

AWS udemy exam solution I

You want to run a questionnaire application for only one day (without interruption), which Amazon EC2 purchase option should you use?

Reserved instances

Spot instances

On-demand instances **(Correct)**

Dedicated instances

Explanation

With On-Demand instances, you pay for compute capacity by the hour with no long-term commitments. You can increase or decrease your compute capacity depending on the demands of your application and only pay the specified hourly rate for the instances you use. The use of On-Demand instances frees you from the costs and complexities of planning, purchasing, and maintaining hardware and transforms what are commonly large fixed costs into much smaller variable costs. On-Demand instances also remove the need to buy "safety net" capacity to handle periodic traffic spikes.

The other options are incorrect:

"Reserved instances" is incorrect. Reserved instances are not appropriate in this case because the shortest reservation length is one year.

"Spot instances" is incorrect. Spot instances is not the right choice because the application must run without interruption.

"Dedicated instances" is incorrect. Dedicated instances can be used if you require your instance be physically isolated at the host hardware level from instances that belong to other AWS accounts.

Question 2: **Incorrect**

What do you gain from setting up consolidated billing for five different AWS accounts under another master account?

- The consolidated billing feature is just for organizational purposes. **(Incorrect)**
- Each AWS account gets six times the free-tier services capacity.
- AWS services' costs will be reduced to half the original price.
- Each AWS account gets volume discounts. **(Correct)**

Explanation

AWS consolidated billing enables an organization to consolidate payments for multiple Amazon Web Services (AWS) accounts within a single organization by making a single paying account. For billing purposes, AWS treats all the accounts on the consolidated bill as one account. Some services, such as Amazon EC2 and Amazon S3 have volume pricing tiers across certain usage dimensions that give the user lower prices when they use the service more. For example if you use 50 TB in each account you would normally be charged $\$23 * 50 * 3$ (because they are 3 different accounts), But with consolidated billing you would be charged $\$23 * 50 + \$22 * 50 * 2$ (because they are treated as one account) which means that you would save \$100.

Question 3: **Correct**

Which of the following helps a customer delve deep into the Amazon EC2 billing activity for the past month?

AWS Budgets

AWS TCO

AWS Systems Manager

AWS Cost & Usage Reports **(Correct)**

Explanation

The AWS Cost & Usage Report is your one-stop shop for accessing the most detailed information available about your AWS costs and usage. The AWS Cost & Usage Report lists AWS usage for each service category used by an account and its IAM users in hourly or daily line items, as well as any tags that you have activated for cost allocation purposes.

The other options are incorrect:

"AWS TCO" is incorrect. The TCO (Total Cost of Ownership) Calculator allows customers to evaluate the savings from using AWS and compare an AWS Cloud environment to on-premises and co-location environments. The TCO calculator matches your current infrastructure to the most cost-effective AWS offering. This tool considers all the costs to run a solution, including physical facilities, power, and cooling, to provide a realistic, end-to-end comparison of your costs.

"AWS Systems Manager" is incorrect. AWS Systems Manager provides a unified user interface so you can view operational data from multiple AWS services and allows you to automate operational tasks across your AWS resources.

"AWS Budgets" is incorrect. AWS Budgets gives you the ability to set custom budgets that alert you when your costs or usage exceed (or are forecasted to exceed) your budgeted amount.

Which service is used to ensure that messages between software components are not lost if one or more components fail?

Amazon SQS **(Correct)**

AWS Direct Connect **(Incorrect)**

Amazon Connect

Amazon SES

Explanation

Amazon Simple Queue Service (SQS) is a fully managed message queuing service that enables you to send, store, and receive messages between software components at any volume, without losing messages or requiring other services to be available. SQS lets you decouple application components so that they run independently, increasing the overall fault tolerance of the system. Multiple copies of every message are stored redundantly across multiple availability zones so that they are available whenever needed.

The other options are incorrect:

Amazon SES is incorrect. Amazon SES (Amazon Simple Email Service) is a flexible, affordable, and highly-scalable email messaging platform for businesses and developers.

Amazon Connect is incorrect. Amazon Connect is a cloud-based contact center service that makes it easy for businesses to deliver customer service at low cost.

AWS Direct Connect is incorrect. AWS Direct Connect is a cloud service solution that is used to establish a dedicated network connection between your premises and AWS.

Question 6: **Incorrect**

You have discovered that some AWS resources are being used in malicious activities that could compromise your data. What should you do?

Contact the AWS Customer Service team

Contact the AWS Concierge team

Contact the AWS Abuse team **(Correct)**

Contact the AWS Security team **(Incorrect)**

Explanation

The AWS Abuse team can assist you when AWS resources are being used to engage in the following types of abusive behavior:

- I. Spam: You are receiving unwanted emails from an AWS-owned IP address, or AWS resources are being used to spam websites or forums.
- II. Port scanning: Your logs show that one or more AWS-owned IP addresses are sending packets to multiple ports on your server, and you believe this is an attempt to discover unsecured ports.

- III. Denial of service attacks (DOS): Your logs show that one or more AWS-owned IP addresses are being used to flood ports on your resources with packets, and you believe this is an attempt to overwhelm or crash your server or software running on your server.
- IV. Intrusion attempts: Your logs show that one or more AWS-owned IP addresses are being used to attempt to log in to your resources.
- V. Hosting objectionable or copyrighted content: You have evidence that AWS resources are being used to host or distribute illegal content or distribute copyrighted content without the consent of the copyright holder.
- VI. Distributing malware: You have evidence that AWS resources are being used to distribute software that was knowingly created to compromise or cause harm to computers or machines on which it is installed.

The other options are incorrect:

"Contact the AWS Security team" is incorrect. The AWS Security team is responsible for the security of services offered by AWS.

"Contact the AWS Concierge team" is incorrect. The AWS Concierge team can assist you with the issues that are related to your billing and account management.

"Contact the AWS Customer Service team" is incorrect. The AWS Customer Service team is at the forefront of this transformational technology assisting a global list of customers that are taking advantage of a growing set of services and features to run their mission-critical applications. The team helps AWS customers understand what Cloud Computing is all about, and whether it can be useful for their business needs.

You have deployed your application on multiple Amazon EC2 instances. Your customers complain that sometimes they can't reach your application. Which AWS service allows you to monitor the performance of your EC2 instances to assist in troubleshooting these issues?

Amazon CloudWatch **(Correct)**

AWS Config

AWS CloudTrail

AWS Lambda

Explanation

Amazon CloudWatch is a service that monitors AWS cloud resources and the applications you run on AWS. You can use Amazon CloudWatch to collect and track metrics, collect and monitor log files, set alarms, and automatically react to changes in your AWS resources. Amazon CloudWatch can monitor AWS resources such as Amazon EC2 instances, Amazon DynamoDB tables, and Amazon RDS DB instances, as well as custom metrics generated by your applications and services, and any log files your applications generate. You can use CloudWatch to detect anomalous behavior in your environments, take automated actions, troubleshoot issues, and discover insights to keep your applications running smoothly.

The other options are incorrect:

AWS Config is incorrect. AWS Config is a fully managed service that provides you with an AWS resource inventory, configuration history, and configuration change notifications to enable security and governance. With AWS Config you can discover existing AWS resources, export a complete inventory of your AWS resources with all configuration details, and determine how a resource was configured at any point in time. These capabilities enable compliance auditing, security analysis, resource change tracking, and troubleshooting.

AWS CloudTrail is incorrect. AWS CloudTrail is an AWS service that can be used to monitor all user interactions with the AWS environment.

AWS Lambda is incorrect. AWS Lambda is a serverless compute service.

What does the AWS Personal Health Dashboard provide? (Choose

two)

A dashboard detailing vulnerabilities in your applications

Personalized view of AWS service health **(Correct)**

Detailed troubleshooting guidance to address AWS events impacting your resources **(Correct)**

Published information about the current status and availability of all AWS services

Recommendations for Cost Optimization

Explanation

AWS Personal Health Dashboard provides alerts and remediation guidance when AWS is experiencing events that may impact you. While the Service Health Dashboard displays the general status of AWS services, Personal Health Dashboard gives you a personalized view into the performance and availability of the AWS services underlying your AWS resources.

The benefits of the AWS personal health dashboard include:

****A personalized View of Service Health:** Personal Health Dashboard gives you a personalized view of the status of the AWS services that power your applications, enabling you to quickly see when AWS is experiencing issues that may impact you. For example, in the event of a lost EBS volume associated with one of your EC2 instances, you would gain quick visibility into the status of the specific service you are using, helping save precious time troubleshooting to determine root cause.

****Proactive Notifications:** The dashboard also provides forward looking notifications, and you can set up alerts across multiple channels, including email and mobile notifications, so you receive timely and relevant information to help plan for scheduled changes that may affect you. In the event of AWS hardware maintenance activities that may impact one of your EC2 instances, for example, you would receive an alert with information to help you plan for, and proactively address any issues associated with the upcoming change.

****Detailed Troubleshooting Guidance:** When you get an alert, it includes remediation details and specific guidance to enable you to

take immediate action to address AWS events impacting your resources. For example, in the event of an AWS hardware failure impacting one of your EBS volumes, your alert would include a list of your affected resources, a recommendation to restore your volume, and links to the steps to help you restore it from a snapshot. This targeted and actionable information reduces the time needed to resolve issues.

The other options are incorrect:

"A dashboard detailing vulnerabilities in your applications" is incorrect. You can check your applications for vulnerabilities using other services such as Amazon Inspector.

"Recommendations for Cost Optimization" is incorrect. You can get help about cost optimization using other services such as the AWS Trusted Advisor.

"Published information about the current status and availability of all AWS services" is incorrect. You can get information about the current status and availability of the AWS services any time using the AWS Service Health Dashboard that is available at this link:
<https://status.aws.amazon.com/>

Question 10: **Correct**

The identification process of an online financial services company requires that new users must complete an online interview with their security team. After verifying users' identities, the recorded interviews are only required in the event of a legal issue or a regulatory compliance breach. What is the most cost-effective service to store the recorded videos?

AWS Marketplace

S3 Intelligent-Tiering

Amazon Glacier **(Correct)**

Amazon EBS

Explanation

Amazon Glacier is an extremely low-cost storage service that provides secure, durable, and flexible storage for long-term data backup and archival. With Amazon Glacier, customers can reliably store their data for as little as \$0.004 per gigabyte per month. Amazon Glacier enables customers to offload the administrative burdens of operating and scaling storage to AWS, so that they don't have to worry about capacity planning, hardware provisioning, data replication, hardware failure detection and repair, or time-consuming hardware migrations.

The other options are incorrect:

"S3 Intelligent-Tiering" is incorrect. S3 Intelligent-Tiering is ideal for data with unknown or changing access patterns.

S3 Intelligent-Tiering is the first cloud object storage class that delivers automatic cost savings by moving data between two access tiers — frequent access and infrequent access — when access patterns change.

"AWS Marketplace" is incorrect. AWS Marketplace is a curated digital catalog that makes it easy for customers to find, buy, deploy, and manage third-party software and services that customers need to build solutions and run their businesses. AWS Marketplace includes thousands of software listings from popular categories such as security, networking, storage, machine learning, business intelligence, database, and DevOps. AWS Marketplace also simplifies software licensing and procurement with flexible pricing options and multiple deployment methods. Customers can quickly launch pre-configured software with just a few clicks, and choose software solutions in AMI and SaaS formats, as well as other formats. Flexible pricing options include free trial, hourly, monthly, annual, multi-year, and BYOL, and get billed from one source, AWS.

