

# AWS Academy

## North America Talent Development Team



**Session 8**

## *Exam Readiness Workshop*

## Module # 1

Exam Readiness Workshop



Sample Questions review



# Question 1

A company has a great deal of data in S3 buckets for which they want to create a database. Creating the RDS database, normalizing the data, and migrating to the RDS database will take time and is the long-term plan. But there's an immediate need to query this data to retrieve information necessary for an audit. Which AWS service will enable querying data in S3 using standard SQL commands?

- A. Amazon Athena
- B. There is no such service, but there are third-party tools.
- C. Amazon SQL Connector
- D. DynamoDB

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## Question 2

You have been tasked with designing a strategy for backing up EBS volumes attached to an instance-store-backed EC2 instance. You have been asked for an executive summary on your design, and the executive summary should include an answer to the question, “What can an EBS volume do when snapshotting the volume is in progress”?

- A. The volume can be used normally while the snapshot is in progress.
- B. The volume cannot be used while a snapshot is in progress.
- C. The volume can only accommodate reads while a snapshot is in progress.
- D. The volume can only accommodate writes while a snapshot is in progress.

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## Question 3

You have several EC2 instances in an auto scaling group fronted by a network load balancer. The instances will need access to S3 and DynamoDB. The auto scaling group was created from a launch template. What needs to be configured in the launch template to enable newly launched instances access to S3 and DynamoDB?

- A. An IAM Role attached to newly launched instances with permissions to S3 and DynamoDB.
- B. An IAM Group for EC2 with policies giving permission to S3 and DynamoDB.
- C. Access keys to be passed to newly launched EC2 instances.
- D. IAM policy attached to newly launched instances with permissions to S3 and DynamoDB.

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## Question 4

You have taken over management of several instances in the company AWS environment. You want to quickly review scripts used to bootstrap the instances at runtime. A URL command can be used to do this. What can you append to the URL <http://169.254.169.254/latest/> to retrieve this data?

- A. instance-demographic-data/
- B. instance-data/
- C. user-data/
- D. meta-data/

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## Question 5

You have configured an Auto Scaling Group of EC2 instances fronted by an Application Load Balancer and backed by an RDS database. You want to begin monitoring the EC2 instances using CloudWatch metrics. Which metric is not readily available out of the box?

- A. NetworkIn
- B. CPU utilization
- C. DiskReadOps
- D. Memory utilization

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## Question 6

A gaming company is creating an application which simply provides a leaderboard for specific games. The leaderboard will use DynamoDB for data, and simply needs to be updated in near real-time. An EC2 instance will be configured to house the application which will be accessed by subscribers from the Internet. Which step is not necessary for internet traffic to flow to and from the Internet?

- A. A route in the route table to the DynamoDB table.
- B. Attach an internet gateway to your VPC.
- C. Ensure that your network access control lists and security group rules allow the relevant traffic to flow to and from your instance.
- D. Add a route to your subnet's route table that directs internet-bound traffic to the internet gateway.

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## Question 7

A new startup is considering the advantages of using DynamoDB versus a traditional relational database in AWS RDS. The NoSQL nature of DynamoDB presents a small learning curve to the team members who all have experience with traditional databases. The company will have multiple databases, and the decision will be made on a case-by-case basis. Which of the following use cases would favor DynamoDB? **(Select two)**

- A. Storing BLOB data
- B. Managing web session data
- C. Storing metadata for S3 objects
- D. Storing infrequently accessed data
- E. Strong referential integrity between tables

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## Question 8

After several issues with your application and unplanned downtime, your recommendation to migrate your application to AWS is approved. You have set up high availability on the front end with a load balancer and an Auto Scaling Group. What step can you take with your database to configure high-availability and ensure minimal downtime (under five minutes)?

- A. Create your database using CloudFormation and save the template for reuse.
- B. Create a read replica.
- C. Take frequent snapshots of your database.
- D. Enable Multi-AZ failover on the database.

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## Question 9

Your company has recently converted to a hybrid cloud environment and will slowly be migrating to a fully AWS cloud environment. The AWS side is in need of some steps to prepare for disaster recovery. A disaster recovery plan needs drawn up and disaster recovery drills need to be performed for compliance reasons. The company wants to establish Recovery Time and Recovery Point Objectives. The RTO and RPO can be pretty relaxed. The main point is to have a plan in place, with as much cost savings as possible. Which AWS disaster recovery pattern will best meet these requirements?

- A. Pilot Light
- B. Backup and restore
- C. Warm Standby
- D. Multi Site

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## Question 10

A software company has created an application to capture service requests from users and also enhancement requests. The application is deployed on an Auto Scaling group of EC2 instances fronted by an Application Load Balancer. The Auto Scaling group has scaled to maximum capacity, but there are still requests being lost. The cost of these instances is becoming an issue. What step can the company take to ensure requests aren't lost?

- A. Use an SQS queue with the Auto Scaling group to capture all requests.
- B. Use spot instances to save money.
- C. Use larger instances in the Auto Scaling group.
- D. Use a Network Load Balancer instead for faster throughput.

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## Question 11

Your company is slowly migrating to the cloud and is currently in a hybrid environment. The server team has been provisioning servers to their exact specifications using Chef recipes. These recipes can be reused in AWS. Which AWS services are designed to work with existing Chef recipes?

- A. Elastic Beanstalk
- B. CloudFormation
- C. AWS Systems Manager
- D. Opsworks

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## Question 12

An organization of about 100 employees has performed the initial setup of users in IAM. All users except administrators have the same basic privileges. But now it has been determined that 50 employees will have extra restrictions on EC2. They will be unable to launch new instances or alter the state of existing instances. What will be the quickest way to implement these restrictions?

- A. Create the appropriate policy. With only 20 users, attach the policy to each user.
- B. Create the appropriate policy. Place the restricted users in the new policy.
- C. Create the appropriate policy. Create a new group for the restricted users. Place the restricted users in the new group.
- D. Create an IAM Role for the restrictions. Attach it to the EC2 instances.

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## Question 13

A consultant hired by a small company to configure an AWS environment. The consultant begins working with the VPC and launching EC2 instances within the VPC. The initial instances will be placed in a public subnet. The consultant begins to create security groups. What is true of security groups?

- A. Security groups are stateless.
- B. Security groups act at the subnet level, not the instance level.
- C. Security groups act at the VPC level, not the instance level.
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## Question 14

Your company has gone through an audit with a focus on data storage. You are currently storing historical data in Amazon Glacier. One of the results of the audit is that a portion of the infrequently-accessed historical data must be able to be accessed immediately upon request. Where can you store this data to meet this requirement?

- A. S3 Standard
- B. S3 Standard-IA
- C. Store the data in EBS
- D. Leave infrequently-accessed data in Glacier.

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- A. You can't change security groups. Create a new instance and attach the desired security groups.
- B. You can change the security groups for an instance when the instance is in the pending or stopped state.
- C. You can't change the security groups for an instance when the instance is in the running or stopped state.
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## Question 16

Recent worldwide events have dictated that you perform your duties as a Solutions Architect from home. You need to be able to manage several EC2 instances while working from home and have been testing the ability to ssh into these instances. One instance in particular has been a problem and you cannot ssh into this instance. What should you check first to troubleshoot this issue?

- A. Make sure that the security group for the instance has ingress on port 22 from your home IP address.
- B. Make sure that your VPC has a connected Virtual Private Gateway.
- C. Make sure that the Security Group for the instance has ingress on port 443 from your home IP address.
- D. Make sure that the security group for the instance has ingress on port 80 from your home IP address.

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## Question 17

You have been put in charge of S3 buckets for your company. The buckets are separated based on the type of data they are holding and the level of security required for that data. You have several buckets that have data you want to safeguard from accidental deletion. Which configuration will meet this requirement?

- A. Enable versioning on the bucket and multi-factor authentication delete as well.
- B. Signed URLs to all users to access the bucket.
- C. Configure cross-account access with an IAM Role prohibiting object deletion in the bucket.
- D. Archive sensitive data to Amazon Glacier.

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## Question 18

Your company has a small web application hosted on an EC2 instance. The application has just been deployed but no one is able to connect to the web application from a browser. You had recently ssh'd into this EC2 instance to perform a small update, but you also cannot access the application from your browser. You have checked and there is an internet gateway attached to the VPC and a route in the route table to the internet gateway. Which situation most likely exists?

- A. The instance security group has no ingress on port 22 or port 80.
- B. The instance security group has ingress on port 443 but not port 22.
- C. The instance security group has ingress on port 22 but not port 80.
- D. The instance security group has ingress on port 80 but not port 22.

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## Question 19

You have been evaluating the NACLS in your company. Most of the NACLS are configured the same: 100 All Traffic Allow 200 All Traffic Deny '\*' All Traffic Deny. If a request comes in, how will it be evaluated?

- A. All rules will be evaluated and the end result will be Deny.
- B. The default will deny traffic.
- C. The highest numbered rule will be used, a deny.
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## Question 20

You are managing S3 buckets in your organization. One of the buckets in your organization has gotten some bizarre uploads and you would like to be aware of these types of uploads as soon as possible. Because of that, you configure event notifications for this bucket. Which of the following is not a supported destination for event notifications?

