How to get started with AWS: Services and Case Study

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How to get started with AWS

Heard the technical jargon like Cloud Computing? You must also have heard about AWS at many places for example in job descriptions. But do you know what exactly

AWS or Cloud Computing is and why is it gaining so much popularity in the IT Industry today? In this blog, we will understand how to get started with AWS. Also, we'll be discussing the services and a case study related to AWS.

Well, before understanding AWS, let us get an overview of Cloud Computing.

Cloud computing is **the delivery of different services through the Internet**, including data storage, servers, databases, networking, and software.

Just imagine you have a startup that is rapidly growing. Lots of customers are visiting your website. This is happy news, right? Of course, but there is a serious issue here. Your internal server on which the website is hosted is not capable of handling too much traffic on the website. So, what is the solution now? One way is to buy more servers to host the website. But this is an expensive process. The most cost-efficient and reliable solution is to use a cloud platform for deploying your website. Cloud platforms like AWS, GCP have a huge number of servers. You can buy the servers remotely via the internet. The cloud platform itself will take care of deploying the website on multiple servers and distributing the traffic amongst them. It relieves you from the effort of purchasing, installing, configuring, and managing your own on-premises infrastructure.

Amazon Web Services (AWS) is one of the most famous cloud platforms used today in the IT Industry. Companies try to cut their costs by migrating to the cloud.

This blog will discuss AWS, some of the services offered by AWS, advantages, and disadvantages of AWS Cloud. We will also discuss a case study of an organization that uses AWS.

Without any further delay, let us get an Introduction to AWS.

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Amazon Web Services (AWS)

AWS Cloud is owned by Amazon. Among all the cloud platforms available today, AWS is the most popular because of the number of services it offers. Currently, It offers over 200 fully-featured services from data centers globally. The 5 foundational services of AWS are:

- Compute
- Storage
- Networking
- Database
- Identity and Access Management (IAM)

Millions of customers, startups, and government agencies are using AWS since it helps them in lowering their costs and innovating faster.

Services Offered by AWS

1. Compute

In the example, we discussed the example of getting servers over the internet. This is what compute service is. Amazon Elastic Compute Cloud (EC2) Service provides virtual servers called EC2 Instances. We can configure it according to our requirements. For example, if we want to have a ubuntu instance located in Mumbai (India) data center, we can configure that through the AWS UI directly or even through CLI (Command Line Interface).

AWS Elastic Beanstalk is an easy-to-use **service for deploying and scaling web applications and services** developed with Java, NET, PHP, Node. js, Python, Ruby, Go, and Docker on familiar servers such as Apache, Nginx, Passenger, and IIS.

2. Storage

As is clear by the name, this service deals with storing the objects. Amazon Simple Storage Service (S3) provides scalable object storage for data backup, collection, and analytics. S3 Buckets are just like files and folders on the local system. They store objects, like files and images which you can quickly retrieve from anywhere.

Amazon Elastic File System (EFS) is a simple and serverless file system to share file data without managing storage.

3. Networking

AWS Networking Services allows you to run your workload on a secured and reliable global network. Amazon provides various networking and content delivery services all across the globe.

Amazon Virtual Private Cloud (VPC) enables you to launch AWS resources into a virtual network that you've defined. This virtual network closely resembles a traditional network that you'd operate in your own data center, with the benefits of using the scalable infrastructure of AWS.

Amazon Elastic Load Balancer (ELB) also comes under compute category. Let us suppose you bought a single EC2 Instance on which your website was hosted. Suddenly, the traffic on your website got increased. In this case, your website will go down unless you also host the website on another server. In the meanwhile you host on another server, the customers will not be able to visit the website which in turn will affect your business. This is where AWS ELB comes into the picture. It will automatically spin up another EC2 Instance once the load on your traffic crosses the limit.

4. Database

Modernize your data infrastructure with fully managed, purpose-built databases! This line defines the AWS Database Service very clearly in a nutshell. AWS supports diverse data models like relational, key-value, document, etc.

Amazon DynamoDB is a fast, flexible NoSQL Database service. It allows users the benefit of auto-scaling, in-memory caching, backup, and restore options for all their internet-scale applications. It also secures the data using encryption and has high availability.

Amazon Relational Database Service (RDS) provides six database engines, namely, Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle Database, and SQL Server. It is highly scalable. It provides continuous monitoring, self-healing storage, and automated scaling to help you focus on application development.

5. Machine Learning

Do you want to train your model but it is taking too long for your local system to execute? Well, you need not worry. AWS Machine Learning Services are there for your rescue. You can make accurate predictions, get deeper insights from your data, reduce operational overhead, and improve customer experience with AWS machine learning (ML).

Amazon SageMaker is a fully-managed service that **enables data scientists and developers to quickly and easily build, train, and deploy machine learning models at any scale.** Business Analysts can make ML Predictions using a visual interface with Sagemaker Canvas. It is capable of processing both structured and unstructured data very quickly. It reduces the training time exponentially thus allowing to save costs and time. Time is extremely important for any business. Businesses require that the task be done quickly and efficiently.

Amazon Lex enables you to build AI-based conversational chatbots. It is a fully managed artificial intelligence (AI) service with advanced natural language models to design, build, test, and deploy conversational interfaces in applications.

Amazon Translate is a neural machine translation service that delivers fast, high-quality, affordable, and customizable language translation. With Amazon Translate, you can localize content such as websites and applications for your diverse users, easily translate large volumes of text for analysis, and efficiently enable cross-lingual communication between users.

Case Study: Paytm Achieves User Onboarding in Minutes Using Amazon Textract

Paytm is India's largest digital payments, commerce, and financial services platform. Paytm uses AWS Machine Learning Services to improve its business operations and save time and costs.

The company faced the problem of manual user onboarding processes like KYC. It was a very time-consuming process. This problem needed to be solved since it involved the quality of service offered to the customers.

By using Amazon Textract, Paytm extracts user data from images of complex identity documents with 97 percent accuracy. Once the information is captured, Amazon Textract helps to identify image noise in real-time, allowing Paytm to immediately notify onsite agents to retake users' identity document pictures when necessary, saving both parties the inconvenience of repeat visits.

It reduced the time required for user KYC from days to minutes and reduced costs by 75%.

Apart from this case study, you can find multiple case studies where companies were able to improve their business operations by migrating to AWS Cloud. Companies such as Walt Disney, Philips, Intuit, etc. are also using AWS Cloud.

Pricing

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 also has a free tier that you can use for free for 1 year.

For Students, AWS offers a unique AWS Educate account too that students can use to learn AWS. You do not even need to provide the credit card details. You can register for an AWS Educate account here.

Conclusion

In the end, we can say without any doubt that Cloud Computing has transformed and is transforming the IT Industry greatly. And AWS is one of the best cloud platforms. After reading the blog, we hope you would appreciate the benefits cloud computing and specifically AWS has. We would highly recommend you to get hands-on practice on AWS. Doesn't matter which technical domain you are in, Cloud is

now an integral part of every technical domain. Everyone must have at least a basic understanding of AWS and its services.

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