"Amazon EBS" is incorrect. Amazon EBS is a block level storage that provides storage volumes for use with Amazon EC2 and Amazon RDS. Amazon EBS is not a cost-effective choice here.

How can you view the distribution of AWS spending in one of your AWS accounts?

By using AWS Cost Explorer **(Correct)**

By using Amazon VPC console

By contacting the AWS Finance team

By contacting the AWS Support team

Explanation

AWS Cost Explorer is a free tool that you can use to view your costs and usage. You can view data up to the last 13 months, forecast how much you are likely to spend for the next three months, and get recommendations for what Reserved Instances to purchase. You can use AWS Cost Explorer to see patterns in how much you spend on AWS resources over time, identify areas that need further inquiry, and see trends that you can use to understand your costs. You can also specify time ranges for the data, and view time data by day or by month.

The other options are incorrect:

"By contacting the AWS Finance team" is incorrect. The AWS Finance Team provides data driven analysis, strategic decision support, financial planning, and controllership to teams that plan and build data centers, design and source servers, and develop and sell cloud services at massive scale to developers and businesses all over the world.

"By contacting the AWS Support team" is incorrect. The AWS support team will direct you to use AWS Cost Explorer.

"By using Amazon VPC console" is incorrect. You can use the Amazon Virtual Private Cloud console to launch AWS resources, such as Amazon EC2 instances. You can use it to specify an IP address range for the VPC, add subnets, associate security groups, and configure route tables.

You want to create a backup of your data in another geographical location. Where should you create this backup?

In another Edge location

In another VPC

In another Region **(Correct)**

In another Availability Zone

Explanation

Since you want to store your backup in another geographical location, then you should create it in another AWS Region. An AWS Region is a physical location around the world where AWS cluster data centers. AWS calls each group of logical data centers an Availability Zone. Each AWS Region consists of multiple, isolated, and physically separate Availability Zones within a geographic area.

The other options are incorrect.

"In another Edge location" is incorrect. Edge locations are used in conjunction with the CloudFront service to cache and deliver content to global users with low latency. They are not used to store backups.

"In another Availability Zone" is incorrect. Availability Zones of a Region exist within a single geographic area.

"In another VPC" is incorrect. Amazon Virtual Private Cloud (Amazon VPC) is not a geographic location. Amazon VPC is a networking service that enables you to create an isolated virtual network in the AWS Cloud. You can create up to 5 VPCs within a single AWS Region.

Question 13: **Correct**

What does AWS Snowball provide?

- Secure transfer of large amounts of data into and out of the AWS Cloud. **(Correct)**

- A hybrid cloud storage between on-premises environments and the AWS Cloud.

- A catalog of third-party software solutions that customers need to build solutions and run their businesses.

- An Exabyte-scale data transfer service that allows you to move extremely large amounts of data to AWS.

Explanation

Snowball is a petabyte-scale data transport solution that uses devices designed to be secure to transfer large amounts of data into and out of the AWS Cloud. Using Snowball addresses common challenges with large-scale data transfers including high network costs, long transfer times, and security concerns. Customers today use Snowball to migrate analytics data, genomics data, video libraries, image repositories, backups, and to archive part of data center shutdowns, tape replacement or application migration projects. Transferring data with Snowball is simple, fast, more secure, and can be as little as one-fifth the cost of transferring data via high-speed Internet.

The other options are incorrect:

"A catalog of third-party software solutions that customers need to build solutions and run their businesses" is incorrect. AWS Marketplace is the service that provides this catalog. AWS Marketplace is a digital catalog with thousands of software listings from independent software vendors that make it easy to find, test, buy, and

deploy software that runs on AWS. AWS Marketplace includes software listings from categories such as security, networking, storage, machine learning, business intelligence, database, and DevOps.

"A hybrid cloud storage between on-premises environments and the AWS Cloud" is incorrect. AWS Storage Gateway is the service that enables your on-premises applications to seamlessly use AWS cloud storage.

"An Exabyte-scale data transfer service that allows you to move extremely large amounts of data to AWS" is incorrect. AWS Snowmobile is the exabyte-scale data migration service that allows you to move very large datasets from on-premises to AWS.

Question 14: **Incorrect**

You have set up consolidated billing for several AWS accounts. One of the accounts has purchased a number of reserved instances for 3 years. Which of the following is true regarding this scenario?

The purchased instances will have better performance than On-demand instances.

There are no cost benefits from using Consolidated billing; it is for informational purposes only. (Incorrect)

The Reserved Instance discounts can only be shared with the master account.

All accounts can receive the hourly cost benefit of the Reserved Instances. (Correct)

Explanation

For billing purposes, the consolidated billing feature of AWS Organizations treats all the accounts in the organization as one account. This means that all accounts in the organization can receive

the hourly cost benefit of Reserved Instances that are purchased by any other account. For example, Suppose that Fiona and John each have an account in an organization. Fiona has five Reserved Instances of the same type, and John has none. During one particular hour, Fiona uses three instances and John uses six, for a total of nine instances on the organization's consolidated bill. AWS bills five instances as Reserved Instances, and the remaining four instances as On-demand instances.

The other options are incorrect:

"The purchased instances will have better performance than On-demand instances" is incorrect. There is no difference in performance between On-demand and Reserved instances of the same type.

"The Reserved Instance discounts can only be shared with the master account" is incorrect. The Reserved Instance discounts can be shared with all accounts in the organization.

"There are no cost benefits from using Consolidated billing; It is for informational purposes only" is incorrect. With Consolidated Billing, you can combine the usage across all accounts in the organization to share the Reserved Instance discounts, volume pricing discounts, and Savings Plans. This can result in a lower charge for your project, department, or company than with individual standalone accounts.

Question 15: **Correct**

Which service provides DNS in the AWS cloud?

Amazon CloudFront

Route 53 **(Correct)**

AWS Config

Amazon EMR

Explanation

Amazon Route 53 is a global service that provides highly available and scalable Domain Name System (DNS) services, domain name registration, and health-checking web services. It is designed to give developers and businesses an extremely reliable and cost effective way to route end users to Internet applications by translating names like example.com into the numeric IP addresses, such as 192.0.2.1, that computers use to connect to each other.

Route 53 also simplifies the hybrid cloud by providing recursive DNS for your Amazon VPC and on-premises networks over AWS Direct Connect or AWS VPN.

The other options are incorrect:

Amazon EMR is incorrect. EMR is used to process vast amounts of data easily and securely. Use cases include: big data, log analysis, web indexing, data transformations (ETL), machine learning, financial analysis, scientific simulation, and bioinformatics.

AWS Config is incorrect. AWS Config is a fully managed service that provides you with an AWS resource inventory, configuration history, and configuration change notifications to enable security and governance.

Amazon CloudFront is incorrect. Amazon CloudFront gives businesses and web application developers an easy and cost effective way to distribute content globally with low latency and high data transfer speeds.

Question 16: **Incorrect**

An organization has a large number of technical employees who operate their AWS Cloud infrastructure. What does AWS provide to help organize them in teams and then assign the appropriate permissions for each team?

IAM users

IAM roles

AWS Organizations **(Incorrect)**

AWS Lambda

Explanation

An IAM group is a collection of IAM users that are managed as a unit. Groups let you specify permissions for multiple users, which can make it easier to manage the permissions for those users. For example, you could have a group called Admins and give that group the types of permissions that administrators typically need. Any user in that group automatically has the permissions that are assigned to the group. If a new user joins your organization and needs administrator privileges, you can assign the appropriate permissions by adding the user to that group. Similarly, if a person changes jobs in your organization, instead of editing that user's permissions, you can remove him or her from the old groups and add him or her to the appropriate new groups.

The other options are incorrect:

"IAM role" is incorrect. An IAM role is an IAM identity that you can create in your account that has specific permissions. IAM roles allow you to delegate access (for a limited time) to users or services that normally don't have access to your organization's AWS resources. IAM users or AWS services can assume a role to obtain temporary security credentials that can be used to interact with specific AWS resources.

You can use roles to delegate access to users, applications, or services that don't normally have access to your AWS resources. For example, you might want to grant users in your AWS account access to resources they don't usually have, or grant users in one AWS account access to resources in another account. Or you might want to allow a mobile app to use AWS resources, but not want to embed AWS keys within the app. Sometimes you want to give AWS access to users who already have identities defined outside of AWS, such as in your corporate directory. Or, you might want to grant access to your account to third parties so that they can perform an audit on your resources. For these scenarios, you can delegate access to AWS resources using an IAM role.

"IAM users" is incorrect. An IAM user is an entity that you create in AWS to represent the person or application that uses it to directly interact with AWS. A primary use for IAM users is to give people the ability to sign in to the AWS Management Console for interactive tasks and to make programmatic requests to AWS services using the API or CLI. A user in AWS consists of a name, a password to sign into the AWS Management Console, and up to two access keys that can be used with the API or CLI. When you create an IAM user, you grant it permissions by making it a member of a group that has appropriate permission policies attached (recommended), or by directly attaching policies to the user.

Additional information:

An IAM role is similar to an IAM user, in that it is an AWS identity with permission policies that determine what the identity can and cannot do in AWS. However, instead of being uniquely associated with one person, a role is intended to be assumable by anyone (or any service, application, ...etc) who needs it. Also, a role does not have standard long-term credentials such as a password or access keys associated with it. Instead, when you assume a role, it provides you with temporary security credentials for your role session. IAM roles are meant to be assumed by authorized entities, such as IAM users, applications, or an AWS service such as EC2.

"AWS Organizations" is incorrect. AWS Organization helps you to centrally manage billing; control access, compliance, and security; and share resources across multiple AWS accounts.

Question 17: **Incorrect**

A company complains that they are wasting a lot of money on underutilized compute resources in AWS. Which AWS feature should they use to ensure that their applications are automatically adding/removing compute capacity to closely match the required demand?

AWS Auto Scaling **(Correct)**

AWS Budgets

AWS Elastic Load Balancer **(Incorrect)**

AWS Cost Explorer

Explanation

Auto scaling is the feature that automates the process of adding/removing the server capacity (based on demand). Autoscaling allows you to reduce your costs by automatically turning off resources that aren't in use. On the other hand, Autoscaling ensures that your application runs effectively by provisioning more server capacity if required.

The other options are incorrect:

"AWS Budgets" is incorrect. AWS Budgets gives you the ability to set custom budgets that alert you when your costs or usage exceed (or are forecasted to exceed) your budgeted amount.

"AWS Elastic Load Balancer" is incorrect. AWS Elastic Load Balancer (ELB) is a service that distributes the incoming application traffic to multiple targets that you define.

"AWS Cost Explorer" is incorrect. AWS Cost Explorer provides an easy-to-use interface that lets you visualize, understand, and manage your AWS costs and usage over time.

Question 18: **Correct**

Which of the following is NOT correct regarding Amazon EC2 On-demand instances?

The on-demand instances follow the AWS pay-as-you-go pricing model

You have to pay a start-up fee when launching a new instance for the first time **(Correct)**

When using on-demand instances, you are charged per second based on an hourly rate

With on-demand instances, no longer-term commitments or upfront payments are needed

Explanation

There are no startup or termination fees associated with Amazon EC2.

