Jan 15 set A1

Total points   65/65   ❓

Full Marks :65
Pass Marks: 47

Email *

07yamini2055@gmail.com

0 of 0 points

Full Name *

Ira Chand

Questions   **65 of 65 points**

Read Questions Carefully

✓ When utilizing the AWS Command Line Interface (AWS CLI), which of the *1/1
following Identity and Access Management (IAM) entities is connected
with an access key ID and secret access key?

○ IAM group

◉ IAM user   ✓

○ IAM role

○ IAM policy

Feedback

*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).*

✓ Which AWS service should be used to monitor Amazon EC2 instances for *1/1
CPU and network utilization?

○ Amazon Inspector

○ AWS CloudTrail

◉ Amazon CloudWatch   ✓

○ AWS Config

Feedback

*Using Amazon CloudWatch, which is a monitoring service provided by AWS. CloudWatch
provides metrics and logs for ECS, such as CPU and memory usage for the container
instances, the number of tasks and
services running, and the number of containers that are being deployed or stopped.*

✓ A company is planning to run a global marketing application in the AWS   *1/1
   Cloud. The application will feature videos that can be viewed by users.
   The company must ensure that all users can view these videos with low
   latency. Which AWS service should the company use to meet this
   requirement?

○ AWS Auto Scaling

○ Amazon Kinesis Video Streams

○ Elastic Load Balancing

◉ Amazon CloudFront   ✓

Feedback

*Amazon CloudFront is a web service that speeds up distribution of your static and
dynamic web content, such as .html, .css, .js, and image files, to your users. CloudFront
delivers your content through a worldwide network of data centers called edge locations.
When a user requests content that you're serving with CloudFront, the request is routed to
the edge location that provides the lowest latency (time delay), so that content is delivered
with the best possible performance.*

✓ Which of these AWS services is recommended to track changes made to *1/1
your AWS resources?

○ Amazon GuardDuty

○ Amazon CloudWatch

◉ AWS CloudTrail   ✓

○ AWS X-Ray

Feedback

Explanation
- AWS CloudTrail - Track events, API calls, changes made to your AWS resources. Who (made the request), What (action, parameters, end result) and When?

- AWS Config - Auditing: Complete inventory of your AWS resources. Resource history and change tracking - Find how a resource was configured at any point in time Governance - Customize Config Rules for specific resources or for entire AWS account and Continuously evaluate compliance against desired configuration

- Amazon CloudWatch - Monitoring and observability service

- Collects monitoring and operational data in the form of logs, metrics, and events

- Set alarms, visualize logs, take automated actions and troubleshoot issues

✓ **Which of the following AWS services should a client utilize to audit the change management of AWS resources?**   *1/1

◉ AWS Config   ✓

○ AWS Trusted Advisor

○ Amazon CloudWatch

○ Amazon Inspector

Feedback

AWS Config is a service that enables you to assess, audit, and evaluate the configurations of your AWS resources.Config continuously monitors and records your AWS resource configurations and allows you to automate the evaluation of recorded configurations against desired configurations.

✓ **Which AWS service can identify the person who made the API request when an Amazon EC2 instance is terminated?**   *1/1

○ Amazon CloudWatch

◉ AWS CloudTrail   ✓

○ AWS X-Ray

○ AWS Identity and Access Management (IAM)

Feedback

AWS CloudTrail allows AWS customers to record API calls, sending log files to Amazon S3 buckets for storage

✓ Security and Compliance in AWS is a: *   1/1

○ Responsibility of AWS

○ Responsibility of Customer

◉ Shared Responsibility of AWS and Customer   ✓

○ None of the above

Feedback

Explanation
Shared Responsibility Model

- Security & Compliance - Shared responsibility:

- AWS manages security of the cloud:

- Operates, manages & controls Host OS and virtualization layer down to the physical security.

- YOU are responsible for security in the cloud:

- Guest OS (patches), Application S/W, Security Groups, Integrating AWS Services with IT environments

✓ **Which of these S3 storage classes does NOT provide immediate access to data (select 2)?** *1/1

☐ Standard

☑ Glacier   ✓

☑ Glacier Deep Archive   ✓

☐ Standard-IA

☐ One Zone-IA

Feedback

Explanation
Amazon S3 Storage Classes

- Standard - Frequently accessed data. First Byte: ms

- Standard-IA - Long-lived, infrequently accessed data (backups for disaster recovery). First Byte: ms

- One Zone-IA - Long-lived, infrequently accessed, non-critical data (Easily re-creatable data - thumbnails for images). First Byte: ms

- Intelligent-Tiering - Long-lived data with changing or unknown access patterns

- Glacier - Archive data with retrieval times ranging from minutes to hours (RETRIEVAL - MINUTES TO HOURS)

- Glacier Deep Archive - Archive data that rarely, if ever, needs to be accessed with retrieval times in few hours (RETRIEVAL - FEW HOURS)

- Reduced Redundancy (Not recommended) - Frequently accessed, non-critical data

✓ A company has a single Amazon EC2 instance. The company wants to   *1/1
   adopt a highly available architecture . What can the company do to meet
   this requirement ?

