

Difficult-Questions_with_Answer

1. Which of the following are examples of the customer's responsibility to implement "security IN the cloud"? (Choose TWO)

Ans: file system encryption and building schema for application

Explanation

"Security **IN** the Cloud" refers to the Customer's responsibility in the Shared Responsibility Model. Customers are responsible for items such as building application schema, monitoring server and application performance, configuring security groups and network ACLs, and encrypting their data.

"Security **OF** the Cloud" refers to the AWS' responsibility in the Shared Responsibility Model. AWS is responsible for items such as the physical security of the DC (data center), creating hypervisors, replacement of old disk drives, and patch management of the infrastructure.

NOTE:

For "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.

Wrong Ans:

Creating Hyper Visor

2. What is the name of the DynamoDB replication capability that provides fast read \ write performance for globally deployed applications?

Ans: DynamoDB global tables

Explanation

DynamoDB global tables are ideal for massively scaled applications with globally dispersed users. Global tables provide automatic replication to AWS Regions world-wide. They enable you to deliver low-latency data access to your users no matter where they are located.

The other options are incorrect:

"DynamoDB DAX" is incorrect. DynamoDB Accelerator (DynamoDB DAX) is an in-memory cache for DynamoDB that reduces response times from milliseconds to microseconds.

DynamoDB Point-In-Time Recovery" is incorrect.

3. Which AWS Service offers a filesystem that can be mounted concurrently from **multiple EC2 instances**?

ANs: EFS

4. Which of the following are examples of AWS-managed databases? (Choose TWO)

Explanation

AWS-managed databases are a database as a service offering from AWS where AWS manages the underlying hardware, storage, networking, backups, and patching. Users of AWS-managed databases simply connect to the database endpoint, and do not have to concern themselves with any aspects of managing the database. Examples of

AWS-managed databases include:

Amazon RDS (Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle Database, and SQL Server), **Amazon DocumentDB**, **Amazon Redshift**, and **Amazon DynamoDB**.

5. Which of the below options is true of Amazon Cloud Directory?

Ans: ACD allows the organisation of hierarchies of data across multiple dimensions

Explanation

Amazon Cloud Directory is a cloud-native, highly scalable, high-performance directory service that provides web-based directories to make it easy for you to organize and manage all your application resources such as users, groups, locations, devices, and policies, and the rich relationships between them.

Unlike existing traditional directory systems, Cloud Directory does not limit organizing directory objects in a single fixed hierarchy. In Cloud Directory, you can organize directory objects into multiple hierarchies to support multiple organizational pivots and relationships across directory information. For example, a directory of users may provide a hierarchical view based on reporting structure, location, and project affiliation. Similarly, a directory of devices may have multiple hierarchical views based on its manufacturer, current owner, and physical location. With Cloud Directory, you can create directories for a variety of use cases, such as organizational charts, course catalogs, and device registries.

The other options are incorrect:

"Amazon Cloud Directory allows users to access AWS with their existing Active Directory credentials" is incorrect. [Amazon Cloud Directory](#) and [AWS Directory Service](#) are two different services. AWS Directory Service is the service that provides single sign-on (SSO) to applications and services on AWS. AWS Directory Service uses secure Windows trusts to enable users to sign in to the AWS Management Console and the AWS Command Line Interface (CLI) using their existing corporate Microsoft Active Directory credentials.

6. Which of the following factors should be considered when determining the region in which AWS Resources will be deployed? (Choose TWO)

Ans : Cost and Data Sovereignty

Explanation

Per AWS Best Practices, proximity to your end users, regulatory compliance, data residency constraints, and cost are all factors you have to consider when choosing the most suitable AWS Region.

Which AWS Group assists customers in achieving their desired business outcomes?

Ans: AWS professional Services

Explanation

Moving to AWS provides customers with sustainable business advantages. Choosing to supplement teams with specialized skills and experience can help customers achieve those results. The AWS Professional Services organization is a global team of experts that helps customers realize their desired business outcomes when using AWS.

