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Question 1:

**Skipped**

What does AWS Service Catalog provide?

* 

It enables customers to quickly find descriptions and use cases for AWS services

* 

It enables customers to explore the different catalogs of AWS services

* 

It simplifies organizing and governing commonly deployed IT services

**(Correct)**

* 

It allows developers to deploy infrastructure on AWS using familiar programming languages

**Explanation**

       AWS Service Catalog allows organizations to create and manage catalogs of IT services that are approved for use on AWS. These IT services can include everything from virtual machine images, servers, software, and databases to complete multi-tier application architectures. AWS Service Catalog allows you to centrally manage commonly deployed IT services, and helps you achieve consistent governance and meet your compliance requirements, while enabling users to quickly deploy only the approved IT services they need.

***The other options are incorrect:***

***"It enables customers to explore the different catalogs of AWS services" is incorrect.***AWS Service Catalog doesn’t contain catalogs by default. Each customer creates their own service catalog.

***"It enables customers to quickly find descriptions and use cases for AWS services" is incorrect.*** You can find description and use cases for any service by visiting the landing page of the service (or the related documentation).

***"It allows developers to deploy infrastructure on AWS using familiar programming languages" is incorrect.***AWS Cloud Development Kit (AWS CDK) is the service that allows developers to model and deploy infrastructure on AWS using familiar programming languages. The AWS Cloud Development Kit (AWS CDK) is an open-source software development framework for **defining cloud infrastructure as code with modern programming languages and deploying it through AWS CloudFormation**. AW CDK enables you to use your existing programming skills and tools, and apply those to the task of building cloud infrastructure. AWS CDK is generally available in JavaScript, TypeScript, Python, Java, and C#.

Additional Information:

What is the relationship between AWS CDK and AWS CloudFormation?

You can think of the AWS CDK as a developer-centric toolkit that leverages the full power of modern programming languages to define your AWS infrastructure as code. The CDK actually builds on AWS CloudFormation and uses it as the engine for provisioning AWS resources. Rather than using a declarative language like JSON or YAML to define your infrastructure (as is the case with CloudFormation), the CDK lets you do that in your favorite imperative programming language. This includes languages such as JavaScript, TypeScript, Java, C#, and  Python. When AWS CDK applications are run, they compile down to fully formed CloudFormation JSON/YAML templates that are then submitted to the CloudFormation service for provisioning.

**References:**

<https://aws.amazon.com/servicecatalog/>

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Question 2:

**Skipped**

A company is trying to analyze the costs applied to their AWS account recently. Which of the following provides them the most granular data about their AWS costs and usage?

* 

Amazon Machine Image

* 

Amazon CloudWatch

* 

AWS Cost Explorer

* 

AWS Cost & Usage Report

**(Correct)**

**Explanation**

              The AWS Cost & Usage Report contains the most comprehensive set of AWS cost and usage data available, including additional metadata about AWS services, pricing, and reservations (e.g., Amazon EC2 Reserved Instances (RIs)). The AWS Cost and Usage Report tracks your AWS usage and provides information about your use of AWS resources and estimated costs for that usage. You can configure this report to present the data hourly or daily. It is updated at least once a day until it is finalized at the end of the billing period. The AWS Cost and Usage Report gives you the most granular insight possible into your costs and usage, and it is the source of truth for the billing pipeline. It can be used to develop advanced custom metrics using business intelligence, data analytics, and third-party cost optimization tools.

***"Amazon CloudWatch" is incorrect.***Amazon CloudWatch is a monitoring service for 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 Amazon CloudWatch to gain system-wide visibility into resource utilization, application performance, and operational health. You can use these insights to react and keep your application running smoothly.

***"Amazon Machine Image" is incorrect.***AnAmazon Machine Image is used to launch Amazon EC2 instances.

***"AWS Cost Explorer" is incorrect.***AWS Cost Explorer helps you visualize, understand, and manage your AWS costs and usage over time. This is done via an intuitive interface that enables you to quickly create custom reports that include charts and tabular data. You can analyze your cost and usage data in aggregate (such as total costs and usage across all accounts) down to granular details (for example, m2.2xlarge costs within the Dev account tagged “project: Blackthorn”). This option is incorrect because the AWS Cost & Usage Report provides more granular data about your AWS costs and usage than what the AWS Cost Explorer provides. The AWS Cost & Usage Report is your one-stop shop for accessing the most detailed information available about your AWS costs and usage.

**References:**

<https://docs.aws.amazon.com/whitepapers/latest/cost-management/getting-started-with-cost-management.html>

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Question 3:

**Skipped**

Which of the following activities supports the Operational Excellence pillar of the AWS Well-Architected Framework?

* 

Using AWS CloudTrail to record user activities

* 

Using AWS CloudFormation to manage infrastructure as code

**(Correct)**

* 

Deploying an application in multiple Availability Zones

* 

Using AWS Trusted Advisor to find underutilized resources

**Explanation**

      The AWS Well-Architected Framework helps you understand the pros and cons of decisions you make while building systems on AWS. By using the Framework, you will learn architectural best practices for designing and operating reliable, secure, efficient, and cost-effective systems in the cloud. It provides a way for you to consistently measure your architectures against best practices and identify areas for improvement.

**The AWS Well-Architected Framework is based on five pillars:**

**• Operational Excellence**

**• Security**

**• Reliability**

**• Performance Efficiency**

**• Cost Optimization**

     The operational excellence pillar focuses on running and monitoring systems to deliver business value, and continually improving processes and procedures. Key topics include automating changes, responding to events, and defining standards to manage daily operations.

     AWS CloudFormation can help you define your entire workload (applications, infrastructure) as code and update it with code. You can implement your operations procedures as code and automate their execution by triggering them in response to events. This will help you build a more consistent operating model and continually improve over time.

***The other options are incorrect:***

***“Deploying an application in multiple Availability Zones” is incorrect.***This statement is much more related to the **Reliability pillar**. The reliability pillar focuses on ensuring a workload performs its intended function correctly and consistently when it’s expected to. A resilient workload quickly recovers from failures to meet business and customer demand. Deploying the application resources across multiple availability zones will guarantee that even if one availability zone goes down, there will still be other availability zones to run the application efficiently.

***“Using AWS CloudTrail to record user activities” is incorrect.***This statement is much more related to the **Security pillar**. The security pillar focuses on protecting information and systems. Key topics include confidentiality and integrity of data, identifying and managing who can do what with privilege management, protecting systems, and establishing controls to detect security events. AWS CloudTrail provides event history of your AWS account activity, including actions taken through the AWS Management Console, AWS SDKs, command-line tools, and other AWS services. This event history simplifies security analysis, resource change tracking, and troubleshooting.

***“Using AWS Trusted Advisor to find underutilized resources” is incorrect. .***This statement is much more related to the **Cost Optimization pillar**. The cost optimization pillar focuses on avoiding unnecessary costs. Key topics include understanding and controlling where money is being spent, selecting the most appropriate and right number of resource types, analyzing spend over time, and scaling to meet business needs without overspending. AWS Trusted Advisor inspects your AWS environment and makes recommendations that can potentially save you money by highlighting unused resources and opportunities to reduce your bill.

**References:**

[*https://docs.aws.amazon.com/wellarchitected/latest/operational-excellence-pillar/wellarchitected-operational-excellence-pillar.pdf*](https://docs.aws.amazon.com/wellarchitected/latest/operational-excellence-pillar/wellarchitected-operational-excellence-pillar.pdf)

[*https://aws.amazon.com/architecture/well-architected/*](https://aws.amazon.com/architecture/well-architected/)

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Question 4:

**Skipped**

TYMO Cloud Corp is looking forward to migrating their entire on-premises data center to AWS. What tool can they use to build a Business Case for moving to the AWS Cloud?

* 

AWS Snowball Migration Service

* 

AWS Migration Evaluator

**(Correct)**

* 

AWS Migration Hub

* 

AWS DMS

**Explanation**

      A business case is the first step in your migration journey. Creating business cases on your own can be time-consuming and does not always identify the least expensive deployment and purchasing options. AWS Migration Evaluator is a migration assessment service that helps you create a directional business case for AWS cloud planning and migration.

      Migration Evaluator analyzes your on-premises compute footprint, including server configuration, utilization, annual costs to operate, eligibility for bring-your-own-license, and hundreds of other parameters. Following data collection, you will quickly receive an assessment including a projected cost estimate and savings of running your on-premises workloads in the AWS Cloud. After receiving your initial assessment, your organization can work with the Migration Evaluator team to create a directional business case that best fits your organization's requirements.

***The other options are incorrect:***

***"AWS Migration Hub" is incorrect.***AWS Migration Hub provides a single location to track the progress of application migrations across multiple AWS and partner solutions.

***"AWS Snowball Migration Service" is incorrect.*** Snowball is a petabyte-scale data transport solution that uses secure devices to transfer large amounts of data into and out of the AWS Cloud.

***"AWS DMS" is incorrect.***AWS Database Migration Service (AWS DMS) is used to migrate your data to and from most widely used commercial and open-source databases. AWS DMS supports homogeneous migrations such as Oracle to Oracle, as well as heterogeneous migrations between different database platforms, such as Oracle or Microsoft SQL Server to Amazon Aurora.

**References:**

<https://aws.amazon.com/migration-evaluator/>

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Question 5:

**Skipped**

Which of the following AWS services can help you perform security analysis and regulatorycompliance auditing? (Choose TWO)

* 

AWS Virtual Private Gateway

* 

Amazon ECS

* 

AWS Config

**(Correct)**

* 

AWS Batch

* 

Amazon Inspector

**(Correct)**

**Explanation**

             With AWS Config, you can discover existing and deleted AWS resources, determine your overall compliance against rules, and dive into configuration details of a resource at any point in time. These capabilities enable compliance auditing, security analysis, resource change tracking, and troubleshooting.

             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 exposure, vulnerabilities, and deviations from best practices. This allows you to make security testing a more regular occurrence as part of development and IT operations.

Additional information:

One of the most important services that performs security analysis and compliance auditing is AWS CloudTrail. AWS CloudTrail simplifies your compliance audits by automatically recording and storing event logs for actions made within your AWS account. With AWS CloudTrail, you can discover and troubleshoot security and operational issues by capturing a comprehensive history of changes that occurred in your AWS account within a specified period of time.

***The other options are incorrect:***

***"AWS Virtual Private Gateway" is incorrect.***AWS Virtual Private Gateway allows creating hybrid cloud architecture by connecting your data center (or network) to your Amazon virtual private cloud (VPC).

***"Amazon ECS" is incorrect.***Amazon Elastic Container Service (Amazon ECS) is a compute service that allows you to run and scale containerized applications on AWS.

***"AWS Batch" is incorrect.***AWS Batch is a compute service that allows you to run hundreds of thousands of batch computing jobs on AWS. AWS Batch dynamically provisions the optimal quantity and type of compute resources (e.g., CPU or memory optimized instances) based on the volume and specific resource requirements of the batch jobs submitted.

**References:**

<https://d1.awsstatic.com/whitepapers/aws-overview.pdf>

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Question 6:

**Skipped**

What is the connectivity option that uses Internet Protocol Security (IPSec) to establish encrypted connectivity between an on-premises network and the AWS Cloud?

* 

AWS IQ

* 

AWS Site-to-Site VPN

**(Correct)**

* 

Internet Gateway

* 

AWS Direct Connect

**Explanation**

       AWS Virtual Private Network (AWS VPN) is comprised of two services: AWS Site-to-Site VPN and AWS Client VPN. AWS Site-to-Site VPN enables you to securely connect your on-premises network or branch office site to AWS. AWS Client VPN enables you to securely connect users (from any location) to AWS or on-premises networks.

       AWS Site-to-Site VPN utilizes Internet Protocol Security (**IPSec**) to establish encrypted connectivity between your on-premises network and AWS over the Internet. With AWS Client VPN, your users can access AWS or on-premises resources from any location using a secure TLS connection.

**What is IPsec?**

IPsec is a protocol suite for securing Internet Protocol (IP) communications by authenticating and encrypting each IP packet of a data stream.

***The other options are incorrect:***

***“AWS Direct Connect” is incorrect.*** AWS Direct Connect does not involve the Internet; instead, it uses dedicated, private network connections between your on-premises network or branch office site and the AWS Cloud. AWS Direct Connect is a network service that provides an alternative to using the Internet to connect customer's on-premise sites to AWS. Using AWS Direct Connect, data that would have previously been transported over the Internet can now be delivered through a private network connection between AWS and your datacenter or corporate network. Companies of all sizes use AWS Direct Connect to establish private connectivity between AWS and datacenters, offices, or colocation environments.

***"Internet Gateway" is incorrect.*** An internet gateway is a VPC component that allows communication between your VPC and the internet.

