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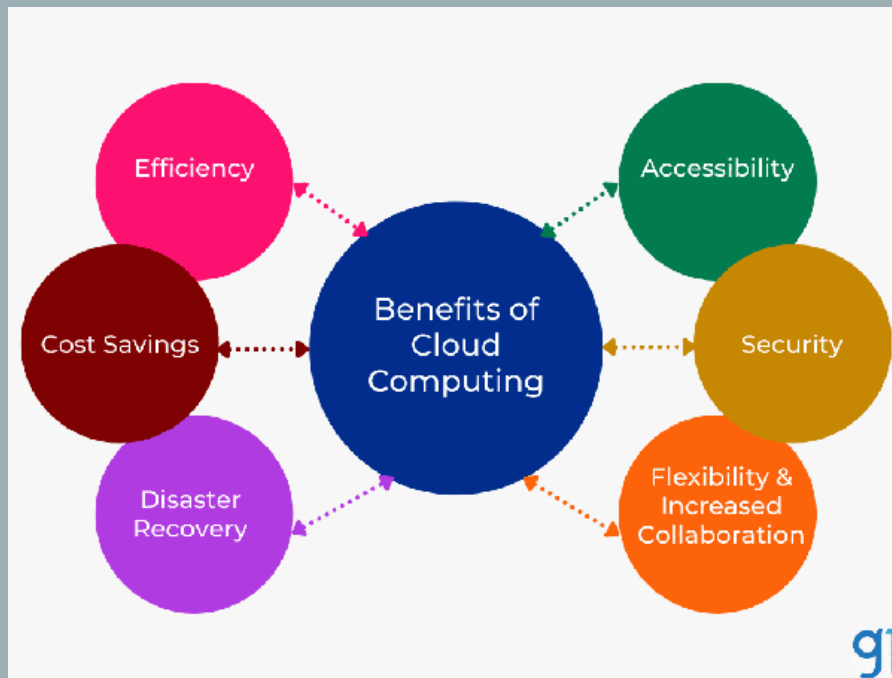
GROUP I



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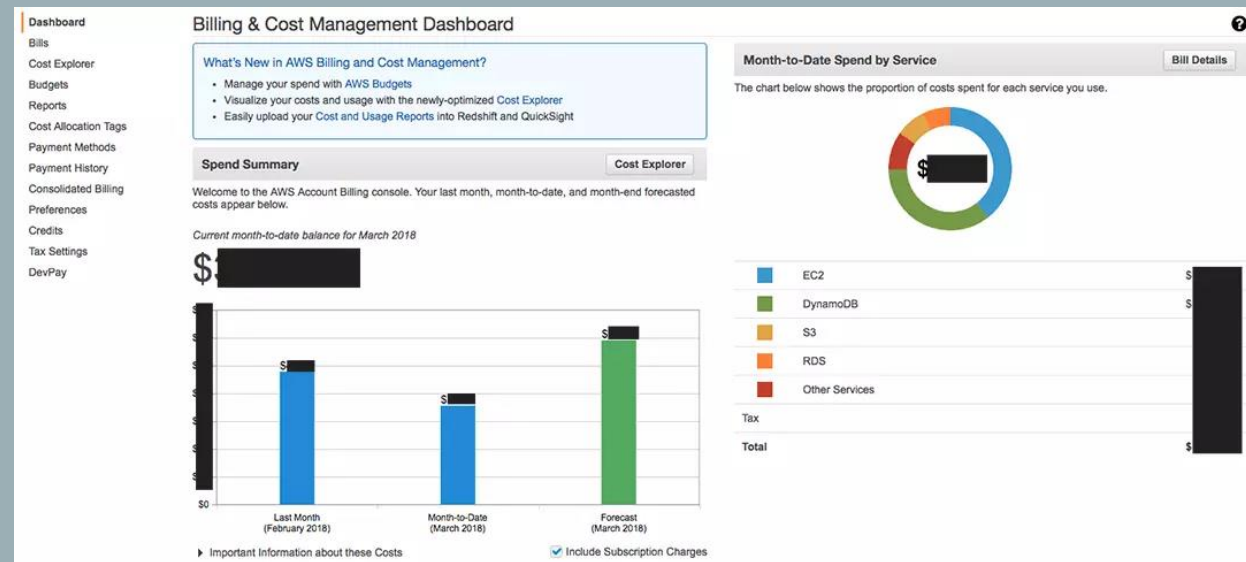
Module I Cloud Concepts Overview