- A. SNS
- B. SES
- C. Lambda function
- D. SQS

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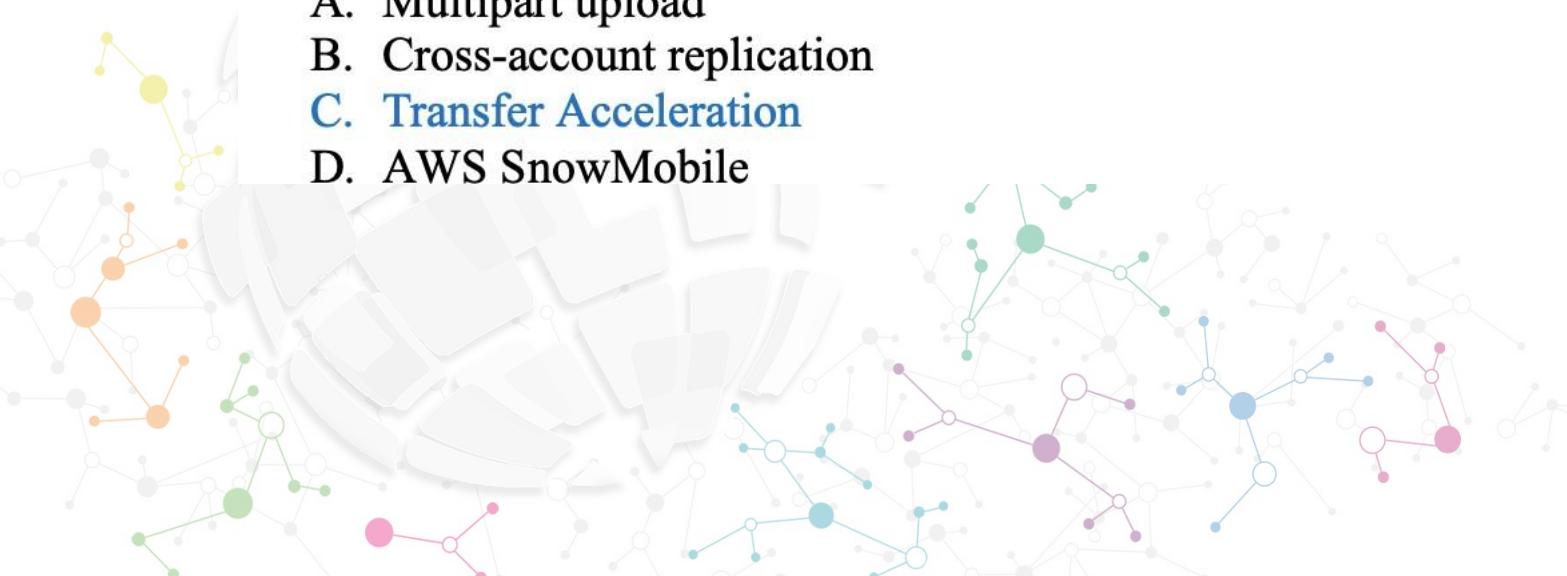
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## Question 21

An international company has many offices around the world, and has AWS accounts in almost every Region that AWS offers. These regional offices use their own S3 buckets and they store very large amounts of data. But at the end of each quarter, it is necessary to transfer large amounts of data from these regional buckets to S3 buckets at corporate headquarters. Which S3 feature will enable these long-distance data transfers in a secure and fast manner?

- A. Multipart upload
- B. Cross-account replication
- C. Transfer Acceleration
- D. AWS SnowMobile

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- A. Multipart upload
  - B. Cross-account replication
  - C. Transfer Acceleration**
  - D. AWS SnowMobile

## Question 22

A news media company is using an S3 bucket as a website to serve photos of television personalities within the company. The photos are intended to be served nationwide to local affiliates across the company. But you have found that these photos are being accessed and pirated for other websites not affiliated with the company. What can you do to stop this?

- A. Use CloudFront on the front end to serve the photos.
- B. Remove public read access from your bucket, then provide your users with pre-signed URLs to access the photos.
- C. Use a Network Access Control List (NACL) to block the IP address of unauthorized users.
- D. Set up an RDS database to store the photos. Make users register and login to the site.

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## Question 23

You have recently migrated your small company to AWS and are looking for some general best practice guidance within the platform. Which AWS service can help you optimize your AWS environment by giving recommendations to reduce cost, increase security, and improve performance?

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- B. AWS Optimizations
- C. AWS Trusted Advisor
- D. AWS Organizations

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## Question 24

A company is going to use several EC2 instances to host various reference applications. The applications are expected to receive steady and relatively low traffic. These applications are expected to run for 3 years, at which time the applications will be evaluated for upgrade. What type of EC2 will meet this requirement considering cost as an additional factor?

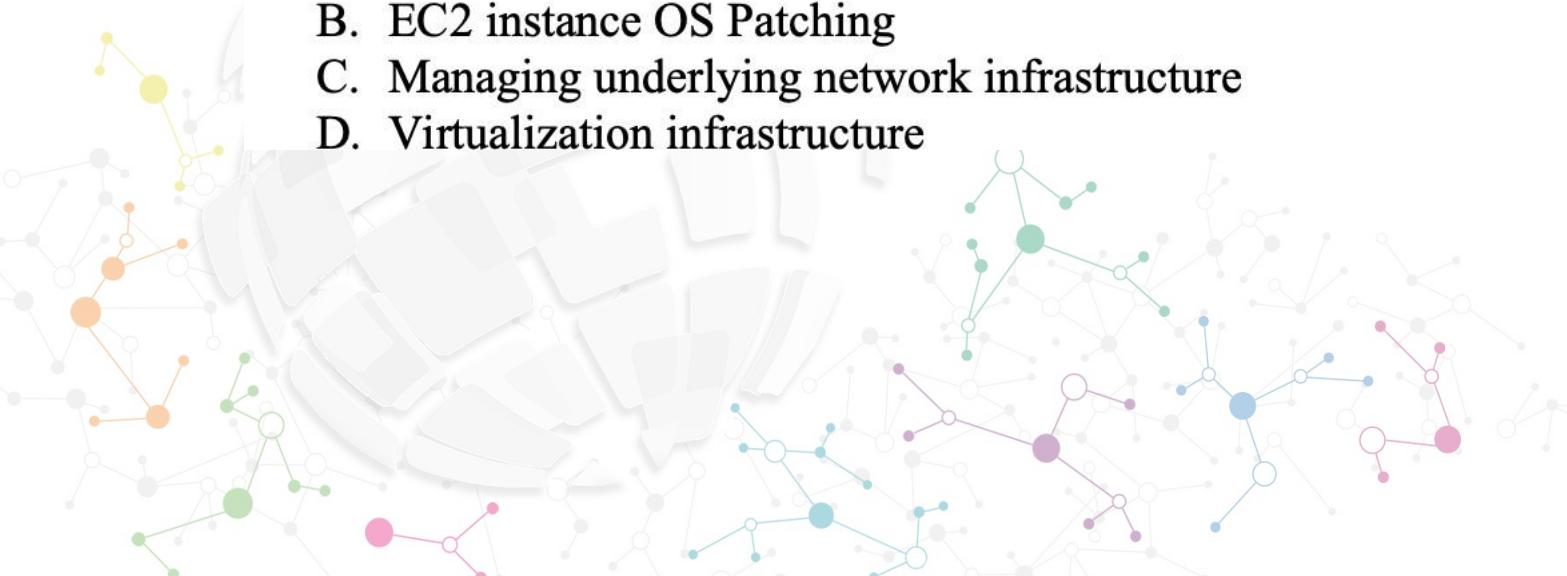
- A. Reserved
- B. Spot
- C. Dedicated Hosts
- D. On-Demand

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  - C. Dedicated Hosts
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- A faint, semi-transparent background image featuring a complex network of nodes and connections in various colors (yellow, orange, green, blue, pink) against a light gray gradient background. It appears to be a 3D representation of a large-scale network or cloud infrastructure.

## Question 25

You have been assigned the review of the security in your company AWS cloud environment. Your final deliverable will be a report detailing potential security issues. One of the first things that you need to describe is the responsibilities of the company under the shared responsibility module. Which measure is the customer's responsibility?

