic to specific services.

What is the MOST efficient method to perform this task?

A. Use an AWS Classic Load Balancer with a host-based routing option to route traffic to the correct service.

B. Use the AWS CLI to update Amazon Route 53 hosted zone to route traffic as services get updated.

C. Use an AWS Application Load Balancer with host-based routing option to route traffic to the correct service.

D. Use Amazon CloudFront to manage and route traffic to the correct service.

Answer: C

Question 245

A Solutions Architect must build a secure document storage platform that allows clients to access data stored on Amazon S3. Documents must be readily available for the first 15 days.

After that, documents need not be readily available, and storage costs should be reduced as much as possible.

Which of the following approaches will satisfy these requirements?

A. Create a lifecycle rule to transition the documents from the STANDARD storage class to the STANDARD_IA storage class after 15 days, and then to the GLACIER storage class after an additional 15 days.

B. Create a lifecycle rule to transition the documents from the STANDARD storage class to the GLACIER storage class after 30 days.

C. Create a lifecycle rule to transition documents from the STANDARD storage class to the STANDARD_IA storage class after 30 days and then to the GLACIER storage class after an additional 30 days.

D. Create a lifecycle rule to transition the documents from the STANDARD storage class to the GLACIER storage class after 15 days.

Answer: D

Question 246

A Solutions Architect needs to configure scaling policies based on Amazon CloudWatch metrics for an Auto Scaling group. The application running on the instances is memory intensive. How can the Architect meet this requirement?

A. Enable detailed monitoring on the Amazon EC2 instances.

B. Publish custom metrics to CloudWatch from the application.

C. Configuration lifecycle policies for the Amazon EC2 instances.

D. Set up high-resolution alarms for the Auto Scaling group

Answer: B

Explanation:

https://medium.com/qbits/autoscaling-using-custom-metrics-5f977903bc45

Question 247

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?

A. Set up an S3 bucket based in Paris, and enable cross-region replication from the Oregon bucket to the Paris bucket.

B. Create an Application Load Balancer that load balances data retrieval between the Oregon S3 bucket and a new Paris S3 bucket.

C. 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.

D. 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

Question 248

A company uses AWS Elastic Beanstalk to deploy a web application running on c4.large instances. Users are reporting high latency and failed requests. Further investigation reveals that the EC2 instances are running at or near 100% CPU utilization.

What should a Solutions Architect do to address the performance issues?

A. Use time-based scaling to scale the number of instances based on periods of high load.

B. Modify the scaling triggers in Elastic Beanstalk to use the CPUUtilization metric.

C. Swap the c4.large instances with the m4.large instance type.

D. Create an additional Auto Scaling group, and configure Amazon EBS to use both Auto Scaling groups to increase the scaling capacity.

Answer: B

Question 249

A Solutions Architect is working on a PCI-compliant architecture that needs to call an external service provider's API. The external provider requires IP whitelisting to verify the calling party.

How should the Solutions Architect provide the external party with the IP addresses for whitelisting?

A. Use an API Gateway in proxy mode, and provide the API Gateway's IP address to the external service provider.

B. Associate a public elastic network interface to a published stage/endpoint in API Gateway, exposing the AWS Lambda function, and provide the IP address for the public network interface to the external party to whitelist.

C. Deploy the Lambda function in private subnets and route outbound traffic through a NAT gateway.

Provide the NAT gateway's Elastic IP address to the external service provider.

D. Provide the external party the allocated AWS IP address range for Lambda functions, and send change notifications by using a subscription to the AmazonIpSpaceChanged SNS topic.

Answer: C

Question 250

A Solutions Architect is designing a shared file system for a company. Multiple users will be accessing it at any given time. Different teams will have their own directories, and the company wants to secure files so that users can access only files owned by their team. How should the Solutions Architect design this?

A. Use Amazon EFS and control permissions by using file-level permissions.

B. Use Amazon S3 and control permissions by using ACLs.

C. Use Amazon EFS and control permissions by using security groups.

D. Use AWS Storage Gateway and control permissions by using AWS Identity and Access Management (IAM)

Answer: A

Explanation:

https://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_access-keys.html

Question 251

A company requires operating system permission on a relational database server.

What should a Solutions Architect suggest as a configuration for a highly available database architecture?

A. Multiple EC2 instances in a database replication configuration that uses two Availability Zones.

B. A standalone Amazon EC2 instance with a selected database installed.

C. Amazon RDS in a Multi-AZ configuration with Provisioned IOPS.

D. Multiple EC2 instances in a replication configuration that uses two placement groups.

Answer: A

Question 252

An application has a web tier that runs on EC2 instances in a public subnet. The application tier instances run in private subnets across two Availability Zones. All traffic is IPv4 only, and each subnet has its own custom route table.

A new feature requires that application tier instances can call an external service over the Internet; however, they must still not be accessible to Internet traffic.

What should be done to allow the application servers to connect to the Internet, maintainhigh availability, and minimize administrative overhead?

A. Add an Amazon egress-only internet gateway to each private subnet. Alter each private subnet's route table to include a route from 0.0.0.0/0 to the egress-only internal gateway in the same Availability Zone.

B. Add an Amazon NAT Gateway to each public subnet. Alter each private subnet's route table to include a route from 0.0.0.0/0 to the NAT Gateway in the same Availability Zone.

C. Add an Amazon NAT instance to one of the public subnets Alter each private subnet's route table to include a route from 0.0.0.0/0 to the Internet gateway in the VPC.

D. Add an Amazon NAT Gateway to each private subnet. Alter each private subnet's route table to include a route from 0.0.0.0/0 to the NAT Gateway in the other Availability Zone.

Answer: B

Question 253

An application uses an Amazon SQS queue as a transport mechanism to deliver data to a group of EC2 instances for processing. The application owner wants to add a mechanism to archive the incoming data without modifying application code on the EC2 instances.

How can this application be re-architected to archive the data without modifying the processing instances?

A. Trigger a Lambda function by using Amazon CloudWatch Events to retrieve messages from the SQS queue and archive to Amazon S3.

B. Use an Amazon SNS topic to fan out the data to the SQS queue in addition to a Lambda function that records the data to an S3 bucket.

C. Set up an Amazon Kinesis Data Stream so that multiple instances can receive data. Add a separate EC2 instance that is configured to archive all data it receives.

D. Write the data to an S3 bucket, and use an SQS queue for S3 event notifications to tell the instances where to retrieve the data.

Answer: B

Question 254

A Solutions Architect must select the most cost-efficient architecture for a service that responds to web requests. These web requests are small and query a DynamoDB table. The request rate ranges from zero to several hundred each second, without any predictable patterns. What is the MOST cost-efficient architecture for this service?

A. Network Load Balancer/Amazon EC2

B. Application Load Balancer/Amazon ECS

C. API Gateway/AWS Lambda

D. AWS Elastic Beanstalk/AWS Lambda

Answer: C

Question 255

A company has a web application running in a Docker container that connects to a MySQL server in an on-premises data center. The deployment and maintenance of this application are becoming time-consuming and slowing down new feature releases. The company wants to migrate the application to AWS and use services that helps facilitate infrastructure management and deployment.

Which architectures should the company consider on AWS? (Choose two.)

A. Amazon ECS for the web application, and an Amazon RDS for MySQL for the database.

B. AWS Elastic Beanstalk Docker Multi-container either for the web application or database.

C. AWS Elastic Beanstalk Docker Single Container for the web application, and an Amazon RDS for MySQL for the database.

D. AWS CloudFormation with Lambda Custom Resources without VPC for the web application, and an Amazon RDS for MySQL database.

E. AWS CloudFormation with Lambda Custom Resources running in a VPC for the web application, and an Amazon RDS for MySQL database.

Answer: CE

Question 256

A Solutions Architect has designed a VPC that meets all necessary security requirements for their organization. Any applications deployed in the organization must use this VPC design.

How can project teams deploy, manage, and delete VPCs that meet this design with the LEASTadministrative effort?

A. Deploy an AWS CloudFormation template that defines components of the VPC.

B. Run a script that uses the AWS Command Line Interface to deploy the VPC.

C. Clone the existing authorized VPC for each new project.

D. Use AWS Elastic Beanstalk to deploy both the VPC and the application.

Answer: A

Question 257

What conditions could cause a Multi-AZ Amazon RDS failover to occur? (Choose two.)

A. The RDS instance is stopped manually

B. A replica of the RDS instance is created in a differentregion

C. An Availability Zone becomes unavailable

D. Another master user is created

E. A failure of the primary database instance

Answer: CE

Explanation:

https://aws.amazon.com/rds/faqs/

Question 259

A company is launching an application that it expects to be very popular. The company needs a database that can scale with the rest of the application. The schema will change frequently. The application cannot afford any downtime for database changes.

Which AWS service allows the company to achieve these objectives?

A. Amazon Redshift

B. Amazon DynamoDB

C. Amazon RDS MySQL

D. Amazon Aurora

Answer: B

Question 260

You receive a Spot Instance at a bid of $0.05/hr. After 30 minutes, the Spot Price increases to $0.06/hr and your Spot Instance is terminated by AWS.

What was the total EC2 compute cost of running your Spot Instance?

A. $0.00

B. $0.02

C. $0.03

D. $0.05

E. $0.06

Answer: A

Question 261

You have been tasked with creating a VPC network topology for your company. The VPC network must support both Internet-facing applications and internally-facing applications accessed only over VPN.

Both Internet-facing and internally-facing applications must be able to leverage at least three AZs for high availability. At a minimum, how many subnets must you create within your VPC to accommodate these requirements?

A. 2

B. 3

C. 4

D. 6

Answer: D

Question 262

What combination of the following options will protect S3 objects from both accidental deletion and accidental overwriting? Choose 2 answers

A. Enable S3 versioning on the bucket.

B. Access S3 data using only signed URLs.

C. Disable S3 delete using an IAM bucket policy.

D. Enable S3 Reduced Redundancy Storage.

E. Enable multi-factor authentication (MFA) protected access.

Answer: AE

Question 263

In reviewing the Auto Scaling events for your application you notice that your application is scaling up and down multiple times in the same hour.

What design choice could you make to optimize for cost while preserving elasticity? Choose 2 answers

A. Modify the Auto Scaling policy to use scheduled scaling actions

B. Modify the Auto Scaling group termination policy to terminate the oldest instance first.

C. Modify the Auto Scaling group cool-down timers.

D. Modify the Amazon CloudWatch alarm period that triggers your Auto Scaling scale down policy.

E. Modify the Auto Scaling group termination policy to terminate the newest instance first.

Answer: CD

Question 264

A VPC public subnet is one that:

A. Has at least one route in its associated routing table that uses an Internet Gateway (IGW).

B. Includes a route in its associated routing table via a Network Address Translation (NAT) instance.

C. Has a Network Access Control List (NACL) permitting outbound traffic to 0.0.0.0/0.

D. Has the Public Subnet option selected in its configuration.

Answer: A

Explanation:

http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Subnets.html

If a subnet's traffic is routed to an Internet gateway, the subnet is known as a public subnet.

Question 264

A startup company hired you to help them build a mobile application, that will ultimately store billions of images and videos in S3. The company is lean on funding, and wants to minimize operational costs, however, they have an aggressive marketing plan, and expect to double their current installation base every six months. Due to the nature of their business, they are expecting sudden and large increases in traffic to and from S3, and need to ensure that it can handle the performance needs of their application.

What other information must you gather from this customer in order to determine whether S3 is the right option?

A. You must know how many customers the company has today, because this is critical inunderstanding what their customer base will be in two years.

B. You must find out the total number of requests per second at peak usage.

C. You must know the size of the individual objects being written to S3, in order to properly design the key namespace.

D. In order to build the key namespace correctly, you must understand the total amount of storage needs for each S3 bucket.

Answer: B

Question 265

In Amazon EC2 Container Service, are other container types supported?

A. Yes, EC2 Container Service supports any container service you need.

B. Yes, EC2 Container Service also supports Microsoft container service.

C. No, Docker is the only container platform supported by EC2 Container Service presently.

D. Yes, EC2 Container Service supports Microsoft container service and Openstack.

Answer: B

Explanation:

EC2 Container Service,Docker is the only container platform supported by EC2 Container Service presently

Question 266

How can software determine the public and private IP addresses of the EC2 instance that it is running on?

A. Query the local instance metadata.

B. Query the local instance userdata.

C. Query the appropriate Amazon CloudWatch metric.

D. Use an ipconfig or ifconfig command.

Answer: A

Question 267

What action is required to establish a VPC VPN connection between an on-premises data center and an Amazon VPC virtual private gateway?

