1. Which of the following services or service features are *natively* highly available in a region and can cope with a AZ failure without itself failing.

A

EBS Snapshot

B

EBS

C

VPC

D

NAT Gateway

1. You have been asked how to provide another organization with access to an S3 bucket in your company's account. Your company owns the bucket, and must own all files within it. There will be about 10,000 users from the other organization accessing the bucket. What solution matches these requirements?

A

Use an S3 bucket policy to provide full access to the account ID of the remote organization.

B

Provision each member of the remote organization with an IAM user account, and set a policy allowing them to manage their own account.

C

Provision a single group for the remote organization. Generate access keys for the group, and provide this to a member of the remote organization.

D

Create an IAM role within your AWS account that has access rights to the bucket. Using a *trust*policy, trust the account number of the remote organizations AWS account

1. A medical company concerned about security compliance has asked you, a consultant, to perform an audit of their AWS environment. The company administrator provides you with the root login to the AWS account. After beginning the audit, you discover that the nurses who work for the company are all using a shared single login account called nurse\_user1 to upload and download daily shift change reports from S3. After further investigation, you discover that the nurse\_user1 account has full administrator privileges to EC2 and S3. When you document your findings, what security issues would you note in the report and what suggestion would you make to resolve the problem?

A

To resolve the security issues you would recommend the following: (1) create individual accounts for the nurses and put all of the nurse accounts into a group, (2) grant read/write permissions for the newly created group to the appropriate S3 bucket.

B

There are three security issues: (1) you were given access to the root account, (2) the nurses are sharing an account, and (3) the nurses have full administrator privileges to EC2 and S3.

C

There are two security issues: (1) the nurses are sharing an account, and (2) the nurses have full administrative privileges to EC2 and S3.

D

There is only one security issue. The nurses should not have full privileges to all EC2 instances and S3.

E

To resolve the security issues you would recommend the following: (1) create individual accounts for the nurses and put all of the nurse accounts into a group, (2) grant read/write permissions for the newly created group to the appropriate S3 bucket, and (3) recommend as a best practice that temporary accounts be created for consultants.

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1. You've been asked to host a docker container within your AWS environment. What is the most appropriate product to use for this task?

A

EC2

B

Lambda

C

ECS

D

Opsworks

1. You are designing a VPC to host a small application. The VPC will be connected back to your on-premises network using a VPN. An EC2 instance runs the application, and will *only* need to connect to the internet for software updates. You have a list of the software update DNS names. How can you restrict this within the AWS VPC?

A

Place the EC2 instance in a public subnet and add an internet gateway.

B

This restriction isn't possible using an AWS VPC.

C

Add an internet gateway to the VPC, and a proxy service running on a EC2 instance in a public subnet with an elastic IP.

D

Use the DNS filtering option on a NAT gateway to restrict internet access to just the software updates.

1. You have an EC2 instance located in a private subnet. The instance is using an private IP Version 4 address in the 10.0.0.0/24 range and has no public IP or elastic IP attached. How can you provide this instance with access to the internet for updates.

A

Attach an internet gateway to the VPC and update routes.

B

Use privatelink to access AWS provided update servers.

C

Attach an internet gateway to the VPC, provision a NAT gateway, then update routes.

D

Provision a NAT gateway into the VPC.

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

A

Use SCAN rather than query operations.

B

Utilize indexes.

C

Limit the attributes read from a table.

D

Increase RCU

1. Currently, you're helping with the design and architect a highly-available application. After building the initial environment, you've found that part of your application does not work correctly until port 443 is added to the security group. After adding port 443 to the appropriate security group, how much time will it take before the changes are applied and the application begins working correctly?

A

Generally, it takes 2-5 minutes for the rules to propagate .

B

It will take 60 seconds for the rules to apply to all Availability Zones within the region.

C

Immediately after a reboot of the EC2 instances belong to that security group

D

Changes apply instantly to the security group, and the application should be able to immediately respond to 443 requests.

1. Your internal development team wants to create an API and have it accessible over the internet. They have no infrastructure skills , and want to utilize whatever option has the least infrastructure requirements and maintenance needs. Which set of AWS products meets this criteria?

