QUESTION 102
A solutions architect is designing a multi-tier application for a company. The application's users upload images from a mobile device. The application generates a thumbnail of each image and returns a message to the user to confirm that the image was uploaded successfully. The thumbnail generation can take up to 60 seconds, but the company wants to provide a faster response time to its users to notify them that the original image was received. The solutions architect must design the application to asynchronously dispatch requests to the different application tiers. What should the solutions architect do to meet these requirements?

A. Write a custom AWS Lambda function to generate the thumbnail and alert the user. Use the image upload process as an event source to invoke the Lambda function.
B. Create an AWS Step Functions workflow Configure Step Functions to handle the orchestration between the application tiers and alert the user when thumbnail generation is complete.
C. Create an Amazon Simple Queue Service (Amazon SQS) message queue. As images are uploaded, place a message on the SQS queue for thumbnail generation. Alert the user through an application message that the image was received.
D. Create Amazon Simple Notification Service (Amazon SNS) notification topics and subscriptions Use one subscription with the application to generate the thumbnail after the image upload is complete. Use a second subscription to message the user's mobile app by way of a push notification after thumbnail generation is complete.

Correct Answer: C

QUESTION 103
A company has deployed a multiplayer game for mobile devices. The game requires live location tracking of players based on latitude and longitude. The data store for the game must support rapid updates and retrieval of locations. The game uses an Amazon RDS for PostgreSQL DB instance with read replicas to store the location data. During peak usage periods, the database is unable to maintain the performance that is needed for reading and writing updates. The game's user base is increasing rapidly. What should a solutions architect do to improve the performance of the data tier?

A. A.Take a snapshot of the existing DB instance. Restore the snapshot with Multi-AZ enabled.
B. Migrate from Amazon RDS to Amazon Elasticsearch Service (Amazon ES) with Kibana.
C. Deploy Amazon DynamoDB Accelerator (DAX) in front of the existing DB instance. Modify the game to use DAX.
D. Deploy an Amazon ElastiCache for Redis cluster in front of the existing DB instance. Modify the game to use Redis.

Correct Answer: D

QUESTION 104
A company needs to connect its on-premises data center network to a new VPC. The data center network has a 100 Mbps symmetrical internet connection. An application that is running on premises will transfer multiple gigabytes of data each day. The application will use an Amazon Kinesis Data Firehose delivery stream for processing. What should a solutions architect recommend for maximum performance?

A. Create a VPC peering connection between the on-premises network and the VPC Configure routing for the on-premises network to use the VPC peering connection.
B. Procure an AWS Snowball Edge Storage Optimized device. After several days' worth of data has accumulated, copy the data to the device and ship the device to AWS for expedited transfer to

Kinesis Data Firehose Repeat as needed.
C. Create an AWS Site-to-Site VPN connection between the on-premises network and the VPC
    Configure BGP routing between the customer gateway and the virtual private gateway. Use the
    VPN connection to send the data from on premises to Kinesis Data Firehose.
D. Use AWS PrivateLink to create an interface VPC endpoint for Kinesis Data Firehose in the VPC.
    Set up a 1 Gbps AWS Direct Connect connection between the on-premises network and AWS
    Use the PrivateLink endpoint to send the data from on premises to Kinesis Data Firehose.

Correct Answer: D

QUESTION 105
A solution architect is designing a new service behind API Gateway. The request pattern for the
service will be unpredictable and can change suddenly from 0 request to over 500 per second.
The total size of the data that needs to be persisted database is currently less than 1 GB
unpredictable future growth. Date can be queried using sampling key-value request. Which
combination of AWS services would meet these requirements? (Select TWO.)

A. AWS Fargete
B. AWS Lambda
C. Amazon DynamoDB
D. Amazon EC2 Auto Scaling
E. MySQL-compatible Amazon Aurora

Correct Answer: AC

QUESTION 106
A company wants to run a hybrid workload for data processing. The data needs to be accessed
by on-premises applications for local data processing using an NFS protocol and must also be
accessible from the AWS Cloud for further analytics and batch processing. Which solution will
meet these requirements?

A. Use an AWS Storage Gateway file gateway to provide file storage to AWS: then perform analytics
    on this data in the AWS Cloud.
B. Use an AWS Storage Gateway tape gateway to copy the backup of the local data to AWS. then
    perform analytics on this data in the AWS Cloud.
C. Use an AWS Storage Gateway volume gateway in a stored volume configuration to regularly take
    snapshots of the local data, then copy the data to AWS.
D. Use an AWS Storage Gateway volume gateway in a cached volume configuration to back up all
    the local storage in the AWS Cloud, then perform analytics on this data in the cloud.

Correct Answer: A
Explanation:
https://d1.awsstatic.com/cloud-storage/AWS-Storage-Gateway-How-it-Works-
Diagram.3d8305b8c1e9c46e4579fbc341209d6d3c5d2eb4.png
https://aws.amazon.com/storagegateway/file/

QUESTION 107
An ecommerce company hosts its analytics application in the AWS Cloud. The application

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

A. Amazon Elasticsearch Service (Amazon ES)
B. Amazon S3 Glacier
C. Amazon S3 Standard
D. Amazon RDS for PostgreSQL

Correct Answer: A

QUESTION 108
A company currently has 250 TB of backup files stored in Amazon S3 in a vendor's proprietary format. Using a Linux-based software application provided by the vendor, the company wants to retrieve files from Amazon S3, transform the files to an industry-standard format, and re-upload them to Amazon S3. The company wants to minimize the data transfer charges associated with this conversion. What should a solutions architect do to accomplish this?