Question 19: **Correct**

A company has decided to migrate its Oracle database to AWS. Which AWS service can help achieve this without negatively impacting the functionality of the source database?

AWS Server Migration Service

AWS Application Discovery Service

AWS OpsWorks

AWS Database Migration Service **(Correct)**

Explanation

AWS Database Migration Service (DMS) helps you migrate databases to AWS easily and securely. The source database remains fully operational during the migration, minimizing downtime to applications that rely on the database. The AWS Database Migration Service can migrate your data to and from most widely used commercial and open-source databases. The service supports homogeneous migrations such as Oracle to Oracle, as well as heterogeneous migrations between different database platforms, such as Oracle to Amazon Aurora or Microsoft SQL Server to MySQL. It also allows you to stream data to Amazon Redshift from any of the supported sources including Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle, SAP ASE, and SQL Server, enabling consolidation and easy analysis of data in the petabyte-scale data warehouse. AWS Database Migration Service can also be used for continuous data replication with high availability.

The other options are incorrect:

"AWS OpsWorks" is incorrect. AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet.

"AWS Server Migration Service" is incorrect. AWS Server Migration

AWS SERVER MIGRATION SERVICE IS INCORRECT. AWS Server Migration Service (SMS) is used to migrate your on-premises workloads to AWS.

"AWS Application Discovery Service" is incorrect. AWS Application Discovery Service helps enterprise customers plan migration projects by gathering information about their on-premises data centers.

Question 20: **Incorrect**

What are the benefits of having infrastructure hosted in AWS?
(Choose two)

Gaining complete control over the physical infrastructure

Increase speed and agility **(Correct)**

All of the physical security and most of the data/network security are taken care of for you **(Correct)**

Competitive upfront costs **(Incorrect)**

There is no need to worry about security

Explanation

All of the physical security are taken care of for you. Amazon data centers are surrounded by three physical layers of security. "Nothing can go in or out without setting off an alarm". It's important to keep bad guys out, but equally important to keep the data in which is why Amazon monitors incoming gear, tracking every disk that enters the facility. And "if it breaks we don't return the disk for warranty. The only way a disk leaves our data center is when it's confetti."

Most (not all) data and network security are taken care of for you. When we talk about the data/network security, AWS has a "shared responsibility model" where AWS and the customer share the responsibility of securing them. For example the customer is responsible for creating rules to secure his network traffic using the security groups and is also responsible for protecting data with

encryption.

"Increase speed and agility" is also a correct answer because in a cloud computing environment, new IT resources are only a click away, which means it requires less time to make those resources available to developers - from weeks to just minutes. This results in a dramatic increase in agility for the organization, since the cost and time it takes to experiment and develop is significantly lower.

The other options are incorrect:

"Gaining complete control over the physical infrastructure" is incorrect. The Physical infrastructure is a responsibility of AWS, not the customer.

Competitive upfront costs" is incorrect. In AWS, most of the services are available with no upfront costs as it follows the pay-as-you-go pricing.

AWS allows you to pay upfront for some services to get more discounts, but you have the choice to pay upfront or pay as you go. By contrast, traditional IT providers require you to pay upfront for all of their services.

"There is no need to worry about security" is incorrect. As mentioned above, security is a shared responsibility between AWS and the customer. For example, the customer has to manage who can access and use AWS resources using the IAM service.

Question 21: **Correct**

A company is introducing a new product to their customers, and is expecting a surge in traffic to their web application. As part of their Enterprise Support plan, which of the following provides the company with architectural and scaling guidance?

AWS Support Concierge Service

AWS Personal Health Dashboard



Infrastructure Event Management

(Correct)



AWS Support API

Explanation

AWS Infrastructure Event Management is a short-term engagement with AWS Support, included in the Enterprise-level Support product offering, and available for additional purchase for Business-level Support subscribers. AWS Infrastructure Event Management partners with your technical and project resources to gain a deep understanding of your use case and provide architectural and scaling guidance for an event. Common use-case examples for AWS Event Management include advertising launches, new product launches, and infrastructure migrations to AWS.

The other options are incorrect:

"AWS Personal Health Dashboard" is incorrect. AWS Personal Health Dashboard provides alerts and remediation guidance when AWS is experiencing events that may impact you. While the Service Health Dashboard displays the general status of AWS services, Personal Health Dashboard gives you a personalized view into the performance and availability of the AWS services underlying your AWS resources.

AWS Support API is incorrect. The AWS Support API provides access to some of the features of the AWS Support Center via an API.

AWS Support Concierge Service is incorrect. AWS Support Concierge Service assists customers with account and billing inquiries.

Question 22: **Correct**

As part of the Enterprise support plan, who is the primary point of contact for ongoing support needs?



EFS

IAM

TAM **(Correct)**

IEM

Explanation

For Enterprise-level customers, a TAM (Technical Account Manager) provides technical expertise for the full range of AWS services and obtains a detailed understanding of your use case and technology architecture. TAMs work with AWS Solution Architects to help you launch new projects and give best practices recommendations throughout the implementation life cycle. Your TAM is the primary point of contact for ongoing support needs, and you have a direct telephone line to your TAM.

The other options are incorrect:

IEM is incorrect. AWS Infrastructure Event Management (IEM) is a structured program available to Enterprise Support customers (and Business Support customers for an additional fee) that helps you plan for large-scale events such as product or application launches, infrastructure migrations, and marketing events. With Infrastructure Event Management, you get strategic planning assistance before your event, as well as real-time support during these moments that matter most for your business.

IAM is incorrect. IAM refers to the AWS Identity and Access Management service.

EFS is incorrect. EFS refers to the Amazon Elastic File System service.

Which of the following S3 storage classes is ideal for data with unpredictable access patterns?

Amazon S3 Glacier.

Amazon S3 Intelligent-Tiering. **(Correct)**

Amazon S3 Standard. **(Incorrect)**

Amazon S3 Standard-Infrequent Access.

Explanation

The S3 Intelligent-Tiering storage class is designed to optimize costs by automatically moving data to the most cost-effective access tier, without performance impact or operational overhead. It works by storing objects in two access tiers: one tier that is optimized for frequent access and another lower-cost tier that is optimized for infrequent access. For a small monthly monitoring and automation fee per object, Amazon S3 monitors access patterns of the objects in S3 Intelligent-Tiering, and moves the ones that have not been accessed for 30 consecutive days to the infrequent access tier. If an object in the infrequent access tier is accessed, it is automatically moved back to the frequent access tier. There are no retrieval fees when using the S3 Intelligent-Tiering storage class, and no additional tiering fees when objects are moved between access tiers. It is the ideal storage class for long-lived data with access patterns that are unknown or unpredictable.

The other options are incorrect:

"Amazon S3 Standard" is incorrect. S3 Standard offers high durability, availability, and performance object storage for frequently accessed data.

"Amazon S3 Standard-Infrequent Access" is incorrect. Amazon S3 Standard-Infrequent Access (S3 Standard-IA) is for data that is accessed less frequently, but requires rapid access when needed.

"Amazon S3 Glacier" is incorrect. S3 Glacier is a low-cost storage class for data archiving.

Question 24: **Correct**

What is the AWS service that provides a virtual network dedicated to your AWS account?

AWS Dedicated Hosts

AWS Subnets

Amazon VPC **(Correct)**

AWS VPN

Explanation

Amazon Virtual Private Cloud (Amazon VPC) allows you to carve out a portion of the AWS Cloud that is dedicated to your AWS account. Amazon VPC enables you to launch AWS resources into a virtual network that you've defined. This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS.

The other options are incorrect:

"AWS Dedicated Hosts" is incorrect. An Amazon EC2 Dedicated Host is a physical server with EC2 instance capacity fully dedicated to your use. Dedicated Hosts can save you money by enabling you to leverage your existing server-bound software license investments (e.g., Windows Server, Windows SQL Server, and SUSE Linux Enterprise Server) within EC2, subject to your license terms. Dedicated Hosts also give you more flexibility, visibility, and control over the placement of instances on dedicated hardware. This makes it easier to ensure you deploy your instances in a way that meets your compliance and regulatory requirements.

"AWS VPN" is incorrect. AWS Virtual Private Network (AWS VPN) allows you to establish a secure and private tunnel from your network or device to the AWS global network.

"AWS Subnets" is incorrect. A subnet is a range of IP addresses within a VPC.

Question 25: **Incorrect**

Availability Zones within a Region are connected over low-latency links. Which of the following is a benefit of these links?

Automate the process of provisioning new compute resources

Create private connection to your data center

Achieve global high availability **(Incorrect)**

Make synchronous replication of your data possible **(Correct)**

Explanation

Each AWS Region contains multiple distinct locations, or Availability Zones. Each Availability Zone is engineered to be independent from failures in other Availability Zones. An Availability Zone is a data center, and in some cases, an Availability Zone consists of multiple data centers. Availability Zones within a Region provide inexpensive, low-latency network connectivity to other zones in the same Region. This allows you to replicate data across data centers in a synchronous manner so that failover can be automated and appear transparent to your users.

The other options are incorrect:

"Automate the process of provisioning new compute resources" is incorrect. There is no relation between low-latency links and provisioning new resources. Auto Scaling is the service that can be used to automate the process of creating new compute resources.

"Achieve global high availability" is incorrect. You cannot achieve global high availability by merely using Availability Zones within the same Region. You should deploy your application in multiple regions closest to your users or use the AWS CloudFront service to achieve high global availability.

"Create private connection to your data center" is incorrect. The AWS Direct Connect service is the service that can be used to establish a private connection between AWS and your datacenter.

Question 26: **Correct**

Which service provides object-level storage in AWS?

Amazon EBS

Amazon EFS

Amazon Instance Store

Amazon S3 **(Correct)**

Explanation

Amazon S3 is an object level storage built to store and retrieve any amount of data from anywhere – web sites and mobile apps, corporate applications, and data from IoT sensors or devices. It is designed to deliver 99.99999999% durability, and stores data for millions of applications used by market leaders in every industry.

The other options are incorrect:

"Amazon EFS" is incorrect. Amazon EFS is a **file-level** storage

technology that provides massively parallel shared access to thousands of Amazon EC2 instances, enabling your applications to achieve high levels of aggregate throughput and IOPS with consistently low latencies.

"Amazon EBS" is incorrect. Amazon EBS is a **block-level** storage that provides storage volumes for use with Amazon EC2 and Amazon RDS instances.

"Amazon Instance Store" is incorrect. An instance store provides temporary **block-level** storage for your EC2 instances. Instance store is ideal for temporary storage of information that changes frequently, such as buffers, caches, scratch data, and other temporary content.

Question 27: **Incorrect**

According to the AWS Acceptable Use Policy, which of the following statements is true regarding penetration testing of EC2 instances?

Penetration testing is performed automatically by AWS to determine vulnerabilities in your AWS infrastructure

Penetration testing can be performed by the customer on their own instances without prior authorization from AWS **(Correct)**

The AWS customers are only allowed to perform penetration testing on services managed by AWS

Penetration testing is not allowed in AWS **(Incorrect)**

Explanation

AWS customers are welcome to carry out security assessments and penetration tests against their AWS infrastructure without prior approval for 8 services:

- 1- Amazon EC2 instances, NAT Gateways, and Elastic Load Balancers.
- 2- Amazon RDS.
- 3- Amazon CloudFront.
- 4- Amazon Aurora.
- 5- Amazon API Gateways.
- 6- AWS Lambda and Lambda Edge functions.
- 7- Amazon Lightsail resources.
- 8- Amazon Elastic Beanstalk environments.