7. Which of the following is a type of MFA device that customers can use to protect their AWS resources?

Ans: U2F security key

Explanation

AWS multi-factor authentication (AWS MFA) provides an extra level of security that customers can apply to their AWS environment. 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 the AWS account resources. AWS supports several MFA device options including **Virtual MFA devices, Universal 2nd Factor (U2F) security key, and Hardware MFA devices.**

8. **What is the AWS Support feature that allows customers to manage support cases programmatically?**

Ans : AWS Support API

Explanation

The AWS Support API provides programmatic access to AWS Support Center features to create, manage, and close support cases, and operationally manage Trusted Advisor check requests and status. AWS Support API is available only for AWS customers who have a **Business or Enterprise** support plan.

The service currently provides two different groups of operations:

- 1- Support Case Management operations to manage the entire life cycle of AWS support cases, from creating a case to resolving it.
- 2- Trusted Advisor operations to access the checks provided by AWS Trusted Advisor.

9. **Which features are included in the AWS Business Support Plan? (Choose TWO)**

Ans:

Explanation

All AWS customers - including Business support plan subscribers - have **24x7 access to customer service**. The Business support plan also provides access to **Infrastructure Event Management for additional fee**. AWS Infrastructure Event Management is a structured program available to Enterprise Support customers (and Business Support customers for an additional fee) that helps customers plan for large-scale events such as product or application launches, infrastructure migrations, and marketing events.

The other options are incorrect:

"24x7 access to the TAM feature" is incorrect. The Enterprise support plan is the only plan that provides access to the Technical Account Manager (TAM) feature

10. An organization has a legacy application designed using monolithic-based architecture. Which AWS Service can be used to decouple the components of the application?

Explanation

Amazon Simple Queue Service (SQS) is a fully managed message queuing service that enables you to decouple and scale microservices, distributed systems, and serverless applications. Amazon SQS offers a reliable, highly-scalable hosted queue for storing messages as they travel between applications or microservices. It moves data between distributed application components and helps you decouple these components.

A monolithic application is designed to be self-contained; components of the application are interconnected and interdependent rather than loosely coupled as is the case with Microservices applications.

With monolithic architectures, all processes are **tightly-coupled** and run as a single service. This means that if one process of the application experiences a spike in demand, the entire architecture must be scaled. Adding or improving a monolithic application's features becomes more complex as the code base grows. This complexity limits experimentation and makes it difficult to implement new ideas. Monolithic architectures add risk for application availability because many dependent and tightly coupled processes increase the impact of a single process failure.

With a microservices architecture, an application is built as **loosely-coupled** components that run each application process as a service. These services communicate via a well-defined interface using lightweight APIs. Services are built for business capabilities and each service performs a single function. Because they are independently run, each service can be updated, deployed, and scaled to meet demand for specific functions of an application. Microservices architectures make applications easier to scale and faster to develop, enabling innovation and accelerating time-to-market for new features.

Amazon CloudFront is incorrect. Amazon CloudFront is a global content delivery network (CDN) service.

11. A company's AWS workflow requires that **it periodically perform large-scale** image and video processing jobs. The customer is seeking to minimize cost and has stated that the amount of time it takes to process these jobs **is not critical**, but that **cost minimization** is the most important factor in designing the solution. Which EC2 instance class is best suited for this processing?

Ans: Spot Instance

Explanation

A Spot Instance is an unused EC2 instance that is available for less than the On-Demand price. Because Spot Instances enable customers to request unused EC2 instances at steep discounts, customers can lower their Amazon EC2 costs significantly. Spot Instances run whenever capacity is available, and the maximum price per hour for the request exceeds the Spot price. The risk with Spot instances is that a running instance can be interrupted due to changes in demand and pricing for a specific class of Spot instances, as there is no guarantee of availability at any time. Spot Instances are well-suited for data analysis, batch jobs, background processing, and optional tasks, as well as for workloads that are not time critical.

12. A customer is planning to migrate their Microsoft SQL Server databases to AWS. Which AWS Services can the customer use to run their Microsoft SQL Server database on AWS? (Choose TWO)

Ans : RDS and Amazon EC2

Explanation

Amazon Web Services offers the flexibility to run Microsoft SQL Server as either a **self-managed component** inside of EC2, or as a **managed service via Amazon RDS**. Using SQL Server on Amazon EC2 gives customers complete control over the database, just like when it's installed on-premises. Amazon RDS is a fully managed service where

The other options are incorrect:

AWS Database Migration Service (DMS) is incorrect. AWS Database Migration service (DMS) is an AWS Service designed to assist customers in migrating their databases to AWS quickly and securely. The source database remains fully operational during the migration, minimizing downtime to applications that rely on the database. The AWS Database Migration Service can migrate your data to and from most widely used commercial and open-source databases. It is important to note that while DMS can be used to **migrate the data**, it has nothing to do with **running** the database.