A. Modify the main route table to allow traffic to a network address translation instance.

B. Use a dedicated network address translation instance in the public subnet.

C. Assign a static Internet-routable IP address to an Amazon VPC customer gateway.

D. Establish a dedicated networking connection using AWS Direct Connect.

Answer: C

Question 268

You have an application running in us-west-2 that requires six EC2 instances running at all times. With three AZs available in that region (us-west-2a, us-west-2b, and us-west-2c), which of the following deployments provides 100 percent fault tolerance if any single AZ in us-west-2 becomes unavailable? Choose 2 answers

A. Us-west-2a with two EC2 instances, us-west-2b with two EC2 instances, and us-west-2c with two EC2 instances

B. Us-west-2a with three EC2 instances, us-west-2b with three EC2 instances, and us-west- 2c with no EC2 instances

C. Us-west-2a with four EC2 instances, us-west-2b with two EC2 instances, and us-west-2c with two EC2 instances

D. Us-west-2a with six EC2 instances, us-west-2b with six EC2 instances, and us-west-2c with no EC2 instances

E. Us-west-2a with three EC2 instances, us-west-2b with three EC2 instances, and us-west- 2c with three EC2 instances

Answer: DE

Question 269

After creating a new AWS account, you use the API to request 40 on-demand EC2 instances in a single AZ. After 20 successful requests, subsequent requests failed. What could be a reason for this issue, and how would you resolve it?

A. You encountered a soft limit of 20 instances per region. Submit the limit increase form and retry the failed requests once approved.

B. AWS allows you to provision no more than 20 instances per Availability Zone. Select a different Availability Zone and retry the failed request.

C. You need to use Amazon Virtual Private Cloud (VPC) in order to provision more than 20 instances in a single Availability Zone. Simply terminate the resources already provisioned and re-launch them all in a VPC.

D. You encountered an API throttling situation and should try the failed requests using an exponential decay retry algorithm.

Answer: A

Question 270

Which of the following is a durable key-value store?

A. Amazon Simple Storage Service

B. Amazon Simple Workflow Service

C. Amazon Simple Queue Service

D. Amazon Simple Notification Service

Answer: A

Question 271

Is an edge location in AWS the same as a region?

A. True

B. False

Answer: B

Question 272

When it comes to API credentials, what is the best practise recommended by AWS?

A. Create a role which has the necessary and can be assumed by the EC2 instance.

B. Use the API credentials from an EC2 instance.

C. Use the API credentials from a bastion host.

D. Use the API credentials from a NAT Instance.

Answer: A

Question 273

A custorner has a requirement to extend their on-premises data center to AWS. The custorner requires a 50-Mbps dedicated and private connection to their VPC. Which AWS product or feature satisfies this requirernent?

A. Arnazon VPC

B. Elastic IP Addresses

C. AWS Direct Connect

D. Amazon VPC virtual private gateway

Answer: C

Question 274

What is the minimum size of an EBS volume as per AWS?

A. 2TB

B. 1GiB

C. 1GB

D. 1Byte

Answer: B

Question 275

If a provisioned IOPS volume of 4iGB is created, what are the possible correct values for IOPS for the volume in order for it to be created?

A. 200

B. 300

C. 400

D. 500

Answer: A

Question 276

How can an EBS volume which is currently attached to an EC2 instance in one Availability Zone to another?

A. Detach the volume and attach to an EC2 instance in another AZ.

B. Create a new volume in the other AZ and speciW the current volume as the source.

C. Create a snapshot of the volume and then create a volume from the snapshot in the other AZ

D. Create a new volume in the AZ and do a disk copy of contents from one volume to another.

Answer: C

Question 277

A company is hosting EC2 instances which focuses on work-loads are on non-production and non-priority batch loads. Also these processes can be interrupted at any time.

A. Reserved Instances

B. On-Demand Instances

C. Spot Instances

D. Regular Instances

Answer: C

Question 278

Which of the following databases is not supported on Amazon RDS?

A. MSSOL

B. MySOL

C. Aurora

D. DB2

Answer: D

Question 279

Amazon rds provides a facility to modify the back-up retention policy for automated backups, with a value of 0 indicating for no backup retention.

What is the maximum retention period allowed in days?

A. 45

B. 35

C. 15

D. 10

Answer: B

Question 280

A Solutions Architect has five web servers serving requests for a domain.

Which of the following Amazon Route 53 routing policies can distribute traffic randomly among all healthy web servers?

A. Simple

B. Failover

C. Weighted

D. Multivalue Answer

Answer: D

Explanation: https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html

Question 281

A web server will be provisioned on two Amazon EC2 instances with an Application Load Balancer.

Which of the following configurations will allow traffic on HTTP and HTTPS when configuring a security group to apply to each of these servers?

A. Allow all inbound traffic, with explicit denies on non-HTTP and non-HTTPS ports.

B. Allow incoming traffic to HTTP and HTTPS ports.

C. Allow incoming traffic to HTTP and HTTPS ports, with explicit denies to all other ports.

D. Deny all traffic to non-HTTP and non-HTTPS ports

Answer: B

Question 282

A company wants to run a static website served through Amazon CloudFront.

What is an advantage of storing the website content in an S3 bucket instead of an EBS volume?

A. S3 buckets are replicated globally, allowing for large scalability. EBS volumes are replicated only within a region.

B. S3 is an origin for CloudFront. EBS volumes would need EC2 instances behind an Elastic Load Balancing load balancer to be an origin.

C. S3 buckets can be encrypted, allowing for secure storage of the web files. EBS volumes cannot be encrypted.

D. S3 buckets support object-level read throttling, preventing abuse. EBS volumes do not provide object-level throttling.

Answer: B

Question 283

A company is moving to AWS. Management has identified a set of approved AWS servicesthat meet all deployment requirements. The company would like to restrict access to all other unapproved services to which employees would have access.

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

A. Configure the AWS Trusted Advisor service utilization compliance report. Subscribe to Amazon SNS notifications from Trusted Advisor. Create a custom AWS Lambda function that can automatically remediate the use of unauthorized services.

B. Use AWS Config to evaluate the configuration settings of AWS resources. Subscribe to Amazon SNS notifications from AWS Config. Create a custom AWS Lambda function that can automatically remediate the use of unauthorized services.

C. Configure AWS Organizations. Create an organizational unit (OU) and place all AWS accounts into the OU. Apply a service control policy (SCP) to the OU that denies the use of certain services.

D. Create a custom AWS IAM policy. Deploy the policy to each account using AWS CloudFormation StackSets. Include deny statements in the policy to restrict the use of certain services. Attach the policies to all IAM users in each account.

Answer: C

Question 284

A customer is running a critical payroll system in a production environment in one data center and a disaster recovery (DR) environment in another. The application includes load-balanced web servers and failover for the MySQL database. The customer's DR process is manual and errorphone. For this reason, management has asked IT to migrate the application to AWS and make it highly available so that IT no longer has to manually fail over the environment. How should a Solutions Architect migrate the system to AWS?

A. Migrate the production and DR environments to different Availability Zones within the same region. Let AWS manage failover between the environments.

B. Migrate the production and DR environments to different regions. Let AWS manage failover between the environments.

C. Migrate the production environment to a single Availability Zone, and set up instance recovery for Amazon EC2. Decommission the DR environment because it is no longer needed.

D. Migrate the production environment to span multiple Availability Zones, using Elastic Load Balancing and Multi-AZ Amazon RDS. Decommission the DR environment because it is no longer needed.

Answer: B

Question 285

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?

A. Create another AWS account root user with permissions to the DynamoDB table.

B. Create an IAM role and assign the role to the EC2 instance with permissions to the DynamoDB table.

C. Create an identity provider and assign the identity provider to the EC2 instance with permissions to the DynamoDB table.

D. Create identity federation with permissions to the DynamoDB table.

Answer: B

Question 286

A company is creating a web application that allows customers to view photos in their web browsers. The website is hosted in us-east-1 on Amazon EC2 instances behind an ApplicationLoad Balancer. Users will be located in many places around the world.

Which solution should provide all users with the fastest photo viewing experience?

A. Implement an AWS Auto Scaling group for the web server instances behind the Application Load Balancer.

B. Enable Amazon CloudFront for the website and specify the Application Load Balancer as the origin.

C. Move the photos into an Amazon S3 bucket and enable static website hosting.

D. Enable Amazon ElastiCache in the web server subnet.

Answer: B

Explanation:

http://jayendrapatil.com/tag/elb/

Question 287

A Solutions Architect is designing a highly available web application on AWS. The data served on the website is dynamic and is pulled from Amazon DynamoDB. All users are geographically close to one another.

How can the Solutions Architect make the application highly available?

A. Host the website data on Amazon S3 and set permissions to enable public read-only

Access for users.

B. Host the web server data on Amazon CloudFront and update the objects in the Cloudfront distribution when they change.

C. Host the application on EC2 instances across multiple Availability Zones. Use an Auto Scaling group coupled with an Application Load Balancer.

D. Host the application on EC2 instances in a single Availability Zone. Replicate the EC2 instances to a separate region, and use an Application Load Balancer for high availability.

Answer: C

Question 288

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 Read Replica, allowing the primary database to continue performing efficiently.

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

A. Amazon RDS for Oracle

B. Amazon RDS for PostgreSQL

C. Amazon RDS for MariaDB

D. Amazon DynamoDB

E. Amazon RDS for Microsoft SQL Server

Answer: BC

Explanation:

Question 289

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?

A. Use an internet gateway.

B. Use AWS PrivateLink.

C. Use a NAT gateway.

D. Use a proxy instance.

Answer: B

Question 290

A data-processing application runs on an i3.large EC2 instance with a single 100 GB EBS gp2 volume. The application stores temporary data in a small database (less than 30 GB) located on the EBS root volume. The application is struggling to process the data fast enough, and a Solutions Architect has determined that the I/O speed of the temporary database is the bottleneck.

What is the MOST cost-efficient way to improve the database response times?

A. Enable EBS optimization on the instance and keep the temporary files on the existing volume.

B. Put the temporary database on a new 50-GB EBS gp2 volume.

C. Move the temporary database onto instance storage.

D. Put the temporary database on a new 50-GB EBS io1 volume with a 3-K IOPS provision.

Answer: C

Question 291

An application stores data in an Amazon RDS PostgreSQL Multi-AZ database instance. The ratio of read requests to write requests is about 2 to 1. Recent increases in traffic are causing very high latency.

How can this problem be corrected?

A. Create a similar RDS PostgreSQL instance and direct all traffic to it.

B. Use the secondary instance of the Multiple Availability Zone for read traffic only.

C. Create a read replica and send half of all traffic to it.

D. Create a read replica and send all read traffic to it.

Answer: D

Explanation:

https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html

Question 292

A Solutions Architect is designing a system that will store Personally Identifiable Information (PII) in an Amazon S3 bucket. Due to compliance and regulatory requirements, both the master keys and unencrypted data should never be sent to AWS.

What Amazon S3 encryption technique should the Architect choose?

A. Amazon S3 client-side encryption with an AWS KMS-managed customer master key (CMK)

B. Amazon S3 server-side encryption with an AWS KMS-managed key

C. Amazon S3 client-side encryption with a client-side master key

D. Amazon S3 server-side encryption with a customer-provided key

Answer: C

Explanation:

http://jayendrapatil.com/aws-s3-data-protection/

https://aws.amazon.com/cn/blogs/china/new-amazon-s3-encryption-security-features/

Question 293

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?

A. Create a NAT gateway for Amazon S3 access

B. Create a VPC endpoint for Amazon S3 access

C. Create a VPC endpoint for Amazon EC2 access

D. Create a NAT gateway for Amazon EC2 access

Answer: B

Question 294

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?

A. Amazon EFS

B. Amazon S3

C. Amazon ElastiCache

D. Amazon EBS

Answer: A

Explanation:

https://aws.amazon.com/efs/

Question 295

A Solutions Architect is building a WordPress-based web application hosted on AWS using Amazon EC2. This application serves as a blog for an international internet security company.

The application must be geographically redundant and scalable. It must separate the public Amazon EC2 web servers from the private Amazon RDS database, it must be highly available, and it must support dynamic port routing. Which combination of AWS services or capabilities will meet these requirements?

A. AWS Auto Scaling with a Classic Load Balancer, and AWS CloudTrail

B. Amazon Route 53, Auto Scaling with an Application Load Balancer, and Amazon CloudFront

C. A VPC, a NAT gateway and Auto Scaling with a Network Load Balancer

D. CloudFront, Route 53, and Auto Scaling with a Classic Load Balancer

Answer: B

Question 296

An e-commerce application places orders in an Amazon SQS queue. When a message is received, Amazon EC2 worker instances process the request. The EC2 instances are in an Auto Scaling group.

How should the architecture be designed to scale up and down with the LEAST amount of operational overhead?