○ Scale vertically to a larger EC2 instance size

◉ Scale horizontally across multipleAvailability Zones   ✓

○ Purchase an EC2 Dedicated Instance.

○ Change the EC2 instance family to a compute optimized instance.

Feedback

*AWS Auto Scaling monitors your applications and automatically adjusts capacity to
maintain steady ,
predictable performance at the lowest possible cost. Using AWS Auto Scaling , it's easy to
setup
application scaling for multiple resources across multiple services in minutes.*

✓ **Which of these are NOT IAM Best Practices (Select 2)? ***   1/1

☑ Use Root User Regularly for IAM operations   ✓

☑ Share IAM User credentials   ✓

☐ Manage permissions with groups

☐ Configure a strong password policy

☐ Grant least privilege

Feedback

Explanation
IAM Best Practices

- Users – Create individual users

- Groups – Manage permissions with groups

- Permissions – Grant least privilege

- Auditing – Turn on AWS CloudTrail

- Password – Configure a strong password policy

- MFA – Enable MFA for privileged users

- (Hardware device - Gemalto, Virtual device - An app on a smart phone)

- Roles – Use IAM roles for Amazon EC2 instances

- Sharing – Use IAM roles to share access

- Rotate – Rotate security credentials regularly

- Root – Reduce or remove use of root

✓   Which of these AWS services helps you to add authentication and   *1/1
     authorization to your mobile and web apps?

○   AWS Step Functions

○   AWS Lambda

○   AWS API Gateway

◉   Amazon Cognito   ✓

Feedback

Explanation
- Amazon API Gateway - front door to your APIs

- Fully managed - "publish, maintain, monitor, and secure APIs at any scale"

- Integrates with AWS Lambda or any web application

- Amazon Cognito: Add authentication and authorization to your mobile and web apps

- Integrate with web identity providers (ex: Google, Facebook)

- Add multi-factor authentication (MFA), phone and email verification

- Sync user data across devices, platforms, and applications

- AWS Step Functions: Create a serverless workflow in 10 Minutes using a visual approach

- Orchestrate multiple AWS services into

- Serverless Application Model: Simplify creation and deployment of serverless applications

- AWS Lambda: Serverless compute

✓ **How should an Amazon EC2 instance be granted access to an Amazon   *1/1
S3 bucket in accordance with security best practices ?**

○ Hard code an IAM user's secret key and access key directly in the application , and
upload the file.

○ Store the IAM user's secret key and access key in a text file on the EC2 instance,
read the keys, then upload the file.

◉ Have the EC2 instance assume a role to obtain the privileges to upload the file.   ✓

○ Modify the S3 bucket policy so that any service can upload to it at any time.

Feedback

To connectto your S3 buckets from your EC2 instances,
you must dothe following :
•1 . Create an AWS Identity and Access Management
(IAM) profile role that grants access to Amazon S3.
•2. Attach the IAM instance profile to the instance.
•3. Validate permissions on your S3 bucket.
•4. Validate network connectivity from the EC2 instance to
Amazon S3.
•5. Validate access to S3 buckets .

✓ Who is responsible for configuration management under the AWS shared *1/1
responsibility model?

○ It is solely the responsibility of the customer.

○ It is solely the responsibility of AWS.

◉ It is shared between AWS and the customer.   ✓

○ It is not part of the AWS shared responsibility model.

Feedback

*AWS maintains the configuration of its infrastructure devices, but a customer is responsible for
configuring their own guest operating systems, databases, and applications.*

✓ Which AWS service or feature acts as a firewall for Amazon EC2   *1/1
instances?

○ Network ACL

○ Elastic network interface

○ Amazon VPC

◉ Security group   ✓

Feedback

A security group is a virtual firewall that controls inbound and outbound traffic for an Amazon EC2 instance.

✓ Which of these is NOT a responsibility of AWS under the shared   *1/1
responsibility model?

