A LONG TERM INTERNSHIP REPORT on AMAZON WEB SERVICES

Submitted to Department of Computer Science

BY

T.TEJASWI

3-BCA-B

Under the Esteemed Guidance of MOUNIKA
lecturer
Department of Computer Applications

ADITYA DEGREE COLLEGE

VISAKHAPATNAM

ADITYA DEGREE COLLEGE

Department of Computer Applications

CERTIFICATE

This is to certify that The Long Term Internship entitled,

<Amazon Web Services= is a bonified work of T.Tejaswi, bearing 122127206146, III BCA, submitted to the Department of Computer Science, Aditya Degree College, Visakhapatnam for the academic year 2022-2025.

Head of the Department

Sri. A.CHANDRASEKHAR (M.Sc)

External Examiner **Principal**

ADITYA DEGREE COLLEGE

Department of Computer Applications

DECLARATION BY THE STUDENT

Ihereby declare that the work described in this Long Term Internship, entitled <Amazon Web Services= which is being submitted by me in partial fulfilment of the requirements for the award of degree of Bachelor of Computer Applications(BCA) from the Department of Computer Application to Aditya Degree College, Visakhapatnam under the guidance of Ms.Mounika ,Project Coordinator of Adhoc Network Tech Company,India and Canada.

Place: Visakhapatnam

Date:

ADITYA DEGREE COLLEGE

Department of Computer Applications

CERTIFICATEFROMTHESUPERVISOR

This is to certify that the Long Term Internshipentitled, **=AmazonWebServices=,** that is being submitted by **T.Tejaswi** bearing **122127206146,IIIBCA**, which is being submitted by me inpartial fulfilment of the requirements for the award of degreeof **Bachelor of Computer Applications** from the Bachelor of Computer Applications to Aditya Degree College, bonified work carried out by him under my guidance and Supervision.

Mr.A.Chandra Sekhar(M.sc)

ACKNOWLEDGEMENT

No endeavour is completed without the valuable support of others. I would like to take this opportunity to extend my sincere gratitude to all those who havecontributed to the successful completion of this Long-TermInternship Project Report.

It is privilege to thank **Dr.N.SESHA REDDY, Chairman Sir**, Aditya group of institutions for providing state-of-the-Art facilities, experienced and talentedfacultymembers.

It is privilege to thank **Dr. N. SUGUNA REDDY, Secretary Madam**, Aditya group of institutions for providing Long-Term Internship Project Report from Adhoc.

I thank **Dr.B.E.V.L.NAIDU Sir,** Academic Director, Aditya Degree College for his continuous support and encouragement in my endeavour.

I sincerely extend my heartfelt gratitude to **CEngg Daniel Benjamin Sir, Chartered Engineer**, AMIE, **B.Tech**, Project Director of Adhoc Network Tech Company, India and Canada, for his invaluable guidance, timely support, and insightful contributions through his dedicated company team. His expertise and leadership have been instrumental in the successful completion of my Long-TermInternship Project Report.

At thisjuncture Ifeeldeeply honoured in expressing my sincerethanks to **CEODevikaPakruthi Mam**of Adhoc Network Tech Company,India and Canada for making the resources available at right time and providing valuable insightsleading to the successfulcompletion of my Long-Term Internship Project Report.

I express my deep sense of gratitude to **Mr. Shahid Ali(M.sc,PhD), Principal**, for his Efforts and for giving us permission for carryingout this Long-Term Internship.

I thank **Mr.A.Chandra Sekhar**, **M.Sc** Head of the Department of Bachelor of Computer Science, Aditya Degree College- Visakhapatnam, for supporting and encouraging me in completion of my Long-Term Internship.

Finally Ithank all the faculty members of our Department who contributed their valuablesuggestions in completion of Long-Term Internshipreport and Ialso put my sincerethanks to My Parentswho stoodwith me during the whole Long-TermInternship.

- T.Tejaswi

ABOUT ADITYA DEGREE COLLEGES

AdityaDegreecollegesarethepreciousgiftspresentedtothetwinGodavariDistrictsbyADITYA.Educationalgroup ADITYADegree Collegewhichwasestablishedin1998inKakinadafulfilledthehopesandaspirationsofmanygraduates andhadbeenacclaimed asthebestdegreecollegeunderAndhraUniversity.Encouragedbythe100%resultin 2003,ADITYAaddedseveralfeatherstoits capbylaunchingDegreeCollegesinRajahmundryin2003,inVizagandPalakol in2005andinTatipakain2006.

Needlesstosay,inthepresentscenaiogirlsexcelmorethanboysineducationandtheygivetoughcompetitiontoboys. Owingto theirdiffidenceandinhibition,girlsfinddifficultyinexpressingtheirdoubtsinaclassroomofCo-edCollege. Moreover,parents havemanyobjectionsinsendingtheirdaughterstoaco-edcollege.Realizingthis,ADITYAsuccessfully leadsDegreecollegesfor girlstoprovetheirtalentsincurricular,co-curricularandextra-curricularactivities.ADITYA startedP.GCollegealsoforWomento encouragethemforhighereducation.

VISION

To provide inclusive education with innovative methods and strenuous efforts for inculcating human values, professionalism and scientific instillation in the realm of Degree Education to all sections of students irrespective of race, region and religion with special focus to stand independently and to emerge as centre for Research and Development.

MISSION

Toprovideamplescopeformultifaceteddevelopmentoflocalyouth.Toprovidequalityhighereducationtostudent

community. ToRecruitHighlyQualifiedandExperiencedFacultytoprovideQualityEducation.

ABOUT ADHOC NETWORK TECH COMPANY - INDIA,CANADA

CEO Devika Pakruthi is a highly accomplished and recognized entrepreneur who has garnered prestigious awards at various levels for her outstanding contributions to the business world.

Awards that Devika Pakruthi has won:

- Young Entrepreneur Award - City Level (Visakhapatnam)
- Best Ongoing Startup - State Level (Andhra Pradesh)
- Women Rising Star of the Year- National Level (New Delhi)
- Youngest CEO of the Year - State Representation (Karnataka)

AdhocNetworkisstartedintheyear2020at Visakhapatnam byanyoungWomenentrepreneur Miss.DevikaPakruthi Founder&CEOwithan intentiontoprovideemployment opportunitiesto theyouthandalsotoimpartthebestquality training andpracticalexposuretotheStudentswhich enhancestheiremployabilitySkils.Herjourney startedand collapsedwiththewidespreadofCovid-19buther determinationandaspirationsmadeher journeymore futuristicandshenevergaveupthe thoughttoGIVE-UP.This iswhereDevikamadeher dreamscometrueandalive.She neverexpectedwith asoleobjectiveofmakingProfitbuther determinationtoimpartthequalitytrainingmadeher to reachthepeaksofsuccessattheyoungage.

Adhoc Network-we are proud to have been awarded a Hattrick of Awards. This Achievement is a testament to our commitment to Excellence and Innovation in the Software development Best heading company in the market. Devika Pakruthi, a name synonymous with innovation, empowerment, and success. As the proud recipient of the Young Entrepreneur Award, Best Women-Led Startup Award, Women Rising Star of the Year Award and Youngest CEO of the Year Award, Devika Pakruthi has etched her name into the annals of contemporary business history.

Vision, Mission and values of the Organization:-

VISION:- Due vision is to be a leading global provider of interactive and reliable Software Solution empowering business to Thrive in the digital age.