***“AWS IQ” is incorrect.*** AWS IQ is a new service that enables customers to quickly find, engage, and pay AWS Certified third-party experts for on-demand project work. To get started, customers simply log into AWS IQ and describe their project needs in a few sentences. They can then chat with experts to clarify details of the project, compare proposals, review expert profiles, and select the expert who best fits their needs. After project work is delivered, the customer will be asked to approve a payment request. Once they approve the payment, the associated charges will appear on their AWS bill.

**References:**

<https://aws.amazon.com/vpn/>

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Question 7:

**Skipped**

Why do many startup companies prefer AWS over traditional on-premises solutions? (Choose TWO)

* 

Using AWS, they can reduce time-to-market by focusing on business activities rather than on building and managing data centers

**(Correct)**

* 

AWS removes the need to invest in operational expenditure

* 

AWS allows them to pay later when their business succeed

* 

Using AWS allows companies to replace large capital expenditure with low variable costs

**(Correct)**

* 

AWS can build complete data centers faster than any other Cloud provider

**Explanation**

         Instead of building and managing data centers, AWS provides startups, enterprises, and government agencies all the services they need to quickly build their business and grow faster. AWS has significantly more services, and more features within those services, than any other cloud provider – from infrastructure technologies like compute, storage, and databases –to emerging technologies, such as machine learning and artificial intelligence, data lakes and analytics, and Internet of Things. This makes it faster, easier, and more cost effective to build nearly anything they can imagine.

        Capital expenditures (CapEx) are a company's major, long-term expenses. Examples of CAPEX include physical assets such as buildings, equipment, and machinery.

         Instead of having to invest heavily in these Capital expenditures (e.g. physical data centers and servers) before it is known they will be used, companies can pay only when consuming AWS resources, and pay only for how much they consume. In brief, AWS replaces their investments in large capital expenditures (CAPEX) with low variable "pay-as-you-go" costs.

***The other options are incorrect:***

***"AWS can build complete data centers faster than any other Cloud provider" is incorrect.*** AWS does not build out physical data centers for customers, only for itself. AWS is a Cloud Computing provider.

***"AWS removes the need to invest in operational expenditure" is incorrect.*** Operating expenses (OpEx) are a company's day-to-day expenses. Examples of OPEX include employee salaries, rent, utilities, and property taxes. With AWS,Startups can reduce (not remove) their day to day operating expense (OpEx) costs.

***"AWS allows them to pay later when their business succeed" is incorrect.***AWS does not offer a "pay later" option for its customers. AWS provides three payment models: "Pay-as-you-go", "Save when you reserve" and "Pay less by using more".

**References:**

<https://aws.amazon.com/what-is-aws/>

<https://docs.aws.amazon.com/whitepapers/latest/aws-overview/six-advantages-of-cloud-computing.html>

<https://aws.amazon.com/pricing/>

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Question 8:

**Skipped**

​ What are AWS shared controls?

* 

Controls that apply to both the infrastructure layer and customer layers

**(Correct)**

* 

Controls that the customer and AWS collaborate together upon to secure the infrastructure

* 

Controls that are solely the responsibility of the customer based on the application they are deploying within AWS services

* 

Controls that a customer inherits from AWS

**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.

***The other options are incorrect:***

***"Controls that are solely the responsibility of the customer based on the application they are deploying within AWS services" is incorrect*** because it refers to “Customer-Specific” controls.

***"Controls that a customer inherits from AWS" is incorrect*** because it refers to “Inherited Controls”.

***"Controls that the customer and AWS collaborate together upon to secure the infrastructure" is incorrect.*** Securing the infrastructure is the responsibility of AWS, not the customer.

**References:**

<https://aws.amazon.com/compliance/shared-responsibility-model/>

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Question 9:

**Skipped**

A company has developed a media transcoding application in AWS. The application is designed to recover quickly from hardware failures. Which one of the following types of instance would be the most cost-effective choice to use?

* 

Spot Instances

**(Correct)**

* 

On-Demand instances

* 

Dedicated instances

* 

Reserved instances

**Explanation**

           The question stated that the application is designed to recover quickly from failures, therefore it can handle any interruption may occur with the instance. Hence, we can use the Spot instances for this application. 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 the most cost-effective choice if you are flexible about when your applications run and if your applications can be interrupted. For example, Spot Instances are well-suited for data analysis, batch jobs, background processing, and optional tasks.

***The other options are incorrect:***

***"On-Demand instances" is incorrect.*** On-demand is not a cost-effective choice.

***"Reserved instances" is incorrect.***Reserved Instances provide a discount (up to 75%) compared to On-Demand instance. Even if the question stated that the company needs the instances for a year, the best answer should still be Spot Instances as they offer a greater overall cost reduction (up to 90 %) than Reserved Instances.

***"Dedicated instances" is incorrect.***Dedicated instances are used when you want your instances to be physically isolated at the host hardware level from instances that belong to other AWS accounts.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-spot-instances.html>

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Question 10:

**Skipped**

Why does every AWS Region contain multiple Availability Zones?

* 

Multiple Availability Zones allows you to build resilient and highly available architectures

**(Correct)**

* 

Multiple Availability Zones within a region increases the storage capacity available in that region

* 

Multiple Availability Zones results in lower total cost compared to deploying in a single Availability Zone

* 

Multiple Availability Zones allows for data replication and global reach

**Explanation**

       Resilience is the ability of an architecture to continue providing the same quality of service even if some of its resources become inaccessible. Deploying your resources across multiple Availability Zones offer you the ability to operate production applications and databases that are more resilient, highly available, and scalable than would be possible from a single data center.

***The other options are incorrect:***

***"Multiple Availability Zones within a region increases the storage capacity available in that region" is incorrect.*** In AWS, you have virtually unlimited storage capacity regardless of Regions or Availability Zones in a region.

***"Multiple Availability Zones results in lower total cost compared to deploying in a single Availability Zone" is incorrect.***Deploying your resources across multiple availability zones has no cost benefits.

***"Multiple Availability Zones allows for data replication and global reach" is incorrect.***Multiple Availability Zones within a region allows for data replication but not global reach.

**References:**

<https://aws.amazon.com/about-aws/global-infrastructure/>

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Question 11:

**Skipped**

What is the AWS service that provides five times the performance of a standard MySQL database?

* 

Amazon Aurora

**(Correct)**

* 

Amazon Neptune

* 

Amazon Redshift

* 

Amazon DynamoDB

**Explanation**

             Amazon Aurora is a fully-managed, MySQL and PostgreSQL-compatible relational database engine. It combines the speed and reliability of high-end commercial databases with the simplicity and cost-effectiveness of open-source databases. It delivers up to five times the throughput of MySQL and up to three times the throughput of PostgreSQL without requiring changes to most of your existing applications.

***The other options are incorrect:***

***Amazon Redshift is incorrect.***Amazon Redshift is a data warehousing service.

***Amazon Neptune is incorrect.***Amazon Neptune is a graph database service.

***Amazon DynamoDB is incorrect.***AmazonDynamoDB is a NoSQL database engine.

**References:**

<https://aws.amazon.com/rds/aurora/>

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Question 12:

**Skipped**

A company needs to migrate their website from on-premises to AWS. Security is a major concern for them, so they need to host their website on hardware that is NOT shared with other AWS customers. Which of the following EC2 instance options meets this requirement?

* 

Spot instances

* 

Dedicated instances

**(Correct)**

* 

On-demand instances

* 

Reserved instances

**Explanation**

               Dedicated Instances are Amazon EC2 instances that run in a virtual private cloud (VPC) on hardware that's dedicated to a single customer. Dedicated Instances that belong to different AWS accounts are physically isolated at the hardware level. In addition, Dedicated Instances that belong to AWS accounts that are linked to a single payer account are also physically isolated at the hardware level. However, Dedicated Instances may share hardware with other instances from the same AWS account that are not Dedicated Instances.

***The other options are incorrect:***

***"Reserved instances" and "Spot instances" and "On-demand instances" are incorrect.***Reserved, Spot and On-demand instances all share hardware with other customers.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/dedicated-instance.html>

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Question 13:

**Skipped**

Which of the following are use cases for Amazon S3? (Choose TWO)

* 

Cost-effective database and log storage

* 

A media store for the CloudFront service

**(Correct)**

* 

Hosting websites that require sustained high CPU utilization

* 

Processing data streams at any scale

* 

Hosting static websites

**(Correct)**

**Explanation**

              You can host a static website on Amazon Simple Storage Service (Amazon S3). On a static website, individual webpages include static content. They might also contain client-side scripts. To host a static website, you configure an Amazon S3 bucket for website hosting, allow public read access, and then upload your website content to the bucket. By contrast, a dynamic website relies on server-side processing, including server-side scripts such as PHP, JSP, or ASP.NET. Amazon S3 does not support server-side scripting. Amazon Web Services (AWS) also has resources for hosting dynamic websites such as Amazon EC2.

             Amazon S3 is an excellent storage facility for your media assets. It is infinitely scalable, has built-in redundancy, and is available to you on a pay-as-you-go basis. For example, if you want to deliver or stream video files to your global users, all you need to do is to put your content in an S3 bucket and create a CloudFront distribution that points to the bucket. Your user’s video player will use CloudFront URLs to request the video file. The request will be directed to the best edge location, based on the user’s location. The Amazon Cloudfront Content Delivery Network (CDN) will serve the video from its cache, fetching it from the S3 bucket if it has not already been cached. The CDN caches content at the edge locations for consistent, low-latency, high-throughput video delivery.

***The other options are incorrect:***

***"Cost-effective database and log storage" is incorrect.***Amazon S3 can be used to store log files, images, videos (or any static content), but not databases. Databases and dynamic websites require block-level storage (such as EBS). S3 is an object-level storage, not Block-level storage. Object-level storage has limited I/O and is therefore ill-suited for use as a database store.

***"Hosting websites that require sustained high CPU utilization" is incorrect.*** S3 can only be used to host static websites.

***"Processing data streams at any scale" is incorrect.***S3 is not a compute service.

**References:**

<https://docs.aws.amazon.com/AmazonS3/latest/dev/WebsiteHosting.html>

<https://aws.amazon.com/cloudfront/streaming/>

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Question 14:

**Skipped**

A company wants to keep a secondary backup copy of its databases to meet regulatory requirements. Compliance policies require that the data be retrievable immediately when requested. What is the most cost-effective storage option that will meet these requirements?

* 

Amazon S3 One Zone-Infrequent Access (S3 One Zone-IA)

**(Correct)**

* 

Amazon S3 Standard-Infrequent Access (S3 Standard-IA)

* 

Amazon S3 Standard (S3 Standard)

* 

AmazonS3 Glacier

**Explanation**

     S3 One Zone-IA is for data that is accessed less frequently, but requires rapid access when needed. Unlike other S3 Storage Classes which store data in a minimum of three Availability Zones (AZs), S3 One Zone-IA stores data in a single AZ and costs 20% less than S3 Standard-IA.

     S3 One Zone-IA is a good choice for storing secondary backup copies of on-premises data or easily re-creatable data. You can also use it as cost-effective storage for data that is replicated from another AWS Region using S3 Cross-Region Replication.

     Although S3 One Zone-IA offers less availability than all other S3 storage classes but that is not an issue for the given scenario since it is just a secondary backup copy. S3 One Zone-IA is ideal for customers who want a lower-cost option for infrequently accessed data but do not require the availability and resilience of S3 Standard or S3 Standard-IA.

***The other options are incorrect:***

***"Amazon S3 Standard (S3 Standard)" is incorrect.***AmazonS3 Standard is not a cost-effective solution for storing backups. Amazon S3 Standard is a general-purpose objectstorage for active and frequently accessed data. S3 Standard use cases include: cloud applications, content distribution, mobile and gaming applications, and big data analytics.

***“Amazon S3 Glacier” is incorrect.***AmazonS3 Glacier is more cost-effective than S3 One Zone-IA, but it does not provide immediate retrieval of data. With S3 Glacier, the minimum retrieval period is 1-5 minutes.

***“*Amazon S3 Standard-Infrequent Access (S3 Standard-IA)*” is incorrect.***Amazon S3 Standard-Infrequent Access (S3 Standard-IA) can be used to store backups, but it costs more than S3 One Zone-IA.

**References:**

<https://aws.amazon.com/s3/storage-classes/>

<https://aws.amazon.com/s3/>

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Question 15:

**Skipped**

A customer is planning to move billions of images and videos to be stored on Amazon S3. The customer has approximately 60 Petabytes of data to move. Which of the following AWS Services is the best choice to transfer the data to AWS?

* 

Snowcone

* 

S3 Transfer Acceleration

* 

Snowmobile

**(Correct)**

* 

Snowball

**Explanation**

         AWS Snowmobile is an Exabyte-scale data transfer service used to move extremely large amounts of data to AWS. You can transfer up to 100 Petabytes (PB) per Snowmobile, a 45-foot long ruggedized shipping container, pulled by a semi-trailer truck. Snowmobile makes it easy to move massive volumes of data to the cloud, including video libraries, image repositories, or even a complete data center migration. At exabyte scale, transferring data with Snowmobile is more secure, fast and cost effective.

