

Q1)

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 Dynamo DB?

- ☐ Dynamo DB table with roughly equal read and write throughput. with Cloud Front caching
- ☐ Dynamo DB table with IOOx higher read than write throughput, with Cloud Front caching.
- ☒ Dynamo DB table with roughly equal read and write throughput, with Elastic Cache caching.
- ☐ Dynamo DB table with bOx higher read than write throughput, with Elastic Cache caching.

Q2)

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? Please select:

- ☒ Bake an AMI when deploying new versions of code, and use that AMI for the Auto Scaling Launch Configuration.
- ☐ Create a Docker file when preparing to deploy a new version to production and publish it to S3. Use User Data In the Auto Scaling Launch configuration to pull down the Docker file from S3 and run It when new instances launch.
- ☐ 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.
- ☐ Create a new Auto Scaling Launch Configuration with User Data scripts configured to pull the latest code at all times.

Q3)

You need to create a simple, holistic check for your system's general availability and uptime. Your system presents itself as an HTTP-speaking API.

What is the most simple tool on AWS to achieve this with? Please select:

- ☐ EC2 Health Checks
- ☐ AWS ELB Health Checks
- ☒ Route53 Health Checks
- ☐ Cloud Watch Health Checks

Q4)

Your system automatically provisions EIPs to EC2 instances in a VPC on boot. The system provisions the whole VPC and stack at once. You have two of them per VPC. On your new AWS account, your attempt to create a Development environment failed, after successfully creating Staging and Production environments in the same region.

What happened?

- ☐ You didn't choose the Development version of the AMI you are using.
- ☐ You didn't set the Development flag to true when deploying EC2 instances.
- ☐ You hit the soft limit of 2 VPCs per region and requested a 3rd.
- ☒ You hit the soft limit of S EIPs per region and requested a 6th.

Q5) When thinking of AWS Elastic Beanstalk's model, which is true?

- ☐ Deployments have many environments, environments have many applications.
- ☐ Environments have many applications, applications have many deployments
- ☒ Applications have many environments, environments have many deployments.
- ☐ Applications have many deployments, deployments have many environments.

Q6)

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?

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

Q7)

Your company releases new features with high frequency while demanding high application availability. As part of the application's A/B testing, logs from each updated Amazon EC2 instance of the application need to be analyzed in near real-time, to ensure that the application is working flawlessly after each deployment.

If the logs show any anomalous behavior, then the application version of the instance is changed to a more stable one.

Which of the following methods should you use for shipping and analyzing the logs in a highly available manner?

- ☒ Ship the logs to an Amazon Kinesis stream and have the consumers analyze the logs in a live manner.
- ☐ Ship the logs to Amazon Cloud Watch Logs and use Amazon EMR to analyze the logs in a batch manner each hour.
- ☐ Ship the logs to Amazon S3 for durability and use Amazon EMR to analyze the logs in a batch manner each hour.
- ☐ Ship the logs to a large Amazon EC2 instance and analyze the logs in a live manner

Q8)

There is a requirement to monitor API calls against your AWS account by different users and entities. There needs to be a history of those calls. The history of those calls are needed in bulk for later review.

Which 2 services can be used in this scenario ?

- ☒ AWS Cloud Trail; Cloud Watch Events
- ☐ AWS Cloud Trail; AWS Config
- ☐ AWS Config AWS Inspector
- ☐ AWS Config AWS Lambda

Q9)

You need to deploy a new application version to production. Because the deployment is high-risk, you need to roll the new version out to users over a number of hours, to make sure everything is working correctly. You need to be able to control the proportion of users seeing the new version of the application down to the percentage point. You use ELB and EC2 with Auto Scaling Groups and custom AMIs with your code pre-installed assigned to Launch Configurations. There are no database-level changes during your deployment.

You have been told you cannot spend too much money, so you must not increase the number of EC2 instances much at all during the deployment, but you also need to be able to switch back to the original version of code quickly if something goes wrong.

What is the best way to meet these requirements?