○ Ensuring that services like Amazon S3 and Amazon DynamoDB are highly available

○ Providing information on AWS IT control environment (white papers, certifications etc)

○ Ensuring adherence of AWS IT Infrastructure with IT security standards

◉ Controls based on the applications deployed to AWS   ✓

Feedback

Explanation
- Compliance responsibilities will be shared

- AWS ensures adherence of IT Infrastructure with IT security standards

- AWS provides information on its IT control environment (white papers, certifications etc)

- Customers perform their evaluation (use AWS control and compliance documentation)

- IT controls are of three types:

- Inherited Controls (Customer fully inherits from AWS) : Physical and Environmental controls

- Shared Controls (Controls shared by AWS and Customer)

- Patch Management: AWS (Infrastructure Patches), Customer (Guest OS Patches and Software Patches)

- Configuration Management: AWS (Infrastructure), Customer (Guest OS, databases, and applications)

- Awareness & Training

- Customer Owned Controls

- Controls based on the applications deployed to AWS

- Data Security Requirements

✓ **Which AWS service or functionality is utilized by distributed applications to send text and email messages?** *1/1

🔘 Amazon Simple Notification Service (Amazon SNS)   ✓

⚪ Amazon Simple Email Service (Amazon SES)

⚪ Amazon CloudWatch alerts

⚪ Amazon Simple Queue Service (Amazon SQS)

Feedback

Amazon Simple Notification Service (Amazon SNS) is a fully managed messaging service for both application-to-application (A2A) and application-to-person (A2P) communication.

✓ **What are the possible uses for AWS edge locations? (Select two.)** *   1/1

☐ Hosting applications

☑ Delivering content closer to users   ✓

☐ Running NoSQL database caching services

☑ Reducing traffic on the server by caching responses   ✓

☐ Sending notification messages to end users

✓ On-premises resources have been underused by a user.   *   1/1
Which AWS Cloud idea is optimal for resolving this issue?

○ High availability

◉ Elasticity   ✓

○ Security

○ Loose coupling

Feedback

Most people, when thinking of cloud computing, think of the ease with which they can procure resources when needed. This is only one aspect to elasticity. The other aspect is to contract when they no longer need resources. Scale out and scale in. Scale up and scale down.

✓ Which costs must be addressed when comparing AWS Cloud vs on-premises Total Cost of Ownership? (Select two.)   *1/1

☐ Software development

☐ Project management

☑ Storage hardware   ✓

☑ Physical servers   ✓

☐ Antivirus software license

Feedback

To get the most out of your estimates, you should have a good idea of your basic requirements. For example, if you're going to try Amazon Elastic Compute Cloud (Amazon EC2), it might help if you know what kind of operating system you need, what your memory requirements are, and how much I/O you need. You should also decide whether you need storage, such as if you're going to run a database and how long you intend to use the servers. You don't need to make these decisions before generating an estimate, though. You can play around with the service configuration and parameters to see which options fit your use case and budget best.

✓ A corporation anticipates a brief increase in internet traffic for their application. The program cannot be interrupted during the traffic spike. In addition,   *1/1
the organization must reduce costs while increasing flexibility.To achieve these needs, which Amazon EC2 instance type should the organization use?

◉ On-Demand Instances   ✓

○ Spot Instances

○ Reserved Instances

○ Dedicated Hosts

✓ **What are the advantages of AWS Cloud elasticity? ***   1/1

○ Ensure web traffic is automatically spread across multiple AWS Regions.

○ Minimize storage costs by automatically archiving log data.

○ EnableAWS to automatically select the most cost-effective services

◉ Automatically adjust the required compute capacity to maintain consistent   ✓

Feedback

Elasticity
The ability to acquire resources as you need them and release resources when you no longer need them. In the cloud, you want to do this automatically .

✓ **Which of the following is a shared control between a client and AWS under the**
shared responsibility model?   *1/1

○ Physical controls

◉ Patch management   ✓

○ Zone security

○ Data center auditing

Feedback

Patch Management: AWS is responsible for patching and fixing flaws within the infrastructure, but customers are responsible for patching their guest OS and applications

✓ Which AWS service uses machine learning to help discover, monitor, and *1/1
protect sensitive data that is stored in Amazon S3 buckets?

○ AWS Shield

● Amazon Macie   ✓

○ AWS Network Firewall

○ Amazon Cognito

Feedback

Amazon Macie is a data security and data privacy service that uses machine learning (ML) and
pattern matching to discover and protect your sensitive data.

✓ Which functionality may be utilized to prevent inadvertent overwrites or *1/1
deletions of Amazon S3 buckets?

○ Lifecycle policy

● Object versioning   ✓

○ Server-side encryption

○ Bucket ACL

Feedback

S3 Object Versioning is one of the most salient features in Amazon S3.
Object versioning is used to avoid unintended overwrite and deletion.
Versioning is not enabled by default and this features used to keep
multiple versions of objects at the same time in the bucket.

✓ **Which statement best describes the AWS Cloud's agility? ***   1/1

○ Agility gives users the ability to host applications in multiple AWS Regions around the world.

○ Agility gives users the ability to pay upfront to reduce cost

○ Agility provides customizable physical hardware at the lowest possible cost.

◉ Agility provides the means for users to provision resources in minutes.   ✓

Feedback

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 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.

✓ **Which of the following are features of network ACLs as they are used in the AWS Cloud? (Choose two.)** *1/1

☑ They are stateless ✓

☐ They are stateful.

