



**Amazon**

## **Exam Questions AWS-Certified-DevOps-Engineer-Professional**

Amazon AWS Certified DevOps Engineer Professional

#### NEW QUESTION 1

You are building a game high score table in DynamoDB. You will store each user's highest score for each game, with many games, all of which have relatively similar usage levels and numbers of players. You need to be able to look up the highest score for any game. What's the best DynamoDB key structure?

- A. HighestScore as the hash / only key.
- B. GameID as the hash key, HighestScore as the range key.
- C. GameID as the hash / only key.
- D. GameID as the range / only ke

**Answer: B**

#### Explanation:

Since access and storage for games is uniform, and you need to have ordering within each game for the scores (to access the highest value), your hash (partition) key should be the GameID, and there should be a range key for HighestScore.

Reference: <http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GuidelinesForTables.html#GuidelinesForTables.Partitions>

#### NEW QUESTION 2

You need to scale an RDS deployment. You are operating at 10% writes and 90% reads, based on your logging. How best can you scale this in a simple way?

- A. Create a second master RDS instance and peer the RDS groups.
- B. Cache all the database responses on the read side with CloudFront.
- C. Create read replicas for RDS since the load is mostly reads.
- D. Create a Multi-AZ RDS installs and route read traffic to standby

**Answer: C**

#### Explanation:

The high-availability feature is not a scaling solution for read-only scenarios; you cannot use a standby replica to serve read traffic. To service read-only traffic, you should use a Read Replica. For more information, see Working with PostgreSQL, MySQL, and MariaDB Read Replicas.

Reference: <http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html>

#### NEW QUESTION 3

When thinking of AWS Elastic Beanstalk, the 'Swap Environment URLs' feature most directly aids in what?

- A. Immutable Rolling Deployments
- B. Mutable Rolling Deployments
- C. Canary Deployments
- D. Blue-Green Deployments

**Answer: D**

#### Explanation:

Simply upload the new version of your application and let your deployment service (AWS Elastic Beanstalk, AWS CloudFormation, or AWS OpsWorks) deploy a new version (green). To cut over to the new version, you simply replace the ELB URLs in your DNS records. Elastic Beanstalk has a Swap Environment URLs feature to facilitate a simpler cutover process.

Reference: <https://d0.awsstatic.com/whitepapers/overview-of-deployment-options-on-aws.pdf>

#### NEW QUESTION 4

How does Amazon RDS multi Availability Zone model work?

- A. A second, standby database is deployed and maintained in a different availability zone from master, using synchronous replication.
- B. A second, standby database is deployed and maintained in a different availability zone from master using asynchronous replication.
- C. A second, standby database is deployed and maintained in a different region from master using asynchronous replication.
- D. A second, standby database is deployed and maintained in a different region from master using synchronous replication.

**Answer: A**

#### Explanation:

In a Multi-AZ deployment, Amazon RDS automatically provisions and maintains a synchronous standby replica in a different Availability Zone.

Reference: <http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html>

#### NEW QUESTION 5

You are hired as the new head of operations for a SaaS company. Your CTO has asked you to make debugging any part of your entire operation simpler and as fast as possible. She complains that she has no idea what is going on in the complex, service-oriented architecture, because the developers just log to disk, and it's very hard to find errors in logs on so many services. How can you best meet this requirement and satisfy your CTO?

- A. Copy all log files into AWS S3 using a cron job on each instance
- B. Use an S3 Notification Configuration on the `PutBucket` event and publish events to AWS Lambda
- C. Use the Lambda to analyze logs as soon as they come in and flag issues.
- D. Begin using CloudWatch Logs on every service
- E. Stream all Log Groups into S3 object
- F. Use AWS EMR clusterjobs to perform ad-hoc MapReduce analysis and write new queries when needed.
- G. Copy all log files into AWS S3 using a cron job on each instance
- H. Use an S3 Notification Configuration on the `PutBucket` event and publish events to AWS Kinesis
- I. Use Apache Spark on AWS EMR to perform at-scale stream processing queries on the log chunks and flag issues.
- J. Begin using CloudWatch Logs on every service
- K. Stream all Log Groups into an AWS Elasticsearch Service Domain running Kibana 4 and perform log analysis on a search cluster.