The Cloud Concepts Overview module provides a comprehensive understanding of cloud computing, AWS services, and the process of migrating to the cloud, including key concepts such as scalability, flexibility, and cost-effectiveness. It serves as a solid foundation for further exploration of cloud computing.

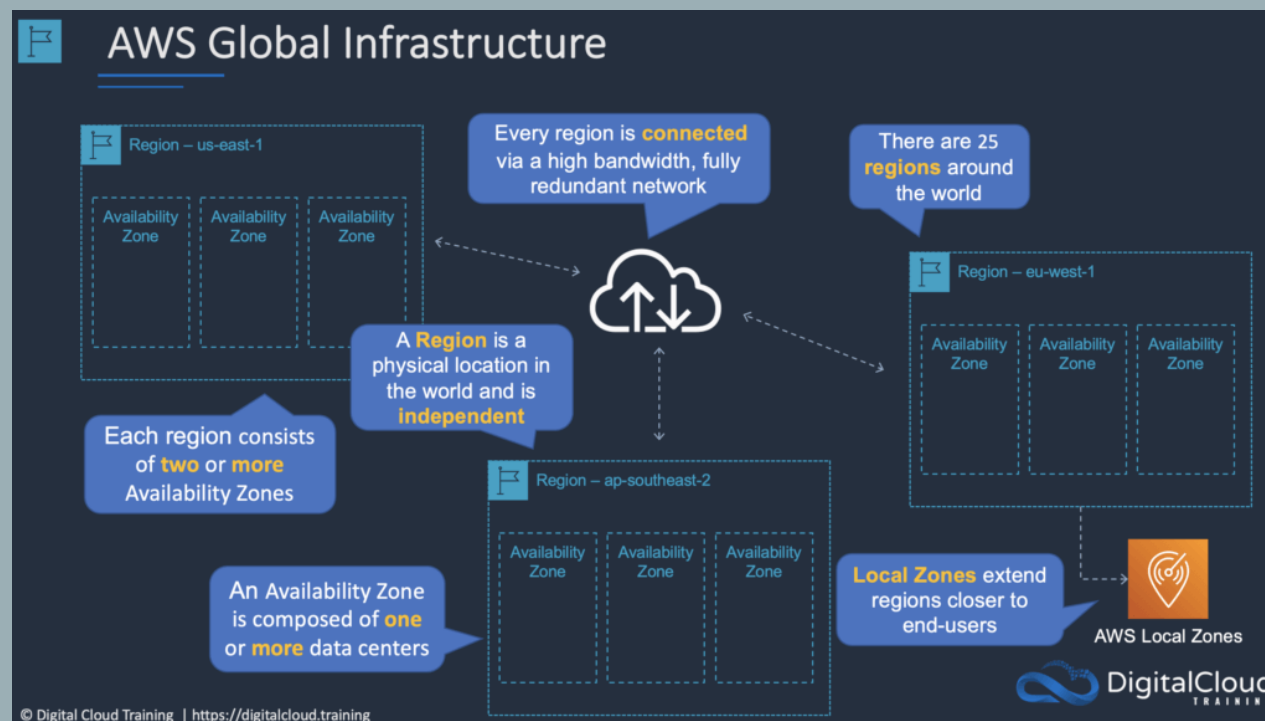


Module 2 – Cloud Economics and Billing

I learned about cloud economics and billing for documents, including cost factors, pricing models, and cost management strategies. This information is useful for considering or using cloud storage. I also learned about AWS tools such as AWS Organizations, Billing & Cost Management, technical support models, and the AWS Billing Dashboard.



