

# Amazon

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

Amazon AWS Certified DevOps Engineer Professional



### NEW QUESTION 1

Your application consists of 10% writes and 90% reads. You currently service all requests through a Route53 Alias Record directed towards an AWS ELB, which sits in front of an EC2 Auto Scaling Group. Your system is getting very expensive when there are large traffic spikes during certain news events, during which many more people request to read similar data all at the same time. What is the simplest and cheapest way to reduce costs and scale with spikes like this?

- A. Create an S3 bucket and asynchronously replicate common requests responses into S3 object
- B. When a request comes in for a precomputed response, redirect to AWS S3.
- C. Create another ELB and Auto Scaling Group layer mounted on top of the other system, adding a tier to the system
- D. Serve most read requests out of the top layer.
- E. Create a CloudFront Distribution and direct Route53 to the Distribution
- F. Use the ELB as an Origin and specify Cache Behaviours to proxy cache requests which can be served late.
- G. Create a Memcached cluster in AWS ElastiCache
- H. Create cache logic to serve requests which can be served late from the in-memory cache for increased performance.

**Answer: C**

#### Explanation:

CloudFront is ideal for scenarios in which entire requests can be served out of a cache and usage patterns involve heavy reads and spikiness in demand. A cache behavior is the set of rules you configure for a given URL pattern based on file extensions, file names, or any portion of a URL path on your website (e.g., \*.jpg). You can configure multiple cache behaviors for your web distribution. Amazon CloudFront will match incoming viewer requests with your list of URL patterns, and if there is a match, the service will honor the cache behavior you configure for that URL pattern. Each cache behavior can include the following Amazon CloudFront configuration values: origin server name, viewer connection protocol, minimum expiration period, query string parameters, cookies, and trusted signers for private content.

Reference: <https://aws.amazon.com/Cloudfront/dynamic-content/>

### NEW QUESTION 2

You run a clustered NoSQL database on AWS EC2 using AWS EBS. You need to reduce latency for database response times. Performance is the most important concern, not availability. You did not perform the initial setup, someone without much AWS knowledge did, so you are not sure if they configured everything optimally. Which of the following is NOT likely to be an issue contributing to increased latency?

- A. The EC2 instances are not EBS Optimized.
- B. The database and requesting system are both in the wrong Availability Zone.
- C. The EBS Volumes are not using PIOPS.
- D. The database is not running in a placement group

**Answer: B**

#### Explanation:

For the highest possible performance, all instances in a clustered database like this one should be in a single Availability Zone in a placement group, using EBS optimized instances, and using PIOPS SSD EBS Volumes. The particular Availability Zone the system is running in should not be important, as long as it is the same as the requesting resources.

Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html>

### NEW QUESTION 3

You are creating an application which stores extremely sensitive financial information. All information in the system must be encrypted at rest and in transit. Which of these is a violation of this policy?

- A. ELB SSL termination.
- B. ELB Using Proxy Protocol v1.
- C. CloudFront Viewer Protocol Policy set to HTTPS redirection.
- D. Telling S3 to use AES256 on the server-side

**Answer: A**

#### Explanation:

Terminating SSL terminates the security of a connection over HTTP, removing the S for "Secure" in HTTPS. This violates the "encryption in transit" requirement in the scenario.

Reference:

<http://docs.aws.amazon.com/ElasticLoadBalancing/latest/DeveloperGuide/elb-listener-config.html>

### NEW QUESTION 4

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 5

You need your CI to build AMIs with code pre-installed on the images on every new code push. You need to do this as cheaply as possible. How do you do this?

- A. Bid on spot instances just above the asking price as soon as new commits come in, perform all instance configuration and setup, then create an AMI based on the spot instance.
- B. Have the CI launch a new on-demand EC2 instance when new commits come in, perform all instance configuration and setup, then create an AMI based on the on-demand instance.
- C. Purchase a Light Utilization Reserved Instance to save money on the continuous integration machine.
- D. Use these credits whenever you create AMIs on instances.
- E. When the CI instance receives commits, attach a new EBS volume to the CI machine.
- F. Perform all setup on this EBS volume so you don't need a new EC2 instance to create the AMI.