A. Use an Amazon CloudWatch alarm on the EC2 CPU to scale the Auto Scaling group up and down.

B. Use an EC2 Auto Scaling health check for messages processed on the EC2 instances to scale up and down.

C. Use an Amazon CloudWatch alarm based on the number of visible messages to scale the Auto Scaling group up or down.

D. Use an Amazon CloudWatch alarm based on the CPU to scale the Auto Scaling group up or down.

Answer: C

Question 297

A customer is migrating to AWS and requires applications to access Network File System shares without code changes. Data is critical and accessed frequently.

Which storage solution should a Solutions Architect recommend to maximize availability and durability?

A. Amazon EBS

B. Amazon S3

C. AWS Storage Gateway for files

D. Amazon EFS

Answer: D

Explanation:

https://aws.amazon.com/storagegateway/faqs/

Question 298

A company has many applications on Amazon EC2 instances running in Auto Scaling groups.

Company policies require that data on the attached Amazon EBS volume must be retained.

Which actions will meet this requirement without impacting performance?

A. Enable Termination Protection on the Amazon EC2 instances.

B. Disable DeleteOnTermination for the Amazon EBS volumes.

C. Use Amazon EC2 user data to set up a synchronization job for root volume data.

D. Change the auto scaling Health Check to point to a source on the root volume.

Answer: B

Explanation:

https://aws.amazon.com/ec2/faqs/#Spot_instances

Question 299

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?

A. Store the static content in Amazon S3 and enable S3 Transfer Acceleration.

B. Store the static content in an Amazon EBS volume in the ap-southeast-1 region and provision larger Amazon EC2 instances for the website.

C. Use an Amazon Route 53 simple routing policy to distribute cached content across three regions.

D. Use Amazon S3 to store the static content and configure an Amazon CloudFront distribution.

Answer: D

Question 300

An application is scanning an Amazon DynamoDB table that was created with default settings.

The application occasionally reads stale data when it queries the table.

How can this issue be corrected?

A. Increase the provisioned read capacity of the table.

B. Enable AutoScaling on the DynamoDB table.

C. Update the application to use strongly consistent reads.

D. Re-create the DynamoDB table with eventual consistency disabled.

Answer: C

Explanation:

https://www.javacodegeeks.com/2017/10/amazon-dynamodb-tutorial.html

Question 301

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?
A.EC2 instances: public subnet RDS database instances: public subnet Load balancer: public subnet
B.EC2 instances: public subnet RDS database instances: private subnet Load balancer: private subnet
C.EC2 instances: private subnet RDS database instances: public subnet Load balancer: public subnet
D.EC2 instances: private subnet RDS database instances: private subnet Load balancer: Public subnet
Answer: D

Question 302
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?
A. Place the Amazon EC2 instances in the public subnet, with no EIPs; route outgoing traffic through the internet gateway.
B. Place the Amazon EC2 instances in a public subnet, and assign EIPs; route outgoing traffic through the NAT gateway.
C. Place the Amazon EC2 instance in a private subnet, and assign EIPs; route outgoing traffic through the internet gateway.
D. Place the Amazon EC2 instances in a private subnet, with no EIPs; route outgoing traffic through the NAT gateway
Answer: D

Question 303
A company processed 10 TB of raw data to generate quarterly reports. Although it is unlikely tobe 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?
A. Amazon EBS Cold HDD (sc1)
B. Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)
C. Amazon S3 Standard-Infrequent Access (S3 Standard-IA)
D. Amazon Glacier
Answer: D

Explanation：

https://docs.aws.amazon.com/zh_cn/glacier/?id=docs_gateway

Question 304
A Solutions Architect needs to design a solution that will allow Website Developers to deploy static web content without managing server infrastructure. All web content must be accessed over HTTPS with a custom domain name. The solution should be scalable as the company continues to grow.
Which of the following will provide the MOST cost-effective solution?

A. Amazon EC2 instance with Amazon EBS

B. AWS Lambda function with Amazon API Gateway

C. Amazon CloudFront with an Amazon S3 bucket origin

D. Amazon S3 with a static website

Answer: C

Question 305

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?

A. AWS Lambda

B. Amazon ElastiCache

C. Size EC2 instances to handle peak load

D. An Auto Scaling group for EC2 instances

Answer: A

Question 306

An insurance company stores all documents related to annual policies for the duration of the policies. The
documents are created once and then stored until they are required, typically at the end of the policy. A
document must be capable of being retrieved immediately. The company is now moving their document
management to the AWS Cloud.

Which service should a Solutions Architect recommend as a cost-effective solution that meets the company's
requirements?

A. Amazon RDS MySQL

B. Amazon S3 Standard-Infrequent Access

C. Amazon Glacier

D. Amazon S3 Standard

Answer: B

Explanation:

https://aws.amazon.com/cn/s3/faqs/

Question 307

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

A. Call Amazon CloudWatch to retrieve the memory usage metric data that exists for the EC2instance.

B. Assign an IAM role to the EC2 instance with an IAM policy granting access to the desired metric.

C. Use an instance type that supports memory usage reporting to a metric by default.

D. Place an agent on the EC2 instance to push memory usage to an Amazon CloudWatch custom metric.

Answer: D

Explanation:

https://www.quora.com/How-can-I-monitor-memory-usage-on-Amazon-EC2

Question 308

A Solutions Architect must design a storage solution for incoming billing reports in CSV format.

The data does not need to be scanned frequently and is discarded after 30 days. Which service
will be MOST cost-effective in meeting these requirements?

A. Import the logs into an RDS MySQL instance.

B. Use AWS Data Pipeline to import the logs into a DynamoDB table.

C. Write the files to an S3 bucket and use Amazon Athena to query the data.

D. Import the logs to an Amazon Redshift cluster

Answer: C

Explanation:

https://aws.amazon.com/cn/athena/

Question 309

A Solutions Architect needs to deploy an HTTP/HTTPS service on Amazon EC2 instances with

support for WebSockets using load balancers. How can

the Architect meet these requirements?

A. Configure a Network Load Balancer.

B. Configure an Application Load Balancer.

C. Configure a Classic Load Balancer.

D. Configure a Layer-4 Load Balancer.

Answer: B

Explanation:

The Application Load Balancer is designed to handle streaming, real-time, and WebSocket workloads in an optimized fashion. Instead of buffering requests and responses, it handles them in streaming fashion.

This reduces latency and increases the perceived performance of your application. Reference:

https://aws.amazon.com/blogs/aws/new-aws-application-load-balancer/

Question 310

A Solution 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.)

A. Use an Application Load Balancer (ALB) in passthrough mode, then terminate SSL on EC2 instances.

B. Use an Application Load Balancer (ALB) with a TCP listener, then terminate SSL on EC2 instances.

C. Use a Network Load Balancer (NLB) with a TCP listener, then terminate SSL on EC2 instances.

D. Use an Application Load Balancer (ALB) with an HTTPS listener, then install SSL certificates on the

ALB and EC2 instances.

E. Use a Network Load Balancer (NLB) with an HTTPS listener, then install SSL certificates on the NLB and EC2

instances.

Answer: CD

Question 311

A user is designing a new service that receives location updates from 3,600 rental cars every hour. The cars upload their 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?

A. Amazon EC2 and Amazon EBS

B. Amazon Kinesis Firehouse and Amazon S3

C. Amazon ECS and Amazon RDS

D. Amazon S3 events and AWS Lambda

Answer: B

Question 312

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?

A. EC2 instance store

B. Amazon EFS

C. Amazon CloudSearch

D. Amazon EBS Throughput Optimized HDD (st1)

Answer: A

Question 313

A company's Amazon RDS MySQL DB instance may be rebooted for maintenance and to apply patches. This database is critical and potential user disruption must be minimized. What should the Solution Architect do in this scenario?

A. Set up an RDS MySQL cluster

B. Create an RDS MySQL Read Replica.

C. Set RDS MySQL to Multi-AZ.

D. Create an Amazon EC2 instance MySQL cluster.

Answer: C

Explanation: https://docs.aws.amazon.com/zh_cn/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html

Amazon RDS handles failovers automatically so you can resume database operations as quickly as possible without administrative intervention. The primary DB instance switches over automatically to the standby replica if any of the following conditions occur: An Availability Zone outage

The primary DB instance fails

The DB instance's server type is changed

The operating system of the DB instance is undergoing software patching

A manual failover of the DB instance was initiated using Reboot with failover

Question 314

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?

A. Move the images to the EC2 instances in the Auto Scaling group.

B. Enable Transfer Acceleration for the S3 bucket.

C. Configure an Amazon CloudFront distribution with the S3 bucket as the origin.

D. Increase the number of minimum, desired, and maximum EC2 instances in the Auto Scaling group.

Answer: C

Question 315

A 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?

A. 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.

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

C. 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.

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

Answer: A

Explanation:

https://aws.amazon.com/blogs/security/how-to-create-an-aws-iam-policy-to-grant-aws-lambd

a-access-to-an-amazon-dynamodb-table/

Question 316

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

Answer: B

Question 317

A Solutions Architect is designing an application that will run on Amazon ECS behind an Application Load Balancer(ALB). For security reasons, the Amazon EC2 host instances for the ECS cluster are in a private subnet.
What should be done to ensure that the incoming traffic to the host instances is from the ALB only?
A.   Create network ACL rules for the private subnet to allow incoming traffic on ports 32768
through   61000 from the IP address of the ALB only.
B.   Update the EC2 cluster security group to allow incoming access from the IP address of the ALB only.
C.   Modify the security group used by the EC2 cluster to allow incoming traffic from the security group used by the ALB only.
D.   Enable AWS WAF on the ALB and enable the ECS rule.
Answer: C

Question 318

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

Question 319

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.)
A. How frequently the Auto Scaling group scales up or down.
B. How many Amazon CloudWatch alarms are configured for status checks.
C. How much of the application code is embedded in the AMI.
D. How long it takes for the Auto Scaling group to detect a failure.

E. How long the bootstrap script takes to run.
Answer: CE

Question 320
A company plans to deploy a new application in AWS that reads and writes information to a database. The company wants to deploy the application in two different AWS Regions in an active-active configuration. The databases need to replicate to keep information in sync.
What should be used to meet these requirements?
A. Amazon Athena with Amazon S3 cross-region replication
B. AWS Database Migration Service with change data capture
C. Amazon DynamoDB with global tables
D. Amazon RDS for PostgreSQL with a cross-region Read Replica
Answer: C

Question 321
A company is developing a data lake solution in Amazon S3 to analyze large-scale datasets. The solution makes infrequent SQL queries only. In addition, the company wants to minimize infrastructure costs.
Which AWS service should be used to meet these requirements?
A. Amazon Athena
B. Amazon Redshift Spectrum
C. Amazon RDS for PostgreSQL
D. Amazon Aurora
Answer: A

Question 322
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 taked to meet the requirements while reducing costs?
A. Transition objects from Amazon S3 Standard to Amazon S3 Standard-Infrequent Access (S3 Standard- IA)
B. Transition objects to expire after 5 years.
C. Transition objects from Amazon S3 Standard to Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)
D. Transition objects from Amazon S3 Standard to the GLACIER storage class.
Answer: A
Explanation:
https://aws.amazon.com/cn/s3/faqs/

Question 323
A company wants to create an application that will transmit protected health information (PHI) to thousands of service consumers in different AWS accounts. The application servers will sit in private VPC subnets. The routing for the application must be fault tolerant.
What should be done to meet these requirements?
A. Create a VPC endpoint service and grant permissions to specific service consumers to create a connection.
B. Create a virtual private gateway connection between each pair of service provider VPCs and service consumer VPCs.
C. Create an internal Application Load Balancer in the service provider VPC and put application servers behind it.
D. Create a proxy server in the service provider VPC to route requests from service consumers to the application servers.
Answer: A

Question 324

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.)

A. Allow users that are authenticated through Amazon Cognito.

B. Limit traffic through API Gateway.

C. Allow X.509 certificates to authenticate traffic.

D. Deploy AWS KMS to identify users.

E. Assign permissions in AWS IAM to allow users.

Answer: AE

Question 325

A company needs to use AWS resources to expand capacity for a website hosted in an onpremises data center. The AWS resources will include load balancers, Auto Scaling, and Amazon EC2 instances that will access an on-premises database. Network connectivity has been established, but no traffic is going to the AWS environment.

How should Amazon Route 53 be configured to distribute load to the AWS environment? (Select TWO.)

A. Set up a weighted routing policy, distributing the workload between the load balancer and the on- premises environment.

B. Set up an A record to point the DNS name to the IP address of the load balancer.

C. Create multiple A records for the EC2 instances.

D. Set up a geolocation routing policy to distribute the workload between the load balancer and the on- premises environment.

