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(Deemed to be University)

Submitted in partial fulfilment of the requirements for the award of Bachelor of Engineering Degree in Computer Science and Engineering

By

NAME: PINDI LOKESHKUMAR

(Reg.no: - 41110965)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

SCHOOL OF COMPUTING

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
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JEPPIAR NAGAR, RAJIV GANDHISALAI,
CHENNAI – 600119

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

<u>BONAFIDE CERTIFICATE</u>

This is to certify that this Project Report is the bonafide work of **PINDILOKESHKUMAR (41110965)** who carried out the project entitled **"Geolocation Routing Policy in AWS'"** under my supervision from JUNE 2023 to OCT 2023.

Internal Guide
Dr. V. NIRMAL RANI M.TECH., Ph.D.

Head of the Department
Dr. L. LAKSHMANAN M.E., Ph.D.,

Submitted for viva voce examination held on _____

Internal Examiner   External Examiner

DECLARATION

I **PINDI LOKESH KUMAR** hereby declare that the Project Report entitled **'Geolocation Routing Policy in AWS'** done by me under the guidance of the **Dr.V.NIRMAL RANI M.TECH.,Ph.D.** at star certification is submitted in partial fulfilment of the requirements for the award of Bachelor of Engineering degree in Computer Science and Engineering.

DATE:

PLACE: **SIGNATURE OF THE CANDIDATE**

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to **Board of Management** of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. T. Sasikala M.E., Ph.D., Dean,** School of Computing, **Dr. L. Lakshmanan M.E., Ph.D.,** Head of the Department of Computer Science and Engineering for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **Dr.V.NIRMAL RANI M.TECH.,Ph.D.** for her valuable guidance, suggestions and constant encouragement passed way for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **Department of Computer Science and Engineering** who were helpful in many ways for the completion of the project.

Award of
Completion

PINDI LOKESH KUMAR

Has Successfully Completed

Star Cloud Computing

Star Authorized Delivery Partner

ADVANTAGE PRO

3rd Oct 2023	2023/ADV/13096	
Date	Certificate Number	Authorised Signatory

ABSTRACT

Amazon Web Services offers a broad set of global cloud-based products including compute, storage, databases, analytics, networking, mobile, developer tools, management tools, IoT, security, and enterprise applications: on-demand, available in seconds, with pay-as-you-go pricing. From data warehousing to deployment tools, directories to content delivery, over 200 AWS services are available. New services can be provisioned quickly, without the upfront capital expense. This allows enterprises, start-ups, small and medium-sized businesses, and customers in the public sector to access the building blocks they need to respond quickly to changing business requirements. This whitepaper provides you with an overview of the benefits of the AWS Cloud and introduces you to the services that make up the platform.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF ABBREVATIONS

RDS   Relational Database Service

AWS   Amazon Web Service

DB   Data Base

VPC   Virtual Private Cloud

RBAC   Role- Based Access Control

CLI   Command Line Interface

SSD   Solid State Drives

CPU   Central Processing Unit

GEOLOCATION ROUTING POLICY IN AWS

CHAPTER- 1
INTRODUCTION

1.1. PROJECT DESCRIPTION: -

The platform was launched by amazon on in July 2002.

AWS was successful to deliver on-demand cloud computing features to its customers as pay-per-use basis. It allows different organizations to take advantages of reliable IT infrastructure. AWS offers more than 100 services and it has over one hundred thousand active customers. It provides services to the customers when required without any prior commitment or upfront investment. Aws provides virtual computers having features of the real systems.

Some of these features are listed as follows:

Operating system Hardware resources such as CPUs, RAM, GPUs and hard disks ➢ Software such as CRM. Web browsers, databases, web servers etc. Networking resource

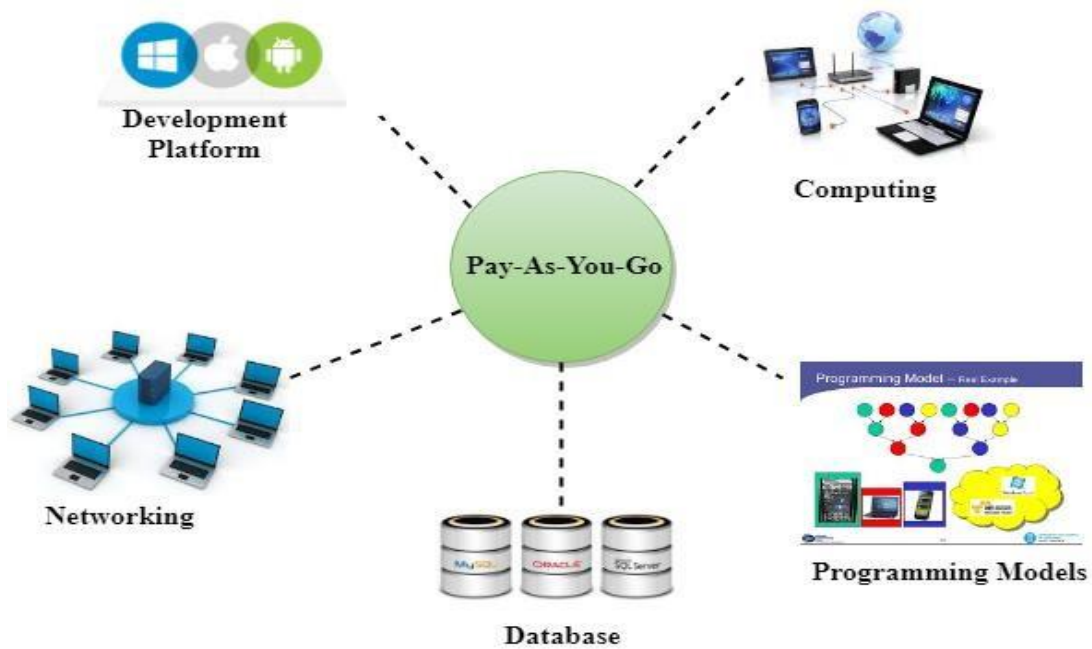Console I/O such as monitor, keyboard and mouse

Fig: -1.1- Database

➢ A Hypervisor is a kind of emulator, it is computer software, firmware or hardware that creates and runs virtual machines.
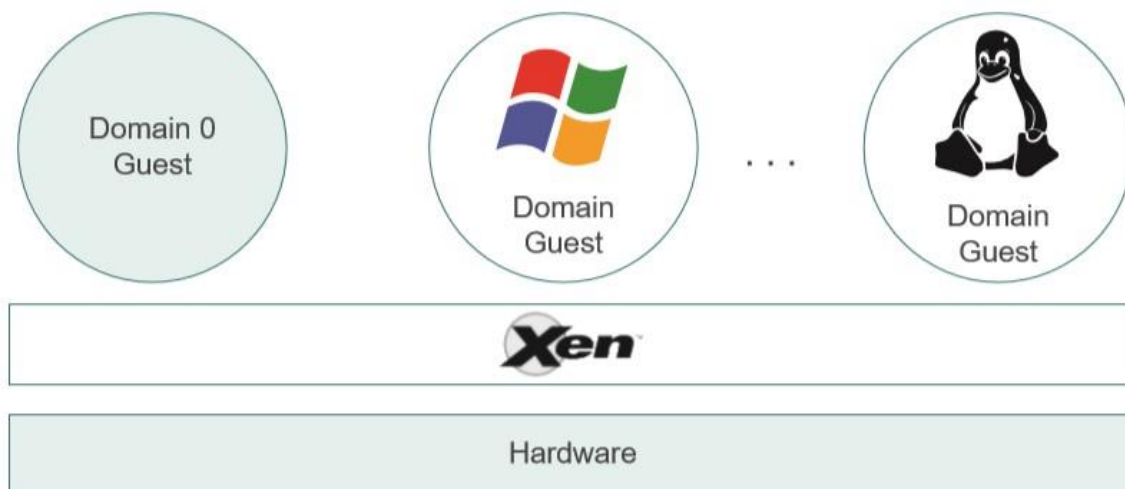

Fig: -1.2- Virtual Machine

➢ Amazon uses Xen and Kernel-based Virtual Machine, which are open source and used for virtualizing compute infrastructure that runs on x86 compatible hardware.