**Answer:** A

**Explanation:**

Spot instances are the cheapest option, and you can use minimum run duration if your AMI takes more than a few minutes to create.

Spot instances are also available to run for a predefined duration — in hourly increments up to six hours in length — at a significant discount (30-45%) compared to On-Demand pricing plus an additional 5% during off-peak times for a total of up to 50% savings.

Reference: <https://aws.amazon.com/ec2/spot/pricing/>

**NEW QUESTION 6**

For AWS Auto Scaling, what is the first transition state an instance enters after leaving steady state when scaling in due to health check failure or decreased load?

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

**Answer:** A

**Explanation:**

When Auto Scaling responds to a scale in event, it terminates one or more instances. These instances are detached from the Auto Scaling group and enter the Terminating state.

Reference: <http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AutoScalingGroupLifecycle.html>

**NEW QUESTION 7**

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 8**

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

- A. io1
- B. gp1
- 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/EBSVolumeTypes.html>

**NEW QUESTION 9**

You are building out a layer in a software stack on AWS that needs to be able to scale out to react to increased demand as fast as possible. You are running the code on EC2 instances in an Auto Scaling Group behind an ELB. Which application code deployment method should you use?

- A. SSH into new instances that come online, and deploy new code onto the system by pulling it from an S3 bucket, which is populated by code that you refresh from source control on new pushes.
- B. Bake an AMI when deploying new versions of code, and use that AMI for the Auto Scaling Launch Configuration.
- C. Create a Dockerfile when preparing to deploy a new version to production and publish it to S3. Use UserData in the Auto Scaling Launch configuration to pull down the Dockerfile from S3 and run it when new instances launch.
- D. Create a new Auto Scaling Launch Configuration with UserData scripts configured to pull the latest code at all times.

**Answer:** B

**Explanation:**

the bootstrapping process can be slower if you have a complex application or multiple applications to install. Managing a fleet of applications with several build tools and dependencies can be a challenging task during rollouts. Furthermore, your deployment service should be designed to do faster rollouts to take advantage of Auto Scaling.

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

#### NEW QUESTION 10

You need to perform ad-hoc analysis on log data, including searching quickly for specific error codes and reference numbers. Which should you evaluate first?

- A. AWS Elasticsearch Service
- B. AWS RedShift
- C. AWS EMR
- D. AWS DynamoDB

**Answer:** A

#### Explanation:

Amazon Elasticsearch Service (Amazon ES) is a managed service that makes it easy to deploy, operate, and scale Elasticsearch clusters 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:

<http://docs.aws.amazon.com/elasticsearch-service/latest/developerguide/what-is-amazon-elasticsearch-service.html>

#### NEW QUESTION 10

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 11

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, 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/welcome.html>

#### NEW QUESTION 16

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 20

Which deployment method, when using AWS Auto Scaling Groups and Auto Scaling Launch Configurations, enables the shortest time to live for individual servers?

- A. Pre-baking AMIs with all code and configuration on deploys.
- B. Using a Dockerfile bootstrap on instance launch.
- C. Using UserData bootstrapping scripts.
- D. Using AWS EC2 Run Commands to dynamically SSH into fleet

**Answer:** A

**Explanation:**

Note that the bootstrapping process can be slower if you have a complex application or multiple applications to install. Managing a fleet of applications with several build tools and dependencies can be a challenging task during rollouts. Furthermore, your deployment service should be designed to do faster rollouts to take advantage of Auto Scaling. Prebaking is a process of embedding a significant portion of your application artifacts within your base AMI. During the deployment process you can customize application installations by using EC2 instance artifacts such as instance tags, instance metadata, and Auto Scaling groups.

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

**NEW QUESTION 25**

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 28**

Which major database needs a BYO license?

- A. PostgreSQL
- B. MariaDB
- 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.html](http://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_Oracle.html)

**NEW QUESTION 29**

For AWS Auto Scaling, what is the first transition state a new instance enters after leaving steady state when scaling out due to increased load?

