

AWS Certified Solutions Architect - Associate Exam-1

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QUESTION 1

* 10 points

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?

- ☒ Athena
- ☐ Redshift
- ☐ ElasticSearch
- ☐ S3

QUESTION 2

* 10 points

You have been tasked with migrating an application and the servers it runs on to the company AWS cloud environment. You have created a checklist of steps necessary to perform this migration. A subsection in the checklist is security considerations. One of the things that you need to consider is the shared responsibility model. Which option does AWS handle under the shared responsibility model?

- ☒ Physical hardware infrastructure
- ☐ Firewall configuration
- ☐ Client-side data encryption
- ☐ User Authentication

QUESTION 3

* 10 points

A small software team is creating an application which will give subscribers real-time weather updates. The application will run on EC2 and will make several requests to AWS services such as S3 and DynamoDB. What is the best way to grant permissions to these other AWS services?

- ☐ Embed the appropriate credentials to access AWS services in the application.
- ☒ Create an IAM role that you attach to the EC2 instance to give temporary security credentials to applications running on the instance.
- ☐ Create an IAM policy that you attach to the EC2 instance to give temporary security credentials to applications running on the instance.
- ☐ Create an IAM user, grant the user permissions, and pass the user credentials to the application.

QUESTION 4

* 10 points

You have been evaluating the NACLs in your company. Currently, you are looking at the default network ACL. What is true about the default network ACL?

- ☐ The default NACL denies all traffic.
- ☒ You can add or remove rules from the default network ACL.
- ☐ You can only edit the default NACL if it is the only NACL in the VPC.
- ☐ You cannot edit the default NACL.

QUESTION 5

* 10 points

You work for an online cloud education provider that provides hands-on labs for training students. Recently, you noticed a spike in CPU activity for one of your EC2 instances and you suspect it is being used to mine bitcoin rather than for educational purposes. Somehow, your production environment has been compromised and you need to quickly identify the root cause of this compromise. Which AWS service would be best suited to identify the root cause?

- ☒ Amazon Detective
- ☐ AWS Trusted Advisor
- ☐ AWS Artifact
- ☐ Amazon CloudWatch

QUESTION 6

* 10 points

A previous cloud engineer deployed several Amazon EC2 instances within your AWS account. You have recently taken over control of the account and have noticed there is a significant amount of idle and underutilized instances in place. Hundreds of instances are within the account, and you do not have the time to go through each instance and manually check all of them.

Which AWS service allows you to kick off the collection of metrics and generate recommendations for incorrectly sized EC2 instances?

- ☐ AWS Cost and Usage Reports
- ☐ Amazon CloudWatch dashboards
- ☒ AWS Compute Optimizer
- ☐ AWS Budgets

QUESTION 7

* 10 points

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?

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

QUESTION 8

* 10 points

A company is running a teaching application which is consumed by users all over the world. The application is translated into 5 different languages. All of these language files need to be stored somewhere that is highly-durable and can be accessed frequently. As content is added to the site, the storage demands will grow by a factor of five, so the storage must be highly-scalable as well. Which storage option will be highly-durable, cost-effective, and highly-scalable?

- ☐ EBS Instance Store Volumes
- ☐ Glacier
- ☐ RDS
- ☒ Amazon S3

QUESTION 9

* 10 points

You work for an organization that has multiple AWS accounts in multiple regions and multiple applications. You have been tasked with making sure that all your firewall rules across these multiple accounts and regions are consistent. You need to do this as quickly and efficiently as possible. Which AWS service would help you achieve this?

- ☒ AWS Firewall Manager
- ☐ AWS Web Application Firewall (AWS WAF)
- ☐ AWS Network Firewall
- ☐ Amazon Detective

QUESTION 10

* 10 points

You work for a company that needs to pursue a FedRAMP assessment and accreditation. They need to generate a FedRAMP Customer Package, which is a report designed to get accreditation. The report contains a number of sections, such as AWS East/West and GovCloud Executive Briefing, Control Implementation Summary (CIS), Customer Responsibility Matrix (CRM), and E-Authentication. You need this information as quickly as possible. Which AWS service should you use to find this information?