I learned about AWS' global infrastructure, regions, availability zones, and edge locations, as well as AWS services in compute, storage, databases, networking, and security categories. This module emphasized the importance of a global infrastructure and provided familiarity with service use cases.



Module 4 - AWS Cloud Security

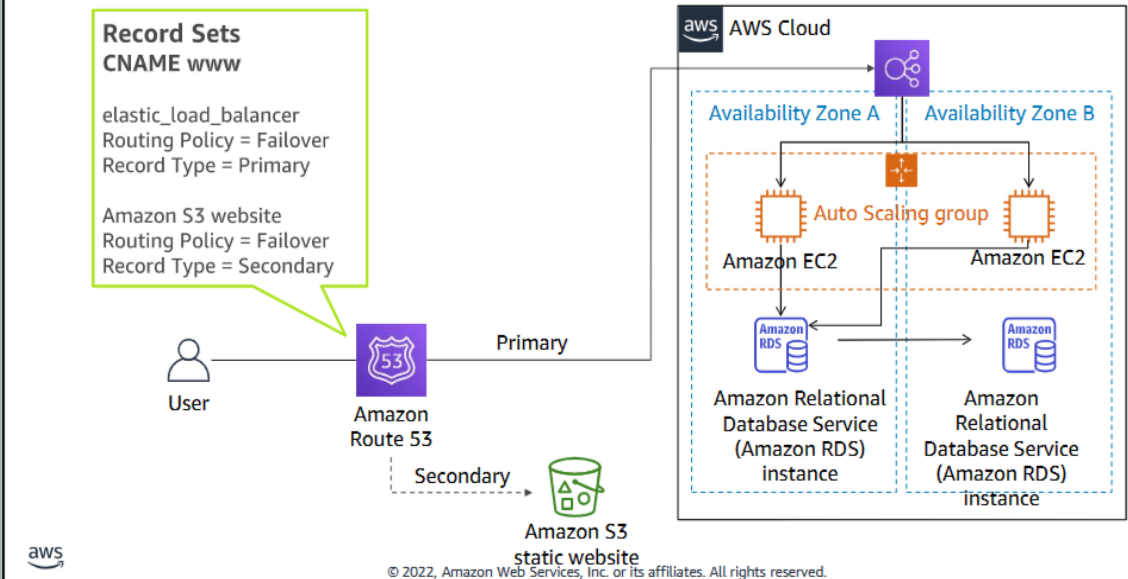
Security is the highest priority at Amazon Web Services(AWS). AWS delivers a scalable cloud computing environment designed for high availability and dependability while providing the tools that enable you to run a wide range of applications. This module introduces the AWS approach to security, which includes both the controls in the AWS environment and some of the AWS products and features customers can use to meet their needs and security objectives. In this module, I learned how to recognize the shared responsibility model, Identify the responsibilities of the customer and AWS. I also learned to recognize IAM users, groups, and roles. After that, describe different types of security credentials in IAM and identify the steps to securing a new AWS account. Explore IAM users and groups, recognize how to secure AWS data, and recognize AWS compliance programs.



Module 5 – Networking and Content Delivery

In this module, I cover three fundamental Amazon Web Services (AWS) for networking and content delivery which are Amazon Virtual Private Cloud (Amazon VPC), Amazon Route 53, and Amazon CloudFront. This module includes some activities that challenge you to label a network diagram and design a basic VPC architecture. After doing this module, I can recognize the basics of networking and can describe virtual networking in the cloud with Amazon VPC. I also learned labeling a network diagram, can design a basic VPC architecture, indicating the steps to build a VPC, and identify security groups. Able to create own VPC and additional components to it to produce a customized network. Furthermore, can identify the fundamentals of Amazon Route 53 and can recognize the benefits of Amazon CloudFront.