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

**Answer:** B

**Explanation:**

When a scale out event occurs, the Auto Scaling group launches the required number of EC2 instances, using its assigned launch configuration. These instances start in the Pending state. If you add a lifecycle hook to your Auto Scaling group, you can perform a custom action here. For more information, see Lifecycle Hooks.

Reference: <http://docs.aws.amazon.com/AutoScaling/latest/DeveloperGuide/AutoScalingGroupLifecycle.html>

**NEW QUESTION 33**

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 35**

Your serverless architecture using AWS API Gateway, AWS Lambda, and AWS DynamoDB experienced a large increase in traffic to a sustained 400 requests per second, and dramatically increased in failure rates. Your requests, during normal operation, last 500 milliseconds on average. Your DynamoDB table did not exceed 50% of provisioned throughput, and Table primary keys are designed correctly. What is the most likely issue?

- A. Your API Gateway deployment is throttling your requests.

- B. Your AWS API Gateway Deployment is bottlenecking on request (de)serialization.
- C. You did not request a limit increase on concurrent Lambda function executions.
- D. You used Consistent Read requests on DynamoDB and are experiencing semaphore lock

**Answer: C**

**Explanation:**

AWS API Gateway by default throttles at 500 requests per second steady-state, and 1000 requests per second at spike. Lambda, by default, throttles at 100 concurrent requests for safety. At 500 milliseconds (half of a second) per request, you can expect to support 200 requests per second at 100 concurrency. This is less than the 400 requests per second your system now requires. Make a limit increase request via the AWS Support Console.

AWS Lambda: Concurrent requests safety throttle per account -> 100

Reference: [http://docs.aws.amazon.com/general/latest/gr/aws\\_service\\_limits.html#limits\\_lambda](http://docs.aws.amazon.com/general/latest/gr/aws_service_limits.html#limits_lambda)

**NEW QUESTION 36**

Why are more frequent snapshots or EBS Volumes faster?

- A. Blocks in EBS Volumes are allocated lazily, since while logically separated from other EBS Volumes, Volumes often share the same physical hardware
- B. Snapshotting the first time forces full block range allocation, so the second snapshot doesn't need to perform the allocation phase and is faster.
- C. The snapshots are incremental so that only the blocks on the device that have changed after your last snapshot are saved in the new snapshot.
- D. AWS provisions more disk throughput for burst capacity during snapshots if the drive has been pre-warmed by snapshotting and reading all blocks.
- E. The drive is pre-warmed, so block access is more rapid for volumes when every block on the device has already been read at least one time.

**Answer: B**

**Explanation:**

After writing data to an EBS volume, you can periodically create a snapshot of the volume to use as a baseline for new volumes or for data backup. If you make periodic snapshots of a volume, the snapshots are incremental so that only the blocks on the device that have changed after your last snapshot are saved in the new snapshot. Even though snapshots are saved incrementally, the snapshot deletion process is designed so that you need to retain only the most recent snapshot in order to restore the volume.

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

**NEW QUESTION 37**

For AWS CloudFormation, which is true?

- A. Custom resources using SNS have a default timeout of 3 minutes.
- B. Custom resources using SNS do not need a `ServiceToken` property.
- C. Custom resources using Lambda and `Code.ZipFile` allow inline nodejs resource composition.
- D. Custom resources using Lambda do not need a `ServiceToken` property

**Answer: C**

**Explanation:**

Code is a property of the `AWS::Lambda::Function` resource that enables you to specify the source code of an AWS Lambda (Lambda) function. You can point to a file in an Amazon Simple Storage Service (Amazon S3) bucket or specify your source code as inline text (for nodejs runtime environments only). Reference:

<http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/template-custom-resources.html>

**NEW QUESTION 39**

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 API
- 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 regions
- 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 43**

You need to deploy an AWS stack in a repeatable manner across multiple environments. You have selected CloudFormation as the right tool to accomplish this, but have found that there is a resource type you need to create and model, but is unsupported by CloudFormation. How should you overcome this challenge?