The other options are incorrect.

"Penetration testing is performed automatically by AWS to determine vulnerabilities in your AWS infrastructure" is incorrect.

The AWS customers are responsible for performing penetration tests against their AWS infrastructure.

"Penetration testing is not allowed in AWS" is incorrect. AWS customers are allowed to perform penetration tests against their AWS infrastructure, but they must ensure that their activities are aligned with AWS policies.

"The AWS customers are only allowed to perform penetration testing on services managed by AWS" is incorrect. AWS customers are allowed to perform penetration testing on services managed by AWS such as Amazon RDS and on services managed by the AWS customer such as Amazon EC2.

Question 28: **Incorrect**

Under the shared responsibility model, Which of the following is the AWS' responsibility?

Filtering traffic with Security Groups

Client-side encryption

Configuring infrastructure devices **(Correct)**

Server-side encryption **(Incorrect)**

Explanation

Under the shared responsibility model, AWS is responsible for the hardware and software that run AWS services. This includes patching the infrastructure software and configuring infrastructure devices. As a customer, you are responsible for implementing best practices for data encryption, patching guest operating system and applications, identity and access management, and network & firewall configurations.

The other options are incorrect.

"Filtering traffic with Security Groups" is incorrect. The AWS Customer is responsible for all network and firewall configurations, including the configuration of Security Groups, Network Access Control Lists (NACLs), and Routing tables.

"Client-side encryption" and "Server-side encryption" are incorrect. Data encryption is the responsibility of the customer.

Additional information:

AWS offers a lot of services and features that help AWS customers protect their data in the cloud. Customers can protect their data by encrypting it in transit and at rest. They can use CloudTrail to log API and user activity, including who, what, and from where calls were made. They can also use the AWS Identity and Access Management (IAM) to control who can access or edit their data.

Question 29: **Incorrect**

What should you do in order to keep the data **on EBS volumes safe?**
(Choose two)

Ensure that EBS data is encrypted at rest **(Correct)**

Regularly update firmware on EBS devices

Store a backup daily in an external drive

Prevent any unauthorized access to AWS data centers (Incorrect)

Create EBS snapshots (Correct)

Explanation

Creating snapshots of EBS Volumes can help ensure that you have a backup of your EBS volumes just in case any issues arise.

Amazon EBS encryption offers a straight-forward encryption solution for your EBS resources that doesn't require you to build, maintain, and secure your own key management infrastructure. Encryption operations occur on the servers that host EC2 instances, ensuring the security of both data-at-rest and data-in-transit between an instance and its attached EBS storage.

The other options are incorrect:

"Prevent any unauthorized access to AWS data centers" is incorrect. It is the responsibility of AWS to control and restrict access to its data centers.

"Store a backup daily in an external drive" is incorrect. To make a backup of your EBS volumes you should use the Snapshot feature. Snapshots can provide a Copy-on-Write Consistency (reflect the exact image of the volume at the point-in-time of the snapshot).

"Regularly update firmware on EBS devices" is incorrect. It is the responsibility of AWS to regularly update firmware on hardware devices.

Additional information:

EBS Snapshots are incremental backups, which means that only the

blocks on the device that have changed after your last snapshot are saved. This minimizes the time required to create the snapshot and saves on storage costs by not duplicating data.

Question 30: **Correct**

You work as an on-premises MySQL DBA. The work of database configuration, backups, patching, and DR can be time-consuming and repetitive. Your company has decided to migrate to the AWS Cloud. Which of the following can help save time on the regular database tasks so you can focus on giving users the fast performance and high availability that they need?

Amazon Redshift

Amazon CloudWatch

Amazon DynamoDB

Amazon RDS **(Correct)**

Explanation

Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient, resizable capacity while automating time-consuming administration tasks such as hardware provisioning, operating system maintenance, database setup, patching and backups. It frees you to focus on your applications so you can give them the fast performance, high availability, security and compatibility they need.

The other options are incorrect:

Amazon Redshift is incorrect. Amazon Redshift is a fast, fully managed data warehouse that makes it simple and cost-effective to analyze all your data using standard SQL and your existing Business Intelligence (BI) tools.

Amazon DynamoDB is incorrect. Amazon DynamoDB is a NoSQL database service.

Amazon CloudWatch is incorrect. Amazon CloudWatch is a monitoring service that gives you complete visibility of your cloud resources and applications

Question 31: **Correct**

Which of the following is an example of horizontal scaling in the AWS Cloud?

- Increasing the computing capacity of a single EC2 instance to address the growing demands of an application.
- Adding more EC2 instances to handle an increase in traffic. **(Correct)**
- Replacing an existing EC2 instance with a larger, more powerful one.
- Adding more RAM capacity to an EC2 instance.

Explanation

Horizontal Scaling:

Scaling horizontally takes place through an increase in the number of resources (e.g., adding more hard drives to a storage array or adding more servers to support an application). This is a great way to build

Internet-scale applications that leverage the elasticity of cloud computing.

Vertical Scaling:

Scaling vertically takes place through an increase in the specifications of an individual resource (e.g., upgrading a server with a larger hard drive, adding more memory, or provisioning a faster CPU). On Amazon EC2, this can easily be achieved by stopping an instance and resizing it to an instance type that has more RAM, CPU, I/O, or networking capabilities. This way of scaling can eventually hit a limit and it is not always a cost efficient or highly available approach. However, it is very easy to implement and can be sufficient for many use cases especially as a short term solution.

Additional information:

Vertical-scaling is often limited to the capacity constraints of a single machine, scaling beyond that capacity often involves downtime and comes with an upper limit. With horizontal-scaling it is often easier to scale dynamically by adding more machines in parallel. Hence, in most cases, horizontal-scaling is recommended over vertical-scaling.
~~Horizontal-scaling is recommended over vertical-scaling.~~

The other options are incorrect:

All other options are examples of Vertical Scaling.

Question 32: **Correct**

Your company is developing a critical web application in AWS and the security of the application is one of the top priorities. Which of the following AWS services will provide infrastructure security optimization recommendations?

Amazon Aurora

AWS Management Console

AWS Shield

AWS Trusted Advisor **(Correct)**

Explanation

AWS Trusted Advisor is an online tool that provides you real time guidance to help you provision your resources following AWS best practices. AWS Trusted Advisor offers a rich set of best practice checks and recommendations across five categories: cost optimization; security; fault tolerance; performance; and service limits.

AWS Trusted Advisor improves the security of your application by closing gaps, enabling various AWS security features, and examining your permissions.

The core security checks include: (Important)

1- Security Groups - Specific Ports Unrestricted.

Checks security groups for rules that allow unrestricted access to specific ports. Unrestricted access increases opportunities for malicious activity (hacking, denial-of-service attacks, loss of data).

2- Amazon S3 Bucket Permissions.

Checks buckets in Amazon Simple Storage Service (Amazon S3) that have open access permissions. Bucket permissions that grant List access to everyone can result in higher than expected charges if objects in the bucket are listed by unintended users at a high frequency. Bucket permissions that grant Upload/Delete access to everyone create potential security vulnerabilities by allowing anyone to add, modify, or remove items in a bucket. This check examines explicit bucket permissions and associated bucket policies that might override the bucket permissions.

3- MFA on Root Account.

Checks the root account and warns if multi-factor authentication (MFA) is not enabled. For increased security, AWS recommends that you protect your account by using MFA, which requires a user to enter a unique authentication code from their MFA hardware or virtual device when interacting with the AWS console and associated websites.

The other options are incorrect:

"AWS Shield" is incorrect. AWS Shield is a managed Distributed Denial of Service (DDoS) protection service that safeguards applications running on AWS.

"AWS Management Console" is incorrect. The AWS Management Console is used to access and manage Amazon Web Services through a simple and intuitive web-based user interface. The console itself doesn't provide any recommendations.

"Amazon Aurora" is incorrect. Amazon Aurora is a database service.

Question 33: **Incorrect**

A company has moved to AWS recently. Which of the following would help them ensure that the right security settings are put in place?
(Choose two)

AWS Trusted Advisor **(Correct)**

Amazon SNS

Concierge Support Team

Amazon Inspector **(Correct)**

Amazon CloudWatch **(Incorrect)**

Explanation

Amazon Inspector is an automated security assessment service that helps improve the security and compliance of applications deployed on AWS. Amazon Inspector automatically assesses applications for vulnerabilities or deviations from best practices. After performing an assessment, Amazon Inspector produces a detailed list of security findings prioritized by level of severity. These findings can be reviewed directly or as part of a detailed assessment report which is available via the Amazon Inspector console or API. To help get started quickly, Amazon Inspector includes a knowledge base of hundreds of rules mapped to common security best practices and vulnerability definitions. Examples of built-in rules include checking for remote root login being enabled, or vulnerable software versions installed. These rules are regularly updated by AWS security researchers.

rules are regularly updated by AWS security researchers.

AWS Trusted Advisor offers a rich set of best practice checks and recommendations across five categories: cost optimization; security; fault tolerance; performance; and service limits. Like your customized cloud security expert, AWS Trusted Advisor analyzes your AWS environment and provides security recommendations to protect your AWS environment. The service improves the security of your applications by closing gaps, examining permissions, and enabling various AWS security features.

The other options are incorrect:

"Amazon SNS" is incorrect. Amazon SNS is a pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications.

"Concierge Support Team" is incorrect. The AWS Concierge Support Team is a specialized offering available only to customers having an Enterprise Support subscription. The Concierge Team assists customers with their billing and account inquiries.

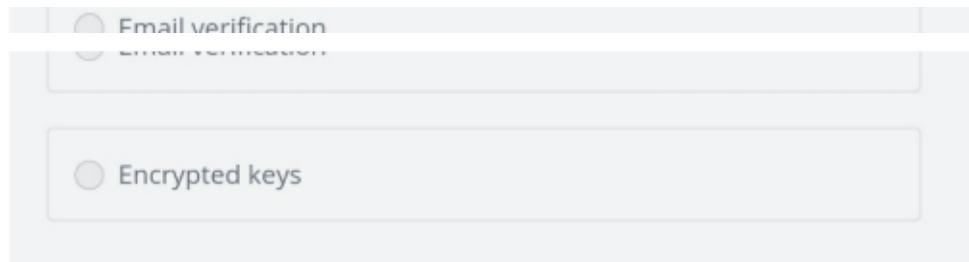
"Amazon CloudWatch" is incorrect. Amazon CloudWatch is used to monitor the utilization of AWS resources and services. You can use CloudWatch to visualize system metrics, take automated actions, troubleshoot performance issues, discover insights to optimize your applications, and ensure they are running smoothly.

Question 34: **Correct**

What is the AWS feature that provides an additional level of security above the default authentication mechanism of usernames and passwords?

AWS KMS

AWS MFA **(Correct)**



Explanation

AWS Multi-Factor Authentication (MFA) is a simple best practice that adds an extra layer of protection on top of using just your user name and password to authenticate.