A

Opsworks, CloudFormation, and API Gateway

B

API Gateway + Lambda

C

API Gateway + EC2

D

Elastic Beanstalk + API Gateway

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

A

Configure IAM users for each of the people who need access. Give those people access to the DynamoDB operations they need, but add a condition to the policy so that it has to match the specific IP address registered for each user.

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 coming in from.

C

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

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.

1. Which of the following services or service features are natively highly available in a region and can cope with a AZ failure without itself failing.

A

Software VPN (Open VPN running on EC2)

B

Internet Gateway

C

Dynamic Hardware VPC VPN

D

Virtual Private Gateway

1. Your company has been thinking about moving its networking resources over to AWS. Your boss is particularly interested in the AWS shared responsibility model, as it will allow him to offload some traditional responsibilities to AWS. He says that he is happy that AWS will now handle the following responsibilities listed below. However, you know that he is wrong, and that AWS does not handle all of them as part of the shared responsibility model. Which of the following four items do you need to tell him are not handled by AWS?

A

Datacenter Access

B

Storage Device Decommissioning

C

Applying an SSL Certificate to an ELB

D

Change Management of Host Servers

E

Security groups

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Security groups

1. You have recently worked with a development team to implement a resilient web application running on four EC2 instances behind a load balancer. Performance is great, and limited failover testing has occurred with good feedback. A number of days ago a real failover event happened where the host an EC2 instance was running on fails. Customers connected via the load balancer to alternative instances, but they had to log in to the system again. What suggestions can you make to resolve this inconvenience?

A

Ask the developers to migrate the session state component of the application off the individual EC2 instances to DynamoDB.

B

Use application generated cookies.

C

Ask the customers of the website to click the Save Password button in their web browser.

D

Use the sticky sessions feature of the load balancer.

1. You are a solutions architect for a software development company. You have noticed that the business is currently running a lot of small admin scripts. They're written in Python, on a C3 instance type which is running constantly and using on-demand billing. The scripts run once per hour, each one completes in around 45 seconds, and utilize around 88MB while running. You have been asked to design a way to optimize the costs of this platform. It's worth noting that the business is about to launch a new product which would mean hundreds or thousands of these C3 instances. It's essential that these scripts run when scheduled.

A

Ask the developers to migrate the scripts to AWS Lambda functions. Use timed events to schedule the invocation of these functions.

B

Migrate all the scripts to run on Spot instances to reduce costs.

C

Combine all scripts for all clients onto a single EC2 instance, and purchase a reservation for this instance.

D

Purchase instance reservations to reduce the costs of the existing instance. Make a forecast for how many instances you will need, and purchase reservations in advance for future instances.

1. One of your systems is suffering from performance problems. It's a critical system and you have been asked to design an upgrade to resolve the issues. Checking CloudWatch, you can see that the instance is historically running at 20% CPU and 99% Memory utilization. It currently runs on the 2nd smallest C type instance. What should your suggestion be, for the most economical way to resolve the performance issues?

A

Rebuild the application, reinstalling all components and the data into a new memory optimized instance type.

B

Edit the EC2 instance properties and select the custom memory option. Add additional memory until the performance issues are resolved.

C

Power down the instance and change the instance to a memory optimised instance type.

D

Increase the size of the instance moving from the current C class instance to next step.

1. As an AWS consultant, you have been tasked with finding ways to quickly lower a client's AWS monthly bill. What is the first thing you should ask them for?

A

Ask them to run a complete inventory breakdown in AWS Config.

B

Ask them to create an IAM User in their account and send you the password.

C

Ask them to enable S3 access logs, so you can find out about S3 storage usage.

D

Ask them to run a Trusted Advisor report and send you the results.

1. You've been tasked with building out a duplicate environment in another region for disaster recovery purposes. Part of your environment relies on EC2 instances with preconfigured software. What step(s) would you take to configure the instances in another region?

A

Create a custom AMI of the EC2 instance and copy the AMI to the desired region.

B

Create an custom AMI of the EC2 instance.

C

Share the EBS volume across regions.

D

Make the EC2 instance shareable among other regions with IAM permissions.

