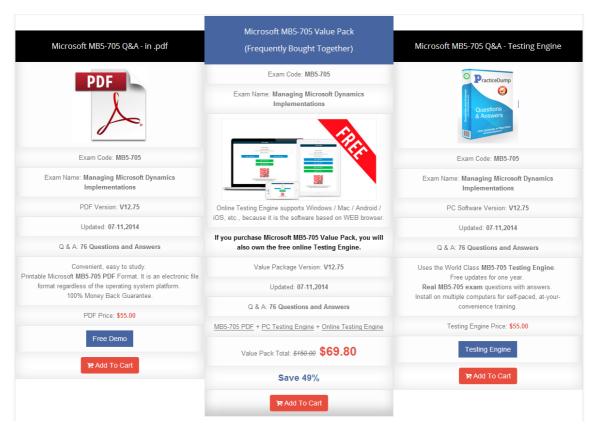
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Exam : DVA-C01

: AWS Certified Developer Associate Exam **Title**

Vendor : Amazon

Version : DEMO

NO.1 A Developer wants to upload data to Amazon S3 and must encrypt the data in transit.

Which of the following solutions will accomplish this task? (Choose two.)

- **A.** Transfer the data over an SSL connection
- **B.** Set up Server-Side Encryption with AWS KMS-Managed Keys
- C. Set up Server-Side Encryption with S3-Managed Keys
- D. Set up hardware VPN tunnels to a VPC and access S3 through a VPC endpoint
- E. Set up Client-Side Encryption with an AWS KMS-Managed Customer Master Key

Answer: A,E Explanation

https://docs.aws.amazon.com/AmazonS3/latest/dev/UsingEncryption.html

NO.2 Games-R-Us is launching a new game app for mobile devices. Users will log into the game using their existing Facebook account and the game will record player data and scoring information directly to a DynamoDB table.

What is the most secure approach for signing requests to the DynamoDB API?

- A. Request temporary security credentials using web identity federation to sign the requests
- **B.** Create an IAM user with access credentials that are distributed with the mobile app to sign the requests
- **C.** Distribute the AWS root account access credentials with the mobile app to sign the requests
- **D.** Establish cross account access between the mobile app and the DynamoDB table to sign the requests

Answer: A

NO.3 An application running on EC2 instances is storing data in an S3 bucket. Security policy mandates that all data must be encrypted in transit.

How can the Developer ensure that all traffic to the S3 bucket is encrypted?

- **A.** Create a bucket policy that denies traffic where SecureTransport is false.
- **B.** Create an HTTPS redirect on the EC2 instances.
- C. Install certificates on the EC2 instances.
- **D.** Create a bucket policy that allows traffic where SecureTransport is true.

Answer: A

Explanation

https://aws.amazon.com/blogs/security/how-to-use-bucket-policies-and-apply-defense-in-depth-to-help-secure-y

NO.4 You have written an application that uses the Elastic Load Balancing service to spread traffic to several web servers. Your users complain that they are sometimes forced to login again in the middle of using your application, after they have already logged in. This is not behavior you have designed. What is a possible solution to prevent this happening?

- **A.** Use EBS to save session state
- **B.** Use Glacier to save session slate.
- **C.** Use instance memory to save session state.
- **D.** Use instance storage to save session state.
- **E.** Use ElastiCache to save session state.

Answer: E

NO.5 A Developer is making changes to a custom application that is currently using AWS Elastic Beanstalk.

After the Developer completes the changes, what solutions will update the Elastic Beanstalk environment with the new application version? (Choose two.)

- **A.** Package the application code into a .zip file, create a new application version from the AWS Management Console, then rebuild the environment by using AWS CLI
- **B.** Package the application code into a .zip file, and upload, then deploy the packaged application from the AWS Management Console
- **C.** Package the application code into a .tar file, and upload and deploy the packaged application from the AWS Management Console
- **D.** Package the application code into a .tar file, create a new application version from the AWS Management Console, then update the environment by using AWS CLI
- **E.** Package the application code into a .zip file, create a new application version from the packaged application by using AWS CLI, then update the environment by using AWS CLI

Answer: C,E

- **NO.6** A Developer is developing an application that manages financial transactions. To improve security, multi-factor authentication (MFA) will be required as part of the login protocol. What services can the Developer use to meet these requirements?
- **A.** Amazon DynamoDB to store MFA session data, and Amazon SNS to send MFA codes
- **B.** AWS Directory Service
- C. Amazon Cognito with MFA
- **D.** AWS IAM with MFA enabled

Answer: C Explanation

AWS documentation - Cognito MFA Managing Security

You can add multi-factor authentication (MFA) to a user pool to protect the identity of your users. MFA adds a second authentication method that doesn't rely solely on user name and password. You can choose to use SMS text messages, or time-based one-time (TOTP) passwords as second factors in signing in your users. You can also use adaptive authentication with its risk-based model to predict when you might need another authentication factor. It's part of the user pool advanced security features, which also include protections against compromised credentials.