***The other options are incorrect:***

***Snowcone is incorrect.*** Snowcone is small, edge compute and data storage product. You can use Snowcone to collect, process, and transfer data to AWS, either offline by shipping the device, or online with AWS DataSync. With 2 vCPUs, 4 GB of memory, and 8 TB of usable storage (14 TB for Snowcone SSD), all Snowcone devices can run edge computing workloads that use Amazon EC2 instances, and store data securely. You can transfer up to 8 TB with a single AWS Snowcone device and can transfer larger data sets with multiple devices, either in parallel, or sequentially. For example, you can transfer 24 TB of data with 3 Snowcone devices. This option is incorrect because Snowcone can only be used to transfer small amounts of data, not Petabytes. Remember: 1 Petabyte = 1000 Terabytes.

***Snowball is incorrect.***AWS Snowball is a data transport solution that accelerates moving terabytes to petabytes of data into and out of AWS using storage devices designed to be secure for physical transport. Customers can transfer up to 80 Terabytes per Snowball. In our case, the customer needs to move 60 Petabytes of data (or 60,000 Terabytes), so it is better to use the AWS Snowmobile service. Generally, to migrate large datasets of 10 Petabytes or more in a single location, you should use Snowmobile. For datasets less than 10 Petabytes or distributed in multiple locations, you should use Snowball.

Note: A single Snowball device can transport up to 80 Terabytes of data. To transfer larger amounts (for example, 3 petabytes of data), you need to use multiple Snowball devices, either in parallel or clustered together.

***S3 Transfer Acceleration is incorrect.***Amazon S3 Transfer Acceleration uses the internet to transfer data into and out of AWS. Even with high-speed internet connections, it can take years to transfer 60 Petabytes of data. The Snowmobile is designed to transfer data at a rate of up to 1 Tb/s, which means you could fill a 100PB Snowmobile in less than 10 days.

What is Amazon S3 Transfer Acceleration?

Amazon S3 Transfer Acceleration enables fast transfers of files over long distances between your client and an S3 bucket. Transfer Acceleration takes advantage of Amazon CloudFront’s globally distributed edge locations. As the data arrives at an edge location, data is routed to Amazon S3 over an optimized network path. If you are uploading to a centralized bucket from geographically dispersed locations, or if you regularly transfer GBs or TBs of data across continents, you may save hours or days of data transfer time with S3 Transfer Acceleration.

**References:**

<https://aws.amazon.com/snowmobile/>

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Question 16:

**Skipped**

A company needs to track resource changes using the API call history. Which AWS service can help the company achieve this goal?

* 

AWS Config

* 

AWS CloudTrail

**(Correct)**

* 

AWS CloudFormation

* 

Amazon CloudWatch

**Explanation**

          AWS CloudTrail is a web service that records AWS API calls for your account and delivers log files to you. The recorded information includes the identity of the API caller, the time of the API call, the source IP address of the API caller, the request parameters, and the response elements returned by the AWS service.  With CloudTrail, you can get a history of AWS API calls for your account, including API calls made using the AWS Management Console, AWS SDKs, command line tools, and higher-level AWS services (such as AWS CloudFormation). The AWS API call history produced by CloudTrail enables security analysis, resource change tracking, and compliance auditing.

***The other options are incorrect:***

***"AWS Config" is incorrect.***

              Both AWS Config and AWS CloudTrail can be used to track resource changes, and it is very important to distinguish between them. AWS Config is used to monitor and audit changes in AWS resources and allow you to automate the evaluation of recorded configurations of a specific resource against desired configurations. AWS CloudTrail records user API activity on your account and allows you to access information about this activity. You get full details about API actions, such as identity of the caller, the time of the API call, the request parameters, and the response elements returned by the AWS service.

             AWS Config records point-in-time configuration details for your AWS resources as Configuration Items (CIs). You can use a CI to answer “What did my AWS resource look like?” at a point in time. You can use AWS CloudTrail to answer “Who made an API call to modify this resource?” For example, you can use the AWS Management Console for AWS Config to detect security group “Production-DB” was incorrectly configured in the past. Using the integrated AWS CloudTrail information, you can pinpoint which user misconfigured “Production-DB” security group. In brief, AWS Config provides information about the changes made to a resource, and AWS CloudTrail provides information about who made those changes.

***"AWS CloudFormation" is incorrect.***AWS CloudFormation is a service that allows you to use 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 CloudWatch" is incorrect.*** Amazon CloudWatch is used to monitor and collect custom and granular metrics about your AWS resources.

**References:**

<https://d1.awsstatic.com/whitepapers/aws-overview.pdf>

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Question 17:

**Skipped**

**Which of the following is NOT a characteristic of Amazon Elastic Compute Cloud (Amazon EC2)?**

* 

Amazon EC2 offers scalable computing

* 

Amazon EC2 eliminates the need to invest in hardware upfront

* 

Amazon EC2 is considered a Serverless Web Service

**(Correct)**

* 

Amazon EC2 can launch as many or as few virtual servers as needed

**Explanation**

***"Amazon EC2 is considered a Serverless Web Service"***  is not a characteristic of Amazon EC2 and thus is the correct choice. Serverless allows customers to shift more operational responsibilities to AWS. Serverless allows customers to build and run applications and services without thinking about servers. Serverless eliminates infrastructure management tasks such as server or cluster provisioning, patching, operating system maintenance, and capacity provisioning.

          Amazon EC2 is not a serverless service. EC2 instances are virtual servers in the cloud. Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud. Using Amazon EC2 eliminates your need to invest in hardware upfront, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

**References:**

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

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Question 18:

**Skipped**

Which of the following allows you to create new RDS instances? (Choose TWO)

* 

AWS CloudFormation

**(Correct)**

* 

AWS Quick Starts

* 

AWS DMS

* 

AWS CodeDeploy

* 

AWS Management Console

**(Correct)**

**Explanation**

The AWS Management Console lets you create new RDS instances through a web-based user interface.

You can also use AWS CloudFormation to create new RDS instances using the CloudFormation template language.

***The other options are incorrect:***

***"AWS DMS" is incorrect.***AWS DMS is used to migrate databases to AWS.

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

***"AWS CodeDeploy" is incorrect.***AWS CodeDeploy is a fully managed deployment service that automates software deployments to a variety of compute services such as Amazon EC2, AWS Fargate, AWS Lambda, and your on-premises servers.

**References:**

<https://docs.aws.amazon.com/awsconsolehelpdocs/index.html>

<https://aws.amazon.com/cloudformation/>

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Question 19:

**Skipped**

How do ELBs improve the reliabilityof your application?

* 

By distributing traffic across multiple S3 buckets

* 

By replicating data to multiple availability zones

* 

By creating databaseRead Replicas

* 

By ensuring that only healthy targets receive traffic

**(Correct)**

**Explanation**

            The reliability term encompasses the ability of a system to recover from infrastructure or service disruptions, and dynamically acquire computing resources to meet demand. ELBs continuously perform health checks on the registered targets (such as Amazon EC2 instances) and only routes traffic to the healthy ones. This increases the fault tolerance of your application and makes it more reliable.

***The other options are incorrect:***

***"By replicating data to multiple availability zones" is incorrect.*** ELBs are not responsible for replicating data.

***"By creating database Read Replicas" is incorrect.*** Read Replicas are special types of database instances that are part of Amazon RDS NOT ELB. The purpose of Read Replicas on Amazon RDS is to enhance database performance and increase database availability.

***"By distributing traffic across multiple S3 buckets" is incorrect.*** There is no need to create multiple S3 buckets and distribute traffic between them; One S3 bucket can handle any amount of traffic without any intervention. Amazon S3 was designed from the ground up to handle traffic for any Internet application. Amazon S3’s massive scale allows to spread load evenly, so that no individual application is affected by traffic spikes.

**References:**

<https://aws.amazon.com/elasticloadbalancing/>

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Question 20:

**Skipped**

​ What is the benefit of using an API to access AWS Services?

* 

It reduces the time needed to provision AWS resources

* 

It allows for programmatic management of AWS resources

**(Correct)**

* 

It improves the performance of AWS resources

* 

​ It reduces the number of developers necessary

**Explanation**

             The AWS Application Programming Interface (API) allows customers to work with various AWS services programmatically.

***The other options are incorrect:***

***"It improves the performance of AWS resources" is incorrect.***There is no difference in performance when you provision resources using the console or using the AWS API. In fact, if you access AWS through the AWS Management Console or through the command line tools, you are actually using tools that make calls to the AWS API.

***"It reduces the time needed to provision AWS resources" is incorrect.***Since AWS Console and AWS CLI both provision resources by making AWS API calls, then there will be no difference in the time needed to provision these resources using either of them.

***"***​***It reduces the number of developers necessary" is incorrect.*** Depending on the use case, using the AWS API may actually require more developers to manage AWS resources programmatically.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/APIReference/making-api-requests.html>

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Question 21:

**Skipped**

Which of the following can be used to protect data at rest on Amazon S3? (Choose TWO)

* 

Deduplication

* 

Versioning

**(Correct)**

* 

Permissions

**(Correct)**

* 

Decryption

* 

Conversion

**Explanation**

           Amazon S3 provides a number of security features for the protection of data at rest, which you can use or not depending on your threat profile:

1- Permissions: Use bucket-level or object-level permissions alongside IAM policies to protect resources from unauthorized access and to prevent information disclosure, data integrity compromise or deletion.

2- Versioning: Amazon S3 supports object versions. Versioning is disabled by default. Enable versioning to store a new version for every modified or deleted object from which you can restore compromised objects if necessary.

3- Replication: Although Amazon S3 stores your data across multiple geographically diverse Availability Zones by default, compliance requirements might dictate that you store data at even greater distances. Cross-region replication (CRR) allows you to replicate data between distant AWS Regions to help satisfy these requirements. CRR enables automatic, asynchronous copying of objects across buckets in different AWS Regions.

4- Encryption – server side: Amazon S3 supports server-side encryption of user data. Server-side encryption is transparent to the end user. AWS generates a unique encryption key for each object, and then encrypts the object using AES-256.

5- Encryption – client side: With client-side encryption you create and manage your own encryption keys. Keys you create are not exported to AWS in clear text. Your applications encrypt data before submitting it to Amazon S3, and decrypt data after receiving it from Amazon S3. Data is stored in an encrypted form, with keys and algorithms only known to you.

**Additional information: (IMPORTANT)**

           AWS also provides a fully managed security service called AWS Macie to help protect your sensitive data in Amazon S3. Amazon Macie uses machine learning to automatically discover, classify, and protect sensitive data in Amazon S3. Amazon Macie recognizes sensitive data such as personally identifiable information (PII) or intellectual property, and provides you with dashboards and alerts that give visibility into how this data is being accessed or moved. The fully managed service continuously monitors data access activity for anomalies, and generates detailed alerts when it detects risk of unauthorized access or inadvertent data leaks. Today, Amazon Macie is available to protect data stored in Amazon S3, with support for additional AWS data stores coming later this year.

***The other options are incorrect:***

***"Deduplication" is incorrect.*** Deduplication is the process of removing duplicate data, and will do nothing to prevent data loss of data at rest.

***"Conversion" is incorrect.*** Conversion is the process of transforming data from one format to another.

***"Decryption" is incorrect.*** Decryption is the process of transforming data that has been rendered unreadable through encryption back to its unencrypted form.

**References:**

<https://docs.aws.amazon.com/AmazonS3/latest/userguide/security-best-practices.html>

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Question 22:

**Skipped**

What is the framework created by AWS Professional Services that helps organizations design a road map to successful cloud adoption?

* 

Amazon EFS

* 

AWS WAF

* 

AWS CAF

**(Correct)**

* 

AWS Secrets Manager

**Explanation**

             AWS Professional Services created the AWS Cloud Adoption Framework (AWS CAF) to help organizations design and travel an accelerated path to successful cloud adoption. The guidance and best practices provided by the framework help you build a comprehensive approach to cloud computing across your organization, and throughout your IT lifecycle. Using the AWS CAF helps you realize measurable business benefits from cloud adoption faster and with less risk.

***The other options are incorrect:***

***"AWS Secrets Manager" is incorrect.***AWS Secrets Manager helps you protect secrets needed to access your applications, services, and IT resources. The service enables you to easily rotate, manage, and retrieve database credentials, API keys, and other secrets throughout their lifecycle.

***"Amaozn EFS" is incorrect.***Amazon Elastic File System (Amazon EFS) Amazon EFS is a fully-managed service that makes it easy to set up, scale, and cost-optimize file storage in the Amazon Cloud. Amazon EFS file systems can automatically scale from gigabytes to petabytes of data without needing to provision storage. Tens, hundreds, or even thousands of Amazon EC2 instances can access an Amazon EFS file system at the same time, and Amazon EFS provides consistent performance to each Amazon EC2 instance.

