Our scheduled maintenance has completed. Thank you so much for your patience.

AWS Solutions Architect Associate (SAAC01) - Final Practice Exam

2 hours 15 minutes | 60 Questions | 2.25 Minutes per Question | Intermediate (/search?type=Practice Exam Challenge&difficulty=Intermediate&categories=AWS)

Go Back Start Challenge

Question List Show All Answers

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50%

Go Back

Great Start!

You did not pass this challenge on this attempt.

Expectations Report Card

Design Resilient Architectures	58.33%
Define Performant Architectures	33.33%
Specify Secure Applications and Architectures	58.33%
Design Cost-Optimized Architectures	50%
Define Operationally-Excellent Architectures	33.33%

Exam Breakdown

Design Resilient Architectures

1. You have been asked to provide a recommendation on the most resilient database solution available within AWS. The business requirements are that it is optimized for structured, relational data. They require multiple Availability Zones and ***very*** low latency between mirrors. Initially, two Availability Zones are required, but the selected solution needs to be able to cope with three or more.

Which product would you recommend?

A Aurora

B DynamoDB

C RDS

D Athena

Correct Answer: A

Why is this correct?

Aurora supports more than two AZ replicas and uses a shared storage platform. It's the most suitable candidate.

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2. Over 1,000,000 objects are stored in an S3 bucket using Standard-IA in the `us-east-1` region. You need to ensure the data will be secure even if an AZ fails entirely. What changes should you make?

A Change the storage class to Standard.

B No changes are required.

C Configure CRR.

D Change the storage class to One Zone-IA.

Correct Answer: B

Why is this correct?

S3 Standard-IA is replicated across multiple AZs in a region — no changes are required to ensure the data is secure against an AZ failure.
https://aws.amazon.com/s3/storage-classes/ (https://aws.amazon.com/s3/storage-classes/)

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3. You have been asked to ensure the Lambda component of an AWS deployment is resilient across 3+ AZs. What modifications are required (if any) to meet this requirement?

A None.

B Ensure the Lambda scaling settings are updated with subnets in three or more AZs.

C Create a Lambda subnet group, ensure it has the subnets in 3+ AZs, and associate it with the Lambda function.

D Ensure the Lambda environment has an associated internet gateway.

Correct Answer: A

Why is this correct?
Lambda is HA and scalable by design, so no changes are required.

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4. You are architecting a web application that runs on EC2 instances. The application is stateless and stores its session state within DynamoDB. You want to ensure the application can scale as quickly as possible to increasing and decreasing demand in a cost-effective way.
What options should you suggest?

A Vertical scaling

B Horizontal scaling

C Small instances

D Large instances

Correct Answer: B

Why is this correct?
This method of scaling involves adding or removing instances, SCALE-OUT and SCALE-IN, and is one part of elastic scaling.

Correct Answer: C

Why is this correct?
Smaller instances ensure capacity can be added and removed in smaller gradients. Additionally, smaller instances tend to have fewer capacity issues or restrictions.

INCORRECT

5. You are running an application on an EC2 instance in `us-east-1a`. `us-east-1a` fails — what options do you have to recover the application running on the EC2 instance?

A The EC2 instance will recover using EC2-Recover automatically.

B If available, use a snapshot of the EBS volume to make a new volume AND then create a new EC2 instance.

C Create a new EC2 instance in `us-east-1b` and attach the EBS volume.

D Copy a snapshot of the EBS volume from `us-east-1a` to `us-east-1b`, recreate the EBS volume, and then create a new EC2 instance.

Your Answer: C

Why is this incorrect?
EBS volumes are created in a specific AZ, so if the AZ fails, they fail. Also, an EBS volume in one AZ cannot be attached to an EC2 instance in another — this isn't a recovery option.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumes.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumes.html)

Correct Answer: B

Why is this correct?

This is the only recovery option assuming AZ 1a doesn't return.

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6. A medical system that is used within 40 major hospitals requires 100% resilience. The service requires six EC2 instances to be running at all times to function correctly and should be able to tolerate the failure of one AZ without ***any*** performance impact.
Which of the following options are valid, given this scenario?

A **AZ-A: Six instances**
- **AZ-B: Zero instances**
- **AZ-C: Two instances**
- **AZ-D: Four instances**

B AZ-A: Two instances
- AZ-B: Two instances
- AZ-C: Two instances

C **AZ-A: Three instances**
- **AZ-B: Three instances**
- **AZ-C: Three instances**
- **AZ-D: Three instances**

D AZ-A: Four instances
- AZ-B: Two instances
- AZ-C: Two instances

Correct Answer: A

Why is this correct?

This solution meets the criteria — any single AZ failure would leave six operational instances.

Correct Answer: C

Why is this correct?

This solution meets the criteria, but it can go further and support two AZ failures while still having the minimum of six instances.

INCORRECT

7. You have three VPCs in the same region. You need to ensure all three VPCs have network connectivity to the other VPCs and can tolerate failure within AWS. How many VPC peers are needed?

A One — connecting all the VPCs

B Two — connecting VPC1 -> VPC2 and VPC2 -> VPC3

C Three — connecting VPC1<->2, 2<->3, 1<->3

D Six — connecting VPC1<->2, 2<->3, 1<->3, but with a redundant VPC peer for each

Your Answer: A

Why is this incorrect?

VPC peering is a connection between two VPCs — one peer cannot connect more than two VPCs.
https://docs.aws.amazon.com/vpc/latest/peering/what-is-vpc-peering.html
(https://docs.aws.amazon.com/vpc/latest/peering/what-is-vpc-peering.html)

Correct Answer: C

Why is this correct?

This is the correct approach — additionally, VPC peers are HA by design, so no more than three are required.
https://docs.aws.amazon.com/vpc/latest/peering/what-is-vpc-peering.html
(https://docs.aws.amazon.com/vpc/latest/peering/what-is-vpc-peering.html)

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8. You need to design a VPC that is resilient to AZ failure from an internet access perspective. The VPC is in a four-AZ region. How many internet gateways are required to ensure multiple AZ failures won't disrupt internet connectivity?