☐ They evaluate all rules before allowing traffic.

☑ They process rules in order, starting with the lowest numbered tule, when deciding whether to allow traffic. ✓

☐ They operate at the instance level.

Feedback

*Network ACLs are stateless, which means that responses to allowed inbound traffic are subject to
the rules for outbound traffic (and vice versa).*

*Evaluate the network ACL rules when traffic enters and leaves the subnet, not as it is routed
within a subnet,*

✓ **Which component of the AWS architecture permits global computing and storage deployment?** *1/1

○ Availability Zones

◉ Regions ✓

○ Tags

○ Resource groups

Feedback

The AWS Cloud spans 99 Availability Zones within 31 geographic regions around the world,with announced plans for 12 more Availability Zones and 4 more AWS Regions in Canada,Israel, New Zealand, and Thailand.

✓ One of the IAM best practices is to provide users with the minimum   *1/1
access they would need to be able to perform their duties. Which of these
represents this best practice?

◉ Grant least privilege   ✓

◯ Rotate security credentials regularly

◯ Enable MFA for privileged users

◯ Configure a strong password policy

Feedback

Explanation
IAM Best Practices

- Users – Create individual users

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- Permissions – Grant least privilege

- Auditing – Turn on AWS CloudTrail

- Password – Configure a strong password policy

- MFA – Enable MFA for privileged users

- (Hardware device - Gemalto, Virtual device - An app on a smart phone)

- Roles – Use IAM roles for Amazon EC2 instances

- Sharing – Use IAM roles to share access

- Rotate – Rotate security credentials regularly

- Root – Reduce or remove use of root

✓   In the case of an larger environmental disruption, a company needs to   *1/1
    make sure its infrastructure is structured for fault tolerance and business
    continuity.Which parts of the AWS architecture should the organization
    replicate?

○   Edge locations

○   Availability Zones

◉   Regions   ✓

○   Amazon Route 53

Feedback

AWS has the concept of a Region, which is a physical location around the world where we cluster data centers.We call each group of logical data centers an Availability Zone. Each AWS Region consists of a minimum of three, isolated, and physically separate AZs within a geographic area. Unlike other cloud providers, who often define a region as a single data center, the multiple AZ design of every AWS Region offers advantages for customers. Each AZ has independent power, cooling, and physical security and is connected via redundant,ultra low-latency networks.

✓ Which of these options is recommend to efficiently deliver static content *1/1
    with low latency to global users in AWS?

○ Create a static website using an S3 bucket

⦿ Create a static website using an S3 bucket and distribute content to edge   ✓
    locations using CloudFront

○ Deploy static website on EC2 instances and load balance using ELB

○ Create a static website using AWS Lambda

Feedback

Explanation
- You can host static content using Amazon S3 bucket

- Amazon CloudFront - Content Delivery Network

- Deliver content to your global audience

- Content Distributed to 200+ edge locations around the world

- Provides high availability and low latency

- Serve users from nearest edge location (based on user location)

- If content is not available at the edge location, it is retrieved from the origin server and cached

- Content Source - S3, EC2, ELB or External Websites

✓ Which solution enables users in various AWS Regions to have the
FASTEST application response times for frequently requested data? *1/1

○ AWS CloudTrail across multiple Availability Zones

◉ Amazon CloudFront to edge locations ✓

○ AWS CloudFormation in multiple regions

○ A virtual private gateway over AWS Direct Connect

Feedback

*You can deliver content and decrease end-user latency of your web application using
Amazon CloudFront. CloudFront speeds up content delivery by leveraging its global
network of data centers, known as edge locations, to reduce delivery time by caching your
content close to your end users. CloudFront fetches your content from an origin, such as
an Amazon S3 bucket, an Amazon EC2 instance, an Amazon Elastic Load Balancing load
balancer or your own web server, when it's not already in an edge location. CloudFront can
be used to deliver your entire website or application, including dynamic, static, streaming,
and interactive content.*

✓ A company wants to migrate a critical application to AWS. The   *1/1
application has a short runtime. The application is
invoked by changes in data or by shifts in system state. The company
needs a compute solution that maximizes
operational efficiency and minimizes the cost of running the application.
Which AWS solution should the company use to meet these
requirements?

○ Amazon EC2 On-Demand Instances

◉ AWS Lambda   ✓

○ Amazon EC2 Reserved Instances

○ Amazon EC2 Spot Instances

Feedback

AWS Lambda supports function packaging and deployment as container images, making it
easy for customers to build Lambda-based applications using familiar container image
tooling, workflows, and dependencies. Customers also benefit from Lambda's operational
simplicity, automatic scaling with sub-second startup times, high availability, pay-for-use
billing model, and native integrations with over 200 AWS services and software-as-a
service
(SaaS) applications.