1. 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 VPC and explicitly deny traffic to the FQDN.

B

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

C

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

D

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

1. You are designing an environment with four VPCs serving unique functions. Each VPC is in a four-AZ region and has four subnets, one in each AZ.You need to ensure that the public subnets in those VPCs can access the internet. What is the minimum number of internet gateways required to provide internet access to all VPCs, while being able to deal with availability zones within any of them?

The business is budget conscious and wants the minimum number possible.

A

4

B

1

C

16

D

0

1. Your business generates a large amount of financial data within its SQL-backed financial application. You have been asked to suggest an AWS product which will allow storage of that data to be used for long term reporting, querying, forecasting, and business intelligence. Which AWS product should you suggest?

A

Athena

B

Glacier

C

EMR

D

Redshift

1. Which EC2 features can help mask the failure of an instance? (Choose all that apply)

A

AWS CloudFail

B

EC2 Autorecovery

C

AWS Glue

D

NAT Gateway

E

Elastic IP

1. Your information security officer has asked for modifications to an application running on an EC2 instance, to ensure that it uses regular key rotation for its interaction with AWS. What should you tell her?

A

The application is running on an EC2 instance and uses an instance role. Key rotation is automatic and handled by IAM/STS.

B

The application is running on an EC2 instance, and uses the access keys of an IAM user. Key rotation is automatic with this configuration.

C

The application is running on an EC2 instance, and uses the IAM username and password of a service account to log in to AWS. The account options can be modified to enable key rotation.

D

The application is running on an EC2 instance and uses the access keys of an IAM user. The account options can be modified to enable key rotation.

1. Your company is currently storing large amounts of data using Storage Gateway in a gateway-stored configuration. The company would like to decommission this and store and access all the data directly in S3. What would be the most efficient way to migrate the existing data into S3?

A

The data is already in S3, so just copy it to a new bucket and set the required access.

B

Use one or more Snowballs to ship the data to AWS.

C

The data is already in S3, so nothing needs to be done.

D

Restore the EBS snapshots managed by Storage Gateway onto EBS volumes. Attach the volumes to EC2s in a VPC that has an S3 endpoint. Log into the EC2s and copy the data into S3 using the CLI.

1. Someone has informed you of performance problems on one of your DB instances. The normal performance demands are met by the SSD storage allocated to the instance, but at periods of heavy demand there seems to be a large variance in the time taken for DB operations. Some take significantly longer than others.

Your product uses RDS and the MySQL engine. What is the best suggestion you can make without having any further information?

A

Reboot the DB instances

B

Migrate from RDS MySQL to DynamoDB. This will provide much better performance.

C

Move some of the read load over to the slave member of the Multi-AZ set.

D

Check the memory utilisation of the DB instance. If commonly accessed data is larger than the member allocated to the instance, consider increasing memory.

1. Your operations team is using several EC2 instances for running scheduled maintenance scripts on your infrastructure. What are two ways you could possibly reduce costs for them?

A

Store the scripts in S3 buckets and execute them with CloudFront.

B

Consider changing the instances to an older instance type.

C

Reserve the instance capacity.

D

Move the scripts to Lambda Functions.

E

Run the instances outside of a VPC

1. You have been asked to design an upgrade to a legacy environment running in an AWS VPC. The environment is currently using a single NAT instance running on EC2. The region the environment is in has four AZs. The VPC has eight subnets, four private (one in each AZ) and four public (one in each AZ). You have been asked to ensure the solution uses NAT gateways and that if any AZ fails, an instance in the other AZs can ALWAYS access the internet. What is the minimum number of NAT Gateways required?

A

1 - It spans all four public subnets. All private subnets use the single NAT gateway.

B

2 - Each one is located in a single public subnet, but not the same one. Private subnets are set to round robin across them both.

C

2 - Each spans two different public subnets, with private subnets set to round robin across them both.

D

4 - Each is located in a single , but different public subnet. Each private subnet is set to use the NAT gateway in the same AZ.

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

A

Create a single subnet, 10.0.0.0/16, which spans all four availability zones.

B

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.

C

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.

D

Create four subnets, all using the 10.0.0.0/16 range, and put each subnet into its own availability zone.