A Zero — internet access is provided by a NAT gateway

B Four

C One

D Two

Correct Answer: C

Why is this correct?

An IGW is resilient by design, and only one needs to be attached to a VPC in order to provide ***all*** subnets in ***all*** AZs with resilient internet connectivity. You cannot assign more than one IGW to a VPC.

INCORRECT

9. You are reviewing an existing VPN between a data center and an AWS VPC. Your client has asked you to suggest any HA improvements; the system must be able to tolerate the failure of an AWS AZ and a customer internet connection or router. Currently, the system includes:

- One VPC
- One business location with two internet connections — each with a router
- One VPN connection using one virtual private gateway and two IPSec tunnels to one of the customer routers

Which option below is the most appropriate and correct?

A Add an additional virtual private gateway to the VPC.

B Move one of the IPSec tunnels to the other customer router.

C Add another VPN connection to the second CGW.

D Take no action — the system meets the HA requirements with no changes.

Your Answer: D

Why is this incorrect?

The solution will not cope with the failure of one of the customer internet connections or routers. Both current IPSec tunnels will connect to a single CGW.

Correct Answer: C

Why is this correct?

This will add an additional two IPSec tunnels between the VGW and the second CGW. This will tolerate the failure of one customer connection and one AWS AZ because the VGW is already HA across multiple AZs.

INCORRECT

10. Your client is currently running a MySQL RDS instance running in `us-east-1a`. It uses a single instance, and the client wants to add the ability to automatically, quickly, and easily failover in the event of a disaster in `us-east-1a`.
What should you suggest?

A Enable Multi-AZ mode.

B Enable EBS replication between AZs.

C Create an RDS read replica in `us-east-1b`.

D Enable automated backups and recovery mode.

Your Answer: C

Why is this incorrect?

RDS read replicas can be used for AZ resilience and can be used for failover, ***but*** it's a manual process and doesn't match the question requirements.
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.html
(https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/USER_ReadRepl.html)

Correct Answer: A

Why is this correct?

Multi-AZ mode provides AZ resilience by adding a standby instance in another AZ and supports automatic failover.
https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html
(https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html)

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11. Which of the following services will fail if an entire AWS region fails (assuming the resource was in that

region)?

A IAM

B Route 53

C DynamoDB

D S3

E EC2

Correct Answer: C

Why is this correct?

If a region fails where a table is located, access to that table will also fail.

Correct Answer: D

Why is this correct?

If a region fails where an S3 bucket is located, access to that bucket will also fail.

Correct Answer: E

Why is this correct?

If a region fails where an EC2 instance is located, access to that instance will also fail.

INCORRECT

12. You have been given a requirement for a new deployment in AWS. The deployment needs to operate from two AZs with one application tier and the option to launch public and private EC2 instances. From the options available, which meets the requirement with the least amount of infrastructure?

A One VPC and four subnets

B Two VPCs and two subnets

C One VPC and two subnets

D One VPC and one subnet

Your Answer: A

Why is this incorrect?

This solution would work but isn't required because instances can be launched as public or private in a subnet capable of being public.

Correct Answer: C

Why is this correct?

This solution can operate from two AZs (because of the two subnets). Each of the subnets can launch public or private instances if they are configured as public subnets.

Define Performant Architectures

13. A large fleet of IoT devices is sending data to a Kinesis stream but experiencing an error of `ProvisionedThroughputExceededException`. How should you resolve the issue?

A Create an additional Kinesis stream and load balance the IoT devices.

B Adjust the partition key of the Kinesis data records.

C Increase the number of shards in the stream.

D Increase the size of the Kinesis shards.

Correct Answer: C

Why is this correct?

Increasing the number of shards is the recommended way to improve the performance of a Kinesis stream.
https://docs.aws.amazon.com/streams/latest/dev/service-sizes-and-limits.html
(https://docs.aws.amazon.com/streams/latest/dev/service-sizes-and-limits.html)

INCORRECT

14. You are attempting to resolve the cause of DB performance issues on an application that uses Aurora. Which of the following are ***not*** options for reviewing or fixing performance concerns with Aurora? (Choose two.)

A If the performance is read related, add replicas.

B Log in to the aurora leader node via SSH and review OS performance metrics.

C Review CloudWatch metrics for CPU and MEM and adjust the instance sizes as required.

D Reboot all Aurora nodes.

E Storage performance is based on size — increase the size of the Aurora cluster volume.

Your Answer: D

Why is this incorrect?

This won't fix any underlying issues but will potentially resolve issues in the short term.

Correct Answer: B

Why is this correct?

Aurora has no leader node — this is not a valid solution.

Correct Answer: E

Why is this correct?

Aurora cluster storage is not allocated in the same way RDS is. Available space can scale to the maximum allowed 64 TiB.

https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Overview.StorageReliability.html (https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Overview.StorageReliability.html)

INCORRECT

15. Which Route 53 routing policy type should you use to ensure clients are connected to servers that offer the best potential performance?

A Weighted routing policy

B Simple

C Geolocation routing policy

D Latency routing policy

Your Answer: C

Why is this incorrect?

This routing type is used when you want to direct customers at a specific set of records in the same region but doesn't involve performance directly.
https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html (https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html)

Correct Answer: D

Why is this correct?

Latency routing attempts to resolve requests to a record that offers the lowest latency, so this will likely translate to the best performance.
https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html (https://docs.aws.amazon.com/Route53/latest/DeveloperGuide/routing-policy.html)

INCORRECT

16. Your company has a distributed workforce: 60% are based in the United States, 30% in Europe, and 10% in Asia. All workers upload video- and image-based survey data to an S3 bucket based in `us-east-1`. Users in Europe and Asia have been experiencing performance issues. What would you suggest to improve the experience of all workers?

A Use S3 transfer acceleration and a bucket located in `eu-central-1`.

B Use S3 Global Buckets.

C Use S3 transfer acceleration and a bucket located in us-east-1.

D Use multiple S3 buckets — one in the United States, one in Europe, and one in Asia — and implement cross-region replication (CRR). Have remote workers upload objects to the bucket closest to them.