The other options are incorrect:

"Encrypted keys" is incorrect. Logging into the AWS management console doesn't require encrypted keys.

"Email verification" is incorrect. Email verification is the process of verifying your ownership of an account's e-mail address.

"AWS KMS" is incorrect. AWS Key Management Service (AWS KMS) is a managed service that makes it easy for you to create and control the encryption keys used to encrypt your data.

Question 35: **Incorrect**

Which of the following must an IAM user provide to interact with AWS services using the AWS Command Line Interface (AWS CLI)?

Secret token **(Incorrect)**

User ID

Password and password

User name and password

Access keys **(Correct)**

Explanation

Access keys consist of an access key ID and secret access key, which are used to sign programmatic requests to AWS using the CLI or the SDK.

Question 36: **Correct**

Which of the below is a best-practice when designing solutions on AWS?

Use AWS reservations to reduce costs when testing your production environment.

Provision a large compute capacity to handle any spikes in load.

Automate wherever possible to make architectural experimentation easier **(Correct)**

Invest heavily in architecting your environment, as it is not easy to change your design later

Explanation

The Well-Architected Framework identifies a set of general design principles to facilitate good design in the cloud:

1- Stop guessing your capacity needs: Eliminate guessing about your

infrastructure capacity needs. When you make a capacity decision before you deploy a system, you might end up sitting on expensive idle resources or dealing with the performance implications of limited capacity. With cloud computing, these problems can go away. You can use as much or as little capacity as you need, and scale up and down automatically.

2- Test systems at production scale: In the cloud, you can create a production-scale test environment on demand, complete your testing, and then decommission the resources. Because you only pay for the test environment when it's running, you can simulate your live environment for a fraction of the cost of testing on premises.

3- Automate to make architectural experimentation easier: Automation allows you to create and replicate your systems at low cost and avoid the expense of manual effort. You can track changes to your automation, audit the impact, and revert to previous parameters when necessary.

4- Allow for evolutionary architectures: Allow for evolutionary architectures. In a traditional environment, architectural decisions are often implemented as static, one-time events, with a few major versions of a system during its lifetime. As a business and its context continue to change, these initial decisions might hinder the system's ability to deliver changing business requirements. In the cloud, the capability to automate and test on demand lowers the risk of impact from design changes. This allows systems to evolve over time so that businesses can take advantage of innovations as a standard practice.

5- Drive architectures using data: In the cloud you can collect data on how your architectural choices affect the behavior of your workload. This lets you make fact-based decisions on how to improve your workload. Your cloud infrastructure is code, so you can use that data to inform your architecture choices and improvements over time.

6- Improve through game days: Test how your architecture and processes perform by regularly scheduling game days to simulate events in production. This will help you understand where improvements can be made and can help develop organizational experience in dealing with events.

The other options are incorrect:

"Provision a large compute capacity to handle any spikes in load" is incorrect. Instead of provisioning a large compute capacity to handle the spikes in load, it is recommended to use the AWS Auto Scaling service to add or remove instances based on demand. The AWS Auto Scaling service allows you to automatically provision new resources to meet demand and maintain performance. When demand drops, AWS Auto Scaling will automatically remove any excess resource capacity, so you avoid overspending.

"Use AWS reservations to reduce costs when testing your production environment" is incorrect. Reservations in AWS are not an appropriate choice when you need to test your production

environment, AWS reservations have a minimum term of one year.

"Invest heavily in architecting your environment, as it is not easy to change your design later" is incorrect. In AWS, you can test and provision your resources on-demand and pay only for what you use with no long-term contracts. This enables you to make any changes you want in your architecture design at any time without any risks.

Question 37: **Incorrect**

A startup company is operating on limited funds and is extremely concerned about cost overruns. Which of the below options can be used to notify the company when their monthly AWS bill exceeds \$2000?

Configure the Amazon Connect Service to send an SNS billing notification to their email address.

Setup a CloudTrail billing alarm that triggers an SNS notification to their email address.

Setup a CloudWatch billing alarm that triggers an SNS notification to their email address. **(Correct)**

Configure the Amazon Simple Email Service to send an SNS billing notification to their email address. **(Incorrect)**

Explanation

In CloudWatch, you can set up a billing alarm that triggers if your costs exceed a threshold that you set. This CloudWatch alarm can also be configured to trigger an SNS notification to your email address.

The other options are incorrect:

"Configure the Amazon Simple Email Service to send an SNS billing notification to their email address" is incorrect. Amazon Simple Email Service (Amazon SES) is a cloud-based email sending service designed to help digital marketers and application developers send marketing, notification, and transactional emails. Amazon SES cannot be used to send SNS billing notifications.

"Configure the Amazon Connect Service to send an SNS billing notification to their email address" is incorrect. Amazon Connect is a self-service, cloud-based contact center service that makes it easy for any business to deliver better customer service at lower cost. Amazon Connect cannot be used to send SNS billing notifications.

"Setup a CloudTrail billing alarm that triggers an SNS notification to their email address" is incorrect. AWS CloudTrail is a service that enables governance, compliance, operational auditing, and risk auditing of your AWS account. You cannot use it to setup billing alarms.

Question 38: **Incorrect**

An organization has decided to reserve EC2 compute capacity for three years in order to get more discounts. Their application workloads are likely to change during this time period. What is the EC2 Reserved Instance (RI) type that will allow them to modify the reservation whenever they need to?

Elastic RIs **(Incorrect)**

Convertible RIs **(Correct)**

Scheduled RIs

Standard RIs

Explanation

Convertible RIs provide a discount (up to 54% off On-Demand) capability to change the attributes of the RI as long as the exchange results in the creation of Reserved Instances of equal or greater value. These attributes include instance family, instance type, platform, scope, and tenancy.

The other options are incorrect:

- ~ "**Standard RIs**" is incorrect. Standard RIs provide the most significant discount (up to 75% off On-Demand) and are best suited for steady-state usage. Standard Reserved Instances are not modifiable

"**Scheduled RIs**" is incorrect. Scheduled RIs are available to launch within the time windows you reserve. This option allows you to match your capacity reservation to a predictable recurring schedule that only requires a fraction of a day, a week, or a month. Scheduled Reserved Instances are not modifiable

Elastic RI is not a valid RI type.

Question 39: **Incorrect**

Your company has a data store application that requires access to a NoSQL database. Which AWS database offering would best meet this requirement?

Amazon Redshift (**Incorrect**)

Amazon Elastic Block Store

<input checked="" type="radio"/>	Amazon DynamoDB	(Correct)
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<input type="radio"/>	Amazon Aurora
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Explanation

Amazon DynamoDB is a fast and flexible NoSQL database service for all applications that need consistent, single-digit millisecond latency at any scale. It is a fully managed cloud database and supports both document and key-value store models. Its flexible data model, reliable performance, and automatic scaling of throughput capacity, makes it a great fit for mobile, web, gaming, ad tech, IoT, and many other applications.

The other options are incorrect:

"Amazon Elastic Block Store" is incorrect. Amazon Elastic Block Store (Amazon EBS) is a storage service, NOT a database service.

"Amazon Aurora" is incorrect. Amazon Aurora doesn't support NoSQL databases. Amazon Aurora is a MySQL and PostgreSQL-compatible relational database.

"Amazon Redshift" is incorrect. Amazon Redshift doesn't support non-relational data. Amazon Redshift is a fully managed data warehouse service that allows you to run complex analytic queries against petabytes of structured data using standard SQL and your existing Business Intelligence (BI) tools.

Question 40: **Correct**

What are the security aspects that the AWS customer is responsible for? (Choose two)

<input type="checkbox"/> Disk disposal
<input type="checkbox"/> Patching the Network infrastructure
<input type="checkbox"/> Controlling physical access to compute resources
<input checked="" type="checkbox"/> Set password complexity rules (Correct)
<input checked="" type="checkbox"/> Configuring network access rules (Correct)

Explanation

The customer is responsible for securing their network by configuring Security Groups, Network Access control Lists (NACLs), and Routing Tables. The customer is also responsible for setting a password policy on their AWS account that specifies the complexity and mandatory rotation periods for their IAM users' passwords.

The other options are incorrect:

"Disk disposal" is incorrect. Disk disposal (Storage Device Decommissioning): When a storage device has reached the end of its useful life, AWS procedures include a decommissioning process that is designed to prevent customer data from being exposed to unauthorized individuals. All decommissioned magnetic storage devices are degaussed and physically destroyed in accordance with industry-standard practices.

"Controlling physical access to compute resources" is incorrect. AWS is responsible for controlling physical access to the data centers.

"Patching the Network infrastructure" is incorrect. Patching the underlying infrastructure is the responsibility of AWS. The customer is responsible for patching the Operating System of their EC2 instances

responsible for patching and operating system of their EC2 instances and any software installed on these instances.

Question 41: **Incorrect**

A developer is planning to build a two-tier web application that has a MySQL database layer. Which of the following AWS database services would provide automated backups to his application?

Amazon Aurora **(Correct)**

Amazon DocumentDB **(Incorrect)**

Amazon DynamoDB

A MySQL database installed on an EC2 instance

Explanation

Amazon Aurora is a MySQL and PostgreSQL-compatible relational database built for the cloud. Amazon Aurora combines the performance and availability of traditional enterprise databases with the simplicity and cost-effectiveness of open source databases. It delivers up to five times the throughput of standard MySQL and up to three times the throughput of standard PostgreSQL. Amazon Aurora is designed to be compatible with MySQL and with PostgreSQL, so that existing applications and tools can run without requiring modification. It is available through Amazon Relational Database Service (RDS), freeing you from time-consuming administrative tasks such as provisioning, patching, backup, recovery, failure detection, and repair.

The other options are incorrect:

"A MySQL database installed on an EC2 instance" is incorrect. You can Install MySQL on an EC2 instance, but you will be responsible for managing almost everything yourself, including software patches, and backups.

"Amazon DynamoDB" is incorrect. Amazon DynamoDB is a NoSQL database service. Amazon DynamoDB does not support MySQL.

"Amazon DocumentDB" is incorrect. Amazon DocumentDB does not support MySQL. Amazon DocumentDB is a fully managed document database service that supports MongoDB workloads.

Question 42: **Incorrect**

Select TWO examples of the AWS shared controls.

IAM Management.

VPC Management.

Data Center operations. **(Incorrect)**

Patch Management. **(Correct)**

Configuration Management. **(Correct)**

Explanation

Shared Controls are controls which apply to both the infrastructure layer and customer layers, but in completely separate contexts or perspectives. In a shared control, AWS provides the requirements for the infrastructure and the customer must provide their own control implementation within their use of AWS services.

Examples include:

- ** Patch Management – AWS is responsible for patching the underlying hosts and fixing flaws within the infrastructure, but customers are responsible for patching their guest OS and applications.
- ** Configuration Management – AWS maintains the configuration of its infrastructure devices, but a customer is responsible for configuring their own guest operating systems, databases, and applications.
- ** Awareness & Training - AWS trains AWS employees, but a customer must train their own employees.

Additional information:

A computer on which AWS runs one or more virtual machines is called a **host** machine, and each virtual machine is called a **guest** machine. AWS drives the concept of virtualization by allowing the physical host machine to operate multiple virtual machines as guests (for multiple customers) to help maximize the effective use of computing resources such as memory, network bandwidth and CPU cycles.