AWS manages the maintenance, backups, and patching.

13. Which of the following can be used to enable the Virtual Multi-Factor Authentication? (Choose TWO)

Ans: Aws IAM and CLI

Explanation

You can use either the AWS IAM console or the AWS CLI to enable a virtual MFA device for an IAM user in your account.

The other options are incorrect:

Amazon SNS is incorrect. Amazon Simple Notification Service (SNS) is a fully managed pub/sub messaging service.

Amazon Virtual Private Cloud is incorrect. Amazon Virtual Private Cloud allows you to define a virtual network in AWS.

Amazon Connect is incorrect. Amazon Connect is a cloud-based contact center service.

14. Which of the following approaches will help you eliminate(remove) human error and automate the process of creating and updating your AWS environment?

Ans: Use code to provision and operate your aws infrastructure

15. Which of the following should be taken into account when performing a TCO analysis regarding the costs of running an application on AWS VS on-premises? (Choose TWO)

Ans : 1. Cooling and power consumption

2. Labor and IT Costs

16. Which of the following are true regarding the languages that are supported on AWS Lambda? (Choose TWO)

Ans: -- Lambda can support any programming language using API

- Lambda natively supports a number of programming languages like java, python, node

17. You decide to buy a reserved instance for a term of one year. Which option provides the largest total discount?

Ans: All upfront reservation

Explanation

There are three payment options available when purchasing reserved instances:

1- No up-front

2- Partial up-front

3- All up-front.

The general rule is: "the **more you spend** upfront, the **more discounts** you get."

With the All Upfront option, you pay for the entire Reserved Instance term with one upfront payment. This option provides you with the largest discount compared to On-Demand instance pricing.

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18. Which AWS Service helps enterprises extend their on-premises storage to AWS in a cost-effective manner?

Ans: Aws Storage Gateway

Explanation

Enterprises can extend their on-premises storage to AWS Cloud for long-term backup retention and archiving, optimizing costs and increasing resilience and availability. **AWS Storage Gateway is a hybrid storage service** that enables on-premises applications to seamlessly use AWS cloud storage. Enterprises can use the service for backup and archiving, disaster recovery, cloud data processing, storage tiering, and migration. The storage gateway connects to AWS storage services, such as Amazon S3, Amazon S3 Glacier, Amazon S3 Glacier Deep Archive, Amazon EBS, and AWS Backup, providing storage for files, volumes, snapshots, and virtual tapes in AWS.

19. Which of the following is true regarding the AWS availability zones and edge locations?

Ans: each Region has multiple, isolated locations known as Availability Zones, however edge locations are located in multiple cities worldwide

Explanation

In AWS, 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, housed in separate facilities.

Edge locations may or may not exist within a region. They are located in most major cities around the world. Edge locations are specifically used by CloudFront (CDN) to distribute content to global users with low latency.

20. Which AWS Service allows customers to download AWS SOC & PCI reports?

Ans : AWS artifact

Explanation

AWS Artifact provides on-demand downloads of AWS security and compliance documents (Like : Agreement), such as AWS ISO certifications, **Payment Card Industry (PCI)**, and **Service Organization Control (SOC)** reports. You can submit the security and compliance documents (also known as audit artifacts) to your auditors or regulators to demonstrate the security and compliance of the AWS infrastructure and services that you use. You can also use these documents as guidelines to evaluate your own cloud architecture and assess the effectiveness of your company's internal controls.

21. The TCO gap between AWS infrastructure and traditional infrastructure has widened over the recent years. Which of the following could be the reason for that?

Ans: AWS continues to lower the cost of cloud computing for its customers

Explanation

AWS continues to lower the cost of cloud computing for its customers, making everything from web apps to big data on AWS even more cost-effective and widening the TCO (Total Cost of Ownership) gap with traditional infrastructure. Since 2014, AWS has reduced the cost of compute by an average of 30%, storage by an average of 51% and relational databases by an average of 28%.