- A. Physical security of data centers
  - B. EC2 instance OS Patching
  - C. Managing underlying network infrastructure
  - D. Virtualization infrastructure
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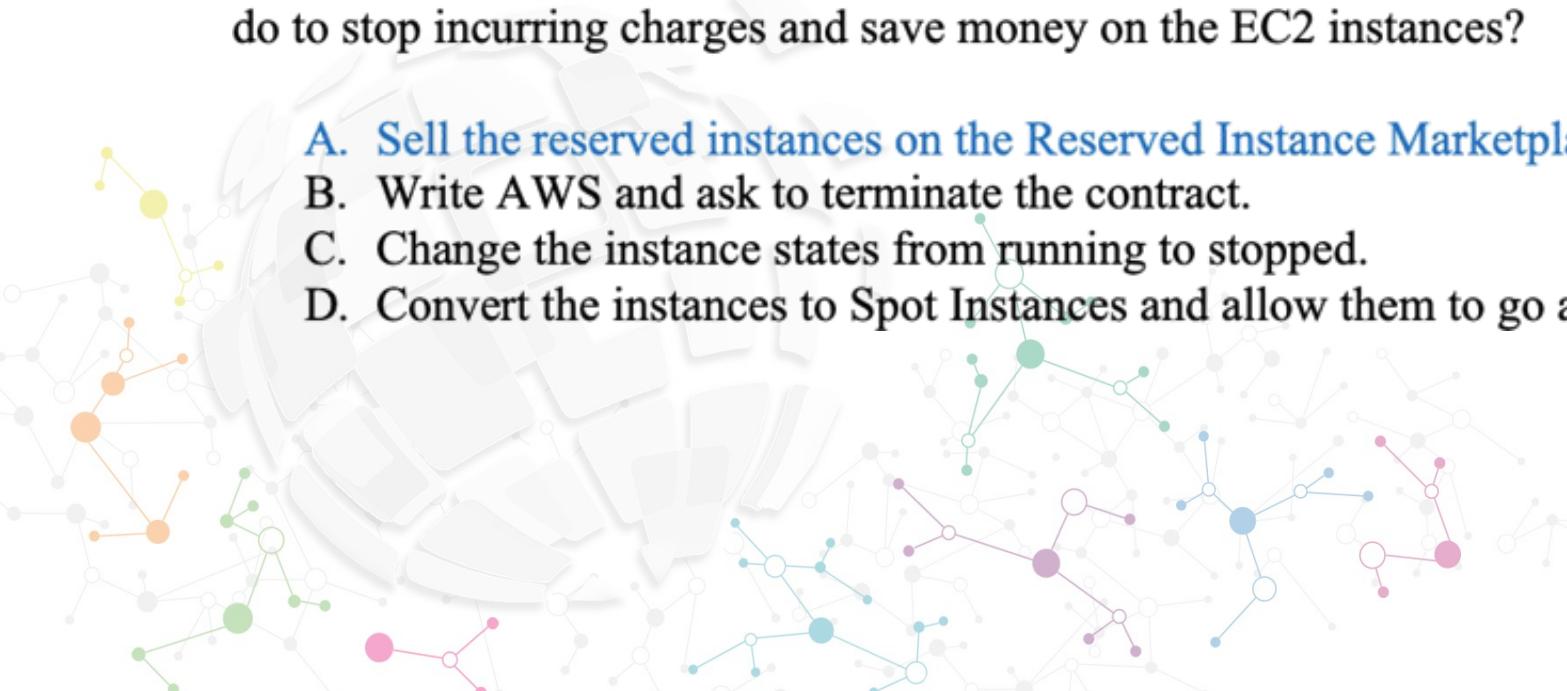
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## Question 26

You work for a Defense contracting company. The company develops software applications which perform intensive calculations in the area of Mechanical Engineering related to metals for ship building. You have a 3-year contract and decide to purchase reserved EC2 instances for a 3-year duration. You are informed that the particular program has been cancelled abruptly and negotiations have brought the contract to an amicable conclusion one year early. What can you do to stop incurring charges and save money on the EC2 instances?

- A. Sell the reserved instances on the Reserved Instance Marketplace.
- B. Write AWS and ask to terminate the contract.
- C. Change the instance states from running to stopped.
- D. Convert the instances to Spot Instances and allow them to go away through attrition.

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## Question 27

The CFO of your company approaches you and enquires about cutting costs in your AWS account. One area you are able to identify for cost cutting is in S3. There is data in S3 that is very rarely used and has only been retained for audit purposes. You decide to archive this data to a cheaper storage solution. Which AWS solution would meet this requirement?

- A. Write a cron job to archive the data to DynamoDB.
- B. Use a lifecycle policy to archive the data to Redshift.
- C. Use a lifecycle policy to archive the data to Amazon SQS.
- D. Use a lifecycle policy to archive the data to Glacier.

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D – Using S3 Lifecycle configuration, you can transition objects to the S3 Glacier or S3 Glacier Deep Archive storage classes for archiving.

When you choose the S3 Glacier or S3 Glacier Deep Archive storage class, your objects remain in Amazon S3. You cannot access them directly through the separate Amazon S3 Glacier service. <https://docs.aws.amazon.com/AmazonS3/latest/dev/lifecycle-transition-general-considerations.html>

## Question 28

You are put in charge of your company's Disaster Recovery planning. As part of this plan, you intend to create all of the company infrastructure with CloudFormation templates. The templates can then be saved in another region and used to launch a new environment in case of disaster. What determines the costs associated with CloudFormation templates?

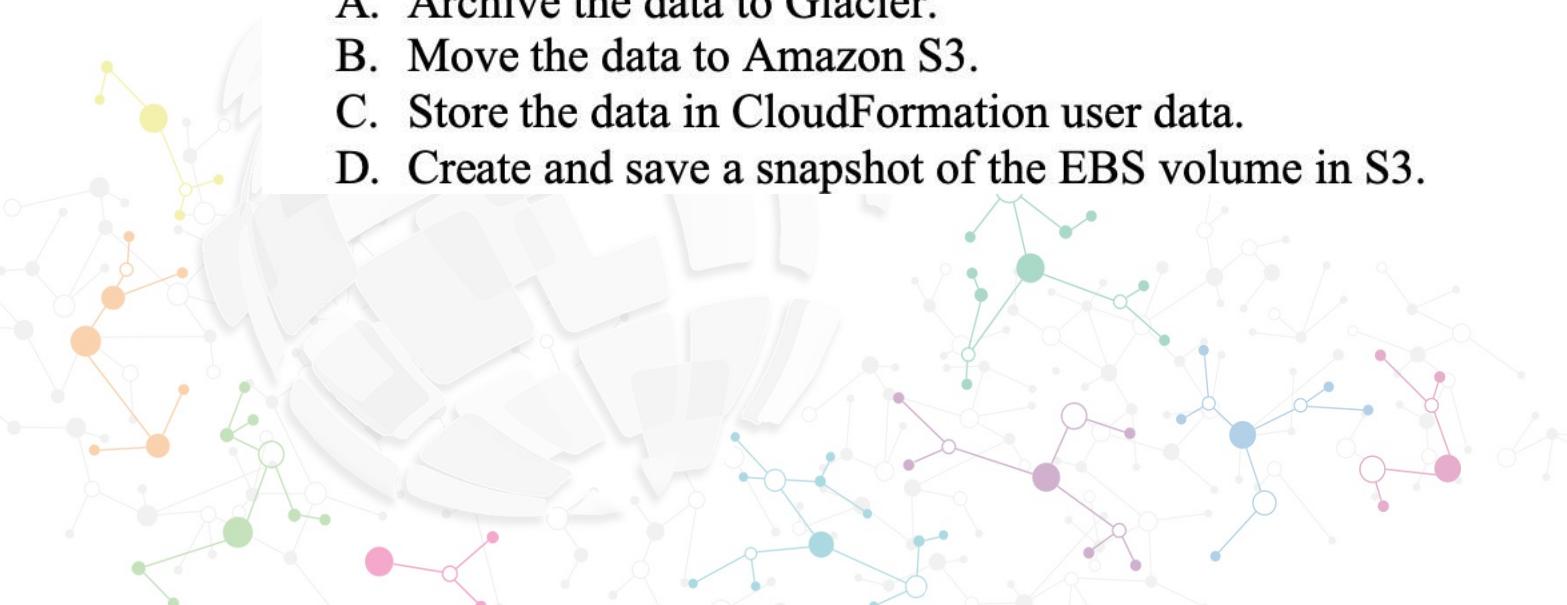
- A. There is a cost per template and discounts for over 100 templates.
- B. The distance of the region from the home region.
- C. It depends whether the resources in the template are in the free tier.
- D. There is no cost for templates, but when deployed, the resources created will accumulate charges.

You are put in charge of your company's Disaster Recovery planning. As part of this plan, you intend to create all of the company infrastructure with CloudFormation templates. The templates can then be saved in another region and used to launch a new environment in case of disaster. What determines the costs associated with CloudFormation templates?