- ☐ Call your AWS Technical Account Manager (TAM) and ask for this information.
- ☒ Use AWS Artifact to download the report.
- ☐ Use AWS Certificate Manager to generate the report.
- ☐ Use AWS Trusted Advisor to generate the report.

QUESTION 11

* 10 points

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

QUESTION 12

* 10 points

You work for the national weather service and are in the process of doing some research on climate change. You have thousands of weather stations around the country that all have temperature sensors that report temperatures every 15 seconds. This time-series data is then fed to AWS where you need to run machine learning on it in real time. Which AWS service would best suit your requirements?

- ☐ Amazon Lex
- ☐ Amazon Transcribe
- ☐ Amazon Rekognition
- ☒ Amazon Forecast

QUESTION 13

* 10 points

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?

- ☐ Add DAX to the solution to alleviate excess read traffic.
- ☐ Convert to Aurora to allow the standby to serve read traffic.
- ☐ Redirect some of the read traffic to the standby database.
- ☒ Add read replicas to offload some read traffic.

QUESTION 14

* 10 points

Your company has asked you to look into some latency issues with the company web app. The application is backed by an AWS RDS database. Your analysis has determined that the requests made of the application are very read heavy, and this is where improvements can be made. Which service can you use to store frequently accessed data in-memory?

- ☐ Amazon EBS
- ☐ Amazon DynamoDB Accelerator (DAX)
- ☐ Amazon DynamoDB
- ☒ Amazon ElastiCache

QUESTION 15

* 10 points

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?

- ☐ Lambda function
- ☒ SES
- ☐ SNS
- ☐ SQS

QUESTION 16

* 10 points

You work for a security company that manufactures doorbells with cameras built in. They are designing an application so that when people ring the doorbell, the camera will activate and stream video from the doorbell to the user's mobile device. You need to implement an AWS service to handle the streaming of potentially millions of devices, which you will then run analytics and other processing on the streams. Which AWS service would best suit this?

- ☐ Amazon CloudFront
- ☐ Amazon CloudWatch
- ☐ Amazon Elastic Transcoder
- ☒ Amazon Kinesis Video Streams

QUESTION 17

* 10 points

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?
(Choose 3)

- ☒ Amazon RDS
- ☒ Amazon DynamoDB
- ☐ Amazon S3 Glacier
- ☐ Amazon Redshift
- ☒ Amazon ElastiCache

QUESTION 18

* 10 points

Your application is housed on an Auto Scaling Group of EC2 instances. The application is backed by the Multi-AZ MySQL RDS database and an additional read replica. You need to simulate some failures for disaster recovery drills. Which event will not cause an RDS to perform a failover to the standby replica?

- ☐ Compute unit failure on primary
- ☒ Read replica failure
- ☐ Loss of network connectivity to primary

Question 19

* 10 points

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**

How can the last rule *** All Traffic Deny** be edited?

- ☐ It's a placeholder and can be deleted.
- ☐ Any number can replace the *.
- ☐ The Deny can be changed to Allow.
- ☒ You can't modify or remove this rule.

QUESTION 20

* 10 points

A consultant is 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 the default security group?

- ☐ You can delete this group or you can change the group's rules.
- ☐ You can delete this group, however, you can't change the group's rules.
- ☐ You can't delete this group, nor can you change the group's rules.
- ☒ You can't delete this group, however, you can change the group's rules.

QUESTION 21

* 10 points

Bill is a cloud solutions architect for a small technology startup company. The company started out completely on-premises, but Bill has finally convinced them to explore shifting their application to AWS. The application is fairly complex and leverages message brokers that communicate using AMQP 1.0 protocols to exchange data between nodes and complete workloads.

Which service should Bill use to design the new AWS cloud-based architecture?

- ☐ Amazon SNS
- ☒ Amazon MQ
- ☐ AWS Batch
- ☐ Amazon SQS

QUESTION 22

* 10 points

Your company is storing highly sensitive data in S3 Buckets. The data includes personal and financial information. An audit has determined that this data must be stored in a secured manner and any data stored in the buckets already or data coming into the buckets must be analyzed and alerts sent out flagging improperly stored data. Which AWS service can be used to meet this requirement?

