Amazon

Exam Questions AWS-Certified-DevOps-Engineer-Professional

Amazon AWS Certified DevOps Engineer Professional

NEW QUESTION 1
When thinking of DynamoDB, what are true of Global Secondary Key properties?

A. The partition key and sort key can be different from the table.
B. Only the partition key can be different from the table.
C. Either the partition key or the sort key can be different from the table, but not both.
D. Only the sort key can be different from the tabl

Answer: A

Explanation:
Global secondary index — an index with a partition key and a sort key that can be different from those on the table. A global secondary index is considered "global" because queries on the index can span all of the data in a table, across all partitions.
Reference: http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/SecondaryIndexes.html

NEW QUESTION 2
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.Mu|tiAZ.html

NEW QUESTION 3
Which EBS volume type is best for high performance NoSQL cluster deployments?

A. iol
B. gpl
C. standard
D. gp2

Answer: A

Explanation:
io1 volumes, or Provisioned IOPS (PIOPS) SSDs, are best for: Critical business applications that require sustained IOPS performance, or more than 10,000 IOPS or 160 MiB/s of throughput per volume, like large database workloads, such as MongoDB.
Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVo|umeTypes.htm|

NEW QUESTION 4
For AWS Auto Scaling, what is the first transition state an existing instance enters after leaving steady state in Standby mode?

A. Detaching
B. Terminating:Wait
C. Pending
D. EnteringStandby

Answer: C

Explanation:
You can put any instance that is in an InService state into a Standby state. This enables you to remove the instance from service, troubleshoot or make changes to it, and then put it back into service. Instances in a Standby state continue to be managed by the Auto Scaling group. However, they are not an active part of your application until you put them back into service.
Reference: http://docs.aws.amazon.com/AutoScaling/latest/DeveIoperGuide/AutoScaIingGroupLifecycIe.html

NEW QUESTION 5
You want to pass queue messages that are 1GB each. How should you achieve this?

A. Use Kinesis as a buffer stream for message bodie
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 mediu
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 6
When thinking of AWS Elastic Beanstalk's model, which is true?

A. Applications have many deployments, deployments have many environments.
B. Environments have many applications, applications have many deployments.
C. Applications have many environments, environments have many deployments.
D. Deployments have many environments, environments have many application

Answer: C

Explanation:
Applications group logical services. Environments belong to Applications, and typically represent different deployment levels (dev, stage, prod, fo forth). Deployments belong to environments, and are pushes of bundles of code for the environments to run.
Reference: http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/\NeIcome.html

NEW QUESTION 7
Which of these techniques enables the fastest possible rollback times in the event of a failed deployment?

A. Rolling; Immutable
B. Rolling; Mutable
C. Canary or A/B
D. Blue-Green

Answer: D

Explanation:
AWS specifically recommends Blue-Green for super-fast, zero-downtime deploys - and thus rollbacks, which are redeploying old code.
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. Reference: https://d0.awsstatic.com/whitepapers/overview-of-deployment-options-on-aws.pdf

NEW QUESTION 8
Which of the following are not valid sources for OpsWorks custom cookbook repositories?

A. HTTP(S)
B. Git
C. AWS EBS
D. Subversion

Answer: C

Explanation:
Linux stacks can install custom cookbooks from any of the following repository types: HTTP or Amazon S3 archives. They can be either public or private, but Amazon S3 is typically the preferred option for a private archive. Git and Subversion repositories provide source control and the ability to have multiple versions.
Reference:
http://docs.aws.amazon.com/opsworks/latest/userguide/workingcookbook-installingcustom-enable.html

NEW QUESTION 9
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 connectMty 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 on

Answer: B

Explanation:
Since you are not using VPC endpoints, outbound requests for the code sitting in S3 are routed though 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

NEW QUESTION 10
Which major database needs a BYO license?

A. PostgreSQL
B. NIariaDB
C. MySQL
D. Oracle

Answer: D

Explanation:

Oracle is not open source, and requires a bring your own license model.
Reference: http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Oracle.htm|

NEW QUESTION 10
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.ProvisionedThroughp ut.html

NEW QUESTION 13
What is the scope of an EBS volume?

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

Answer: D

Explanation:
An Amazon EBS volume is tied to its Availability Zone and can be attached only to instances in the same Availability Zone.
Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/resources.html

NEW QUESTION 17
Your API requires the ability to stay online during AWS regional failures. Your API does not store any state, it only aggregates data from other sources - you do not have a database. What is a simple but effective way to achieve this uptime goal?