MISSION:- Our mission is to develop cutting-edge Software Solutions that Solve compare business challenges, enhance Operations efficiency and drive Sustainable growth for our client we strive to deliver exceptional value by leveraging emerging technologies, fostering Strategic partnerships and maintaining a Customer, Centric approach Values

- Innovation
- Excellence
- Collaboration
- Integrity
- Customer Centricity
- Continuous Learning

ADHOC NETWORK

CERTIFICATE

OF INTERNSHIP

This Certificate is Presented To :

TEJASWI TADELU

From demonstrated exceptional dedication and commitment to mastering AWS CC Internship actively engaging in hands-on projects and practical learning from **December 5th 2024-March 15th-2025**.Your active participation and engagement in the Internship have equipped you with valuable technical skills and practical knowledge essential for building dynamic and scalable applications

TECHNICAL TRAINER

ABSTRACT

Cloud storage has become a popular option for storing and managing large amounts of data due to its convenience, scalability, and cost-effectiveness. However, the security and privacy of cloud-stored data remain a significant concern. Encrypting data before uploading it to the cloud is a common solution to address these concerns. However, searching over encrypted data is a challenging problem, particularly when there are multiple keywords involved. While many of the currently available ranked keyword search schemes aim to improve search efficiency or functionality, they often fail to provide both efficient access control and rigorous security analysis at the same time. This creates a gap in the available security and privacy options for such systems. To address these limitations, this paper presents a novel solution called the Multi-keyword Ranked Search scheme with Fine-grained access control (MRSF). MRSF is designed to offer both efficient and privacy-preserving search capabilities, as well as robust access control measures. This allows for highly accurate retrieval of encrypted data, while also ensuring that only authorized users are able to access it. This project proposes a practical multi-keyword ranked search with access control scheme for encrypted cloud data. The proposed scheme allows data owners to encrypt their data and upload it to the cloud while maintaining the ability to search over the data without compromising its security. The scheme also provides access control to ensure that only authorized users can access the data. The proposed scheme uses a combination of symmetric and asymmetric encryption to enable efficient multi- keyword search over the encrypted data. The scheme employs an index-based search mechanism to achieve a ranked search based on the relevance of the keywords. The access control is implemented using attribute-based encryption, which allows access to be granted or revoked based on specific attributes of the user. Experimental evaluations demonstrate the effectiveness and efficiency of the proposed scheme, making it a viable solution for practical multi-keyword search with access control over encrypted cloud data. This project contributes to the field of cloud security and privacy by providing a practical solution to address the challenges of searching over encrypted cloud data while maintaining its security and privacy.

INDEX

INTRODUCTION

What is cloud computing?

Cloud computing is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). The name comes from the common use of a cloud-shaped symbol as an abstraction for the complex infrastructure it contains in system diagrams. Cloud computing entrusts remote services with a user's data, software and computation. Cloud computing consists of hardware and software resources made available on the Internet as managed third- party services. These services typically provide access to advanced software applications and high-end networks of server computers.

Structure of cloud computing

How Cloud Computing Works?

The goal of cloud computing is to apply traditional supercomputing, or high- performance computing power, normally used by military and research facilities, to perform tens of trillions of computations per second, in consumer-oriented applications such as financial portfolios, to deliver personalized information, to provide data storage or to power large, immersive computer games.

The cloud computing uses networks of large groups of servers typically running low-cost consumer PC technology with specialized connections to spread data- processing chores across them. This shared IT infrastructure contains large pools of systems that are linked together. Often, virtualization techniques are used to maximize the power of cloud computing.

Characteristics and Services Models:

The salient characteristics of cloud computing based on the definitions provided by the National Institute of Standards and Terminology (NIST) are outlined below:

- **On-demand self-service: A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service's provider.**
- **Broad network access: Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, laptops, and PDAs).**
- **Resource pooling: The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand. There is a sense of location-independence in that the customer generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction (e.g., country, state, or data center). Examples of resources include storage, processing, memory, network bandwidth, and virtual machines.**
- **Rapid elasticity: Capabilities can be rapidly and elastically provisioned, in some cases automatically, to quickly scale out and rapidly released to quickly scale in. To the consumer, the capabilities available for provisioning often appear to be unlimited and can be purchased in any quantity at any time.**
- **Measured service: Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be managed, controlled, and reported providing transparency for both the provider and consumer of the utilized service.**

Characteristics of cloud computing

Services Models: Cloud Computing comprises three different service models, namely Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), and Software-as-a-Service (SaaS). The three service models or layer are completed by an end user layer that encapsulates the end user perspective on cloud services. The model is shown in figure below. If a cloud user accesses services on the infrastructure layer, for instance, she can run her own applications on the resources of a cloud infrastructure and remain responsible for the support, maintenance, and security of these applications herself. If she accesses a service on the application layer, these tasks are normally taken care of by the cloud service provider.

Structure of service models

Benefits of cloud computing:

1. **Achieve economies of scale – increase volume output or productivity with fewer people. Your cost per unit, project or product plummets.**
2. **Reduce spending on technology infrastructure. Maintain easy access to your information with minimal upfront spending. Pay as you go (weekly, quarterly or yearly), based on demand.**
3. **Globalize your workforce on the cheap. People worldwide can access the cloud, provided they have an Internet connection.**
4. **Streamline processes.** Get more work done in less time with less people.
5. **Reduce capital costs.** There's no need to spend big money on hardware, software or licensing fees.
6. **Improve accessibility.** You have access anytime, anywhere, making your life so much easier!

1. Monitor projects more effectively. Stay within budget and ahead of completion cycle times.
2. Less personnel training is needed. It takes fewer people to do more work on a cloud, with a minimal learning curve on hardware and software issues.
3. Minimize licensing new software. Stretch and grow without the need to buy expensive software licenses or programs.
4. Improve flexibility. You can change direction without serious "people" or

"financial" issues at stake.

11. **Advantages:**

1. Price:Pay for only the resources used.
2. Security: Cloud instances are isolated in the network from other instances for improved security.
3. Performance: Instances can be added instantly for improved performance. Clients have access to the total resources of the Cloud's core hardware.
4. Scalability: Auto-deploy cloud instances when needed.
5. Uptime: Uses multiple servers for maximum redundancies. In case of server failure, instances can be automatically created on another server.
6. Control: Able to login from any location. Server snapshot and a software library lets you deploy custom instances.
7. Traffic: Deals with spike in traffic with quick deployment of additional instances to handle the load.

LITERATURE SURVEY

1. Secure ranked keyword search over encrypted cloud data AUTHORS: C. Wang, N. Cao, J. Li, K. Ren, and W. Lou

As Cloud Computing becomes prevalent, sensitive information are being increasingly centralized into the cloud. For the protection of data privacy, sensitive data has to be encrypted before outsourcing, which makes effective data utilization a very challenging task. Although traditional searchable encryption schemes allow users to securely search over encrypted data through keywords, these techniques support only boolean search, without capturing any relevance of data files.

This approach suffers from two main drawbacks when directly applied in the context of Cloud Computing. On the one hand, users, who do not necessarily have pre- knowledge of the encrypted cloud data, have to postprocess every retrieved file in order to find ones most matching their interest; On the other hand, invariably retrieving all files containing the queried keyword further incurs unnecessary network traffic, which is absolutely undesirable in today's pay-as-you- use cloud paradigm. In this paper, for the first time we define and solve the problem of effective yet secure ranked keyword search over encrypted cloud data. Ranked search greatly enhances system usability by returning the matching files in a ranked order regarding to certain relevance criteria (e.g., keyword frequency), thus making one step closer towards practical deployment of privacy-preserving data hosting services in Cloud Computing.
We first give a straightforward yet ideal construction of ranked keyword search under the state-of-the-art searchable symmetric encryption (SSE) security definition, and demonstrate its inefficiency. To achieve more practical performance, we then propose a definition for ranked searchable symmetric encryption, and give an efficient design by properly utilizing the existing cryptographic primitive, order-preserving symmetric encryption (OPSE). Thorough analysis shows that our proposed solution enjoys "as-strong- aspossible" security guarantee compared to previous SSE schemes, while correctly realizing the goal of ranked keyword search. Extensive experimental results demonstrate the efficiency of the proposed solution.