- ☐ Create AMI5 with all code pre-installed. Assign the new AMI to the Auto Scaling Launch Configuration, to replace the old one. Gradually terminate Instances running the old code (launched with the old Launch Configuration) and allow the new AMIs to boot to adjust the traffic balance to the new code. On rollback, reverse the process by doing the same thing, but changing the AMI on the Launch Config back to the original code.
- ☐ Migrate to use AWS Elastic Beanstalk. Use the established and well-tested Rolling Deployment setting AWS provides on the new Application Environment, publishing a zip bundle of the new code and adjusting the wait period to spread the deployment over time. Re-deploy the old code bundle to rollback if needed.
- ☐ Use the Blue-Green deployment method to enable the fastest possible rollback if needed. Create a full second stack of instances and cut the DNS over to the new stack of instances, and change the DNS back if a rollback is needed.
- ☒ Create a second ELB, Auto Scaling Launch Configuration, and Auto Scaling Group using the Launch Configuration. Create AMI5 with all code pre-installed. Assign the new AMI to the second Auto Scaling Launch Configuration. Use Route53 Weighted Round Robin Records to adjust the proportion of traffic hitting the two ELBs.

Q10) If I want Cloud Formation stack status updates to show up in a continuous delivery system in as close to real time as possible, how should I achieve this?

- ☐ Use a long-poll on the List Stacks API call for your Cloud Formation stack and display those state changes in the UI for the system.
- ☒ Subscribe your continuous delivery system to an SNS topic that you also tell your Cloud Formation stack to publish events into.
- ☐ Use a long-poll on the Resources object in your Cloud Formation stack and display those state changes in the UI for the system.
- ☐ Subscribe your continuous delivery system to an SQS queue that you also tell your Cloud Formation stack to publish events into.

Q11)

You have deployed a Cloud formation template which is used to spin up resources in your account.

Which of the following status in Cloud formation represents a failure.

- ☒ ROLLBACK_IN_PROGRESS
- ☐ UPDATE_COMPLETE_CLEANUP_IN_PROGRESS
- ☐ UPDATE_IN_PROGRESS
- ☐ DELETE_COMPLETE

Q12)

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?

- ☒ Create read replicas for RDS since the load is mostly reads
- ☐ Create a Multi-AZ RDS instance and route read traffic to standby.
- ☐ Cache all the database responses on the read side with Cloud Front.
- ☐ Create a second master RDS instance and peer the RDS groups.

Q13) What is web identity federation?

- ☒ Use of an identity provider like Google or Face book to exchange for temporary AWS security credentials.
 - ☐ Use of AWS IAM User tokens to log in as a Google or Face book user.
 - ☐ Use of AWS STS Tokens to log in as a Google or Face book user.
 - ☐ Use of an identity provider like Google or Face book to become an AWS IAM User.
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Q14)

You are designing a service that aggregates click stream data in batch and delivers reports to subscribers via email only once per week. Data is extremely spiky, geographically distributed, high-scale. and unpredictable.

How should you design this system?

- ☐ Use a large Red Shift cluster to perform the analysis, and a fleet of Lambdas to perform record Inserts into the Red Shift tables. Lambda will scale rapidly enough for the traffic spikes.
 - ☒ Use a CloudFront distribution with access log delivery to S3. Clicks should be recorded as querystring GETsI to the distribution. Reports are built and sent by periodically running EMR jobs over the access logs in S3. .
 - ☐ Use AWS Elasticsearch service and EC2 Auto Scaling groups. The Autoscaling groups scale based on click throughput and stream into the Elasticsearch domain, which is also scalable. Use Kibana to generate reports periodically.
 - ☐ Use API Gateway Invoking Lambdas which PutRecords into Kinesis, and EMR running Spark performing GetRecords on Kinesis to scale with spikes. Spark on EMR outputs the analysis to S3. which are sent out via email.
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Q15)

You have decided to migrate your application to the cloud. You cannot afford any downtime. You want to gradually migrate so that you can test the application with a small percentage of users and increase over time.

Which of these options should you Implement?

- ☐ Configure an Elastic Load Balancer to distribute the traffic between the on-premises application and the AWS application.
 - ☐ Implement a Route 53 failover routing policy that sends traffic back to the on-premises application if the AWS application fails.
 - ☐ Use Direct Connect to route traffic to the on-premise location. In Direct Connect. configure the amount of traffic to be routed to the on-premise location.
 - ☒ Implement a Route 53 weighted routing policy that distributes the traffic between your on-premises application and the AWS application depending on weight.
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Q16) 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?

- ☐ Term inating: Wait
 - ☒ Terminating
 - ☐ Detaching
 - ☐ Entering Standby
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Q17)

Your CTO has asked you to make sure that you know what all users of your AWS account are doing to change resources at all times. She wants a report of who is doing what over time, reported to her once per week, for as broad a resource type group as possible.

How should you do this?