- ☐ AWS Trusted Advisor
- ☒ Amazon Macie
- ☐ AWS GuardDuty
- ☐ AWS Inspector

QUESTION 23

* 10 points

You have two EC2 instances running in the same VPC, but in different subnets. You are removing the secondary ENI from an EC2 instance and attaching it to another EC2 instance. You want this to be fast and with limited disruption. So you want to attach the ENI to the EC2 instance when it's running. What is this called?

- ☐ warm attach
- ☒ hot attach
- ☐ cold attach
- ☐ synchronous attach

QUESTION 24

* 10 points

You are consulting for a state agency focused on the state lottery. You have been given a task to have 2 million bar codes created as quickly as possible. This will require EC2 instances and an average CPU utilization of 70% for each of them. So you plan to spin up 10 EC2 instances to create the bar codes. You estimate the instances will complete the job from around 11 p.m. to 1 a.m. You don't want the instances sitting idle for up to 9 hours until the next morning. What can you do to terminate these instances when they are done?

- ☐ Write a cron job that queries the instance status. Also, write a Lambda function that can be triggered upon a certain status and terminate the instance.
- ☐ Write a cron job that queries the instance status. If a certain status is met, have the cron job kick off CloudFormation to terminate the existing instance, and create a new instance from a template.
- ☒ You can create a CloudWatch alarm that is triggered when the average CPU utilization percentage has been lower than 5% for 15 minutes and terminates the instance.
- ☐ Write a Python script that queries the instance status. Also, write a Lambda function that can be triggered upon a certain status and terminate the instance.

QUESTION 25

* 10 points

Your application team has been approved to create a new machine learning application over the next two years. You intend to leverage numerous Amazon SageMaker instances and components to back your application. Your manager is worried about the cost potential of the services involved.

How could you maximize your savings opportunities for the Amazon SageMaker service?

- ☐ Purchase a one-year All Upfront Compute Savings Plan. This applies to all SageMaker instances and components within any AWS Region.
- ☐ Purchase a three-year All Upfront Compute Savings Plan. This applies to all SageMaker instances and components within any AWS Region.
- ☒ Purchase a one-year All Upfront SageMaker Savings Plan. This applies to all SageMaker instances and components within any AWS Region.
- ☐ Purchase a three-year All Upfront SageMaker Savings Plan. This applies to all SageMaker instances and components within any AWS Region.

QUESTION 26

* 10 points

You work for an oil and gas company as a lead in data analytics. The company is using IoT devices to better understand their assets in the field (for example, pumps, generators, valve assemblies, and so on). Your task is to monitor the IoT devices in real-time to provide valuable insight that can help you maintain the reliability, availability, and performance of your IoT devices. What tool can you use to process streaming data in real time with standard SQL without having to learn new programming languages or processing frameworks?

- ☐ AWS Lambda
- ☒ Kinesis Data Analytics
- ☐ AWS RedShift
- ☐ AWS Kinesis Streams

QUESTION 27

* 10 points

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)?

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

QUESTION 28

* 10 points

You work in healthcare for an IVF clinic. You host an application on AWS, which allows patients to track their medication during IVF cycles. The application also allows them to view test results, which contain sensitive medical data. You have a regulatory requirement that the application is secure and you must use a firewall managed by AWS that enables control and visibility over VPC-to-VPC traffic and prevents the VPCs hosting your sensitive application resources from accessing domains using unauthorized protocols. What AWS service would support this?

- ☐ AWS PrivateLink
- ☐ AWS WAF
- ☒ AWS Network Firewall
- ☐ AWS Firewall Manager

QUESTION 29

* 10 points

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?

- ☒ Application Load Balancer
- ☐ Network Load Balancer
- ☐ Any type of load balancer will meet these requirements.
- ☐ Classic Load Balancer

QUESTION 30

* 10 points

A small development team with very limited AWS knowledge has begun the process of creating and deploying a new frontend application based on React within AWS. The application is simple and does not need any backend processing via traditional databases. The application does, however, require GraphQL interactions to complete the required processing of data. Which AWS service can the team use to complete this?

- ☐ Host the application in AWS Lambda instead and perform the processing using DynamoDB.
- ☒ Deploy a GraphQL interface via AWS AppSync.
- ☐ Leverage API Gateway for any GraphQL calls. It supports GraphQL and REST API.
- ☐ Stand up a full stack application easily via AWS Amplify.