Your Answer: D

Why is this incorrect?

CRR is one way only between one source and one destination bucket, so this is not a workable solution.

Correct Answer: C

Why is this correct?

This solution positions the data close to the largest group and uses transfer acceleration to provide accelerated upload for the remaining users.
https://docs.aws.amazon.com/AmazonS3/latest/dev/transfer-acceleration.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/transfer-acceleration.html)

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17. You have created a GP2 EBS volume in AWS. It is 1 TiB in size. What level of sustained IOPS should it deliver?

A 300

B 10,000

C 3,000

D 1,000

Correct Answer: C

Why is this correct?

GP2 delivers 3 IOPS per GiB — a volume of 1 TiB (1,000 GiB) would deliver 3,000 IOPS.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumeTypes.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumeTypes.html)

INCORRECT

18. You are reviewing poor performance on a voting application running on DynamoDB. The table used to store votes has been allocated 5,000 WCU, but with three candidates you are achieving slightly over half of the expected write throughput to the table. Votes are written with a PK of candidate name and sort key of date and time. What could be a possible reason for the substandard performance?

A The partition key structure is the issue.

B DynamoDB cannot support 5,000 writes per second — buffer the writes or use DAX to improve write performance.

C The sort key structure is the issue.

D You are trying to do strongly consistent writes, which need 2x the WCU.

Your Answer: D

Why is this incorrect?

A write is neither consistent or not — a write is a write. This is not correct.

Correct Answer: A

Why is this correct?

Each occurrence of a PK value (candidate1, candidate 2) is stored to one partition. A partition can support a max of 1,000

WCU. The small range of possible PK values is the reason for the low performance.

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19. You have an application that demands extreme database performance. It needs to handle millions of read operations per second and offer low latency. What product or combination of products would you suggest?

A DynamoDB and DAX

B Aurora and SQS

C Aurora and SNS

D DynamoDB

Correct Answer: A

Why is this correct?

DynamoDB Accelerator (DAX) adds performance enhancements to DynamoDB and is the best solution available to meet this scenario's demands.

INCORRECT

20. You are reviewing a video transcoding platform for a client. The client is unable to use Elastic Transcoder due to feature requirements. The system currently uses a fleet of EC2 instances created by a launch template and Auto Scaling group. Instances are using the ***C*** family. Videos to be transcoded are entered into an SQS queue, and the size of the Auto Scaling group is controlled by messages in the queue. Any failed jobs are retried a number of times before being canceled.
What options does the client have to reduce costs without negatively impacting performance over time?

A Move from C type to X type instances.

B Move from C type to T3 type instances.

C Use spot instances.

D Enable enhanced networking on all EC2 instances.

Your Answer: B

Why is this incorrect?

T3 instances are burst instances, which are suitable for situations where workloads don't use 100% CPU. This will reduce costs but also negatively impact performance.

Correct Answer: C

Why is this correct?

Spot instances will significantly reduce the ongoing cost of the solution. Even assuming some jobs will fail because of terminating spot instances, the Auto Scaling group will grow to compensate and the solution will still be lower cost.

INCORRECT

21. A popular online store is experiencing performance issues with its AWS hosted website during busy periods. The platform uses three EC2 instances during normal usage periods, and users are complaining about slow response times during regular peak periods. Management has indicated that during peak periods the system load increases quickly.
Which of the following suggestions should you make to resolve the problem?

A Configure a schedule scaling policy within the launch template, and ensure this is configured with an appropriate system metric for scaling, such as NetworkOut.

B Manually adjust the desired capacity to 10x the normal load during the busy periods.

C Configure a scheduled scaling policy to increase the desired capacity during periods of peak demand.

D Ensure that Auto Scaling groups and a launch configuration are used, and enable a load-based scaling policy to add instances when the system load increases.

Your Answer: D

Why is this incorrect?

This is a potential answer, but the question mentions that load increases quickly — a normal scaling policy might not be able to keep up with the increases quickly enough.
https://docs.aws.amazon.com/autoscaling/ec2/userguide/AutoScalingGroup.html
(https://docs.aws.amazon.com/autoscaling/ec2/userguide/AutoScalingGroup.html)

Correct Answer: C

Why is this correct?

Using scheduled policies will ensure the system is scaled appropriately for peak periods. Because it's a scheduled policy, you don't have to rely on potentially slow load-based scaling.
https://docs.aws.amazon.com/autoscaling/ec2/userguide/AutoScalingGroup.html
(https://docs.aws.amazon.com/autoscaling/ec2/userguide/AutoScalingGroup.html)

INCORRECT

22. A data scientist is trying to upload a 500 GB object to S3. The scientist is in N. Virginia and the S3 bucket is located in the `us-east-1` region. Previous smaller uploads have been running slowly, achieving ~2 Mbps on a 1 Gbps internet connection. What options can you suggest to speed up the data transfer of this larger file?

A S3 transfer acceleration

B SSE-S3

C S3 CRR

D Multipart upload

Your Answer: A

Why is this incorrect?

S3 transfer acceleration allows for faster upload speeds where the upload is occurring in a different region than the bucket. In this case, this is not happening.

Correct Answer: D

Why is this correct?

Multipart upload allows multiple transfers to occur at the same time, improving reliability for larger files but also improving speed.
https://docs.aws.amazon.com/AmazonS3/latest/dev/mpuoverview.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/mpuoverview.html)

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23. A consultancy client is running a high-throughput application on-premises that stores data onto S3. The host running the software is experiencing high CPU usage and seems unable to keep up with demand while encrypting the data on-host before transit. The system requires that no data be stored in a plaintext form and has to be encrypted in transit. What potential fixes should you recommend that meet the requirements and have the least admin overhead?

A Use S3 transfer acceleration.

B Use client-side encryption.

C Use SSE-C.

D Use SSE-S3.

Correct Answer: D

Why is this correct?

This solution will show improvements — S3 will handle the encryption process and the encryption keys. Data will be stored in encrypted form and, assuming HTTPS is used, encrypted in transit.