**Answer:** D

**Explanation:**

The Elasticsearch and Kibana 4 combination is called the ELK Stack, and is designed specifically for real-time, ad-hoc log analysis and aggregation. All other answers introduce extra delay or require pre-defined queries.

Amazon Elasticsearch Service is a managed service that makes it easy to deploy, operate, and scale Elasticsearch in the AWS Cloud. Elasticsearch is a popular open-source search and analytics engine for use cases such as log analytics, real-time application monitoring, and click stream analytics. Reference: <https://aws.amazon.com/elasticsearch-service/>

**NEW QUESTION 6**

What is the scope of an EC2 security group?

- A. Availability Zone
- B. Placement Group
- C. Region
- D. VPC

**Answer:** C

**Explanation:**

A security group is tied to a region and can be assigned only to instances in the same region. You can't enable an instance to communicate with an instance outside its region using security group rules. Traffic from an instance in another region is seen as WAN bandwidth.

Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/resources.html>

**NEW QUESTION 7**

What is the scope of an EC2 EIP?

- A. Placement Group
- B. Availability Zone
- C. Region
- D. VPC

**Answer:** C

**Explanation:**

An Elastic IP address is tied to a region and can be associated only with an instance in the same region. Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/resources.html>

**NEW QUESTION 8**

You want to pass queue messages that are 1GB each. How should you achieve this?

- A. Use Kinesis as a buffer stream for message bodies
- B. Store the checkpoint id for the placement in the Kinesis Stream in SQS.
- C. Use the Amazon SQS Extended Client Library for Java and Amazon S3 as a storage mechanism for message bodies.
- D. Use SQS's support for message partitioning and multi-part uploads on Amazon S3.
- E. Use AWS EFS as a shared pool storage medium
- F. Store filesystem pointers to the files on disk in the SQS message bodies.

**Answer:** B

**Explanation:**

You can manage Amazon SQS messages with Amazon S3. This is especially useful for storing and retrieving messages with a message size of up to 2 GB. To manage Amazon SQS messages with Amazon S3, use the Amazon SQS Extended Client Library for Java.

Reference:

<http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/s3-messages.html>

**NEW QUESTION 9**

You are getting a lot of empty receive requests when using Amazon SQS. This is making a lot of unnecessary network load on your instances. What can you do to reduce this load?

- A. Subscribe your queue to an SNS topic instead.
- B. Use as long of a poll as possible, instead of short polls.
- C. Alter your visibility timeout to be shorter.
- D. Use `sqsd` on your EC2 instance

**Answer:** B

**Explanation:**

One benefit of long polling with Amazon SQS is the reduction of the number of empty responses, when there are no messages available to return, in reply to a `ReceiveMessage` request sent to an Amazon SQS queue. Long polling allows the Amazon SQS service to wait until a message is available in the queue before sending a response.

Reference:

<http://docs.aws.amazon.com/AWSSimpleQueueService/latest/SQSDeveloperGuide/sqs-long-polling.html>

**NEW QUESTION 10**

There are a number of ways to purchase compute capacity on AWS. Which orders the price per compute or memory unit from LOW to HIGH (cheapest to most

expensive), on average?