The other options are incorrect:

***"Data Center operations"* is incorrect.** Data Center operations are an AWS responsibility.

***"VPC Management" and "IAM Management"* are incorrect.** VPC and IAM management are customer responsibilities.

Question 43: **Correct**

Which of the below options are related to the reliability of AWS?
(Choose two)

Providing compensation to customers if issues occur.

Applying the principle of least privilege to all of its resources.

Ability to recover quickly from failures. **(Correct)**

All AWS services are considered Global Services, and this design helps customers serve their international users.



Automatically provisioning new resources to meet demand.

(Correct)

Explanation

The reliability term encompasses the ability of a system to recover from infrastructure or service disruptions, dynamically acquire computing resources to meet demand, and mitigate disruptions such as misconfigurations or transient network issues. The automatic provisioning of resources and the ability to recover from failures meet these criteria.

The other options are incorrect:

"Applying the principle of least privilege to all of its resources" is incorrect. Principle of least privilege is a security concept related to access management.

"Providing compensation to customers if issues occur" is incorrect. AWS generally does not provide compensation to customers if issues occur and doing so has nothing to do with reliability.

"All AWS services are considered Global Services, and this design helps customers serve their international users" is incorrect. AWS services are either Global, Regional or specific to an Availability Zone. Among all the services that AWS offers, only a few of them are considered global services. Examples of AWS global services include: Amazon CloudFront, AWS Identity and Access Management and Amazon Route 53. This answer is incorrect because NOT ALL AWS Services are Global.

Question 44: **Correct**

A company has an Enterprise Support subscription. They want quick and efficient guidance with their billing and account inquiries. Which of the following should the company use?

AWS Personal Health Dashboard

AWS Support Concierge **(Correct)**

AWS Support API

AWS Operations Support

Explanation

Included as part of the Enterprise Support plan, the Support Concierge Team are AWS billing and account experts that specialize in working with enterprise accounts. The Concierge team will quickly and efficiently assist you with your billing and account inquiries, and work with you to help implement billing and account best practices so that you can focus on running your business.

Support Concierge service includes:

** 24 x7 access to AWS billing and account inquiries.

** Guidance and best practices for billing allocation, reporting, consolidation of accounts, and root-level account security.

** Access to Enterprise account specialists for payment inquiries, training on specific cost reporting, assistance with service limits, and facilitating bulk purchases.

The other options are incorrect:

"AWS Support API" is incorrect. The AWS Support API provides programmatic access to AWS Support Center features to create, manage, and close your support cases, and operationally manage your Trusted Advisor check requests and status.

"AWS Operations Support" is incorrect. AWS Operations Support is an Enterprise support program that provides operations assessments and analysis to identify gaps across the operations lifecycle, as well as recommendations based on best practices.

"AWS Personal Health Dashboard" is incorrect. AWS Personal Health Dashboard provides a personalized view of the health of AWS services, and alerts when your resources are impacted. Also includes the Health API for integration with your existing management systems.

Question 45: **Correct**

Adjusting compute capacity dynamically to reduce cost is an implementation of which AWS cloud best practice?

Parallelize tasks

Build security in every layer

Implement elasticity **(Correct)**

Adopt monolithic architecture

Explanation

In the traditional data center-based model of IT, once infrastructure is deployed, it typically runs whether it is needed or not, and all the capacity is paid for, regardless of how much it gets used. In the cloud, resources are elastic, meaning they can instantly grow (to maintain performance) or shrink (to reduce costs).

The other options are incorrect.

"Adopt monolithic architecture" is incorrect. AWS recommends adopting microservices architecture, not monolithic architecture. With monolithic architectures, application components are **tightly coupled** and run as a single service. With a microservices architecture, an

application is built as **loosely coupled** components.

Benefits of microservices architecture include:

1- Microservices allow each service to be independently scaled to meet demand for the application feature it supports.

2- Teams are empowered to work more independently and more quickly.

3- Microservices enable continuous integration and continuous delivery, making it easy to try out new ideas and to roll back if something doesn't work.

4- Service independence increases an application's resistance to failure. In a monolithic architecture, if a single component fails, it can cause the entire application to fail. With microservices, applications handle total service failure by degrading functionality and not crashing the entire application.

"Parallelize tasks" is incorrect. An example of parallelization is when you use a load balancer to distribute the incoming requests across multiple asynchronous instances or when you use the AWS multipart upload to upload large objects in parts. Adjusting capacity up or down based on demand defines the AWS Cloud elasticity not the parallelization.

"Build Security in every layer" is incorrect. This option is related to security.

Question 46: **Correct**

What does AWS provide to deploy popular technologies - such as IBM MQ - on AWS with the least amount of effort and time?

AWS Quick Start reference deployments **(Correct)**

Amazon CloudWatch

Amazon Aurora

AWS OpsWorks

Explanation

AWS Quick Start Reference Deployments outline the architectures for popular enterprise solutions on AWS and provide AWS CloudFormation templates to automate their deployment. Each Quick Start launches, configures, and runs the AWS compute, network, storage, and other services required to deploy a specific workload on AWS, using AWS best practices for security and availability.

Quick Starts are built by AWS solutions architects and partners to help you deploy popular technologies on AWS, based on AWS best practices. These accelerators reduce hundreds of manual installation and configuration procedures into just a few steps, so you can build your production environment quickly and start using it immediately.

The other options are incorrect:

"AWS OpsWorks" is incorrect. AWS OpsWorks is a configuration management service that provides managed instances of Chef and Puppet. Chef and Puppet are automation platforms that allow you to use code to automate the configurations of your servers.

"Amazon CloudWatch" is incorrect. Amazon CloudWatch is mainly used to monitor the utilization of your AWS resources.

"Amazon Aurora" is incorrect. Amazon Aurora is a database service.

Question 47: **Incorrect**

Which statement is true regarding the AWS shared responsibility model?

Security of the managed services is the responsibility of the



Ensuring security through patching and monitoring of the customer.



Patching the guest OS is the responsibility of AWS for all services.



Responsibilities vary depending on the services used.

(Correct)



Security of the IaaS services is the responsibility of AWS.

(Incorrect)

Explanation

Customers should be aware that their responsibilities may vary depending on the AWS services chosen. For example, when using Amazon EC2, you are responsible for applying operating system and application security patches regularly. However, such patches are applied automatically when using Amazon RDS.

The other options are incorrect:

"Security of the IaaS services is the responsibility of AWS" is incorrect. AWS products that fall into the well-understood category of Infrastructure as a Service (IaaS)—such as Amazon EC2, Amazon VPC, and Amazon S3—are completely under your control and require you to perform all of the necessary security configuration and management tasks. For example, for EC2 instances, you're responsible for management of the guest OS (including updates and security patches), any application software or utilities you install on the instances, and the configuration of the AWS-provided firewall (called a security group) on each instance. These are basically the same security tasks that you're used to performing no matter where your servers are located.

"Security of the managed services is the responsibility of the customer" is incorrect. AWS is responsible for the security configuration of its managed services. Examples of these types of services include Amazon DynamoDB, Amazon RDS, Amazon Redshift, Amazon Elastic MapReduce, and Amazon WorkSpaces. For most of these services, all you have to do is to configure logical access controls on the resources and protect your account credentials, but overall, the security configuration work is performed by the service.

"Patching the guest OS is the responsibility of AWS for all services" is incorrect.

A computer on which AWS runs one or more virtual machines is called a **host** machine, and each virtual machine is called a **guest** machine. AWS drives the concept of virtualization by allowing the physical host machine to operate multiple virtual machines as guests (for multiple customers) to help maximize the effective use of computing resources such as memory, network bandwidth and CPU cycles.

Patching the **guest** operating system is the responsibility of AWS for the managed services only (such as Amazon RDS). The customer is responsible for patching the guest OS for other services (such as Amazon EC2).

AWS is responsible for patching the underlying **hosts**, upgrading the firmware, and fixing flaws within the infrastructure for all services, including Amazon EC2.

Question 48: **Incorrect**

Which of the following are examples of AWS-Managed Services, where AWS is responsible for the operational and maintenance burdens of running the service? (Choose TWO)

Amazon Elastic Compute Cloud **(Incorrect)**

Amazon DynamoDB **(Correct)**

Amazon VPC **(Incorrect)**

AWS IAM

Amazon Elastic MapReduce **(Correct)**

Explanation

For managed services such as Amazon Elastic MapReduce (Amazon EMR) and DynamoDB, AWS is responsible for performing all the operations needed to keep the service running.

Amazon EMR launches clusters in minutes. You don't need to worry about node provisioning, infrastructure setup, Hadoop configuration, or cluster tuning. Amazon EMR takes care of these tasks so you can focus on analysis.

DynamoDB is serverless with no servers to provision, patch, or manage and no software to install, maintain, or operate. DynamoDB automatically scales tables up and down to adjust for capacity and maintain performance. Availability and fault tolerance are built in, eliminating the need to architect your applications for these capabilities.

Other managed services include: Amazon RDS, Amazon Redshift, Amazon WorkSpaces, Amazon CloudFront, Amazon CloudSearch and several other services.

For these managed services, AWS is responsible for most of the configuration and management tasks, but customers are still responsible for managing their data (including encryption options), classifying their assets, and using IAM tools to apply the appropriate permissions.

NOTE:

The AWS managed services we mentioned above are different than the AWS Managed Services (AMS) service. AMS is an AWS service that operates AWS on behalf of enterprise customers and partners. Enterprises want to adopt AWS at scale but often the skills that have served them well in traditional IT do not always translate to success in the cloud. AWS Managed Services (AMS) enables them to migrate to AWS at scale more quickly, reduce their operating costs, improve security and compliance and focus on their differentiating business priorities.

The other options are incorrect:

"Amazon VPC" is incorrect. Amazon Virtual Private Cloud (Amazon VPC) lets you provision a logically isolated section of the AWS Cloud where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment. Amazon VPC is not a managed service, you are

responsible for managing almost everything when using the Amazon VPC service.

"Amazon Elastic Compute Cloud" is incorrect. Amazon Elastic Compute Cloud (Amazon EC2) is a service that gives you complete control over your compute resources. Apart from patching the underlying host - which is the responsibility of AWS - you are responsible for managing almost everything in your server instances when using Amazon EC2.

"AWS IAM" is incorrect. AWS Identity and Access Management (IAM) enables you to manage access to AWS services and resources securely. Using IAM, you can create and manage AWS users and groups, and use permissions to allow and deny their access to AWS resources.

Question 49: **Incorrect**

A company is planning to host an educational website on AWS. Their video courses will be streamed all around the world. Which of the following AWS services will help achieve high transfer speeds?

Amazon Kinesis Video Streams **(Incorrect)**

Amazon CloudFront **(Correct)**

Amazon SNS

AWS CloudFormation

Explanation

Amazon CloudFront is a fast content delivery network (CDN) service that securely delivers data, videos, applications, and APIs to customers globally with low latency, high transfer speeds, all within a developer-friendly environment.

a developer-friendly environment.

The use cases of Amazon CloudFront include:

1- Accelerate static website content delivery.

CloudFront can speed up the delivery of your static content (for example, images, style sheets, JavaScript, and so on) to viewers across the globe. By using CloudFront, you can take advantage of the AWS backbone network and CloudFront edge servers to give your viewers a fast, safe, and reliable experience when they visit your website.

