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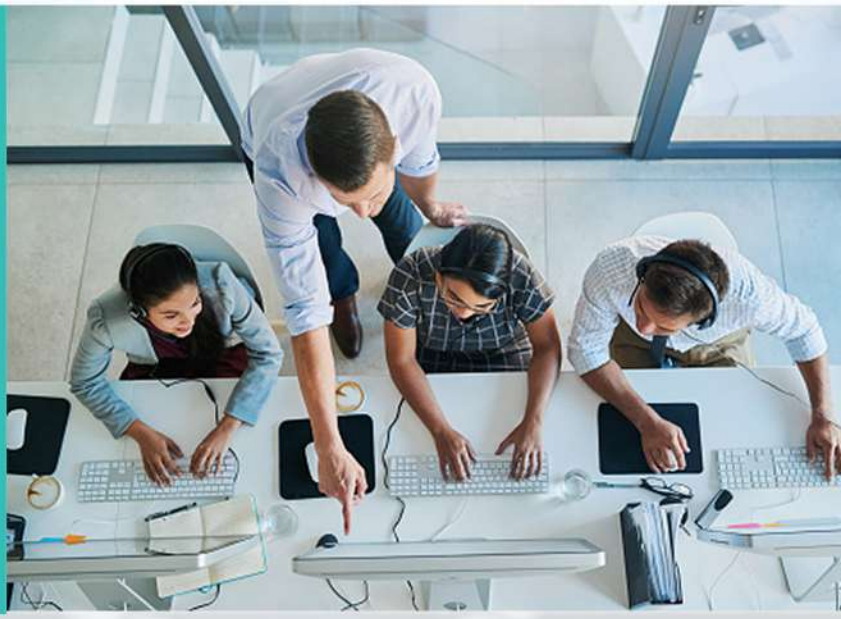

AWS CLOUD COMPUTING

INTRODUCTION ABOUT AMAZON WEB SERVICES

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In 2006, Amazon Web Services (AWS) began offering IT infrastructure services to businesses in the form of web services -- now commonly known as cloud computing.

Amazon Web Services, the best-in-market Infrastructure as a Service (IaaS) platform that has grown to spread across 190 countries since its launch. Let's discuss what Amazon web services are?

Amazon web service is a secure cloud platform, offering compute power, database, storage, content delivery, and more functionalities which helps to scale and grow the businesses.

Using the global infrastructure of AWS, you can deploy your application to the AWS region that best meets our requirements in Application Hosting.

Why Use Amazon Web Services?

Businesses no longer have to plan for IT infrastructure such as servers in advance. They can access thousands of servers virtually within minutes by leveraging the power of cloud computing. And while AWS is the top choice for businesses, here's what makes Amazon AWS a world leader in the cloud market, with

- Enhanced security
- Cost effectiveness
- Flexibility and openness
- Elasticity and scalability

1. Enhanced security

Amazon Web Services make for a durable and secure technology platform. To ensure the safety and integrity of your data, Amazon's data centers and services have several layers of physical and operational security. AWS also conducts regular audits to ensure its infrastructural security.

2. Cost effectiveness

One of the most promising Amazon Web Services advantages includes its pay-as-you-go pricing model. This implies that you pay only for the specific service that you subscribe to and only for the time you need it for.

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.

3. Flexibility and openness

Amazon web services are platform-agnostic to operating systems and languages. You can select the programming model or development platform that can be most beneficial for your business. Also, you can use the programming languages, architectures, operating systems and databases you are familiar with.

4. **Elasticity and scalability**

AWS cloud lets you iterate, experiment, and innovate quickly through its huge global cloud infrastructure. To leverage scalability, AWS can easily manage the workload increase by allocating the resources based on the demand, that too within minutes. You can also use new apps rather than wait for months for hardware and avoid resource provisioning upfront for projects with short lifetimes and variable consumption rates.

Cloud computing is an evolution of technology over time.The concept of cloud computing dates to the 1950s when large-scale mainframes with high-volume processing power became available.

In order to make efficient use of the computing power of mainframes, the practice of time sharing, or resource pooling, evolved. In the 1970s, with the release of an operating system called Virtual Machine (VM), it became possible for mainframes to have multiple virtual systems, or virtual machines, on a single physical node.

The virtual machine operating system evolved the 1950s application of shared access of a mainframe by allowing multiple distinct compute environments to exist on the same physical hardware.

Virtualization thus became a technology driver and a huge catalyst for some of the biggest evolutions in communications and computing. Even 20 years ago, physical hardware was quite expensive. With the internet becoming more accessible, and the need to make hardware costs more viable, servers were virtualized into shared hosting environments, using the same types of functionality provided by the virtual machine operating system.

So, for example, if a company needed ‘x’ number of physical systems to run their applications, they could take one physical node and split it into multiple virtual systems. This was enabled by hypervisors. A hypervisor is a small software layer that enables multiple operating systems to run alongside each other, sharing the same physical computing resources.

A hypervisor also separates the Virtual Machines logically, assigning each its own slice of the underlying computing power, memory, and storage, preventing the virtual machines from

interfering with each other.So for example, one operating system suffers a crash or a security compromise, the others keep working.

As technologies and hypervisors improved and were able to share and deliver resources reliably, some companies decided to make the cloud’s benefits accessible to users who didn’t have an abundance of physical servers to create their own cloud computing infrastructure. Since the servers were already online, Users could now order cloud resources they needed from a larger pool of available resources, and they could pay for them on a per-use basis, also known as Pay-As-You-Go.

This pay-as-you-go or utility computing model became one of the key drivers behind cloud computing taking off. The pay-per-use model allowed companies and even individual developers to pay for the computing resources as and when they used them, just like units of electricity. It also allowed them to scale their workloads during usage peaks, and scale down when usage subsided. And this gave rise to modern-day cloud computing. The impact of the evolution of the cloud has been immense. In the next session, we will go over some key considerations for cloud adoption.

Evaluation of Operating systems, types, kinds

Basic of linux commands

- Vmware (ubuntu/linux)
- Lambda
- Ip classifications CIDR blocks

3tier architecture

- Types of instances
- Storage types & storage classes

Overview of OSI layers

- winscp
- Benefits of using aws (75 dollars)
- Creation of aws account.