(A) On-Demand (B) Spot (C) Reserved

- A. A, B, C
- B. C, B, A
- C. B, C, A
- D. A, C, B

**Answer: C**

**Explanation:**

Spot instances are usually many, many times cheaper than on-demand prices. Reserved instances, depending on their term and utilization, can yield approximately 33% to 66% cost savings. On-Demand prices are the baseline price and are the most expensive way to purchase EC2 compute time. Reference: [https://d0.awsstatic.com/whitepapers/Cost\\_Optimization\\_with\\_AWS.pdf](https://d0.awsstatic.com/whitepapers/Cost_Optimization_with_AWS.pdf)

**NEW QUESTION 10**

You run operations for a company that processes digital wallet payments at a very high volume. One second of downtime, during which you drop payments or are otherwise unavailable, loses you on average USD 100. You balance the financials of the transaction system once per day. Which database setup is best suited to address this business risk?

- A. A multi-AZ RDS deployment with synchronous replication to multiple standbys and read-replicas for fast failover and ACID properties.
- B. A multi-region, multi-master, active-active RDS configuration using database-level ACID design principles with database trigger writes for replication.
- C. A multi-region, multi-master, active-active DynamoDB configuration using application control-level BASE design principles with change-stream write queue buffers for replication.
- D. A multi-AZ DynamoDB setup with changes streamed to S3 via AWS Kinesis, for highly durable storage and BASE properties.

**Answer: C**

**Explanation:**

Only the multi-master, multi-region DynamoDB answer makes sense. Multi-AZ deployments do not provide sufficient availability when a business loses USD 360,000 per hour of unavailability. As RDS does not natively support multi-region, and ACID does not perform well/at all over large distances between regions, only the DynamoDB answer works. Reference: <http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/Streams.CrossRegionRepl.html>

**NEW QUESTION 14**

You are building a deployment system on AWS. You will deploy new code by bootstrapping instances in a private subnet in a VPC at runtime using UserData scripts pointing to an S3 zip file object, where your code is stored. An ELB in a public subnet has network interfaces and connects to the instances. Requests from users of the system are routed to the ELB via a Route53 A Record Alias. You do not use any VPC endpoints. Which is a risk of using this approach?

- A. Route53 Alias records do not always update dynamically with ELB network changes after deploys.
- B. If the NAT routing for the private subnet fails, deployments fail.
- C. Kernel changes to the base AMI may render the code inoperable.
- D. The instances cannot be in a private subnet if the ELB is in a public one.

**Answer: B**

**Explanation:**

Since you are not using VPC endpoints, outbound requests for the code sitting in S3 are routed through the NAT for the VPC's private subnets. If this networking fails, runtime bootstrapping through code download will fail due to network unavailability and lack of access to the Internet, and thus Amazon S3. Reference: [http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC\\_NAT\\_Instance.html](http://docs.aws.amazon.com/AmazonVPC/latest/UserGuide/VPC_NAT_Instance.html)

**NEW QUESTION 17**

You need to know when you spend \$1000 or more on AWS. What's the easy way for you to see that notification?

- A. AWS CloudWatch Events tied to API calls, when certain thresholds are exceeded, publish to SNS.
- B. Scrape the billing page periodically and pump into Kinesis.
- C. AWS CloudWatch Metrics + Billing Alarm + Lambda event subscription
- D. When a threshold is exceeded, email the manager.
- E. Scrape the billing page periodically and publish to SNS

**Answer: C**

**Explanation:**

Even if you're careful to stay within the free tier, it's a good idea to create a billing alarm to notify you if you exceed the limits of the free tier. Billing alarms can help to protect you against unknowingly accruing charges if you inadvertently use a service outside of the free tier or if traffic exceeds your expectations. Reference: <http://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/free-tier-alarms.html>

**NEW QUESTION 21**

You need to migrate 10 million records in one hour into DynamoDB. All records are 1.5KB in size. The data is evenly distributed across the partition key. How many write capacity units should you provision during this batch load?

- A. 6667
- B. 4166
- C. 5556
- D. 2778

**Answer: C**

**Explanation:**

You need 2 units to make a 1.5KB write, since you round up. You need 20 million total units to perform this load. You have 3600 seconds to do so. DMde and round up for 5556.

Reference: <http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/HowItWorks.ProvisionedThroughput.html>

**NEW QUESTION 22**

Which of these is not an intrinsic function in AWS CloudFormation?

