MORESCO

UNDERSTANDING WEB APPLICATION HOSTING WITH AWS

A comprehensive guide

CONTENT

INTRODUCTION

Web hosting is a cloud service and that stores your website, its databases, security layers, APIs, file storage, etc on a server, making it accessible on the internet.

Web hosts offer such technology and resources that are essential for the secure operation of your website. They assure that the website is running effectively. These web hosts also implement security measures and ensure that the data of your website, such as photos, texts, etc., is transferred to the visitors' browsers successfully.

Web Application Hosting on AWS

Web hosting on AWS offers multiple benefits like flexibility, cost-effectiveness, and security, to name a few. Hosting your web application on AWS allows for quick and secure hosting, whether it's an existing application or a new SaaS-based application, making it user-friendly.

AWS provides multiple tools like auto-scaling and elastic load balancing, which may assist in scaling your application up or down on the basis of demand. This is a much more cost-effective approach since you only pay for what you use. Even the migrating process is simple for existing applications and additionally provides options for building new solutions.

AWS FUNDAMENTALS

An Introduction to AWS

Amazon Web Services is the world's most advanced and used cloud platform that delivers more than 200 full-featured services. AWS was founded in 2006 with an aim to revolutionise technology by introducing scalable, on-demand cloud computing that empowered organisations to build faster and run more efficiently.

AWS benefits businesses and individuals by hosting applications securely, storing data, and providing management flexibility for IT resources.

Why Use AWS for Web Hosting?

According to data, an estimated 49,963,267 live websites are hosted by AWS. It offers cloud web hosting solutions that are affordable and can be customised for any business, nonprofit, or government organisation. As compared to other service providers, AWS provides more services and more features within these services.

Web Hosting Architecture in AWS Cloud

In AWS Cloud, web hosting architecture follows a three-tier model that divides the structure into presentation, application, and persistence layers. This setup is crafted for scalability and includes features for enhanced performance, failover, and availability. The design ensures a robust and reliable hosting environment.

AWS architecture comprises of various services that together offer a comprehensive cloud computing solution. Among these services are Amazon Elastic Compute Cloud (EC2), Amazon Simple Storage Service (S3), Amazon CloudFront, and Amazon Route 53.

TYPES OF WEB APPLICATION DEPLOYMENT IN AWS

Web deployment is the basic process of making your web application visible to the users on the Internet.

Deployment of web applications with AWS offers your website with improved scalability and flexibility. There are two primary methodologies for website deployment using AWS solutions: Waterfall and Agile. Each methodology offers distinct approaches to project execution.

1.The Monolithic Architecture

This approach has a more linear and sequential approach when it comes to software development; every phase is completed before the next begins. It is often used for projects with requirements that are well defined with a clear scope.

With AWS, you have a more stable and scalable infrastructure since it allows you to deploy large applications only after thorough testing. AWS services like EC2 and Elastic Beanstalk offer support for production with environments requiring minimal changes over time. One can streamline the release process for continuous integration, which ensures scalability and flexibility.

Types of Web Application Deployment in AWS

2.The Serverless Architecture

This approach focuses on recurring development with regular updates and continuous loops of feedback. It is often used for applications requiring frequent releases of features and high adaptability.

With AWS, there is a suite of tools that make your application ideal for such deployments. AWS's tools enable your application for quick integration, faster releases, and regular updates. When utilising agile deployment with AWS, there is the advantage of managing infrastructure as code, which allows quick adjustments when there are requirements. Some of the AWS tools are AWS Lambda, Amazon ECS and Amazon CloudFormation.

Security and Flexibility with AWS

Regardless of the approach used, AWS ensures scalability and flexibility. AWS ensures that large or complex applications will grow if demand increases. It also fosters rapid flexibility and scaling, which help developers make updates without affecting the performance.

SUCCESS STORIES

AlCircle- A Virtual Aluminium Ecosystem

Company Overview

AL Circle serves as a unified virtual ecosystem dedicated to becoming the leading information and knowledge centre for the aluminium industry. Functioning as a central platform, AL Circle offers a diverse range of content, such as up-to-date industry news, in-depth interviews with prominent figures, expert blogs, event specifics, and daily reports on aluminium prices. Their goal is to equip stakeholders in the aluminium sector with timely, pertinent, and valuable information to support well-informed decision-making.