➢ The new hypervisor for AWS-EC2 is a component that delivers memory isolation and CPU for all the C5 instances. It built on the Linux Kernel-based Virtual Machine technology

1.2. Benefits of computing with AWS:

1.2.1. Cost effective:

➢ Beneficial users only as per their resource usage.
➢ Pay-per-use pricing model has organizations to reap benefits from AWS services
➢ Users can use more than 100 services offered by the AWS with minimum cost
➢ For start-ups and small-sized business this is more efficient

1.2.2. Secure:

➢ AWS's physical and online infrastructure is highly secure and in strict accordance with international security standards
➢ AWS has its data centres scattered all over the world, providing fail proof access to data and are safeguarded by elite security guards working round the clock.

1.2.3. Easy to use:

➢ AWS services are very easy to use as owing to their well- documented API to access AWS hosting platforms which enables vendors, ISVs and providers to easily and instantly host their applications.

1.2.4. High Scalable:

➢ The auto scaling and Elastic Load Balancing tools provisioned by AWS allow applications to be easily scaled up and down depending on the requirements.

1.2.5. Reliable:

➢ Computing infrastructure with over fifteen years of experience, is of the highest standard, reliable and secure.

➢ Elastic and Agile: There is elasticity of adding or subtracting resources dynamically and with ease.

➢ the user has the flexibility to customize his resources as per requirement. There are several options while selecting the web application platform, the operating system, the programming models and languages, the database, the architectures and other resources, which facilitates easy migrations to the cloud.

1.2.6. No commitment:

➢ AWS does not expect any form of commitment from its users, for using services. Billings are done on an hourly basis. Users can even scale down resources to zero, after which they will not be charged for usage.

1.3. Challenges in adopting AWS:

1.3.1. Lack of appropriate skill set:

➢ Although, AWS provides a wide range of services and feature it requires

➢ adequate training of IT professionals to judiciously make use of all the services offered.

1.3.2. Maintaining Consistency:

➢ The migration process is fraught with obstacles, such as data loss concerns, integration issues.

➢ Also, even after the process of migration is complete, the task of maintaining consistency and synchronization becomes important, laborious and time consuming.

1.3.3. Complexity:

➢ The complexity associated with the process of migration can be significantly reduced with the help of tools supplied by AWS.

1.3.4. Security and Trust:

➢ Challenges of security and trust arise when companies migrate their businesses to AWS.

1.3.5. Performance:

➢ There are also challenges related to performance. A downtime of even a fraction of a second can result in loss of customers which can further have a long-term, cascading effect on search engine optimization.

1.3.6. Control:

➢ Another daunting task is choosing to store sensitive data in datacentres, even though Amazon.com provides successful use cases. Organizations need to understand this lack of control over the security of their data before opting for these services.

CHAPTER- 2
INSIGHTS INTO AWS

- Amazon Web Services (AWS) is a cloud services platform that is secure and on demand.

- AWS offers numerous sets of infrastructure services that help organizations expand. These infrastructure services include:
    - Computing power
    - Database storage options
    - Networking and databases
    - Content delivery

- These services are readily available (within seconds) with a pay-as-you-go pricing scheme. Arguably, AWS applications are:
    - Flexible
    - Scalable
    - Reliable

Further, AWS is based on the Service-Oriented Architecture, which involves HTTP, REST, and SOAP transfer protocols, open source and commercial OS, and application servers and browser-based access.

2.1. AWS and Hybrid Cloud Computing Model:

A cloud provider is responsible for providing a range of services implemented through hybrid computing model. AWS has successfully provisioned an array of hybrid capabilities including tools for networking, security, storage, management, and application deployment as an extension to pre-existing resources. Figure explains how a hybrid model is established between AWS and an organization's private datacentre.
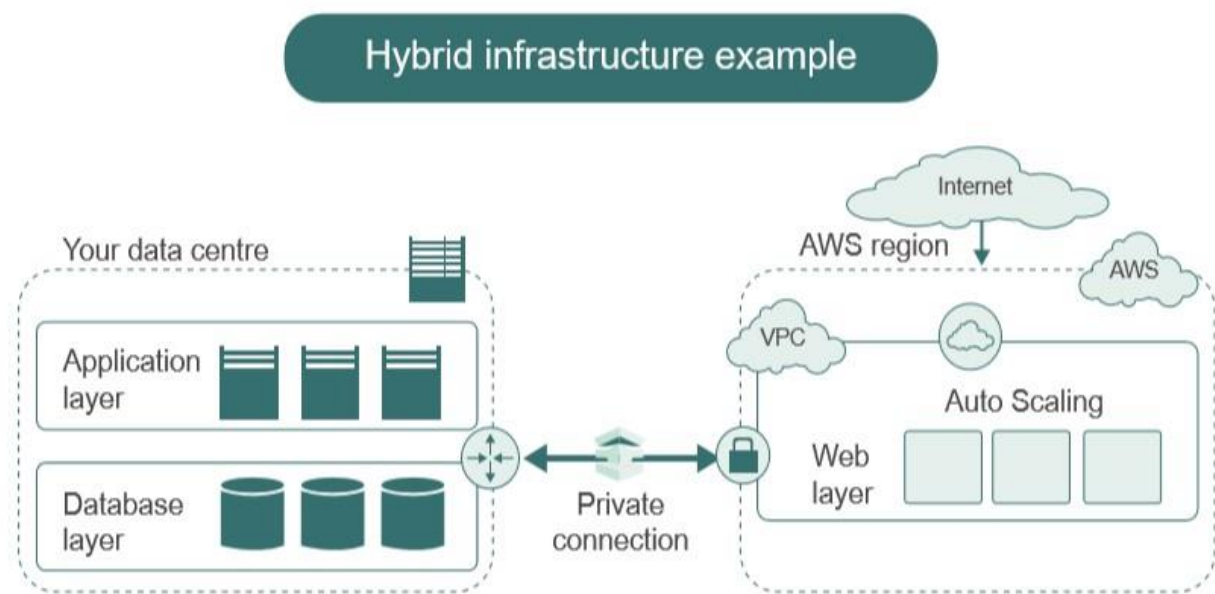
Fig: - 2.1- Hybrid infrastructure

2.2. AWS Services: -

Amazon Web Services deliver a wide range of services. They are:
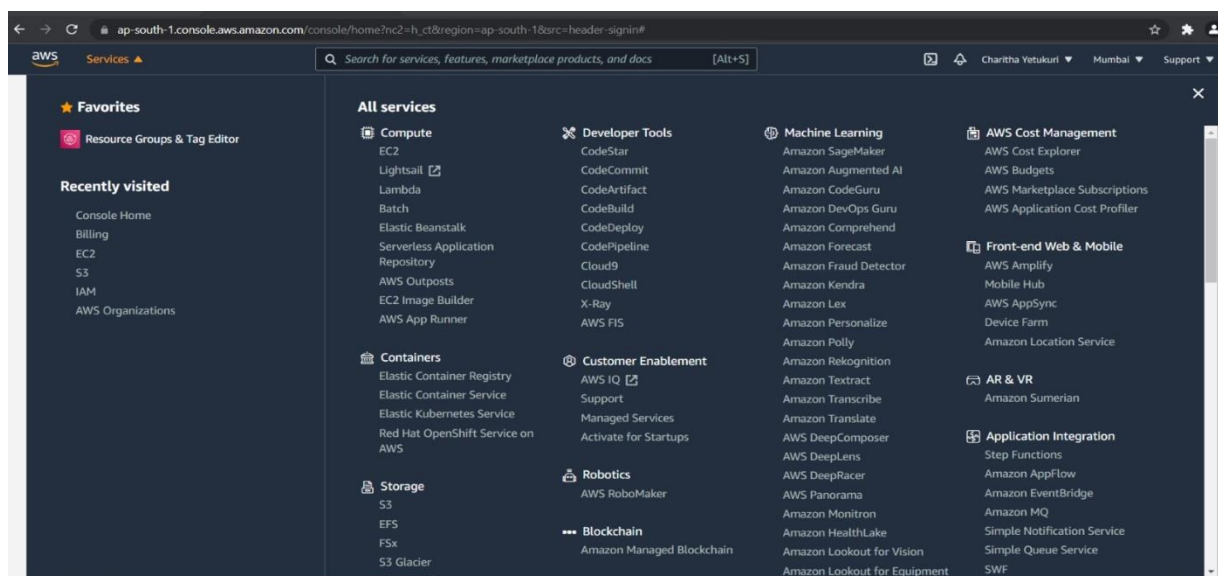

Fig:- 2.2- AWS Webserver

Some of these services are now discussed in detail:

2.3. Amazon Elastic Compute Cloud (EC2):

EC2 is the principal application in the AWS service listing. With datacentres spread worldwide, EC2 applications created are dependable, consistent, scalable and fault tolerant. EC2 is supported by several tools. For example, Amazon Simple Queue Service (SQS) is a message queue or transaction system for distributed Internet-based applications.