A. Install the conversion software as an Amazon S3 batch operation so the data is transformed without leaving Amazon S3.
B. Install the conversion software onto an on-premises virtual machine. Perform the transformation and re-upload the files to Amazon S3 from the virtual machine.
C. Use AWS Snowball Edge devices to export the data and install the conversion software onto the devices. Perform the data transformation and re-upload the files to Amazon S3 from the Snowball Edge devices.
D. Launch an Amazon EC2 instance in the same Region as Amazon S3 and install the conversion software onto the instance. Perform the transformation and re-upload the files to Amazon S3 from the EC2 instance.

Correct Answer: D

QUESTION 109
A company's facility has badge readers at every entrance throughout the building. When badges are scanned, the readers send a message over HTTPS to indicate who attempted to access that particular entrance. A solutions architect must design a system to process these messages from the sensors. The solution must be highly available, and the results must be made available for the company's security team to analyze. Which system architecture should the solutions architect recommend?

A. Launch an Amazon EC2 instance to serve as the HTTPS endpoint and to process the messages Configure the EC2 instance to save the results to an Amazon S3 bucket.
B. Create an HTTPS endpoint in Amazon API Gateway. Configure the API Gateway endpoint to invoke an AWS Lambda function to process the messages and save the results to an Amazon DynamoDB table.
C. Use Amazon Route 53 to direct incoming sensor messages to an AWS Lambda function. Configure the Lambda function to process the messages and save the results to an Amazon DynamoDB table.
D. Create a gateway VPC endpoint for Amazon S3. Configure a Site-to-Site VPN connection from the facility network to the VPC so that sensor data can be written directly to an S3 bucket by way of the VPC endpoint.

Correct Answer: B

QUESTION 110
A solutions architect must create a highly available bastion host architecture. The solution needs to be resilient within a single AWS Region and should require only minimal effort to maintain. What should the solutions architect do to meet these requirements?

A. Create a Network Load Balancer backed by an Auto Scaling group with a UDP listener.
B. Create a Network Load Balancer backed by a Spot Fleet with instances in a partition placement group.
C. Create a Network Load Balancer backed by the existing servers in different Availability Zones as the target.
D. Create a Network Load Balancer backed by an Auto Scaling group with instances in multiple Availability Zones as the target.

Correct Answer: D

QUESTION 111
A solutions architect is designing the architecture for a new web application. The application will run on AWS Fargate containers with an Application Load Balancer (ALB) and an Amazon Aurora PostgreSQL database. The web application will perform primarily read queries against the database. What should the solutions architect do to ensure that the website can scale with increasing traffic? (Select TWO.)

A. Enable auto scaling on the ALB to scale the load balancer horizontally.
B. Configure Aurora Auto Scaling to adjust the number of Aurora Replicas in the Aurora cluster dynamically.
C. Enable cross-zone load balancing on the ALB to distribute the load evenly across containers in all Availability Zones.
D. Configure an Amazon Elastic Container Service (Amazon ECS) cluster in each Availability Zone to distribute the load across multiple Availability Zones.
E. Configure Amazon Elastic Container Service (Amazon ECS) Service Auto Scaling with a target tracking scaling policy that is based on CPU utilization.

Correct Answer: AB

QUESTION 112
A company has developed a microservices application. It uses a client-facing API with Amazon API Gateway and multiple internal services hosted on Amazon EC2 instances to process user requests. The API is designed to support unpredictable surges in traffic, but internal services may become overwhelmed and unresponsive for a period of time during surges. A solutions architect needs to design a more reliable solution that reduces errors when internal services become unresponsive or unavailable. Which solution meets these requirements?

A. Use AWS Auto Scaling to scale up internal services when there is a surge in traffic.
B. Use different Availability Zones to host internal services. Send a notification to a system administrator when an internal service becomes unresponsive.
C. Use an Elastic Load Balancer to distribute the traffic between internal services Configure Amazon CloudWatch metrics to monitor traffic to internal services.
D. Use Amazon Simple Queue Service (Amazon SQS) to store user requests as they arrive. Change the internal services to retrieve the requests from the queue for processing.

Correct Answer: D

QUESTION 113
The following IAM policy is attached to an IAM group. This is the only policy applied to the group. What are the effective IAM permissions of this policy for group members?

```
{
    "Version": "2012-10-17",
    "Statement": [
        {
            "Sid": "1",
            "Effect": "Allow",
            "Action": "ec2:*",
            "Resource": "*",
            "Condition": {
                "StringEquals": {
                    "ec2:Region": "us-east-1"
                }
            }
        },
        {
            "Sid": "2",
            "Effect": "Deny",
            "Action": [
                "ec2:StopInstances",
                "ec2:TerminateInstances"
            ],
            "Resource": "*",
            "Condition": {
                "BoolIfExists": {"aws:MultiFactorAuthPresent": false}
            }
        }
    ]
}

        {
            "Sid": "2",
            "Effect": "Deny",
            "Action": [
                "ec2:StopInstances",
                "ec2:TerminateInstances"
            ],
            "Resource": "*",
            "Condition": {
                "BoolIfExists": {"aws:MultiFactorAuthPresent": false}
            }
        }
    ]
}
```

A. Group members are permitted any Amazon EC2 action within the us-east-1 Region. Statements after the Allow permission are not applied.
B. Group members are denied any Amazon EC2 permissions in the us-east-1 Region unless they are logged in with multi-factor authentication (MFA).
C. Group members are allowed the ec2 StopInstances and ec2. TerminateInstances permissions for all Regions when logged in with multi-factor authentication (MFA) Group members are permitted any other Amazon EC2 action.
D. Group members are allowed the ec2 StopInstances and ec2. Terminateinstances permissions for the us-east-1 Region only when logged in with multi-factor authentication (MFA) Group members are permitted any other Amazon EC2 action within the us-east-1 Region.