✓ Which of these is an easy-to-use AWS service for deploying and scaling   *1/1
web applications and services developed with Java, . NET, PHP, Node. js,
Python, Ruby and Go?

◉ AWS Elastic Beanstalk   ✓

○ AWS Elastic Container Service (ECS)

○ AWS Auto Scaling

○ Elastic Load Balancing

✓   What is the customer's obligation while using an AWS managed service   *1/1
    under the AWS shared
    responsibility model?

○   Physical security of the data centers

○   Server-side encryption

⦿   Customer data   ✓

○   Operating system patching

Feedback

Customers are responsible for managing their data (including encryption options), classifying their assets, and using IAM tools to apply the appropriate permissions.

✓   According to the AWS shared responsibility model, who is responsible for *1/1
    managing IAM user access and secret keys?

○   IAM access and secret keys are static, so there is no need to rotate them.

⦿   The customer is responsible for rotating keys.   ✓

○   AWS will rotate the keys whenever required.

○   The AWS Support team will rotate keys when requested by the customer.

Feedback

The customer is responsible for rotating keys.

✓   **Which of the following are advantages of the AWS Cloud? (Choose two.)** *   1/1

☐   AWS management of user-owned infrastructure

☑   Ability to quickly change required capacity   ✓

☑   High economies of scale   ✓

☐   Increased deployment time to market

☐   Increased fixed expenses

Feedback

More customers lead to higher AWS usage which leads to more infrastructure.

The economies of scale effect occurs because costs can now be spread over a larger number of customers. The infrastructure becomes cheaper, prices can be reduced and newcustomers benefit from the lower prices.

✓   Which of these represents horizontal scaling of EC2 instances? *   1/1

○   Increasing EC2 instance size: Example: t2.micro to t2.small

○   Switch from EC2 instances to AWS Lambda

◉   Creating multiple EC2 instances to share the load and using an Elastic Load   ✓
    Balancer to distribute load between them

○   Reducing EC2 instance size: Example: t2.large to t2.small

Feedback

Explanation
- Vertical Scaling - Deploying to a bigger instance:

- More RAM, CPU, I/O, or networking capabilities

*- Increasing EC2 instance size: Example: *t2.micro* to *t2.small**

- Horizontal Scaling - Deploying multiple instances:

- Horizontal scaling increases availability

- (BUT) Horizontal Scaling needs additional infrastructure: Load Balancers etc.

✓ What is raised when a business deploys web servers across several AWS *1/1
   Regions?

○ Coupling

⦿ Availability   ✓

○ Security

○ Durability

Feedback

Availability (also known as service availability) is both a commonly used metric to quantitatively measure resiliency, as well as a target resiliency objective.

Availability is the percentage of time that a workload is available for use.
Available for use means that it performs its agreed function successfully when required.

✓ What is the scope of a VPC within the AWS network? *   1/1

○ A VPC can span all Availability Zones globally.

○ A VPC must span at least two subnets in each AWS Region.

○ A VPC must span at least two edge locations in each AWS Region.

⦿ A VPC can span all Availability Zones within an AWS Region.   ✓

Feedback

Amazon VPC lets you provision a logically isolated section of the Amazon Web Services(AWS) cloud where you can launch AWS resources in a virtual network that you define. You have complete control over your virtual networking environment, including selection of your own IP address ranges, creation of subnets, and configuration of route tables and network gateways.

✓ **What can users do using AWS Marketplace? (Select two.)** *   1/1

☐ Sell unused Amazon EC2 Spot Instances.

☑ Sell solutions to other AWS users   ✓

☑ Buy third-party software that runs on AWS.   ✓

☐ Purchase AWS security and compliance documents

☐ Order AWS Snowball.

Feedback

The AWS Marketplace enables qualified partners to market and sell their software to AWS. Customers. AWS Marketplace is an online software store that helps customers find, buy, and immediately start using the software and services that run on AWS.

✓ **Which AWS service or feature allows users to connect with and deploy AWS services programmatically?**   *1/1

○ AWS Management Console

○ AWS Cloud9

○ AWS CLI

◉ AWS software development kits (SDKs)   ✓

Feedback

AWS software development kits (SDKs) allow users to connect with and deploy AWS services programmatically. AWS provides SDKs for several popular programming languages, including Java, Python, JavaScript, and C++.

✓ A company plans to create a data lake that uses Amazon S3.Which factor *1/1
will have the MOST effect on cost?

◉ The selection of S3 storage tiers   ✓

○ Charges to transfer existing data into Amazon S3

○ The addition of S3 bucket policies

○ S3 ingest fees for each request

Feedback

They pick out storage tier from all the options can largely effect the final cost.

✓ Which compute hosting model should be accounted for in the Total Cost *1/1
of Ownership (TCO) when
undertaking a cost analysis that allows physical isolation of a customer
workload?