E. Set up a routing policy for failover using the on-premises environment as primary and the load balancer as secondary.

Answer: AB

Question 326

An organization has created an application which is hosted on the AWS EC2 instance. The application stores images to S3 when the end user uploads to it. The organization does not want to store the AWS secure credentials required to access the S3 inside the instance.

Which of the below mentioned options is a possible solution to avoid any security threat?

A. Use the IAM based single sign between the AWS resources and the organization application.

B. Use the IAM role and assign it to the instance.

C. Since the application is hosted on EC2, it does not need credentials to access S3.

D. Use the X.509 certificates instead of the access and the secret access keys.

Answer: B

Explanation:

The AWS IAM role uses temporary security credentials to access AWS services. Once the role is assigned to an instance, it will not need any security credentials to be stored on the instance.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html

Question 327

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

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

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

A. A Use DynamoDB Accelerator to cache reads

B. DynamoDB write capacity units

C. Add Amazon SQS to decouple requests

D. Implement Amazon Kinesis to decouple requests

Answer: A

Question 328

A company is launching a dynamic website and the Operations team expects up to 10 times the traffic on the launch date. This website is hosted on Amazon EC2 instances and traffic is distributed by Amazon Route 53. A Solutions Architect must ensure that there is enough backend capacity to meet user demands. The Operations team wants to scale down as quickly as possible after the launch.

What is the MOST cost-effective and fault-tolerant solution that will meet the company's customer demands? (Select TWO)

A. Set up an Application Load Balancer to distribute traffic to multiple EC2 instances

B. Set up an Auto Scaling group across multiple Availability Zones for the website, and create scaleout and scale-in policies

C. Create an Amazon CloudWatch alarm to send an email through Amazon SNS when EC2 instances experience higher loads

D. Create an AWS Lambda function to monitor website load time, run it every 5 minutes, and use the AWS SDK to create a new instance if website load time is longer than 2 seconds

E. Use Amazon CloudFront to cache the website content during launch, and set a TTL for cache content to expire after the launch date

Answer: AB

Question 329

A Solutions Architect is considering possible options for improving the security of the data stored on an Amazon EBS volume attached to on Amazon EC2 instance. Which solution will improve the security of the data?

A. Use AWS KMS to encrypt the EBS volume

B. Create an I AM policy that restricts read and write access to the volume

C. Migrate the sensitive data to an instance store volume

D. Use Amazon single sign-on to control login access to the EC2 instance

Answer: A

Question 330

A Solutions Architect is designing an application in AWS The Architect must not expose the application or database tier over the Internet for security reasons The application must be lowcost 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?

A. Use a NAT Gateway as the front end for the application tier and to enable the private resources to have Internet access

B. 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

C. 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

D. 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

Answer: D

Question 331

A company is designing a new application to collect data on user behavior tor 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?

A. Configure the stream to write records to an attached Amazon EBS volume

B. Configure an Amazon Kinesis Data Firehose delivery stream to store data on Amazon S3

C. Configure the stream data retention period to retain the data indefinitely

D. Configure an Amazon EC2 consumer to read from the data stream and store records in Amazon SQS

Answer: B

Question 332

In Amazon EC2, while sharing an Amazon EBS snapshot, can the snapshots with AWS Marketplace product codes be public?

A. Yes, but only for US-based providers.

B. Yes, they can be public.

C. No, they cannot be made public.

D. Yes, they are automatically made public by the system.

Answer: C

Explanation:

Snapshots with AWS Marketplace product codes can't be made public.

Question 333

A photo-sharing website running on AWS allows users to generate thumbnail images of photos stored in Amazon S3. An amazon DynamoDB Table maintains the locations of photos and thumbnails are easily re-created from the originals it they are accidentallyHow should the thumbnail images be stored to ensure the LOWEST cost?

A. Amazon S3 Standard-Infrequent Access (S3 Standard-IA) with cross-region replication

B. Amazon S3

C. Amazon Glacier

D. Amazon S3 with cross-region replication

Answer: B

Question 334

In EC2, what happens to the data in an instance store if an instance reboots (either intentionally or unintentionally)?

A. Data is deleted from the instance store for security reasons.

B. Data persists in the instance store.

C. Data is partially present in the instance store.

D. Data in the instance store will be lost.

Answer: B

Explanation:

The data in an instance store persists only during the lifetime of its associated instance. If an instance reboots (intentionally or unintentionally), data in the instance store persists. However, data on instance store volumes is lost under the following circumstances.

Failure of an underlying drive Stopping an Amazon EBS-backed instance Terminating an instance

Reference:http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/InstanceStorage.html

Question 335

A Solutions Architect designed a system based on Amazon Kinesis Data Streams. After the workflow was put into production, the company noticed it performed slowly and identified Kinesis Data Streams as the problem.One of the streams has a total of 10 Mb/s throughput.

What should the Solutions Architect recommend to improve performance?

A. Use AWS Lambda to preprocess the data and transform the records into a simpler format, such as CSV.

B. Run the MergeShard command to reduce the number of shards that the consumer can more easily process

C. Change the workflow to use Amazon Kinesis Data Firehose to gain a higher throughput

D. Run the UpdateShardCount command to increase the number of shards in the stream

Answer: D

Question 336

In an experiment, if the minimum size for an Auto Scaling group is 1 instance, which of the following statements holds true when you terminate the running instance?

A. Auto Scaling must launch a new instance to replace it.

B. Auto Scaling will raise an alarm and send a notification to the user for action.

C. Auto Scaling must configure the schedule activity that terminates the instance after 5 days.

D. Auto Scaling will terminate the experiment.

Answer: A

Explanation:

If the minimum size for an Auto Scaling group is 1 instance, when you terminate the running instance, Auto Scaling must launch a new instance to replace it.

http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AS_Concepts.html

Question 337

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?

A. 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.

B. 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

C. Encrypt the GUID using Base64 and store it in the user's session cookie. Decrypt the GUID when an audit record is needed

D. 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: B

Question 338

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?

A. AWS CloudHSM

B. SSE-KMS: Server-side encryption with AWS KMS managed keys

C. SSE-S3: Server-side encryption with Amazon-managed master key

D. SSE-C: Server-side encryption with customer-provided encryption keys

Answer: D

Question 339

A Solutions Architect is investigating purchasing options for a batch processing application on Amazon EC2. The batch job downloads an image trom 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?

A. Standard Reserved Instances

B. Scheduled Reserved Instances

C. Spot Instances

D. On-Demand Instances

Answer: C

Question 340

A Solutions Architect is designing an application that requires having six Amazon EC2 instances running at all times. The application will be deployed in the sa-east-1 region, which has three Availability Zones: sa-east-1a, sa-east-1b and sa-east-1c.

Which action will provide 100 percent fault tolerance and the LOWEST cost in the event that one Availability Zone in the region becomes unavailable?

A. Deploy six Amazon EC2 instances in sa-east-la, six Amazon EC2 instances a sa-east-1b and six Amazon EC2 instances in sa-east-1c

B. Deploy six Amazon EC2 instances in sa-east-1a, four Amazon EC2 instances in sa-east-1b and two Amazon EC2 instances in sa-east-1c

C. Deploy three Amazon EC2 instances in sa-east-1a, three Amazon EC2 instances in sa-east-1b and three Amazon instances in sa-east-1c

D. Deploy two Amazon EC2 instances in sa-east-1a, two Amazon EC2 instances in sa-east-1b,and two Amazon E. instances in sa-east-1c

Answer: C

Question 341

A Solutions Architect must design a web application that will be hosted on AWS, allowing users to purchase access to premium shared content that is stored in an S3 bucket Upon payment, content will be available for download for 14 days before the user is denied access. Which of the following would be the LEAST complicated implementation?

A. Use an Amazon CloudFront distribution with an origin access identity (OAI). Configure the distribution with an Amazon S3 origin to provide access to the file through signedURLs.

Design a Lambda function to remove data that is older than 14 days

B. Use an S3 bucket and provide direct access to the file. Design the application to track purchases in a DynamoDB table. Configure a Lambda function to remove data that is older than 14 days based on a query to Amazon DynamoDB.

C. Use an Amazon CloudFront distribution with an OAI. Configure the distribution with an Amazon S3 origin to provide access to the file through signed URLs. Design the application to set an expiration of 14 days for the URL

D. Use an Amazon CloudFront distribution with an OAI. Configure the distribution with an Amazon S3 origin to provide access to the file through signed URLs.

Design the application to set an expiration of 60 minutes for the URL, and recreate the URL as necessary

Answer: C

Question 342

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?

A. 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.

B. 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.

C. 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.

D. 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: D

Question 343

A client reports that they want see an audit log of any changes made to AWS resources in their account What can the client do to achieve this?

A. Set up Amazon CloudWatch monitors on services they own

B. Enable AWS CloudTrail logs to be delivered to an Amazon S3bucket

C. Use Amazon CloudWatch Events to parse logs

D. Use AWS OpsWorks to manage their resources

Answer: B

Question 344

A company is launching a static website using the zone apex (mycompany com). The company wants to use Amazon Route 53 for DNS.

Which steps should the company perform to implement a scalable and cost-effective solution? (Select TWO)

A. A Host the website on an Amazon EC2 instance with ELB and Auto Scaling, and map a Route 53 alias record to the ELB endpoint

B. Host the website using AWS Elastic Beanstalk and map a Route 53 alias record to the Beanstalk stack.

C. Host the website on an Amazon EC2 instance, and map a Route alias record to the public IP address of the Amazon

D. Serve the website from an Amazon S3 bucket and map a Route 53 alias record to the website endpoint

E. Create a Route 53 hosted zone, and set the NS record of the domain to use Route 53 name servers.

Answer: DE

Question 345

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?

A. VPC peering

B. NAT instance

C. NAT gateway

D. AWS PrivateLink

Answer: D

Question 346

A customer has an application that is used by enterpnse customers outside of AWS. Some of these customers use legacy firewalls that cannot whitelist by DNS name but can whitelist based only on IP address. The application is currently deployed in two Availability Zones, with one EC2 instance in each that has Elastic IP addresses. The customer wants to whitelist only two IP addresses, but the two existing EC2 instances cannot

sustain the amount of traffic What can a Solutions Architect do to support the customer and allow for more capacity? (Select TWO)

A. Create a Network Load Balancer with an interface in each subnet, and assign a static IP address to each subnet.

B. Create additional EC2 instances and put them on standby Remap an Elastic IP address to a standby instance in the event of a failure

C. Use Amazon Route 53 with a weighted, round-robin routing policy across the Elastic IP addresses to resolve one at a time

D. Add additional EC2 instances with Elastic IP addresses, and register them with Amazon Route 53

E. Switch the two existing EC2 instances for an Auto Scaling group, and register them with the Network Load Balancer

Answer: AE

Question 347

A Solutions Architect plans to migrate a load balancer tier from a data center to AWS. Several websites have multiple domains that require secure load balancing. The Architect decides to use Elastic Load Balancing Application Load Balancers.

What is the MOST efficient method for achieving secure communication?

A. Create a wildcard certificate and upload it to the Application Load Balancer

B. Create an SNI certificate and upload it to the Application Load Balancer

C. Create a secondary proxy server to terminate SSL traffic before the traffic reaches the Application Load Balancer

D. Let a third-party Certificate Manager manage certificates required to all domains and upload them to the Application Load Balancer

Answer: B

Question 348

A three-tier application is being created to host small news articles. The application is expected to serve millions of users. When breaking news occurs, the site must handle verylarge spikes in traffic without significantly impacting database performance. Which design meets these requirements while minimizing costs?

A. Use Auto Scaling groups to increase the number of Amazon EC2 instances delivering the web application

B. Use Auto Scaling groups to increase the size of the Amazon RDS instances delivering the database

C. Use Amazon DynamoDB strongly consistent reads to adjust for the increase in traffic

D. Use Amazon DynamoDB Accelerator (DAX) cache read operations to the database

Answer: D

Question 349

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

A. Amazon ElastiCache

B. Amazon RDS

C. Amazon S3

D. Amazon EFS

Answer: A

Question 350

A Solutions Architect is designing an elastic application that will have between 10 and 5O 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?

A. Amazon S3

B. Amazon EFS

C. Amazon EBS volumes

D. Amazon EC2 instance store

Answer: B

Question 351

A Solutions Architect is designing a three-tier web application that will allow customers to upload pictures from a mobile application. The application will then generate a thumbnail of the picture and return a message to the user confirming that the image was successfully uploaded.

Generation of the thumbnail may take up to 5 seconds. To provide a subsecond response time to the customers uploading the images, the Solutions Architect wants to separate the web tier from the application tier Which service would allow the presentation tier to asynchronously

dispatch the request to the application tier?