QUESTION 31

* 10 points

Jamal recently joined a small company as a Site Reliability Engineer on the cloud development team. The team leverages numerous AWS Lambda functions with several backend AWS resources, as well as other backend microservices. A recent update to some of the different functions' code has begun to cause massive delays within the application workloads. The development initially turned on more detailed logging within their code base; however, this did not provide the application insights required to troubleshoot the issue. What can Jamal do to more easily gain a better understanding of the response times of the affected AWS Lambda functions, as well as all the connected downstream resources within the entire application flow?

- ☐ Run a containerized version of the application and output log files with responses.
- ☐ Update the code to log their response times for each function.
- ☒ Enable AWS X-Ray within each function to gain detailed information about responses.
- ☐ This is not needed. Simply increase the resource settings for each function.

QUESTION 32

* 10 points

You suspect that one of the AWS services your company is using has gone down. Which service can provide you proactive and transparent notifications about the status of your specific AWS environment?

- ☐ AWS Trusted Advisor
- ☐ AWS Organizations
- ☐ Amazon Inspector
- ☒ AWS Personal Health Dashboard

QUESTION 33

* 10 points

You have configured a VPC with both a public and a private subnet. You need to deploy a web server and a database. You want the web server to be accessed from the Internet by customers. Which is the proper configuration for this architecture?

- ☒ Web server in public subnet, database in private subnet.
- ☐ Both web server and database in public subnets to facilitate internet access.
- ☐ Web server outside of VPC for internet access, database in private subnet.
- ☐ Database outside the VPC for decoupling from web server, and web server in public subnet for internet access.

QUESTION 34

* 10 points

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?

- ☒ Amazon Athena
- ☐ Amazon SQL Connector
- ☐ There is no such service, but there are third-party tools.
- ☐ DynamoDB

QUESTION 35

* 10 points

You work for an online education company that offers a 7-day unlimited access free trial for all new users. You discover that someone has been taking advantage of this and has created a script to register a new user every time the 7-day trial ends. They also use this script to download large amounts of video files, which they then put up on popular pirate websites. You need to find a way to automate the detection of fraud like this using machine learning and artificial intelligence. Which AWS service would best suit this?

- ☐ Amazon Rekognition
- ☐ Amazon Detective
- ☐ Amazon Inspector
- ☒ Amazon Fraud Detector

QUESTION 36

* 10 points

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 model. Which measure is the customer's responsibility?

- ☐ Physical security of data centers
- ☒ EC2 instance OS patching
- ☐ Virtualization infrastructure
- ☐ Managing underlying network infrastructure

QUESTION 37

* 10 points

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. The company competes for and wins contracts that typically range from 1 year to up to 5 years. These long-term contracts mean that the duration of your need for EC2 instances can be matched to the length of these contracts, and then extended if necessary. The main requirement is consistent performance for the duration of the contract. Which EC2 purchasing option provides the best value, given these long-term contracts?

- ☒ Reserved
- ☐ Dedicated Host
- ☐ Spot
- ☐ On-Demand

QUESTION 38

* 10 points

You have just started work at a small startup in the Seattle area. Your first job is to help containerize your company's microservices and move them to AWS. The team has selected ECS as their orchestration service of choice. You've discovered the code currently uses access keys and secret access keys in order to communicate with S3. How can you best handle this authentication for the newly containerized application?

- ☐ Leave the credentials where they are.
- ☒ Attach a role with the appropriate permissions to the task definition in ECS.
- ☐ Migrate the access and secret access keys to the Dockerfile.
- ☐ Attach a role to the EC2 instances that will run your ECS tasks.

QUESTION 39

* 10 points

A new startup company decides to use AWS to host their web application. They configure a VPC as well as two subnets within the VPC. They also attach an internet gateway to the VPC. In the first subnet, they create the EC2 instance which will host their web application. They finish the configuration by making the application accessible from the Internet. The second subnet has an instance hosting a smaller, secondary application. But this application is not currently accessible from the Internet. What could be potential problems?

(Choose 2)

- ☐ The EC2 instance is not attached to an internet gateway.
- ☒ The EC2 instance does not have a public IP address.
- ☐ The second subnet does not have a route in the route table to the virtual private gateway.
- ☒ The second subnet does not have a route in the route table to the internet gateway.
- ☐ The second subnet does not have a public IP address.