◉ Dedicated Hosts   ✓

○ Reserved Instances

○ On-Demand Instances

○ No Upfront Reserved Instances

Feedback

*Use Dedicated Hosts to launch Amazon EC2 instances on physical servers that are
dedicated for your use. Dedicated
Hosts give you additional visibility and control over how instances are placed on a physical
server, and you can reliably
use the same physical server over time. As a result, Dedicated Hosts enable you to use
your existing server-bound
software licenses like Windows Server and address corporate compliance and regulatory
requirements.*

✓   Which AWS service is responsible for monitoring the health of your   *1/1
    applications automatically?

○   Amazon API Gateway

◉   AWS Elastic Beanstalk   ✓

○   AWS Lambda

○   AWS Config

Feedback

With Elastic Beanstalk, you can quickly deploy and manage applications in the AWS Cloud without having to learn about the infrastructure that runs those applications. Elastic Beanstalk reduces management complexity without restricting choice or control. You simply upload your application,and Elastic Beanstalk automatically handles the details of capacity provisioning, load balancing,scaling, and application health monitoring.

✓   **Which of these is a threat detection service that continuously monitors**   *1/1
for malicious activity and unauthorized behavior to protect your AWS
accounts?

○ AWS WAF (Web Application Firewall)

◉ Amazon GuardDuty   ✓

○ AWS Shield

○ Amazon Macie

Feedback

Explanation
- AWS Shield - Shields from Distributed Denial of Service (DDoS) attacks

- AWS WAF - Web Application Firewall - AWS WAF protects your web applications from
OWASP Top 10 exploits, CVE and a lot more!

- Amazon Macie - Fully managed data security and privacy service Uses machine learning
to identify sensitive data in Amazon S3 (Recommendation) When migrating data to AWS
use S3 for staging and Run Macie

- Amazon GuardDuty - Continuously monitor AWS environment for suspicious activity
(Intelligent Threat Detection). Analyzes AWS CloudTrail events, VPC Flow Logs etc.

✓   **A company is using the AWS Free Tier for several AWS services for an**   *1/1
application.
What will happen if the Free Tier usage period expires or if the application
use exceeds the Free Tier usage limits?

◉ The company will be charged the standard pay-as-you-go service rates for the   ✓
usage that exceeds the Free Tier usage.

○ AWS Support will contact the company to sell up standard service charges.

○ The company will be charged for the services it consumed during the Free Tier
period, plus additional charges for service consumption after the Free Tier period.

○ The company's AWS account will be frozen and can be restarted after a payment
plan is established.

✓ To achieve high availability, how many Availability Zones should   *1/1
computing resources be provided across?

○ A minimum of one

◉ A minimum of two   ✓

○ A minimum of three

○ A minimum of four or more

✓ Which security-related duty is AWS accountable for under the AWS   *1/1
shared
responsibility model?

○ Lifecycle management of IAM credentials

◉ Physical security of global infrastructure   ✓

○ Encryption of Amazon EBS volumes

○ Firewall configuration

Feedback

*Security and Compliance is a shared responsibility between AWS and the customer. This shared
model can help relieve the customer's operational burden as AWS operates, manages and controls
the components from the host operating system and virtualization layer down to the physical
security of the facilities in which the service operates.*

✓ A company is launching an ecommerce application that must always be *1/1
available. The application will run on
Amazon EC2 instances continuously for the next 12 months.
What is the MOST cost-effective instance purchasing option that meets
these requirements?

○ Spot Instances

◉ Savings Plans   ✓

○ Dedicated Hosts

○ On-Demand Instances

Feedback

*Amazon EC2 Savings Plans enable you to reduce your compute costs by committing to a
consistent amount of compute usage for a 1-year or 3-year term. This results in savings of
up to 72% over On-Demand Instance costs. Any usage up to the commitment is charged at
the
discounted Savings Plan rate (for example, $10 an hour). Any usage beyond the
commitment is charged at regular On-Demand Instance rates.*

✓ Which of the following price options would result in the highest reduction *1/1
   after making an Amazon EC2 Dedicated Host reservation ?

○ No upfront payment

○ Hourly on-demand payment

○ Partial upfront payment

● All upfront payment   ✓

Feedback

With the All Upfront option, you pay for the entire Dedicated Host Reservation with one upfront payment. This option provides you with the largest discount compared to On Demand pricing

✓ Who is accountable for security and compliance under the AWS shared *1/1
   responsibility model?

○ The customer is responsible.

○ AWS is responsible.

● AWS and the customer share responsibility.   ✓

○ AWS shares responsibility with the relevant governing body.

Feedback

Security and Compliance is a shared responsibility between AWS and the customer. This shared model can help
relieve the customer's operational burden as
AWS operates, manages and controls the components from the host operating system and virtualization layer
down to the physical security of the facilities in which the service operates.

