



E-Commerce Website Hosting Using AWS Cloud Services

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Abstract:

The primary extent of this task is to comprehend how to best use different distributed computing administrations to get great execution for less expense. Amazon surrenders a marvellous arrangement of web helps that enables fashioners to make dynamic and generous applications. Conveying on AWS can save you time, money and work diverged from building and staying aware of additional customary frameworks. Amazon Web Services offers a wide plan of overall cloud-based things including process, limit, informational collections, assessment, coordinating, flexible, engineer gadgets, the board contraptions, IoT, security, and try applications: on-demand, open quite promptly, with pay-all the more just as expenses emerge esteeming. From data warehousing to association instruments, lists to content transport, more than 200 AWS organizations are available. New organizations can be provisioned quickly, without the blunt capital expense. Today, AWS gives a significantly trustworthy, flexible, negligible cost establishment stage in the cloud that controls a colossal number of associations in 190 countries all over the planet. This licenses adventures, new organizations, little and medium-sized associations, and clients in the public region to get to the construction blocks they need to answer quickly to changing business essentials. Amazon EC2(Elastic Compute Cloud), VPC (Virtual Private Cloud), IAM(Identity And Access Management) ,Cloud Watch, CDN(Content Delivery Network) and Route 53 are used here since it is very popular in giving extraordinary disseminated figuring organizations. In this report, I'll tell you, step by step, through the procedure of using the AWS Marketplace to game plan and produce another AWS Cloud server. In this task we furthermore used progression gadgets like GIT and Jenkins for robotization.

Keywords: Cloud Computing, E-com Website Hosting, AWS Services, EC2, ALB, ASG, Autoscaling, Public Cloud, Private Cloud, Route 53.

1. Introduction:

Distributed computing gives an option in contrast to the on-premises datacentre. With an on-premises datacentre, we need to oversee everything, like buying and introducing equipment, virtualization, introducing the working framework, and some other required applications, setting up the organization, arranging the firewall, and setting up capacity for information. In the wake of doing all the set-up, we become answerable for keeping up with it through its whole lifecycle[1].

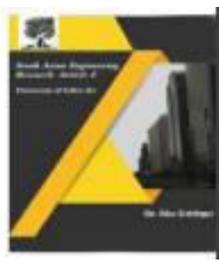
Yet, in the event that we pick Cloud Computing, a cloud seller is liable for the equipment buy and upkeep. They likewise give a wide assortment of programming and stage as a help. We can take any expected administrations on lease. The cloud

processing administrations will be charged in view of utilization.

The cloud climate gives an effectively open internet based gateway that makes helpful for the client to deal with the register, stockpiling, organization, and application assets. Some cloud specialist organizations are in the accompanying figure.

Public Cloud: The cloud assets that are possessed and worked by an outsider cloud specialist co-op are named as open mists. It conveys registering assets like servers, programming, and capacity over the web.

Private Cloud: The dispersed figuring resources that are just used inside a lone business or affiliation are named as a secret cloud. A private cloud may really be arranged on the association's on the spot



datacentre or worked with by a third-social occasion expert center.

Hybrid Cloud: It is the blend of public and confidential hazes, which is confined together by advancement that awards information applications to be parted between them. Crossbreed cloud gives adaptability and more conspicuous strategy choices to the business.

Structure as a Service (IaaS): In IaaS, we can lease IT foundations like servers and virtual machines (VMs), putting away, affiliations, working frameworks from a cloud association vendor. We can make VM running Windows or Linux and present anything we truly need on it. Utilizing IaaS, we don't have to regularly consider the stuff or virtualization programming, yet other than that, we truly need to direct the wide scope of different things. Utilizing IaaS, we get most ridiculous flexibility, yet, we really want to focus on upkeep.

Stage as a Service (PaaS): This help gives an on-request climate to making, testing, conveying, and coordinating programming applications. The engineer is liable for the application, and the PaaS transporter gives the capacity to send and run it. Utilizing PaaS, the adaptability gets decline, yet the association of the climate is overseen by the cloud merchants.

Software as a Service (SaaS): It gives a halfway worked with and guided programming associations to the end-clients. It ignores programming on the web, on-request, and by and large on a cooperation premise. E.g., Microsoft One Drive, Dropbox, WordPress, Office 365, and Amazon Kindle. SaaS is utilized to confine the pragmatic expense for the best degree.