- A. Use a CloudFormation Custom Resource Template by selecting an API call to proxy for create, update, and delete action
- B. CloudFormation will use the AWS SDK, CLI, or API method of your choosing as the state transition function for the resource type you are modeling.
- C. Submit a ticket to the AWS Forum
- D. AWS extends CloudFormation Resource Types by releasing tooling to the AWS Labs organization on GitHub
- E. Their response time is usually 1 day, and they complete requests within a week or two.
- F. Instead of depending on CloudFormation, use Chef, Puppet, or Ansible to author Heat templates, which are declarative stack resource definitions that operate over the OpenStack hypervisor and cloud environment.
- G. Create a CloudFormation Custom Resource Type by implementing create, update, and delete functionality, either by subscribing a Custom Resource Provider to an SNS topic, or by implementing the logic in AWS Lambda.

**Answer:** D

**Explanation:**

Custom resources provide a way for you to write custom provisioning logic in AWS CloudFormation template and have AWS CloudFormation run it during a stack operation, such as when you create, update or delete a stack. For more information, see Custom Resources.

Reference:

<http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/template-custom-resources.html>

**NEW QUESTION 45**

You run a 2000-engineer organization. You are about to begin using AWS at a large scale for the first time. You want to integrate with your existing identity management system running on Microsoft Active Directory, because your organization is a power-user of Active Directory. How should you manage your AWS identities in the most simple manner?

- A. Use a large AWS Directory Service Simple AD.
- B. Use a large AWS Directory Service AD Connector.
- C. Use an Sync Domain running on AWS Directory Service.
- D. Use an AWS Directory Sync Domain running on AWS Lambda

**Answer:** B

**Explanation:**

You must use AD Connector as a power-user of Microsoft Active Directory. Simple AD only works with a subset of AD functionality. Sync Domains do not exist; they are made up answers.

AD Connector is a directory gateway that allows you to proxy directory requests to your on-premises Microsoft Active Directory, without caching any information in the cloud. AD Connector comes in 2 sizes; small and large. A small AD Connector is designed for smaller organizations of up to 500 users. A large AD Connector is designed for larger organizations of up to 5,000 users.

Reference: <https://aws.amazon.com/directoryservice/details/>

**NEW QUESTION 49**

Which of these is not a CloudFormation Helper Script?

- A. cfn-signal
- B. cfn-hup
- C. cfn-request
- D. cfn-get-metadata

**Answer:** C

**Explanation:**

This is the complete list of CloudFormation Helper Scripts: cfn-init, cfn-signal, cfn-get-metadata, cfn-hup Reference:

<http://docs.aws.amazon.com/AWSCloudFormation/latest/UserGuide/cfn-helper-scripts-reference.html>

**NEW QUESTION 53**

You are building a Ruby on Rails application for internal, non-production use which uses MySQL as a database. You want developers without very much AWS experience to be able to deploy new code with a single command line push. You also want to set this up as simply as possible. Which tool is ideal for this setup?

- A. AWS CloudFormation
- B. AWS OpsWorks
- C. AWS ELB + EC2 with CLI Push
- D. AWS Elastic Beanstalk

**Answer:** D

**Explanation:**

Elastic Beanstalk's primary mode of operation exactly supports this use case out of the box. It is simpler than all the other options for this question.

With Elastic Beanstalk, you can quickly deploy and manage applications in the AWS cloud without worrying about the infrastructure that runs those applications.

AWS Elastic Beanstalk reduces management complexity without restricting choice or control. You simply upload your application, and Elastic Beanstalk automatically handles the details of capacity provisioning, load balancing, scaling, and application health monitoring.

Reference: [http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create\\_deploy\\_Ruby\\_rails.html](http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/create_deploy_Ruby_rails.html)

**NEW QUESTION 55**

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 56**

What is the order of most-to-least rapidly-scaling (fastest to scale first)?