✓ Because of compliance requirements, your applications can only be   *1/1
deployed in a single geographic location. Which of these options can you
consider to increase availability of your application?

○ Deploy EC2 instances to multiple edge locations

○ Deploy EC2 instances in a single availability zone

◉ Deploy EC2 instances to multiple availability zones   ✓

○ Deploy EC2 instances to multiple regions

Feedback

Explanation
Your applications can only be deployed in a single geographic location => You can only
use one Region

To increase availability, you can deploy to multiple Availability Zones!

✓ Which statement best describes the AWS Cloud's agility? *   1/1

○ Agility gives users the ability to host applications in multiple AWS Regions around
the world.

○ Agility gives users the ability to pay upfront to reduce cost.

○ Agility provides customizable physical hardware at the lowest possible cost.

◉ Agility provides the means for users to provision resources in minutes.   ✓

Feedback

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
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.

✓ **Which cloud architecture design concept is supported by distributing workloads across various Availability Zones?**   *1/1

○ Implement automation.

○ Design for agility.

◉ Design for failure.   ✓

○ Implement elasticity.

Feedback

Design of failure : Distribute workload data and resources across multiple Availability Zones
(AZs) or, where necessary, across AWS Regions. These locations can be as diverse as required.

✓ **Which component of the AWS global infrastructure is made up of one or more discrete data centers that have
redundant power, networking, and connectivity?** *1/1

○ AWS Region

◉ Availability Zone ✓

○ Edge location

○ AWS Outposts

Feedback

*An Availability Zone (AZ) is a component of the AWS global infrastructure that is made up of one
or more discrete data centers that have redundant power, networking, and connectivity.
Each AZ
is physically separated from other AZs within a region, and is designed to be fault-tolerant and
provide low-latency networking.*

✓ **Which of the following is a critical design concept for architecting cloud applications?**   *1/1

○ Use the largest instance possible

○ Provision capacity for peak load

○ Use the Scrum development process

◉ Implement elasticity   ✓

Feedback

Cloud services main proposition is to provide elasticity through horizontal scaling. It's already there. As for
using largest instance possible, it is not a design principle that helps cloud applications in anyway. Scrum
development process is not related to architecting. Therefore, a key principle is to provision your application
for on-demand capacity. Peak loads is something that cloud applications experience everyday. Peak load
management should be a necessary part of cloud application design principle.

✓   A company wants to implement threat detection on its AWS infrastructure. However, the company does not
want to deploy additional software.Which AWS service should the company use to meet these requirements?

*1/1

○ Amazon VPC

○ Amazon EC2

◉ Amazon GuardDuty   ✓

○ AWS Direct Connect

Feedback

Amazon GuardDuty
1. Continuously monitor your AWS accounts, instances, container workloads, users, and storage for potential threats.
2. Expose threats quickly using anomaly detection, machine learning, behavioral modeling,and threat intelligence feeds from AWS and leading third-parties.
3. Mitigate threats early by initiating automated responses.

✓ **Which of the following tasks may be used to improve Amazon EC2 costs?** *1/1
(Select two.)

☑ Implementing Auto Scaling groups to add and remove instances based on   ✓
demand .

☐ Creating a policy to restrict IAM users from creating new instances .

☐ Setting a budget to limit spending on EC2 instances using AWS Budgets.

☑ . Purchasing Reserved Instances.   ✓

☐ Adding EC2 instances to a second AWS Region that is geographically close to the
end users.

Feedback

The two tasks that may be used to improve Amazon EC2 costs are:

*Implementing Auto Scaling groups to add and remove instances based on demand: By
utilizing Auto Scaling groups, you can automatically adjust the number of EC2 instances
based on the current demand. This helps optimize costs by scaling up when there is high
demand and scaling down during periods of low demand.*

*Purchasing Reserved Instances: Reserved Instances are a billing option that allows you to
reserve EC2 capacity for a specified period, typically one or three years. By committing to
a reservation, you can obtain a significant discount compared to on-demand instance
pricing. This helps reduce costs if you have predictable or steady workloads.*

The other options mentioned in the list do not directly impact EC2 costs:

*Creating a policy to restrict IAM users from creating new instances: This task focuses on
access control and doesn't directly affect cost optimization.*
*Setting a budget to limit spending on EC2 instances using AWS Budgets: This task helps
you manage and monitor your spending, but it doesn't directly optimize EC2 costs.*
*Adding EC2 instances to a second AWS Region that is geographically close to the end
users: This task is related to improving performance and user experience by reducing
latency, but it doesn't directly impact cost optimization.*

✓ **Which AWS services or features provide disaster recovery solutions for Amazon EC2 instances? (Choose two.)** *1/1