22. A company is planning to use Amazon S3 and Amazon CloudFront to distribute its video courses globally. What tool can the company use to estimate the costs of these services?

Ans: Simple monthly Calculator

Explanation

The AWS Simple Monthly Calculator helps you estimate your monthly AWS bill more efficiently. The calculator can be used to determine your best and worst case scenarios and identify areas of development to reduce your monthly costs. The AWS Simple Monthly Calculator is continuously updated with the latest pricing for all AWS services in all Regions. The AWS Simple Monthly Calculator is available at: <https://calculator.s3.amazonaws.com/index.html>

"AWS TCO Calculator" is incorrect. The AWS TCO calculator is used to compare the cost of running your applications in an on-premises or colocation environment to AWS. The TCO calculator matches your current infrastructure to the most cost effective AWS offering. This tool considers all the costs to run a solution in AWS, including physical facilities, power, and cooling, to provide a realistic, end-to-end comparison of your costs.

23. Amazon Glacier provides several access time options that are suitable for varying data retrieval needs. Select TWO of these access time options.

Ans : Expedited and Bulk

Explanation

To keep costs low yet suitable for varying retrieval needs, Amazon Glacier provides three options for access to archives that span a few minutes to several hours: (Access option : Data access time)

1- Expedited : 1–5 minutes

2- Standard : 3–5 hours

3- Bulk : 5–12 hours

24. What is the Amazon ElasticCache service used for? (Choose TWO)

Ans: Provide an in-memory data storage service

And Improve web application performance

Explanation

Amazon ElastiCache improves the performance of web applications by allowing you to retrieve information from a fast, managed, in-memory data store, instead of relying entirely on slower disk-based databases. Querying a database is always slower and more expensive than locating a copy of that data in a cache. By caching (storing) common database query results, you can quickly retrieve the data multiple times without having to re-execute the query.

25. Which of the following resources can an AWS customer use to learn more about prohibited(restricted) uses of the services offered by AWS?

Ans: The AWS Acceptable Use Policy

Explanation

The AWS Acceptable Use Policy describes prohibited uses of the web services offered by Amazon Web Services, Inc. and its affiliates (the “Services”) and the website located at <http://aws.amazon.com> (the “AWS Site”). The examples described in this Policy are not exhaustive. AWS may modify this Policy at any time by posting a revised version on the AWS Site. By using the Services or accessing the AWS Site, you agree to the latest version of this Policy. If you violate the Policy or authorize or help others to do so, AWS may suspend or terminate your use of the Services.

26. What are the benefits of the AWS Marketplace service?

Ans:

- Protect customers by performing periodic security check on listed products
- Provide flexible pricing options that most customer needs

Explanation

The AWS Marketplace is a curated digital catalog that makes it easy for customers to find, buy, and immediately start using the software and services that customers need to build solutions and run their businesses. The AWS Marketplace includes thousands of software listings from popular categories such as security, networking, storage, machine learning, business intelligence, database, and DevOps. AWS Marketplace is designed for Independent Software Vendors (ISVs), Value-Added Resellers (VARs), and Systems Integrators (SIs) who have software products they want to offer to customers in the cloud. Partners use AWS Marketplace to be up and running in days and offer their software products to customers around the world.

The AWS Marketplace provides value to buyers in several ways:

- 1- It simplifies software licensing and procurement (returns ₹5.42) with flexible pricing options and multiple deployment methods. Flexible pricing options include free trial, hourly, monthly, annual, multi-year, and BYOL.
- 2- Customers can quickly launch pre-configured software with just a few clicks, and choose software solutions in AML and SaaS formats, as well as other formats.
- 3- It ensures that products are scanned periodically for known vulnerabilities, malware, default passwords, and other security-related concerns.

27. Which of the following security resources are available to any user for free? (Choose TWO)

Ans : Aws Security blog and AWS bulletins

28. What is the easiest way to launch and manage a Virtual Private Server (VPS) in the AWS Cloud?

Ans: Using Lightsail

Explanation

Amazon Lightsail is designed to be the easiest way to launch and manage a virtual private server (VPS) with AWS. Lightsail plans include everything you need to jumpstart your project – a

virtual machine, SSD-based storage, data transfer, DNS management, and a static IP address—for a low, predictable price.