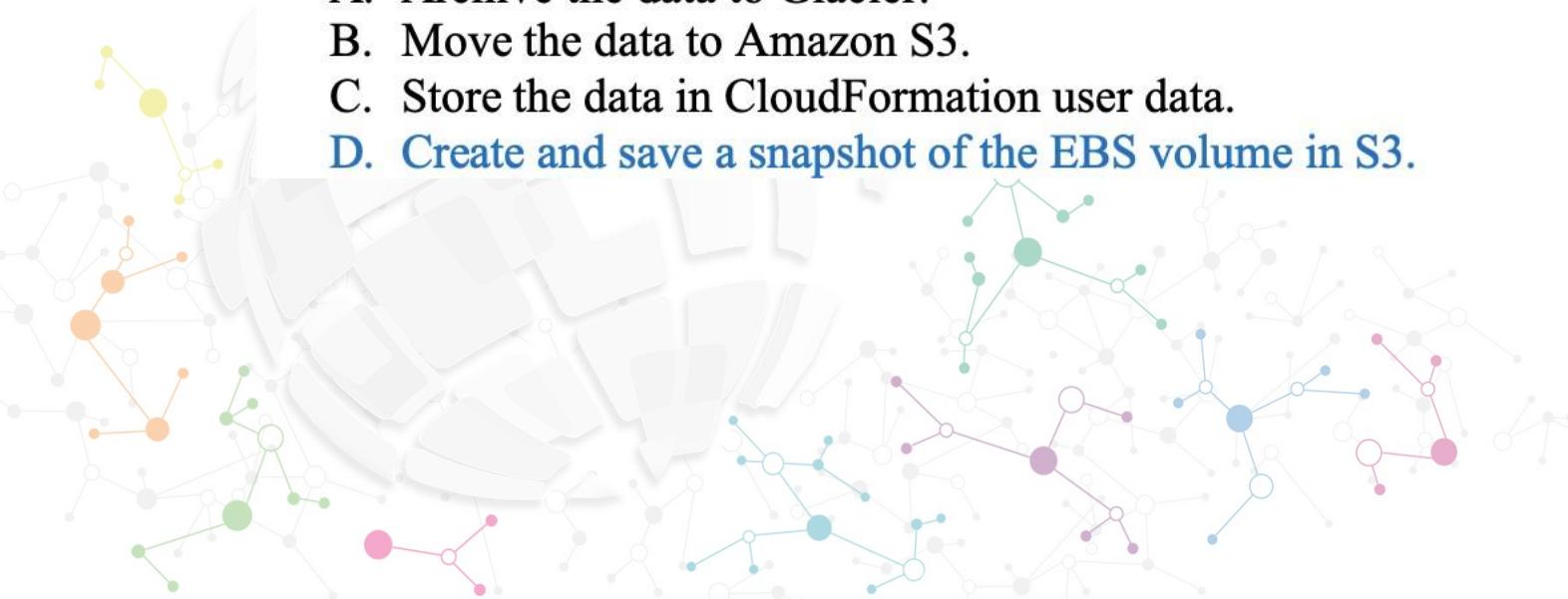
- A. There is a cost per template and discounts for over 100 templates.
- B. The distance of the region from the home region.
- C. It depends whether the resources in the template are in the free tier.
- D. There is no cost for templates, but when deployed, the resources created will accumulate charges.

## Question 29

You are working in a large healthcare facility which uses EBS volumes on most of the EC2 instances. The CFO has approached you about some cost savings and it has been decided that some of the EC2 instances and EBS volumes would be deleted. What step can be taken to preserve the data on the EBS volumes and keep the data available on short notice?

- 
- A. Archive the data to Glacier.
  - B. Move the data to Amazon S3.
  - C. Store the data in CloudFormation user data.
  - D. Create and save a snapshot of the EBS volume in S3.

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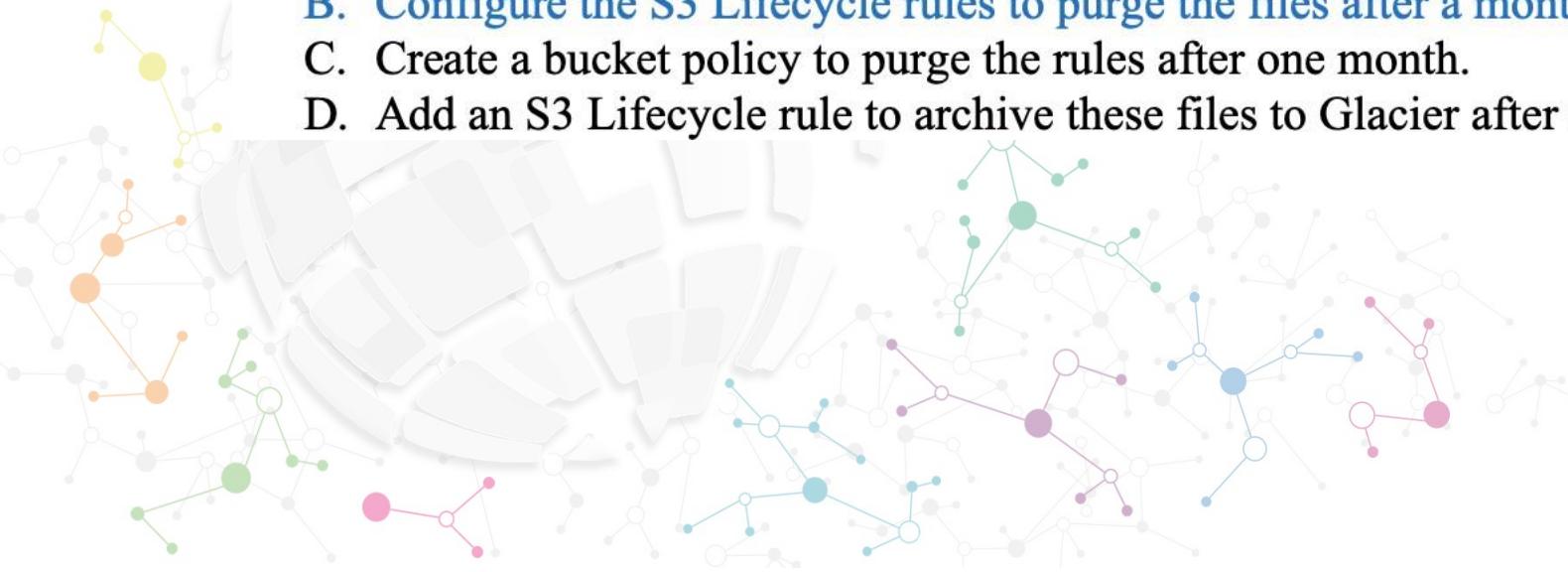
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## Question 30

Your company is storing stack traces for application errors in an S3 Bucket. The engineers using these stack traces review them when addressing application issues. It has been decided that the files only need to be kept for four weeks then they can be purged. How can you meet this requirement in S3?

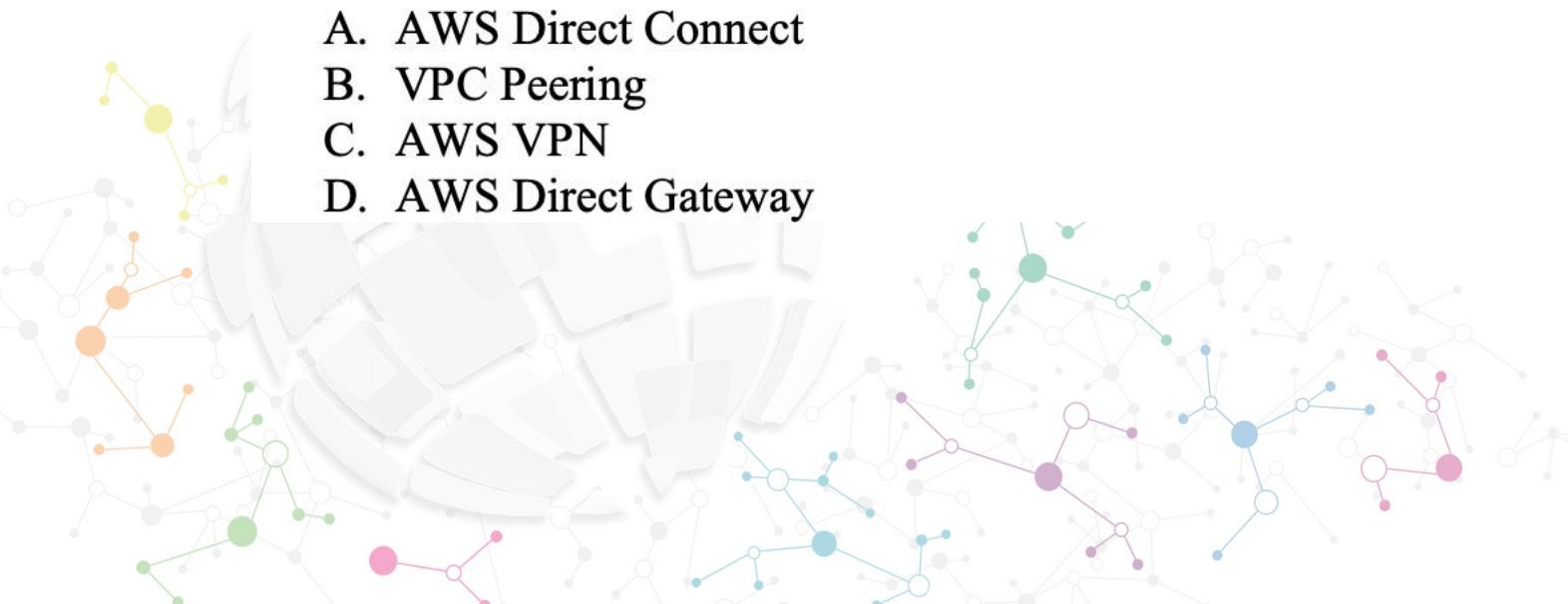
- A. Write a cron job to purge the files after one month.
- B. Configure the S3 Lifecycle rules to purge the files after a month.
- C. Create a bucket policy to purge the rules after one month.
- D. Add an S3 Lifecycle rule to archive these files to Glacier after one month.