2.4. Amazon CloudWatch:

Amazon CloudWatch monitors the EC2 and provides a console or command line display to scan distinct metrics, such as site key performance indexes, resource utilization, and operational indicators for processor demand, disk utilization and network I/O factors.
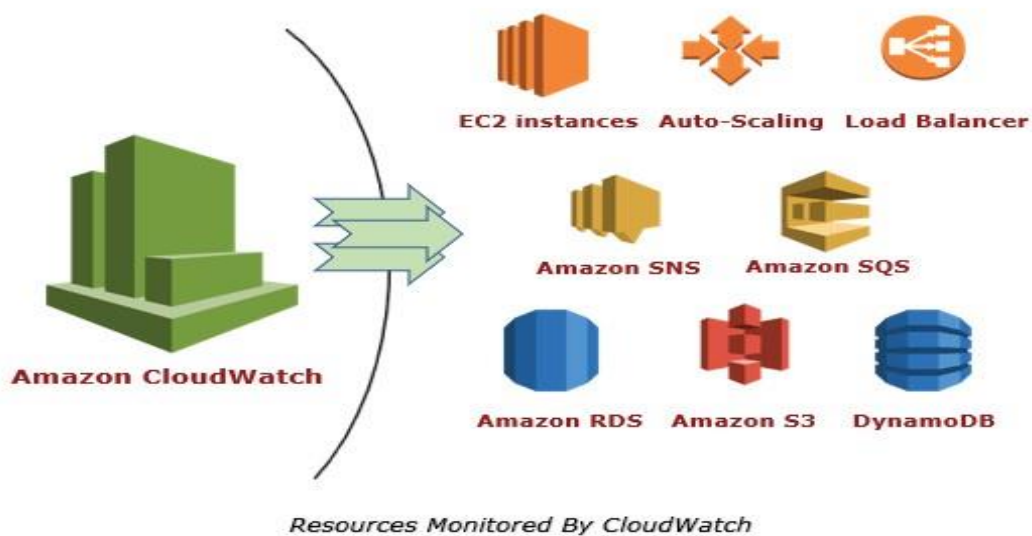

Fig: - 2.3- CloudWatch

CHAPTER- 3

AMAZON NETWORK SERVICES

3.1. Amazon Simple Notification Service (SNS):

Messages published from an application and sent to other applications or to subscribers is performed by SNS. It is a technique for triggering actions and empowering users or applications to subscribe to information.

3.2. Amazon Simple Storage System (S3):

S3 is an online backup and storage system having a high-speed data transfer feature known as AWS Import/Export. This feature enables exchange of data to and from AWS using Amazon's own internal network to another portable device.

3.3. Amazon Elastic Block Store (EBS):

Virtual disks (volume) or block level storage devices are created using the EBS system. EBS is used for Amazon Machine Instances in EC2.

3.4. Amazon Simple DB:

- ➢ Simple DB supports indexing and data queries in both EC2 and S3.

- ➢ Simple DB is not a complete database implementation, and rather stores data in "buckets" without the need for creation of database outline. This design allows Simple DB to be easily scalable.

3.5. Amazon Relational Database Service (RDS):

RDS lets users create instances of MySQL database, which can support websites and other applications requiring data driven services. MySQL is used ubiquitously in LAMP (Linux, Apache, MySQL, and PERL) web services platform. The inclusion of RDS supports developers in porting source codes, applications and databases directly over to AWS. Thus, earlier investments are retained in this technology.

3.6. Amazon CloudFront:

- CloudFront is an edge storage or content-delivery system.

- CloudFront is comparable to the Akamai.com system, however, it is a proprietary to Amazon.com and is configured to operate with S3.

- Amazon CloudFront is also sometimes known as 'edge computing' and refers to the content delivery network (CDN).

- An Amazon Machine Image (AMI) creates a template for the root volume of an instance such.

3.7. Amazon Machine Image:

As application, application server or operating systems which provide information needed to launch a virtual server in the cloud. The virtual server is also known as an instance.

The following are AMIs available for users to select from:

- AMI provided by the user community
- AMI provided by AWS
- AMIs available in the AWS Marketplace.

The user can also create his own AMI and share it with the user community via the AWS marketplace. Figure shows the lifecycle of an AMI. Once your work is completed, the AMIs can be de-re
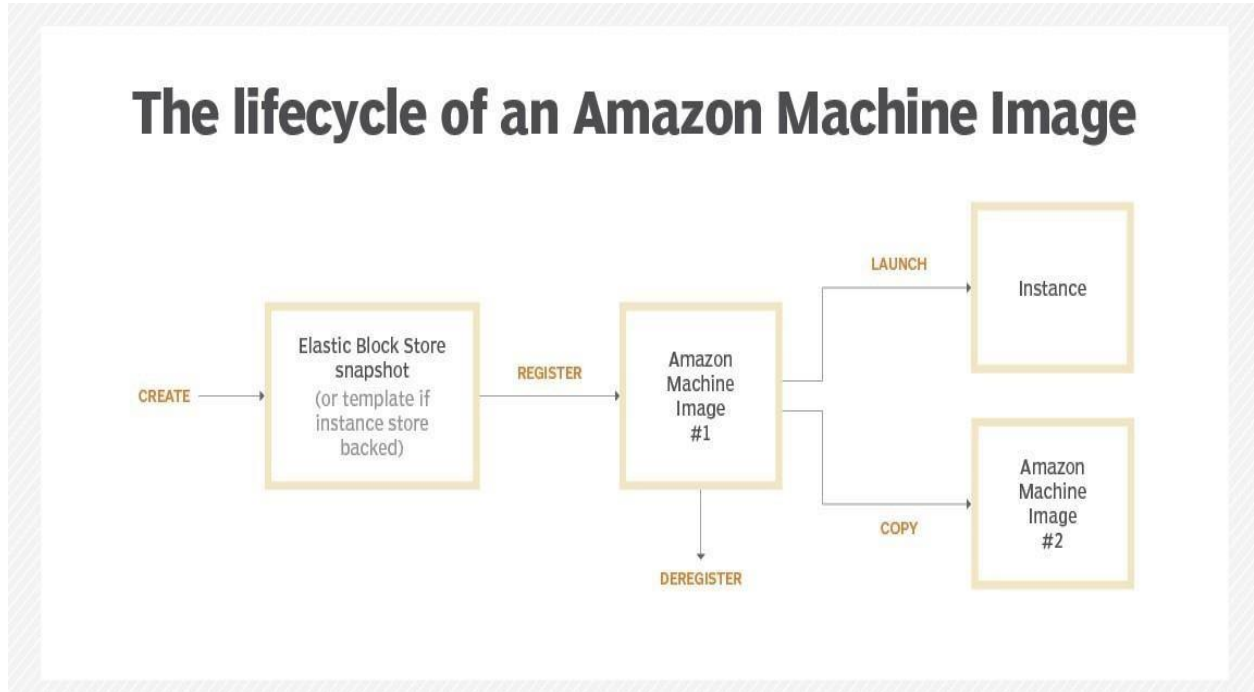

Fig: -3.1- Lifecycle of AMI

3.8. Benefits of AMI:

➢ Like cloud computing itself, using an AMI has several important advantages.

➢ hief among these is the fact that you can rely on pre-configured templates that allow you to deploy one or more instances.

➢ With an AMI, you have the ability to quickly and efficiently determine what computing power, memory, storage, and other factors you need for your applications.