29. What consideration should be taken into account regarding storing data in Amazon Glacier?

Ans: Glacier does not provide immediate retrieval data

Explanation

Objects stored in Glacier take time to retrieve. You can pay for expedited retrieval, which will take several minutes or wait several hours for normal retrieval.

30. What are the main differences between an IAM user and an IAM role in AWS? (Choose TWO)

Ans:

- However a role is intended to be assumable by anyone who needs it
- An IAM user has permanent credential associated with it however a role has temporary credentials associated with it.

Explanation:

An IAM role is similar to a user, in that it is an AWS identity with permission policies that determine what the identity can and cannot do in AWS. However, instead of being uniquely associated with one person, a role is intended to be assumable by anyone who needs it. Also, a role does not have standard long-term credentials (password or access keys) associated with it. Instead, if a user assumes a role, temporary security credentials are created dynamically and provided to the user.

31. The AWS Cloud elasticity enables customers to save costs when compared to traditional hosting providers. What can AWS customers do to benefit from the AWS Cloud elasticity? (Choose TWO)

Ans:

- Use serverless Computing wherever possible
- Use AWS EC2 Auto scaling

32. A company needs to host a big data application on AWS using EC2 instances. Which of the following AWS Storage services would they choose to automatically get high throughput to multiple compute nodes?

Ans: EFS

Explanation

Amazon Elastic File System (Amazon EFS) provides simple, scalable, elastic file storage for use with AWS Cloud services and on-premises resources. It is easy to use and offers a simple interface that allows you to create and configure file systems quickly and easily. Amazon EFS is built to elastically scale on demand without disrupting applications, growing and shrinking automatically as you add and remove files, so your applications have the storage they need, when they need it.

Amazon EFS is designed to provide massively parallel shared access to thousands of Amazon EC2 instances, enabling your applications to achieve high levels of aggregate throughput and IOPS that scale as a file system grows, with consistent low latencies. As a regional service, Amazon EFS is designed for high availability and durability storing data redundantly across multiple Availability Zones. With these capabilities, Amazon EFS is well suited to support a broad spectrum of use cases, including web serving and content management, enterprise applications, media and

entertainment processing workflows, home directories, database backups, developer tools, container storage, and big data analytics workloads.

33. Which of the following factors affect Amazon CloudFront cost? (Choose TWO)

Ans: Number of request and traffic Distribution

Explanation

To estimate the costs of an Amazon CloudFront distribution consider the following:

- Data Transfer Out.
- Traffic distribution.
- Number of requests.

34. Which of the following AWS support plans provides access to only the seven core AWS Trusted Advisor checks?

Ans: Basic and Developer support plans

Explanation

Basic and Developer support plans provide access to only 7 core Trusted Advisor checks and guidance to provision your resources following best practices to increase performance and improve security. Business and Enterprise level Support Plans provide access to a full set of Trusted Advisor checks. You can see this full set here: <https://aws.amazon.com/premiumsupport/technology/trusted-advisor/best-practice-checklist/>

References:

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

35. Which of the following Cloud Computing deployment models eliminates the need to run and maintain physical data centers?

Ans: Cloud

Explanation

There are three Cloud Computing Deployment Models:

1- Cloud:

A cloud-based application is fully deployed in the cloud and all parts of the application run in the cloud. This Cloud Computing deployment model eliminates the need to run and maintain physical data centers.

2- Hybrid:

A hybrid deployment is a way to connect infrastructure and applications between cloud-based resources and existing resources that are not located in the cloud (On-premises data centers).

3- On-premises:

Deploying resources on-premises, using virtualization and resource management tools, is sometimes called "private cloud". On-premises deployment does not provide many of the benefits of cloud computing but is sometimes sought for its ability to provide dedicated resources.

36. Which statement is true regarding AWS pricing? (Choose TWO)

- With AWS, you don't have to pay an upfront fee(Correct)
- You only pay for the individual services that you need with no long term contracts(Correct)

Explanation

AWS provides three pricing models:

- 1- Pay-as-you-go
- 2- Save when you reserve
- 3- Pay less by using more

With the AWS pay-as-you-go model, you only pay for what you consume, you don't have to pay any money upfront and there are no long term contracts. AWS pricing is similar to how you pay for utilities like water and electricity. You only pay for the services you consume, and once you stop using them, there are no additional costs or termination fees.