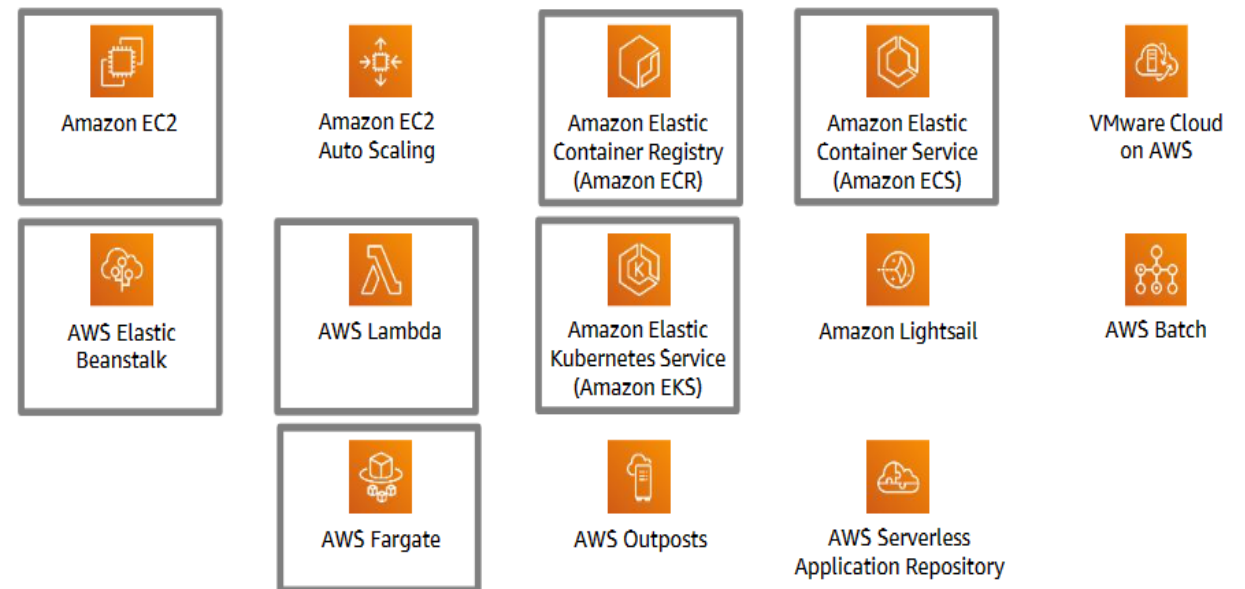
DNS failover for a multi-tiered web application



The purpose of this module is to introduce many of the computer services that Amazon Web Services(AWS) offer. These services include Amazon Elastic Compute Cloud (Amazon EC2), AWS Lambda, AWS Elastic Beanstalk, Amazon Elastic Container Registry (ECR), and Amazon Elastic Kubernetes Service (EKS). After completing this module, I can provide an overview of different AWS compute services in the cloud. Demonstrate why to use Amazon Elastic Compute Cloud (Amazon EC2), Identify the functionality in the EC2 console, can perform basic functions in Amazon EC2 to build a virtual computing environment. Also, identify Amazon EC2 cost optimization elements, and demonstrate when to use AWS Elastic Beanstalk and AWS Lambda.