A. AWS Step Functions

B. AWS Lambda

C. Amazon SNS

D. Amazon SQS

Answer: D

Question 352

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

How can these requirements be met?

A. A Save the logs in an Amazon S3 bucket and enable Multi-Factor Authentication Delete (MFA Delete) on the bucket

B. Save the logs in an Amazon EFS volume and use Network File System version 4 (NFSv4) locking with the volume

C. Save the logs in an Amazon Glacier vault and use the Vault Lock feature

D. Save the logs in an Amazon EBS volume and take monthly snapshots

Answer: C

Question 353

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?

A. Put the requests into an Amazon SQS queue and configure Amazon EC2 instances to poll the queue

B. Publish the message to an Amazon SNS topic that an Amazon EC2 subscriber can receive and process

C. Save the requests to an Amazon DynamoDB table with a DynamoDB stream that triggers an Amazon EC2 Spot Instance

D. Use Amazon S3 to store the requests and configure an event notification to have Amazon EC2 instances process the new object

Answer: A

Question 354

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?

A. Use a NAT gateway and deny public access using security groups

B. Attach an egress-only internet gateway and update the routing tables

C. Use a NAT gateway and update the routing tables

D. Attach an internet gateway and deny public access using security groups

Answer: B

Question 355

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? (Choose two.)

A. Use AWS STS to process the messages

B. Use Amazon EBS-optimized Amazon EC2 instances to process the messages

C. Use Amazon EC2 instances in an Auto Scaling group with scaling triggered based on the queue length

D. Increase the SQS queue attribute for the message retention period

E. Convert the SQS queue to a first-in first-out (FIFO) queue

Answer: CD

Question 356

A company deployed a three-tier web application on Amazon EBS backed Amazon EC2 instances for the web and application tiers, and Amazon RDS for the database tier. The company is concerned about loss of data in the web and application tiers. What is the MOST efficient way to prevent data loss?

A. Create an Amazon EFS file system and run a shell script to copy the data

B. Create an Amazon EBS snapshot using an Amazon CloudWatch Events rule

C. Create an Amazon S3 snapshot policy to back up the Amazon EBS volumes

D. Create a snapshot lifecycle policy that takes periodic snapshots of the Amazon EBS volumes

Answer: D

Question 357

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? (Choose two)

A. Change the backup so the data goes to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) directly

B. Create an S3 lifecycle policy that moves the data to the GLACIER storage class after 7 years

C. Change the backup so the data goes to Amazon Glacier directly

D. Create an S3 lifecycle policy that moves the data to Amazon S3 Standard-Infrequent Access (S3 Standard-IA) after 35 days

E. Creates an S3 lifecycle policy that moves the data to the GLACIER storage class after 35 days

Answer: AE

Question 358

A Solutions Architect is building an online shopping application where users will be able to browse items, add items to a cart, and purchase the items. Images of items will be stored in Amazon S3

buckets organized by item category. When an item is no longer available for purchase, the item image will be deleted from the S3 bucket.

Occasionally, during testing, item images deleted from the S3 bucket are still visible to some users.

What is a flaw in this design approach?

A. Defining S3 buckets by item may cause partition distribution errors, which will impact performanc

B. Amazon S3 DELETE requests are eventually consistent, which may cause other users to view items that have already been purchase

C. Amazon S3 DELETE requests apply a lock to the S3 bucket during the operation, causing other users to be blocked

D. Using Amazon S3 for persistence exposes the application to a single point of failure

Answer: B

Question 359

A Solution Architect is creating a serverless web application that must access mapping data in hundreds of data files, each containing approximately 30 KB of data. The storage required is expected to grow to hundreds of terabytes.

Which storage solution is most cost-effective, yet still meets the requirements for this use case?

A. Amazon EFS

B. Amazon EBS Cold HDD (sc1)

C. Amazon S3 Standard

D. Amazon DynamoDB

Answer: C

Question 360

An application running on AWS Lambda requires an API key to access a third-party service.

The key must be stored securely with audited access to the Lambda function only.

What is the MOST secure way to store the key?

A. As an object in Amazon S3

B. As a secure string in AWS Systems Manager Parameter Store

C. Inside a file on an Amazon EBS volume attached to the Lambda function

D. Inside a secrets file stored on Amazon EF

Answer: B

Question 361

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?

A. 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

B. 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

C. Store the data in Amazon S3 Standard storage with a lifecycle rule to transition the data to the GLACIER storage class after 30 days

D. 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: D

Question 362

A company is developing a new stateless web service with low memory requirements.

The service needs to scale based on demand.

What is the MOST cost-effective solution?

A. Deploy the application onto AWS Elastic Beanstalk

B. Deploy the application onto AWS Lambda with access through Amazon API Gateway

C. Deploy the application onto an Amazon EC2 Spot Fleet

D. Deploy the application onto a container with an Amazon ECS EC2 launch type

Answer: B

Question 363

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?

A. Use Amazon S3 for current invoices. Set up lifecycle rules to migrate invoices to the GLACIER storage class after 30 days.

B. Store the invoices as text files. Use Amazon CloudFront to convert the invoices from text to PDF when customers download invoices.

C. Store the invoices as binaries in an Amazon RDS database instance. Retrieve them from the database when customers request invoices.

D. 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: D

Question 364

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

What should be done to reduce data transfer costs?

A. Create a copy of the compute environment in another region

B. Convert the application to run on Lambda@Edge

C. Create an Amazon CloudFront distribution with Amazon S3 as the origin

D. Replicate Amazon S3 data to buckets in regions closer to the requester

Answer: C

Question 365

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?

A. Use Amazon S3 VPC endpoints

B. Deploy a proxy server

C. Use a NAT Gateway

D. Use a private Amazon S3 bucket

Answer: A

Question 366

You are setting up a VPC and you need to set up a public subnet within that VPC. Which following requirement must be met for this subnet to be considered a public subnet?

A. Subnet's traffic is not routed to an internet gateway but has its traffic routed to a virtual private gateway.

B. Subnet's traffic is routed to an internet gateway.

C. Subnet's traffic is not routed to an internet gateway.

D. None of these answers can be considered a public subnet.

Answer: B

Explanation:

A virtual private cloud (VPC) is a virtual network dedicated to your AWS account. It is logically isolated from other virtual networks in the AWS cloud. You can launch your AWS resources, such as Amazon EC2 instances, into your VPC. You can configure your VPC: you can select its IP address range, create subnets, and configure route tables, network gateways, and security settings. A subnet is a range of IP addresses in your VPC. You can launch AWS resources into a subnet that you select. Use a public subnet for resources that must be connected to the internet, and a private subnet for resources that won't be connected to the Internet. If a subnet's traffic is routed to an internet gateway, the subnet is known as a public subnet. If a subnet doesn't have a route to the internet gateway, the subnet is known as a private subnet. If a subnet doesn't have a route to the internet gateway, but has its traffic routed to a virtual private gateway, the subnet is known as a VPN-only subnet.

Reference: http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_Subnets.html

Question 367

Can you specify the security group that you created for a VPC when you launch an instance in EC2-Classic?

A. No, you can specify the security group created for EC2-Classic when you launch a VPC instance.

B. No

C. Yes

D. No, you can specify the security group created for EC2-Classic to a non-VPC based instance only.

Answer: B

Explanation:

If you're using EC2-Classic, you must use security groups created specifically for EC2-Classic. When you launch an instance in EC2-Classic, you must specify a security group in the same region as the instance. You can't specify a security group that you created for a VPC when you launch an instance in EC2-Classic.

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-network-security.html#ec2-classic-securit y-groups

Question 368

An application stores data in an Amazon RDS MySQL DB instance. The database traffic primarily consists of read queries, which are overwhelming the current database. A Solutions Architect wants to scale the database.

What combination of steps will achieve the goal? (Choose two.)

A. Add the MySQL database instances to an Auto Scaling group

B. Migrate the MySQL database to Amazon Aurora

C. Migrate the MySQL database to a PostgreSQL database

D. Create read replicas in different Availability Zones

E. Create an ELB Application Load Balancer

Answer: BD

Question 369

You have just been given a scope for a new client who has an enormous amount of data(petabytes) that he constantly needs analysed.

Currently he is paying a huge amount of money for a data warehousing company to do this for him and is wondering if AWS can provide a cheaper solution. Do you think AWS has a solution for this?

A. Yes. Amazon SimpleDB

B. No. Not presently

C. Yes. Amazon Redshift

D. Yes. Your choice of relational AMIs on Amazon EC2 and EBS

Answer: C

Explanation:

Amazon Redshift is a fast, fully managed, petabyte-scale data warehouse service that makes it simple and cost-effective to efficiently analyze all your data using your existing business intelligence tools. You can start small for just $0.25 per hour with no commitments or upfront costs and scale to a petabyte or more for $1,000 per terabyte per year, less than a tenth of most other data warehousing solutions. Amazon Redshift delivers fast query performance by using columnar storage technology to improve I/O efficiency and parallelizing queries across multiple nodes. Redshift uses standard PostgreSQL JDBC and ODBC drivers, allowing you to use a wide range of familiar SQL clients. Data load speed scales linearly with cluster size, with integrations to Amazon S3, Amazon DynamoDB, Amazon

 Elastic MapReduce, Amazon Kinesis or any SSH-enabled host.

Question 370

While using the EC2 GET requests as URLs, the _____ is the URL that serves as the entry point for the web service.

A. token

B. endpoint

C. action

D. None of these

Answer: B

Explanation:

The endpoint is the URL that serves as the entry point for the web service.

Reference: http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/using-query-api.html

Question 371

You have been asked to build a database warehouse using Amazon Redshift. You know a little about it, including that it is a SQL data warehouse solution, and uses industry standard ODBC and JDBC connections and PostgreSQL drivers. However you are not sure about what sort of storage it uses for database tables. What sort of storage does Amazon Redshift use for database tables?

A. InnoDB Tables

B. NDB data storage

C. Columnar data storage

D. NDB CLUSTER Storage

Answer: C

Explanation:

Amazon Redshift achieves efficient storage and optimum query performance through a combination of massively parallel processing, columnar data storage, and very efficient, targeted data compression encoding schemes. Columnar storage for database tables is an important factor in optimizing analytic query performance because it drastically reduces the overall disk I/O requirements and reduces the amount of data you need to load from disk.

Reference: http://docs.aws.amazon.com/redshift/latest/dg/c_columnar_storage_disk_mem_mgmnt.html

Question 372

You are checking the workload on some of your General Purpose (SSD) and Provisioned IOPS (SSD) volumes and it seems that the I/O latency is higher than you require. You should probably check the _____ to make sure that your application is not trying to drive more IOPS than you have provisioned.

A.   Amount of IOPS that are available

B.   Acknowledgement from the storage subsystem

C. Average queue length

D. Time it takes for the I/O operation to complete

Answer: C

Explanation:

In EBS workload demand plays an important role in getting the most out of your General Purpose (SSD) and Provisioned IOPS (SSD) volumes. In order for your volumes to deliver the amount of IOPS that are available, they need to have enough I/O requests sent to them. There is a relationship between the demand on the volumes, the amount of IOPS that are available to them, and the latency of the request (the amount of time it takes for the I/O operation to complete). Latency is the true end-to-end client time of an I/O operation; in other words, when the client sends a IO, how long does it take to get an acknowledgement from the storage subsystem that the IO read or write is complete. If your I/O latency is higher than you require, check your average queue length to make sure that your application is not trying to drive more IOPS than you have provisioned. You can maintain high IOPS while keeping latency down by maintaining a low average queue length (which is achieved by provisioning more IOPS for your volume).

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-workload-demand.html

Question 373

A company is storing application data in Amazon S3 buckets across multiple AWS regions. Company policy requires that encryption keys be generated at the company headquarters, but the encryption keys may be stored in AWS after generation. The Solutions Architect plans to configure cross-region replication.

Which solution will encrypt the data whole requiring the LEAST amount of operational overhead?

A. Configure the applications to write to an S3 bucket using client-side encryption

B. Configure S3 buckets to encrypt using AES-256

C. Configure S3 object encryption using AWS CLI with Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS)

D. Configure S3 buckets to use Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS) with imported key material in both regions

Answer: D

Question 374

Which of the below mentioned options is not available when an instance is launched by Auto Scaling with EC2 Classic?

A. Public IP

B. Elastic IP

C. Private DNS

D. Private IP

Answer: B

Explanation:

Auto Scaling supports both EC2 classic and EC2-VPC. When an instance is launched as a part of EC2 classic, it will have the public IP and DNS as well as the private IP and DNS.

Reference: http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/GettingStartedTutorial.html

Question 375

You have been given a scope to deploy some AWS infrastructure for a large organisation. The requirements are that you will have a lot of EC2 instances but may need to add more when the average utilization of your Amazon EC2 fleet is high and conversely remove them when CPU utilization is low. Which AWS services would be best to use to accomplish this?