➢ Of course, the low cost is also a major benefit.

➢ The AMI also speeds up configuration and deployment because the templates are well-known and defined for typical computing infrastructure needs.

- ➢ Flexibility is the key benefit as well. An AMI can run Linux, Unix, or Windows, and you can augment the AMI with additional services.

- ➢ As you can expect from an Amazon service, an AMI is compressed, encrypted, and secured no matter which operating system you use.

.

Further, an AMI principally uses the Xen hypervisor. The hypervisor offers two types of Virtual Machines, viz. Hardware Virtual Machines (HVM) and Para Virtual Machines (PV):

- ➢ HVM AMI
- ➢ PV AMI
- ➢ AWS EC2

3.7.1. HVM AMI:

A Hardware Virtualized Amazon Machine Image means that it does not require any changes to the operating systems, which do not have any idea of virtualization. With HVM the OS can function on bare metal. Here, the VMs run directly on hypervisors and have no knowledge that they are sharing resources with other users on the same hardware.

3.7.2. PV AMI:

Para Virtualized AMIs function on a modified version of the OS. A special boot loader called PV-GRUB helps to load the PV AMI. Moreover, these AMIs only support Linux. Traditionally, PV AMIs had better performance as compared to HVM AMIs. This is no longer true currently due to improvements in HVM virtualization and the availability of PV drivers for HVM AMIs.

3.7.3. AWS EC2:

To invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

3.7.3.1. Amazon EC2 provides the following features:

- ➢ Virtual computing environments, known as instances.
- ➢ Preconfigured templates for your instances, known as Amazon Machine Images (AMIs), that package the bits you need for your server (including the operating system and additional software)
- ➢ Various configurations of CPU, memory, storage, and networking capacity for your instances, known as *instance types*
- ➢ Secure login information for your instances using *key pairs* (AWS stores the public key, and you store the private key in a secure place)
- ➢ Storage volumes for temporary data that's deleted when you stop, hibernate, or terminate your instance, known as *instance store volumes*
- ➢ Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS), known as *Amazon EBS volumes*
- ➢ Multiple physical locations for your resources, such as instances and Amazon EBS volumes, known as *Regions* and *Availability Zones*
- ➢ A firewall that enables you to specify the protocols, ports, and source IP ranges that can reach your instances using *security groups*
- ➢ Static IPv4 addresses for dynamic cloud computing, known as *Elastic IP addresses*

- Metadata, known as *tags*, that you can create and assign to your Amazon EC2 resources
- Virtual networks you can create that are logically isolated from the rest of the AWS Cloud, and that you can optionally connect to your own network, known as *virtual private clouds* (VPCs)
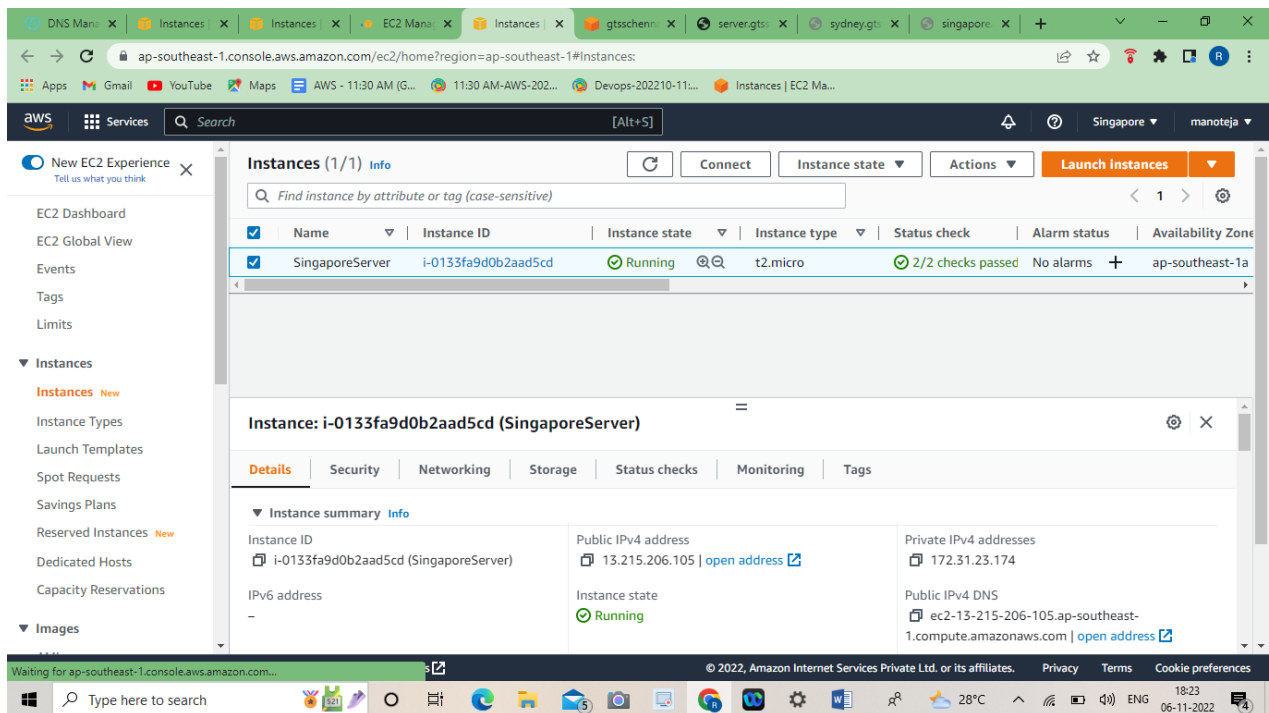