AWS empowers you to pick the working construction, programming language, web application stage, instructive assortment, and different associations you really want. With AWS, you get a virtual climate that grants you to stack the thing and associations your application requires. AWS gives a huge generally cloud foundation that licenses you to improve, endeavor and underline. Rather than monitoring things weeks or months for gear, you might in a concise moment anytime at any point send new applications, expeditiously increase as your commitment makes, and promptly downsize thinking about interest. Amazon web organization is

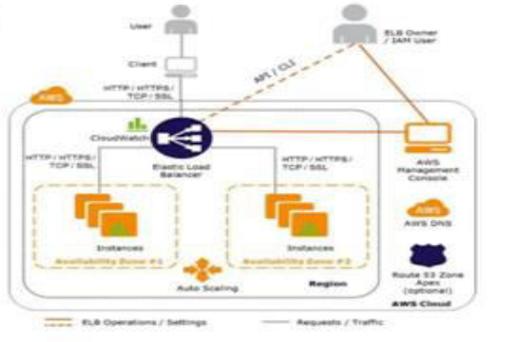
a web based stage that gives versatile and commonsense dispersed figuring courses of action. AWS is an extensively embraced cloud stage that offers a couple of on-demand undertakings like interaction power, data base limit, content transport, etc, to help corporates scale and create.

2. Literature survey

Before we delve into how to architect an application for a cloud computing environment, we should explain why it is financially advantageous to do so. The first clear advantage of using an existing cloud infrastructure is that you don't have to make the capital investment yourself. Rather than expending the time and cost to build a data center, you use someone else's investment and turn what would have been a massive capital outlay into a manageable variable cost. In the pay-per-cycle model of cloud computing, you can start small and requisition more computer time as your business grows. This makes starting up inexpensive and gives you time to build your on-demand business before investing in additional capacity. Instead of investing ahead of demand, you simply use and pay for exactly what you need when you need it. Development time can also be a significant cost in creating an on-demand application environment. If you adopt a SaaS model, your entire application must be re-architected to support multitenancy. With cloud computing, the cost of a machine year in the Amazon EC2 cloud (~\$880 annually) is much less than the cost of a fully-loaded developer (anywhere from \$400-\$1000 per day). This makes it a lot less expensive to scale up more virtual servers in the cloud than it is to spend even one day on development. Finally, you can save money by designing your application with a simpler architecture ideal for cloud computing, which we'll spend the rest of this paper discussing. A simpler architecture speeds time to market because it is easier to test, and you can eliminate some of the equipment and processes required to migrate an application from development into production. All the activities involved with development, test, QA and production can exist side-by-side in separate instances running in the cloud.

3. Proposed Methodology:

Architecture:



In this task, we have planned a cloud design to have E-Commerce site like flip kartor amazon, where we can purchase products. First, we have made a VPC (Virtual Private Cloud) to send off aws assets in modified network. We have made a modified AMI (Amazon Machine Image) of Linux server which contains preinstalled administrations like httpd and so forth. After we have designed an ELB (Elastic Load Balancer) for circulation of traffic in the middle of between the servers and Autoscaling to expand the quantity of occasions consequently when the traffic is very high. We have arranged the CDN (Content Delivery Network) i.e., Cloud front which trades the website out edge areas so clients can undoubtedly get to our website. After we have arranged the R53 (Route 53) which is a DNS (Domain Name Service) to give admittance to the end clients. In R53 we have involved Geographic Routing Policies so clients in America can discuss just with North Virginia server and clients in India can speak with Mumbai server. Everything is observed on CloudWatch like the number of hits that came to our server and soundness of occasions and so on. In this venture we have utilized the DEVOPS (Developmental and Operational) Tools like Jenkins and git. When the code is ready, we will drive into online GitHub storehouse and through Jenkins we will lay out a CI/CD (Continuous Integration and Continuous Deployment) i.e., the code will be sent straightforwardly into our objective case. The end client will gain admittance to just space name. When they enter space name on web, they can see the site page of our E-Commerce site and they can purchase the items.

4. Results:

The result of the project is an ECOM website has been hosted using aws cloud services like EC2 (Elastic Compute Cloud), Autoscaling, Application Load Balancer, Cloud Watch and

Route53. The webpage is shown in below. The first figure shows that the product prices are in Indian rupees and the second figure shows that the product prices are in American dollars. This is because the users from India can buy the products from the webpage where the product details are in Indian rupees as shown in figure 4.1 and users from America can buy the products from the second webpage as shown in below figure 4.2. To create web pages we used html, CSS, and JavaScript. First the user must type domain name on google (tech5aws.com) as shown in figure. Once the domain name is entered on URL we can see the webpage.