A. Auto Scaling, Amazon CloudWatch and AWS Elastic Beanstalk

B. Auto Scaling, Amazon CloudWatch and Elastic Load Balancing.

C. Amazon CloudFront, Amazon CloudWatch and Elastic Load Balancing.

D. AWS Elastic Beanstalk , Amazon CloudWatch and Elastic Load Balancing.

Answer: B

Explanation:

Auto Scaling enables you to follow the demand curve for your applications closely, reducing the need to manually provision Amazon EC2 capacity in advance. For example, you can set a condition to add new Amazon EC2 instances in increments to the Auto Scaling group when the average utilization of your Amazon EC2 fleet is high; and similarly, you can set a condition to remove instances in the same increments when CPU utilization is low. If you have predictable load changes, you can set a schedule through Auto Scaling to plan your scaling activities. You can use Amazon CloudWatch to send alarms to trigger scaling activities and Elastic Load Balancing to help distribute traffic to your instances within Auto Scaling groups. Auto Scaling enables you to run your Amazon EC2 fleet at optimal utilization.

Reference: http://aws.amazon.com/autoscaling/

Question 376

You need to set up a complex network infrastructure for your organization that will be reasonably easy to deploy, replicate, control, and track changes on. Which AWS service would be best to use to help you accomplish this?

A.AWS Import/Export

B.AWS CloudFormation

C.Amazon Route 53

D. Amazon CloudWatch

Answer: B

Explanation:

AWS CloudFormation is a service that helps you model and set up your Amazon Web Services resources so that you can spend less time managing those resources and more time focusing on your applications that run in AWS. You create a template that describes all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances), and AWS CloudFormation takes care of provisioning and configuring those resources for you. You don't need to individually create and configure AWS resources and figure out what's dependent on what. AWS CloudFormation handles all of that.

Reference: http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/Welcome.html

Question 377

In Amazon RDS, security groups are ideally used to:

A. Define maintenance period for database engines

B. Launch Amazon RDS instances in a subnet

C. Create, describe, modify, and delete DB instances

D. Control what IP addresses or EC2 instances can connect to your databases on a DB instance

Answer: D

Explanation:

In Amazon RDS, security groups are used to control what IP addresses or EC2 instances can connect to your databases on a DB instance.

When you first create a DB instance, its firewall prevents any database access except through rules specified by an associated security group.

Reference: http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/UsingWithRDS.html

Question 378

You are building infrastructure for a data warehousing solution and an extra request has comethrough that there will be a lot of business reporting queries running all the time and you are not sure if your current DB instance will be able to handle it. What would be the best solution for this?

A. DB Parameter Groups
B. Read Replicas
C. Multi-AZ DB Instance deployment
D. Database Snapshots
Answer: B

Question 379
In DynamoDB, could you use IAM to grant access to Amazon DynamoDB resources and API actions?
A. In DynamoDB there is no need to grant access
B. Depended to the type of access
C. No
D. Yes
Answer: D
Explanation:
Amazon DynamoDB integrates with AWS Identity and Access Management (IAM). You can use AWS IAM to grant access to Amazon DynamoDB resources and API actions. To do this, you first write an AWS IAM policy, which is a document that explicitly lists the permissions you want to grant. You then attach that policy to an AWS IAM user or role.
Reference: http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/UsingIAMWithDDB.html

Question 380

A Solutions Architect is designing a multi-tier application consisting of an Application Load Balancer, an Amazon RDS database instance, and an Auto Scaling group on Amazon EC2 instances. Each tier is in a separate subnet. There are some EC2 instances in the subnet that belong to another application. The RDS database instance should accept traffic only from the EC2 instances in the Auto Scaling group.

What should be done to meet these requirements?

A.   Configure the inbound network ACLs on the database subnet to accept traffic from the IP addresses of the EC2 instances only.

B.   Configure the inbound rules on the security group associated with the RDS database instance. Set the source to the security group associated with instances in the Auto Scaling group.

C.   Configure the outbound rules on the security group associated with the Auto Scaling group. Set the destination to the security group associated with the RDS database instance.

D.   Configure the inbound network ACLs on the database subnet to accept traffic only from the CIDR range of the subnet used by the Auto Scaling group.

Answer: B

Question 381

An organization uses Amazon S3 to store video content served via its website. It only has rights to deliver this content to users within its own country and needs to restrict access.

How can the organization ensure that these files are only accessible from within its country?

A. Use a custom Amazon S3 bucket policy to allow access only to users inside the organization's
   country

B. Use Amazon CloudFront and Geo Restriction to allow access only to users inside the organization's country

C. Use an Amazon S3 bucket ACL to allow access only to users inside the organization's country

D. Use file-based ACL permissions on each video file to allow access only to users inside the organization's
   country

Answer: B

Question 382

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?

A. Use DynamoDB replication and restore the table from the replica

B. Use AWS Data Pipeline and create a scheduled job to back up the DynamoDB table daily

C. Use Amazon CloudWatch Events to trigger an AWS Lambda function that makes an on-demand backup

of the table

D. Use AWS Batch to create a scheduled backup with the default template, then back up to Amazon S3

daily

Answer: C

Question 383
Much of your company's data does not need to be accessed often, and can take several hours for retrieval time, so it's stored on Amazon Glacier. However someone within your organization has expressed concerns that his data is more sensitive than the other data, and is wondering whether the high level of encryption that he knows is on S3 is also used on the much cheaper Glacier service. Which of the following statements would be most applicable in regards to this concern?
A. There is no encryption on Amazon Glacier, that's why it is cheaper.
B. Amazon Glacier automatically encrypts the data using AES-128 a lesser encryption method than Amazon S3 but you can change it to AES-256 if you are willing to pay more.
C. Amazon Glacier automatically encrypts the data using AES-256, the same as Amazon S3.
D. Amazon Glacier automatically encrypts the data using AES-128 a lesser encryption method than Amazon S3.
Answer: C

Question 384

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?

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

Question 385

Your EBS volumes do not seem to be performing as expected and your team leader has requested you look into improving their performance. Which of the following is not a true statement relating to the performance of your EBS volumes?

A. Frequent snapshots provide a higher level of data durability and they will not degrade the performance of your application while the snapshot is in progress.

B. General Purpose (SSD) and Provisioned IOPS (SSD) volumes have a throughput limit of 128 MB/s per volume.

C. There is a relationship between the maximum performance of your EBS volumes, the amount of I/O you are driving to them, and the amount of time it takes for each transaction to complete.

D. There is a 5 to 50 percent reduction in IOPS when you first access each block of data on a newly created or restored EBS volume

Answer: A

Explanation:

Several factors can affect the performance of Amazon EBS volumes, such as instance configuration, I/O characteristics, workload demand, and storage configuration. Frequent snapshots provide a higher level of data durability, but they may slightly degrade the performance of your application while the snapshot is in progress. This trade off becomes critical when you have data that changes

rapidly. Whenever possible, plan for snapshots to occur during off-peak times in order to minimize workload impact.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSPerformance.html

Question 386

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?

A. 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

B. 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

C. 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

D. 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: D

Question 387

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?

A. 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.

B. 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.

C. 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.

D. 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 is will be deleted automatically.

Answer: B

Question 388

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?

A. On-Demand Instances

B. Scheduled Reserved Instances

C. Reserved Instances

D. Spot Instances

Answer: B

Question 389
A major finance organisation has engaged your company to set up a large data mining application. Using AWS
you decide the best service for this is Amazon Elastic MapReduce(EMR) which you know uses Hadoop. Which of
the following statements best describes Hadoop?
A. Hadoop is 3rd Party software which can be installed using AMI
B. Hadoop is an open source python web framework
C. Hadoop is an open source Java software framework
D. Hadoop is an open source javascript framework
Answer: C
Explanation:
Amazon EMR uses Apache Hadoop as its distributed data processing engine. Hadoop is an open source, Java
software framework that supports data-intensive distributed applications running on large clusters of commodity
hardware. Hadoop implements a programming model named "MapReduce," where the data is divided into many
small fragments of work, each of which may be executed on any node in the cluster. This framework has been
widely used by developers, enterprises and startups and has proven to be a reliable software platform for
processing up to petabytes of data on clusters of thousands of commodity machines.
Reference: http://aws.amazon.com/elasticmapreduce/faqs/

Question 390
You've created your first load balancer and have registered your EC2 instances with the load balancer. Elastic Load
Balancing routinely performs health checks on all the registered EC2 instances and automatically distributes all
incoming requests to the DNS name of your load balancer across your registered, healthy EC2 instances. By default,
the load balancer uses the ___ protocol for checking the health of your instances.
A. HTTPS
B. HTTP
C. ICMP
D. IPv6

Answer: B

Explanation:

In Elastic Load Balancing a health configuration uses information such as protocol, ping port, ping path (URL), response timeout period, and health check interval to determine the health state of the instances registered with the load balancer. Currently, HTTP on port 80 is the default health check.

Reference:http://docs.aws.amazon.com/ElasticLoadBalancing/latest/DeveloperGuide/TerminologyandKeyConcepts.html

Question 391

_____ is a fast, flexible, fully managed push messaging service.

A. Amazon SNS

B. Amazon SES

C. Amazon SQS

D. Amazon FPS

Answer: A

Explanation:

Amazon Simple Notification Service (Amazon SNS) is a fast, flexible, fully managed push messaging service. Amazon SNS makes it simple

and cost-effective to push to mobile devices such as iPhone, iPad, Android, Kindle Fire, and internet connected smart devices, as well as

pushing to other distributed services.

Reference: http://aws.amazon.com/sns/?nc1=h_l2_as

Question 392

As AWS grows, most of your clients' main concerns seem to be about security, especially when all of their competitors also seem to be

using AWS. One of your clients asks you whether having a competitor who hosts their EC2 instances on the same physical host would

make it easier for the competitor to hack into the client's data. Which of the following statements would be the best choice to put your

client's mind at rest?

A. Different instances running on the same physical machine are isolated from each other via a 256-bit Advanced Encryption Standard (AES-256).

B. Different instances running on the same physical machine are isolated from each other via the Xen hypervisor and via a 256-bit Advanced Encryption Standard (AES-256).

C. Different instances running on the same physical machine are isolated from each other via the Xen hypervisor.

D. Different instances running on the same physical machine are isolated from each other via IAM permissions.

Answer: C

Explanation:

Amazon Elastic Compute Cloud (EC2) is a key component in Amazon's Infrastructure as a Service (IaaS), providing resizable computing capacity using server instances in AWS's data centers. Amazon EC2 is designed to make web-scale computing easier by enabling you to obtain and configure capacity with minimal friction.

You create and launch instances, which are collections of platform hardware and software. Different instances running on the same physical machine are isolated from each other via the Xen hypervisor.

Amazon is active in the Xen community, which provides awareness of the latest developments. Inaddition, the AWS firewall resides within the hypervisor layer, between the physical network interface and the instance's virtual interface. All packets must pass through this layer, thus an instance's neighbors have no more access to that instance than any other host on the Internet and can be treated as if they are on separate physical hosts. The physical RAM is separated using similar mechanisms.

Reference: http://d0.awsstatic.com/whitepapers/Security/AWS%20Security%20Whitepaper.pdf

Question 393

A company is implementing a data lake solution on Amazon S3. Its security policy mandates that the data stored in Amazon S3 should be

encrypted at rest. Which options can achieve this? (Select TWO.)

A. Use S3 server-side encryption with an Amazon EC2 key pair.

B. Use S3 server-side encryption with customer-provided keys (SSE-C).

C. Use S3 bucket policies to restrict access to the data at rest.

D. Use client-side encryption before ingesting the data to Amazon S3 using encryption keys.

E. Use SSL to encrypt the data while in transit to Amazon S3.

Answer: BD

Question 394

You are trying to launch an EC2 instance, however the instance seems to go into a terminated status immediately. What would probably

not be a reason that this is happening?

A. The AMI is missing a required part.

B. The snapshot is corrupt.

C. You need to create storage in EBS first.

D. You've reached your volume limit.

Answer: C

Explanation:

Amazon EC2 provides a virtual computing environments, known as an instance. After you launch an instance, AWS recommends that you

check its status to confirm that it goes from the pending status to the running status, the not terminated status. The following are a few

reasons why an Amazon EBS-backed instance might immediately terminate:

You've reached your volume limit.

The AMI is missing a required part.

The snapshot is corrupt.

Reference:

http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/Using_InstanceStraightToTerminated.html

Question 395

You have set up an Auto Scaling group. The cool down period for the Auto Scaling group is 7 minutes. The first instance is launched after

3 minutes, while the second instance is launched after 4 minutes. How many minutes after the first instance is launched will Auto Scaling

accept another scaling activity request?