37. What are the benefits of the AWS Organizations service? (Choose TWO)

Ans: --Control Access to AWS service

- Consolidate billing across multiple AWS account

Explanation

AWS Organizations has five main benefits:

- 1) Centrally manage access policies across multiple AWS accounts.
- 2) Automate AWS account creation and management.
- 3) Control access to AWS services.
- 4) Consolidate billing across multiple AWS accounts.
- 5) Configure AWS services across multiple accounts.

38. According to the AWS shared responsibility model, what are the controls that customers fully inherit (विरसो) from AWS? (Choose TWO)

Ans: data center security and environmental control

Explanation

AWS is responsible for physical controls and environmental controls. Customers inherit these controls from AWS.

As mentioned in the [AWS Shared Responsibility Model page](#), Inherited Controls are controls which a customer fully inherits from AWS such as physical controls and environmental controls.

As a customer deploying an application on AWS infrastructure, you inherit security controls pertaining to the AWS physical, environmental and media protection, and no longer need to provide a detailed description of how you comply with these control families.

39. Which feature enables users to sign in to their AWS accounts with their existing corporate credentials?

Ans: Federation

Explanation

With Federation, you can use single sign-on (SSO) to access your AWS accounts using credentials from your corporate directory. Federation uses open standards, such as Security Assertion Markup Language 2.0 (SAML), to exchange identity and security information between an identity provider (IdP) and an application.

AWS offers multiple options for federating your identities in AWS:

1- AWS Identity and Access Management (IAM): You can use AWS Identity and Access Management (IAM) to enable users to sign in to their AWS accounts with their existing corporate credentials.

2- AWS Directory Service: AWS Directory Service for Microsoft Active Directory, also known as AWS Microsoft AD, uses secure Windows trusts to enable users to sign in to the AWS Management Console, AWS Command Line Interface (CLI), and Windows applications running on AWS using their existing corporate Microsoft Active Directory credentials.

40. Which of the following is NOT a benefit of using AWS Lambda?

Ans: Not true, Lambda is provide resizable Compute capacity in cloud

Explanation

The option **"AWS Lambda provides resizable compute capacity in the cloud"** is not a benefit of AWS Lambda, and thus is the correct choice.

AWS Lambda automatically runs your code without requiring you to adjust capacity or manage servers. AWS Lambda automatically scales your application by running code in response to each

trigger. Your code runs in parallel and processes each trigger individually, scaling precisely with the size of the workload.

41. Which database should you use if your application and data schema require "joins" or complex transactions?

Ans: AWS RDS

Explanation

If your database's schema cannot be denormalized, and your application requires joins or complex transactions, consider using a relational database such as Amazon RDS.

Amazon DynamoDB is incorrect. A key-value database such as Amazon DynamoDB is a type of non-relational database that uses a simple key-value method to store and retrieve data. DynamoDB does not support complex relational queries such as joins or complex transactions.

42. How does AWS help customers achieve compliance(պահպանում) in the cloud?

Ans: ISO 9001, 2700 and HIPAA

Explanation

AWS environments are continuously audited, and its infrastructure and services are approved to operate under several compliance standards and industry certifications across geographies and industries, including PCI DSS, ISO 2700, ISO 9001, and HIPAA. You can use these certifications to validate the implementation and effectiveness of AWS security controls. For example, AWS companies that use AWS products and services to handle credit card information can rely on AWS technology infrastructure as they manage their PCI DSS compliance certification.

43. What is the AWS S3 storage class that has the lowest availability rating?

Ans: S3 One Zone-IA

Explanation

S3 One Zone-IA has the lowest availability rating: 99.5%. S3 One Zone IA only stores data in 1 availability zone instead of multiple availability zones that the other storage classes utilize.

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44. For some services, AWS automatically replicates data across multiple Availability Zones to provide fault tolerance in the event of a server failure or Availability Zone outage. Select TWO services that automatically replicate data across Availability Zones.