***"AWS WAF" is incorrect.***AWS WAF is a web application firewall that helps protect web applications from attacks by allowing you to configure rules that allow, block, or monitor (count) web requests based on conditions that you define.

**References:**

<https://aws.amazon.com/professional-services/CAF/>

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Question 23:

**Skipped**

Which statement best describes the concept of an AWS region?

* 

An AWS Region is a geographical location with a collection of Availability Zones

**(Correct)**

* 

An AWS Region represents the country where the AWS infrastructure exist

* 

An AWS Region is a geographical location with a collection of Edge locations

* 

An AWS Region is a virtual network dedicated only to a single AWS customer

**Explanation**

              An AWS Region is a physical location in the world. Each region has multiple, isolated locations known as Availability Zones. Availability Zones consist of one or more discrete data centers, each with redundant power, networking, and connectivity. These Availability Zones offer you the ability to operate production applications and databases that are more highly available, fault tolerant, and scalable than would be possible to operate out of a single data center. Also, each AWS Region is designed to be completely isolated from the other AWS Regions. This achieves the greatest possible fault tolerance and stability.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-regions-availability-zones.html>

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Question 24:

**Skipped**

What is the AWS tool that can help a company visualize their AWS spending in the last few months?

* 

AWS Budgets

* 

AWS Pricing Calculator

* 

AWS Cost Explorer

**(Correct)**

* 

AWS Consolidated Billing

**Explanation**

               The AWS Billing and Cost Management console includes the Cost Explorer tool for viewing AWS cost data as a graph. The user can filter the graphs using the resource tags. If the company is using Consolidated Billing, it generates a report based on the linked accounts which can help to identify areas that require further inquiry. Using the Cost Explorer, the company can view trends and use them to understand their spending and to predict future costs.

***The other options are incorrect:***

***"AWS Pricing Calculator" is incorrect.***The AWS Pricing Calculator helps customers and prospects **estimate** their monthly AWS bill more efficiently.

AWS Pricing Calculator does not provide any information about your actual AWS spend or usage. You can access and use [AWS Pricing Calculator](https://calculator.aws/) even if you do not have an AWS account. AWS Pricing Calculator only provides an estimate of your monthly AWS bill based on your expected usage (e.g., how much storage you expect to use).

***"AWS Consolidated Billing" is incorrect.***Consolidated billing is a feature in AWS Organizations that you can use to consolidate billing and payment for multiple AWS accounts.

***"AWS Budgets" is incorrect.*** AWS Budgets allows you to set custom budgets that alert you when you exceed your budgeted thresholds.

**References:**

<https://aws.amazon.com/aws-cost-management/aws-cost-explorer/>

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Question 25:

**Skipped**

AWS recommends some practices to help organizations avoid unexpected charges on their bill. Which of the following is NOT one of these practices?

* 

Deleting unused Elastic Load Balancers

* 

Deleting unused AutoScaling launch configuration

**(Correct)**

* 

Deleting unused EBS volumes after terminating an EC2 instance

* 

Releasing unused Elastic IPs after terminating an EC2 instance

**Explanation**

           "***Deleting unused AutoScaling launch configuration***" will not help, and thus is the correct choice. The AutoScaling launch configuration does not incur any charges. Thus, it will not make any difference whether it is deleted or not.

           AWS will charge the user once the AWS resource is allocated (even if it is not used). Thus, it is advised that once the user's work is completed they should:

1- Delete all Elastic Load Balancers.

2- Terminate all unused EC2 instances.

3- Delete the attached EBS volumes that they don’t need.

4- Release any unused Elastic IPs.

**Additional information:**

Some services automatically restart resources after terminating them without notifying you, and as a result, you get unexpected charges on your bill.

Examples of these services:

1- Elastic Beanstalk:

Elastic Beanstalk is designed to ensure that all the resources that you need are running, which means that it automatically relaunches any service that you stop. If you need to permanently delete those resources you must terminate your Elastic Beanstalk environment before you terminate resources that Elastic Beanstalk has created.

2- AWS OpsWorks:

If you use the AWS OpsWorks environment to create AWS resources, you must use AWS OpsWorks to terminate those resources or AWS OpsWorks will restart them. For example, if you use AWS OpsWorks to create an Amazon EC2 instance, but then stop it by using the Amazon EC2 console, the AWS OpsWorks auto-healing feature categorizes the instance as failed and restarts it.

**References:**

<https://aws.amazon.com/autoscaling/pricing/>

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Question 26:

**Skipped**

​ Which AWS Service is used to manage user permissions?

* 

Security Groups

* 

AWS IAM

**(Correct)**

* 

AWS Support

* 

Amazon ECS

**Explanation**

        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 or deny their access to AWS resources.

***The other options are incorrect:***

***"Amazon ECS" is incorrect.*** Amazon ECS is used to run containerized applications on AWS.

***"Security Groups" is incorrect.*** Security Groups is not an AWS service. Security Groups is a networking feature that allows customers to control instance traffic.

***"AWS Support" is incorrect.***AWS Support is not an AWS service. The AWS Support team cannot modify user permissions on customer’s behalf. It is the responsibility of the customer to manage all access permissions.

**References:**

<https://aws.amazon.com/iam/>

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Question 27:

**Skipped**

How can AWS customers track and avoid over-spending on underutilized reserved instances?

* 

Customers can use Amazon Neptune to track and analyze their usage patterns, detect underutilized reserved instances, and then sell them on the Amazon EC2 Reserved Instance Marketplace

* 

Customers can use Amazon CloudTrail to automatically check for unused reservations and get recommendations to reduce their bill

* 

Customers can add all AWS accounts to an AWS Organization, enable Consolidated Billing, and turn off Reserved Instance sharing

* 

Customers can use the AWS Budgets service to track the reserved instances usage and set up alert notifications when their utilization drops below the threshold that they define

**(Correct)**

**Explanation**

There are three main types of Budgets that Customers can create using the AWS Budgets service:

1- Cost Budgets:

AWS Cost Budgets gives customers the ability to set custom budgets that alert them when their costs exceed (or are forecasted to exceed) their budgeted amount.

2- Usage Budgets:

AWS Usage Budgets can alert customers when their usage exceeds (or is forecasted to exceed) the thresholds they define.

3- Reservation Budgets:

Customers can use the Reservation Budgets to set reservation utilization or coverage targets and receive alerts when their utilization drops below the threshold they define. This will help AWS customers track the utilization of their reserved instances and avoid over-spending on unused reservations.

***The other options are incorrect:***

***“Customers can use Amazon CloudTrail to automatically check for unused reservations and get recommendations to reduce their bill” is incorrect.***AWS Trusted Advisor is the service that automatically checks for unused reservations and provides recommendations to reduce costs.

AWS CloudTrail provides event history of your AWS account activity, including actions taken through the AWS Management Console, AWS SDKs, command-line tools, and other AWS services.

***“Customers can use Amazon Neptune to track and analyze their usage patterns, detect underutilized reserved instances, and then sell them on the Amazon EC2 Reserved Instance Marketplace” is incorrect.***Amazon Neptune is a graph database service, not a monitoring service. Amazon Neptune can not be used to track or analyze AWS customers’ usage.

You can use Amazon Neptune to build and run applications that work with highly connected datasets, such as social networking, recommendation engines, and knowledge graphs.

***“Customers can add all AWS accounts to an AWS Organization, enable Consolidated Billing, and turn off Reserved Instance sharing” is incorrect.***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. But if you turn off Reserved Instance sharing, none of the accounts will receive the hourly cost benefit of the Reserved Instances.

Additional information:

The management account (payer account) of an organization can turn off Reserved Instance (RI) discount sharing for any accounts in that organization, including the payer account. This means that RIs discounts aren't shared between any accounts that have sharing turned off. To share an RI discount with an account, both accounts must have sharing turned on.

**References:**

<https://aws.amazon.com/aws-cost-management/aws-budgets/>

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Question 28:

**Skipped**

Which AWS service provides cost-optimization recommendations?

* 

AWS Trusted Advisor

**(Correct)**

* 

AWS X-Ray

* 

AWS Pricing Calculator

* 

Amazon QuickSight

**Explanation**

        AWS Trusted Advisor is an application that draws upon best practices learned from AWS’ aggregated operational history of serving hundreds of thousands of AWS customers. Trusted Advisor inspects your AWS environment and makes recommendations that can potentially save you money by highlighting unused resources and opportunities to reduce your bill. AWS Trusted Advisor also provide recommendations to improve system performance, and close security gaps.

***The other options are incorrect:***

***"Amazon QuickSight" is incorrect.***Amazon QuickSight is a serverless, machine learning-powered business intelligence (BI) service built for the cloud. QuickSight lets you easily **create and publish interactive BI dashboards** that include Machine Learning-powered insights. QuickSight dashboards can be accessed from any device, and seamlessly embedded into your applications, portals, and websites.

Unlike traditional BI or data discovery solutions, getting started with Amazon QuickSight is simple and fast. When you log in, Amazon QuickSight seamlessly discovers your data sources in AWS services such as Amazon Redshift, Amazon RDS, Amazon Athena, and Amazon Simple Storage Service (Amazon S3). You can connect to any of the data sources discovered by Amazon QuickSight and get insights from this data in minutes. Amazon QuickSight supports rich data discovery and business analytics capabilities to help customers derive valuable insights from their data without worrying about provisioning or managing infrastructure.

***"AWS X-Ray" is incorrect.*** AWS X-Ray can be used to analyze and debug your production applications and helps you understand how your application and its underlying services are performing to identify and troubleshoot the root cause of performance issues and errors.

***"AWS Pricing Calculator" is incorrect.***The AWS Pricing Calculator does not provide cost-optimization recommendations. It helps you estimate the cost for your AWS monthly bill based on your expected usage.

**References:**

<https://aws.amazon.com/premiumsupport/trustedadvisor/>

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Question 29:

**Skipped**

What is the most cost-effective purchasing option for running a set of EC2 instances that must always be available for a period of two months?

* 

Reserved Instances - No Upfront

* 

On-Demand Instances

**(Correct)**

* 

Spot Instances

* 

Reserved Instances - All Upfront

**Explanation**

The most cost-effective option for this scenario is to use On-Demand Instances.

***The other options are incorrect:***

***"Spot Instances" is incorrect.*** AWS Spot instances can be interrupted at any time by AWS. You should only choose Spot instances if the question clearly stated that the application can handle interruptions or if continuous processing is not required. Usually Spot instances are used for batch processing jobs or for non-production applications, such as development and test servers, where occasional downtime is acceptable.

***"Reserved Instances - All Upfront" and "Reserved Instances - No Upfront"are incorrect.***Since the duration is just for two months, we should use On-demand instances. Reserved instances require a purchase term of at least one year.

**References:**

<https://aws.amazon.com/ec2/pricing/on-demand/>

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Question 30:

**Skipped**

What is the minimum level of AWS support that provides 24x7 access to technical support engineers via phone and chat?

* 

Enterprise Support

* 

Developer Support

* 

Basic Support

* 

Business Support

**(Correct)**

**Explanation**

       Each of the Business and Enterprise support plans provide 24x7 access to technical support engineers via phone, email, and chat. The Business Support Plan is less expensive than the Enterprise Support Plan. Therefore, the correct answer is Business.

***The other options are incorrect:***

***"Basic Support" is incorrect.*** The technical support is not available for the Basic support plan.

***"Developer Support" is incorrect.***Developer support plan provides business hours access to technical support associates via email only.

**References:**

<https://aws.amazon.com/premiumsupport/plans/>

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Question 31:

**Skipped**

A company is planning to migrate an application from Amazon EC2 to AWS Lambda to use a serverless architecture. Which of the following will be the responsibility of AWS after migration? (Choose TWO)

* 

Capacity management

**(Correct)**

* 

Operating system maintenance

**(Correct)**

* 

Access control

* 

Data management

* 

Application management

**Explanation**

      For AWS Lambda, AWS manages the underlying infrastructure and foundation services, the operating system, the runtime environment, and the application platform. AWS Lambda performs all the operational and administrative activities on the customer's behalf, including operating system maintenance, provisioning and scaling compute capacity to maintain consistent performance, monitoring fleet health, applying security patches to the underlying compute resources, encrypting code, deploying code, and running a web service front end.

      AWS Lambda enables customers to run their applications without provisioning or managing servers. AWS customers are only responsible for building and managing their applications, managing their data, and controlling access to the Lambda service and within their Lambda Functions.