QUESTION 40

* 10 points

A car insurance company keeps specific details about accidents on file for a year, for quick retrieval, and then archives those files to long-term storage. The files are mainly accessed in the first 30 days. A recent audit has approved the general steps they are taking but pointed out many deficiencies in the technologies they are using. You have been hired as a consultant to come up with an automated solution. Your solution will recommend AWS storage options. What storage options could you recommend to meet the lifecycle requirements outlined, provide high availability, and offer the most savings?

- ☒ Store the accident files in S3 for 30 days, then have the lifecycle policy move them to S3-IA. After a year, move them to Glacier.
- ☐ Store the accident files in Glacier for maximum cost savings.
- ☐ Store the accident files in S3 for a year, then have the lifecycle policy move them to S3 IA.
- ☐ Store the accident files in EBS volumes for a year, then migrate them to Glacier.

QUESTION 41

* 10 points

A large, big-box hardware chain is setting up a new inventory management system. They have developed a system using IoT sensors which captures the removal of items from the store shelves in near real-time and want to use this information to update their inventory system. The company wants to analyze this data in the hopes of being ahead of demand and properly managing logistics and delivery of in-demand items.

Which AWS service can be used to capture this data as close to real-time as possible, while being able to both transform and load the streaming data into Amazon S3 or Elasticsearch?

- ☒ Amazon Kinesis Data Firehose
- ☐ Amazon Aurora
- ☐ Amazon Kinesis Data Streams
- ☐ Amazon Redshift

QUESTION 42

* 10 points

A consultant is 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. How many security groups can be attached to an EC2 instance?

- ☐ Instances in private subnets cannot have multiple security groups.
- ☐ You can assign two security groups to an instance.
- ☒ You can assign up to five security groups to the instance.
- ☐ You can only assign one security group to an instance.

QUESTION 43

* 10 points

The CFO of your company approaches you and inquires 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?

- ☐ Use a lifecycle policy to archive the data to Amazon SQS.
- ☐ Write a cron job to archive the data to DynamoDB.
- ☐ Use a lifecycle policy to archive the data to Redshift.
- ☒ Use a lifecycle policy to archive the data to Glacier.

QUESTION 44

* 10 points

A company has an application for sharing static content, such as photos. The popularity of the application has grown, and the company is now sharing content worldwide. This worldwide service has caused some issues with latency. What AWS services can be used to host a static website, serve content to globally dispersed users, and address latency issues, while keeping cost under control? Choose two.

(Choose 2)

- ☐ AWS Global Accelerator
- ☒ S3
- ☐ EC2 placement group
- ☐ AWS CloudFormation
- ☒ CloudFront

QUESTION 45

* 10 points

A team member has been tasked to configure four EC2 instances for four separate applications. These are not high-traffic apps, so there is no need for an Auto Scaling group. The instances are all in the same public subnet and each instance has an EIP address, and all of the instances have the same security group. But none of the instances can send or receive internet traffic. You verify that all the instances have a public IP address. You also verify that an internet gateway has been configured. What is the most likely issue?

- ☐ You are using the default NACL.
- ☒ There is no route in the route table to the internet gateway (or it has been deleted).
- ☐ The route table is corrupt.
- ☐ Each instance needs its own security group.

QUESTION 46

* 10 points

You are working as a Solutions Architect in a large healthcare organization. You have many Auto Scaling groups that you need to create. One requirement is that you need to reuse some software licenses and therefore need to use dedicated hosts on EC2 instances in your Auto Scaling groups. What step must you take to meet this requirement?

- ☐ Create your launch configuration, but manually change the instances to Dedicated Hosts in the EC2 console.
- ☐ Make sure your launch configurations are using Dedicated Hosts.
- ☐ Create the Dedicated Host EC2 instances, and then add them to an existing Auto Scaling group.
- ☒ Use a launch template with your Auto Scaling group and select the Dedicated Host option.

QUESTION 47

* 10 points

An accounting company has big data applications for analyzing actuary data. The company is migrating some of its services to the cloud, and for the foreseeable future, will be operating in a hybrid environment. They need a storage service that provides a simple, scalable, fully managed elastic NFS file system for use with AWS Cloud services and on-premises resources. Which AWS service can meet these requirements?