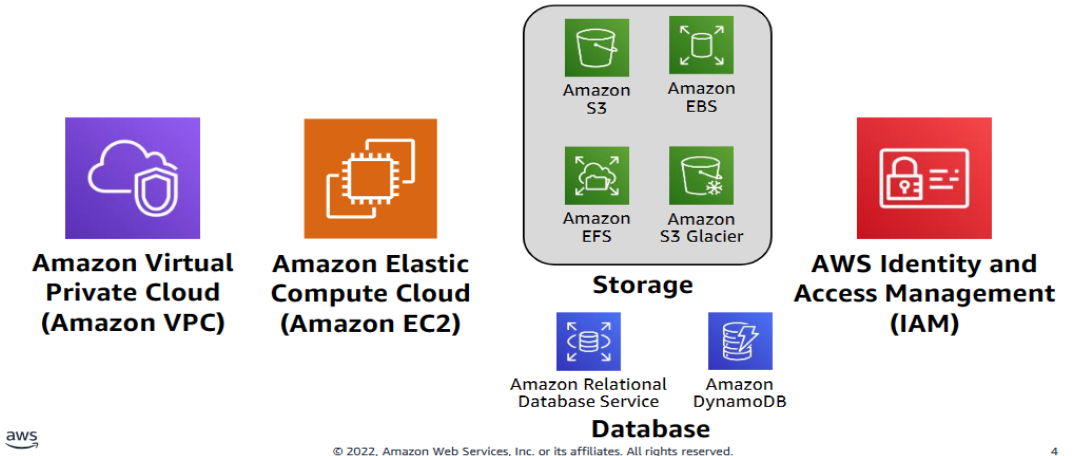
AWS compute services

Amazon Web Services (AWS) offers many compute services. This module will discuss the highlighted services.

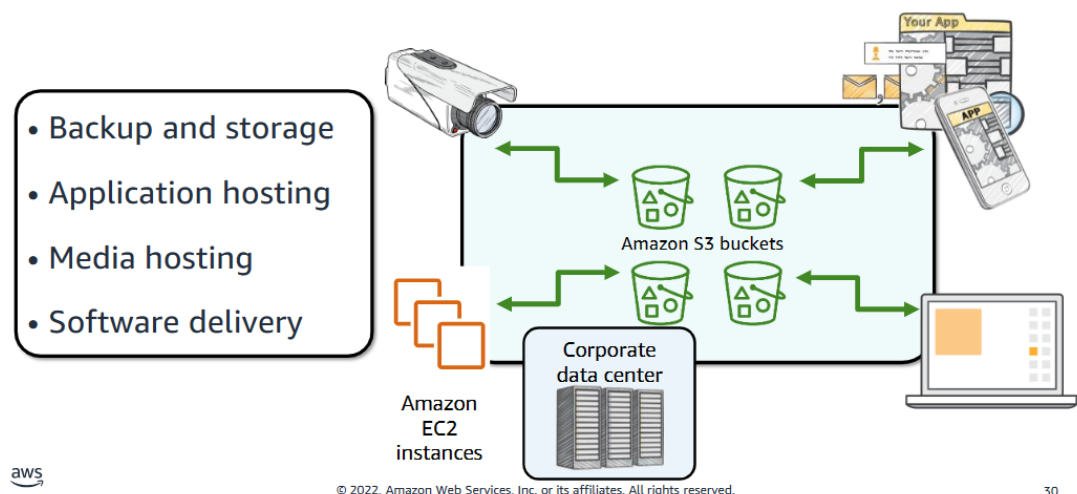


Cloud storage is typically more reliable, scalable and than traditional on-premises storage systems. AWS provides a diverse range of storage solutions to cater to various applications and workloads. Cloud storage is a critical component of cloud computing, it holds the information that application use, big data analytics, data warehouses, and the internet of things AWS offers a range of storage services, including Amazon S3 for object storage that provides high scalability and durability for various data types like documents, images, videos, and databases. It comes with features like versioning, access control, and encryption. Amazon EBS is a block storage service that offers persistent storage volumes for EC2 instances and is optimized for transactional workloads, providing low-latency data access. Amazon EFS is a fully managed file storage service that offers scalable and shared access to data across multiple EC2 instances, optimized for large-scale and parallel workloads, offering high throughput and low latency. Amazon Glacier is a cost-effective storage service for data archiving and backup that provides secure, durable, and scalable storage for infrequently accessed data. Amazon S3 Glacier is a low-cost storage service for long-term data archival and backup, offering secure, durable, and scalable storage for infrequently accessed data. Amazon S3 Intelligent-Tiering is an S3 storage class that automatically moves data between access tiers based on changing access patterns, designed to optimize costs and performance for data with unpredictable access patterns. Each of these AWS storage services has unique features and use cases.

Core AWS services



Amazon S3 common scenarios



Module 8 AWS Database

Amazon Web Services (AWS) provides a diverse array of database services that cater to various applications and use cases.