2- Live & on-demand video streaming.

The Amazon CloudFront CDN offers multiple options for streaming your media – both pre-recorded files and live events – at sustained, high throughput required for 4K delivery to global viewers.

3- Security.

CloudFront integrates seamlessly with AWS Shield for Layer 3/4 DDoS mitigation and AWS WAF for Layer 7 protection.

4- Customizable content delivery with Lambda@Edge.

Lambda@Edge is a feature of Amazon CloudFront that lets you run code closer to users of your application, which improves performance and reduces latency.

The other options are incorrect:

"AWS CloudFormation" is incorrect. AWS CloudFormation allows you to use programming languages or a simple text file to model and provision, in an automated and secure manner, all the resources needed for your applications across all regions and accounts.

"Amazon Kinesis Video Streams" is incorrect. Amazon Kinesis Video Streams enables you to securely stream video from connected devices (IoT devices) to AWS for analytics, machine learning (ML), playback, and other processing. Kinesis Video Streams automatically provisions and elastically scales all the infrastructure needed to ingest streaming video data from millions of devices. It durably stores, encrypts, and indexes video data in your streams, and allows you to access your data through easy-to-use APIs.

"Amazon SNS" is incorrect. Amazon Simple Notification Service (SNS) is a fully managed pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications. Using Amazon SNS topics, your publisher systems can fan out messages to a large number of subscriber endpoints for parallel processing, including AWS Lambda functions, and HTTP/S webhooks. Additionally, SNS can be used to fan out notifications to end users using mobile push, SMS, and email.

Question 50: **Incorrect**

Which of the following services allows customers to manage their agreements with AWS?

AWS Organizations

AWS Systems Manager

AWS Artifact **(Correct)**

AWS Certificate Manager **(Incorrect)**

Explanation

AWS Artifact is a self-service audit artifact retrieval portal that provides customers with on-demand access to AWS' compliance documentation and AWS agreements. You can use AWS Artifact Agreements to review, accept, and track the status of AWS agreements such as the Business Associate Addendum (BAA).

Additional information:

You can also use AWS Artifact Reports to download AWS security and compliance documents, such as AWS ISO certifications, Payment Card Industry (PCI), and System and Organization Control (SOC) reports.

The other options are incorrect:

"AWS Organizations" is incorrect. AWS Organizations provides central governance and management across multiple AWS accounts.

"AWS Systems Manager" is incorrect. AWS Systems Manager gives you visibility and control of your infrastructure on AWS. Systems Manager provides a unified user interface so you can view operational

data from multiple AWS services and allows you to automate operational tasks across your AWS resources.

"AWS Certificate Manager" is incorrect. AWS Certificate Manager is a service that lets you easily provision, manage, and deploy public and private Secure Sockets Layer/Transport Layer Security (SSL/TLS) certificates for use with AWS services and your internal connected resources

Question 51: **Correct**

What does the "Principle of Least Privilege" refer to?

All trusted IAM users should have access to any AWS service in the respective AWS account.

You should grant your users only the permissions they need when they need them and nothing more. **(Correct)**

IAM users should not be granted any permissions; to keep your account safe.

All IAM users should have at least the necessary permissions to access the core AWS services.

Explanation

The principle of least privilege is one of the most important security practices and it means granting users the required permissions to perform the tasks entrusted to them and nothing more. The security administrator determines what tasks users need to perform and then attaches the policies that allow them to perform only those tasks. You should start with a minimum set of permissions and grant additional permissions when necessary. Doing so is more secure than starting with permissions that are too lenient and then trying to tighten them down.

Question 52: **Correct**

The principle "design for failure and nothing will fail" is very important when designing your AWS Cloud architecture. Which of the following would help adhere to this principle? (Choose two)

AWS KMS

Amazon Elastic File System

AWS Elastic Load Balancer **(Correct)**

Amazon Elastic MapReduce

Availability Zones **(Correct)**

Explanation

Each AWS Region is a separate geographic area. Each AWS Region has multiple, isolated locations known as Availability Zones. When designing your AWS Cloud architecture, you should make sure that your system will continue to run even if failures happen. You can achieve this by deploying your AWS resources in multiple Availability zones. Availability zones are isolated from each other, therefore if one availability zone goes down, the other AZ's will still be up and running and hence your application will be more fault tolerant. In addition to availability zones you can build a disaster recovery solution by deploying your AWS resources in other regions. If an entire region goes down you will still have resources in another region able to continue to provide a solution. Finally, you can use the Elastic Load Balancer to regularly perform health checks and distribute traffic only to the

healthy instances.

The other options are incorrect:

AWS KMS is incorrect. AWS Key Management Service (AWS KMS) provides a highly available key storage, management, and auditing solution for you to encrypt data within your applications and control the encryption of stored data across AWS services.

Amazon Elastic File System is incorrect. Amazon Elastic File System (Amazon EFS) is a storage service that provides a scalable, elastic, shared file system for use with AWS Cloud services and on-premises resources.

Amazon Elastic MapReduce is incorrect. Amazon Elastic MapReduce (EMR) provides a managed Hadoop framework that makes it easy, fast, and cost-effective to process vast amounts of data across dynamically scalable Amazon EC2 instances.

Question 53: **Correct**

You are working on a project that involves creating thumbnails of millions of images; however, consistent uptime is not really an issue, and continuous processing is not required. Which type of EC2 buying option would be the most cost-effective?

Dedicated Instances

Reserved Instances

On-demand Instances

Spot Instances **(Correct)**

Explanation

Spot instances provide a discount (up to 90%) off the On-Demand price. The Spot price is determined by long-term trends in supply and demand for EC2 spare capacity. If the Spot price exceeds the maximum price you specify for a given instance or if capacity is no longer available, your instance will automatically be interrupted.

Spot Instances are a cost-effective choice if you can be flexible about when your applications run and if you don't mind if your applications get interrupted. For example, Spot Instances are well-suited for data analysis, batch jobs, background processing, and optional tasks.

The other options are incorrect:

"Reserved instances" is incorrect. Reserved instances are 3-year term to reduce their total computing costs. Even if the project will last for more than a year, the cost-benefit for acquiring Reserved Instances is not as great as the cost-benefit from using Spot Instances. The Spot option provides the largest discount (up to 90%).

"On-demand instances" is incorrect. On-demand instances are significantly less cost-effective than spot instances.

"Dedicated instances" is incorrect. Dedicated instances are used when you need your instances to be physically isolated at the host hardware level from instances that belong to other AWS accounts. Dedicated Instances are significantly more expensive than Spot Instances

Question 54: **Incorrect**

What is the AWS database service that allows you to upload data structured in key-value format?

Amazon DynamoDB **(Correct)**

Amazon Redshift **(Incorrect)**

Amazon Aurora

Amazon RDS

Explanation

Amazon DynamoDB is a NoSQL database service. NoSQL databases are used for non-structured data that are typically stored in JSON-like, key-value documents.

The other options are incorrect:

Amazon Redshift is incorrect. Amazon Redshift is a data warehouse service that only supports relational data. It is NOT a key-value database.

Additional information:

Amazon Redshift is a fast, fully managed data warehouse service that is specifically designed for online analytic processing (OLAP) and business intelligence (BI) applications, which require complex queries against large datasets.

Amazon Aurora is incorrect. Amazon Aurora is a MySQL and PostgreSQL-compatible relational database NOT a key-value database.

Amazon RDS is incorrect. Amazon RDS is a relational database NOT a key-value database.

Question 55: **Incorrect**

Which of the following does NOT belong to the AWS Cloud Computing models?

Software as a Service (SaaS) **(Incorrect)**

Networking as a Service (NaaS)

(Correct)

Platform as a Service (PaaS)

Infrastructure as a Service (IaaS)

Explanation

There are three Cloud Computing Models:

- 1) Infrastructure as a Service (IaaS) - Infrastructure as a Service (IaaS) contains the basic building blocks for cloud IT and typically provide access to networking features, computers (virtual or on dedicated hardware), and data storage space. IaaS provides you with the highest level of flexibility and management control over your IT resources and is most similar to existing IT resources that many IT departments and developers are familiar with today.
- 2) Platform as a Service (PaaS) - Platform as a Service (PaaS) removes the need for your organization to manage the underlying infrastructure (usually hardware and operating systems) and allows you to focus on the deployment and management of your applications. This helps you be more efficient as you don't need to worry about resource procurement, capacity planning, software maintenance, patching, or any of the other undifferentiated heavy lifting involved in running your application.
- 3) Software as a Service (SaaS) - Software as a Service (SaaS) provides you with a completed product that is run and managed by the service provider. In most cases, people referring to Software as a Service are referring to end-user applications. With a SaaS offering you do not have to think about how the service is maintained or how the underlying infrastructure is managed; you only need to think about how you will use that particular piece of software. A common example of a SaaS application is web-based email which you can use to send and receive email without having to manage feature additions to the email product or maintain the servers and operating systems that the email program is running on.

Networking services are provided as part of the IaaS model.

Question 56: **Correct**

A company has developed an eCommerce web application in AWS. What should they do to ensure that the application has the highest level of availability?

Deploy the application across multiple Regions and Availability Zones **(Correct)**

Deploy the application across multiple Availability Zones and Edge locations

Deploy the application across multiple VPC's and subnets

Deploy the application across multiple Availability Zones and subnets

Explanation

The AWS Global infrastructure is built around Regions and Availability Zones (AZs). Each AWS Region is a separate geographic area. Each AWS Region has multiple, isolated locations known as Availability Zones. Availability Zones in a region are connected with low latency, high throughput, and highly redundant networking. These Availability Zones offer AWS customers an easier and more effective way to design and operate applications and databases, making them more highly available, fault tolerant, and scalable than traditional single datacenter infrastructures or multi-datacenter infrastructures.

In addition to replicating applications and data across multiple data centers in the same Region using Availability Zones, you can also choose to increase redundancy and fault tolerance further by replicating data between geographic Regions (especially if you are serving customers from all over the world). You can do so using both private, high speed networking and public internet connections to provide an additional layer of business continuity, or to provide low latency access across the globe.

The other options are incorrect:

"Deploy the application across multiple Availability Zones and subnets" is incorrect. A subnet is a range of IP addresses in your VPC.

"Deploy the application across multiple Availability Zones and Edge locations" is incorrect. Edge locations are not used to host applications. Edge locations are used by CloudFront to cache and distribute content to your global customers with low latency.

"Deploy the application across multiple VPC's and subnets" is incorrect. VPC refers to the virtual private cloud which is a virtual network that you define. Deploying the application across multiple VPC's within the same region will not help your global customers.

Question 57: **Correct**

What is the advantage of the AWS-recommended practice of decoupling applications?

Allows tracking of any API call made to any AWS service.

Allows updates of any monolithic application quickly and easily.

Allows treating an application as a single, cohesive unit.

Reduces inter-dependencies so that failures do not impact other components of the application. **(Correct)**

Explanation

As application complexity increases, a desirable attribute of an IT system is that it can be broken into smaller, loosely coupled

System is that it can be broken into smaller, loosely coupled components. This means that IT systems should be designed in a way that reduces interdependencies—a change or a failure in one component should not cascade to other components. On the other hand if the components of an application are tightly coupled and one component fails, the entire application will also fail. Therefore when designing your application, you should always decouple its components.