- ☐ Use AWS Config with an SNS subscription on a Lambda, and insert these changes over time into a Dynamo DB table. Generate reports based on the contents of this table.
 - ☐ Use AWS IAM credential reports to deliver a CSV of all uses of IAM User Tokens over time to the CTO.
 - ☐ Use Cloud Watch Events Rules with an SNS topic subscribed to all AWS API calls. Subscribe the CTO to an email type delivery on this SNS Topic.
 - ☒ Create a global AWS Cloud Trail. Configure a script to aggregate the log data delivered to S3 once per week and deliver this to the CTO.
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Q18)

Your company uses AWS to host its resources.

They have the following requirements

- 1) Record all API calls and Transitions**
- 2) Help in understanding what resources are there in the account**
- 3) Facility to allow auditing credentials and logins**

Which services would suffice the above requirements Please select:

- ☐ AWS Config. Cloud Trail, IAM Credential Reports
 - ☐ AWS Config. IAM Credential Reports. Cloud Trail
 - ☒ Cloud Trail. AWS Config. AM Credential Reports
 - ☐ Cloud Trail. IAM Credential Reports. AWS Config
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Q19)

You are building a game high score table in Dynamo DB. 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 Dynamo DB key structure?

- ☐ Game ID as the range / only key.
 - ☒ Game ID as the hash key. Highest Score as the range key
 - ☐ Game ID as the hash / only key.
 - ☐ Highest score as the hash / only key.
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Q20)

You have been given a business requirement to retain log files for your application for 10 years. You need to regularly retrieve the most recent logs for troubleshooting. Your logging system must be cost-effective, given the large volume of logs.

What technique should you use to meet these requirements?

- ☒ Store your logs in Amazon S3. and use lifecycle policies to archive to Amazon Glacier.
 - ☐ Store your log in Amazon Cloud Watch Logs.
 - ☐ Store your logs in Amazon Glacier.
 - ☐ Store your logs on Amazon EBS, and use Amazon EBS snapshots to archive them.
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Q21)

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?

- ☐ 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.
 - ☐ Create a Dockerfile when preparing to deploy a new version to production and publish it to S3. Use User Data in the Auto Scaling Launch configuration to pull down the Docker file from S3 and run it when new instances launch.
 - ☐ Create a new Auto Scaling Launch Configuration with UserData scripts configured to pull the latest code at all times.
 - ☒ Bake an AMI when deploying new versions of code, and use that AMI for the Auto Scaling Launch Configuration.
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Q22)

Your CTO is very worried about the security of your AWS account.

How best can you prevent hackers from completely hijacking your account?

- ☐ Don't write down or remember the root account password after creating the AWS acc
 - ☒ Use MFA on all users and accounts, especially on the root account.
 - ☐ Use AWS IAM Geo-Lock and disallow anyone from logging in except for in your city.
 - ☐ Use short but complex password on the root account and any administrators.
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Q23)

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?

- ☐ Use Elastic Beanstalk Linked Applications, passing the important DNS entries between layers using the metadata interface.
 - ☐ Use AWS Config to declare a configuration set that AWS should roll out to your cloud
 - ☒ Use Cloud Formation Nested Stack Templates, with three child stacks to represent the three logical layers of your cloud.
 - ☐ Use Ops Works Stacks with three layers to model the layering in your stack.
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Q24)

You are using Chef in your data center.

Which service is designed to let the customer leverage existing Chef recipes in AWS?

- ☐ AWS Elastic Beanstalk
 - ☐ AWS Cloud Formation
 - ☒ AWS Ops Works
 - ☐ Amazon Simple Workflow Service
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Q25)

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?

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

Q26)

You meet once per month with your operations team to review the past month's data. During the meeting, you realize that 3 weeks ago, your monitoring system which pings over HTTP from outside AWS recorded a large spike in latency on your 3-tier web service API.

You use Dynamo DB for the database layer, ELB, EBS, and EC2 for the business logic tier, and SQS, ELB, and EC2 for the presentation layer.

Which of the following techniques will NOT help you figure out what happened? Please select:

- ☐ Analyze your logs to detect bursts in traffic at that time.
- ☐ Review your ELB access logs in S3 to see if any ELB5 in your system saw the latency.
- ☐ Check your Cloud Trail log history around the spike's time for any API calls that caused slowness.
- ☒ Review Cloud Watch Metrics for one minute interval graphs to determine which component(s) slowed the system down.

Q27)

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?