INCORRECT

24. You have been asked to architect the networking for a high-performance financial modeling application. It runs on four EC2 instances, and you need the lowest network latency and highest throughput possible. What AWS products, services, or features should you suggest?

A Burstable instances

B VPC Flow

C Spread placement group

D Cluster placement group

Your Answer: A

Why is this incorrect?

Burstable instances (T2 or T3) are designed for economic applications that don't need consistent CPU.

Correct Answer: D

Why is this correct?

Cluster placement groups influence the physical placement of instances on hardware, and this allows the highest performance possible.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html)

Specify Secure Applications and Architectures

INCORRECT

25. You operate a commercial stock images website with millions of images. Watermarked preview images are available via an EC2 instance application. Full-resolution versions are stored on an EBS volume. The EBS volume is attached to the EC2 instance and delivered by the application. You have been asked to find a cheaper solution that can scale. Which option is the most suitable?

A Move the images to S3, and enable SFTP read support.

B Add a storage-optimized EBS volume to the EC2 instance.

C Move the images to S3, and use pre-signed URLs.

D Move the images to S3, and add ***read*** permissions for ***everyone***.

Your Answer: B

Why is this incorrect?

There is no such feature, and it wouldn't improve the situation.

Correct Answer: C

Why is this correct?

S3 is more economical for large-scale object storage. Using pre-signed URLs allows the application to provide access rights to private objects to be downloaded.
https://docs.aws.amazon.com/AmazonS3/latest/dev/PresignedUrlUploadObject.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/PresignedUrlUploadObject.html)

26. You are running a web application in your on-premises data center. The application currently has three web servers that receive traffic using round-robin DNS. As part of the move to AWS, you have been asked to design a solution that uses a load balancer to accept traffic, distributing it to web servers that are not accessible from the internet. Additionally, a database instance should only be accessible from the web servers and should not be in the same subnets. You have been asked to make the solution highly available using three AZs. How many subnets will you require?

A Three

B Nine

C Six

D One

Correct Answer: B

Why is this correct?

Three tiers are required: load balancer, web/app servers, and database servers. Each AZ needs its own subnet for that tier — 3 x 3 = 9.

INCORRECT

27. You have been asked to perform a security review for a client. They have a fleet of EC2 instances created by an Auto Scaling group and SQS queue to process jobs stored in DynamoDB. Currently, they retrieve access keys from an S3 bucket to gain access to other AWS resources. Recently, the bucket was exploited and the keys were leaked. The business has asked for a best-practice alternative solution for this architecture.
What should you suggest?

A Configure an S3 bucket policy only allowing access to the Auto Scaling group instances.

B Add access keys to the Auto Scaling group configuration for delivery via the instance metadata.

C Create a new launch template, IAM role, and instance profile.

D Remove the access keys from the S3 bucket.

E Leave the access keys stored in S3.

Your Answer: B

Why is this incorrect?

This isn't a valid technical solution.

Correct Answer: C

Why is this correct?

An IAM role and instance profile can be used to deliver temporary credentials to EC2 instances securely. By configuring this in the launch template, it can be applied to all EC2 instances created by the Auto Scaling group.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html)

Correct Answer: D

Why is this correct?

This resolves the immediate issue causing the credential leak.

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28. You are architecting a solution for a mobile application your developers are creating. You need to allow logins to the application and for those logins to access AWS resources. The application will start with 3,000 users but could reach 1,000,000 within 12 months. What resource access method should you suggest?

A The application should use the AWS APIs to create an IAM user for every application user. Use long-term credentials to access resources.

B Create an IAM role that trusts an external IDP. Provide this role with permissions for the AWS services.

C The application should use the AWS APIs to create an IAM user for every application user. Use short-term credentials to access resources.

D Configure the AWS services using resource policies to accept incoming connections from identities using Facebook, Twitter, or Google credentials. Use Google IdP to verify these credentials.

Correct Answer: B

Why is this correct?

Web identity federation is the best architecture to use where an external IDP is trusted to assume an IAM role.
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/WIF.html
(https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/WIF.html)

INCORRECT

29. You have an S3 bucket full of medical data. The bucket needs to be accessed by 100 IAM users within your AWS account, as well as two to three remote imaging operators who are employed by a partner and have IAM identities in another AWS account, and read-only access to one or two folders needs to be given to anonymous/unauthenticated identities. What method of permissions control should you use?

A Identity policies on an IAM role

B Identity policies on IAM users

C Service control policies

D Bucket policy

Your Answer: C

Why is this incorrect?

Service control policies are used in AWS Organizations to restrict accounts. They are not useful in this situation.

Correct Answer: D

Why is this correct?

A bucket policy could be defined to control access for ***all*** identities and the unauthenticated (public) users.

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30. If an EC2 instance uses an instance role, key rotation is automatic and handled by __.

A A script containing a valid IAM username and password stored on the EC2 instance.

B ssh-keygen on the EC2 instance

C The EC2 service

D IAM/STS

Correct Answer: D

Why is this correct?

Instance role key rotation is handled by IAM/STS.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html
(https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html)

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31. You have been asked to advise a junior colleague how to explicitly ***deny*** traffic from an EC2 instance to a specific remote internet FQDN. What advice would you give?

A Use a security group attached to the instance, and explicitly ***deny*** traffic to the FQDN.

B Use a security group attached to the VPC, and explicitly ***deny*** traffic to the FQDN.

C Use a NACL on the subnet that the EC2 instance is on, and ***deny*** traffic from the EC2 instance to the FQDN.

D Implement a proxy service in the VPC, adjust route tables, and use the proxy server to ***deny*** access to the remote hostname.

Correct Answer: D

Why is this correct?

This is the only valid option. AWS has no products capable of handling this type of denying traffic to an FQDN.

INCORRECT

32. You are running a WordPress instance in a non-default VPC's public subnet. As part of A/B testing, you have deployed another instance in the same subnet, using the same security group, same AMI, and an instance of the same family. After provisioning the instance, you cannot access it. Which of the following issues ***could*** be the problem?

A Create an Elastic IP, and assign it to the new instance.

B Make sure the public IP is configured on the instance's OS.

C Add a route for the new instance.