***The other options are incorrect:***

***“Data management” is incorrect***. Data management is a customer responsibility.

***“Application management” is incorrect.***Application management is a customer responsibility.

***“Access control” is incorrect.***Access control is a customer responsibility.

**References:**

<https://docs.aws.amazon.com/whitepapers/latest/security-overview-aws-lambda/the-shared-responsibility-model.html>

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Question 32:

**Skipped**

Which of the following are factors in determining the appropriate database technology to use for a specific workload? (Choose TWO)

* 

The nature of the queries

**(Correct)**

* 

The number of reads and writes per second

**(Correct)**

* 

Data sovereignty

* 

Software bugs

* 

Availability Zones

**Explanation**

        The following questions can help you take decisions on which solutions to include in your architecture:

- Is this a read-heavy, write-heavy, or balanced workload? How many reads and writes per second are you going to need? How will those values change if the number of users increases?

- How much data will you need to store and for how long? How quickly do you foresee this will grow? Is there an upper limit in the foreseeable future? What is the size of each object (average, min, max)? How are these objects going to be accessed?

- What are the requirements in terms of durability of data? Is this data store going to be your “source of truth”?

- What are your latency requirements? How many concurrent users do you need to support?

- What is your data model and how are you going to query the data? Are your queries relational in nature (e.g.,JOINs between multiple tables)? Could you denormalize your schema to create flatter data structures that are easier to scale?

- What kind of functionality do you require? Do you need strong integrity controls or are you looking for more flexibility (e.g.,schema-less data stores)? Do you require sophisticated reporting or search capabilities? Are your developers more familiar with relational databases than NoSQL?

***The other options are incorrect:***

***"Data sovereignty" is incorrect.***Data sovereignty is the concept that information which has been converted and stored in binary digital form is subject to the laws of the country in which it is located. Data sovereignty is a factor you should consider when choosing your AWS region NOT the database.

***"Software bugs" is incorrect.*** A software bug is an error, flaw, failure, or fault in a system that causes it to produce an incorrect or unexpected result, or to behave in unintended ways. Most bugs are due to human errors made in source code or software design, so if software has bugs, you have to search for a fix. Database technologies cannot help you with application bugs, as they provide services related only to databases.

***"Availability Zones" is incorrect.***Availability zones in a region are all relatively the same. There is no reason to prefer any Availability Zone in which to run a database.

**References:**

<https://aws.amazon.com/products/databases/>

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Question 33:

**Skipped**

A company has discovered that multiple S3 buckets were deleted, but it is unclear who deleted the buckets. Which of the following can the company use to determine the identity that deleted the buckets?

* 

CloudWatch Logs

* 

CloudTrail logs

**(Correct)**

* 

SQS logs

* 

SNS logs

**Explanation**

        AWS CloudTrail is a web service that records all AWS API calls for your account and delivers log files to you. The recorded information includes the identity of the API caller (who deleted the buckets in our case), the time of the API call, the source IP address of the API caller, the request parameters, and the response elements returned by the AWS service. With CloudTrail, you can get a history of AWS API calls for your account, including API calls made using the AWS Management Console, AWS SDKs, command line tools, and higher-level AWS services (such as AWS CloudFormation). The AWS API call history produced by CloudTrail enables security analysis, resource change tracking, and compliance auditing.

***The other options are incorrect:***

***"SNS logs" is incorrect.*** SNS is not for logging API calls, it is a fully managed pub/sub messaging service that enables you to decouple microservices, distributed systems, and serverless applications.

***"CloudWatch Logs" is incorrect.***Amazon CloudWatch Logs are not used to record user interactions with AWS. You can use Amazon CloudWatch Logs to monitor, store, and access your log files from Amazon Elastic Compute Cloud (Amazon EC2) instances, AWS CloudTrail, Route 53, and other sources.

***"SQS logs" is incorrect.***SQS is not for logging API calls, it is a fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications.

**References:**

<https://docs.aws.amazon.com/awscloudtrail/latest/userguide/cloudtrail-user-guide.html>

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Question 34:

**Skipped**

A developer needs to set up an SSL security certificate for a client's eCommerce website in order to use the HTTPS protocol. Which of the following AWS services can be used to deploy the required SSL server certificates? (Choose TWO)

* 

AWS Identity & Access Management

**(Correct)**

* 

AWS ACM

**(Correct)**

* 

AWS Data Pipeline

* 

Amazon Route 53

* 

AWS Directory Service

**Explanation**

        To enable HTTPS connections to your website or application in AWS, you need an SSL/TLS server certificate. You can use a server certificate provided by AWS Certificate Manager (ACM) or one that you obtained from an external provider. You can use ACM or IAM to store and deploy server certificates. Use IAM as a certificate manager only when you must support HTTPS connections in a region that is not supported by ACM. IAM supports deploying server certificates in all regions, but you must obtain your certificate from an external provider for use with AWS. Amazon Route 53 is used to register domain names or use your own domain name to route your end users to Internet applications. Route 53 is not responsible for creating SSL certifications.

***The other options are incorrect:***

***"AWS Directory Service" is incorrect.***AWS Directory Service is a managed Microsoft Active Directory in the AWS Cloud. Customers can use it to manage users and groups, provide single sign-on (SSO) to applications and services, as well as create and apply group policies.

**Note:**What isSingle sign-on (SSO)? Single sign-on (SSO) enables a company’s employees to sign in to AWS using their existing corporate Microsoft Active Directory credentials.

***"Amazon Route 53" is incorrect.***Amazon Route 53 can be used for registering domain names, routing end users to Internet applications, configuring DNS health checks to route traffic to healthy endpoints, managing traffic globally through a variety of routing types etc.

***"AWS Data Pipeline" is incorrect.*** AWS Data Pipeline is a web service that helps you reliably process and move data between different AWS compute and storage services, as well as on-premises data sources. AWS Data Pipeline integrates with on-premise and cloud-based storage systems to allow developers to use their data when they need it, where they want it, and in the required format.

**References:**

<https://aws.amazon.com/certificate-manager/>

<https://docs.aws.amazon.com/IAM/latest/UserGuide/id_credentials_server-certs.html>

<https://aws.amazon.com/route53/>

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Question 35:

**Skipped**

What is the AWS IAM feature that provides an additional layer of security on top of user-name and password authentication?

* 

MFA

**(Correct)**

* 

SDK

* 

Access Keys

* 

Key Pair

**Explanation**

                AWS Multi-Factor Authentication (MFA) is a simple best practice that adds an extra layer of protection on top of your user name and password. With MFA enabled, when a user signs in to an AWS website, they will be prompted for their user name and password (the first factor—what they know), as well as for an authentication code from their AWS MFA device (the second factor—what they have). Taken together, these multiple factors provide increased security for your AWS account settings and resources.

***The other options are incorrect:***

***"Access Keys" is incorrect.***Access keys are long-term credentials for an IAM user or the AWS account root user. You can use access keys to sign programmatic requests to the AWS CLI or AWS API (directly or using the AWS SDK).

***"Key Pair" is incorrect.***The AWS Key pair cryptography enables you to securely access your Amazon EC2instances using a private key instead of a password.

***"SDK" is incorrect.*** AWS SDKs are used to simplify using AWS services in your applications with an API tailored to your programming language or platform. AWS SDKs in AWS include Java SDK, .NET SDK, Node.js SDK and many others.

**References:**

<https://aws.amazon.com/iam/details/mfa/>

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Question 36:

**Skipped**

What are the benefits of using the Amazon Relational Database Service? (Choose TWO)

* 

Scales automatically to larger or smaller instance types

* 

Complete control over the underlying host

* 

Resizable compute capacity

**(Correct)**

* 

Lower administrative burden

**(Correct)**

* 

Supports the document and key-value data structure

**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 and resizable Compute (and\or Storage) 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:***

***"Complete control over the underlying host" is incorrect.*** The user doesn’t have access to the underlying host. For managed services like this, AWS is responsible for performing all the operations needed to keep the service running.

***"Supports the document and key-value data structure" is incorrect.*** RDS doesn’t support document and key-value data structures. The AWS service that support them is DynamoDB.

***"Scales automatically to larger or smaller instance types" is incorrect.***Amazon RDS provides you with six widely-used database engines to choose from, including **Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle, and Microsoft SQL Server**. The only RDS database that can scale instances automatically is Amazon Aurora.

**Additional information:**

For RDS databases other than Aurora, RDS only supports storage auto-scaling, NOT instance auto-scaling. If you want to scale Amazon RDS instances (other than Aurora), you have two options:

1- Manual horizontal scaling (by adding read replicas)

2- Manual vertical scaling (by upgrading/downgrading an existing instance).

**References:**

<https://aws.amazon.com/nosql/>

<https://aws.amazon.com/rds/>

<https://aws.amazon.com/blogs/database/scaling-your-amazon-rds-instance-vertically-and-horizontally/>

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Question 37:

**Skipped**

Which AWS Service provides the current status of all AWS Services in all AWS Regions?

* 

Amazon CloudWatch

* 

AWS Personal Health Dashboard

* 

AWS Service Health Dashboard

**(Correct)**

* 

AWS Management Console

**Explanation**

        AWS uses the Service Health Dashboard to publish most up-to-the-minute information on AWS service availability. You can get information about the current status and availability of any AWS service any time using the AWS Service Health Dashboard that is available at this link: https://status.aws.amazon.com/

**The other options are incorrect.**

***"AWS Personal Health Dashboard" is incorrect.***While the Service Health Dashboard displays the general status of AWS services, Personal Health Dashboard gives you a personalized view of the status of the AWS services that power your applications (i.e. not all services), 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 the root cause.

***"Amazon CloudWatch" is incorrect.***You can use Amazon CloudWatch to gain system-wide visibility into resource utilization, application performance, and operational health. You can use these insights to react and keep your application running smoothly.

***"AWS Management Console" is incorrect.***AWS Management Console allows you to access and manage Amazon Web Services through a simple and intuitive web-based user interface.

**References:**  
<https://status.aws.amazon.com/>

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Question 38:

**Skipped**

What is the AWS Compute service that executes code only when triggered by events?

* 

AWS Transit Gateway

* 

AWS Lambda

**(Correct)**

* 

Amazon CloudWatch

* 

Amazon EC2

**Explanation**

        AWS Lambda is a serverless compute service that runs code in response to events. For example, you can create a Lambda function that creates thumbnail images when users upload images to Amazon S3. The Lambda event, in this case, will be the user’s uploads. Once a user uploads an image to Amazon S3, AWS Lambda will automatically run the application and creates a thumbnail for that image.

***The other options are incorrect:***

***AWS Transit Gateway is incorrect.*** AWS Transit Gateway is a network transit hub that customers can use to interconnect their virtual private clouds (VPCs) and their on-premises networks. AWS transit gateway simplifies how customers interconnect all of their VPCs, across thousands of AWS accounts and into their on-premises networks.

***"Amazon EC2" is incorrect.***After provisioning an EC2 instance, it continues to run all the time until being stopped or terminated. But with Lambda, the application code will run only when triggered.

***"Amazon CloudWatch" is incorrect.***Amazon CloudWatch is a monitoring service, not a compute service.

**References:**

<https://aws.amazon.com/lambda/>

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Question 39:

**Skipped**

What is the AWS’ recommendation regarding access keys?

* 

Only share them with trusted people

* 

Rotate them regularly

**(Correct)**

* 

Delete all access keys and use passwords instead

* 

Save them within your application code

**Explanation**

         AWS recommends that you change your own passwords and access keys regularly, and make sure that all IAM users in your account do as well. That way, if a password or access key is compromised without your knowledge, you limit how long the credentials can be used to access your resources.

***The other options are incorrect:***

***"Save them within your application code" is incorrect.***It is not secure to save any type of credentials within your application code.

***"Only share them with trusted people" is incorrect.***AWS recommends that you do not ever share your credentials with anyone.

***"Delete all access keys and use passwords instead" is incorrect.*** Usernames and passwords are used to sign in to the AWS management console. They cannot be used to sign programmatic requests to the AWS CLI or AWS API like access keys.

**References:**

<https://docs.aws.amazon.com/IAM/latest/UserGuide/best-practices.html>

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Question 40:

**Skipped**

​ Which AWS Service can be used to register a new domain name?

* 

Amazon Route 53

**(Correct)**

* 

Amazon Personalize

* 

AWS Config

* 

AWS KMS

**Explanation**

Amazon Route 53 can be used for:

**•** Registering domain names

**•** DNS routing

**•** Configuring health checks to route traffic only to healthy endpoints

**•**Managing global application traffic (cross-regions) through a variety of routing types.

          Amazon Route53 allows for registration of new domain names in AWS. Amazon Route 53 is a global service that provides a highly available and scalable Domain Name System (DNS) in the Cloud. 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 www.example.com into the numeric IP addresses like 192.0.2.1 that computers use to connect to each other.

     Amazon Route 53 also offers health checks to monitor the health and performance of your application, as well as your web servers and other resources. Route 53 can be configured to route traffic only to the healthy endpoints to achieve greater levels of fault tolerance in your applications.

     Amazon Route 53 provides many routing types to help AWS Customers improve their application’s performance for a global audience. For example, Amazon Route 53 latency-based policy routes user requests to the closest AWS Region, which reduces latency and improves application performance.