- ☐ Begin using Cloud Watch Logs on every service. Stream all Log Groups into S3 objects. Use AWS EMR cluster jobs to perform adhoc Map Reduce analysis and write new queries when needed.
- ☐ Copy all log files into AWS S3 using a cron job on each instance. Use an S3 Notification Configuration on Put Bucket event and publish events to AWS Lambda. Use the Lambda to analyze logs as soon as they come in (and flag issues).
- ☒ Begin using Cloud Watch Logs on every service. Stream all Log Groups into an AWS Elasticsearch Service Domain running Kibana 4 and perform log analysis on a search cluster.
- ☐ Copy all log files into AWS S3 using a cron job on each instance. Use an S3 Notification Configuration on the Put Bucket event and publish events to AWS Kinesis. Use Apache Spark on AWS EMR to perform at-scale stream processing queries on the log chunks and flag issues.

Q28) For AWS Auto Scaling, what is the first transition state an existing instance enters after leaving Standby state?

- ☐ Terminating: Wait
- ☐ Detaching
- ☐ Entering Standby
- ☒ Pending

Q29)

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?

- ☐ Before writing to Dynamo DB, do a pre-write acknowledgment to disk on the application server, removing sensitive information before logging. Periodically pipe these files into Cloud Watch Logs.
- ☐ Use a Dynamo DB Stream Specification and periodically flush to an EC2 instance store, removing sensitive information before putting the objects. Periodically flush these batches to S3.
- ☒ Use a Dynamo DB Stream Specification and to AWS Lambda. Log the changes to AWS Cloud Watch Logs, removing sensitive information before logging.
- ☐ Before writing to Dynamo DB, do a pre-write acknowledgment to disk on the application server, removing sensitive information before logging. Periodically rotate these log files into S3.

Q30)

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?

- ☐ Use AWS Config to force the Staging and Production stacks to have configuration parity. Any differences will be detected for you so you are aware of risks.
- ☒ Develop models of your entire cloud system in Cloud Formation. Use this model in Staging and Production achieve greater parity.
- ☐ Use AMPs to ensure the whole machine, including the kernel of the virtual machines, is consistent, since Docker uses Linux Container (DCC) technology, and we need to make sure the container environment is consistent.
- ☐ Use AWS ECS and Docker clustering. This will make sure that the AMLs and machine sizes are the same across both environments.

Q31)

You need to perform ad-hoc business analytics queries on well-structured data. Data comes in constantly at a high velocity. Your business intelligence team can understand SQL.

What AWS service(s) should you look to first?

- ☒ Kinesis Fire hose + Red Shift
 - ☐ Kinesis Fire hose + RDS
 - ☐ EMR running Apache Spark
 - ☐ EMR using Hive
-

Q32)

You are planning on using the Amazon RDS facility for Fault tolerance for your application.

How does Amazon RDS multi Availability Zone model work Please select:

- ☐ A second, standby database is deployed and maintained in a different availability zone from master using asynchronous replication.
 - ☐ A second, standby database is deployed and maintained in a different region from master using synchronous replication.
 - ☐ A second, standby database is deployed and maintained in a different region from master using asynchronous replication.
 - ☒ A second, standby database is deployed and maintained in a different availability zone from master, using synchronous replication. .
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Q33)

You have an application running on an Amazon EC2 instance and you are using IAM roles to securely access AWS Service APIs.

How can you configure your application running on that instance to retrieve the API keys for use with the AWS SDKs?

- ☐ When assigning an EC2 IAM role to your instance in the console, in the those SDK dropdown list, select the SDK that you are using. and the Instance will configure the correct SDK on launch with the API keys.
 - ☒ When using AWS SDK5 and Amazon EC2 roles, you do not have to explicitly retrieve API keys. because the SDK handles retrieving them from the Amazon EC2 Meta Data service.
 - ☐ Within your application code, make a GET request to the IAM Service API to retrieve credentials for your user.
 - ☐ Within your application code, configure the AWS SDK to get the API keys from environment variables. because assigning an Amazon EC2 role stores keys in environment variables on launch.
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Q34)

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?

- ☐ Use an ELB and a cross-zone ELB deployment to create redundancy across datacenters. Even if a region fails, the other AZ will stay online.
 - ☐ Use a Cloud Front distribution to serve up your API. Even if the region your API is in goes down, the edge locations Cloud Front uses will be fine.
 - ☐ Create a Route53 Weighted Round Robin record, and if one region goes down, have that region redirect to the other region.
 - ☒ Create a Route53 Latency Based Routing Record with Failover and point it to two identical deployments of your stateless API in two different regions. Make sure both regions use Auto Scaling Groups behind ELB5.
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Q35)

You have an application hosted in AWS. This application was created using Cloud formation Templates and Auto scaling. Now your application has got a surge of users which is decreasing the performance of the application. As per your analysis, a change in the instance type to C3 would resolve the Issue.