☐ Reserved Instances

☑ EC2 Amazon Machine Images (AMIs) ✓

☑ Amazon Elastic Block Store (Amazon EBS) snapshots ✓

☐ AWS Shield

☐ Amazon GuardDuty

Feedback

The AWS services or features that provide disaster recovery solutions for Amazon EC2 instances are:
1. Amazon Elastic Block Store (Amazon EBS) snapshots: Amazon EBS is a block storage service for use
with Amazon EC2 instances. EBS snapshots are point-in-time copies of an EBS volume that can be used
to create a new volume or restore an existing volume. EBS snapshots can be used to recover data in the
event of an instance failure, or to create a new instance in a different region or Availability Zone.
2. Amazon Machine Images (AMIs): An AMI is a pre-configured virtual machine image that contains the operating system , application software . AMIs can be used to create new instances in the same or different region ,which can be used for disaster recovery purpose

✓ **When do you go for EC2 spot instances? (Select 2)** *   1/1

☑ Your workloads can be stopped at a minute's notice and can continue from   ✓
where they stopped

☑ Your workloads are non immediate   ✓

☐ Your workloads cannot be stopped

☐ Your workloads are NOT fault tolerant

☐ Your workloads are immediate

Feedback

Explanation
- On Demand Instances - Request when you want it. Flexible and Most Expensive.
Immediate workloads (web applications/batch programs).

- Spot Instances - Cheapest (upto 90% off). Quote the maximum price. Terminated with 2
minute notice. Cost sensitive, Fault tolerant, Non immediate workloads.

- Reserved Instances - Reserve ahead of time. Upto 75% off. 1 or 3 years reservation.
Scheduled: Reserve for specific time period in a day. (5% to 10% off) No Upfront or Partial
Upfront or All Upfront Payments

- Savings Plans - Commit spending $X per hour on (EC2 or AWS Fargate or Lambda). Upto
66% off. Lot of flexibility. 1 or 3 years reservation. No Upfront or Partial Upfront or All
Upfront Payments

✓ Which AWS service is an object-based serverless storage system that is   *1/1
   able to handle a nearly unlimited amount of data?

○ Amazon DynamoDB

○ Amazon EC2

◉ Amazon S3   ✓

○ Amazon ECS

Feedback

Amazon S3 is an object-based serverless storage system that is able to handle a nearly unlimited amount of data.

✓ AWS has the ability to achieve lower pay-as-you-go pricing by aggregating *1/1
   usage across hundreds of thousands of users.
   This describes which advantage of the AWS Cloud?

○ Launch globally in minutes

○ Increase speed and agility

◉ High economies of scale   ✓

○ No guessing about compute capacity

Feedback

"Benefit from massive economies of scale — By using cloud computing, you can achieve a lower variable cost than you can get on your own. Because usage from hundreds of thousands of customers is aggregated in the cloud, providers such as AWS can achieve higher economies of scale, which translates into lower pay as-you-go prices.

✓ **What is Amazon CloudFront?** *   1/1

⦿ A global content delivery network   ✓

○ A web service to schedule regular data movement

○ A development front-end to Amazon Web Services

○ An encrypted endpoint to upload files to the cloud

Feedback

Amazon CloudFront is a global content delivery network (CDN) service that accelerates delivery of your websites , APIs , video content or other web assets through CDN caching. It integrates with other Amazon Web Services products to give developers and businesses an easy way to accelerate content to end users with no minimum usage commitments.
https://aws.amazon.com/cloudfront/

✓   Which of these AWS services integrates with storage services in AWS to *1/1
      provide you with options to encrypt your data?

○ Amazon Macie

○ AWS WAF (Web Application Firewall)

○ AWS Shield

◉ AWS KMS   ✓

Feedback

Explanation
- KMS & Cloud HSM - Generate, store, use and replace your keys in AWS

- KMS: Create & manage cryptographic keys

- KMS integrates with all storage and database services in AWS

- Automatically rotate master keys once a year

- Schedule key deletion to verify if the key is used

- Mandatory minimum wait period of 7 days (max-30 days)

- CloudHSM: Dedicated single-tenant HSM for regulatory compliance

- (Remember) AWS KMS is a multi-tenant service

- Use Cases: Compliance to Regulations, Very high security

✓ For 3 hours, 5 minutes, and 6 seconds, a client operates an Amazon Linux *1/1
EC2 instance on-demand.
How long will the consumer be charged?

○ 3 hours, 5 minutes

⦿ 3 hours, 5 minutes, and 6 seconds   ✓

○ 3 hours, 6 minutes

○ 4 hours

Feedback

AWS offers you a pay-as-you-go approach for pricing for over 160 cloud services. With AWS you pay only for the individual services you need, for as long as you use them, and without requiring long-term contracts or complex licensing. AWS pricing is similar to how you pay for utilities like water and electricity.

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