     Amazon 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:***

***"AWS KMS" is incorrect.***AWS KMS is a managed service that enables you to easily encrypt your data. 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.

***"Amazon Personalize" is incorrect.***Amazon Personalize is a fully managed machine learning service that can be used to deliver highly customized recommendations to customers across industries such as retail, media and entertainment. Amazon Personalize enables developers to build applications with the same machine learning (ML) technology used by Amazon.com for real-time personalized recommendations. Amazon Personalize can be used to personalize the end-user experience over any digital channel. Examples include product recommendations for e-commerce, news articles and content recommendation for publishing, media and social networks, hotel recommendations for travel websites, and credit card recommendations for banks.

***"AWS Config" is incorrect.*** AWS Config provides you with an AWS resource inventory, configuration history, and configuration change notifications to enable security and governance.

**References:**

<https://aws.amazon.com/route53/>

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Question 41:

**Skipped**

Why would an organization decide to use AWS over an on-premises data center? (Choose TWO)

* 

Free commercial software licenses

* 

Free technical support

* 

On-site visits for auditing

* 

Elastic resources

**(Correct)**

* 

Cost Savings

**(Correct)**

**Explanation**

       AWS continues to lower the cost of cloud computing for its customers. AWS recently lowered prices again for compute, storage, caching, and database services for all customers, making everything from web apps to big data on AWS even more cost-effective and widening the TCO gap with traditional infrastructure.

       Elasticity is a system’s ability to monitor user demand and automatically increase and decrease deployed resources accordingly. Elasticity is one of the most important advantages of AWS. The purpose of elasticity is to match the resources allocated with actual amount of resources needed at any given point in time. This ensures that you are only paying for the resources you actually need.

***The other options are incorrect:***

***"Free technical support" is incorrect.*** Technical support is not free in AWS. Technical Support requires subscription to an AWS Support Plan.

***"On-site visits for auditing" is incorrect.*** AWS does not allow on-site visits to its datacenters under any circumstances.

***"Free commercial software licenses" is incorrect.*** Neither AWS nor on-premises datacenters provide free commercial software licenses. However, AWS allows you to pay for these licenses as-you-go. For example, using license included windows instances allows you access to fully compliant Microsoft software licenses bundled with Amazon EC2 or Amazon RDS instances and pay for them as you go with no upfront costs or long-term investments.

**References:**

<https://docs.aws.amazon.com/aws-technical-content/latest/aws-overview/six-advantages-of-cloud-computing.html>

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Question 42:

**Skipped**

​ For managed services like Amazon DynamoDB, which of the below is AWS responsible for? (Choose TWO)

* 

Operating system maintenance

**(Correct)**

* 

Protecting credentials

* 

Patching the database software

**(Correct)**

* 

Creating access policies

* 

Logging access activity

**Explanation**

                 AWS has increased responsibilities for its managed services. Examples of managed services include Amazon DynamoDB, Amazon RDS, Amazon Redshift, Amazon Elastic MapReduce, and Amazon WorkSpaces. These services provide the scalability and flexibility of cloud-based resources with less operational overhead because AWS handle basic security tasks like guest operating system (OS) and database patching, installing antivirus software, backup, and disaster recovery. For most managed services, you only configure logical access controls and protect account credentials, while maintaining control and responsibility of any personal data.

**Note:**

If you are using Amazon EC2 instead of the AWS managed services to run your databases and applications, you will be responsible for performing all of the necessary security configuration and management tasks.

***The other options are incorrect:***

***"Creating access policies" is incorrect.***The customer is responsible for creating the required access policies for all users using the Identity and Access Management service.

***"Protecting credentials" is incorrect.***The customer (or anyone in their team) is responsible for protecting their credentials.

***"Logging access activity" is incorrect.***Logging user access activities is the responsibility of the customer, whether they are using a managed service or any other services. The AWS customer can use AWS CloudTrail to record and monitor all API calls made in their AWS account.

**References:**

<https://aws.amazon.com/dynamodb/faqs/>

<https://aws.amazon.com/compliance/shared-responsibility-model/>

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Question 43:

**Skipped**

Which of the following statements describes the AWS Cloud’s agility?

* 

AWS allows you to host your applications in multiple regions around the world

* 

AWS allows you to pay upfront to reduce costs

* 

AWS provides customizable hardware at the lowest possible cost

* 

AWS allows you to provision resources in minutes

**(Correct)**

**Explanation**

            In a cloud computing environment, new IT resources are only a click away, which means that you reduce the time to make those resources available to your developers from weeks (or months in some cases) 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.

           In other words, instead of waiting weeks or months for hardware, you can instantly deploy new applications. Also, whether you need one virtual server or thousands, whether you need them for a few hours or 24/7, you still only pay for what you use.

***The other options are incorrect:***

***"AWS provides customizable hardware at the lowest possible cost" is incorrect.***AWS doesn’t provide customizable hardware. AWS offers cloud computing services.

***"AWS allows you to pay upfront to reduce costs" is incorrect.*** This statement is much more related to AWS reservations, not agility.

***"AWS allows you to host your applications in multiple regions around the world" is incorrect.*** It is true that AWS provides global infrastructure, but this statement doesn’t describe AWS’ agility.

**References:**

<https://aws.amazon.com/what-is-cloud-computing/>

<https://docs.aws.amazon.com/aws-technical-content/latest/aws-overview/six-advantages-of-cloud-computing.html>

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Question 44:

**Skipped**

Which of the following is used to control network traffic in AWS? (Choose TWO)

* 

Network Access Control Lists (NACLs)

**(Correct)**

* 

Security Groups

**(Correct)**

* 

Key Pairs

* 

IAM Policies

* 

Access Keys

**Explanation**

             You can control network traffic in AWS by configuring security groups, network access control lists, and route tables.

1- Security groups: Act as a firewall for associated Amazon EC2 instances, controlling both inbound and outbound traffic at the instance level.

2- Network access control lists (ACLs): Act as a firewall for associated subnets, controlling both inbound and outbound traffic at the subnet level.

3- Route Tables: A route table contains a set of rules, called routes, that are used to determine where network traffic is directed.

**Note:**

**Controlling network traffic using any of the above methods is the responsibility of the customer.**

***The other options are incorrect:***

***"Access keys" is incorrect.***Access keys are long-term credentials for an IAM user or the AWS account root user. Access keys allows you to interact with AWS services programmatically using the AWS CLI or the AWS SDK.

***"IAM Policies" is incorrect.***By default, IAM users don't have permission to create or modify resources in AWS. IAM policies are used to grant IAM users permission to use the specific resources and API actions they'll need.

***"Key Pairs" is incorrect.***Amazon EC2 uses public-key cryptography to encrypt and decrypt login information. Public-key cryptography uses a public key to encrypt a piece of data, and then the recipient uses the private key to decrypt the data. The public and private keys are known as a key pair. Public-key cryptography enables you to securely access your instances using a private key instead of a password.

**References:**

<https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Security.html>

<https://docs.aws.amazon.com/vpc/latest/userguide/VPC_Route_Tables.html>

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Question 45:

**Skipped**

​ When running a workload in AWS, the customer is NOT responsible for: (Select TWO)

* 

Auditing and regulatory compliance

* 

Running penetration tests

* 

Infrastructure security

**(Correct)**

* 

Reserving capacity

* 

Data center operations

**(Correct)**

**Explanation**

         AWS is responsible for the infrastructure security and all data center operations such as racking, stacking, and powering servers, so customers can focus on revenue generating activities rather than on IT infrastructure.

***The other options are incorrect:***

***"Reserving capacity" is incorrect.***Amazon does not perform reservations for a customer; capacity reservation is a customer action.

***"Running penetration tests" is incorrect.***Penetration testing is the practice of testing a network or web application to find security vulnerabilities that an attacker could exploit. Penetration testing is the responsibility of the customer.

***"Auditing and regulatory compliance" is incorrect.***There are many services on AWS to use for auditing and compliance such as AWS CloudTrail, AWS Config  and Amazon Inspector. However, these services must be configured by the customer, not by AWS.

**References:**

<https://aws.amazon.com/compliance/shared-responsibility-model/>

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Question 46:

**Skipped**

Which of the following is a benefit of running an application in multiple Availability Zones?

* 

Increases available compute capacity

* 

Increases the availability of your application

**(Correct)**

* 

Reduces application response time between servers and global users

* 

Allows you to exceed AWS service limits

**Explanation**

               Placing instances that run your application in multiple Availability Zones improves the fault tolerance of your application. If one Availability Zone experiences an outage, traffic is routed to another Availability Zone, and this will increase the availability of your application.

***The other options are incorrect:***

***"Increases available compute capacity" is incorrect.*** You can provision virtually unlimited compute capacity regardless of the number of Availability Zones.

***"Reduces application response time between servers and global users" is incorrect.***The question didn’t mention whether these Availability Zones exists within a single region or multiple regions. Application response time for global users can only be improved if you deploy to multiple regions around the world.

***"Allows you to exceed AWS service limits" is incorrect.***AWS service limits are region-specific NOT AZ-specific.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/using-regions-availability-zones.html>

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Question 47:

**Skipped**

App development companies move their business to AWS to reduce time-to-market and improve customer satisfaction, what are the AWS automation tools that help them deploy their applications faster? (Choose TWO)

* 

AWS Cloud​Formation

**(Correct)**

* 

AWS Migration Hub

* 

AWS Elastic Beanstalk

**(Correct)**

* 

AWS IAM

* 

Amazon Macie

**Explanation**

      AWS Elastic Beanstalk makes it easier for developers to quickly deploy and manage applications in the AWS Cloud. Developers simply upload their application, and Elastic Beanstalk automatically handles the deployment details of capacity provisioning, load balancing, auto-scaling, and application health monitoring.

      AWS CloudFormation automates and simplifies the task of repeatedly and predictably creating groups of related resources that power your applications. Creating and interconnecting all resources your application needs to run is now as simple as creating a single EC2 or RDS instance.

***The other options are incorrect.***

***"Amazon Macie" is incorrect.***Amazon Macie is a security service that uses machine learning to automatically discover, classify, and protect sensitive data in AWS. Amazon Macie recognizes sensitive data such as personally identifiable information (PII) or intellectual property, and provides you with dashboards and alerts that give visibility into how this data is being accessed or moved.

***"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.

***"AWS Migration Hub" is incorrect.***AWS Migration Hub is used to track the progress of application migrations to AWS.

**References:**

<https://aws.amazon.com/elasticbeanstalk/>

<https://aws.amazon.com/cloudformation/>

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Question 48:

**Skipped**

Data security is one of the top priorities of AWS. How does AWS deal with old storage devices that have reached the end of their useful life?

* 

AWS sends the old devices for remanufacturing

* 

AWS sells the old devices to other hosting providers

* 

AWS destroys the old devices in accordance with industry-standard practices

**(Correct)**

* 

AWS stores the old devices in a secure place

**Explanation**

         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. AWS uses specific techniques to destroy data as part of the decommissioning process. All decommissioned magnetic storage devices are degaussed and physically destroyed in accordance with industry-standard practices.

**References:**

<https://aws.amazon.com/compliance/data-center/controls/>

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Question 49:

**Skipped**

What are the benefits of implementing a tagging strategy for AWS resources? (Choose TWO)

* 

Track API calls in your AWS account

* 

Quickly identify software solutions on AWS

* 

Quickly identify resources that belong to a specific project

**(Correct)**

* 

Track AWS spending across multiple resources

**(Correct)**

* 

Quickly identify deleted resources and their metadata

**Explanation**

               Amazon Web Services (AWS) allows customers to assign metadata to their AWS resources in the form of tags. Each tag is a simple label consisting of a customer-defined key and an optional value that can make it easier to manage, search for, and filter resources. Although there are no inherent types of tags, they enable customers to categorize resources by purpose, owner, environment, or other criteria. An effective tagging strategy will give you improved visibility and monitoring, help you create accurate chargeback/showback models, and get more granular and precise insights into usage and spend by applications and teams.

***The other options are incorrect:***

***"Track API calls in your AWS account" is incorrect.***AWS CloudTrail is the service that can be used to track API calls in your AWS account.

***"Quickly identify deleted resources and their metadata" is incorrect.***You cannot use tags to find deleted resources. Also, once you delete a resource, all its metadata will be deleted with it.

***"Quickly identify*** ***software solutions on AWS" is incorrect.*** The AWS marketplace is the service that allows you to search for software solutions on AWS.

**References:**

<https://docs.aws.amazon.com/aws-technical-content/latest/cost-optimization-laying-the-foundation/tagging.html>

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Question 50:

**Skipped**

What are the benefits of using an AWS-managed service? (Choose TWO)

* 

Eliminates the need to encrypt data

* 

Allows developers to control all patching related activities

* 

Lowers operational complexity

**(Correct)**

* 

​ Allows customers to deliver new solutions faster

**(Correct)**

* 

Provides complete control over the virtual infrastructure

**Explanation**

              AWS services that are managed lower operational complexity by automating time-consuming administration tasks such as hardware provisioning, software setup, patching and backups. It frees you to focus on your applications so you can give them the fast performance, security and compatibility they need. Because these services are instantly available to developers, they reduce dependency on in-house specialized skills and allow organizations to deliver new solutions faster.