- **NO.7** A Developer is creating a web application that requires authentication, but also needs to support guest access to provide users limited access without having to authenticate. What service can provide support for the application to allow guest access?
- **A.** IAM with SAML integration
- **B.** Amazon Cognito with unauthenticated access enabled
- **C.** IAM temporary credentials using AWS STS.
- D. Amazon Directory Service

Answer: B Explanation

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/serverless-getting-started-hello

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/sam-cli-command-reference-sa

https://docs.aws.amazon.com/serverless-application-model/latest/developerguide/sam-cli-command-reference-sa

NO.8 A company is migrating from a monolithic architecture to a microservices-based architecture. The Developers need to refactor the application so that the many microservices can asynchronously communicate with each other without impacting performance.

Use of which managed AWS services will enable asynchronous message passing? (Choose two.)

- A. Amazon SQS
- **B.** Amazon SNS
- C. Amazon Kinesis
- D. Amazon Cognito
- E. Amazon ElastiCache

Answer: A,B

NO.9 A company is developing a new online game that will run on top of Amazon ECS. Four distinct Amazon ECS services will be part of the architecture, each requiring specific permissions to various AWS services. The company wants to optimize the use of the underlying Amazon EC2 instances by bin packing the containers based on memory reservation.

Which configuration would allow the Development team to meet these requirements MOST securely?

- **A.** Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS service to reference the associated IAM role.
- **B.** Create a new Identity and Access Management (IAM) instance profile containing the required permissions for the various ECS services, then associate that instance role with the underlying EC2 instances.
- **C.** Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then, create an IAM group and configure the ECS cluster to reference that group.
- **D.** Create four distinct IAM roles, each containing the required permissions for the associated ECS service, then configure each ECS task definition to referene the associated IAM role.

Answer: D

Explanation

https://docs.aws.amazon.com/AmazonECS/latest/developerguide/task-placement-strategies.html.

NO.10 A team of Developers must migrate an application running inside an AWS Elastic Beanstalk environment from a Classic Load Balancer to an Application Load Balancer.

Which steps should be taken to accomplish the task using the AWS Management Console?

- **A.** 1. Update the application code in the existing deployment.2. Select a new load balancer type before running the deployment.3. Deploy the new version of the application code to the environment.
- **B.** 1. Create a new environment with the same configurations except for the load balancer type.2. Deploy the same application version as used in the original environment.3. Run the swap-

environment-cnames action.

- **C.** 1. Clone the existing environment, changing the associated load balancer type.2. Deploy the same application version as used in the original environment.3. Run the swap-environment-cnames action.
- **D.** 1. Edit the environment definitions in the existing deployment.2. Change the associated load balancer type according to the requirements.3. Rebuild the environment with the new load balancer type.

Answer: B

Explanation

https://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features.managing.elb.html By default, Elastic Beanstalk creates an Application Load Balancer for your environment when you enable load balancing with the Elastic Beanstalk console or the EB CLI. It configures the load balancer to listen for HTTP traffic on port 80 and forward this traffic to instances on the same port. You can choose the type of load balancer that your environment uses only during environment creation. Later, you can change settings to manage the behavior of your running environment's load balancer, but you can't change its type.

NO.11 An application runs on multiple EC2 instances behind an ELB.

Where is the session data best written so that it can be served reliably across multiple requests?

- **A.** Write data to the root filesystem.
- **B.** Write data to Amazon EC2 Instance Store.
- C. Write data to Amazon ElastiCache
- **D.** Write data to Amazon Elastic Block Store.

Answer: C

NO.12 A social media company is using Amazon Cognito in order to synchronize profiles across different mobile devices, to enable end users to have a seamless experience.

Which of the following configurations can be used to silently notify users whenever an update is available on all other devices?

- **A.** Use an Amazon Cognito stream to analyze the data and push the notifications.
- **B.** Use the SyncCallback interface to receive notifications on the application.
- **C.** Use the push synchronization feature with the appropriate IAM role.
- **D.** Modify the user pool to include all the devices which keep them in sync.

Answer: C

Explanation

https://docs.aws.amazon.com/cognito/latest/developerguide/push-sync.html

NO.13 An organization is storing large files in Amazon S3, and is writing a web application to display meta-data about the files to end-users. Based on the metadata a user selects an object to download. The organization needs a mechanism to index the files and provide single-digit millisecond latency retrieval for the metadata.

What AWS service should be used to accomplish this?