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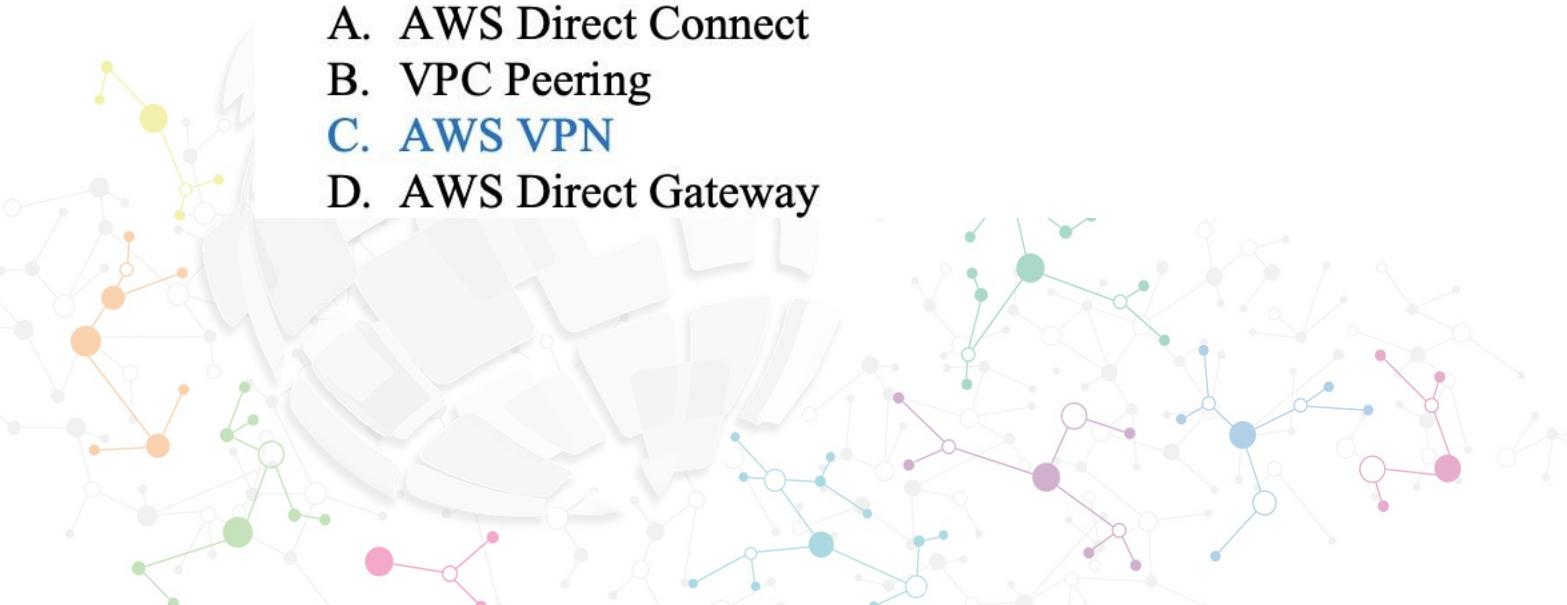
- 
- A faint, semi-transparent background graphic features a complex network of interconnected nodes and lines in various colors (yellow, orange, green, blue, pink) against a light gray grid, symbolizing data or network connections.
- A. Write a cron job to purge the files after one month.
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## Question 31

After an IT Steering Committee meeting, you have been put in charge of configuring a hybrid environment for the company's compute resources. You weigh the pros and cons of various technologies based on the requirements you are given. The main requirements to drive this selection are overall cost considerations and the ability to reuse existing internet connections. Which technology best meets these requirements?

- A. AWS Direct Connect
  - B. VPC Peering
  - C. AWS VPN
  - D. AWS Direct Gateway
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- A. AWS Direct Connect
  - B. VPC Peering
  - C. **AWS VPN**
  - D. AWS Direct Gateway

## Question 32

A large financial institution is gradually moving their infrastructure and applications to AWS. The company has data needs that will utilize all of RDS, DynamoDB, Redshift, and ElastiCache. Which description best describes Amazon Redshift?

- A. Can be used to significantly improve latency and throughput for many read-heavy applications workloads.
- B. Near real-time complex querying on massive data sets.
- C. Cloud-based relational database.
- D. Key-value and document database that delivers single-digit millisecond performance at any scale.

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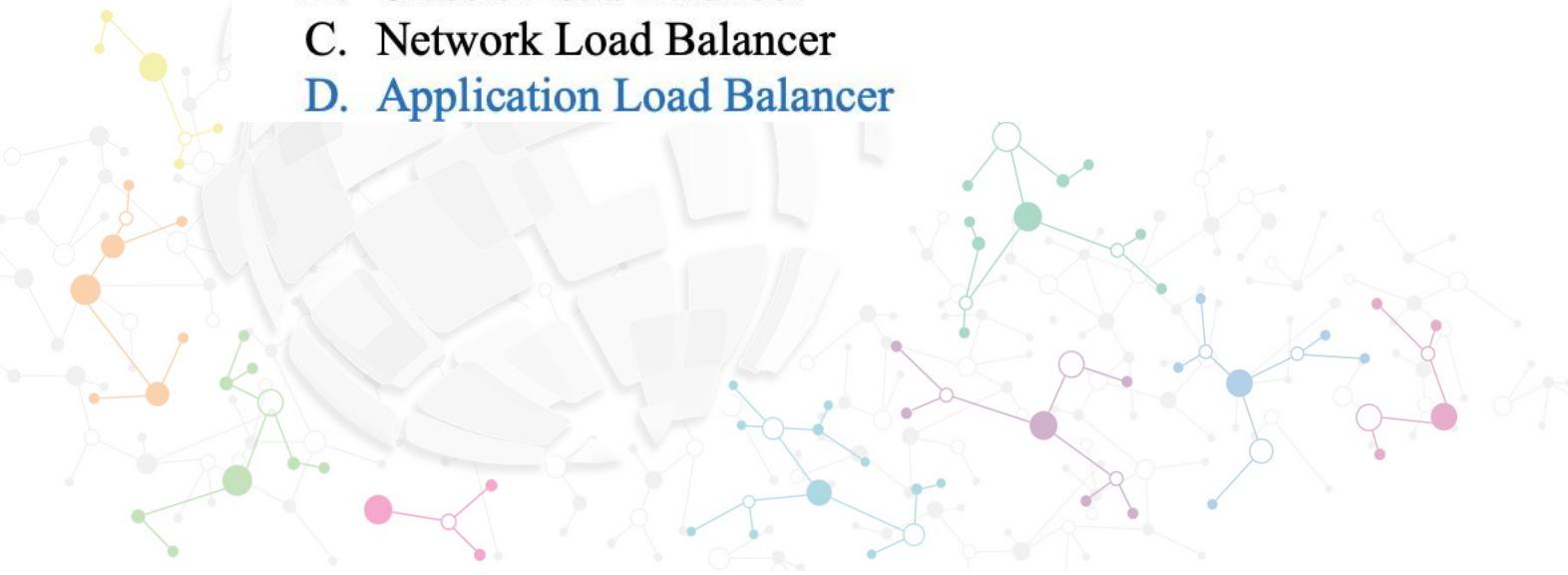
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## Question 33

You have been assigned to create an architecture which uses load balancers to direct traffic to an Auto Scaling Group of EC2 instances across multiple Availability Zones. The application to be deployed on these instances is a life insurance application which requires path-based and host-based routing. Which type of load balancer will you need to use?

- A. Any type of load balancer will meet these requirements.
- B. Classic Load Balancer
- C. Network Load Balancer
- D. Application Load Balancer

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## Question 34

After an IT Steering Committee meeting you have been put in charge of configuring a hybrid environment for the company's compute resources. You weigh the pros and cons of various technologies based on the requirements you are given. Your primary requirement is the necessity for a private, dedicated connection, which bypasses the Internet and can provide throughput of 10 Gbps. Which option will you select?