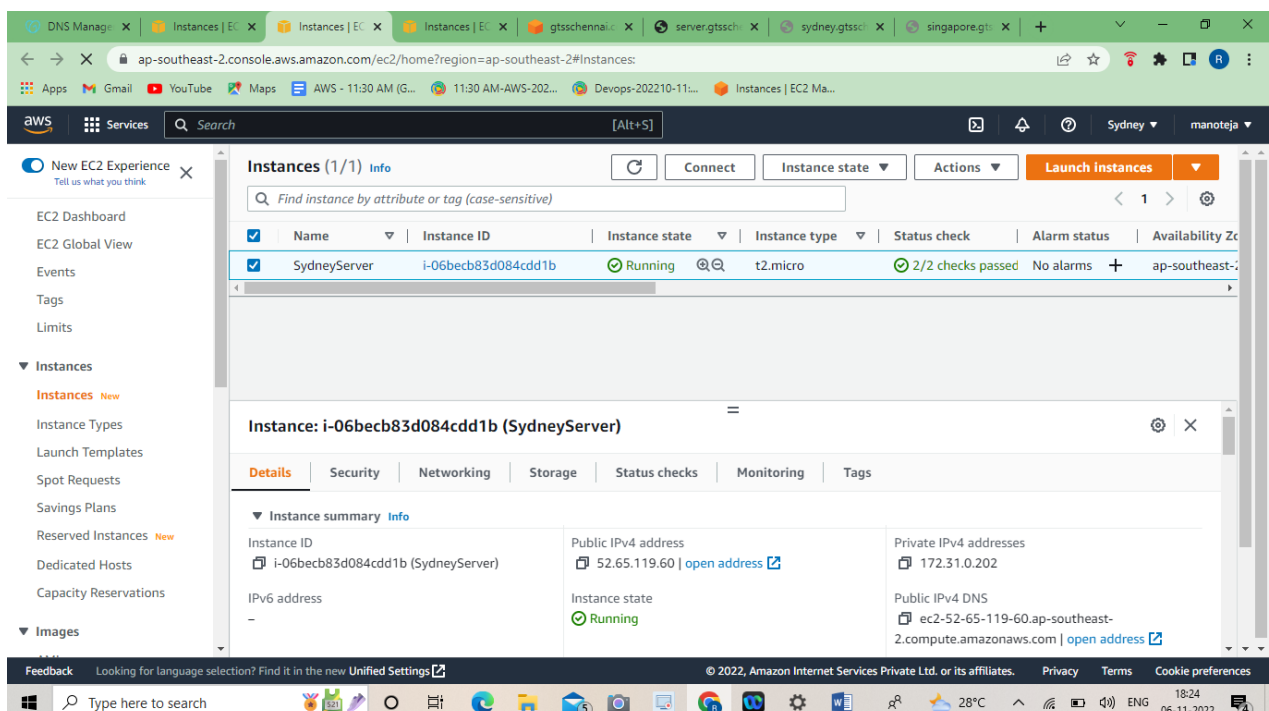*Fig: -3.2- Creating Singapore Server*
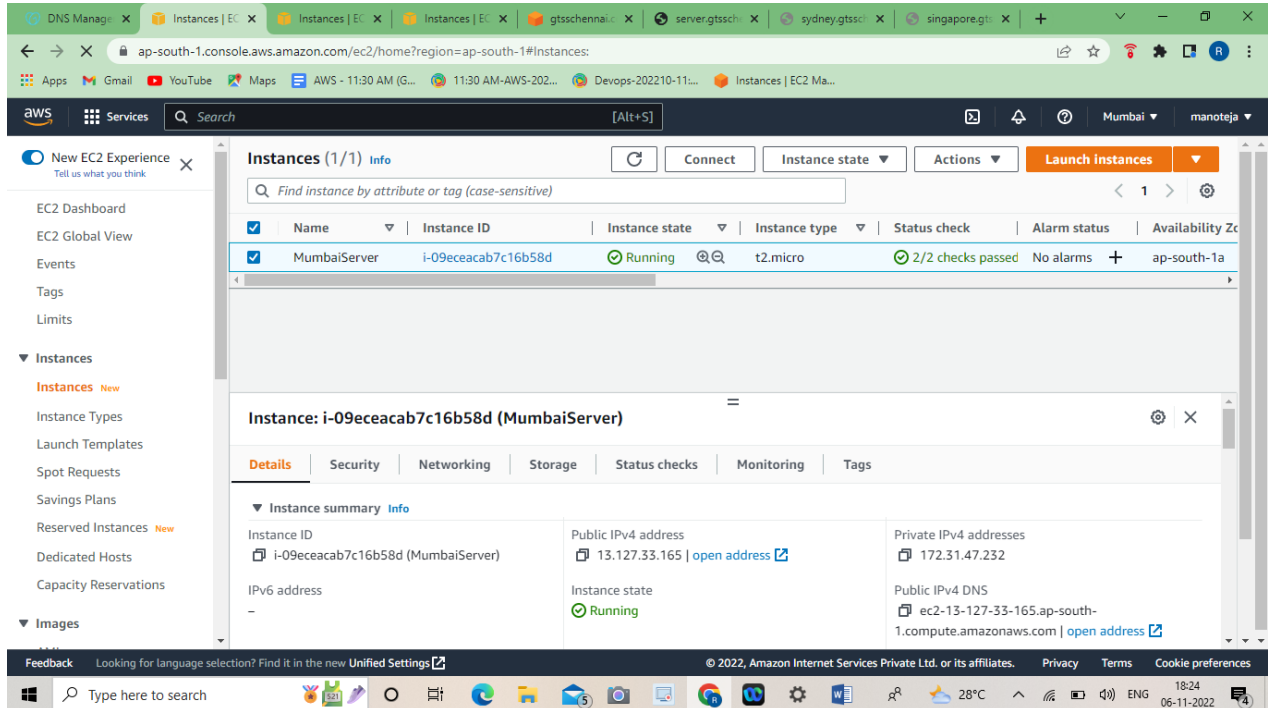
Fig: -3.3-Creating Sydney Server

Fig: -3.4- Creating Mumbai Server

3.9. ROUTE 53:

If you're transferring one or more domain registrations to Route 53, and you're currently using a domain registrar that doesn't provide paid DNS service, you need to migrate DNS service before you migrate the domain. Otherwise, the registrar will stop providing DNS service when you transfer your domains, and the associated websites and web applications will become unavailable on the internet. (You can also migrate DNS service from the current registrar to another DNS service provider. We don't require you to use Route 53 as the DNS service provider for domains that are registered with Route 53.)

The process depends on whether you're currently using the domain:

- ➢ If the domain is currently getting traffic—for example, if your users are using the domain name to browse to a website or access a web application.

- ➢ If the domain isn't getting any traffic (or is getting very little traffic.

For both options, your domain should remain available during the entire migration process. However, in the unlikely event that there are issues, the first option lets you roll back the migration quickly. With the second option, your domain could be unavailable for a couple of days.

3.8.1. Use cases:

- ➢ Amazon Route 53 is a highly available and scalable Domain Name System (DNS) web service. Route 53 connects user requests to internet applications running on AWS or on-premises

➢ Manage network traffic globally Create, visualize, and scale complex routing relationships between records and policies with easy-to-use global DNS features.

3.8.2. Build highly available applications:

Set routing policies to pre-determine and automate responses in case of failure, like redirecting traffic to alternative Availability Zones or Regions.

3.8.3. Set up private DNS:

➢ Assign and access custom domain names in your Amazon Virtual Private Cloud (VPC). Use internal AWS resources and servers without exposing DNS data to the public Internet.

➢ Geolocation routing lets you choose the resources that serve your traffic based on the geographic location of your users, meaning the location that DNS queries originate from.

➢ For example, you might want all queries from Europe to be routed to an ELB load balancer in the Frankfurt region.

➢ When you use geolocation routing, you can localize your content and present some or all of your website in the language of your users. You can also use geolocation routing to restrict distribution of content to only the locations in which you have distribution rights.

> ➢ Another possible use is for balancing load across endpoints in a predictable, easy-to-manage way, so that each user location is consistently routed to the same endpoint.

You can specify geographic locations by continent, by country, or by state in the United States. If you create separate records for overlapping geographic regions—for example, one record for North America and one for Canada—priority goes to the smallest geographic region. This allows you to route some queries for a continent to one resource and to route queries for selected countries on that continent to a different resource. (For a list of the countries on each continent, see Location.)

Geolocation works by mapping IP addresses to locations. However, some IP addresses aren't mapped to geographic locations, so even if you create geolocation records that cover all seven continents, Amazon Route 53 will receive some DNS queries from locations that it can't identify. You can create a default record that handles both queries from IP addresses that aren't mapped to any location and queries that come from locations that you haven't created geolocation records for. If you don't create a default record, Route 53 returns a "no answer" response for queries from those locations.

For more information, see How Amazon Route 53 uses EDNS0 to estimate the location of a user.

For information about values that you specify when you use the geolocation routing policy to create records, see the following topics:

> ➢ Values specific for geolocation records
> ➢ Values specific for geolocation alias records
> ➢ Values that are common for all routing policies
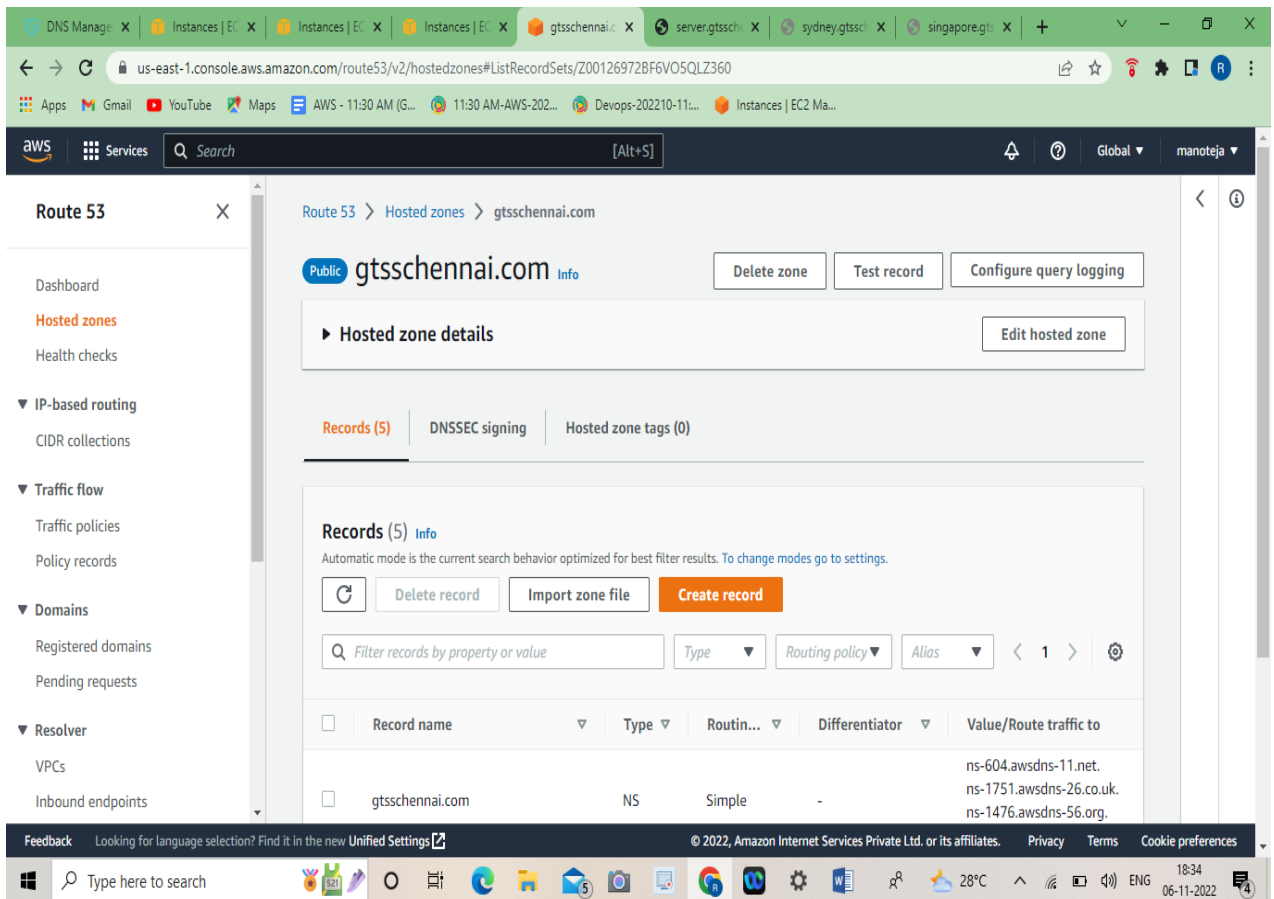> ➢ Values that are common for alias records for all routing policies
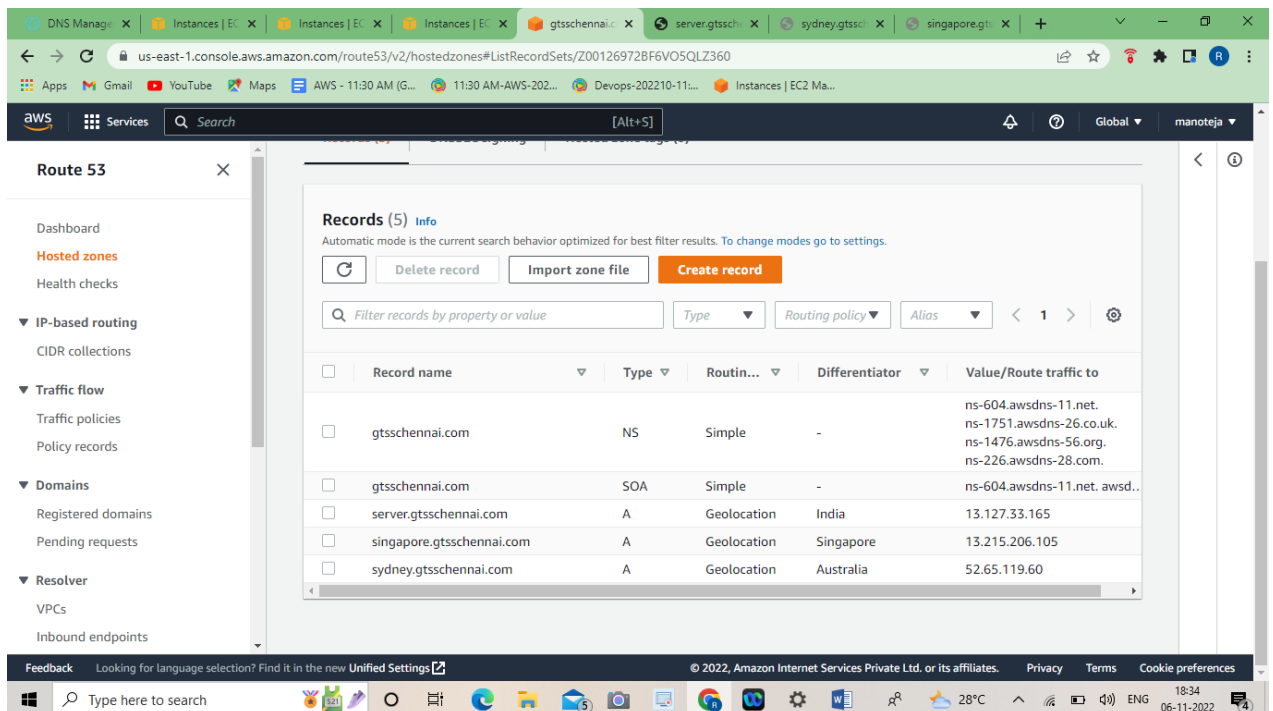
Fig :- 3.5- GTS Chennai.com