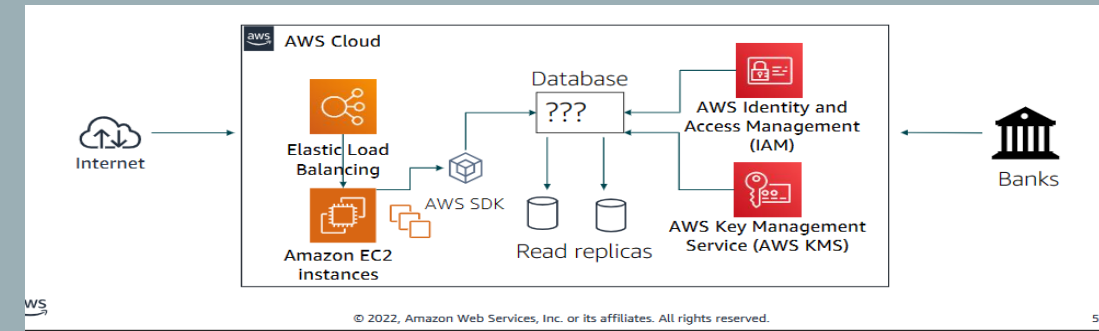
Amazon RDS (Relational Database Service): This is a managed service that delivers scalable and dependable database solutions for popular relational database engines.

Amazon DynamoDB: This is a fully managed NoSQL database service that provides fast and flexible storage for any kind of data, such as documents, graphs, and key-value data.

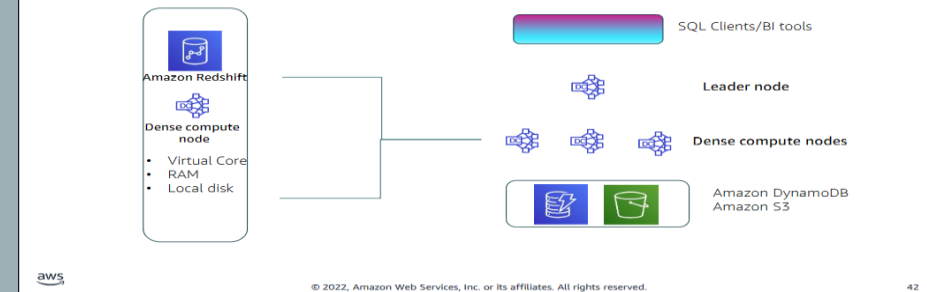
Amazon Redshift: This is a fully managed data warehouse service that enables rapid querying and analysis of vast amounts of data using SQL.

Amazon Aurora is based on a distributed storage system that provides efficient access to data across various nodes. It also supports advanced features like point-in-time recovery, continuous backup to Amazon S3, and cross-region replication, making it ideal for disaster recovery.

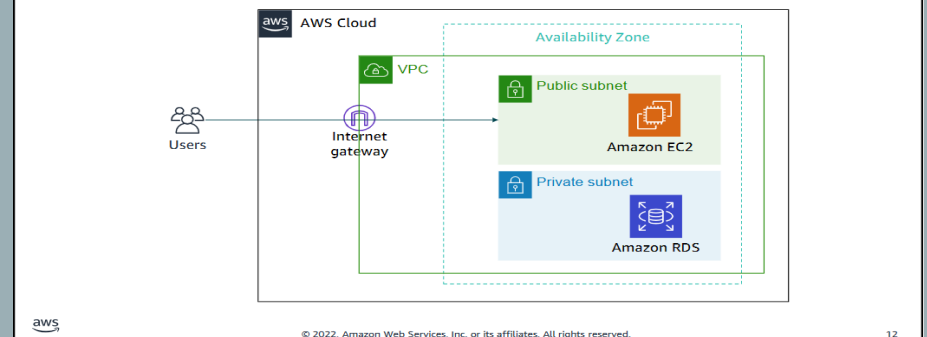
AWS Database demos assist user in becoming acquainted with their database services and demonstrate how they can be used in different applications, AWS provides a variety of database demos.