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- B. VPC Peering
- C. AWS VPN
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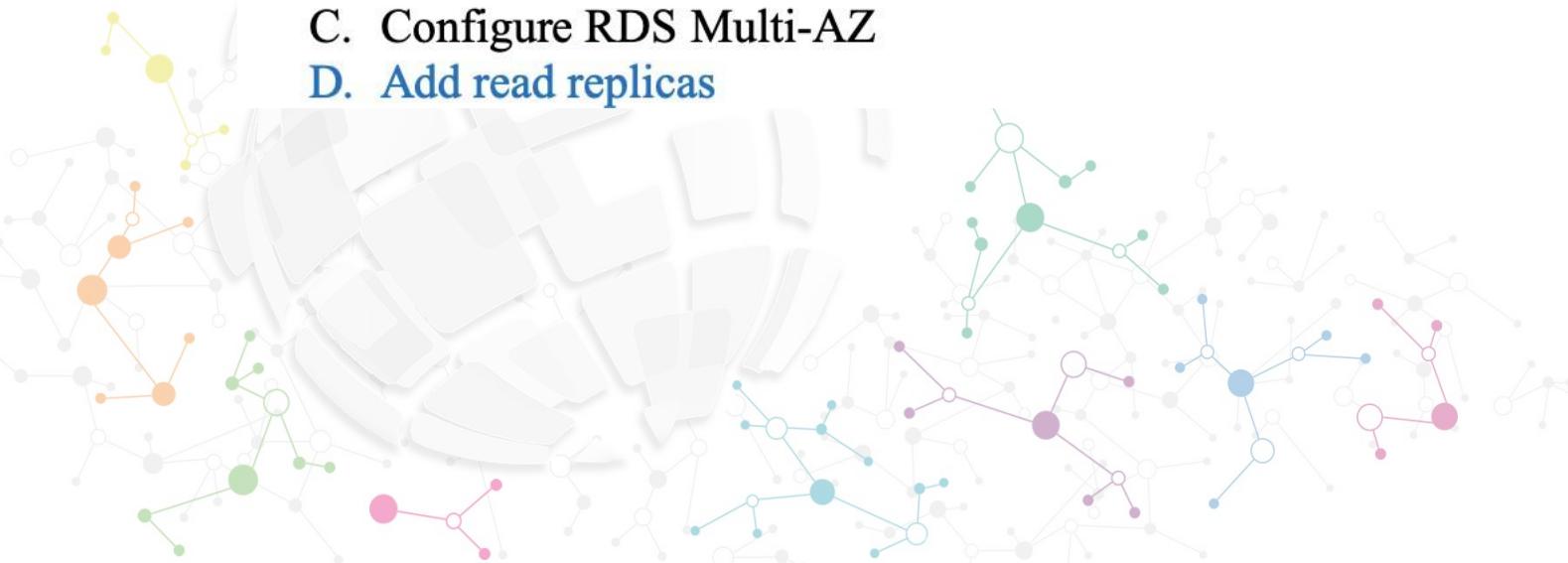
## Question 35

A travel company has deployed a website which serves travel updates to users all over the world. The traffic this database serves is very read heavy and can have some latency issues at certain times of the year. What can you do to alleviate these latency issues?

- A. Place CloudFront in front of the Database.
- B. Configure multi-Region RDS
- C. Configure RDS Multi-AZ
- D. Add read replicas

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## Question 36

A professional baseball league has chosen to use AWS for storage, processing, and data delivery. Many of the data requirements involve high-speed processing of data such as a Doppler radar system which samples the position of the baseball 2000 times per second. Which AWS data storage can meet these high-speed requirements?

- A. DynamoDB
- B. Redshift
- C. S3
- D. RDS

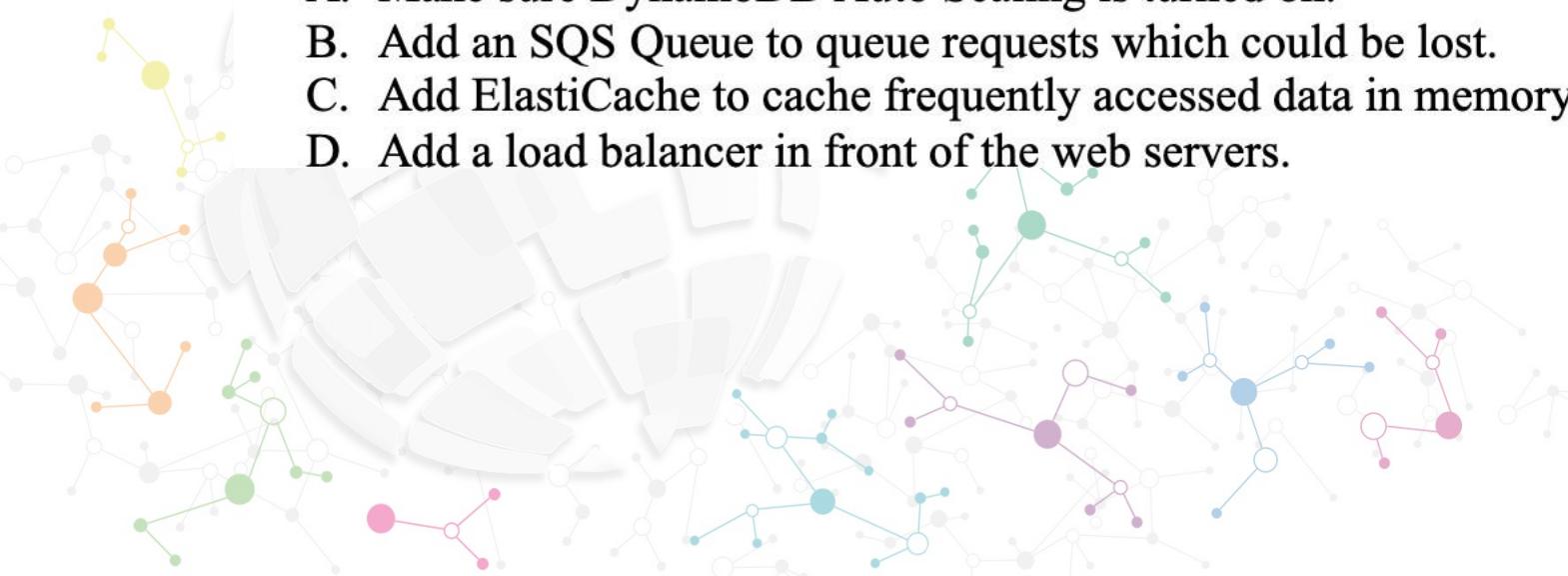
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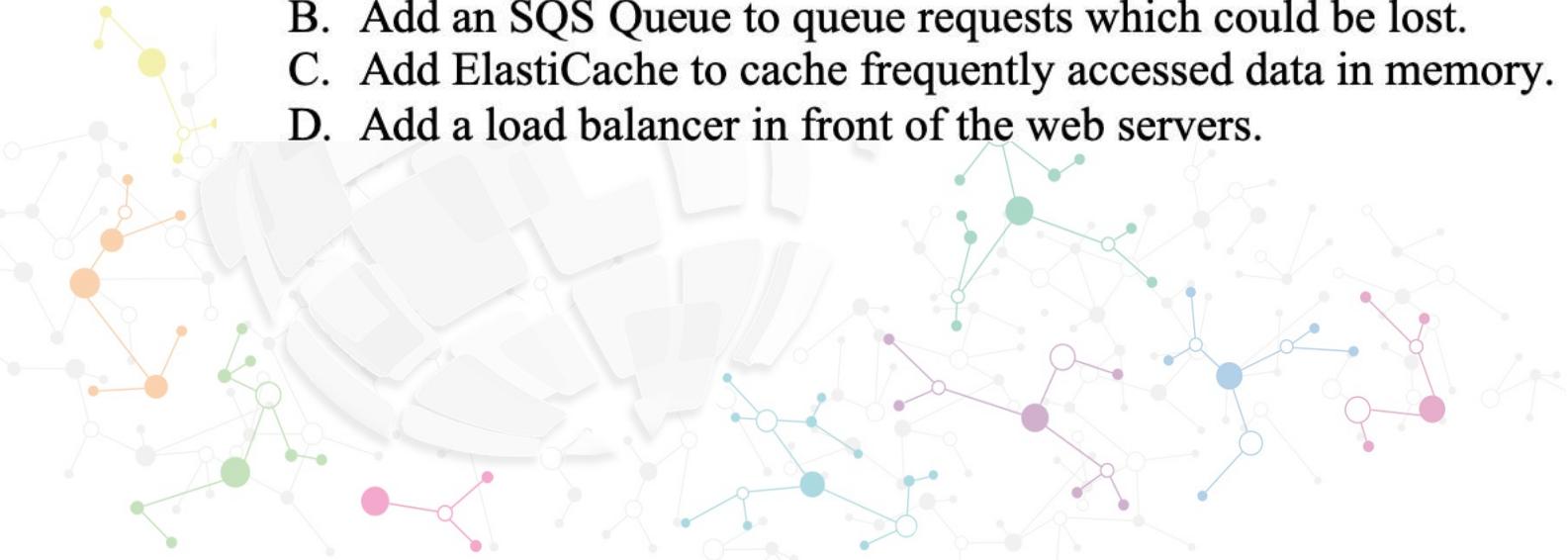


## Question 37

A gaming company has produced an online racing game which uses CloudFront for fast delivery to worldwide users. The game also uses DynamoDB for storing in-game and historical user data. The DynamoDB table has a preconfigured read and write capacity. Users have been reporting slow down issues, and an analysis has revealed that the DynamoDB table has begun throttling during peak traffic times. Which step can you take to improve game performance?