Which of the below option can introduce this change while minimizing downtime for end users? Please select:

- ☐ Copy the old launch configuration. and create a new launch configuration with the C3 Instances. Update the Auto Scaling group with the new launch configuration. Auto Scaling will then update the instance type of all instances.
 - ☐ Update the AWS Cloud Formation template that contains the launch configuration with the new C3 Instance type. Run a stack update with the updated template, and Auto Scaling will then update the instances one at a time with the new instance type.
 - ☐ Update the existing launch configuration with the new C3 instance type. Add an Update Policy attribute to your Auto Scaling group that specifies an Auto Scaling Rolling Update in order to avoid downtime.
 - ☒ Update the launch configuration in the AWS Cloud Formation template with the new C3 instance type. Add an Update Policy attribute to the Auto Scaling group that specifies an Auto Scaling Rolling Update. Run a stack update with the updated template.
-

Q36) You have an application hosted in AWS. You wanted to ensure that when certain thresholds are reached a Dev ops Engineer is notified. Choose 3 answers from the options given below Please select:

- ☒ Use Cloud Watch Logs agent to send log data from the app to Cloud Watch Logs from Amazon EC2 instances
 - ☐ Pipe data from EC2 to the application logs using AWS Data Pipeline and Cloud Watch
 - ☒ Set the threshold your application can tolerate in a Cloud Watch Logs group and link a Cloud Watch alarm that threshold.
 - ☒ Once a Cloud Watch alarm is triggered, use SNS to notify the Senior Dev Ops Engineer.
-

Q37)

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?

- ☐ ELB Using Proxy Protocol vi,
- ☐ Telling S3 to use AES256 on the server-side. If you use 551 termination, your servers will always get non-secure connections and will never know whether users

- Cloud Front Viewer Protocol Policy set to HTTPS redirection.
- ✓ ELB SSL termination

Q38)

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?

- Set a longer cooldown period on the Group. so the system stops overshooting the target capacity. The issue is that the scaling system doesn't allow enough time for new instances to begin servicing requests before measuring aggregate load again.
- 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.
- ✓ Calculate the bottleneck or constraint on the compute layer. then select that as the new metric, and set tn. metric thresholds to the bounding values that begin to affect response latency.
- Raise the Cloud Watch Alarms threshold associated with your auto scaling group, so the scaling takes more or an increase in demand before beginning.

Q39)

You have an asynchronous processing application using an Auto Scaling Group and an SQS Queue. The Auto Scaling Group scales according to the depth of the job queue.

The completion velocity of the jobs has gone down, the Auto Scaling Group size has maxed out, but the inbound job velocity did not increase.

What is a possible issue?

- ✓ Some of the new jobs coming in are malformed and un process able.
- Someone changed the IAM Role Policy
- The scaling metric is not functioning correctly.
- The routing tables changed and none of the workers can process events anymore.

Q40)

You need to deploy an AWS stack in a repeatable manner across multiple environments. You have selected Cloud Formation 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 Cloud Formation.

How should you overcome this challenge?

- Use a Cloud Formation Custom Resource Template by selecting an API call to proxy for create, update. and delete actions. Cloud Formation will use the AWS SDK. CLI, or API method of your choosing as the state transition function for the resource type you are modeling.
- Instead of depending on Cloud Formation, use Chef, Puppet. or Ansible to author Heat templates, which are declarative stack resource definitions that operate over the Open Stack hypervisor and cloud environment.
- ✓ Create a Cloud Formation 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.
- Submit a ticket to the AWS Forums. AWS extends Cloud Formation Resource Types by releasing tooling to the AWS Labs organization on Git Hub. Their response time is usually 1 day. and they complete requests within a week ? or two.

Q41)

You are designing a system which needs, at minimum, 8 m4.large instances operating to service traffic. When designing a system for high availability in the us-east-1 region, which has 6 Availability Zones, your company needs to be able to handle death of a full availability zone.

How should you distribute the servers, to save as much cost as possible, assuming all of the EC2 nodes are properly linked to an ELB? Your VPC account can utilize us-east-1's AZ's a through f, inclusive?