A. Use a CloudFront distribution to serve up your AP
B. Even if the region your API is in goes down, the edge locations CloudFront uses will be fine.
C. Use an ELB and a cross-zone ELB deployment to create redundancy across datacenter
D. Even if a region fails, the other AZ will stay online.
E. Create a Route53 Weighted Round Robin record, and if one region goes down, have that region redirect to the other region.
F. Create a Route53 Latency Based Routing Record with Failover and point it to two identical deployments of your stateless API in two different region
G. Make sure both regions use Auto Scaling Groups behind ELBs.

Answer: D

Explanation:
standard volumes, or Magnetic volumes, are best for: Cold workloads where data is infrequently accessed, or scenarios where the lowest storage cost is important.
Reference: http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/EBSVolumeTypes.html

NEW QUESTION 18
What is the scope of AWS IAM?

A. Global
B. Availability Zone
C. Region
D. Placement Group

Answer: A

Explanation:
IAM resources are all global; there is not regional constraint. Reference: https://aws.amazon.com/iam/faqs/

NEW QUESTION 23
You are building a mobile app for consumers to post cat pictures online. You will be storing the images in AWS S3. You want to run the system very cheaply and simply. Which one of these options allows you to build a photo sharing application without needing to worry about scaling expensive uploads processes, authentication/authorization and so forth?

A. Build the application out using AWS Cognito and web identity federation to allow users to log in using Facebook or Google Account
B. Once they are logged in, the secret token passed to that user is used to directly access resources on AWS, like AWS S3.
C. Use JWT or SANIL compliant systems to build authorization policie
D. Users log in with a username and password, and are given a token they can use indefinitely to make calls against the photo infrastructure.
E. Use AWS API Gateway with a constantly rotating API Key to allow access from the client-sid
F. Construct a custom build of the SDK and include S3 access in it.
G. Create an AWS oAuth Service Domain ad grant public signup and access to the domai
H. During setup, add at least one major social media site as a trusted Identity Provider for users.

Answer: A

Explanation:
The short answer is that Amazon Cognito is a superset of the functionality provided by web identity federation. It supports the same providers, and you configure your app and authenticate with those providers in the same way. But Amazon Cognito includes a variety of additional features. For example, it enables your users to start using the app as a guest user and later sign in using one of the supported identity providers.
Reference:
https://bIogs.aws.amazon.com/security/post/Tx3SYCORF5EKRCO/How-Does-Amazon-Cognito-Relate-to
-Existing-Web-Identity-Federatio

NEW QUESTION 27
Which of these is not a reason a Mu|ti-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.Mu|tiAZ.html

NEW QUESTION 30
You work for a company that automatically tags photographs using artificial neural networks (ANNs), which run on GPUs using C++. You receive millions of images at a time, but only 3 times per day on average. These images are loaded into an AWS S3 bucket you control for you in a batch, and then the customer publishes a JSON-formatted manifest into another S3 bucket you control as well. Each image takes 10 milliseconds to process using a full GPU. Your neural network software requires 5 minutes to bootstrap. Image tags are JSON objects, and you must publish them to an S3 bucket.
Which of these is the best system architectures for this system?

A. Create an OpsWorks Stack with two Layer
B. The first contains lifecycle scripts for launching and bootstrapping an HTTP API on G2 instances for ANN image processing, and the second has an always-on instance which monitors the S3 manifest bucket for new file
C. When a new file is detected, request instances to boot on the ANN laye
D. When the instances are booted and the HTTP APIs are up, submit processing requests to indMdual instances.
E. Make an S3 notification configuration which publishes to AWS Lambda on the manifest bucke
F. Make the Lambda create a CIoudFormation Stack which contains the logic to construct an autoscaling worker tier of EC2 G2 instances with the ANN code on each instanc
G. Create an SQS queue of the images in the manifes
H. Tear the stack down when the queue is empty.
I. Deploy your ANN code to AWS Lambda as a bundled binary for the C++ extensio
J. Make an S3 notification configuration on the manifest, which publishes to another AWS Lambda running controller cod
K. This controller code publishes all the images in the manifest to AWS Kinesi
L. Your ANN code Lambda Function uses the Kinesis as an Event Sourc
M. The system automatically scales when the stream contains image events.
N. Create an Auto Scaling, Load Balanced Elastic Beanstalk worker tier Application and Environmen
O. Deploy the ANN code to G2 instances in this tie
P. Set the desired capacity to 1. Make the code periodically check S3 for new manifest
Q. When a new manifest is detected, push all of the images in the manifest into the SQS queue associated with the Elastic Beanstalk worker tier.

