Well-Architected

AWS **Well-Architected** Framework:

1. Perform operations as code
2. Make frequent, small, reversible changes
3. Refine operations procedures frequently
4. Anticipate failure
5. Learn from all operational failures

five pillars of the AWS **Well-Architected Framework**
Operational excellence, reliability, performance efficiency, security, and cost optimization,sustainability

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A **Well-Architected review** helps identify design gaps and helps evaluate design decisions and related documents.

A company has refined its workload to use specific AWS services to improve efficiency and reduce cost.

Which best practice for cost governance does this example show?

C. Architecture optimization

Performance efficiency: The performance efficiency pillar focuses on the efficient use of computing resources to meet requirements, and how to maintain efficiency as demand changes and technologies evolve.

Operational Excellence: The operational excellence pillar includes how your organization supports your business objectives, your ability to run workloads effectively, gain insight into their operations, and to continuously improve supporting processes and procedures to deliver business value.

Which of the following is a benefit of moving from an on-premises data center to the AWS Cloud?

* Compute instances can be launched and terminated as needed to optimize costs

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Responsible between customer and aws

Customer:
Which of the following is the customer responsible for updating and patching, according to the AWS shared responsibility model?
Amazon WorkSpaces virtual Windows desktop

Support

AWS Business Support is the LEAST expensive AWS Support plan that contains a **full set of AWS Trusted Advisor** best practice checks
24/7 tech support due to production workloads in AWS

A company needs an AWS Support plan that provides programmatic case management through the AWS Support API.
Which support plan will meet this requirement MOST cost-effectively?
AWS Business Support

AWS Enterprise Support 也可以，但是题目是最便宜的

A user has an AWS account with a Business-level AWS Support plan and needs assistance with handling a production service disruption.

A user has an AWS account with a Business-level AWS Support plan and needs assistance with handling a production service disruption.

Which action should the user take?
Open a production system down support case.

Develope-level 支持邮件，有问题 12 小时回

Business-level 开始有 trusted advisor， 可以直接电话

On-ramp enterprise 30 分钟响应，有 TAM

Enterprise 15 分钟响应，technical account manager （TAM）

AWS Enterprise Support plan

Designated support from an AWS technical account manager (TAM)
Support of third-party software integration to AWS
Dedicated tech manager since all types of workloads are hosted on AWS
15 mins
Enterprise On -Ramp Support ---30mins of time taken for business critical positions

Developer support

1. Tech support during business hours since testing is in AWS but not production

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What does the **AWS Concierge Support** team provide?
A primary point of contact for AWS Billing and AWS Support
The **Concierge** team will quickly and efficiently assist you with your billing and account inquiries, and work with you to help implement billing and account best practices so that you can focus on running your business.

Which options does AWS make available for customers who want to learn about security in the cloud in an instructor-led setting? (Choose two.)
AWS Online Tech Talks
AWS Classroom Training

Account

IAM

As a best practice for granting AWS credentials and authorizations to a web application, you should use an **IAM role**. IAM roles are a secure way to grant permissions to AWS resources, such as services or applications, without the need for long-term access keys (access key ID and secret access key). Roles are typically assumed by trusted entities, like AWS services or EC2 instances, to securely delegate access to resources.

IAM supports multi-factor authentication (**MFA**), which adds an extra layer of security to AWS accounts. MFA requires users to provide two or more forms of identification (e.g., password and a temporary authentication code from a virtual MFA device or hardware MFA token) before they can access AWS resources.

What information is found on an AWS Identity and Access Management (IAM) **credential report?**
--The date and time when an IAM user's password was last used to sign in to the AWS Management Console.

--The User-Agent browser identifier for each IAM user currently logged in.
--Whether multi-factor authentication (MFA) has been enabled for an IAM user

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An **IAM credential report** is a tool provided by AWS Identity and Access Management (IAM) that lists all the IAM users in an account and reports on the status of their account details, including passwords, access keys, and multi-factor authentication (MFA) devices. This report can be generated and downloaded via the AWS Management Console, the AWS Command Line Interface (CLI), or the IAM API. It provides detailed information on the security status of your IAM users and their credentials, allowing you to identify and address any vulnerabilities or issues in a timely manner.

AWS IAM Access Analyzer helps identify resources in your organization and accounts that are shared with an external entity. IAM Access Analyzer validates IAM policies against policy grammar and best practices. IAM Access Analyzer generates IAM policies based on access activity in your AWS CloudTrail logs.

A company hosts an application on an Amazon EC2 instance. The EC2 instance needs to access several AWS resources, including Amazon S3 and Amazon DynamoDB.
What is the MOST operationally efficient solution to delegate permissions?

Answer： Create an IAM role with the required permissions. Attach the role to the EC2 instance.

Iam role 和 iam user 区别

IAM 用户是一个具体的 AWS 账户实体，用于标识和认证个体或服务。

IAM 角色是一种更灵活的身份，用于在不同的实体之间提供临时的、安全的访问权限，通常用于跨账户访问和服务之间的互操作。

A company is using AWS Identity and Access Management (IAM).

Who can manage the access keys of the AWS account root user?
The AWS account owner

If you have been granted permission to change your own IAM user password, you can use a special page in the AWS Management Console to do this. You can also use the AWS CLI or AWS API.