- ✓ 2 servers in each of AZs a through e. inclusive.
- 3 servers in each of AZs a through d. inclusive.
- 4 servers in each of AZs a through c. Inclusive
- 8 servers in each of AZs a and b

Q42)

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?

- AWS ELB + EC2 with CLI Push
- AWS Ops Works
- AWS Cloud Formation
- ✓ AWS Elastic Beanstalk

Q43)

You need to create a Route53 record automatically in Cloud Formation when not running in production during all launches of a Template.

How should you Implement this?

- Create two templates. one with the Route53 record value and one with a null value for the record. Use the one without it when deploying to production.
- Create two templates, one with the Route53 record and one without it. Use the one without it when deploying to production.
- ✔ Use a Parameter for environment, and add a Condition on the Route53 Resource in the template to create the record only when environment is not production.
- Use a Parameter for environment, and add a Condition on the Route53 Resource in the template to create the record with a null string when environment is production.

Q44)

You are planning on using encrypted snapshots in the design of your AWS Infrastructure.

Which of the following statements are true with regards to EBS Encryption Please select:

- Snap shooting an encrypted volume makes an encrypted snapshot when specified / requested: restoring an encrypted snapshot creates an encrypted volume when specified / requested.
- ✔ Snap shooting an encrypted volume makes an encrypted snapshot restoring an encrypted snapshot always: creates an encrypted volume.
- Snap shooting an encrypted volume makes an encrypted snapshot: restoring an encrypted snapshot creates an encrypted volume when specified / requested.
- Snap shooting an encrypted volume makes an encrypted snapshot when specified / requested; restoring an encrypted snapshot always creates an encrypted volume.

Q45)

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.

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

Q46)

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?

- Create a Mem cached cluster in AWS Elastic Cache. Create cache logic to serve requests which can be served late from the in-memory cache for Increased performance.
- synchronously replicate common requests responses into S3 objects. When a request comes in for a pre computed response. redirect to AWS S3.
- ✔ Create a Cloud Front Distribution and direct Route53 to the Distribution. Use the ELB as an Origin and specify Cache Behaviors to proxy cache requests which can be served late.
- Create another ELB and Auto Scaling Group layer mounted on top of the other system, adding a tier to the system. Serve most read requests out of the top layer.

Q47)

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?

- Use AWS Directory Service Simple AD.
- Use an AWS Directory Sync Domain running on AWS Lambda
- Use an Sync Domain running on AWS Directory Service.
- ✔ Use AWS Directory Service AD Connector

Q48)

You need your API backed by Dynamo DB to stay online during a total regional AWS failure. You can tolerate a couple minutes of lag or slowness during a large failure event, but the system should recover with normal operation after those few minutes.

What is a good approach?

- Set up Dynamo DB cross-region replication in a master-standby configuration. with a single standby in another region. Create an Auto Scaling Group behind an ELB in each of the two regions for your application layer in which Dynamo DB is running in. Add a Route53 Latency DNS Record with DNS Failover, using the ELBs in the two regions as the resource records.
- Set up a Dynamo DB Multi-Region table. Create a cross-region ELB pointing to a crossregion Auto Scaling Group. and direct a Route53 Latency

DNS Record with DNS Failover to the cross-region ELB.

- Set up Dynamo DB cross-region replication In a master-standby configuration. with a single standby In another region. Create a cross region ELB pointing to a cross-region Auto Scaling Group, and direct a Routes3 Latency DNS Record with DNS Failover to the crossregion ELB.
- ✔ Set up a Dynamo DB Global table. Create an Auto Scaling Group behind an ELB in each of the two regions your application layer in which the Dynamo DB is running In. Add a Route53 Latency DNS Record with DNS Failover. using the ELB5 in the two regions as the resource records.

Q49)

You need to run a very large batch data processing job one time per day. The source data exists entirely in S3, and the output of the processing job should also be written to S3 when finished.

If you need to version control this processing job and all setup and teardown logic for the system, what approach should you use?

- Model an AWS EMR job in AWS Elastic Beanstalk.
- Model an AWS EMR job In AWS Ops Works.
- ✔ Model an AWS EMR job in AWS Cloud Formation.
- Model an AWS EMR job in AWS CLI Composer.

Q50) When thinking of AWS Elastic Beanstalk, the "Swap Environment URLs" feature most directly aids in what?

- Canary Deployments
 - ✔ Blue-Green Deployments
 - Mutable Rolling Deployments
 - Immutable Rolling Deployments
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