- A. Fn::Split
- B. Fn::FindInMap
- C. Fn::Select
- D. Fn::GetAZs

**Answer: A**

**Explanation:**

This is the complete list of Intrinsic Functions...: Fn::Base64, Fn::And, Fn::Equals, Fn::If, Fn::Not, Fn::Or, Fn::FindInMap, Fn::GetAtt, Fn::GetAZs, Fn::Join, Fn::Select, Ref

Reference:

<http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/intrinsic-function-reference.html>

**NEW QUESTION 25**

Which is not a restriction on AWS EBS Snapshots?

- A. Snapshots which are shared cannot be used as a basis for other snapshots.
- B. You cannot share a snapshot containing an AWS Access Key ID or AWS Secret Access Key.
- C. You cannot share unencrypted snapshots.
- D. Snapshot restorations are restricted to the region in which the snapshots are create

**Answer: A**

**Explanation:**

Snapshots shared with other users are usable in full by the recipient, including but limited to the ability to base modified volumes and snapshots.

Reference:

<http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/ebs-modifying-snapshot-permissions.html>

**NEW QUESTION 26**

If I want CloudFormation stack status updates to show up in a continuous delivery system in as close to real time as possible, how should I achieve this?

- A. Use a long-poll on the Resources object in your CloudFormation stack and display those state changes in the UI for the system.
- B. Use a long-poll on the `ListStacks` API call for your CloudFormation stack and display those state changes in the UI for the system.
- C. Subscribe your continuous delivery system to an SNS topic that you also tell your CloudFormation stack to publish events into.
- D. Subscribe your continuous delivery system to an SQS queue that you also tell your CloudFormation stack to publish events into.

**Answer: C**

**Explanation:**

Use NotificationARNs.member.N when making a CreateStack call to push stack events into SNS in nearly real-time.

Reference:

<http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/using-cfn-updating-stacks-monitor-stack.html>

**NEW QUESTION 28**

What does it mean if you have zero IOPS and a non-empty I/O queue for all EBS volumes attached to a running EC2 instance?

- A. The I/O queue is buffer flushing.
- B. Your EBS disk head(s) is/are seeking magnetic stripes.
- C. The EBS volume is unavailable.
- D. You need to re-mount the EBS volume in the O

**Answer: C**

**Explanation:**

This is the definition of Unavailable from the EC2 and EBS SLA.

"Unavailable" and "Unavailability" mean... For Amazon EBS, when all of your attached volumes perform zero read write IO, with pending IO in the queue.

Reference: <https://aws.amazon.com/ec2/sla/>

**NEW QUESTION 31**

Which of these is not a reason a Multi-AZ RDS instance will failover?

- A. An Availability Zone outage
- B. A manual failover of the DB instance was initiated using Reboot with failover
- C. To autoscale to a higher instance class
- D. The primary DB instance fails

**Answer: C**

**Explanation:**

The primary DB instance switches over automatically to the standby replica if any of the > following conditions occur: An Availability Zone outage, the primary DB instance fails, the DB instance's server type is changed, the operating system of the DB instance is, undergoing software patching, a manual failover of the DB instance was initiated using Reboot with failover

Reference: <http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Concepts.MultiAZ.html>

#### NEW QUESTION 34

You need to create an audit log of all changes to customer banking data. You use DynamoDB to store this customer banking data. It's important not to lose any information due to server failures. What is an elegant way to accomplish this?

- A. Use a DynamoDB StreamSpecification and stream all changes to AWS Lambda
- B. Log the changes to AWS CloudWatch Logs, removing sensitive information before logging.
- C. Before writing to DynamoDB, do a pre-write acknowledgment to disk on the application server, removing sensitive information before logging
- D. Periodically rotate these log files into S3.
- E. Use a DynamoDB StreamSpecification and periodically flush to an EC2 instance store, removing sensitive information before putting the object
- F. Periodically flush these batches to S3.
- G. Before writing to DynamoDB, do a pre-write acknowledgment to disk on the application server, removing sensitive information before logging
- H. Periodically pipe these files into CloudWatch Logs.