Challenges

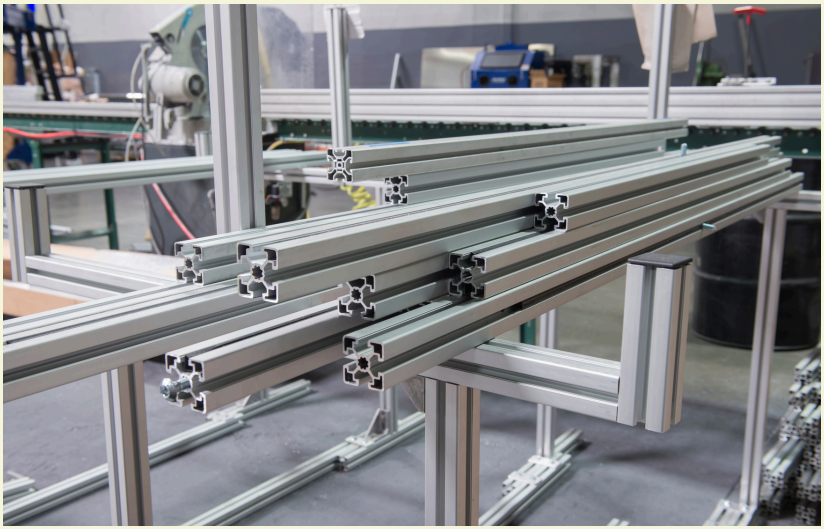
AL Circle's e-commerce platform experienced significant growth, resulting in a substantial increase in web traffic. This surge in activity presented challenges in maintaining consistent performance levels, with the site occasionally encountering performance issues and downtime.

AlCircle- A Virtual Aluminium Ecosystem

Solutions

Moresco teamed up with Alcircle to create and execute a strong, reliable, and secure e-commerce hosting solution on AWS. By hosting their e-commerce site on Amazon Web Services (AWS) and utilizing Amazon EC2 instances, VPC, S3, and other AWS services, Moresco implemented a comprehensive architecture that met the client's needs. Additionally, Moresco provided managed services to address ongoing demands.

- Amazon EC2 Instances offer scalable computing capacity for efficient handling of fluctuating traffic levels.
- Amazon VPC was utilised to boost security and isolation for AL Circle's infrastructure.
- Amazon S3 was used for data storage which is both reliable and durable, catering to both static and dynamic content needs.
- To protect the platform from potential threats and vulnerabilities, a range of AWS security tools such as IAM, AWS Shield, and WAF were put in place.



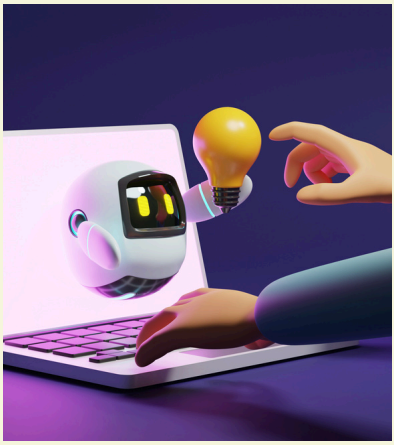
FUTURE TRENDS

AI and Machine Learning Integration in AWS Web Application Hosting

As the effectiveness of artificial intelligence and machine learning develops, its integration into AWS web application hosting will revolutionise how businesses will design and manage their applications.

AWS has committed to integrating AI and ML into its platforms and adopting these technologies to improve the effectiveness of their services. AWS services such as Amazon SageMaker help developers to build, train, and deploy ML models at scale without having to manage the underlying infrastructure. This fuels innovation, enabling businesses to create better and more intelligent applications.

For example, AWS offers AI services such as Amazon Recognition for image and video analysis and Amazon Comprehend for natural language processing. These services empower applications to conduct intricate analyses effortlessly.



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This would also enhance the data analytics and automation significantly. The AI-driven tools would be able to process large data sets quickly and provide valuable insights that would improve decision-making, operational efficiency, and customer experiences. The automation powered by artificial intelligence and machine learning would streamline routine tasks, reduce errors, and boost productivity.

CONCLUSION

Web applications hosted on AWS provide a potent, flexible, and budget-friendly option for businesses of any scale. By utilising AWS's wide range of services and worldwide infrastructure, businesses can attain top-notch availability, strong security, and exceptional performance for their applications.

Whether you aim to launch a basic website or a complex, multi-tier application, AWS offers the versatility and resources required to customise your hosting environment to match your exact requirements. In the digital era, as businesses evolve, AWS stands out as a leading force, empowering innovation, expansion, and adaptability within the dynamic realm of web applications.

About Moresco

MORESCO specialises in cloud services, with a strong emphasis on migrating SAP environments to AWS. From the on-premise environment to the AWS cloud, we specialise in smooth migrations through various strategies such as rehosting, refactoring, and rebuilding applications in order to maximise the benefits that the robust infrastructure at AWS can afford. Our approach ensures that businesses face minimal disruption during migration while reaping full value from AWS for enhanced scalability, security, and efficiency.

At MORESCO, the specific focus on AWS enables organisations to realise complete value from cloud computing, especially complex SAP systems, for excelling at innovation and growth in the digital era.