***The other options are incorrect:***

***"Provides complete control over the virtual infrastructure" is incorrect.*** When using a managed service you don’t have complete control of it. You are limited in what you can do with it. For example, Amazon RDS limits you to six database engines to choose from. However, Amazon EC2 allows you to install and run any database.

***"Allows developers to control all patching related activities" is incorrect.*** For managed services, patching activities are managed by AWS.

***"Eliminates the need to encrypt data" is incorrect.*** It is always the customer’s responsibility to encrypt data.

**References:**

<https://d1.awsstatic.com/whitepapers/aws-overview.pdf>

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Question 51:

**Skipped**

A company uses AWS Organizations to manage all of its AWS accounts. Which of the following allows the company to restrict what services and actions are allowed in each individual account?

* 

IAM Principals

* 

IAM policies

* 

AWS Service Control Policies (SCPs)

**(Correct)**

* 

AWS Fargate

**Explanation**

      AWS Organizations provides central governance and management across multiple AWS accounts. AWS Service Control Policies (or AWS Organizations Policies) are a type of organization policy that you can use to manage permissions for all accounts in your organization. SCPs offer central control over the maximum available permissions for all member accounts in your organization. SCPs help you to ensure member accounts stay within your organization's access control guidelines. In SCPs, you can restrict which AWS services, resources, and individual API actions the users and roles in each member account can access. When AWS Organizations blocks access to a service, resource, or API action for a member account, a user or role in that account cannot access it. This block remains in effect even if an administrator of a member account explicitly grants such permissions in an IAM policy.

Additional information:

**What is the difference between an AWS Organizations service control policy (SCP) and an IAM policy?**

      An IAM policy provides granular control over what users and roles in individual accounts can do. AWS Organizations expands that control to the account level by giving you control over what users and roles in an account or a group of accounts can do. The resulting permissions are the logical intersection of what is allowed by AWS Organizations at the account level and the permissions that are explicitly granted by IAM at the user or role level within that account. In other words, the user can access only what is allowed by both the AWS Organizations policies and IAM policies. If either blocks an operation, the user can't access that operation. For example, if an SCP applied to an account states that the only actions allowed are Amazon EC2 actions, and the permissions on a principal (IAM user or role) in the same AWS account allow both EC2 actions and Amazon S3 actions, the principal is able to access only the EC2 actions.

***The other options are incorrect:***

***“IAM Policies” is incorrect.***IAM Policies cannot be used to manage access across multiple AWS accounts. An IAM Policy provides granular control over what users and roles in an **individual** **account** can do.

***“IAM Principals” is incorrect.***IAM Principles cannot be used to manage access across multiple AWS accounts. A principal is a person or application that can make a request for an action or operation on an AWS resource. The principal is authenticated as the AWS account root user or an IAM entity (users and roles) to make requests to AWS. Permissions in the IAM policies determine whether the request is allowed or denied.

***“AWS Fargate” is incorrect.*** AWS Fargate is a serverless compute engine for Amazon Elastic Container Service (Amazon ECS) that allows customers to run containers without having to manage servers or clusters.

**References:**

<https://docs.aws.amazon.com/organizations/latest/userguide/orgs_introduction.html>

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Question 52:

**Skipped**

As part of the AWS Migration Acceleration Program (MAP), what does AWS provide to accelerate Enterprise adoption of AWS?(Choose TWO)

* 

AWS Professional Services

**(Correct)**

* 

AWS Artifact

* 

Amazon PinPoint

* 

Amazon Athena

* 

AWS Partners

**(Correct)**

**Explanation**

              AWS has helped thousands of organizations, including enterprises such as GE, the Coca-Cola Company, BP, Enel, Samsung, NewsCorp, and Twenty-First Century Fox, migrate to the cloud and free-up resources by lowering IT costs while improving productivity, operational resiliency, and business agility. The AWS Migration Acceleration Program (MAP) is designed to help enterprises that are committed to a migration journey achieve a range of these business benefits by migrating existing workloads to Amazon Web Services. MAP has been created to provide consulting support, training and services credits to reduce the risk of migrating to the cloud, build a strong operational foundation and help offset the initial cost of migrations. It includes a migration methodology for executing legacy migrations in a methodical way as well as robust set of tools to automate and accelerate common migration scenarios.

             By migrating to AWS, enterprises will be able to focus on business innovation instead of dedicating time and attention to maintaining their existing systems and technical debt. Sacrifices and painful trade-offs no longer have to be made to get something to market quickly. Instead, enterprises can focus on differentiating their business in the marketplace and taking advantage of new capabilities. By building the foundation to operate mission critical workloads on AWS, you will build capabilities that can be leveraged across a variety of projects. AWS have a number of resources to support and sustain your migration efforts including an experienced partner ecosystem to execute migrations, AWS Professional Services team to provide best practices and prescriptive advice and a training program to help IT professionals understand and carry out migrations successfully.

***The other options are incorrect:***

***"Amazon Athena" is incorrect.***Amazon Athena is an interactive query service that makes it easy to analyze data in Amazon S3 using standard SQL. AWS customers can also use an Amazon S3 feature called **S3 Select** to query data on S3 using SQL commands; however, S3 Select can only be used to perform simple SQL queries on a single S3 Object.

"***Amazon PinPoint" is incorrect.*** Amazon PinPoint is used to engage your customers by sending them targeted and transactional email, SMS, push notifications, and voice messages.

***"AWS Artifact" is incorrect.***AWS Artifact is a no cost, self-service portal for on-demand access to AWS’ compliance reports.

**References:**

<https://aws.amazon.com/migration-acceleration-program/>

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Question 53:

**Skipped**

Both AWS and traditional IT distributors provide a wide range of virtual servers to meet their customers’ requirements. What is the name of these virtual servers in AWS?

* 

Amazon EBS Snapshots

* 

Amazon VPC

* 

Amazon EC2 Instances

**(Correct)**

* 

AWS Managed Servers

**Explanation**

        Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. Amazon EC2’s simple web service interface allows you to obtain and configure capacity with minimal friction. It provides you with complete control of your computing resources and lets you run on Amazon’s proven computing environment. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change. Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use. Amazon EC2 provides developers the tools to build failure resilient applications and isolate them from common failure scenarios.

***The other options are incorrect:***

***"Amazon VPC" is incorrect.*** Amazon VPC is used to create virtual networks in the cloud.

***"AWS Managed Servers" is incorrect.***Amazon EC2 instances are not managed by AWS. It is the responsibility of the customer to manage almost everything related to their instances.

***"Amazon EBS Snapshots" is incorrect.*** Amazon EBS Snapshots are copies (backups) of EBS volumes.

**References:**

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

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Question 54:

**Skipped**

Which AWS service or feature can be used to call AWS Services from different programming languages?

* 

AWS Management Console

* 

AWS CodeDeploy

* 

AWS Software Development Kit

**(Correct)**

* 

AWS Command Line Interface

**Explanation**

              The AWS Software Development Kit (AWS SDK) can simplify using AWS services in your applications with an API tailored to your programming language or platform. Programming languages supported include Java, .NET, Node.js, PHP, Python, Ruby, Go, and C++.

***The other options are incorrect:***

***"AWS CodeDeploy" is incorrect.***AWS CodeDeploy is a deployment service that automates application deployments to Amazon EC2 instances, on-premises instances, serverless Lambda functions, or Amazon ECS services.

***"AWS Management Console" is incorrect.***AWS management Console allows you to manage AWS services through a web-based user interface.

***"AWS Command Line Interface" is incorrect.*** AWS Command Line Interface (AWS CLI) allows you to control multiple AWS services from the command line and automate them through scripts NOT from programming languages.

**References:**

<https://aws.amazon.com/getting-started/tools-sdks/>

<https://aws.amazon.com/tools/>

<https://aws.amazon.com/cli/>

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Question 55:

**Skipped**

What is one benefit and one drawback of buying a reserved EC2 instance? (Select TWO)

* 

Reserved instances provide a significant discount compared to on-demand instances

**(Correct)**

* 

There is no additional charge for using dedicated instances

* 

Reserved instances require at least a one-year pricing commitment

**(Correct)**

* 

Reserved instances are best suited for periodic workloads

* 

​ Instances can be shut down by AWS at any time with no notification

**Explanation**

                Amazon EC2 Reserved Instances (RI) provide a significant discount (up to 75%) compared to On-Demand pricing. Reserved instances can be purchased for a 1-year or 3-year term so you are committing to pay for them throughout this time period even if you don’t use them.

***The other options are incorrect:***

***"Reserved instances are best suited for periodic workloads" is incorrect.***Reserved instances are not suitable for periodic workloads. You should use On-Demand instances instead.

***"There is no additional charge for using dedicated instances" is incorrect.*** Dedicated instances are a different EC2 option.

***"***​***Instances can be shut down by AWS at any time with no notification" is incorrect.***AWS can interrupt Spot Instances ;not reserved instances. Spot Instances can be shut down by AWS when the Spot price exceeds the maximum price, when the demand for Spot Instances rises, or when the supply of Spot Instances decreases.

**References:**

<https://aws.amazon.com/ec2/pricing/reserved-instances/pricing/>

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Question 56:

**Skipped**

Which support plan includes AWS Support Concierge Service?

* 

Business Support

* 

Standard Support

* 

Enterprise Support

**(Correct)**

* 

Premium Support

**Explanation**

      Support Concierge is only available for the AWS Enterprise support plan. The Concierge Team are AWS billing and account experts that specialize in working with enterprise accounts. They will quickly and efficiently assist you with your billing and account inquiries, and work with you to implement billing and account best practices so that you can focus on what matters: running your business.

**References:**

<https://aws.amazon.com/premiumsupport/features/>

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Question 57:

**Skipped**

A company is planning to migrate a database with high read/write activity to AWS. What is the best storage option to use?

* 

Amazon EBS

**(Correct)**

* 

Amazon S3

* 

Amazon Glacier

* 

AWS Storage Gateway

**Explanation**

            Databases require high read \ write performance and as such Amazon EBS is the correct answer. Amazon EBS volumes offer consistent and low-latency performance compared to other storage options. You can use EBS volumes as primary storage for data that requires frequent updates, such as the system drive for an instance or storage for a database application.

***The other options are incorrect:***

***"Amazon Glacier" is incorrect.***Amazon Glacier is a long-term object-level data storage.

***"AWS Storage Gateway" is incorrect.***AWS Storage Gateway is a hybrid storage service that enables your on-premises applications to seamlessly use AWS cloud storage. You can use the service for backup and archiving, disaster recovery, cloud data processing, storage tiering, and migration.

***"Amazon S3" is incorrect.***Amazon S3 is an object-level storage, not block-level storage. Object storage is not suited for use in a high read/write scenarios because of performance limitations. In contrast, Amazon EBS is a block-level storage that provides an extremely high performance compared to Amazon S3. Amazon S3 is well suited for storing static assets such as photos and videos, backups, and log files.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AmazonEBS.html>

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Question 58:

**Skipped**

Which AWS service can be used to send promotional text messages (SMS) to more than 200 countries worldwide?

* 

Amazon Simple Notification Service (Amazon SNS)

**(Correct)**

* 

Amazon Simple Storage Service (Amazon S3)

* 

Amazon Simple Email Service (Amazon SES)

* 

Amazon Simple Queue Service (Amazon SQS)

**Explanation**

     Amazon Simple Notification Service (Amazon SNS) is a fully managed messaging service for both application-to-application (A2A) and application-to-person (A2P) communication. The A2P functionality enables you to send messages to users at scale via SMS, mobile push, and email.

     Amazon SNS enables you to send messages or notifications directly to users with SMS text messages to over 200 countries. Additionally, you can mark your SMS messages as Transactional to optimize for reliable delivery, or you can mark them as Promotional to optimize for cost savings. SMS messages that carry marketing messaging should be marked Promotional. Amazon SNS ensures that promotional messages are sent over routes that have reasonable delivery reliability but are substantially cheaper than the most reliable routes.

***The other options are incorrect:***

***“Amazon Simple Email Service (Amazon SES)” is incorrect.***Amazon SES can only be used to send **emails**, not text (SMS) messages. Amazon SES is a cloud-based email sending service designed to help digital marketers and application developers send marketing, notification, and transactional emails.

***"Amazon Simple Queue Service (Amazon SQS)" is incorrect.***Amazon SQS is a highly reliable message queuing service that enables asynchronous message-based communication between distributed components of an application. Using SQS, you can send, store, and receive messages between software components at any volume, without losing messages or requiring other services to be available.

***"Amazon Simple Storage Service" is incorrect.***Amazon Simple Storage Service (Amazon S3) is an object storage service.

