Amazon

SAP-C01

AWS Certified Solutions Architect- Professional

QUESTION & ANSWERS

QUESTION 1

A company that designs multiplayer online games wants to expand its user base outside of Europe. The company transfers a significant amount of UDP traffic to Keep all the live and interactive sessions of the games The company has plans for rapid expansion and wants to build its architecture to provide an optimized online experience to its users

Which architecture will meet these requirements with the LOWEST latency for users''

A. Set up a Multi-AZ environment in a single AWS Region Use Amazon CloudFront to cache user sessions
B. Set up environments in multiple AWS Regions Create an accelerator in AWS Global Accelerator, and add endpoints from different Regions to it
C. Set up environments in multiple AWS Regions Use Amazon Route 53. and select latency-based routing
D. Set up a Multi-AZ environment in a single AWS Region. Use AWS Lambda@Edge to update sessions closer to the users

Correct Answer: B

QUESTION 2

A company is using multiple AWS accounts The DNS records are stored in a private hosted zone for Amazon Route 53 in Account A The company's applications and databases are running in Account B. A solutions architect win deploy a two-net application In a new VPC To simplify the configuration, the db.example com CNAME record set tor the Amazon RDS endpoint was created in a private hosted zone for Amazon Route 53.

During deployment, the application failed to start. Troubleshooting revealed that db.example com is not resolvable on the Amazon EC2 instance The solutions architect confirmed that the record set was created correctly in Route 53.

Which combination of steps should the solutions architect take to resolve this issue? (Select TWO J

A. Deploy the database on a separate EC2 instance in the new VPC Create a record set for the instance's private IP in the private hosted zone
B. Use SSH to connect to the application tier EC2 instance Add an RDS endpoint IP address to the /eto/resolv.conf file

C. Create an authorization lo associate the private hosted zone in Account A with the new VPC In Account B

D. Create a private hosted zone for the example.com domain m Account B Configure Route 53 replication between AWS accounts

E. Associate a new VPC in Account B with a hosted zone in Account A. Delete the association authorization In Account A.

Correct Answer: B,C

QUESTION 3

A company is migrating applications from on premises to the AWS Cloud. These applications power the company's internal web forms. These web forms collect data for specific events several times each quarter. The web forms use simple SQL statements to save the data to a local relational database.

Data collection occurs for each event, and the on-premises servers are idle most of the time. The company needs to minimize the amount of idle infrastructure that supports the web forms. Which solution will meet these requirements?

A. Use Amazon EC2 Image Builder to create AMIs for the legacy servers. Use the AMIs to provision EC2 instances to recreate the applications in the AWSCloud. Place an Application Load Balancer (ALB) in front of the EC2 instances. Use Amazon Route 53 to point the DNS names of the web forms to the ALB.

B. Create one Amazon DynamoDB table to store data for ail the data input Use the application form name as the table key to distinguish data items. Create an Amazon Kinesis data stream to receive the data input and store the input in DynamoDB. Use Amazon Route 53 to point the DNS names of the web forms to the Kinesis data stream's endpoint.

C. Create Docker images for each server of the legacy web form applications. Create an Amazon Elastic Container Service (Amazon ECS) cluster on AWS Fargate. Place an Application Load Balancer in front of the ECS cluster. Use Fargate task storage to store the web form data.

D. Provision an Amazon Aurora Serverless cluster. Build multiple schemas for each web form's data storage. Use Amazon API Gateway and an AWSLambda function to recreate the data input forms. Use Amazon Route 53 to point the DNS names of the web forms to their corresponding API Gateway endpoint.

Correct Answer: A

QUESTION 4

A scientific company needs to process text and image data ..... during a live, time-critical phase of a deep space mission. The radar stations upload the data to the source S3 bucket. The data is prefixed by radar station identification number.

The company created a destination S3 bucket in a second account Data must be copied from the source S3 bucket to the destination S3 bucket to meet a compliance objective This replication occurs through the use of an S3 replication rule to cover all objects in the source S3 bucket.

One specific radar station is identified as having the most accurate data Data replication at this radar station must be monitored for completion within 30 minutes after the radar station uploads the objects to the source S3 bucket.

What should a solutions architect do to meet these requirements?