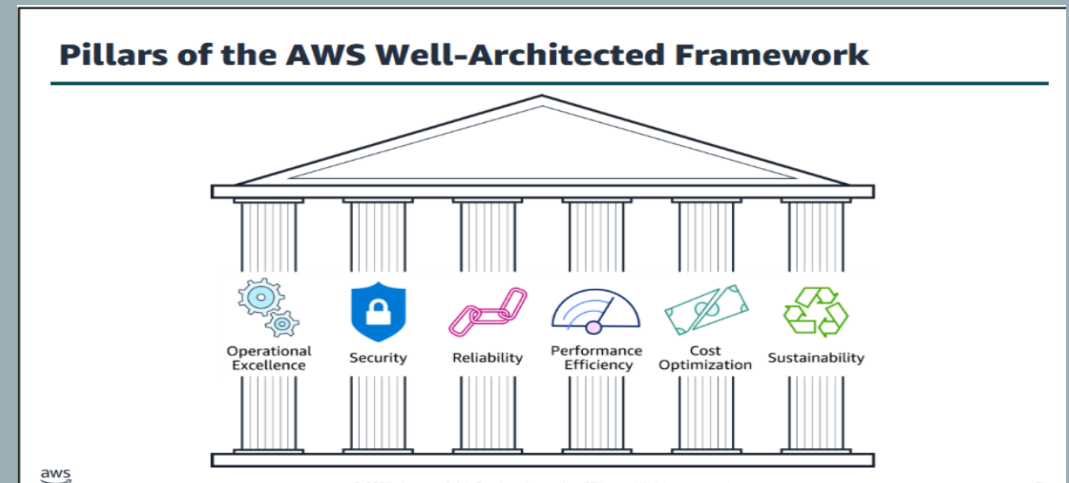
Parallel processing architecture



Amazon RDS in a virtual private cloud (VPC)

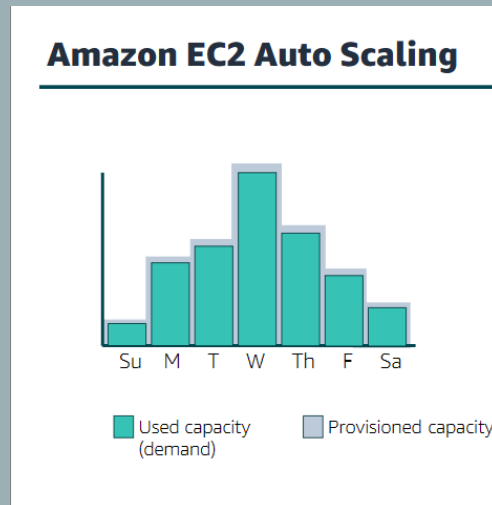


In this module, we can learn about some topics like AWS Well-Architected Framework, reliability, and high availability. In this module we learned how we can describe AWS's well-architected framework which has six pillars of operational excellence that we used to design principles like performing some operations as code, next security pillar which is used to protect and monitor the system, another one is Reliability pillar it is to recover failure & mitigate system its focus is to ensure a workload to perform its intended function correctly, the next one is performance efficiency pillar that is used in IT and **COMPUTING** resources efficiently to meet system requirements and the last one is cost optimization pillar to eliminate unneeded expenses. So we can say this module is based on these pillars



This module is based on Elastic load, Balancing, Amazon CloudWatch and Amazon EC2 Auto scaling. In this module we can learn about how to distribute traffic across Amazon Elastic Load Balancing and identify how Amazon CloudWatch enables you to monitor AWS resources and applications in real time.

Also, we can learn to perform scaling & load balancing tasks to improve an architecture. Load balancers monitor Amazon CloudWatch metrics. Used to verify that the system is performing as expected and creates an alarm to initiate an action if a metric goes outside an acceptable range.



Group I



Gabriel Adeniyi
Harmandeep Kaur
Sukhman Kaur
Sandeep Kaur

Thank You