- 
- A. Make sure DynamoDB Auto Scaling is turned on.
  - B. Add an SQS Queue to queue requests which could be lost.
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## Question 38

Your company uses IoT devices installed in businesses to provide those business real-time data for analysis. You have decided to use AWS Kinesis Data Firehose to stream the data to multiple backend storing services for analytics. Which service listed is not a viable solution to stream the real time data to?

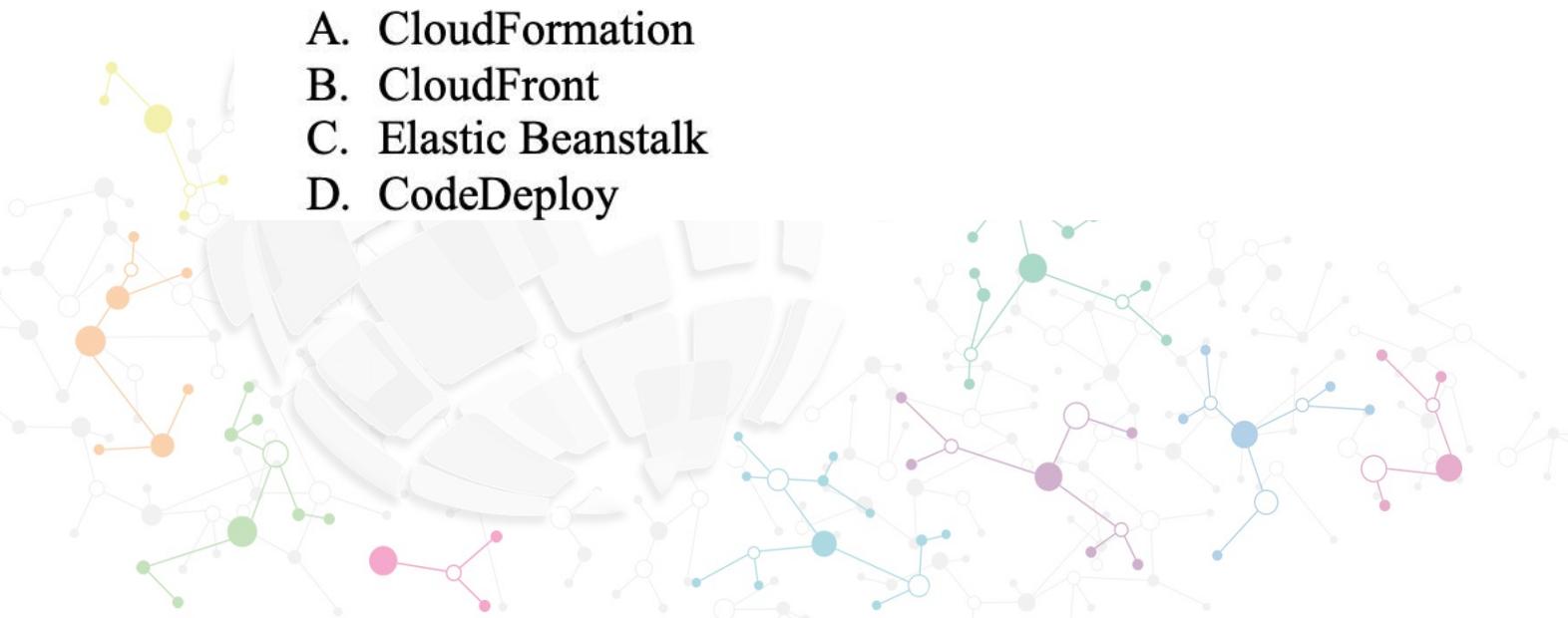
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  - B. Athena
  - C. Redshift
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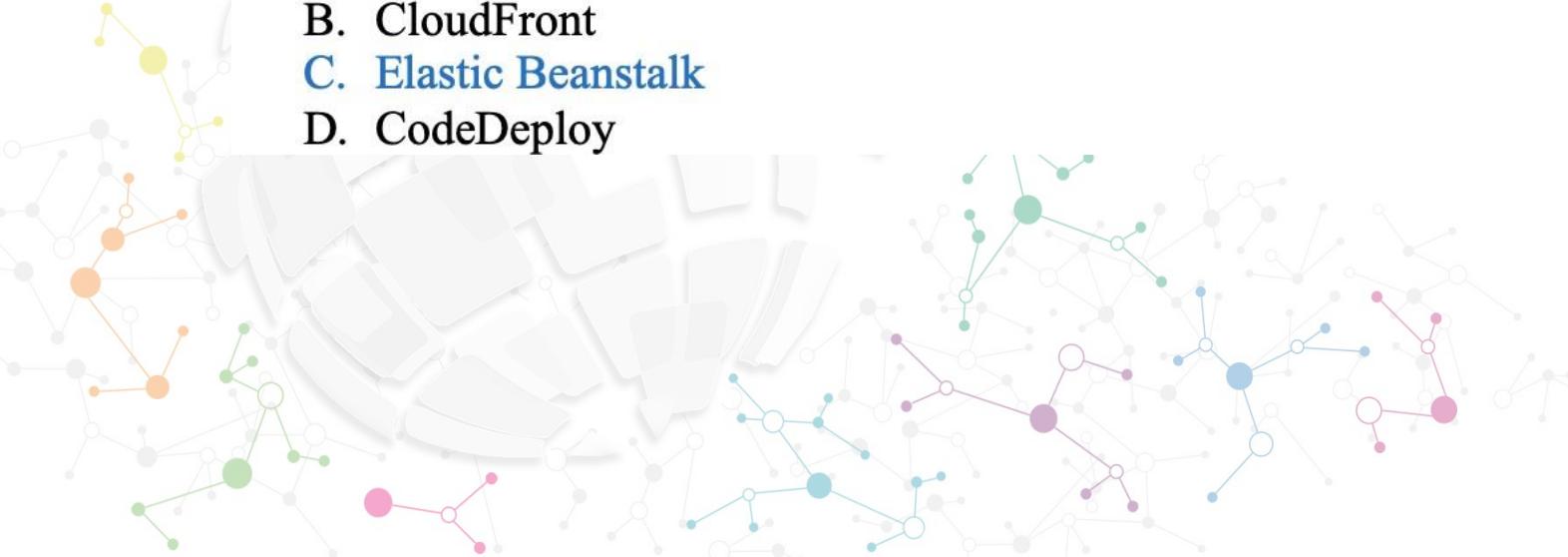
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## Question 39

A small startup company has begun using AWS for all of its IT infrastructure. The company has one AWS Solutions Architect and the demands for his time are overwhelming. The software team has been given permission to deploy their Python and PHP applications on their own. They would like to deploy these applications without having to worry about the underlying infrastructure. Which AWS service would they use for deployments?

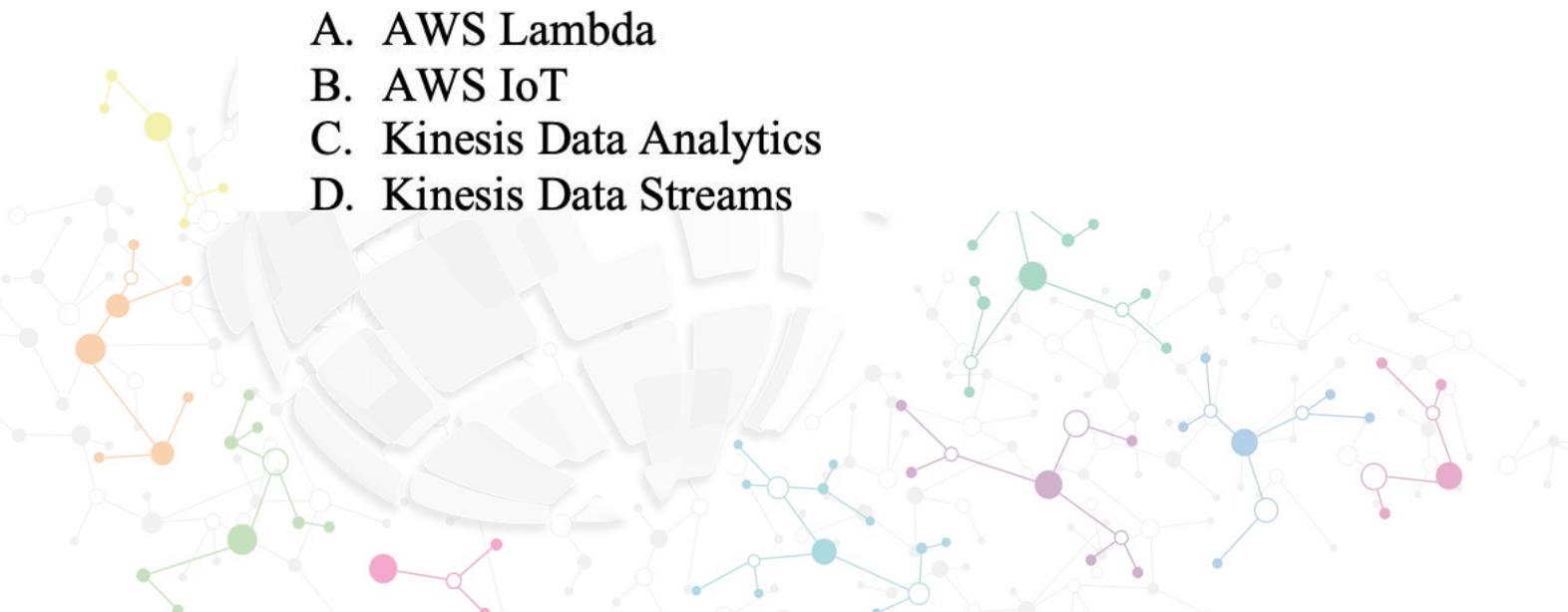
- A. CloudFormation
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## Question 40

A gaming company is designing several new games which focus heavily on player-game interaction. The player makes a certain move and the game has to react very quickly to change the environment based on that move and to present the next decision for the player in real-time. A tool is needed to continuously collect data about player-game interactions and feed the data into the gaming platform in real-time. Which AWS service can best meet this need?