A. 11 minutes

B. 7 minutes

C. 10 minutes

D. 14 minutes

Answer: A

Explanation:

If an Auto Scaling group is launching more than one instance, the cool down period for each instance starts after that instance is

launched. The group remains locked until the last instance that was launched has completed its cool down period. In this case the cool

down period for the first instance starts after 3 minutes and finishes at the 10th minute (3+7 cool down), while for the second instance it

starts at the 4th minute and finishes at the 11th minute (4+7 cool down). Thus, the Auto Scaling group will receive another request only

after 11 minutes.

Reference: http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AS_Concepts.html

Question 396

In Amazon EC2 Container Service components, what is the name of a logical grouping of container instances on which you can place

tasks?

A. A cluster

B. A container instance

C. A container

D. A task definition

Answer: A

Explanation:

Amazon ECS contains the following components:

A Cluster is a logical grouping of container instances that you can place tasks on. A Container instance is an Amazon EC2 instance that is

running the Amazon ECS agent and has been registered into a cluster.

A Task definition is a description of an application that contains one or more container definitions.

A Scheduler is the method used for placing tasks on container instances. A Service is an Amazon

ECS service that allows you to run and maintain a specified number of instances of a task definition simultaneously.

A Task is an instantiation of a task definition that is running on a container instance. A Container

is a Linux container that was created as part of a task.

Reference: http://docs.aws.amazon.com/AmazonECS/latest/developerguide/Welcome.html

Question 397

In the context of AWS support, why must an EC2 instance be unreachable for 20 minutes rather than allowing customers to open tickets

immediately?

A. Because most reachability issues are resolved by automated processes in less than 20 minutes

B. Because all EC2 instances are unreachable for 20 minutes every day when AWS does routine maintenance

C. Because all EC2 instances are unreachable for 20 minutes when first launched

D. Because of all the reasons listed here

Answer: A

Explanation:

An EC2 instance must be unreachable for 20 minutes before opening a ticket, because most reachability issues are resolved by

automated processes in less than 20 minutes and will not require any action on the part of the customer. If the instance is still

unreachable after this time frame has passed, then you should open a case with support.

Reference: https://aws.amazon.com/premiumsupport/faqs/

Question 398

Can a user get a notification of each instance start / terminate configured with Auto Scaling?

A. Yes, if configured with the Launch Config

B. Yes, always

C. Yes, if configured with the Auto Scaling group

D. No

Answer: C

Explanation:

The user can get notifications using SNS if he has configured the notifications while creating the

Auto Scaling group.

Reference:

http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/GettingStartedTutorial.html

Question 399

Amazon EBS provides the ability to create backups of any Amazon EC2 volume into what is

known as ____.

A. snapshots

B. images

C. instance backups

D. Mirrors

Answer: A

Explanation:

Amazon allows you to make backups of the data stored in your EBS volumes through snapshots that can later be

used to create a new EBS volume.

Reference: http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/Storage.html

Question 400

To specify a resource in a policy statement, in Amazon EC2, can you use its Amazon Resource Name (ARN)?

A. Yes, you can.

B. No, you can't because EC2 is not related to ARN.

C. No, you can't because you can't specify a particular Amazon EC2 resource in an IAM policy.

D. Yes, you can but only for the resources that are not affected by the action.

Answer: A

Explanation:

Some Amazon EC2 API actions allow you to include specific resources in your policy that can be created or modified

by the action. To specify a resource in the statement, you need to use its Amazon Resource Name (ARN).

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-ug.pdf

Question 401

After you recommend Amazon Redshift to a client as an alternative solution to paying data warehouses to analyze his

data, your client asks you to explain why you are recommending Redshift. Which of the following would be a

reasonable response to his request?

A. It has high performance at scale as data and query complexity grows.

B. It prevents reporting and analytic processing from interfering with the performance of OLTP workloads.

C. You don't have the administrative burden of running your own data warehouse and dealing with setup, durability,

monitoring, scaling, and patching.

D. All answers listed are a reasonable response to his Question

Answer: D

Explanation:

Amazon Redshift delivers fast query performance by using columnar storage technology to improve I/O efficiency

and parallelizing queries across multiple nodes. Redshift uses standard PostgreSQL JDBC and ODBC drivers, allowing

you to use a wide range of familiar SQL clients.

Data load speed scales linearly with cluster size, with integrations to Amazon S3, Amazon DynamoDB, Amazon Elastic

MapReduce, Amazon Kinesis or any SSH-enabled host. AWS recommends Amazon Redshift for customers who have

a combination of needs, such as:High performance at scale as data and query complexity grows Desire to prevent

reporting and analytic processing from interfering with the performance of OLTP workloads Large volumes of structured data to persist and query using standard SQL and existing BI tools Desire to the administrative burden of running one's own data warehouse and dealing with setup, durability, monitoring, scaling and patching Reference: https://aws.amazon.com/running_databases/#redshift_anchor

Question 402

One of the criteria for a new deployment is that the customer wants to use AWS Storage Gateway. However you are not sure whether you should use gateway-cached volumes or gateway-stored volumes or even what the differences are. Which statement below best describes those differences?

A. Gateway-cached lets you store your data in Amazon Simple Storage Service (Amazon S3) and retain a copy of frequently accessed data subsets locally. Gateway-stored enables you to configure your on-premises gateway to store all your data locally and then asynchronously back up point-in-time snapshots of this data to Amazon S3.

B. Gateway-cached is free whilst gateway-stored is not.

C. Gateway-cached is up to 10 times faster than gateway-stored.

D. Gateway-stored lets you store your data in Amazon Simple Storage Service (Amazon S3) and retain a copy of frequently accessed data subsets locally. Gateway-cached enables you to configure your on-premises gateway to store all your data locally and then asynchronously back up point-in-time snapshots of this data to Amazon S3

Answer: A

Explanation:

Volume gateways provide cloud-backed storage volumes that you can mount as Internet Small Computer System Interface (iSCSI) devices from your on-premises application servers. The gateway supports the following volume configurations: Gateway-cached volumes ?You store your data in Amazon Simple Storage Service (Amazon S3) and retain a copy of frequently accessed data subsets locally. Gateway-cached volumes offer a substantial cost savings on primary storage and minimize the need to scale your storage on- premises. You also retain low-latency access to your frequently accessed data. Gateway-stored volumes If you need low-latency access to your entire data set, you can configure your on-premises gateway to store all your data locally and then asynchronously back up point-in-timesnapshots of this data to Amazon S3. This configuration provides durable and inexpensive off-site backups that you can recover to your local data center or Amazon EC2. For example, if you need replacement capacity for disaster recovery, you can recover the backups to Amazon EC2.

Reference: http://docs.aws.amazon.com/storagegateway/latest/userguide/volume-gateway.html

Question 403

A user is launching an EC2 instance in the US East region. Which of the below mentioned options is recommended by AWS with respect

to the selection of the availability zone?

A. Always select the AZ while launching an instance

B. Always select the US-East-1-a zone for HA

C. Do not select the AZ; instead let AWS select the AZ

D. The user can never select the availability zone while launching an instance

Answer: C

Explanation:

When launching an instance with EC2, AWS recommends not to select the availability zone (AZ). AWS specifies that the default Availability Zone should be accepted. This is because it enables AWS to select the best Availability Zone based on the system health and available capacity. If the user launches additional instances, only then an Availability Zone should be specified. This is to specify the same or different AZ from the running instances.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-regions-availability-zones.html

Question 404

A user is storing a large number of objects on AWS S3. The user wants to implement the search functionality among the objects. How can the user achieve this?

A. Use the indexing feature of S3.

B. Tag the objects with the metadata to search on that.

C. Use the query functionality of S3.

D. Make your own DB system which stores the S3 metadata for the search functionality.

Answer: D

Explanation:

In Amazon Web Services, AWS S3 does not provide any query facility. To retrieve a specific object the user needs to know the exact bucket / object key. In this case it is recommended to have an own DB system which manages the S3 metadata and key mapping. Reference: http://media.amazonwebservices.com/AWS_Storage_Options.pdf

Question 405

After setting up a Virtual Private Cloud (VPC) network, a more experienced cloud engineer suggests that to achieve low network latency and high network throughput you should look into setting up a placement group. You know nothing about this, but begin to do some research about it and are especially curious about its limitations. Which of the below statements is wrong in describing the limitations of a placement group?

A. Although launching multiple instance types into a placement group is possible, this reduces the likelihood that the required capacity will be available for your launch to succeed.

B. A placement group can span multiple Availability Zones.

C. You can't move an existing instance into a placement group.

D. A placement group can span peered VPCs

Answer: B

Explanation:

A placement group is a logical grouping of instances within a single Availability Zone. Using placement groups enables applications to participate in a low-latency, 10 Gbps network. Placement groups are recommended for applications that benefit from low network latency, high network throughput, or both. To provide the lowest latency, and the highest packet-per-second network performance for your placement group, choose an instance type that supports enhanced networking.Placement groups have the following limitations: The name you specify for a placement group a name must be unique within your AWS account. A placement group can't span multiple Availability Zones. Although launching multiple instance types into a placement group is possible, this reduces the likelihood that the required capacity will be available for your launch to succeed. We recommend using the same instance type for all instances in a placement group. You can't merge placement groups. Instead, you must terminate the instances in one placement group, and then relaunch those instances into the other placement group. A placement group can span peered VPCs; however, you will not get full- bisection bandwidth between instances in peered VPCs. For more information about VPC peering connections, see VPC Peering in the Amazon VPC User Guide. You can't move an existing instance into a placement group. You can create an AMI from your existing instance, and then launch a new instance from the AMI into a placement group.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html

Question 406

What is a placement group in Amazon EC2?

A. It is a group of EC2 instances within a single Availability Zone.

B. It the edge location of your web content.

C. It is the AWS region where you run the EC2 instance of your web content.

D. It is a group used to span multiple Availability Zones.

Answer: A

Explanation:

A placement group is a logical grouping of instances within a single Availability Zone.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html

Question 407

You are migrating an internal server on your DC to an EC2 instance with EBS volume. Your server disk usage is around 500GB so you just copied all your data to a 2TB disk to be used with AWS Import/Export. Where will the data be imported once it arrives at Amazon?

A. to a 2TB EBS volume

B. to an S3 bucket with 2 objects of 1TB

C. to an 500GB EBS volume

D. to an S3 bucket as a 2TB snapshot

Answer: B

Explanation:

An import to Amazon EBS will have different results depending on whether the capacity of your storage device is less than or equal to 1 TB or greater than 1 TB. The maximum size of an Amazon EBS snapshot is 1 TB, so if the device image is larger than 1 TB, the image is chunked and stored on Amazon S3. The target location is determined based on the total capacity of the device, not the amount of data on the device.

Reference: http://docs.aws.amazon.com/AWSImportExport/latest/DG/Concepts.htmlQuestion 408

A client needs you to import some existing infrastructure from a dedicated hosting provider to AWS to try and save on the cost of running his current website. He also needs an automated process that manages backups, software patching, automatic failure detection, and recovery. You are aware that his existing set up currently uses an Oracle database. Which of the following AWS databases would be best for accomplishing this task?

A. Amazon RDS

B. Amazon Redshift

C. Amazon SimpleDB

D. Amazon ElastiCache

Answer: A

Explanation:

Amazon RDS gives you access to the capabilities of a familiar MySQL, Oracle, SQL Server, or PostgreSQL database engine. This means that the code, applications, and tools you already use today with your existing databases can be used with Amazon RDS. Amazon RDS automatically patches the database software and backs up your database, storing the backups for a user-defined retention period and enabling point-in-time recovery.

Reference: http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Welcome.html

Question 409

True or false: A VPC contains multiple subnets, where each subnet can span multiple Availability Zones.

A. This is true only if requested during the set-up of VPC.

B. This is true.

C. This is false.

D. This is true only for US regions.

Answer: C

Explanation:

A VPC can span several Availability Zones. In contrast, a subnet must reside within a single Availability Zone.

Reference: https://aws.amazon.com/vpc/faqs/

Question 410

An edge location refers to which Amazon Web Service?