Fig: -3.6-Records

3.10. GoDaddy:

GoDaddy was founded in 1997 in Phoenix, Arizona, by entrepreneur Bob Parsons. Prior to founding GoDaddy, Parsons had sold his financial software services company Parsons Technology to Intuit for $65 million in 1994.[8] He came out of his retirement in 1997 to launch Jomax Technologies (named after a road in Phoenix Arizona) which became GoDaddy Group Inc. GoDaddy received a strategic investment, in 2011, from private equity funds, KKR, Silver Lake, and Technology Crossover Ventures. The company headquarters was located in Scottsdale, Arizona up until April 2021, when then moved to Tempe, Arizona. GoDaddy is the world's largest and trusted **domain registrar** that empowers people like you with creative ideas to succeed online. Buying a domain name is easy with our domain search tool and domain name generator tools you can find the perfect website address for your business.
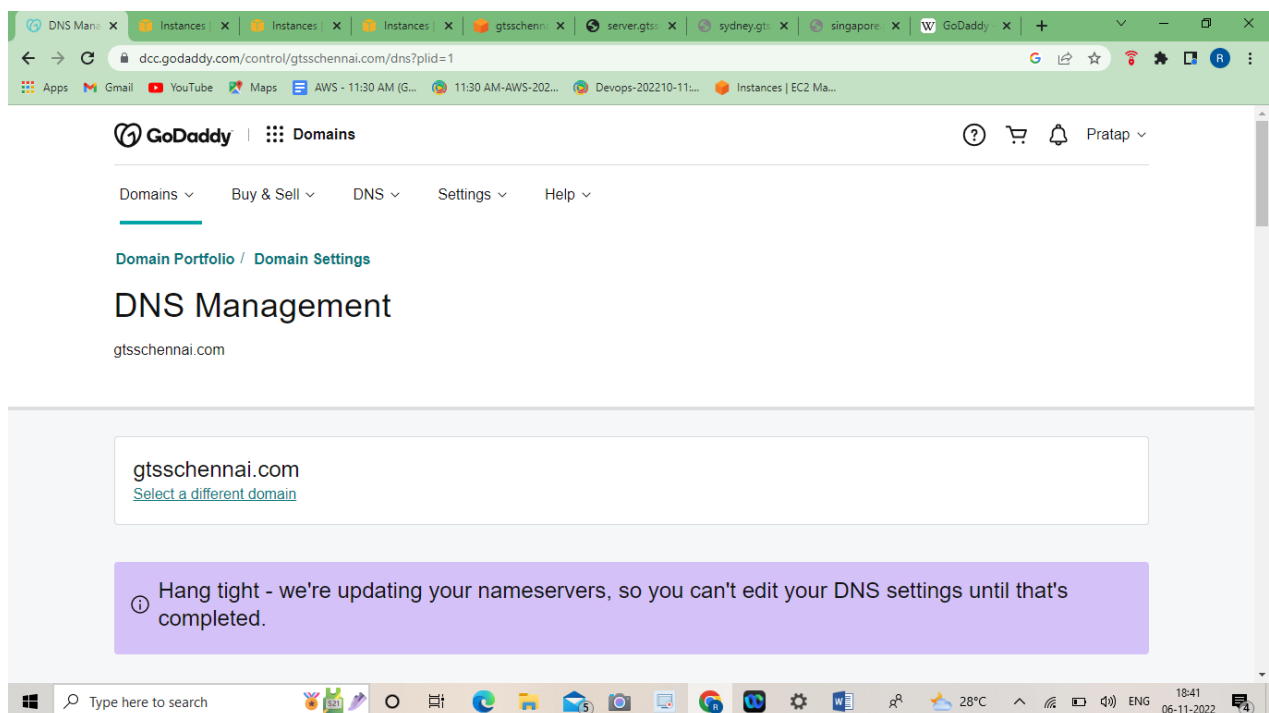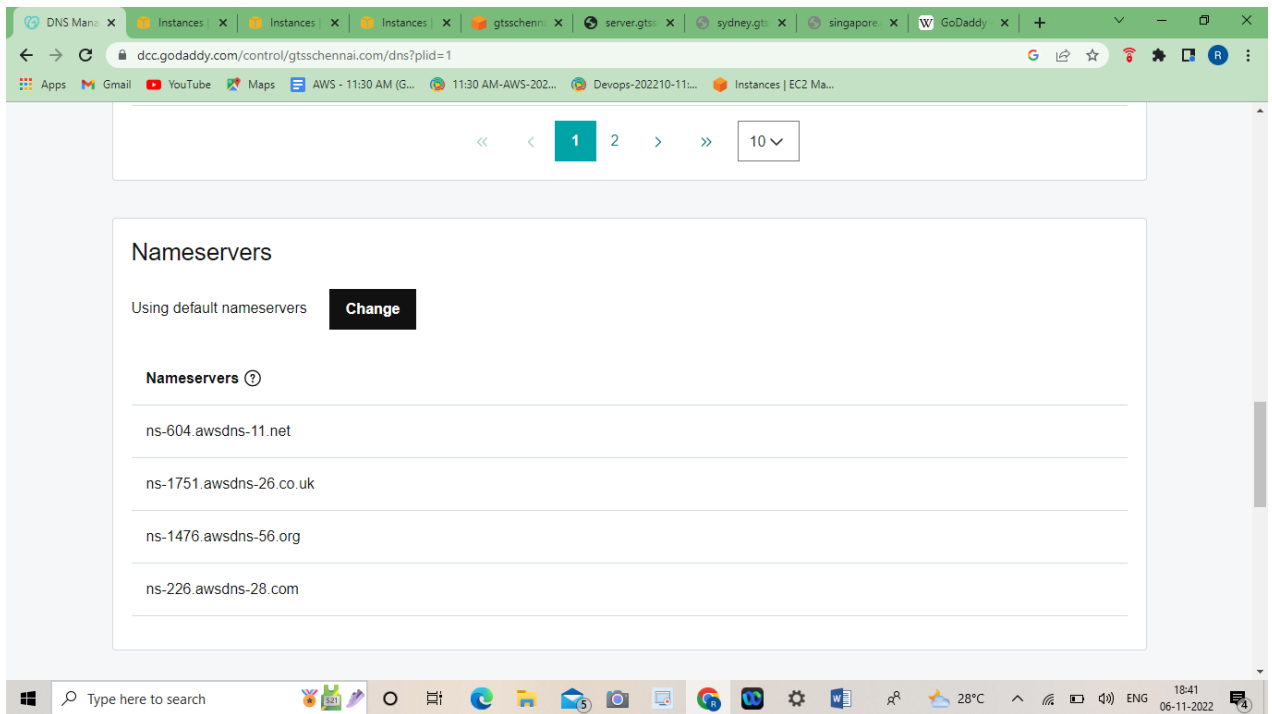

Fig:- 3.7- GoDaddy Dns Management

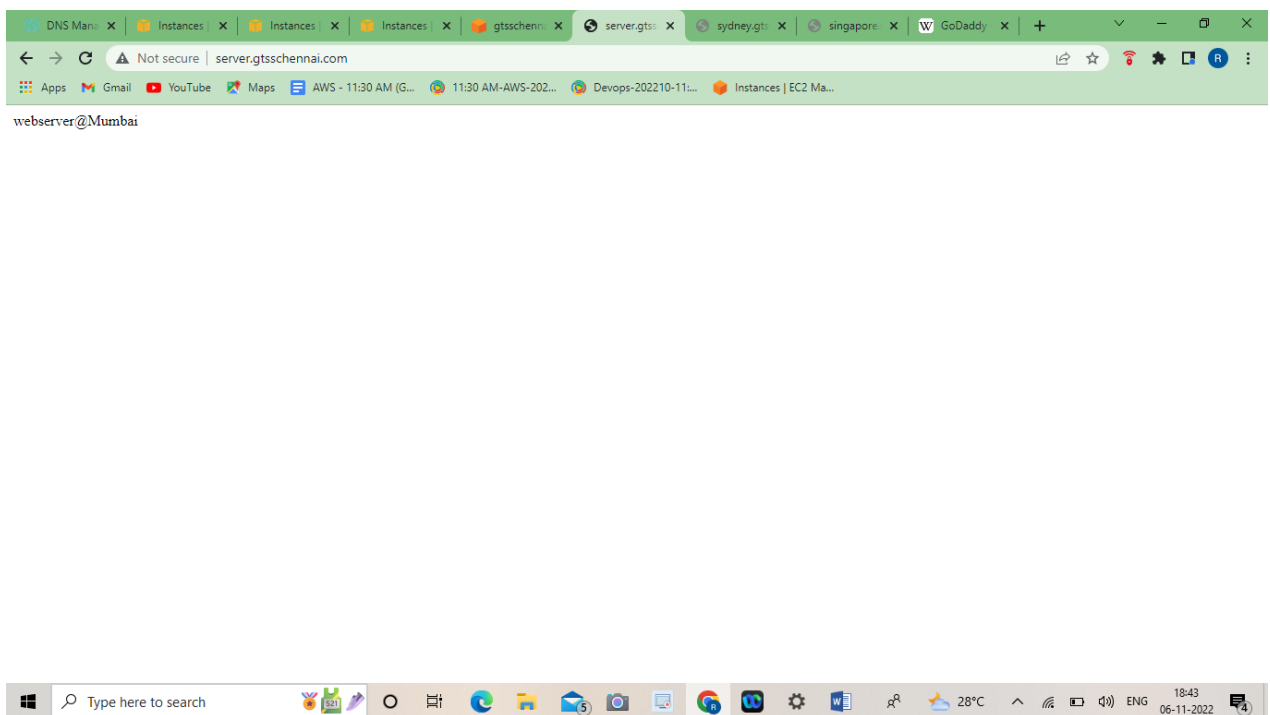*Fig: -3.8- Nameservers*

3.10. Final Output:

Fig: - 3.9-Output

CHAPTER – 4

AWS PRICING

AWS offers you a pay-as-you-go approach for pricing for over 160 cloud services. 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 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.

Fig :-4.1- AWS Pricing Works

4.1. AWS Free Tier:

➢ AWS offers free account for a period of 12months of its new customers to help them begin with AWS services and familiarise themselves with the platform as well as their requirements.

➢ Once where the usage exceeds the free monthly quota, standard pay-asyou go charges become applicable

4.2. Pay-per-use:

As previously mentioned, AWS does not expect commitment from its customers for its services. Users can pay only for the resources used and can stop availing these services whenever they wish. AWS offers low variable costs which can be opted for by organisations, thereby, saving upfront investments.

4.3. Use more, pay less:

With AWS, the more you see, the less you pay, i.e., the pricing is tired. Using volume-based discount schemes offered by AWS, you can save more for greater usage.