D Configure the NAT gateway to route traffic to the new instance.

Your Answer: C

Why is this incorrect?

Routes are added on a route table for a subnet. The fact that the original instance works suggests this is not a possible solution.

Correct Answer: A

Why is this correct?

The instance could have been launched without a public IP. The quickest way to test and fix this is to allocate an Elastic IP.

INCORRECT

33. Multiple directors in your company have opened AWS accounts. The Chief Security Officer has expressed a concern that accounts may be using unapproved AWS services and wants your advice. What action would you take?

A Create a new account. Contact AWS Support and have them move all IAM users into the new account.

B Create a Lambda function to delete the IAM users in each account.

C Create a CloudTrail trail to monitor the API calls in each account.

D Create an organization with AWS Organizations, and have each account join your organization. Then apply service control policies to the child accounts.

Your Answer: C

Why is this incorrect?

A trail in your account won't have permissions to monitor the other accounts. To do this, you would have to set up a bucket in your account, enable access for each of the rogue accounts, and have the rogue accounts create trails that deliver logs to your bucket.

Correct Answer: D

Why is this correct?

Service control policies will override IAM policies that use unauthorized services.

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34. You have been asked to suggest the most secure way to connect two AWS VPCs, and the solution should use the least amount of additional infrastructure as possible. What should you suggest?

A VPC peering

B OpenVPN

C AWS Organizations

D Direct Connect

Correct Answer: A

Why is this correct?

VPC peering allows two VPCs to be connected from a networking perspective. It requires no additional hardware or instances to support it.
https://docs.aws.amazon.com/vpc/latest/userguide/vpc-peering.html
(https://docs.aws.amazon.com/vpc/latest/userguide/vpc-peering.html)

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35. One of your environments utilizes DynamoDB as a database. You need to ensure it can only be accessed by a select number of people using specific IP addresses. What design changes do you suggest?

A Create a security group, add ***allow*** rules for the IPs who need access, and attach the security group to DynamoDB

B Using the AWS console or CLI, edit the table(s) requiring the restrictions, set the default security to **Deny**, and add the IPs they'll be accessing the table from.

C Configure an IAM group (for each level of access), and add the people who need access. Give those groups access to the DynamoDB operations they need, but add a ***condition*** to the policy so it has to match the specific IP address.

D Create an isolated VPC that is not connected to the internet, provision a private DynamoDB instance in the VPC, and allow those "select people" to connect to the VPC using a VPN.

Correct Answer: C

Why is this correct?

This is the best solution. By default, nobody has access to the DynamoDB tables unless they're granted access. Grants can be allowed via IAM users, who have policies with conditions matching specific IP addresses.

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36. You are about to create an AWS Lambda function and need to give it the permissions to access Amazon S3. Which of the following would be the best approach to perform this action?

A Create an IAM user, set the username and password in the Lambda function authentication options, and then set the method to ***interactive***.

B Create an IAM role, assign a policy to the role, and set the Lambda function to use the role.

C Store the credentials inside an S3 bucket and have the Lambda function retrieve them upon execution.

D Create an IAM user, create access keys, and enter them into your function code.

Correct Answer: B

Why is this correct?

With this AWS-supported approach, the function will gain access to the role permissions when it's invoked.
https://docs.aws.amazon.com/lambda/latest/dg/lambda-intro-execution-role.html
(https://docs.aws.amazon.com/lambda/latest/dg/lambda-intro-execution-role.html)

Design Cost-Optimized Architectures

INCORRECT

37. A client has asked for your suggestions on a cost-optimization exercise. They have a set of financial processes that occur daily at 6 a.m. local time in every country of operation. The processes last four hours and occur daily, 24/7/365. The processes cannot be interrupted — this would require 100% of the work to be completed again.
What billing model would offer the best price, given the information you have?

A Use Reserved instances on a two-year term.

B Use On-Demand instances.

C Use Spot instances.

D Use Scheduled reservations.

Your Answer: B

Why is this incorrect?

On-Demand would work but wouldn't offer any cost reductions.

Correct Answer: D

Why is this correct?

Scheduled reservations make the most sense in this situation. The processing occurs regularly, at the same time for the same duration. Scheduled reservations are not subject to interruption and offer a good level of cost savings.
https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-scheduled-instances.html (https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ec2-scheduled-instances.html)

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38. You are consulting for a manufacturing company who use a set of EC2 instances to automate the production of products. The EC2 instances run software that runs through a workflow, executing various different AWS services, storing and retrieving data, and ensuring orders flow through a set of steps: A->B->C->D->E. The steps include some human interaction and can take weeks to complete.
What might be a cost effective alternative?

A Migrate the flows to one or more state machines.

B Continue using EC2; the long-running workflows require compute to run 24/7/365.

C Use a Lambda function to coordinate the tasks.

D Use a Lambda function, but ensure the timeout is set to 1 year.

Correct Answer: A

Why is this correct?

State machines are used by Step Functions. This product is serverless and can orchestrate long-running workflows involving other AWS services and human interaction.
https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html (https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html)

INCORRECT

39. You launch a large cluster of instances every night to process log files. Depending upon the size of the logs, the processing time is between three and five hours. It is not critical that the process always runs on time.
Which EC2 pricing model would provide the lowest cost?

A Spot

B Convertible

C On-Demand

D Scheduled reserved

Your Answer: D

Why is this incorrect?

This would offer a 5–10% discount below the on-demand price.

Correct Answer: A

Why is this correct?

Spot instances can provide a discount of up to 90% off On-Demand pricing! If they are interrupted by AWS, you can hibernate the instance and resume when Spot becomes available again. Or, you can opt for Spot blocks, which will allow your instances to remain running for up to six hours without interruption.

INCORRECT

40. Which of the following suggestions could help reduce DynamoDB running costs?

A Utilize indexes.

B Filter the attributes read from a table.

C Use `Scan` rather than `Query` operations.

D Increase RCU.

Your Answer: B

Why is this incorrect?

Filters don't reduce the data read from an ITEM and TABLE — they reduce the amount of data transferred, but this won't significantly reduce costs.