2. Privacy-preserving and dynamic multi-attribute conjunctive keyword search over encrypted cloud data

AUTHORS: L. Zhang, Y. Zhang, and H. Ma

With the increasing popularity of cloud computing, a growing data owners are motivated to outsource their huge data to cloud servers in order to facilitate access and save data management cost. To protect user privacy and data security, sensitive data should be encrypted before outsourced to the cloud server, which obsoletes data utilization like efficient search over encrypted data. In this paper, we present a privacy-preserving conjunctive keyword search scheme over encrypted cloud data, which simultaneously supports dynamic update operations. Specifically, we construct an index structure based on Multi-Attribute Tree (MAT) and present an efficient search algorithm over the index tree, named as thesearchMAT algorithm. We propose a multi-attribute conjunctive keyword search scheme based on MAT,

named as the MCKS-MAT scheme, which can achieve equality conjunction, subset conjunction and range conjunction, as well as satisfy privacy requirements under the known background attack model. In addition, this paper is accompanied by an adequate of experiments for evaluating the effectiveness of the proposed scheme. Experiments demonstrate that, compared to the linear search, the proposed scheme needs the slightly higher preprocessing cost on account of constructing the tree-based index, however, it achieves lower computational overhead in initialization, trapdoor generation and queries. OAPA

3. Privacy-preserving multi-keyword ranked search over encrypted cloud data

AUTHORS: N. Cao, C. Wang, M. Li, K. Ren, and W. Lou,

With the advent of cloud computing, data owners are motivated to outsource their complex data management systems from local sites to the commercial public cloud for great flexibility and economic savings. But for protecting data privacy, sensitive data have to be encrypted before outsourcing, which obsoletes traditional data utilization based on plaintext keyword search. Thus, enabling an encrypted cloud data search service is of paramount importance. Considering the large number of data users and documents in the cloud, it is necessary to allow multiple keywords in the search request and return documents in the order of their relevance to these keywords. Related works on searchable encryption focus on single keyword search or Boolean keyword search, and rarely sort the search results. In this paper, for the first time, we define and solve the challenging problem of privacy-preserving multi- keyword ranked search over encrypted data in cloud computing (MRSE). We establish a set of strict privacy requirements for such a secure cloud data utilization system. Among various multi-keyword semantics, we choose the efficient similarity measure of "coordinate matching," i.e., as many matches as possible, to capture the relevance of data documents to the search query. We further use "inner product similarity" to quantitatively evaluate such similarity measure. We first propose a basic idea for the MRSE based on secure inner product computation, and then give two significantly improved MRSE schemes to achieve various stringent privacy requirements in two different threat models. To improve search experience of the data search service, we further extend these two schemes to support more

search semantics. Thorough analysis investigating privacy and efficiency guarantees of proposed schemes is given.

Experiments on the real-world data set further show proposed schemes indeed introduce low overhead on computation and communication.

4. Practical techniques for searches on encrypted data AUTHORS: D. X. Song, D. Wagner, and A. Perrig

It is desirable to store data on data storage servers such as mail servers and file servers in encrypted form to reduce security and privacy risks. But this usually implies that one has to sacrifice functionality for security. For example, if a client wishes to retrieve only documents containing certain words, it was not previously known how to let the data storage server perform the search and answer the query, without loss of data confidentiality. We describe our cryptographic schemes for the problem of searching on encrypted data and provide proofs of security for the resulting crypto systems. Our techniques have a number of crucial advantages. They are provably secure: they provide provable secrecy for encryption, in the sense that the untrusted server cannot learn anything about the plaintext when only given the ciphertext; they provide query isolation for searches, meaning that the untrusted server cannot learn anything more about the plaintext than the search result; they provide controlled searching, so that the untrusted server cannot search for an arbitrary word without the user's authorization; they also support hidden queries, so that the user may ask the untrusted server to search for a secret word without revealing the word to the server. The algorithms presented are simple, fast (for a document of length n, the encryption and search algorithms only need O(n) stream cipher and block cipher operations), and introduce almost no space and communication overhead, and hence are practical to use today

5. Privacy preserving keyword searches on remote encrypted data, AUTHORS: Y.-C. Chang and M. Mitzenmacher

We consider the following problem: a user U wants to store his files in an encrypted form on a remote file server S. Later the user U wants to efficiently retrieve some of the encrypted files containing (or indexed by) specific keywords, keeping the keywords themselves secret and not jeopardizing the security of the remotely stored files. For example, a user may want to store old e-mail messages encrypted on a server managed by Yahoo or another large vendor, and later retrieve certain messages while travelling with a mobile device. In this paper, we offer solutions for this problem under well-defined security requirements. Our schemes are efficient in the sense that no public-key cryptosystem is involved. Indeed, our approach is independent of the encryption method chosen for the remote files. They are also incremental, in that U can submit new files which are secure against previous queries but still searchable against future queries.

SYSTEM STUDY

FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates.

During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential.

Three key considerations involved in the feasibility analysis are:

- ECONOMICAL FEASIBILITY
- TECHNICAL FEASIBILITY
- SOCIAL FEASIBILITY

ECONOMICAL FEASIBILITY

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

TECHNICAL FEASIBILITY

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

SOCIAL FEASIBILITY

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity. The level of acceptance by the users solely depends on the methods that are employed to educate the user about the system and to make him familiar with it. His level of confidence must be raised so that he is also able to make some constructive criticism, which is welcomed, as he is the final user of the system.

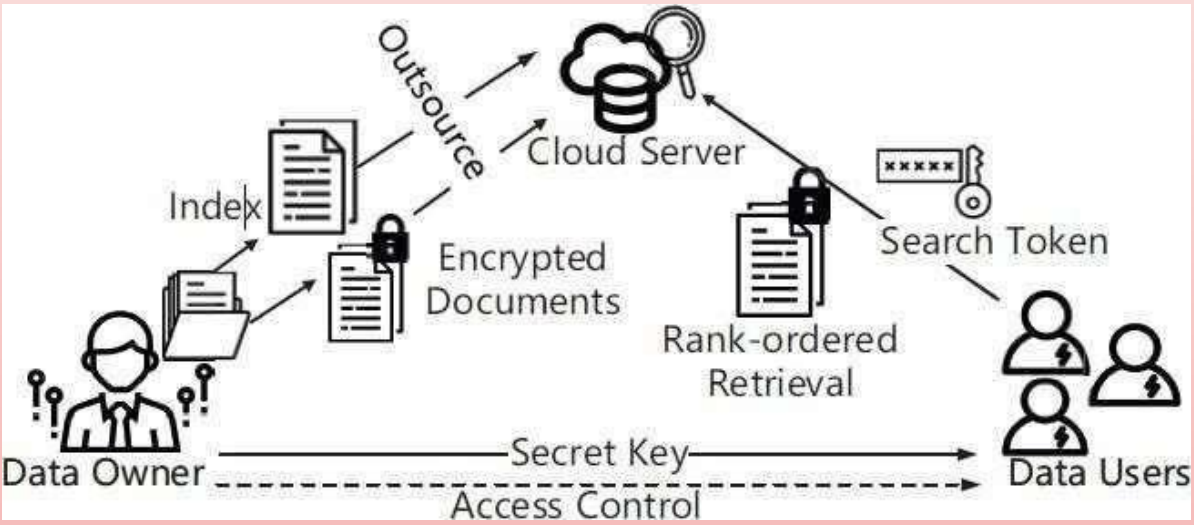
SYSTEM REQUIREMENTS

HARDWARE REQUIREMENTS:

- System : Pentium i3 Processor
- Hard Disk : 500 GB.
- Monitor : 15'' LED
- Input Devices : Keyboard, Mouse
- Ram : 2 GB

SYSTEM DESIGN

SYSTEM ARCHITECTURE



DATA FLOW DIAGRAM:

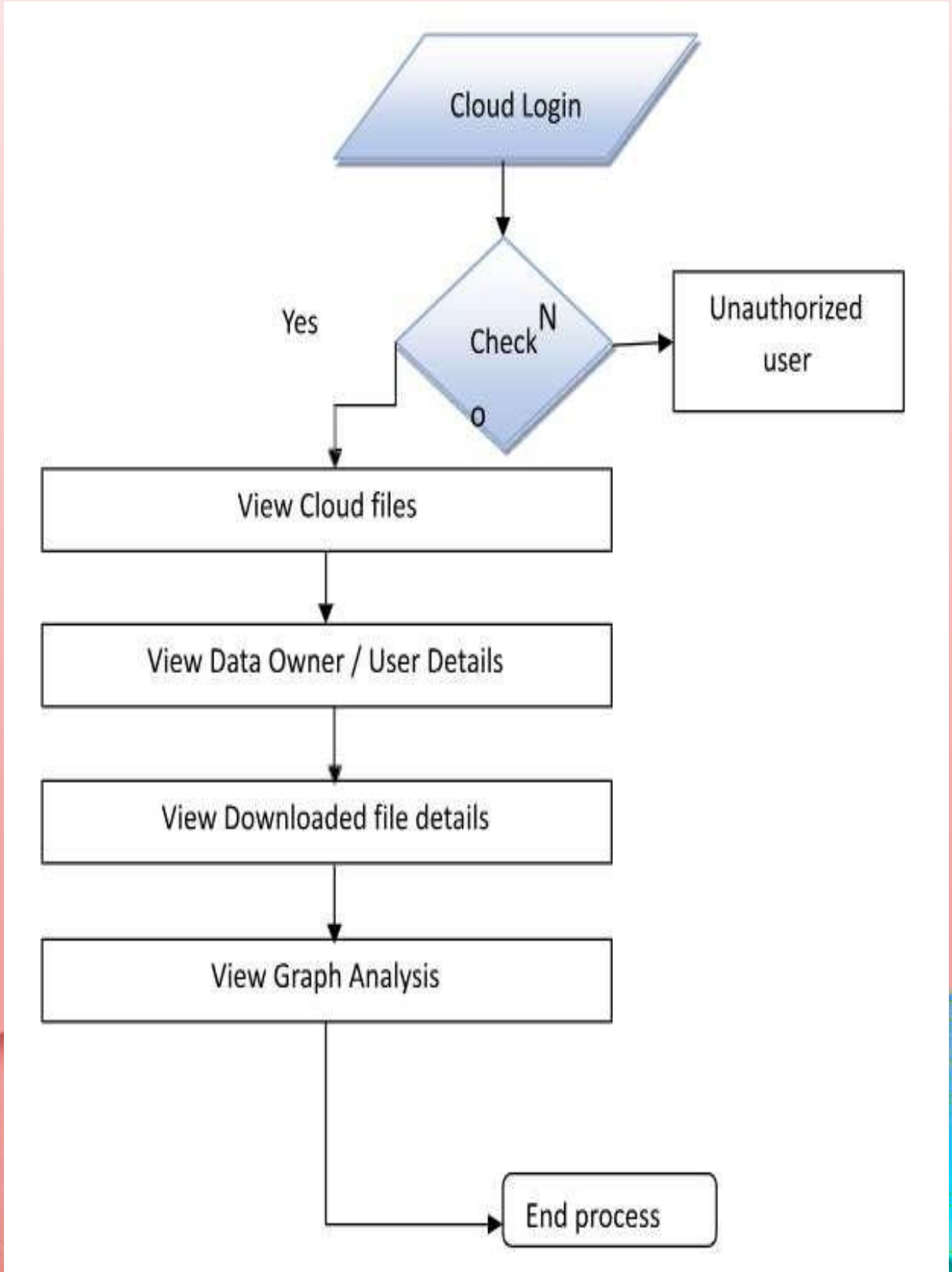
1. **The DFD is also called as bubble chart. It is a simple graphical formalism that can be used to represent a system in terms of input data to the system, various processing carried out on this data, and the output data is generated by this system.**

2. **The data flow diagram (DFD) is one of the most important modeling tools. It is used to model the system components. These components are the system process, the data used by the process, an external entity that interacts with the system and the information flows in the system.**

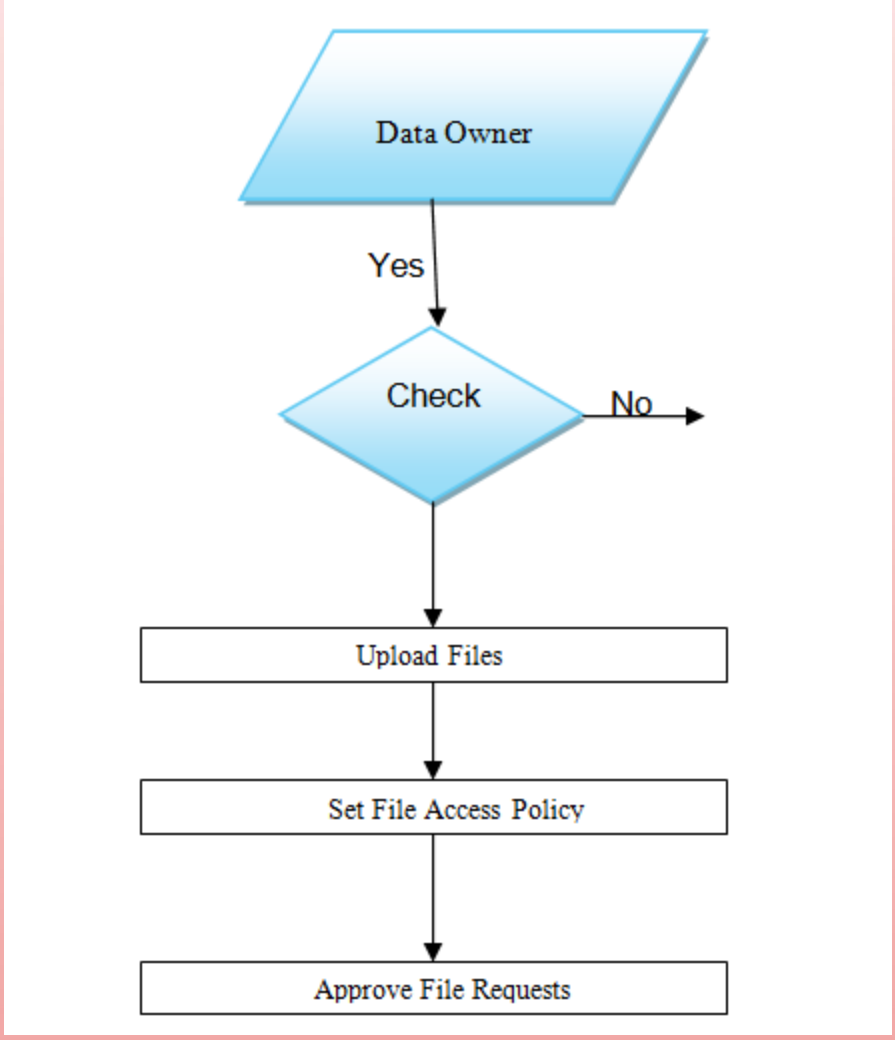
3. **DFD shows how the information moves through the system and how it is modified by a series of transformations. It is a graphical technique that depicts information flow and the transformations that are applied as data moves from input to output.**

4. **DFD is also known as bubble chart. A DFD may be used to represent a system at any level of abstraction. DFD may be partitioned into levels that represent increasing information flow and functional detail.**

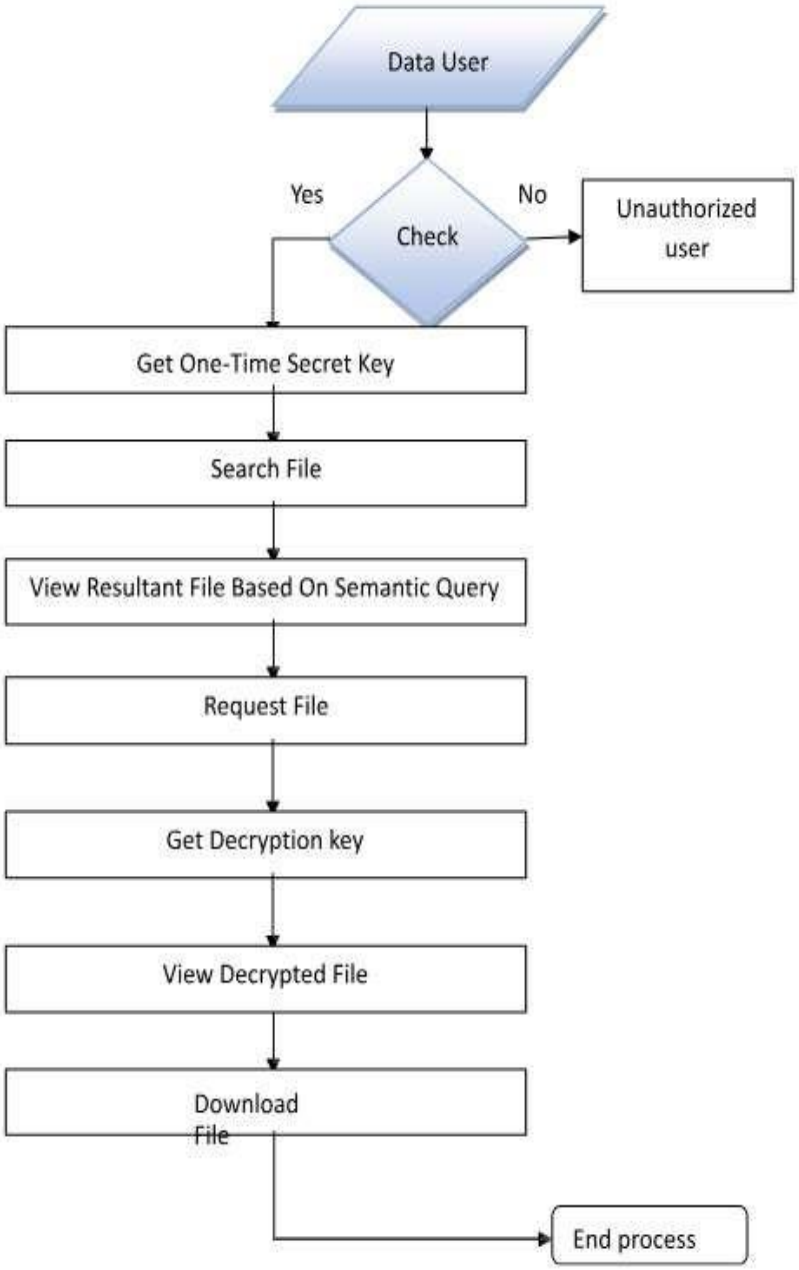
Cloud Server:



Data Owner:


Data Owner
Yes
Check
No
Upload Files
Set File Access Policy
Approve File Requests

Data User:


Data User
Check
Yes
No
Unauthorized user
Get One-Time Secret Key
Search File
View Resultant File Based On Semantic Query
Request File
Get Decryption key
View Decrypted File
Download File
End process

UML DIAGRAMS

UML stands for Unified Modeling Language. UML is a standardized general-purpose modeling language in the field of object-oriented software engineering. The standard is managed, and was created by, the Object Management Group.

The goal is for UML to become a common language for creating models of object oriented computer software. In its current form UML is comprised of two major components: a Meta-model and a notation. In the future, some form of method or process may also be added to; or associated with, UML.

The Unified Modeling Language is a standard language for specifying, Visualization, Constructing and documenting the artifacts of software system, as well as for business modeling and other non-software systems.

The UML represents a collection of best engineering practices that have proven successful in the modeling of large and complex systems.

The UML is a very important part of developing objects oriented software and the software development process. The UML uses mostly graphical notations to express the design of software projects.

GOALS:

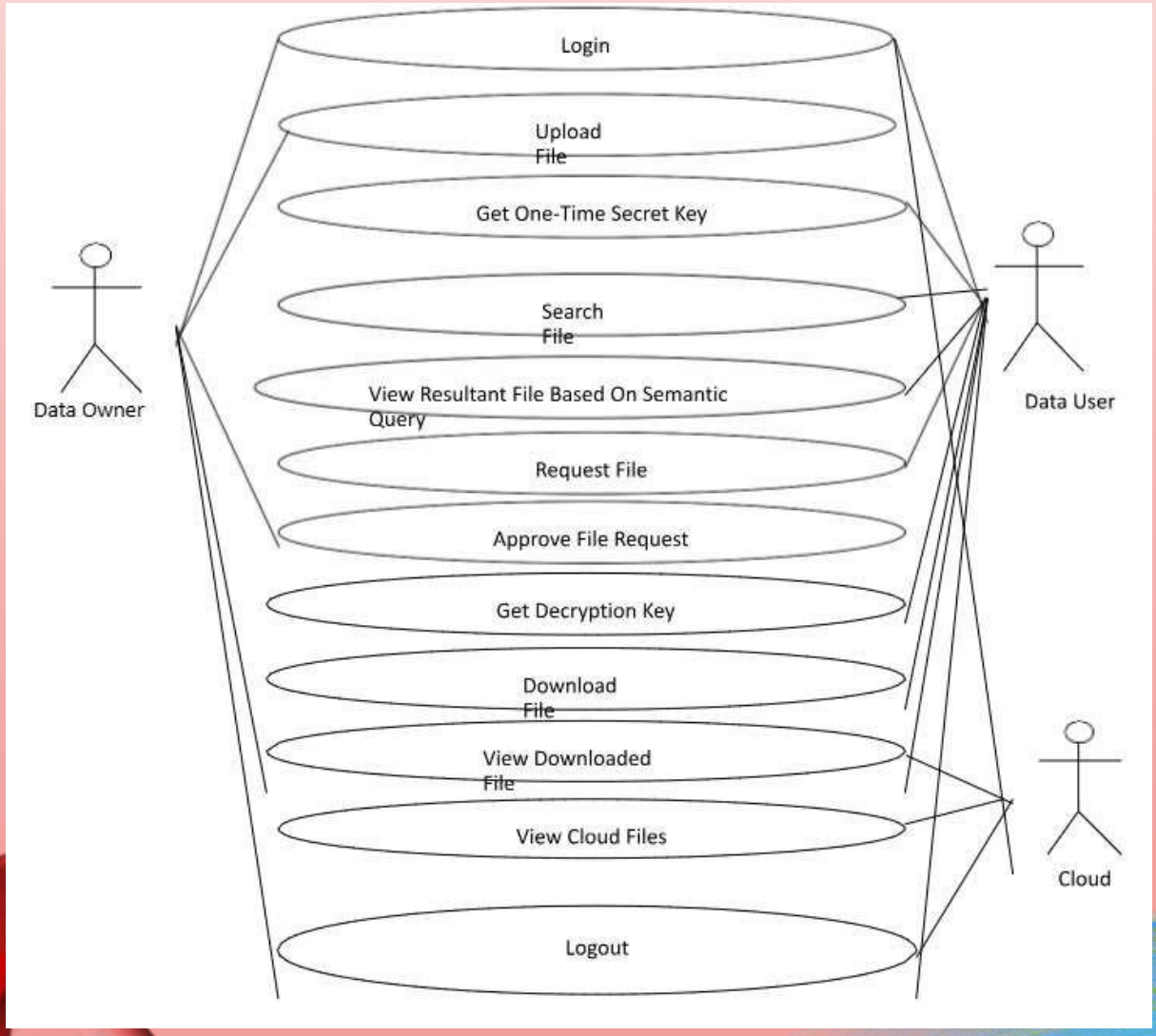
The Primary goals in the design of the UML are as follows:

1. Provide users a ready-to-use, expressive visual modeling Language so that they can develop and exchange meaningful models.
2. Provide extendibility and specialization mechanisms to extend the core concepts.
3. Be independent of particular programming languages and development process.
4. Provide a formal basis for understanding the modeling language.
5. Encourage the growth of OO tools market.
6. Support higher level development concepts such as collaborations, frameworks, patterns and components.