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  - B. AWS IoT
  - C. Kinesis Data Analytics
  - D. Kinesis Data Streams
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## Question 41

An application is hosted on an EC2 instance in a VPC. The instance is in a subnet in the VPC, and the instance has a public IP address. There is also an internet gateway and a security group with the proper ingress configured. But your testers are unable to access the instance from the Internet. What could be the problem?

- A. Make sure the instance has a private IP address.
- B. A NAT gateway needs to be configured.
- C. Add a route to the route table, from the subnet containing the instance, to the Internet Gateway.
- D. A virtual private gateway needs to be configured.

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## Question 42

A team of architects is designing a new AWS environment for a company which wants to migrate to the Cloud. The architects are considering the use of EC2 instances with instance store volumes. The architects realize that the data on the instance store volumes are ephemeral. Which action will not cause the data to be deleted on an instance store volume?

- A. Instance is stopped
- B. Reboot
- C. Hardware disk failure.
- D. The underlying disk drive fails.

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## Question 43

You have multiple EC2 instances housing applications in a VPC in a single Availability Zone. The applications need to communicate at extremely high throughputs to avoid latency for end users. The average throughput needs to be 6 Gbps. What's the best measure you can do to ensure this throughput?

- A. Put the instances in a placement group
- B. Use Auto Scaling Groups
- C. Increase the size of the instances
- D. Use Elastic Network Interfaces

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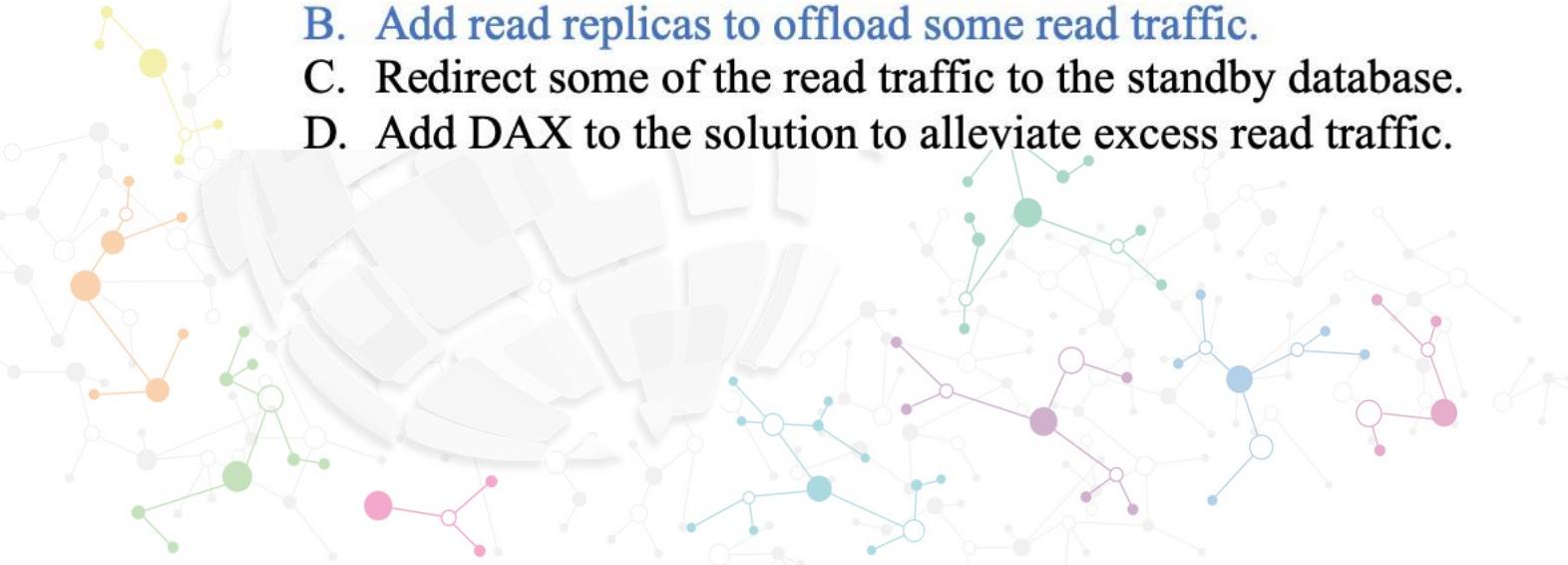
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## Question 44

You have been tasked to review your company disaster recovery plan due to some new requirements. The driving factor is that the Recovery Time Objective has become very aggressive. Because of this, it has been decided to configure Multi-AZ deployments for the RDS MySQL databases. Unrelated to DR, it has been determined that some read traffic needs to be offloaded from the master database. What step can be taken to meet this requirement?

- A. Convert to Aurora to allow the standby to serve read traffic.
- B. Add read replicas to offload some read traffic.
- C. Redirect some of the read traffic to the standby database.
- D. Add DAX to the solution to alleviate excess read traffic.

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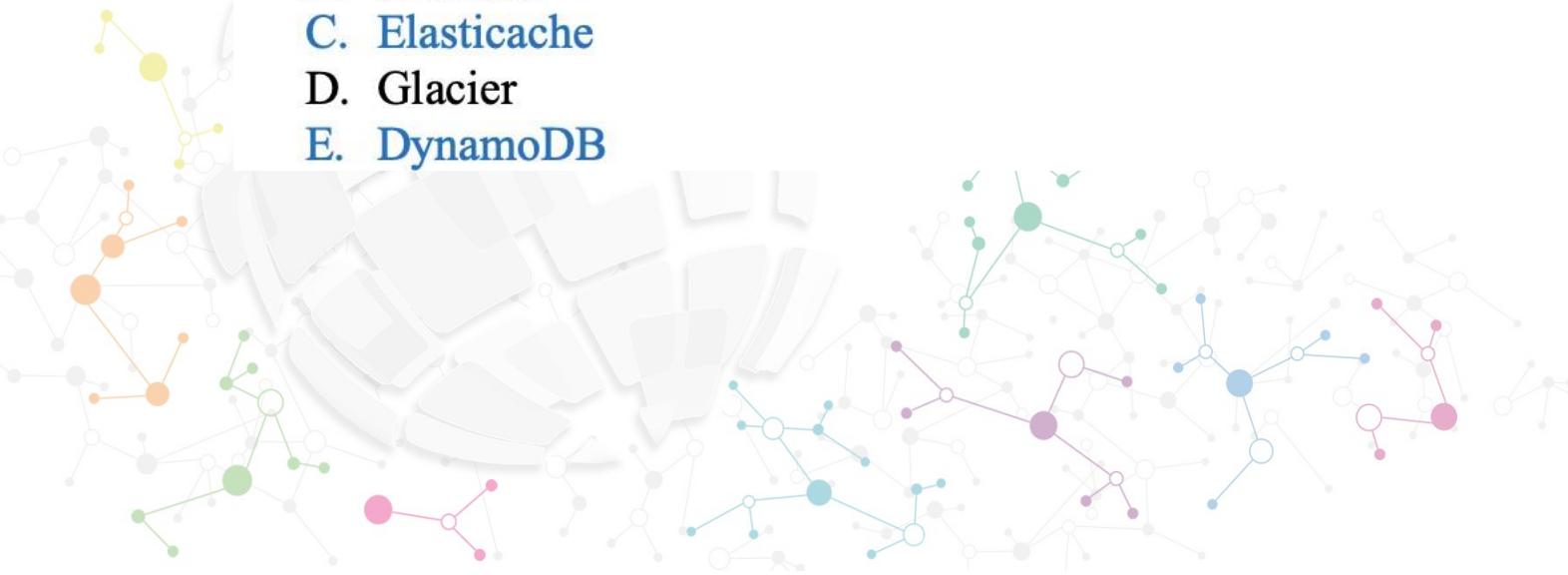
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## Question 45

You have just been hired by a large organization which uses many different AWS services in their environment. Some of the services which handle data include: RDS, Redshift, ElastiCache, DynamoDB, S3, and Glacier. You have been instructed to configure a web application using stateless web servers. Which services can you use to handle session state data? **(Select two)**

- A. RDS
- B. Redshift
- C. Elasticache
- D. Glacier
- E. DynamoDB

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Thank You!