Correct Answer: A

Why is this correct?

Indexes allow you to define alternative partition and/or sort keys, which can allow you to use `Query` rather than `Scan` operations. Additionally, you can choose which attributes are projected into the indexes, meaning you will read less data for each ITEM retrieved.
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/LSI.html (https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/LSI.html)
https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GSI.html (https://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GSI.html)

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41. You are reviewing a high volume transactional application. The application consumes a large portion of the business' AWS bill, and most of the costs seem to be associated with SQS costs. The operations team has advised you that they have noticed 65% of the application's calls to SQS are during periods when the work queue is empty. How can you reduce the application costs with the information provided?

A Modify the queue from standard to FIFO.

B Use long polling.

C Reduce the queue shards.

D Use short polling.

Correct Answer: B

Why is this correct?

This could potentially reduce costs by reducing the number of SQS API calls and ensuring as many as possible return results.
https://aws.amazon.com/sqs/faqs/ (https://aws.amazon.com/sqs/faqs/)

INCORRECT

42. A medical imaging company generates around 300 GB of important data on a weekly basis and stores this on S3. They need to ensure they are using resources in the most cost-effective way possible. Data is stored in S3 Standard and tends to be accessed frequently in real-time in the first 30 days after the scan takes place and then rarely if ever after that. The company needs to keep data for seven years for regulatory reasons.
What option could you suggest?

A Upload the data to S3-Standard and use lifecycle rules.

B Use Standard-IA.

C Use S3 Onezone-IA.

D Upload the data directly to Glacier.

Your Answer: B

Why is this incorrect?

The initial real-time requirement could be an issue with the object retrieval fee. There is a more suitable option.

Correct Answer: A

Why is this correct?

Lifecycle rules can be used to transition objects between storage classes after a certain period. This would allow initial real-time access and then transition to Glacier for low-cost ongoing storage.
https://docs.aws.amazon.com/AmazonS3/latest/dev/object-lifecycle-mgmt.html
(https://docs.aws.amazon.com/AmazonS3/latest/dev/object-lifecycle-mgmt.html)

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43. Your business needs a small database for storing simple names, addresses, and ID picture information for 1,000 employees. The usage will be low, queries will occur every day, and the business wants the most suitable low-cost solution available within AWS.
Which database would you suggest?

A Aurora

B DynamoDB

C Redshift

D ElastiCache

Correct Answer: B

Why is this correct?

DynamoDB is a perfect solution for this. The data requirements are simple, and DynamoDB has little to no base costs when not being used.

INCORRECT

44. You are reviewing a set of API endpoints for your development team that currently runs on a fleet of 50 EC2 instances. You have been asked to reduce costs. Are there any pairs of AWS products and/or features you could suggest to reduce the cost of the current solution?

A S3 and static web hosting

B API Gateway and Kinesis

C Lambda and API Gateway

D ALB and Elastic Beanstalk

Your Answer: D

Why is this incorrect?

This could provide API services, but as Elastic Beanstalk uses EC2 instances, it wouldn't offer any cost benefits and would still have compute being used 24/7/365.

Correct Answer: C

Why is this correct?

Lambda and API Gateway can be used together to host APIs. Rather than being billed 24/7/365 for all of the EC2 instances, Lambda only has a cost when functions are invoked.

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45. You have an EC2 instance that currently runs about 100 Python-based admin scripts for a business' IT team. The scripts interact with other AWS services using an instance role. The scripts run hourly and take around two to three minutes to run. The business has asked for your suggestions on cost-optimization for this scenario. The instance has been running for one year and has two years of a reserved instance term left.
What options should you suggest?

A Run the scripts from Elastic Beanstalk environments within the same application.

B Sell the remaining term of the instance reservation and stop the instance.

C Migrate the scripts to a Chef recipe and use AWS OpsWorks.

D Migrate the scripts to use individual Lambda functions.

E Terminate the EC2 instance to avoid costs.

Correct Answer: B

Why is this correct?

This will remove most of the cost of the EC2 instance, and storage will still have costs, but it's the best solution available.

Correct Answer: D

Why is this correct?

Lambda charges only for the execution time, and since the scripts have low runtimes, this is the most economical option. Since IAM roles are used for the instance, the permissions can be migrated easily to Lambda execution roles.

INCORRECT

46. You operate two EC2 instances that are currently running inside an Auto Scaling group. The instances serve high-resolution mapping images for a group of resource companies. The Auto Scaling group can scale OUT or IN to meet the demand on these instances. For 70% of the day, the number of instances is two, and for two to three hours per day, the load is zero, but the business cannot tolerate ***any*** delay or outages to the data.
What option could you suggest to improve the cost-effectiveness of this solution?

A Change the Auto Scaling group options to 1:1:1 and don't allow any changes.

B Use io1 storage.

C Move the mapping data to instance store volumes.

D Use S3.

Your Answer: A

Why is this incorrect?

This will lock the Auto Scaling group on one EC2 instance, which isn't enough for a nominal load.

Correct Answer: D

Why is this correct?

S3 can be used as an effective host for static content. By enabling the static web hosting function or using pre-signed URLs, the data can be made available for access with no consistent compute costs.
https://docs.aws.amazon.com/AmazonS3/latest/dev/ShareObjectPreSignedURL.html (https://docs.aws.amazon.com/AmazonS3/latest/dev/ShareObjectPreSignedURL.html)

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47. An application utilizes a relational MySQL-based database. The application runs 24/7/365 but only gets use during brief periods at the end of each month. Your client has asked for suggestions on how database costs can be reduced. The application is currently running within RDS MySQL. The client would like solutions involving as little effort as possible. They are open to suggestions that include manual effort to save costs but have a preference for automatic solutions.
What should you suggest?

A Migrate the database to Aurora Serverless.

B Purchase reservations to reduce costs.

C Configure a schedule to shut down and start up the RDS instance.

D Migrate to DynamoDB on demand.

Correct Answer: A

Why is this correct?