Ans : S3 and DynamoDB

Explanation

For S3 Standard, S3 Standard-IA, and S3 Glacier storage classes, your objects are automatically stored across multiple devices spanning a minimum of three Availability Zones, each separated by miles across an AWS Region. This means your data is available when needed and protected against AZ failures, errors, and threats.

All of your data in DynamoDB is stored on solid state disks (SSDs) and is automatically replicated across multiple Availability Zones within an AWS region, providing built-in high availability and data durability.

45. What is the benefit of Amazon EBS volumes being automatically replicated within the same availability zone?

Ans: Durability

Explanation

Durability refers to the ability of a system to assure data is stored and data remains consistent in the system as long as it is not changed by legitimate access. This means that data should not become corrupted or disappear due to a system malfunction.

Durability is used to measure the likelihood of data loss. For example, assume you have confidential data stored in your Laptop. If you make a copy of it and store it in a secure place, you have just improved the durability of that data. It is much less likely that all copies will be simultaneously destroyed.

Amazon EBS volume data is replicated across multiple servers in an Availability Zone to prevent the loss of data from the failure of any single component. The replication of data makes EBS volumes 20 times more durable than typical commodity disk drives, which fail with an AFR (annual failure rate) of around 4%. For example, if you have 1,000 EBS volumes running for 1 year, you should expect 1 to 2 will have a failure.

Additional information:

Amazon S3 is also considered a durable storage service. Amazon S3 is designed for 99.999999999% (11 9's) durability. This means that if you store 100 billion objects in S3, you will lose one object at most.

46. Each AWS Region is composed of multiple Availability Zones. Which of the following best describes what an Availability Zone is?

Ans: its distinct location within region that is insulated from failures in other availability Zones

Explanation

Availability Zones are distinct locations within a region that are insulated from failures in other Availability Zones.

Note:

Although Availability Zones are insulated from failures in other Availability Zones, they are connected through private, low-latency links to other Availability Zones in the same region.

47. Which of the following procedures can reduce latency when your end users are retrieving data? (Choose TWO)

- Store media assets in s3 and use CloudFront to distribute there assets
- Store media assets in the region closest to your end users

Explanation

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

CloudFront is the best solution to reduce latency if you have users from different places around the world.

Storing media assets in a region closer to the end-users can help reduce latency for those users. This is because these assets will travel a shorter distance over the network.

48. What is the recommended storage option when hosting an often-changing database on an Amazon EC2 instance?

Ans : AWS EBS

Explanation

Amazon EBS provides durable, block-level storage volumes that you can attach to a running EC2 instance. You can use Amazon EBS as a primary storage device for data that requires frequent and granular updates. Amazon EBS is the recommended storage option when you run a database on an EC2 instance.

49. Which of the following are part of the seven design principles for security in the cloud? (Choose TWO)

- Enable Real-time traceability
- Use IAM roles to grant temporary access instead of long-term credentials

Explanation

There are seven design principles for security in the cloud:

1- **Implement a strong identity foundation**: Implement the principle of least privilege and enforce separation of duties with appropriate authorization for each interaction with your AWS resources. Centralize privilege management and reduce or even eliminate reliance on long-term credentials.

2- **Enable traceability: Monitor, alert, and audit actions and changes to your environment in real time**. Integrate logs and metrics with systems to automatically respond and take action.

- 3- **Apply security at all layers**: Rather than just focusing on protection of a single outer layer, apply a defense-in-depth approach with other security controls. Apply to all layers (e.g., edge network, VPC, subnet, load balancer, every instance, operating system, and application).
- 4- **Automate security best practices**: Automated software-based security mechanisms improve your ability to securely scale more rapidly and cost effectively. Create secure architectures, including the implementation of controls that are defined and managed as code in version-controlled templates.
- 5- **Protect data in transit and at rest**: Classify your data into sensitivity levels and use mechanisms, such as encryption, tokenization, and access control where appropriate.
- 6- **Keep people away from data**: Create mechanisms and tools to reduce or eliminate the need for direct access or manual processing of data. This reduces the risk of loss or modification and human error when handling sensitive data.
- 7- **Prepare for security events**: Prepare for an incident by having an incident management process that aligns to your organizational requirements. Run incident response simulations and use tools with automation to increase your speed for detection, investigation, and recovery.

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51.