**Answer:** A

#### Explanation:

All suggested periodic options are sensitive to server failure during or between periodic flushes. Streaming to Lambda and then logging to CloudWatch Logs will make the system resilient to instance and Availability Zone failures.

Reference: <http://docs.aws.amazon.com/lambda/latest/dg/with-ddb.html>

#### NEW QUESTION 37

There is a very serious outage at AWS. EC2 is not affected, but your EC2 instance deployment scripts stopped working in the region with the outage. What might be the issue?

- A. The AWS Console is down, so your CLI commands do not work.
- B. S3 is unavailable, so you can't create EBS volumes from a snapshot you use to deploy new volumes.
- C. AWS turns off the `DeployCode` API call when there are major outages, to protect from system floods.
- D. None of the other answers make sense
- E. If EC2 is not affected, it must be some other issue

**Answer:** B

#### Explanation:

S3 stores all snapshots. If S3 is unavailable, snapshots are unavailable.

Amazon EC2 also uses Amazon S3 to store snapshots (backup copies) of the data volumes. You can use snapshots for recovering data quickly and reliably in case of application or system failures. You can also use snapshots as a baseline to create multiple new data volumes, expand the size of an existing data volume, or move data volumes across multiple Availability Zones, thereby making your data usage highly scalable. For more information about using data volumes and snapshots, see Amazon Elastic Block Store.

Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmazonS3.html>

#### NEW QUESTION 40

When thinking of AWS OpsWorks, which of the following is true?

- A. Stacks have many layers, layers have many instances.
- B. Instances have many stacks, stacks have many layers.
- C. Layers have many stacks, stacks have many instances.
- D. Layers have many instances, instances have many stack

**Answer:** A

#### Explanation:

The stack is the core AWS OpsWorks component. It is basically a container for AWS resources—Amazon EC2 instances, Amazon RDS database instances, and so on—that have a common purpose and should

be logically managed together. You define the stack's constituents by adding one or more layers. A layer represents a set of Amazon EC2 instances that serve a particular purpose, such as serving applications or hosting a database server. An instance represents a single computing resource, such as an Amazon EC2 instance.

Reference: <http://docs.aws.amazon.com/opsworks/latest/userguide/welcome.html>

#### NEW QUESTION 45

What is web identity federation?

- A. Use of an identity provider like Google or Facebook to become an AWS IAM User.
- B. Use of an identity provider like Google or Facebook to exchange for temporary AWS security credentials.
- C. Use of AWS IAM User tokens to log in as a Google or Facebook user.
- D. Use of AWS STS Tokens to log in as a Google or Facebook user

**Answer:** B

#### Explanation:

Users of your app can sign in using a well-known identity provider (IdP)—such as Login with Amazon, Facebook, Google, or any other OpenID Connect (OIDC)-compatible IdP, receive an authentication token, and then exchange that token for temporary security credentials in AWS that map to an IAM role with permissions to use the resources in your AWS account.

Reference: [http://docs.aws.amazon.com/IAM/latest/UserGuide/id\\_roles\\_providers\\_oidc.html](http://docs.aws.amazon.com/IAM/latest/UserGuide/id_roles_providers_oidc.html)

#### NEW QUESTION 47

You are creating a new API for video game scores. Reads are 100 times more common than writes, and the top 1% of scores are read 100 times more frequently than the rest of the scores. What's the best design for this system, using DynamoDB?

- A. DynamoDB table with 100x higher read than write throughput, with CloudFront caching.
- B. DynamoDB table with roughly equal read and write throughput, with CloudFront caching.
- C. DynamoDB table with 100x higher read than write throughput, with ElastiCache caching.
- D. DynamoDB table with roughly equal read and write throughput, with ElastiCache caching.