- ☐ Glacier
- ☐ EBS
- ☒ EFS
- ☐ S3

QUESTION 48

* 10 points

The company you work for has reshuffled teams a bit and you've been moved from the AWS IAM team to the AWS network team. One of your first assignments is to review the subnets in the main VPCs. You have recommended that the company add some private subnets and segregate databases from public traffic. What differentiates a public subnet from a private subnet?

- ☒ If a subnet's traffic is routed to an internet gateway, the subnet is known as a public subnet.
- ☐ Public subnets are meant to house EC2 instances with public IP addresses.
- ☐ Public subnets are associated with public Availability zones.
- ☐ A public subnet has a public IP address.

QUESTION 49

* 10 points

Several instances you are creating have a specific data requirement. The requirement states that the data on the root device needs to persist independently from the lifetime of the instance. After considering AWS storage options, which is the simplest way to meet these requirements?

- ☐ Store the data on the local instance store.
- ☐ Send the data to S3 using S3 lifecycle rules.
- ☒ Store your root device data on Amazon EBS and set the (DeleteOnTermination) attribute to false using a block device mapping.
- ☐ Create a cron job to migrate the data to S3.

QUESTION 50

* 10 points

The company you work for has reshuffled teams a bit and you've been moved from the AWS IAM team to the AWS Network team. One of your first assignments is to review the subnets in the main VPCs. What are two key concepts regarding subnets? (Choose 2)

- ☒ Each subnet maps to a single Availability Zone.
- ☐ Private subnets can only hold databases.
- ☐ A subnet spans all the Availability Zones in a Region.
- ☐ Each subnet is associated with one security group.
- ☒ Every subnet you create is associated with the main route table for the VPC.

QUESTION 51

* 10 points

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?

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

QUESTION 52

* 10 points

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 must be purged. How can you meet this requirement in S3?

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

QUESTION 53

* 10 points

Your boss has tasked you with decoupling your existing web frontend from the backend. Both applications run on EC2 instances. After you investigate the existing architecture, you find that (on average) the backend resources are processing about 50,000 requests per second and will need something that supports their extreme level of message processing. It's also important that each request is processed only 1 time. What can you do to decouple these resources?

- ☐ Use SQS Standard. Include a unique ordering ID in each message, and have the backend application use this to deduplicate messages.
- ☐ Upsize your EC2 instances to reduce the message load on the backend servers.
- ☐ Use S3 to store the messages being sent between the EC2 instances.
- ☒ Use SQS FIFO to decouple the applications.

QUESTION 54

* 10 points

You work for an online school that teaches IT by recording their screen and narrating what they are doing. The school is becoming quite popular, and you need to convert the video files into many different formats to support various laptops, tablets, and mobile devices. Which AWS service should you consider using?

- ☒ Amazon Elastic Transcoder
- ☐ Amazon CloudFront
- ☐ Amazon CloudWatch
- ☐ Amazon Kinesis Video Streams

QUESTION 55

* 10 points

An international travel company has an application which provides travel information and alerts to users all over the world. The application is hosted on groups of EC2 instances in Auto Scaling Groups in multiple AWS Regions. There are also load balancers routing traffic to these instances. In two countries, Ireland and Australia, there are compliance rules in place that dictate users connect to the application in eu-west-1 and ap-southeast-1. Which service can you use to meet this requirement?

- ☐ Configure the load balancers to route users to the proper region.
- ☐ Use Route 53 weighted routing.
- ☐ Configure CloudFront and the users will be routed to the nearest edge location.
- ☒ Use Route 53 geolocation routing.

QUESTION 56

* 10 points

An international company has many clients around the world. These clients need to transfer gigabytes to terabytes of data quickly and on a regular basis to an S3 bucket. Which S3 feature will enable these long distance data transfers in a secure and fast manner?