Aurora Serverless can scale down to zero instances during periods of no load. There is a brief startup time, but because of the shared storage, it happens in less than a minute.
https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/aurora-serverless.how-it-works.html (https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/aurora-serverless.how-it-works.html)

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48. You are consulting for a web hosting company that runs hundreds of WordPress deployments. Each WordPress deployment generally runs on one EC2 instance and is part of an Auto Scaling group with min 1, max 1, and desired 1. Each environment is using a Classic Load Balancer to provide self-healing capability. SSL certificates are also used. The business has asked you to suggest improvements that could reduce costs.
What should you suggest?

A Use Network Load Balancers instead of Classic Load Balancers.

B Migrate all SSL certificates onto a single Classic Load Balancer using SNI.

C Snapshot the EC2 instances and migrate each to an Elastic Beanstalk application.

D Migrate the Classic Load Balancers to Application Load Balancers.

Correct Answer: D

Why is this correct?

Application Load Balancers can use host-based rules to support multiple hostnames and SSL certs on one Application Load Balancer. The Classic Load Balancers could be merged into less Application Load Balancers, which would offer substantial cost savings.

Define Operationally-Excellent Architectures

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49. You have inherited a VPC that has a CIDR of 10.0.0.0/16. You need to design a subnet layout that allows for four Availability Zones to be used.
Which option below is valid for this criteria? Pick the one that uses the least number of subnets to decrease management overhead.

A Create four subnets — 10.0.0.0/24, 10.0.1.0/24, 10.0.2.0/24, and 10.0.3.0/24 — and put each one in its own Availability

Zone.

B Create two subnets, 10.0.0.0/24 and 10.0.1.0/24, and set each subnet in an HA configuration. Set each subnet to use two of the four Availability Zones.

C Create four subnets, all using the 10.0.0.0/16 range, and put each subnet into its own Availability Zone.

D Create a single subnet, 10.0.0.0/16, that spans all four Availability Zones.

Correct Answer: A

Why is this correct?

Four subnets are the minimum possible number to utilize all four Availability Zones, and the addresses cannot overlap, so this is valid.
https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Subnets.html
(https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Subnets.html)

INCORRECT

50. Your CIO is reviewing the expected technical effort required to manage an AWS environment. Which of the following AWS services can be accessed directly or require system-level access to configure some/all of their settings?

A DynamoDB

B Amazon EMR

C Amazon RDS

D Amazon EC2

Your Answer: A

Why is this incorrect?

DynamoDB only provides access via APIs. There is no infrastructure to access directly.

Your Answer: C

Why is this incorrect?

RDS provides APIs for RDS operations and SQL access for the data.

Correct Answer: B

Why is this correct?

EMR allows you to log in to the master node via SSH.

Correct Answer: D

Why is this correct?

You can SSH/RDP to the operating system of your EC2 instances — for certain installation/configuration and admin tasks, it's required.

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51. A client has asked your advice. They have a huge amount of CSV data currently stored on an on-premises file store. They need to keep the data stored for five years and have an occasional need to perform queries

on the data using SQL. The need isn't commercial — it's for freedom of information reasons, so the client would like to do it with as little investment as possible. The query volume is unknown and ad hoc.
What should you suggest?

A Create an EMR cluster, load the CSV files onto HDFS, and query when required.

B Load the CSV files onto S3, define tables, and use Athena to query when required.

C Create an Aurora cluster, load the CSV files into the cluster, and have staff query the cluster when required.

D Create a large EBS volume, create an EC2 instance and attach the volume, load the CSV files into the volume, and allow staff to query the files when required.

Correct Answer: B

Why is this correct?

This is the best option. Athena is ideally suited to ad-hoc queries, and only data processed carries a cost, so it would be perfect for occasional use.

INCORRECT

52. You have an order processing system where you are printing high-quality pictures onto glass panels. The ordering system currently uses a custom application running on an EC2 instance to design the order, an SQS queue to hold the orders, and a fleet of EC2 instances inside an Auto Scaling group to control the printing machines. There is a growing issue with duplicate orders. How could you resolve this using AWS services?

A Ensure you are using a standard SQS queue, ensuring once-only delivery.

B Change the architecture to use a state machine.

C Change the standard SQS queue to a FIFO queue, ensuring once-only delivery.

D Adjust the visibility timeout value on the SQS queue.

Your Answer: C

Why is this incorrect?

FIFO does add exactly-once processing, but this doesn't fix the situation where a message is read from the queue, the processing crashes or times out, and another EC2 instance starts the job again.
https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/FIFO-queues.html#FIFO-queues-exactly-once-processing (https://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/FIFO-queues.html#FIFO-queues-exactly-once-processing)

Correct Answer: B

Why is this correct?

State machines are part of Step Functions, which would allow you to create an order flow with fixed steps and controls. It functions in much the same way as the legacy SWF (Simple Workflow Service), but Step Functions is serverless.
https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html (https://docs.aws.amazon.com/step-functions/latest/dg/welcome.html)

INCORRECT

53. You are working on a migration project from a large enterprise's on-premises location into AWS. One of the client's systems stores files on a local file system that is shared to the business's local Microsoft Windows 10 workstations. You need to migrate the data into AWS without outage and ensure the files can be accessed both using SMB and over HTTPS.
What option should you suggest?

A Storage Gateway volume gateway

B Store the files directly on S3 using the S3 connector.

C Storage Gateway file gateway

D Migrate the application and server onto an EC2 instance and share the files using SMB.

Your Answer: B

Why is this incorrect?

This solution is invalid — it doesn't offer access via SMB and, in this context, an S3 connector is invalid.

Correct Answer: C

Why is this correct?

Using a file gateway would mean files could be migrated onto the gateway, presented via SMB, and accessible directly from S3 as objects.
https://docs.aws.amazon.com/storagegateway/latest/userguide/WhatIsStorageGateway.html (https://docs.aws.amazon.com/storagegateway/latest/userguide/WhatIsStorageGateway.html)

INCORRECT

54. Your business operates in a very security-sensitive industry. You are looking at how to secure a small VPC. Your environment consists of a single S3 bucket and an EC2 instance running in an internet-connected VPC. Only the EC2 instance needs access to S3. What is the best way to lock down the environment, allowing the EC2 instance access to S3 but keeping the environment as secure as possible?