The other options are incorrect:

"Allows treating an application as a single, cohesive unit" is incorrect. Decoupling allows you to deal with your application as multiple independent components (microservices) not as a single, cohesive unit.

"Allows tracking of any API call made to any AWS service" is incorrect. There is no relation between decoupling an application and tracking API calls. API calls are tracked by AWS CloudTrail.

"Allows updates of any monolithic application quickly and easily" is incorrect. Decoupling is the exact opposite of having a monolithic application. A monolithic application is designed to be self-contained; components of the program are interconnected and interdependent rather than loosely coupled as is the case with Microservices applications (or loosely-coupled applications). Decoupling allows the update of any microservices application component to occur quickly and independently of the remainder of the application. This allows developers to work independently to update multiple components at the same time. On the other hand, a monolithic application is a single unit and takes more time and effort to be updated.

Question 58: **Incorrect**

One of the most important AWS best-practices to follow is the cloud architecture principle of elasticity. How does following this principle improve your architecture's design?



By automatically scaling your on-premises resources based on changes in demand



By automatically provisioning the required AWS resources based on changes in demand

(Correct)

- By automatically scaling your AWS resources using the Elastic Load Balancer (Incorrect)

- By reducing interdependencies between application components wherever possible

Explanation

Before cloud computing, you had to overprovision infrastructure to ensure you had enough capacity to handle your business operations at the peak level of activity. Now, you can provision the amount of resources that you actually need, knowing you can instantly scale up or down with the needs of your business. This reduces costs and improves your ability to meet your users' demands.

The concept of Elasticity involves the ability of a service to automatically scale its resources up or down based on changes in demand. For example, Amazon EC2 Autoscaling can help automate the process of adding or removing Amazon EC2 instances as demand increases or decreases.

The other options are incorrect:

"By reducing interdependencies between application components wherever possible" is incorrect. Reducing interdependencies between application components is much more related to the concept of "Loose Coupling". Loose coupling is an approach that involves interconnecting the components in a system or network so that those components depend on each other to the least extent practical. Engineers should architect their system or application such that failure in one component does not negatively affect other components. Loosely coupled components make the system resilient and allow it to recover gracefully from failure.

"By automatically scaling your on-premises resources based on changes in demand" is incorrect. It is not possible to scale on-premises resources automatically. When deploying on-premises, you have to guess on your infrastructure capacity needs.

"By automatically scaling your AWS resources using the Elastic Load Balancer" is incorrect. Elastic Load Balancers do not scale resources. Elastic Load Balancers distributes incoming application traffic across multiple targets, such as Amazon EC2 instances,

containers, IP addresses, and Lambda functions.

Question 59: **Correct**

In order to implement best practices when dealing with a "Single Point of Failure," you should aim to build as much automation as possible in both detecting and reacting to failure. Which of the following AWS services would help? (Choose two)

ELB **(Correct)**

Amazon Athena

Auto Scaling **(Correct)**

ECR

Amazon EC2

Explanation

You should aim to build as much automation as possible in both detecting and reacting to failure. You can use services like ELB and Amazon Route53 to configure health checks and mask failure by only routing traffic to healthy endpoints. In addition, Auto Scaling can be configured to automatically replace unhealthy nodes. You can also replace unhealthy nodes using the Amazon EC2 auto-recovery feature or services such as AWS OpsWorks and AWS Elastic Beanstalk. It won't be possible to predict every possible failure scenario on day one. Make sure you collect enough logs and metrics to understand normal system behavior. After you understand that, you will be able to set up alarms that trigger automated response or manual intervention.

The other options are incorrect.

ECR is incorrect. Amazon Elastic Container Registry (ECR) is a Docker container registry that allows developers to store, manage, and deploy Docker container images.

Amazon Athena is incorrect. Amazon Athena is an interactive query service that is mainly used to analyze data in Amazon S3 using standard SQL.

Amazon EC2 is incorrect. Amazon EC2 is a server-based compute service. Fault tolerance is not built-in, you have to architect for fault tolerance using the services we mentioned above.

Additional information:

Lambda is a serverless compute service. Serverless computing provides built-in fault tolerance. You don't need to architect for this capability since the services running the application provide it by default.

Question 60: **Correct**

Which of the following can be described as a global content delivery network (CDN) service?

AWS Regions

Amazon CloudFront **(Correct)**

AWS VPN

AWS Direct Connect

Explanation

Amazon CloudFront is a global content delivery network (CDN) service that gives businesses and web application developers an easy and cost effective way to distribute content (such as videos, data, applications, and APIs) with low latency and high data transfer speeds. Like other AWS services, Amazon CloudFront is a self-service, pay-per-use offering, requiring no long term commitments or minimum fees. With CloudFront, your files are delivered to end-users using a global network of edge locations. CloudFront is integrated with other AWS services such as AWS Shield for DDoS mitigation, Amazon S3, Elastic Load Balancing or Amazon EC2 as origins for your applications, and Lambda@Edge to run custom code close to your viewers.

The other options are incorrect:

"AWS Direct Connect" is incorrect. AWS Direct Connect allows you to establish a dedicated network connection from your premises to AWS.

"AWS Regions" is incorrect. An AWS Region is a physical location in the world where AWS have multiple Availability Zones. Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity, housed in separate facilities.

"AWS VPN" is incorrect. AWS Virtual Private Network (AWS VPN) allows you to establish a secure and private tunnel from your network or device to the AWS global network.

Question 61: **Incorrect**

What is the AWS service that enables AWS architects to manage infrastructure as code?

AWS CloudFormation **(Correct)**

Amazon EMR

Amazon SES

AWS Config **(Incorrect)**

Explanation

AWS CloudFormation allows you to use programming languages or a simple text file to model and provision, in an automated and secure manner, all the resources needed for your applications across all regions and accounts. You create a template that describes all the AWS resources that you want (like Amazon EC2 instances or Amazon RDS DB instances), and AWS CloudFormation takes care of provisioning and configuring those resources for you. You don't need to individually create and configure AWS resources and figure out what's dependent on what; AWS CloudFormation handles all that for you.

The other options are incorrect:

"Amazon SES" is incorrect. Amazon SES refers to the Amazon Simple Email service.

"AWS Config" is incorrect. AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources.

"Amazon EMR" is incorrect. Amazon EMR is used to run and scale Apache Spark, Hadoop, Presto, and other Big Data Frameworks.

Question 62: **Correct**

What does Amazon CloudFront use to distribute content to global users with low latency?

- AWS Data Centers

<input checked="" type="radio"/> AWS Edge Locations (Correct)
<input type="radio"/> AWS Global Accelerator
<input type="radio"/> AWS Regions

Explanation

To deliver content to global end users with lower latency, Amazon CloudFront uses a global network of Edge Locations and Regional Edge Caches in multiple cities around the world. Amazon CloudFront uses this network to cache copies of your content close to your end-users. Amazon CloudFront ensures that end-user requests are served by the closest edge location. As a result, end-user requests travel a short distance, improving performance for your end-users, while reducing the load on the origin servers.

The other options are incorrect:

AWS Global Accelerator is incorrect. AWS Global Accelerator and CloudFront are two separate services that use the AWS global network and its edge locations around the world. CloudFront improves performance for both cacheable (e.g., images and videos) and dynamic content (e.g. dynamic site delivery). Global Accelerator is a good fit for specific use cases, such as gaming, IoT or Voice over IP.

"AWS Data Centers" and "AWS Regions" are incorrect. Amazon CloudFront only uses Edge Locations or Regional Edge Caches.

Question 63: **Correct**

Hundreds of thousands of DDoS attacks are recorded every month

worldwide. What does AWS provide to protect from these attacks?
(Choose two)

AWS WAF **(Correct)**

AWS KMS

AWS Config

AWS Shield **(Correct)**

Amazon Cognito

Explanation

AWS provides flexible infrastructure and services that help customers implement strong DDoS mitigations and create highly available application architectures that follow AWS Best Practices for DDoS Resiliency. These include services such as **Amazon Route 53**, **Amazon CloudFront**, **Elastic Load Balancing**, and **AWS WAF** to control and absorb traffic, and deflect unwanted requests. These services integrate with **AWS Shield**, a managed DDoS protection service that provides always-on detection and automatic inline mitigations to safeguard web applications running on AWS.

The other options are incorrect:

"Amazon Cognito" is incorrect. Amazon Cognito allows you to add user sign-up, sign-in, and access control to your web and mobile apps quickly and easily.

"AWS KMS" is incorrect. AWS KMS provides a highly available key storage, management, and auditing solution for you to encrypt data within your own applications and control the encryption of stored data across AWS services.

"AWS Config" is incorrect. AWS Config is a service that enables you to monitor, assess, and audit all changes made to your AWS resources.

Question 64: **Correct**

AWS allows users to manage their resources using a web based user interface. What is the name of this interface?

AWS CLI

AWS API

AWS SDK

AWS Management Console **(Correct)**

Explanation

The AWS Management Console allows you to access and manage Amazon Web Services through a simple and intuitive web-based user interface. You can also use the AWS Console mobile app to quickly view resources on the go.

The other options are incorrect:

AWS CLI is incorrect. The AWS Command Line Interface (CLI) is a unified tool to manage your AWS services. With just one tool to download and configure, you can control multiple AWS services from the command line and automate them through scripts.

AWS SDK is incorrect. The AWS SDK (Software Development Kit) allows you to interact with AWS services using your preferred programming language.

AWS API is incorrect. AWS API refers to the AWS application programming interface.

Question 65: **Incorrect**

Which of the following is not a benefit of Amazon S3? (Choose TWO)

Amazon S3 can be scaled manually to store and retrieve any amount of data from anywhere. **(Correct)**

Amazon S3 stores any number of objects, but with object size limits.

Amazon S3 can run any type of application or backend system. **(Correct)**

Amazon S3 provides unlimited storage for any type of data. **(Incorrect)**

Amazon S3 provides 99.999999999% (11 9's) of data durability.

Explanation

"Amazon S3 can run any type of application or backend system" is not a benefit of S3 and thus is a correct answer. Amazon S3 is a storage service not a compute service.

"Amazon S3 can be scaled manually to store and retrieve any amount of data from anywhere" is not a benefit of S3 and thus is a correct answer. Amazon S3 scales automatically to store and retrieve any amount of data from anywhere.

Companies today need the ability to simply and securely collect, store, and analyze their data at a massive scale. Amazon S3 is object storage built to store and retrieve any amount of data from anywhere – web sites and mobile apps, corporate applications, and data from IoT

sensors or devices. It's a simple storage service that offers highly available, and infinitely scalable data storage infrastructure at very low costs. It is designed to deliver 99.999999999% durability, and stores data for millions of applications used by market leaders in every industry. S3 provides comprehensive security and compliance capabilities that meet even the most stringent regulatory requirements. It gives customers flexibility in the way they manage data for cost optimization, access control, and compliance. S3 provides query-in-place functionality, allowing you to run powerful analytics directly on your data at rest in S3. And Amazon S3 is the most supported cloud storage service available, with integration from the largest community of third-party solutions, systems integrator partners, and other AWS services.

Amazon S3 stores any number of objects.

Amazon S3 stores any number of objects, but each object does have a size limitation. Individual Amazon S3 objects can range in size from a minimum of 0 bytes to a maximum of 5 terabytes.

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