4.4. Custom pricing:

Pricing can be customised depending on the necessities of each project, i.e., for their unique requirements. However, custom pricing is only applicable for very large sized projects. In addition, AWS also offers the following services with no additional expenditure incurred by the user:

- ➤ Amazon VPC
- ➤ AWS Cloud Formation
- ➤ AWS Elastic Beanstalk
- ➤ AWS Identity and Access Management (IAM)
- ➤ Elastic Compute Cloud (EC2) instances
- ➤ AWS OpsWorks
- ➤ Auto Scaling

Use the right pricing model for the job: AWS offers several pricing models depending on product. These include:

4..5. On-Demand Instances:

let you pay for compute or database capacity by the hour or second (minimum of 60 seconds) depending on which instances you run with no long-term commitments or upfront payments.

- ➢ This type of pricing is ideal for:
- ➢ Short term applications having unpredictable workload.
- ➢ Users who are not interested to opt for long-term commitment.
- ➢ First time users

4.5.1. Savings Plans:

Savings plans are a flexible pricing model that offer low prices on Amazon EC2, AWS Lambda usage, in exchange for a commitment to a consistent amount of usage (measured in \$/hour) for a one- or three-year term.

This type of pricing is ideal for:
- ➢ Users who urgently require large amounts of computing   resources.
- ➢ Applications that are feasible for low-priced resources.

4.5.2. Spot Instances are an Amazon EC2 pricing mechanism that let you request spare computing capacity with no upfront commitment and at discounted hourly rate (up to 90% off the on-demand price).

- ➢ This type of pricing is ideal for:
- ➢ Applications that have flexible start and end times
- ➢ Applications that are only feasible at very low compute prices
- ➢ Users with fault-tolerant and/or stateless workloads

4.5.3. Reservations provide you with the ability to receive a greater discount, up to 75 percent, by paying for capacity ahead of time.

This type of pricing is ideal for:

➢ Users who are already for a 1 to 3 years long commitment period.
➢ Applications with predictable steady usage curve.

4.6. AWS Pricing/TCO Tools*:*

To get the most out of your estimates, you should have a good idea of your basic requirements. For example, if you're going to try Amazon Elastic Compute Cloud (Amazon EC2), it might help if you know what kind of operating system you need, what your memory requirements are, and how much I/O you need. You should also decide whether you need storage, such as if you're going to run a database and how long you intend to use the servers. You don't need to make these decisions before generating an estimate, though. You can play around with the service configuration and parameters to see which options fit your use case and budget best. AWS offers couple of tools (free of cost) for you to use. If the workload details and services to be used are identified, AWS pricing calculator can help with calculating the total cost of ownership. Migration Evaluator helps with inventorying your existing environment, identifying workload information, and designing and planning your AWS migration. TCO or Total Cost of Ownership is a calculator that enables users to compare on premises or co-location expenses with AWS costs.

Fig:-4.2-AWS Calculator

4.7. AWS Pricing Calculator:

AWS Pricing Calculator
Estimate the cost of AWS products and services

Add services
Search and add AWS services that you need

Configure service
Enter the details of your usage to see service costs

View estimate totals
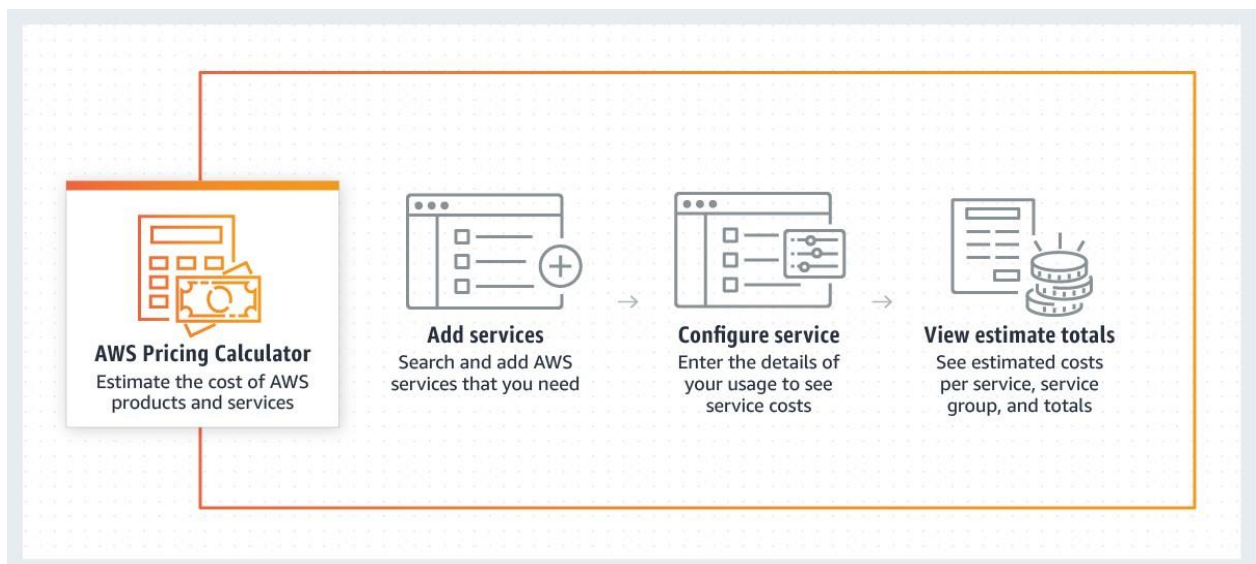See estimated costs per service, service group, and totals

Fig: -4.3- AWS Pricing Calculator

AWS Pricing Calculator is a web-based service that you can use to create cost estimates to suit your AWS use cases. AWS Pricing Calculator is useful both for people who have never used AWS and for those who want to reorganize or expand their usage. You can model your solutions before building them, explore the price points and calculations behind your estimate, and find the available instance types and contract terms that meet your needs.

4.7.1. Benefits and features:

- ➢ -Transparent pricing
- ➢ -Share your estimates
- ➢ -Hierarchical estimates
- ➢ -Estimate exports

- ➢ **Use cases:**
- ➢ -Reduce your Amazon EC2 spend
- ➢ -Find the right Amazon EC2 Instance
- ➢ -Estimate your AWS spend
- ➢ -Compare service costs per region

4.8. Migration Evaluator:

Migration Evaluator is a migration assessment service that helps you create a directional business case for AWS cloud planning and migration. ... The software models compute patterns for all instances, showing the projected costs to re-host at AWS and the breakdown of costs by infrastructure and software licenses

With Migration Evaluator (Formerly TSO Logic), you can gain access to insights and accelerate decision-making for migration to AWS at no cost

Fig: -4.4- AWS Migration Evaluator

Interesting facts:

- Amazon Web Services dominates cloud services.

- Amazon Web Services holds 27% share of all Cloud Infrastructure as Services (IaaS).

- Aws earning is about 6 billion a year and 1.5 billion revenues in Q1 of 2015 alone.

- Aws have Data Centres in 190 countries.

- Each Amazon Data Centre holds from 50,000 to 80,000 computers at 2015, 25% of Amazon Web Services uses renewable energies.

CHAPTER- 5

SUMMARY AND CONCLUSION

5.1. SUMMARY: -

➢ Geolocation routing lets you choose the resources that serve your traffic based on the geographic location of your users, meaning the location that DNS queries originate from. For example, you might want all queries from Europe to be routed to an ELB load balancer in the Frankfurt region.

➢ When you use geolocation routing, you can localize your content and present some or all of your website in the language of your users. You can also use geolocation routing to restrict distribution of content to only the locations in which you have distribution rights. Another possible use is for balancing load across endpoints in a predictable, easy-to-manage way, so that each user location is consistently routed to the same endpoint.

5.2. CONCLUSION: -

➢ You can specify geographic locations by continent, by country, or by state in the United States. If you create separate records for overlapping geographic regions—for example, one record for North America and one for Canada—priority goes to the smallest geographic region. This allows you to route some queries for a continent to one resource and to route queries for selected countries on that continent to a different resource.

➢ Geolocation works by mapping IP addresses to locations. However, some IP addresses aren't mapped to geographic locations, so even if you create geolocation records that cover all seven continents, Amazon Route 53 will receive some DNS queries from locations that it can't identify. You can create a default record that handles both queries from IP addresses that aren't mapped to any location and queries that come from locations that you haven't created

geolocation records for. If you don't create a default record, Route 53 returns a "no answer" response for queries from those locations.

5.3. REFERENCES:-

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