A Create an S3 VPC endpoint. Apply a policy restricting access to the S3 bucket from the VPC endpoint.

B Create a new security group, denying all IPs except the EC2 instance, and associate it with the S3 bucket.

C Create an S3 VPC endpoint. Apply a policy restricting access to the S3 bucket from the VPC endpoint, and remove the internet gateway. Set up a VPN connection to securely log in to the EC2 instance via SSH when needed.

D Provision a privately addressable S3 bucket in your VPC. Migrate the contents of the public bucket and update the application. Remove the internet gateway to isolate the VPC.

Your Answer: D

Why is this incorrect?

There is no such thing as a bucket that is privately addressable.

Correct Answer: C

Why is this correct?

Why is this correct?

A VPC endpoint doesn't require an internet gateway. It allows access to S3, which is a public service from a VPC. This is the most secure option that meets the criteria.

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55. You are designing a system that takes data from hundreds of thousands of solar panel installations, ingests the data into AWS, and is used to display data on four different visualization systems. Each system needs to read the data ingested and present the data in a different way.
What product should you use to handle the data volume above?

A SQS

B API Gateway

C Kinesis Data Streams

D S3

Correct Answer: C

Why is this correct?

This is a perfect use case for Kinesis, as it's designed for high-volume data streaming and can support multiple consumers accessing data from its rolling window.
https://aws.amazon.com/kinesis/data-streams/ (https://aws.amazon.com/kinesis/data-streams/)

INCORRECT

56. You have created a CloudFront distribution to improve the performance of your global stock images website. Private images are distributed using CloudFront signed URLs, and the distribution is configured to be private. You recently found a group of users accessing images directly from the S3 origin without paying. How can you resolve this?

Origin Access Identity

A Remove the DNS name on the S3 bucket.

B Add an OAI to CloudFront and the bucket policy.

C Apply a bucket policy to the bucket, blocking all access.

D Apply an object-level restriction to each object in the origin using the ARN of the CloudFront distribution.

Your Answer: D

Why is this incorrect?

This is not a valid technical solution. CloudFront distributions cannot be referenced in this way, and object-level restrictions aren't possible.

Correct Answer: B

Why is this correct?

This is the recommended approach. An OAI is a virtual identity that can be associated with a CloudFront distribution and then used in a bucket policy.

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

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

INCORRECT

57. You are reviewing and improving an application that uses a relational database and is currently hosted on a single-AZ RDS MySQL database. The application database pattern is 20% writes and 80% reads and is showing signs of read slowdown. You need to make changes to allow the application to scale more effectively.
What change could you implement to improve read performance with as little change as possible?

A Modify the RDS instance and enable Multi-AZ.

B Modify the application to use DynamoDB in relational mode and enable Auto Scaling.

C Migrate the database to Aurora and add replicas.

D Add read replicas to the RDS cluster.

Your Answer: D

Why is this incorrect?

Read replicas might help, but they aren't part of a cluster architecture and cannot be addressed as a pool. There is a large management overhead to be able to connect to them collectively from an application.

Correct Answer: C

Why is this correct?

Aurora is MySQL compatible, and the migration path from RDS MySQL is well documented and low risk. Aurora replicas can be used to scale reads across the cluster.
https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Replication.html
(https://docs.aws.amazon.com/AmazonRDS/latest/AuroraUserGuide/Aurora.Replication.html)

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58. You run a single instance application on an EC2 instance in AWS. Your architecture teams are looking to make changes and convert the application to operate on multiple servers. The app runs on Linux and currently accesses millions of flat file data files in the `/data/...` folder structure. This database is stored on an EBS volume attached to the EC2 instance. How can this be moved to work on multiple servers, with as little application changes as possible? What product would you suggest?

A Use EBS to mount the existing volume on all the new instances.

B S3

C EFS

D EMR and HDFS

Correct Answer: C

Why is this correct?

EFS is a network file system and could be utilized to provide access to the database files for all instances. It can also be mounted locally on Linux systems.
https://docs.aws.amazon.com/efs/latest/ug/mounting-fs.html (https://docs.aws.amazon.com/efs/latest/ug/mounting-fs.html)

INCORRECT

59. You are consulting for a client who is migrating their entire infrastructure into AWS. The client's engineers are used to managing infrastructure as code and have been using both Puppet and Chef to manage infrastructure on-premises. Which AWS product should you suggest they explore to manage infrastructure within AWS?

A Ansible

B Elastic Beanstalk

C OpsWorks

D CloudFormation

Your Answer: D

Why is this incorrect?

CloudFormation is an Infrastructure as Code (IaC) product, but if the engineers have used Chef or Puppet, it is not an ideal option.

Correct Answer: C

Why is this correct?

OpsWorks is an AWS infrastructure management platform that supports Chef and Puppet.
https://aws.amazon.com/opsworks/ (https://aws.amazon.com/opsworks/)

INCORRECT

60. You have been asked to create a scalable deployment for a new business application. The application uses Java and requires lots of supporting libraries and frameworks. The total time for the installation is 25 minutes. If the business needs the application to scale in an elastic way, rapidly reacting to changes in system load, what method should you suggest for installing, deploying, and scaling the application?

A Use a launch template to add the application installation commands.

B Install the application on an EC2 instance and create an AMI.

C Install the application directly using instance metadata.

D Add the application installation commands to an Auto Scaling group.

Your Answer: A

Why is this incorrect?

While this would work, it would mean each scaling action inside an Auto Scaling group would take at least 25 minutes.

https://aws.amazon.com/answers/configuration-management/aws-ami-design/
(https://aws.amazon.com/answers/configuration-management/aws-ami-design/)

Correct Answer: B

Why is this correct?

This is an example of an `AMI Pre-bake` architecture, which would work. The 25-minute installation would be done once, with the results stored in an AMI — and this could be used with a launch configuration/launch template and an Auto Scaling group to scale the application.
https://aws.amazon.com/answers/configuration-management/aws-ami-design/
(https://aws.amazon.com/answers/configuration-management/aws-ami-design/)