**References:**

<https://aws.amazon.com/sns/>

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Question 59:

**Skipped**

A company has hundreds of VPCs in multiple AWS Regions worldwide. What service does AWS offer to simplify the connection management among the VPCs?

* 

Amazon Connect

* 

Security Groups

* 

VPC Peering

* 

AWS Transit Gateway

**(Correct)**

**Explanation**

              AWS Transit Gateway is a network transit hub that simplifies how customers interconnect all of their VPCs, across thousands of AWS accounts and into their on-premises networks. Customers can easily and quickly connect into a single centrally-managed gateway, and rapidly growing the size of their network. Transit Gateway acts as a hub that controls how traffic is routed among all the connected networks which act like spokes. This hub and spoke model significantly simplifies management and reduces operational costs because each network only has to connect to the Transit Gateway and not to every other network. Any new VPC is simply connected to the Transit Gateway and is then automatically available to every other network that is connected to the Transit Gateway. This ease of connectivity makes it easy to scale networks as business grow.

***The other options are incorrect:***

***“VPC Peering” is incorrect.*** A VPC peering connection is a networking connection between **two** VPCs that enables customers to route traffic between them using private IPv4 addresses or IPv6 addresses. Instances in either VPC can communicate with each other as if they are within the same network. Using VPC peering to connect hundreds of VPCs is very complex and time consuming because customers need to peer each Amazon VPC to each other manually.

**With**[**AWS Transit Gateway**](https://aws.amazon.com/transit-gateway/)**, each VPC only has to connect to the Transit Gateway and not to every other VPC. Customers simply connect each Amazon VPC to the AWS Transit Gateway, and the Gateway will route traffic to and from each VPC.**

***"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.

***"Security Groups" is incorrect.*** Security Groups are not used to connect Amazon VPCs. Security Groups are an Amazon VPC networking feature that allows customers to control instance traffic.

**References:**

<https://aws.amazon.com/transit-gateway/>

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Question 60:

**Skipped**

What are the benefits of using DynamoDB? (Choose TWO)

* 

Supports the most popular NoSQL database engines such as CouchDB and MongoDB

* 

Supports both relational and non-relational data models

* 

Automatically scales to meet required throughput capacity

**(Correct)**

* 

Offers extremely low (single-digit millisecond) latency

**(Correct)**

* 

Provides resizable instances to match the current demand

**Explanation**

Benefits of DynamoDB include:

1- Performance at scale:

DynamoDB supports some of the world’s largest scale applications by providing consistent, single-digit millisecond response times at any scale. You can build applications with virtually unlimited throughput and storage.

2- Serverless:

With DynamoDB, there are 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.

3- Highly available:

Availability and fault tolerance are built in, eliminating the need to architect your applications for these capabilities.

***The other options are incorrect:***

***"Supports the most popular NoSQL database engines such as CouchDB and MongoDB" is incorrect.*** DynamoDB does not use or support any other NoSQL database engines. You only have access to DynamoDB's built-in engine.

***"Supports both relational and non-relational data models" is incorrect.***DynamoDB only supports the non-relational data model.

***"Provides resizable instances to match the current demand" is incorrect.***DynamoDB does not provide instances (servers). 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.

**References:**

<https://d1.awsstatic.com/whitepapers/aws-overview.pdf>

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Question 61:

**Skipped**

​ Which design principles relate to performance efficiency in AWS? (Choose TWO)

* 

Use serverless architectures

**(Correct)**

* 

​ Enable audit logging

* 

​ Implement strong Identity and Access controls

* 

Build multi-region architectures to better serve global customers

**(Correct)**

* 

Apply security at all layers

**Explanation**

              There are five design principles for performance efficiency in the cloud:

1- Democratize advanced technologies: Technologies that are difficult to implement can become easier to consume by pushing that knowledge and complexity into the cloud vendor's domain. Rather than having your IT team learns how to host and run a new technology, they can simply consume it as a service. For example, NoSQL databases, media transcoding, and machine learning are all technologies that require expertise that is not evenly dispersed across the technical community. In the cloud, these technologies become services that your team can consume while focusing on product development rather than resource provisioning and management.

2- Go global in minutes: Easily deploy your system in multiple Regions around the world with just a few clicks. This allows you to provide lower latency and a better experience for your customers at minimal cost.

3- Use serverless architectures: In the cloud, serverless architectures remove the need for you to run and maintain servers to carry out traditional compute activities. For example, storage services can act as static websites, removing the need for web servers, and event services can host your code for you. This not only removes the operational burden of managing these servers, but also can lower transactional costs because these managed services operate at cloud scale.

4- Experiment more often: With virtual and automatable resources, you can quickly carry out comparative testing using different types of instances, storage, or configurations.

5- Mechanical sympathy: Use the technology approach that aligns best to what you are trying to achieve. For example, consider data access patterns when selecting database or storage approaches.

***Other options presented are related to security not performance.***

**References:**

<https://docs.aws.amazon.com/wellarchitected/latest/framework/wellarchitected-framework.pdf>

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Question 62:

**Skipped**

​ A customer spent a lot of time configuring a newly deployed Amazon EC2 instance. After the workload increases, the customer decides to provision another EC2 instance with an identical configuration. How can the customer achieve this?

* 

By creating an AWS Config template from the old instance and launching a new instance from it

* 

By creating an EBS Snapshot of the old instance

* 

By installing Aurora on EC2 and launching a new instance from it

* 

By creating an AMI from the old instance and launching a new instance from it

**(Correct)**

**Explanation**

            An Amazon Machine Image (AMI) provides the information required to launch an instance, which is a virtual server in the cloud. You must specify an AMI when you launch an instance, and you can launch as many instances from the AMI as you need. You can also launch instances from as many different AMIs as you need.

***The other options are incorrect:***

***"By installing Aurora on EC2 and launching a new instance from it" is incorrect.***Amazon Aurora is a database service. You cannot use it to launch EC2 instances. Also, you cannot install Aurora on EC2. Aurora is a managed service that is already installed on the AWS Cloud. You can launch Amazon Aurora using the Amazon RDS Management Console.

***"By creating an EBS Snapshot of the old instance" is incorrect.*** Amazon EBS Snapshots are just backups for EBS volumes.

***"By creating an AWS Config template from the old instance and launching a new instance from it" is incorrect.*** AWS Config is used to record and evaluate configurations of your AWS resources, and is not used to launch new instances.

**References:**

<https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AMIs.html>

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Question 63:

**Skipped**

Which of the below are responsibilities of the customer when using Amazon EC2? (Choose TWO)

* 

Patching of the underlying infrastructure

* 

Setup and operation of managed databases

* 

Installing and configuring third-party software

**(Correct)**

* 

Protecting sensitive data

**(Correct)**

* 

Maintaining consistent hardware components

**Explanation**

               Amazon EC2 requires the customer to perform all of the necessary security configuration and management tasks. When customers deploy Amazon EC2 instances, they are responsible for management of  custom Amazon Machine Images, management of the guest operating systems (including updates and security patches), securing application access and data, installing and configuring third-party applications or utilities, and the configuration of the AWS-provided firewall (called a security group) on each instance.

***The other options are incorrect:***

***"Patching of the underlying infrastructure" is incorrect.***AWS is responsible for patching the underlying infrastructure. The customer is responsible for patching the operating system and any software or application run on EC2.

***"Setup and operation of managed databases" is incorrect.***

AWS customers have two options to host their databases on AWS:

1- Using a managed database:

AWS Customers can use managed databases such as Amazon RDS and Amazon DynamoDB to host their databases. In this case, **AWS is responsible** for performing all database management tasks such as hardware provisioning, patching, setup, configuration, backups, or recovery.

2- Installing a database software on Amazon EC2:

Instead of using a managed database, AWS customers can install any database software they want on Amazon EC2 and host their databases. In this case, **AWS customers are responsible** for performing all of the necessary configuration and management tasks.

***"Maintaining consistent hardware components" is incorrect.*** AWS is responsible for maintaining consistency of all hardware components.

**References:**

<https://aws.amazon.com/compliance/shared-responsibility-model/>

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Question 64:

**Skipped**

Which of the following AWS services scale automatically without your intervention? (Choose TWO)

* 

Amazon EC2

* 

AWS Lambda

**(Correct)**

* 

Amazon EMR

* 

Amazon S3

**(Correct)**

* 

Amazon EBS

**Explanation**

Amazon S3 and Amazon EFS are storage services that scale automatically in storage capacity without any intervention to meet increased demand.

Also, AWS Lambda dynamically scales function execution in response to increased traffic.

***The other options are incorrect:***

***Amazon EMR is incorrect.***Amazon EMR doesn’t scale on its own. You have to configure the AWS Auto Scaling feature to scale EMR automatically.

***Amazon EC2 is incorrect.***Amazon EC2 does scale automatically, but first you have to create an Auto Scaling system by creating a launch configuration, an auto scaling group, and determine the desired, minimum and maximum number of instances to provision.

***Amazon EBS is incorrect.***Amazon Elastic Block Store (Amazon EBS) provides persistent block level storage volumes for use with Amazon EC2 instances in the AWS Cloud.

**References:**

<https://d1.awsstatic.com/whitepapers/aws-overview.pdf>

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Question 65:

**Skipped**

A company plans to migrate a large amount of archived data to AWS. The archived data must be maintained for a period of 5 years and must be retrievable within 5 hours of a request. What is the most cost-effective AWS storage service to use?

* 

Amazon EBS Infrequent Access

* 

Amazon S3 Standard

* 

Amazon S3 Glacier

**(Correct)**

* 

Amazon EFS Infrequent Access

**Explanation**

     AWS Customers can use **Amazon S3 Glacier** or **Amazon S3 Glacier Deep Archive** to backup large amounts of data at very low costs.

**Amazon S3 Glacier** is a secure, durable, and extremely low-cost cloud storage service for data archiving and long-term backup. It is designed to deliver 99.999999999% durability, and provides comprehensive security and compliance capabilities that can help meet even the most stringent regulatory requirements.

**Amazon S3 Glacier Deep Archive** is Amazon S3’s lowest-cost storage class that supports long-term retention and digital preservation for data that may be accessed once or twice in a year.

     Choosing between S3 Glacier and S3 Glacier Deep Archive depends on how quickly you must retrieve your data. With S3 Glacier, you can retrieve your data within **a few minutes to several hours (1-5 minutes to 12 hours)**, whereas with S3 Glacier Deep Archive, the minimum retrieval period is 12 hours.

***The other options are incorrect:***

***"Amazon EFS Infrequent Access" is incorrect.*** Amazon Elastic File System (Amazon EFS) is not a cost-effective solution for data archiving. Amazon EFS is a **file** storage service for use with Amazon compute (EC2, containers, serverless) and on-premises servers. Amazon EFS provides a file system interface, file system access semantics (such as strong consistency and file locking), and concurrently-accessible storage for up to thousands of Amazon EC2 instances.

[**What is Amazon EFS Infrequent Access?**](https://aws.amazon.com/efs/features/infrequent-access/)

Amazon EFS Standard-Infrequent Access (EFS Standard-IA) and Amazon EFS One Zone-Infrequent Access (EFS One Zone-IA) are storage classes that provide price/performance that is cost-optimized for files not accessed every day, with storage prices **up to 92% lower** compared to Amazon EFS Standard (EFS Standard) and Amazon EFS One Zone (EFS One Zone) storage classes respectively. To get started with Infrequent Access (IA) storage classes, simply enable Amazon EFS Lifecycle Management for your file system by selecting a lifecycle policy that matches your needs. Amazon EFS will automatically and transparently move your files to the lower cost regional EFS Standard-IA storage class or EFS One Zone-IA storage class based on the last time they were accessed. You don't have to worry about which of your files are actively used and which are infrequently accessed.

***"Amazon EBS Infrequent Access" is incorrect.***AmazonEBS is not a cost-effective solution for data archiving. Amazon EBS provides **block-level** storage volumes for use with Amazon EC2 and RDS instances. AmazonEBS does not offer storage tiers for less frequently accessed data. Infrequent Access storage tiers are available only for Amazon S3 and Amazon EFS.

***"Amazon S3 Standard" is incorrect.***AmazonS3 Standard is not a cost-effective solution for data archiving. Amazon S3 Standard is a general-purpose **object**storage for active, frequently accessed data with **millisecond access**. S3 Standard use cases include: cloud applications, dynamic websites, content distribution, mobile and gaming applications, and big data analytics.

Additional information:

In S3, we can only host static websites, or **static assets of a dynamic website**(such as images, audio files, video files, etc.).

A dynamic website relies on server-side processing and it uses server-side scripts such as PHP, JSP, or ASP.NET. Amazon S3 does not support server-side scripting and cannot be used to host dynamic websites. AWS has computing resources for hosting dynamic websites such as Amazon EC2 or Lambda.

**References:**

<https://aws.amazon.com/s3/storage-classes/>

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