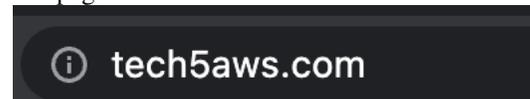


Fig 4.1: Domain Name



Fig 4.2: Webpage for users in India

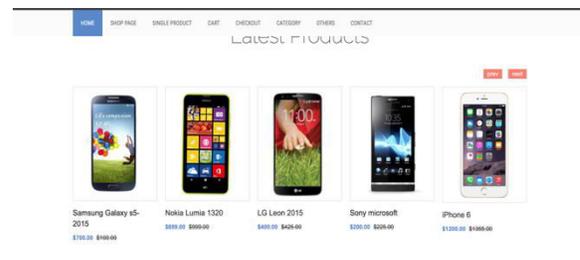


Fig 4.3: webpage for users in America

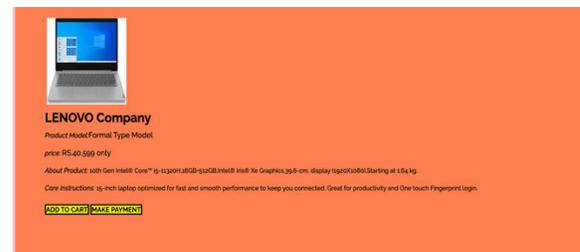
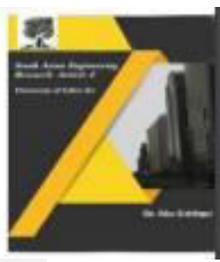


Fig 4.4: Product Description



When we click on the make payment button on Fig 4.4 the page is redirected to payment gateway shown in fig 4.5. A payment gateway is a merchant service provided by an e-commerce application service provider that authorizes credit card or direct payments processing for e-businesses, online retailers, bricks and clicks, or traditional brick and mortar. A payment gateway facilitates a payment transaction by the transfer of information between a payment portal (such as a website, mobile phone or interactive voice response service) and the front-end processor or acquiring bank. We must fill the details like Amount to pay, Purpose of payment, Mobile number, and E-mail id. After filling the details click on make payment button, The page is redirected to fig 4.6. Now we have to select the payment options like debit card, credit card, UPI, Net banking etc. Once the payment is done, we will receive a conformation mail to the users and amount will be debited and credited to PAYU wallet.

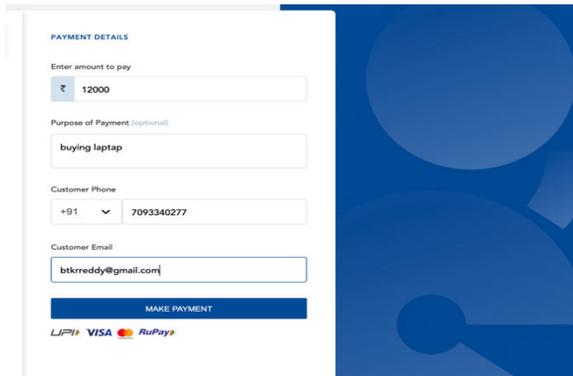


Fig 4.5: payment Gateway

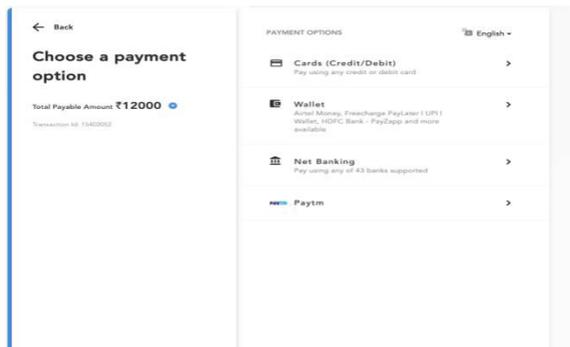


Fig. 4.6: Selecting Payment options

Date	Transaction Id	Source	Customer Email	Amount
29 May 2022	15254348207	NA	btkreddy@gmail.com	12000

Fig 4.7: payment successful

5. Conclusion:

With everything considered, scattered enrolling is new mechanical improvement that could possibly basically impact the world. It appreciates many advantages that it accommodates it clients and affiliations. For instance, a piece of the advantages that it accommodates affiliations, is that it diminishes working expense by getting a good deal on upkeep and programming updates and spotlight actually leaning more to the genuine affiliations. Anyway, there are different difficulties the dispersed handling should make due. Individuals are unbelievably dubious about whether their information is secure and private. There are no guidelines or rules taking everything into account information through spread handling. Europe has information insurance rules yet the US, being one of the most mechanical headway country, has no information security rules. Clients moreover stress over who can uncover their information and have obligation with respect to information. Regardless, once, there are guidelines and rule all around the planet, dispersed handling will adjust what's in store.

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