- ☐ Multipart upload
- ☐ AWS Snowmobile
- ☒ Transfer Acceleration
- ☐ Cross-account replication

QUESTION 57

* 10 points

You are working for a large financial institution and have been tasked with creating a relational database solution to deal with a read-heavy workload. The database needs to be highly available within the Oregon region and quickly recover if an Availability Zone goes offline. Which of the following would you select to meet these requirements? (Choose 2)

- ☐ Use an Amazon Aurora global database to ensure a region failure won't break the application.
- ☐ Using RDS, create a read replica. If an AZ fails, RDS will automatically cut over to the read replica.
- ☒ Create a read replica and point your read workloads to the new endpoint RDS provides.
- ☐ Split your database into multiple RDS instances across different regions. In the event of a failure, point your application to the new region.
- ☒ Enable Multi-AZ support for the RDS database.

QUESTION 58

* 10 points

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?

- ☐ AWS Direct Connect
- ☐ VPC Peering
- ☒ AWS Managed VPN
- ☐ AWS Direct Gateway

QUESTION 59

* 10 points

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?

- ☒ Make sure that the security group for the instance allows inbound on port 22 from your home IP address
- ☐ Make sure that the security group for the instance allows inbound on port 80 from your home IP address
- ☐ Make sure that the Security Group for the instance allows inbound on port 443 from your home IP address
- ☐ Make sure that your VPC has a connected Virtual Private Gateway

QUESTION 60

* 10 points

A new startup company decides to use AWS to host their web application. They configure a VPC as well as two subnets within the VPC. They also attach an internet gateway to the VPC. In the first subnet, they create an EC2 instance to host a web application. There is a network ACL and a security group, which both have the proper ingress and egress to and from the internet. There is a route in the route table to the internet gateway. The EC2 instances added to the subnet need to have a globally unique IP address to ensure internet access. Which is not a globally unique IP address?

- ☐ Elastic IP address
- ☐ IPv6 address
- ☒ Private IP address
- ☐ Public IP address

QUESTION 61

* 10 points

A database outage has been very costly to your organization. You have been tasked with configuring a more highly available architecture. The main requirement is that the chosen architecture needs to meet an aggressive RTO in case of disaster. You have decided to use an Amazon RDS for MySQL Multi-AZ instance deployment. How is the replication handled for Amazon RDS for MySQL with a Multi-AZ instance configuration?

- ☒ Amazon RDS for MySQL automatically provisions and maintains a synchronous standby replica in a different Availability Zone
- ☐ Amazon RDS for MySQL automatically provisions and maintains an asynchronous standby replica in a different Availability Zone
- ☐ You can configure an Amazon RDS for MySQL standby replica in a different Availability Zone and send traffic synchronously or asynchronously depending on your cost considerations
- ☐ Amazon RDS for MySQL automatically provisions and maintains a synchronous standby replica in a different Region

QUESTION 62

* 10 points

You have been evaluating the NACLs in your company. Currently, you are looking at the default network ACL. Which statement is true regarding subnets and NACLs?

- ☐ The default NACL will always be associated with each subnet.
- ☐ You have to delete the default NACL before creating a custom NACL to associate with a subnet.
- ☒ Each subnet in your VPC must be associated with a network ACL. If you don't explicitly associate a subnet with a network ACL, the subnet is automatically associated with the default network ACL.
- ☐ Only public subnets can use the default NACL.

QUESTION 63

* 10 points

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?

- ☐ DiskReadOps
- ☐ CPU utilization
- ☒ Memory utilization
- ☐ NetworkIn

QUESTION 64

* 10 points

A small company has nearly 200 users who already have AWS accounts in the company AWS environment. A new S3 bucket has been created which will need to allow roughly a third of all users access to sensitive information in the bucket. What is the most time efficient way to get these users access to the bucket?

- ☒ Create a new policy which will grant permissions to the bucket. Create a group and attach the policy to that group. Add the users to this group.
- ☐ Create a new role which will grant permissions to the bucket. Create a group and attach the role to that group. Add the users to this group.
- ☐ Create a new policy which will grant permissions to the bucket. Create a role and attach the policy to that role. Add the users to this role.
- ☐ Create a new bucket policy granting the appropriate permissions and attach it to the bucket.

QUESTION 65

* 10 points

A software company is looking for compute capacity in the cloud for a fault-tolerant and flexible application. The application is not mission-critical, so occasional downtime is acceptable. What type of EC2 servers can be used to meet these requirements at the lowest cost?

- ☒ Spot
- ☐ Reserved
- ☐ On-Demand
- ☐ Dedicated Hosts

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