- (A) EC2 + ELB + Auto Scaling
- (B) Lambda
- (C) RDS

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

**Answer:** A

**Explanation:**

Lambda is designed to scale instantly. EC2 + ELB + Auto Scaling require single-digit minutes to scale out. RDS will take atleast 15 minutes, and will apply OS patches or any other updates when applied. Reference: <https://aws.amazon.com/lambda/faqs/>

**NEW QUESTION 61**

What is required to achieve gigabit network throughput on EC2? You already selected cluster-compute, 10GB instances with enhanced networking, and your workload is already network-bound, but you are not seeing 10 gigabit speeds.

- A. Enable bplex networking on your servers, so packets are non-blocking in both directions and there's no switching overhead.
- B. Ensure the instances are in different VPCs so you don't saturate the Internet Gateway on any one VPC.
- C. Select PIOPS for your drives and mount several, so you can provision sufficient disk throughput.
- D. Use a placement group for your instances so the instances are physically near each other in the same Availability Zone.

**Answer:** D

**Explanation:**

You are not guaranteed 10gigabit performance, except within a placement group.

A placement group is a logical grouping of instances within a single Availability Zone. Using placement groups enables applications to participate in a low-latency, 10 Gbps network. Placement groups are recommended for applications that benefit from low network latency, high network throughput, or both. Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/placement-groups.html>

**NEW QUESTION 66**

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 69**

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/sa/>

**NEW QUESTION 72**

From a compliance and security perspective, which of these statements is true?

- A. You do not ever need to rotate access keys for AWS IAM Users.
- B. You do not ever need to rotate access keys for AWS IAM Roles, nor AWS IAM Users.
- C. None of the other statements are true.
- D. You do not ever need to rotate access keys for AWS IAM Role

**Answer:** D

**Explanation:**

IAM Role Access Keys are auto-rotated by AWS on your behalf; you do not need to rotate them.

The application is granted the permissions for the actions and resources that you've defined for the role through the security credentials associated with the role.

These security credentials are temporary and we

rotate them automatically. We make new credentials available at least five minutes prior to the expiration of the old credentials.

Reference: <http://docs.aws.amazon.com/AWSEC2/latest/UserGuide/iam-roles-for-amazon-ec2.html>

**NEW QUESTION 77**

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.Mu|tiAZ.html>

**NEW QUESTION 80**

Your company wants to understand where cost is coming from in the company's production AWS account. There are a number of applications and services running at any given time. Without expending too much initial development time, how best can you give the business a good understanding of which applications cost the most per month to operate?

- A. Create an automation script which periodically creates AWS Support tickets requesting detailed intra-month information about your bill.
- B. Use custom CloudWatch Metrics in your system, and put a metric data point whenever cost is incurred.
- C. Use AWS Cost Allocation Tagging for all resources which support i
- D. Use the Cost Explorer to analyze costs throughout the month.
- E. Use the AWS Price API and constantly running resource inventory scripts to calculate total price based on multiplication of consumed resources over time.

**Answer: C**

**Explanation:**

Cost Allocation Tagging is a built-in feature of AWS, and when coupled with the Cost Explorer, provides a simple and robust way to track expenses.

You can also use tags to filter views in Cost Explorer. Note that before you can filter views by tags in Cost Explorer, you must have applied tags to your resources and activate them, as described in the following sections. For more information about Cost Explorer, see Analyzing Your Costs with Cost Explorer. Reference:

<http://docs.aws.amazon.com/awsaccountbilling/latest/aboutv2/cost-alloc-tags.html>

**NEW QUESTION 84**

Which of the following tools does not directly support AWS OpsWorks, for monitoring your stacks?

- A. AWS Config
- B. Amazon CloudWatch Metrics
- C. AWS CloudTrail
- D. Amazon CloudWatch Logs

**Answer: A**

**Explanation:**

You can monitor your stacks in the following ways: AWS OpsWorks uses Amazon CloudWatch to provide thirteen custom metrics with detailed monitoring for each instance in the stack; AWS OpsWorks integrates with AWS CloudTrail to log every AWS OpsWorks API call and store the data in an Amazon S3 bucket; You can use Amazon CloudWatch Logs to monitor your stack's system, application, and custom logs. Reference:

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

**NEW QUESTION 87**

What is true of the way that encryption works with EBS?