A. Set up an AWS DataSync agent to replicate the prefixed data from the source S3 bucket to the destination S3 bucket. Select to use at available bandwidth on the task, and monitor the task to ensure that it is in the TRANSFERRING status. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to trigger an alert if this status changes
B. In the second account, create another S3 bucket to receive data from the radar station with the most accurate data Set up a new replication rule for this new S3 bucket toseparate the replication

from the other radar stations Monitor the maximum replication time to the destination. Create an Amazon EventBridge (Amazon CloudWatch Events) rule to trigger an alert when the time exceeds the desired threshold

C. Enable Amazon S3 Transfer Acceleration on the source S3 bucket, and configure the radar station with the most accurate data to use the new endpoint Monitor the S3 destination bucket's TotalRequestLatency metric Create an Amazon EventBridge (Amazon CloudWatch Events) rule to trigger an alert if this status changes

D. Create a new S3 replication rule on the source S3 bucket that filters for the keys that use the prefix of the radar station with the most accurate data Enable S3 Replication Time Control (S3 RTC) Monitor the maximum replication time to the destination Create an Amazon EventBridge (Amazon CloudWatch Events) rule to trigger an alert when the time exceeds the desired threshold

Correct Answer: B

QUESTION 5

A company is running a web application with On-Demand Amazon EC2 instances in Auto Scaling groups that scale dynamically based on custom metncs After extensive testing, the company determines that the m5.2xlarge instance size is optimal for the workload Application data is stored in db.r4.4xlarge Amazon RDS instances that are confirmed to be optimal. The traffic to the web application spikes randomly during the day.

What other cost-optimization methods should the company implement to further reduce costs without impacting the reliability of the application?

A. Double the instance count in the Auto Scaling groups and reduce the instance size to m5.large

B. Reserve capacity for the RDS database and the minimum number of EC2 instances that are constantly running.

C. Reduce the RDS instance size to db.r4.xlarge and add five equivalent^ sized read replicas to provide reliability.

D. Reserve capacity for all EC2 instances and leverage Spot Instance pricing for the RDS database.

Correct Answer: B

QUESTION 6

A fitness tracking company serves users around the world, with its primary markets in North America and Asi

a. The company needs to design an infrastructure for its read-heavy user authorization application with the following requirements:

* Be resilient to problems with the application in any Region.
* Write to a database in a single Region.
* Read from multiple Regions.
* Support resiliency across application tiers in each Region.

* Support the relational database semantics reflected in the application.

Which combination of steps should a solutions architect take? (Select TWO.)

A. Use an Amazon Route 53 geoproximity routing policy combined with a multivalue answer routing policy.

B. Deploy web. application, and MySQL database servers to Amazon EC2 instances in each Region. Set up the application so that reads and writes are local to the Region. Create snapshots of the web, application, and database servers and store the snapshots in an Amazon S3 bucket in both Regions. Set up cross-Region replication for the database layer.

C. Set up web, application, and Amazon RDS for MySQL instances in each Region. Set up the application so that reads are local and writes are partitioned based on the user. Set up a Multi-AZ failover for the web, application, and database servers. Set up cross-Region replication for the database layer.

D. Set up active-active web and application servers in each Region. Deploy an Amazon Aurora global database with clusters in each Region. Set up the application to use the in-Region Aurora database endpoints. Create snapshots of the web and application servers and store them in an Amazon S3 bucket in both Regions.

Correct Answer: C,D

QUESTION 7

A company wants to migrate its corporate data center from on premises to the AWS Cloud. The data center includes physical servers and VMs that use VMware and Hyper-V. An administrator needs to select the correct services to collect data (or the initial migration discovery process. The data format should be supported by AWS Migration Hub. The company also needs the ability to generate reports from the data.

Which solution meets these requirements?

A. Use the AWS Agentless Discovery Connector for data collection on physical servers and all VMs. Store the collected data in Amazon S3. Query the data with S3 Select. Generate reports by using Kibana hosted on Amazon EC2

B. Use the AWS Application Discovery Service agent for data collection on physical servers and all VMs. Store the collected data in Amazon Elastic File System (Amazon EFS). Query the data and generate reports with Amazon Athena.

C. Use the AWS Application Discovery Service agent for data collection on physical servers and Hyper-V. Use the AWS Agentless Discovery Connector for data collection on VMware. Store the collected data in Amazon S3. Query the data with Amazon Athena. Generate reports by using Amazon QuickSight.

D. Use the AWS Systems Manager agent for data collection on physical servers. Use the AWS Agentless Discovery Connector for data collection on all VMs. Store, query, and generate reports from the collected data by using Amazon Redshift.