Integrate best practices

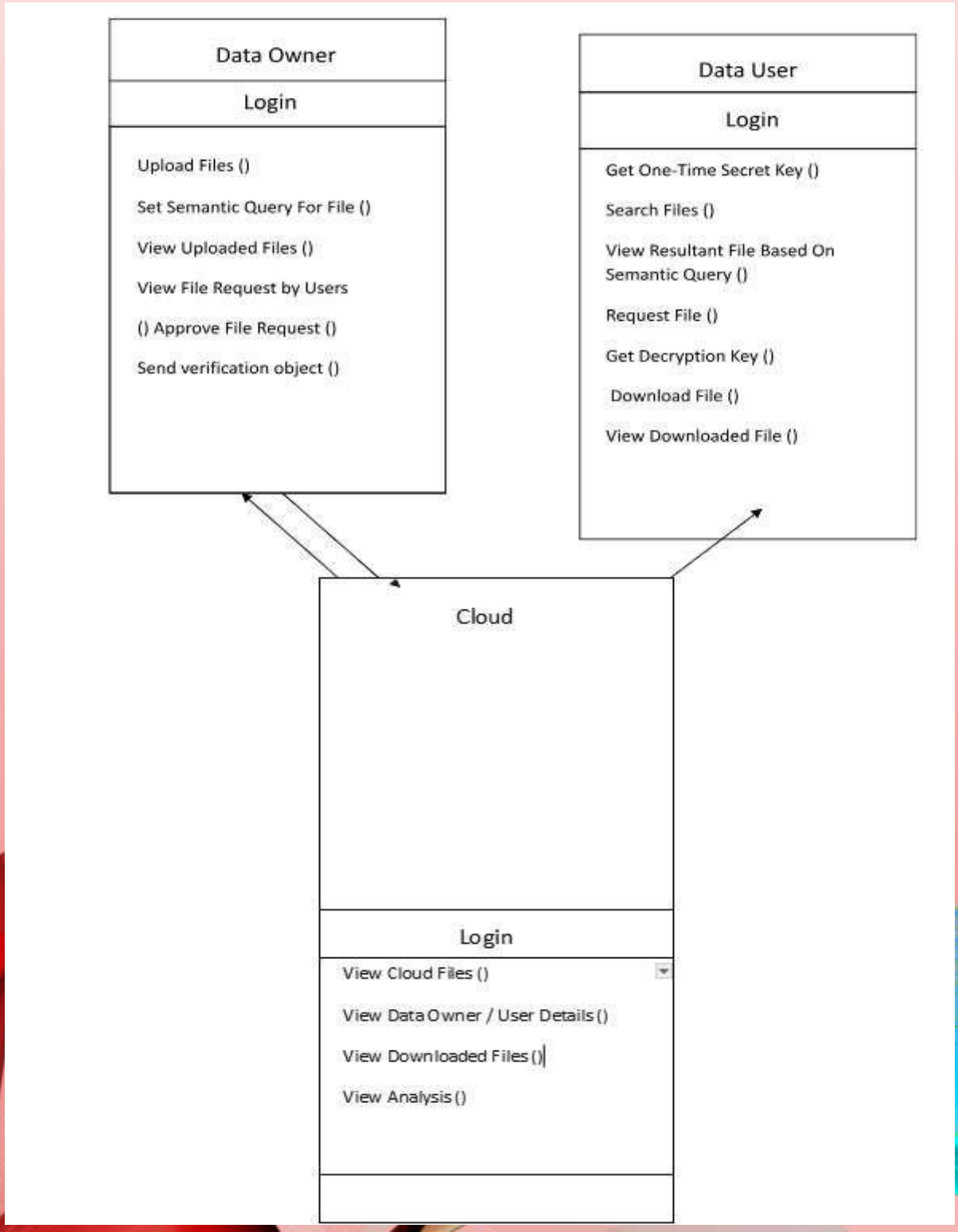
USE CASE DIAGRAM:

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases. The main purpose of a use case diagram is to show what system functions are performed for which actor. Roles of the actors in the system can be depicted.



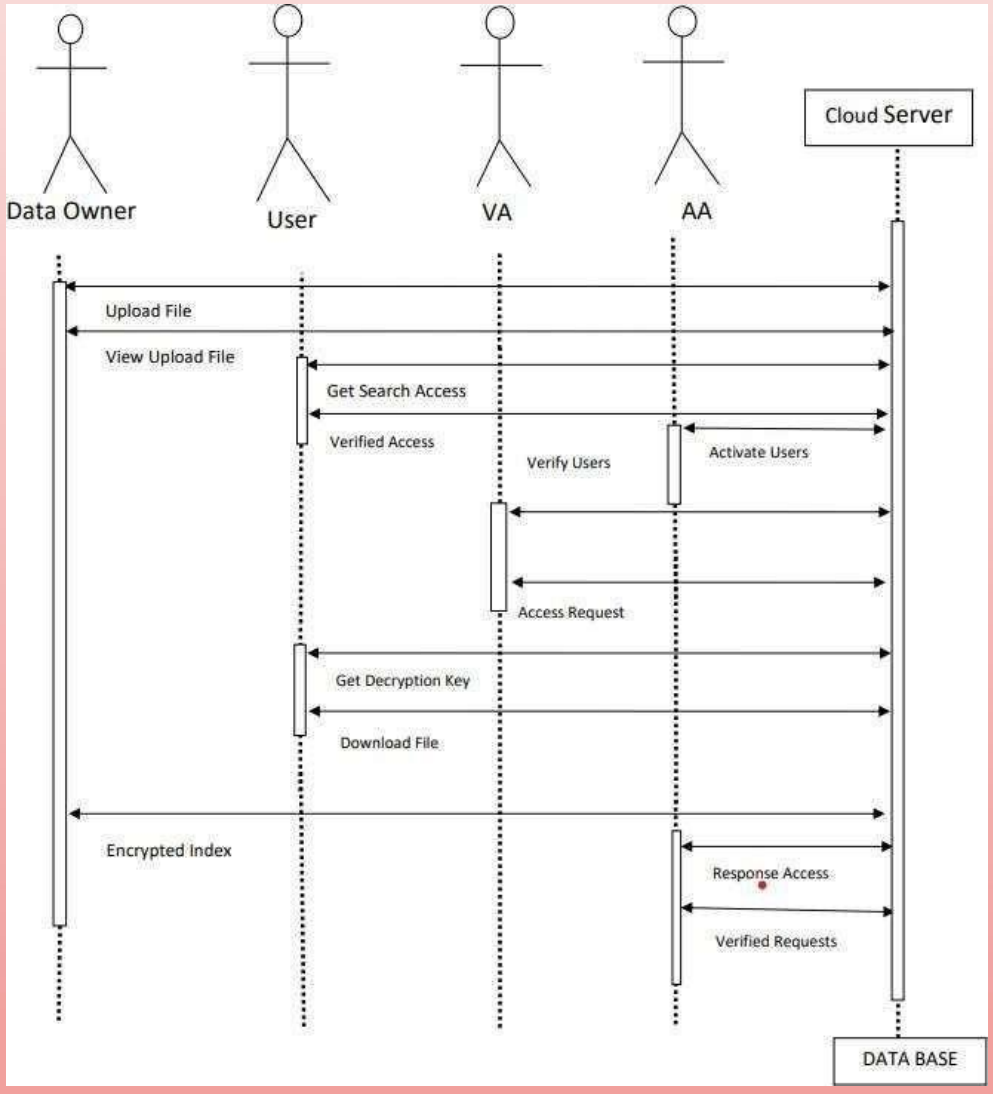
CLASS DIAGRAM:

In software engineering, a class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among the classes. It explains which class contains information.



SEQUENCE DIAGRAM:

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams



ADHOC NETWORKDS AWS CLOUD COMPUTING

PROJECT 1

Cloud computing is a technology that enables users to access and use computing resources (such as servers, storage, databases, networking, software, analytics, and intelligence) over the internet ("the cloud") instead of owning and managing physical hardware and infrastructure.

Key Characteristics

On-Demand Self-Service

Broad Network Access

Resource Pooling

Rapid Elasticity

Measured Service

Cloud Service Models

Infrastructure as a Service (IaaS)

Platform as a Service (PaaS)

Software as a Service (SaaS)

Cloud Deployment Models

Public Cloud

Private Cloud

Hybrid Cloud

Major Cloud Service Provider

Amazon Web Services (AWS)

Microsoft Azure

Google Cloud Platform (GCP)

Steps to create an aws account:

Step 1: Visit the aws website.

https://aws.amazom.com/

Step 2 : Click on create an aws account.

Step 3 : Sign in or create an amazon account.

Step 4: Provide account info.

Step 5: Contact info, payment info.

Step 6: Identity verification.