- A. Snapshotting an encrypted volume makes an encrypted snapshot; restoring an encrypted snapshot creates an encrypted volume when specified / requested.
- B. Snapshotting an encrypted volume makes an encrypted snapshot when specified / requested; restoring an encrypted snapshot creates an encrypted volume when specified / requested.
- C. Snapshotting an encrypted volume makes an encrypted snapshot; restoring an encrypted snapshot always creates an encrypted volume.
- D. Snapshotting an encrypted volume makes an encrypted snapshot when specified / requested; restoring an encrypted snapshot always creates an encrypted volume.

**Answer: C**

**Explanation:**

Snapshots that are taken from encrypted volumes are automatically encrypted. Volumes that are created from encrypted snapshots are also automatically encrypted. Your encrypted volumes and any associated snapshots always remain protected. For more information, see Amazon EBS Encryption.

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

**NEW QUESTION 89**

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 93

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 95

When thinking of AWS Elastic Beanstalk, which statement is true?

- A. Worker tiers pull jobs from SNS.
- B. Worker tiers pull jobs from HTTP.
- C. Worker tiers pull jobs from JSON.
- D. Worker tiers pull jobs from SQS.

**Answer: D**

#### Explanation:

Elastic Beanstalk installs a daemon on each Amazon EC2 instance in the Auto Scaling group to process Amazon SQS messages in the worker environment. The daemon pulls data off the Amazon SQS queue, inserts it into the message body of an HTTP POST request, and sends it to a user-configurable URL path on the local host. The content type for the message body within an HTTP POST request is application/json by default.

Reference:

<http://docs.aws.amazon.com/elasticbeanstalk/latest/dg/using-features-managing-env-tiers.html>

### NEW QUESTION 96

Your company needs to automate 3 layers of a large cloud deployment. You want to be able to track this deployment's evolution as it changes over time, and carefully control any alterations. What is a good way to automate a stack to meet these requirements?

- A. Use OpsWorks Stacks with three layers to model the layering in your stack.
- B. Use CloudFormation Nested Stack Templates, with three child stacks to represent the three logical layers of your cloud.
- C. Use AWS Config to declare a configuration set that AWS should roll out to your cloud.
- D. Use Elastic Beanstalk Linked Applications, passing the important DNS entries between layers using the metadata interface.

**Answer: B**

#### Explanation:

Only CloudFormation allows source-controlled, declarative templates as the basis for stack automation. Nested Stacks help achieve clean separation of layers while simultaneously providing a method to control all layers at once when needed.

Reference:

<https://blogs.aws.amazon.com/application-management/post/TxIT9JYOOS8AB9I/Use-Nested-Stacks-to-Create-Reusable-Templates-and-Support-Role-Specialization>

### NEW QUESTION 100

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-deadletter>

**NEW QUESTION 101**

You have a high security requirement for your AWS accounts. What is the most rapid and sophisticated setup you can use to react to AWS API calls to your account?

- A. Subscription to AWS Config via an SNS Topic
- B. Use a Lambda Function to perform in-flight analysis and react to changes as they occur.
- C. Global AWS CloudTrail setup delivering to S3 with an SNS subscription to the deliver notifications, pushing into a Lambda, which inserts records into an ELK stack for analysis.
- D. Use a CloudWatch Rule ScheduleExpression to periodically analyze IAM credential log
- E. Push the deltas for events into an ELK stack and perform ad-hoc analysis there.
- F. CloudWatch Events Rules which trigger based on all AWS API calls, submitting all events to an AWS Kinesis Stream for arbitrary downstream analysis.

**Answer:** D

**Explanation:**

CloudWatch Events allow subscription to AWS API calls, and direction of these events into Kinesis Streams. This allows a unified, near real-time stream for all API calls, which can be analyzed with any tool(s) of your choosing downstream. Reference: [http://docs.aws.amazon.com/AmazonCloudWatch/latest/DeveloperGuide/EventTypes.html#api\\_event\\_type](http://docs.aws.amazon.com/AmazonCloudWatch/latest/DeveloperGuide/EventTypes.html#api_event_type)

**NEW QUESTION 106**

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