Answer: B

Explanation:
The Elastic Beanstalk option is incorrect because it requires a constantly-polling instance, which may break and costs money.
The Lambda fileet option is incorrect because AWS Lambda does not support GPU usage.
The OpsWorks stack option both requires a constantly-polling instance, and also requires complex timing and capacity planning logic.
The CIoudFormation option requires no polling, has no always-on instances, and allows arbitrarily fast processing by simply setting the instance count as high as needed.
Reference: http://docs.aws.amazon.com/Iambda/latest/dg/current-supported-versions.html

NEW QUESTION 33
You have been asked to de-risk deployments at your company. Specifically, the CEO is concerned about outages that occur because of accidental inconsistencies between Staging and Production, which sometimes cause unexpected behaviors in Production even when Staging tests pass.
You already use Docker to get high consistency between Staging and Production for the application environment on your EC2 instances. How do you further de-risk the rest of the execution environment, since in AWS, there are many service components you may use beyond EC2 virtual machines?

A. Develop models of your entire cloud system in CIoudFormatio
B. Use this model in Staging and Production to achieve greater parity.
C. Use AWS Config to force the Staging and Production stacks to have configuration parit
D. Any differences will be detected for you so you are aware of risks.
E. Use AMIs to ensure the whole machine, including the kernel of the virual machines, is consistent, since Docker uses Linux Container (LXC) technology, and we need to make sure the container environment is consistent.
F. Use AWS ECS and Docker clusterin
G. This will make sure that the AMIs and machine sizes are the same across both environments.

Answer: A

Explanation:
Only CIoudFormation's JSON Templates allow declarative version control of repeatably deployable models of entire AWS clouds.
Reference: https://bIogs.aws.amazon.com/application-management/blog/category/Best+practices

NEW QUESTION 35
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 E|astiCache caching.
D. DynamoDB table with roughly equal read and write throughput, with EIastiCache cachin

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 EIastiCache, because CIoudFront cannot directly cache DynamoDB queries, and EIastiCache 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 actMty 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 EIastiCache to do the same.
Reference: http://docs.aws.amazon.com/amazondynamodb/latest/developerguide/GuideIinesForTabIes.htmI#GuideIi nesForTabIes.CachePopuIarItem

NEW QUESTION 37
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 fortools 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 sewers.
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 Environment
B. Use Elastic BeanstaIk's Rolling Deploy option to progressively roll out application code changes when promoting across environments.
C. Model the stack in 3 CIoudFormation templates: Data layer, compute layer, and networking laye
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 EL
F. Use Chef and App Deployments to automate Rolling Deployment.
G. Model the stack in 1 CIoudFormation template, to ensure consistency and dependency graph resolutio
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 CIoudFormation, 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 current version of the application (blue). Reference: https://d0.awsstatic.com/whitepapers/overview-of-deployment-options-on-aws.pdf

NEW QUESTION 40
Your application's Auto Scaling Group scales up too quickly, too much, and stays scaled when traffic decreases. What should you do to fix this?

A. Set a longer cooldown period on the Group, so the system stops overshooting the target capacit
B. The issue is that the scaling system doesn't allow enough time for new instances to begin servicing requests before measuring aggregate load again.
C. Calculate the bottleneck or constraint on the compute layer, then select that as the new metric, and set the metric thresholds to the bounding values that begin to affect response latency.
D. Raise the CIoudWatch Alarms threshold associated with your autoscaling group, so the scaling takes more of an increase in demand before beginning.
E. Use larger instances instead of lots of smaller ones, so the Group stops scaling out so much and wasting resources as the OS level, since the OS uses a higher proportion of resources on smaller instances.

Answer: B

Explanation:
Systems will always over-scale unless you choose the metric that runs out first and becomes constrained first. You also need to set the thresholds of the metric based on whether or not latency is affected by the change, tojustify adding capacity instead of wasting money.
Reference: http://docs.aws.amazon.com/AutoSca|ing/latest/DeveIoperGuide/poIicy_creating.htmI

NEW QUESTION 45
If you're trying to configure an AWS Elastic Beanstalk worker tier for easy debugging if there are problems finishing queue jobs, what should you configure?

A. Configure Rolling Deployments.
B. Configure Enhanced Health Reporting
C. Configure Blue-Green Deployments.

D. Configure a Dead Letter Queue

Answer: D

Explanation:
Elastic Beanstalk worker environments support Amazon Simple Queue Service (SQS) dead letter queues. A dead letter queue is a queue where other (source) queues can send messages that for some reason could not be successfully processed. A primary benefit of using a dead letter queue is the ability to sideline and isolate the unsuccessfully processed messages. You can then analyze any messages sent
to the dead letter queue to try to determine why they were not successfully processed. Reference:
http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features-managing-env-tiers.html#worker-d eadletter

NEW QUESTION 46
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