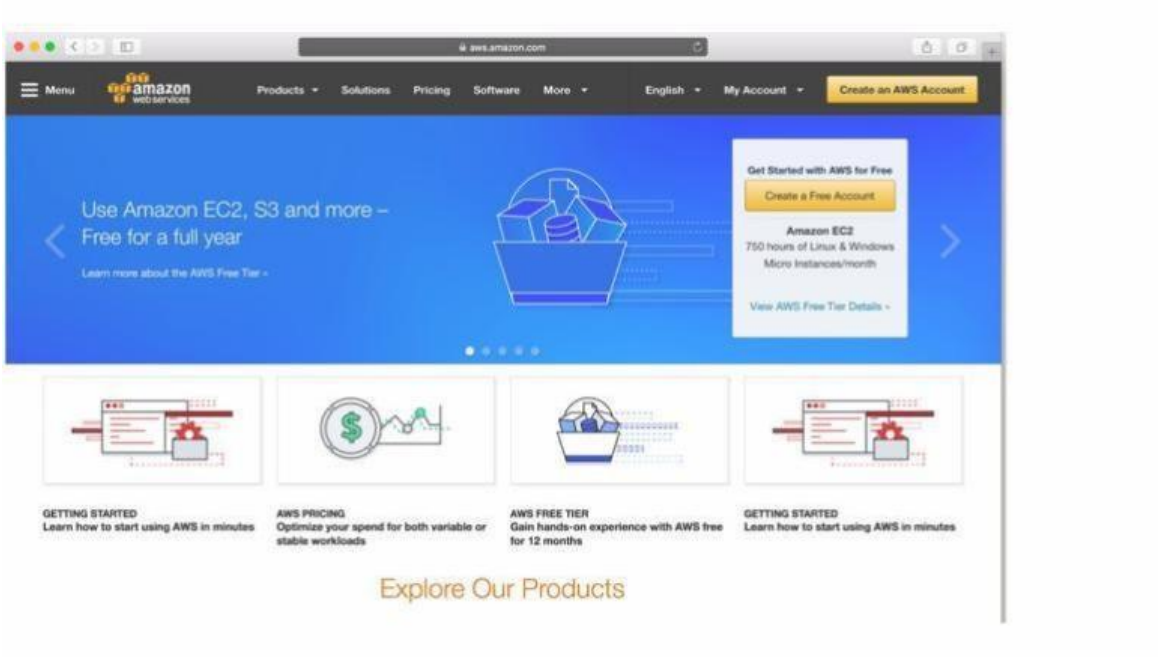
Step 7: Choose a support plan.

Step 8: Review and accept the terms.

Step 9: Confirmation mail.

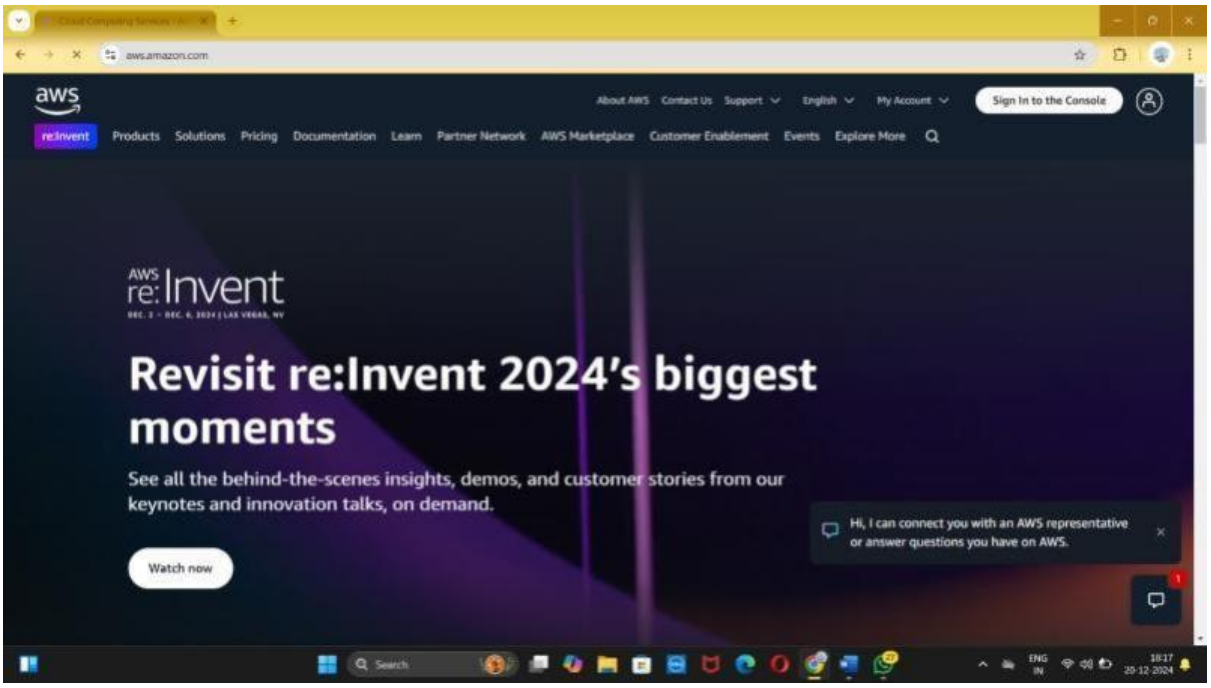
Step 10: Set up aws management console.

Step 11: Explore aws services.



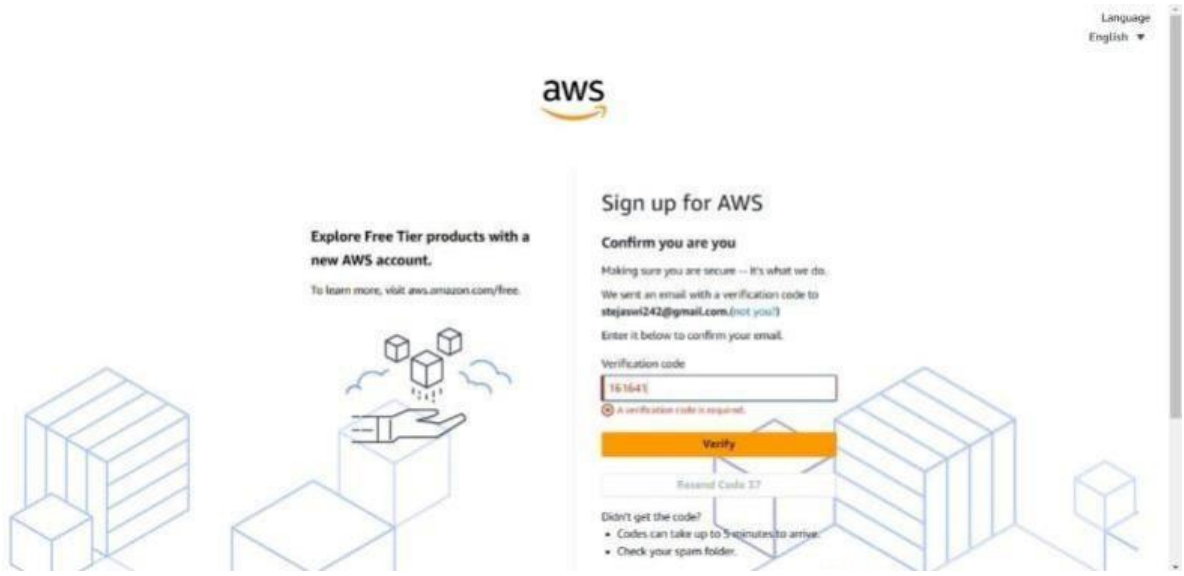
Step 1: Visit the aws website.