Correct Answer: C

QUESTION 8

A company has a policy that all Amazon EC2 instances that are running a database must exist within the same subnets in a shared VPC Administrators must follow security compliance requirements and are not allowed to directly log in to the shared account All company accounts are members of the same organization in AWS Organizations. The number of accounts will rapidly increase as the company grows.

A. A solutions architect uses AWS Resource Access Manager to create a resource share in the shared account. What is the MOST operationally efficient configuration to meet these requirements?
B. Add the VPC to the resource share Add the account IDs as principals
C. Add all subnets within the VPC to the resource share Add the account IDs as principals D. Add all subnets within the VPC to the resource share Add the organization as a principal
E. Add the VPC to the resource share Add the organization as a principal

Correct Answer: B

QUESTION 9

A media company uses Amazon DynamoDB to store metadata for its catalog of movies that are available to stream. Each media item Contains user-facing content that concludes a description of the media, a list of search tags, and similar dat
a. In addition, media items include a list of Amazon S3 key names that relate to movie files. The company stores these movie files in a single S3 bucket that has versioning enable. The company uses Amazon CloudFront to serve these movie files.
The company has 100.000 media items, and each media item can have many different S3 objects that represent different encodings of the same media S3 objects that belong to the same media item are grouped together under the same key prefix, which is a random unique ID
Because of an expiring contract with a media provider, the company must remove 2.000 media Items. The company must completely delete all DynamoDB keys and movie files on Amazon S3 that are related to these media items within 36 hours The company must ensure that the content cannot be recovered.

Which combination of actions will meet these requirements? (Select TWO.)

A. Configure the dynamoDB table with a TTL field. Create and invoke an AWS Lambda function to perform a conditional update Set the TTL field to the time of the contract's expiration on every affected media item.

B. Configure an S3 Lifecycle object expiration rule that is based on the contract's expiration date

C. Write a script to perform a conditional delete on all the affected DynamoDB records

D. Temporarily suspend versioning on the S3 bucket. Create and invoke an AWS Lambda function that deletes affected objects Reactivate versioning when the operation is complete

E. Write a script to delete objects from Amazon S3 Specify in each request a NoncurrentVersionExpiration property with a NoncurrentDays attribute set to 0.

Correct Answer: C,E

QUESTION 10

A company runs an application that gives users the ability to search for videos and related information by using keywords that are curated from content providers. The application data is stored in an on -premises Oracle database that is 800 GB in size.

The company wants to migrate the data to an Amazon Aurora MySQL DB instance. A solutions architect plans to use the AWS Schema Conversion Tool and AWS Database Migration Service (AWS DMS) for the migration. During the migration, the existing database must serve ongoing requests. The migration must be completed with minimum downtime

Which solution will meet these requirements?

A. Create primary key indexes, secondary indexes, and referential integrity constraints in the target database before starting the migration process
B. Use AWS DMS to run the conversion report for Oracle to Aurora MySQL. Remediate any issues Then use AWS DMS to migrate the data
C. Use the M5 or CS DMS replication instance type for ongoing replication
D. Turn off automatic backups and logging of the target database until the migration and cutover processes are complete

Correct Answer: B

QUESTION 11

A company has a project that is launching Amazon EC2 instances that are larger than required. The project's account cannot be part of the company's organization in AWS Organizations due to policy restrictions to keep this activity outside of corporate IT. The company wants to allow only the launch of t3.small EC2 instances by developers in the project's account. These EC2 instances must be restricted to the us-east-2 Region.

What should a solutions architect do to meet these requirements?

A. Create a new developer account. Move all EC2 instances, users, and assets into us -east-2. Add the account to the company's organization in AWS Organizations. Enforce a tagging policy that denotes Region affinity.

B. Create an SCP that denies the launch of all EC2 instances except I3.small EC2 instances in us -east-2. Attach the SCP to the project's account.
C. Create and purchase a t3.small EC2 Reserved Instance for each developer in us-east-2. Assign each developer a specific EC2 instance with their name as the tag.
D. Create an 1AM policy than allows the launch of only t3.small EC2 instances in us -east-2. Attach the policy to the roles and groups that the developers use in the project's account.

Correct Answer: D

QUESTION 12

A company runs an application on AWS. An AWS Lambda function uses credentials to authenticate to an Amazon RDS tor MySQL DB instance. A security risk assessment identified that these credentials are not frequently rotated. Also, encryption at rest is not enabled for the DB instance. The security team requires that both of these issues be resolved.

Which strategy should a solutions architect recommend to remediate these security risks?