What should a user do if the user **loses** an IAM secret access key?
You should follow the AWS best practice of periodically changing your password and AWS access keys. In AWS, you change access keys by rotating them. This means that you create a new one, configure your applications to use the new key, and then delete the old one. You are allowed to have two access key pairs active at the same time for just this reason. For more information, see Rotating access keys.

AWS Organizations

A user is able to set up a master payer account to view **consolidated** billing reports

AWS Systems Manager is a management service that helps you automatically collect software inventory, apply OS patches, create system images, and configure Windows and Linux operating systems. You can use Systems Manager to manage hybrid environments that include resources in your on-premises data centers and in the AWS Cloud.

Bill and Budgets

AWS **Budgets** is a service that allows users to set custom spending thresholds and receive alerts when those thresholds are reached or exceeded. It provides a way to track and manage costs by setting budgets based on various cost dimensions such as AWS service, linked account, tag, and more. Once a budget is created and configured with the desired spending threshold, users can choose to receive notifications via email or Amazon Simple Notification Service (SNS) when the threshold is crossed. This helps organizations proactively monitor their AWS spending and take appropriate actions to control costs.

Cost Explorer
A company wants to forecast future costs and usage of AWS resources based on past consumption.

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.

AWS Cost Anomaly Detection is a machine learning-powered service that analyzes your AWS cost and usage data to identify anomalies and provide insights into unusual spending patterns. It uses advanced algorithms to learn your unique spending patterns and automatically detects any deviations from the expected behavior. By proactively alerting you to potential cost anomalies, it helps you identify cost optimization opportunities and prevent unexpected cost overruns.

Consolidated billing

A company has several departments. Each department has its own AWS accounts for its applications. The company wants all AWS costs on a single invoice to simplify payment, but the company wants to know the costs that each department is incurring.
Which AWS tool or feature will provide this functionality?

Cost allocation tags are key-value pairs that can be assigned to AWS resources. They allow users to categorize and track costs based on specific attributes or dimensions, such as application, environment, department, or any other custom criteria. By assigning cost allocation tags to resources, the company can gain visibility into the costs associated with each application.

Structions and Connections

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

是 zone，不是 region

AWS Outposts is a service that supports a hybrid architecture that gives users the ability to extend AWS infrastructure, AWS services, APIs, and tools to data centers, co-location environments, or on-premises facilities.

AWS Outposts 是一系列完全托管式解决方案，可为几乎任何本地或边缘站点提供 AWS 基础设施和服务，以获得真正一致的混合体验。Outposts 解决方案允许您在本地扩展和运行原生 AWS 服务，并提供多种外形规格，从 1U 和 2U Outposts 服务器到 42U Outposts 机架，以及多机架部署。

使用 AWS Outposts，您可以在本地运行一些 AWS 服务并连接到本地 AWS 区域中提供的各种服务。使用熟悉的 AWS 服务、工具和 API 在本地运行应用程序和工作负载。

Outposts 支持需要以低延迟访问本地系统、本地数据处理、数据驻留以及具有本地系统相互依赖性的应用程序迁移的工作负载和设备。

AWS Outposts brings AWS infrastructure and services to a company's on-premises data centers or co-location facilities. It allows the company to run AWS services locally on Outposts with the same APIs, tools, and hardware as in the AWS Cloud. With AWS Outposts, the company can process data, store data, and run applications on-premises while still benefiting from the AWS ecosystem and services.

AWS **Outposts** is a service that allows you to run AWS infrastructure, services, APIs, and tools on-premises. This means that you can keep your data local and on-premises, while still taking advantage of the scalability, elasticity, and security of AWS.

AWS Direct Connect is a service that allows you to establish a dedicated network connection from your on-premises data centers to AWS.

AWS **Data Exchange**: AWS Data Exchange is a service that makes it easy to find, subscribe to, and use third-party data in the cloud. It is not a real-time streaming data service

A company requires an isolated environment within AWS for security purposes.
Which action can be taken to accomplish this?
Create a separate VPC to host the resources.

Amazon FSx for Windows File Server is a fully managed, highly reliable, and scalable file storage service that is accessible over the Server Message Block (SMB) protocol. It provides fully managed, highly reliable, and scalable file storage that is accessible over the SMB protocol. It is designed to work with the Microsoft Windows operating system and it supports the SMB protocol which allows to access the file storage from Windows servers and clients.

Regions and zone

Which cloud computing advantage is a company applying when it uses AWS Regions to increase application availability to users in different countries?
Global reach

What is the **scope of a VPC** within the AWS network?
A VPC can span all Availability Zones within an AWS Region.

Which of the following describes AWS Local Zones?
An extension of an AWS Region to more granular locations

Six advantages of cloud computing:

Trade upfront expense for variable expense.

Benefit from massive economies of scale.

Stop guessing capacity.

Increase speed and agility.

Stop spending money running and maintaining data centers.

Go global in minutes.

Scaling 和 elasticity 区别，elasticity 强调可自动伸缩

Durability 耐用性，recover from disaster and prevent the loss of data; backup.

可持续发展：

1、可再生能源

2、运行效率高

3、用水冷却