**Answer:** D

#### Explanation:

Because the 100x read ratio is mostly driven by a small subset, with caching, only a roughly equal number of reads to writes will miss the cache, since the supermajority will hit the top 1% scores. Knowing we need to set the values roughly equal when using caching, we select AWS ElastiCache, because CloudFront cannot directly cache DynamoDB queries, and ElastiCache is an excellent in-memory cache for database queries, rather than a distributed proxy cache for content delivery.

One solution would be to cache these reads at the application layer. Caching is a technique that is used in many high-throughput applications, offloading read activity on hot items to the cache rather than to the database. Your application can cache the most popular items in memory, or use a product such as ElastiCache to do the same.

Reference: <http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GuidelinesForTables.html#GuidelinesForTables.CachePopularItem>

#### NEW QUESTION 49

You were just hired as a DevOps Engineer for a startup. Your startup uses AWS for 100% of their infrastructure. They currently have no automation at all for deployment, and they have had many failures while trying to deploy to production. The company has told you deployment process risk mitigation is the most important thing now, and you have a lot of budget for tools and AWS resources.

Their stack: 2-tier API

Data stored in DynamoDB or S3, depending on type. Compute layer is EC2 in Auto Scaling Groups. They use Route53 for DNS pointing to an ELB.

An ELB balances load across the EC2 instances.

The scaling group properly varies between 4 and 12 EC2 instances.

Which of the following approaches, given this company's stack and their priorities, best meets the company's needs?

- A. Model the stack in AWS Elastic Beanstalk as a single Application with multiple Environments.
- B. Use Elastic Beanstalk's Rolling Deploy option to progressively roll out application code changes when promoting across environments.
- C. Model the stack in 3 CloudFormation templates: Data layer, compute layer, and networking layer.
- D. Write stack deployment and integration testing automation following Blue-Green methodologies.
- E. Model the stack in AWS OpsWorks as a single Stack, with 1 compute layer and its associated ELB.
- F. Use Chef and App Deployments to automate Rolling Deployment.
- G. Model the stack in 1 CloudFormation template, to ensure consistency and dependency graph resolution.
- H. Write deployment and integration testing automation following Rolling Deployment methodologies.

**Answer:** B

#### Explanation:

AWS recommends Blue-Green for zero-downtime deploys. Since you use DynamoDB, and neither AWS OpsWorks nor AWS Elastic Beanstalk directly supports DynamoDB, the option selecting CloudFormation and Blue-Green is correct.

You use various strategies to migrate the traffic from your current application stack (blue) to a new version of the application (green). This is a popular technique for deploying applications with zero downtime. The deployment services like AWS Elastic Beanstalk, AWS CloudFormation, or AWS OpsWorks are particularly useful as they provide a simple way to clone your running application stack. You can set up a new version of your application (green) by simply cloning the current version of the application (blue). Reference: <https://d0.awsstatic.com/whitepapers/overview-of-deployment-options-on-aws.pdf>

#### NEW QUESTION 50

.....

## Thank You for Trying Our Product

### We offer two products:

1st - We have Practice Tests Software with Actual Exam Questions

2nd - Questions and Answers in PDF Format

### AWS-Certified-DevOps-Engineer-Professional Practice Exam Features:

- \* AWS-Certified-DevOps-Engineer-Professional Questions and Answers Updated Frequently
- \* AWS-Certified-DevOps-Engineer-Professional Practice Questions Verified by Expert Senior Certified Staff
- \* AWS-Certified-DevOps-Engineer-Professional Most Realistic Questions that Guarantee you a Pass on Your FirstTry
- \* AWS-Certified-DevOps-Engineer-Professional Practice Test Questions in Multiple Choice Formats and Updatesfor 1 Year

**100% Actual & Verified — Instant Download, Please Click**  
[Order The AWS-Certified-DevOps-Engineer-Professional Practice Test Here](#)