A. An edge location is refered to the network configured within a Zone or Region

B. An edge location is an AWS Region

C. An edge location is the location of the data center used for Amazon CloudFront.

D. An edge location is a Zone within an AWS Region

Answer: C

Explanation:

Amazon CloudFront is a content distribution network. A content delivery network or content distribution network (CDN) is a large distributed system of servers deployed in multiple data centers across the world. The location of the data center used for CDN is called edge location. Amazon CloudFront can cache static content at each edge location. This means that your popular static content (e.g., your site's logo, navigational images, cascading style sheets, JavaScript code, etc.) will be available at a nearby edge location for the browsers to download with low latency and improved performance for viewers. Caching popular static content with Amazon CloudFront also helps you offload requests for such files from your origin sever ?CloudFront serves the cached copy when available and only makes a request to your origin server if the edge location receiving the browser's request does not have a copy of the file.
Reference: http://aws.amazon.com/cloudfront/

Question 411
You are looking at ways to improve some existing infrastructure as it seems a lot of engineering resources are being taken up with basic management and monitoring tasks and the costs seem to be excessive. You are thinking of deploying Amazon ElasticCache to help.
Which of the following statements is true in regards to ElasticCache?
A. You can improve load and response times to user actions and queries however the cost associated with scaling web applications will be more.
B. You can't improve load and response times to user actions and queries but you can reduce the cost associated with scaling web applications.
C. You can improve load and response times to user actions and queries however the cost associated with scaling web applications will remain the same.
D. You can improve load and response times to user actions and queries and also reduce the cost associated with scaling web applications.
Answer: D
Explanation:
Amazon ElastiCache is a web service that makes it easy to deploy and run Memcached or Redis protocol-compliant server nodes in the cloud. Amazon ElastiCache improves the performance of web applications by allowing you to retrieve information from a fast, managed, in-memory caching system, instead of relying entirely on slower disk-based databases. The service simplifies and offloads the management, monitoring and operation of in-memory cache environments, enabling your engineering resources to focus on developing applications. Using Amazon ElastiCache, you can not only improve load and response times to user actions and queries, but also reduce the cost associated with scaling web applications.
Reference: https://aws.amazon.com/elasticache/faqs/

Question 412
Do Amazon EBS volumes persist independently from the running life of an Amazon EC2 instance?
A. Yes, they do but only if they are detached from the instance.
B. No, you cannot attach EBS volumes to an instance.
C. No, they are dependent.
D. Yes, they do.
Answer: D
Explanation:
An Amazon EBS volume behaves like a raw, unformatted, external block device that you can attach to a single instance. The volume persists independently from the running life of an Amazon EC2 instance.
Reference: http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/Storage.html

Question 413
Your supervisor has asked you to build a simple file synchronization service for your department. He doesn't want to spend too much money and he wants to be notified of any changes to files by email. What do you think would be the best Amazon service to use for the email solution?

A. Amazon SES

B. Amazon CloudSearch

C. Amazon SWF

D. Amazon AppStream

Answer: A

Explanation:

File change notifications can be sent via email to users following the resource with Amazon Simple Email Service (Amazon SES), an easy-to-use, cost-effective email solution.

Reference: http://media.amazonwebservices.com/architecturecenter/AWS_ac_ra_filesync_08.pdf

Question 414

Does DynamoDB support in-place atomic updates?

A. Yes

B. No

C. It does support in-place non-atomic updates

D. It is not defined

Answer: A

Explanation:

DynamoDB supports in-place atomic updates.Reference:

http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/WorkingWithItems.html#WorkingWithItems.AtomicCounters

Question 415

Your manager has just given you access to multiple VPN connections that someone else has recently set up between all your company's offices. She needs you to make sure that the communication between the VPNs is secure. Which of the following services would be best for providing a low-cost hub-and-spoke model for primary or backup connectivity between these remote offices?

A. Amazon CloudFront

B. AWS Direct Connect

C. AWS CloudHSM

D. AWS VPN CloudHub

Answer: D

Explanation:

If you have multiple VPN connections, you can provide secure communication between sites using the AWS VPN CloudHub. The VPN CloudHub operates on a simple hub-and-spoke model that you can use with or without a VPC. This design is suitable for customers with multiple branch offices and existing Internet connections who would like to implement a convenient, potentially low-cost hub-and-spoke model for primary or backup connectivity between these remote offices.

Reference: http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPN_CloudHub.html

Question 416

Amazon EC2 provides a ___. It is an HTTP or HTTPS request that uses the HTTP verbs GET or POST.

A. web database

B. .net framework

C. Query API

D. C library

Answer: C

Explanation:

Amazon EC2 provides a Query API. These requests are HTTP or HTTPS requests that use the HTTP verbs GET or POST and a Query parameter named Action.

Reference: http://docs.aws.amazon.com/AWSEC2/latest/APIReference/making-api-requests.html

Question 417

In Amazon AWS, which of the following statements is true of key pairs?

A. Key pairs are used only for Amazon SDKs.

B. Key pairs are used only for Amazon EC2 and Amazon CloudFront.

C. Key pairs are used only for Elastic Load Balancing and AWS IAM.

D. Key pairs are used for all Amazon services.

Answer: B

Explanation:

Key pairs consist of a public and private key, where you use the private key to create a digital signature, and then AWS uses the corresponding public key to validate the signature. Key pairs are used only for Amazon EC2 and Amazon CloudFront.

Reference: http://docs.aws.amazon.com/general/latest/gr/aws-sec-cred-types.html

Question 418

Does Amazon DynamoDB support both increment and decrement atomic operations?

A. Only increment, since decrement are inherently impossible with DynamoDB's data model.

B. No, neither increment nor decrement operations.

C. Yes, both increment and decrement operations.

D. Only decrement, since increment are inherently impossible with DynamoDB's data model.

Answer: C

Explanation:

Amazon DynamoDB supports increment and decrement atomic operations.

http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/APISummary.html

Question 419

An organization has three separate AWS accounts, one each for development, testing, and production. The organization wants the

testing team to have access to certain AWS resources in the production account. How can the organization achieve this?

A. It is not possible to access resources of one account with another account.

B. Create the IAM roles with cross account access.

C. Create the IAM user in a test account, and allow it access to the production environment with the IAM policy.

D. Create the IAM users with cross account access.

Answer: B

Explanation:

An organization has multiple AWS accounts to isolate a development environment from a testing or production environment. At times the users from one account need to access resources in the other account, such as promoting an update from the development environment to the production environment. In this case the IAM role with cross account access will provide a solution. Cross account access lets one account share access to their resources with users in the other AWS accounts.

Reference: http://media.amazonwebservices.com/AWS_Security_Best_Practices.pdf

Question 420

You need to import several hundred megabytes of data from a local Oracle database to an Amazon RDS DB instance. What does AWS

recommend you use to accomplish this?

A. Oracle export/import utilities

B. Oracle SQL Developer

C. Oracle Data Pump

D. DBMS_FILE_TRANSFER

Answer: C

Explanation:

How you import data into an Amazon RDS DB instance depends on the amount of data you have and the number and variety of database objects in your database. For example, you can use Oracle SQL Developer to import a simple, 20 MB database; you want to use Oracle Data Pump to import complex databases or databases that are several hundred megabytes or several terabytes in size.

Reference: http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Oracle.Procedural.Importing.html

Question 421

A user has created an EBS volume with 1000 IOPS. What is the average IOPS that the user will get for most of the year as per EC2 SLA if the instance is attached to the EBS optimized instance?

A. 950

B. 990

C. 1000

D. 900

Answer: D

Explanation:

As per AWS SLA if the instance is attached to an EBS-Optimized instance, then the Provisioned IOPS volumes are designed to deliver within 10% of the provisioned IOPS performance 99.9% of the time in a given year. Thus, if the user has created a volume of 1000 IOPS, the user will get a minimum 900 IOPS 99.9% time of the year.

Reference: http://aws.amazon.com/ec2/faqs/

Question 422

You need to migrate a large amount of data into the cloud that you have stored on a hard disk and you decide that the best way to accomplish this is with AWS Import/Export and you mail the hard disk to AWS. Which of the following statements is incorrect in regards

to AWS Import/Export?

A. It can export from Amazon S3

B. It can Import to Amazon Glacier

C. It can export from Amazon Glacier.

D. It can Import to Amazon EBS

Answer: C

Explanation:

AWS Import/Export supports:

Import to Amazon S3

Export from Amazon S3

Import to Amazon EBS

Import to Amazon Glacier

AWS Import/Export does not currently support export from Amazon EBS or Amazon Glacier.

Reference: https://docs.aws.amazon.com/AWSImportExport/latest/DG/whatisdisk.html

Question 423

You are in the process of creating a Route 53 DNS failover to direct traffic to two EC2 zones. Obviously, if one fails, you would like Route 53 to direct traffic to the other region. Each region has an ELB with some instances being distributed. What is the best way for you to configure the Route 53 health check?

A. Route 53 doesn't support ELB with an internal health check.You need to create your own Route 53 health check of the ELB

B. Route 53 natively supports ELB with an internal health check. Turn "Evaluate target health" off and "Associate with Health Check" on and R53 will use the ELB's internal health check.

C. Route 53 doesn't support ELB with an internal health check. You need to associate your resource record set for the ELB with your own health check

D. Route 53 natively supports ELB with an internal health check. Turn "Evaluate target health" on and "Associate with Health Check" off and R53 will use the ELB's internal health check.

Answer: D

Explanation:

With DNS Failover, Amazon Route 53 can help detect an outage of your website and redirect your end users to alternate locations where your application is operating properly. When you enable this feature, Route 53 uses health checks--regularly making Internet requests to your application's endpoints from multiple locations around the world--to determine whether each endpoint of your application is up or down. To enable DNS Failover for an ELB endpoint, create an Alias record pointing to the ELB and set the "Evaluate Target Health" parameter to true. Route 53 creates and manages the health checks for your ELB automatically. You do not need to create your own Route 53 health check of the ELB. You also do not need to associate your resource record set for the ELB with your own health check, because Route 53 automatically associates it with the health checks that Route 53 manages on your behalf. The ELB health check will also inherit the health of your backend instances behind that ELB.

Reference: http://aws.amazon.com/about-aws/whats-new/2013/05/30/amazon-route-53-adds-elb-integration-for-dns- failover/

Question 424

A user wants to use an EBS-backed Amazon EC2 instance for a temporary job. Based on the input data, the job is most likely to finish within a week. Which of the following steps should be followed to terminate the instance automatically once the job is finished?

A. Configure the EC2 instance with a stop instance to terminate it.

B. Configure the EC2 instance with ELB to terminate the instance when it remains idle.

C. Configure the CloudWatch alarm on the instance that should perform the termination action once the instance is idle.

D. Configure the Auto Scaling schedule activity that terminates the instance after 7 days.

Answer: C

Explanation:

Auto Scaling can start and stop the instance at a pre-defined time. Here, the total running time is unknown. Thus, the user has to use the CloudWatch alarm, which monitors the CPU utilization. The user can create an alarm that is triggered when the average CPU utilization percentage has been lower than 10 percent for 24 hours, signaling that it is idle and no longer in use. When the utilization is below the threshold limit, it will terminate the instance as a part of the instance action.

Reference: http://docs.aws.amazon.com/AmazonCloudWatch/latest/DeveloperGuide/UsingAlarmActions.html

Question 425

Which of the following is true of Amazon EC2 security group?

A. You can modify the outbound rules for EC2-Classic.

B. You can modify the rules for a security group only if the security group controls the traffic for just one instance.

C. You can modify the rules for a security group only when a new instance is created.

D. You can modify the rules for a security group at any time.

Answer: D

Explanation:

A security group acts as a virtual firewall that controls the traffic for one or more instances. When you launch an instance, you associate one or more security groups with the instance. You add rules to each security group that allow traffic to or from its associated instances.

You can modify the rules for a security group at any time; the new rules are automatically applied to all instances that are associated with the security group.
Reference: http://docs.amazonwebservices.com/AWSEC2/latest/UserGuide/using-network-security.html

Question 426
An Elastic IP address (EIP) is a static IP address designed for dynamic cloud computing. With an EIP, you can mask the failure of an instance or software by rapidly remapping the address to another instance in your account. Your EIP is associated with your AWSaccount, not a particular EC2 instance, and it remains associated with your account until you choose to explicitly release it. By default how many EIPs is each AWS account limited to on a per region basis?
A. 1
B. 5
C. Unlimited
D. 10
Answer: B
Explanation:
By default, all AWS accounts are limited to 5 Elastic IP addresses per region for each AWS account, because public (IPv4) Internet addresses are a scarce public resource. AWS strongly encourages you to use an EIP primarily for load balancing use cases, and use DNS hostnames for all other inter-node communication. If you feel your architecture warrants additional EIPs, you would need to complete the Amazon EC2 Elastic IP Address Request Form and give reasons as to your need for additional addresses.
Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/elastic-ip-addresses-eip.html#using-instance-addressing-limit

Question 427
In Amazon EC2, partial instance-hours are billed ____.
A. per second used in the hour
B. per minute used
C. by combining partial segments into full hours
D. as full hours
Answer: D
Explanation:
Partial instance-hours are billed to the next hour.
Reference: http://aws.amazon.com/ec2/faqs/