A. Configure the Lambda function to store and retrieve the database credentials in AWS Secrets Manager and enable rotation of the credentials. Take a snapshot ol the DB instance and encrypt a copy of that snapshot. Replace the DB instance with a new DB instance that is based on the encrypted snapshot.

B. Enable 1AM DB authentication on the DB instance. Grant the Lambda execution role access to the DB instance. Modify the DB instance and enable encryption.

C. Enable 1AM DB authentication on the DB instance. Grant the Lambda execution role access to the DB instance. Create an encrypted read replica of the DB instance. Promote Ihe encrypted read replica to be the new primary node.

D. Configure the Lambda function to store and retrieve the database credentials as encrypted AWS Systems Manager Parameter Store parameters. Create another Lambda function to automatically rotate the credentials. Create an encrypted read replica of the DB instance. Promote the encrypted read replica to be the new primary node.

Correct Answer: A

QUESTION 13

A company hosts a photography website on AWS that has global visitors. The website has experienced steady increases in traffic during the last 12 months, and users have reported a delay in displaying images. The company wants to configure Amazon CloudFront lo deliver photos to visitors with minimal latency.

Which actions will achieve this goal? (Select TWO.)

A. Set the Minimum TTL and Maximum TTL to 0 in the CloudFront distribution.
B. Set the Minimum TTL and Maximum TTL to a high value in the CloudFront distribution.
C. Set the CloudFront distribution to forward all headers, all cookies, and all query strings to the origin.

D. Set up additional origin servers that are geographically closer to the requesters. Configure latency-based routing in Amazon Route 53.
E. Select Price Class 100 on Ihe CloudFront distribution.

Correct Answer: B,D

QUESTION 14

A solution architect needs to deploy an application on a fleet of Amazon EC2 instances. The EC2 instances run in private subnets in An Auto Scaling group. The application is expected to generate logs at a rate of 100 MB each second on each of the EC2 instances.

The logs must be stored in an Amazon S3 bucket so that an Amazon EMR cluster can consume them for further processing The logs must be quickly accessible for the first 90 days and should be retrievable within 48 hours thereafter.

What is the MOST cost-effective solution that meets these requirements?

A. Set up an S3 copy job to write logs from each EC2 instance to the S3 bucket with S3 Standard storage Use a NAT instance within the private subnets to connect to Amazon S3. Create S3 Lifecycle policies to move logs that are older than 90 days to S3 Glacier.
B. Set up an S3 sync job to copy logs from each EC2 instance to the S3 bucket with S3 Standard storage Use a gateway VPC endpoint for Amazon S3 to connect to Amazon S3. Create S3 Lifecycle policies to move logs that are older than 90 days to S3 Glacier Deep Archive
C. Set up an S3 batch operation to copy logs from each EC2 instance to the S3 bucket with S3 Standard storage Use a NAT gateway with the private subnets to connect to Amazon S3 Create S3 Lifecycle policies to move logs that are older than 90 days to S3 Glacier Deep Archive
D. Set up an S3 sync job to copy logs from each EC2 instance to the S3 bucket with S3 Standard storage Use a gateway VPC endpoint for Amazon S3 to connect to Amazon S3. Create S3 Lifecycle policies to move logs that are older than 90 days to S3 Glacier

Correct Answer: C

QUESTION 15

A company is planning to host a web application on AWS and works to load balance the traffic across a group of Amazon EC2 instances. One of the security requirements is to enable end-to-end encryption in transit between the client and the web server.

Which solution will meet this requirement?

A. Place the EC2 instances behind an Application Load Balancer (ALB) Provision an SSL certificate using AWS Certificate Manager (ACM), and associate the SSL certificate with the ALB. Export the

SSL certificate and install it on each EC2 instance. Configure the ALB to listen on port 443 and to forward traffic to port 443 on the instances.

B. Associate the EC2 instances with a target group. Provision an SSL certificate using AWS Certificate Manager (ACM). Create an Amazon CloudFront distribution and configure It to use the SSL certificate. Set CloudFront to use the target group as the origin server

C. Place the EC2 instances behind an Application Load Balancer (ALB). Provision an SSL certificate using AWS Certificate Manager (ACM), and associate the SSL certificate with the ALB. Provision a third-party SSL certificate and install it on each EC2 instance Configure the ALB to listen on port 443 and to forward traffic to port 443 on the instances.

D. Place the EC2 instances behind a Network Load Balancer (NLB). Provision a third-party SSL certificate and install it on the NLB and on each EC2 instance. Configure the NLB to listen on port 443 and to forward traffic to port 443 on the instances.

Correct Answer: C