- **A.** AWS Lambda
- **B.** Amazon DynamoDB
- C. Amazon RDS

D. Amazon EC2

Answer: B

Explanation

Amazon DynamoDB is a fast and flexible NoSQL database service for all applications that need consistent, single-digit millisecond latency at any scale. It is a fully managed database and supports both document and key-value data models. Its flexible data model and reliable performance make it a great fit for mobile, web, gaming, ad-tech, Internet of Things (IoT), and many other applications. References:

NO.14 A company maintains a REST service using Amazon API Gateway and the API Gateway native API key validation. The company recently launched a new registration page, which allows users to sign up for the service. The registration page creates a new API key using CreateApiKey and sends the new key to the user.

When the user attempts to call the API using this key, the user receives a 403 Forbidden error. Existing users are unaffected and can still call the API.

What code updates will grant these new users access to the API?

- **A.** The importApiKeys method must be called to import all newly created API keys into the current stage of the API.
- **B.** The createUsagePlanKey method must be called to associate the newly created API key with the correct usage plan.
- **C.** The updateAuthorizer method must be called to update the API's authorizer to include the newly created API key.
- **D.** The createDeployment method must be called so the API can be redeployed to include the newly created API key.

Answer: B

Explanation

https://stackoverflow.com/questions/39061041/using-an-api-key-in-amazon-api-gateway

- **NO.15** An application is real-time processing millions of events that are received through an API. What service could be used to allow multiple consumers to process the data concurrently and MOST cost-effectively?
- A. Amazon SNS with fanout to an SQS FIFO (first-in, firtst-out) queue for each application
- **B.** Amazon SNS with fanout to an SQS queue for each application
- C. Amazon Kinesis Firehouse
- **D.** Amazon Kinesis Streams

Answer: D

NO.16 A company is running an application built on AWS Lambda functions. One Lambda function has performance issues when it has to download a 50MB file from the Internet in every execution. This function is called multiple times a second.

What solution would give the BEST performance increase?

- **A.** Cache the file in the /tmp directory
- **B.** Increase the Lambda maximum execution time
- C. Put an Elastic Load Balancer in front of the Lambda function

D. Cache the file in Amazon S3

Answer: D

NO.17 Developer is creating an AWS Lambda function to process a stream of data from an Amazon Kinesis Data Stream. When the Lambda function parses the data and encounters a missing field, it exits the function with an error. The function is generating duplicate records from the Kinesis stream. When the Developer looks at the stream output without the Lambda function, there are no duplicate records.

What is the reason for the duplicates?

- A. The Lambda function did not advance the Kinesis stream pointer to the next record after the error
- **B.** The Lambda event source used asynchronous invocation, resulting in duplicate records.
- **C.** The Lambda function is not keeping up with the amount of data coming from the stream.
- **D.** The Lambda function did not handle the error, and the Lambda service attempted to reprocess the data.

Answer: A Explanation

https://docs.aws.amazon.com/lambda/latest/dg/with-kinesis.html

- **NO.18** How is provisioned throughput affected by the chosen consistency model when reading data from a DynamoDB table?
- **A.** Strongly consistent reads use the same amount of throughput as eventually consistent reads
- **B.** Strongly consistent reads use variable throughput depending on read activity
- **C.** Strongly consistent reads use more throughput than eventually consistent reads.
- **D.** Strongly consistent reads use less throughput than eventually consistent reads

Answer: C

- **NO.19** When a Simple Queue Service message triggers a task that takes 5 minutes to complete, which process below will result in successful processing of the message and remove it from the queue while minimizing the chances of duplicate processing?
- **A.** Retrieve the message with an increased visibility timeout, delete the message from the queue, process the message
- **B.** Retrieve the message with increased DelaySeconds, delete the message from the queue, process the message
- **C.** Retrieve the message with an increased visibility timeout, process the message, delete the message from the queue
- **D.** Retrieve the message with increased DelaySeconds, process the message, delete the message from the queue

Answer: C

NO.20 A company is using Amazon API Gateway to manage access to a set of microservices implemented as AWS Lambda functions. Following a bug report, the company makes a minor breaking change to one of the APIs.

In order to avoid impacting existing clients when the new API is deployed, the company wants to

allow clients six months to migrate from v1 to v2.

Which approach should the Developer use to handle this change?

- **A.** Use API Gateway to deploy a new stage named v2 to the API and provide users with its URL.
- **B.** Update the underlying Lambda function and provide clients with the new Lambda invocation URL.
- **C.** Update the underlying Lambda function, create an Amazon CloudFront distribution with the updated Lambda function as its origin.
- **D.** Use API Gateway to automatically propagate the change to clients, specifying 180 days in the phased deployment parameter.

Answer: A