https://aws.amazom.com/

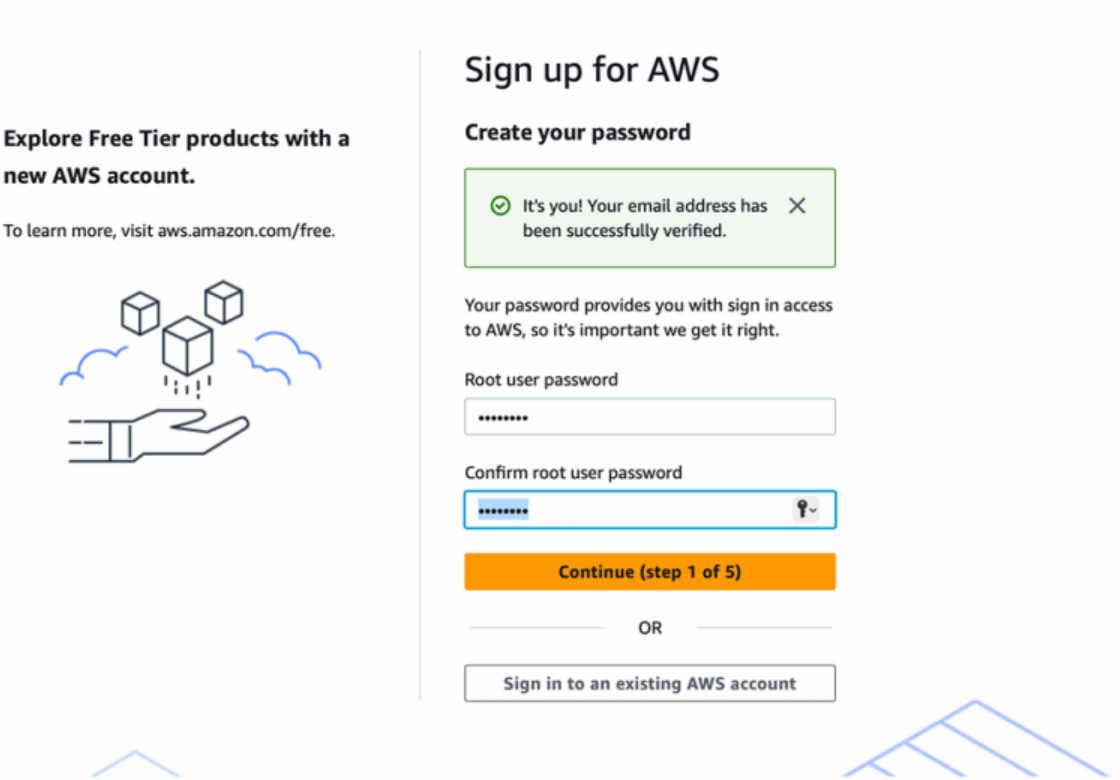


Step 2 : Click on create an aws account.

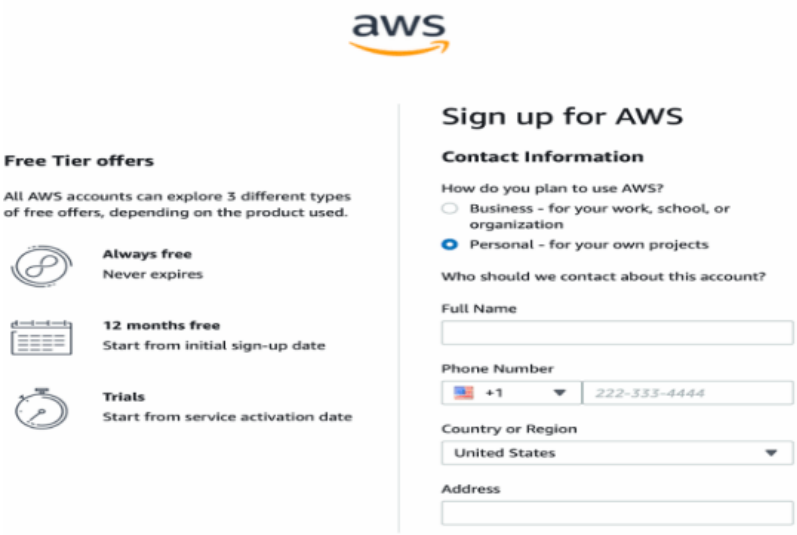
Step 3 : Sign in or create an amazon account.

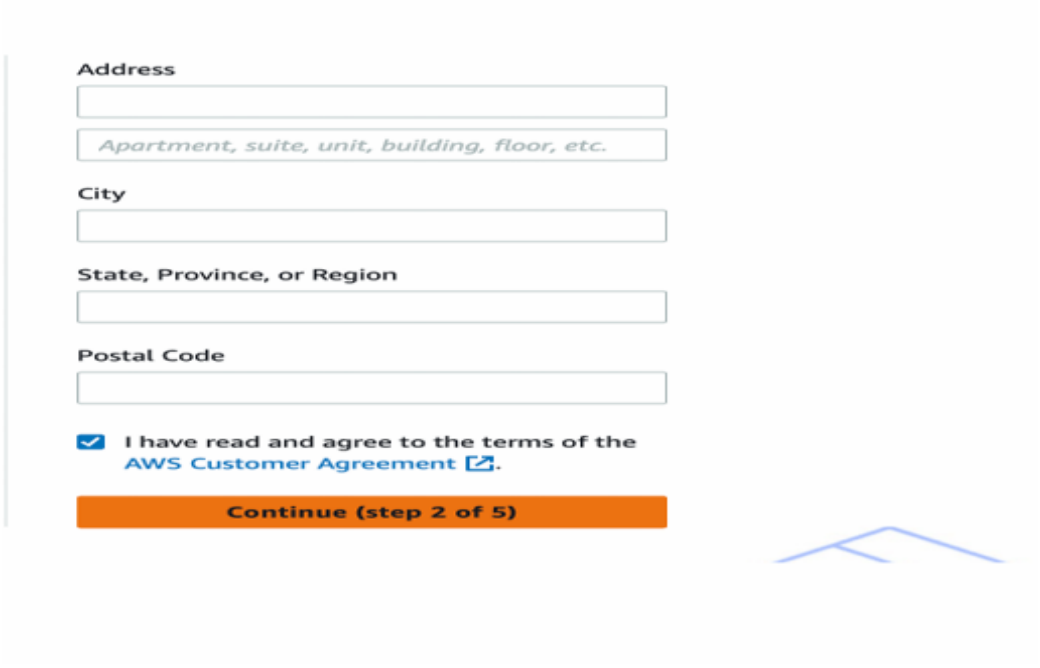


Step 4: Provide account info.

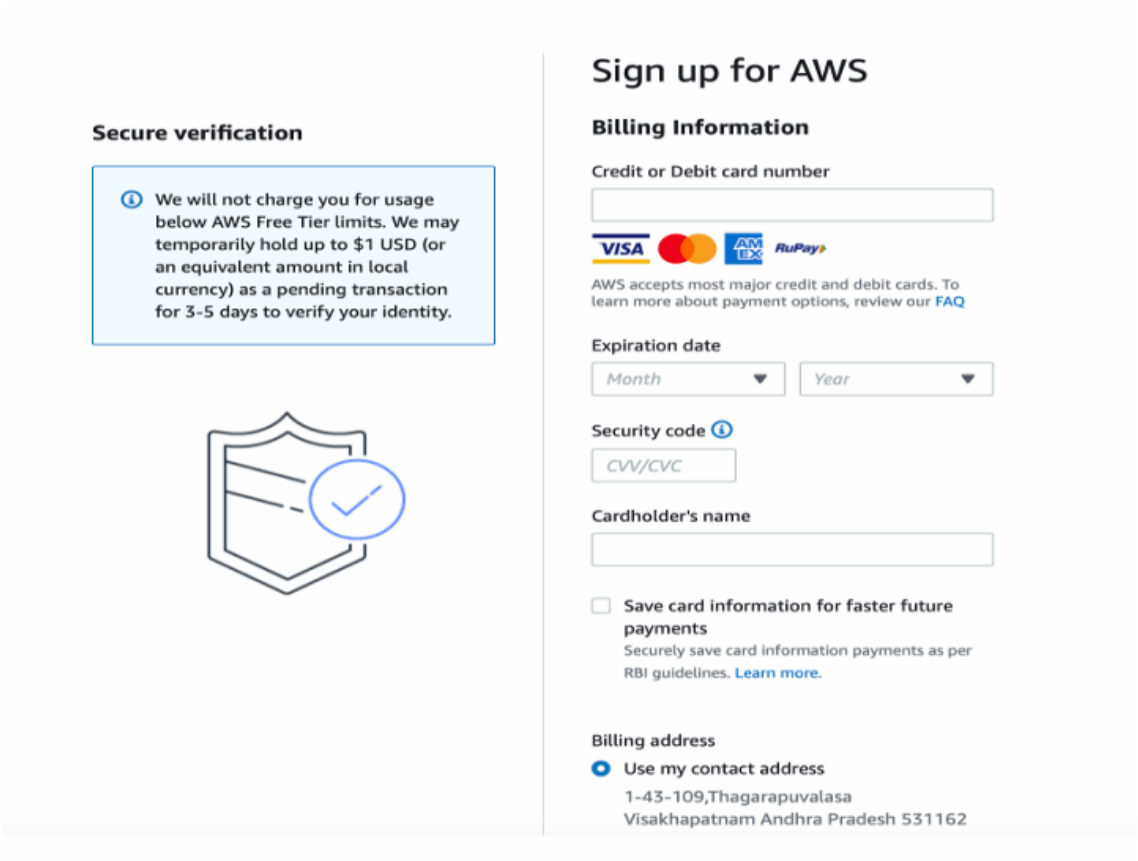


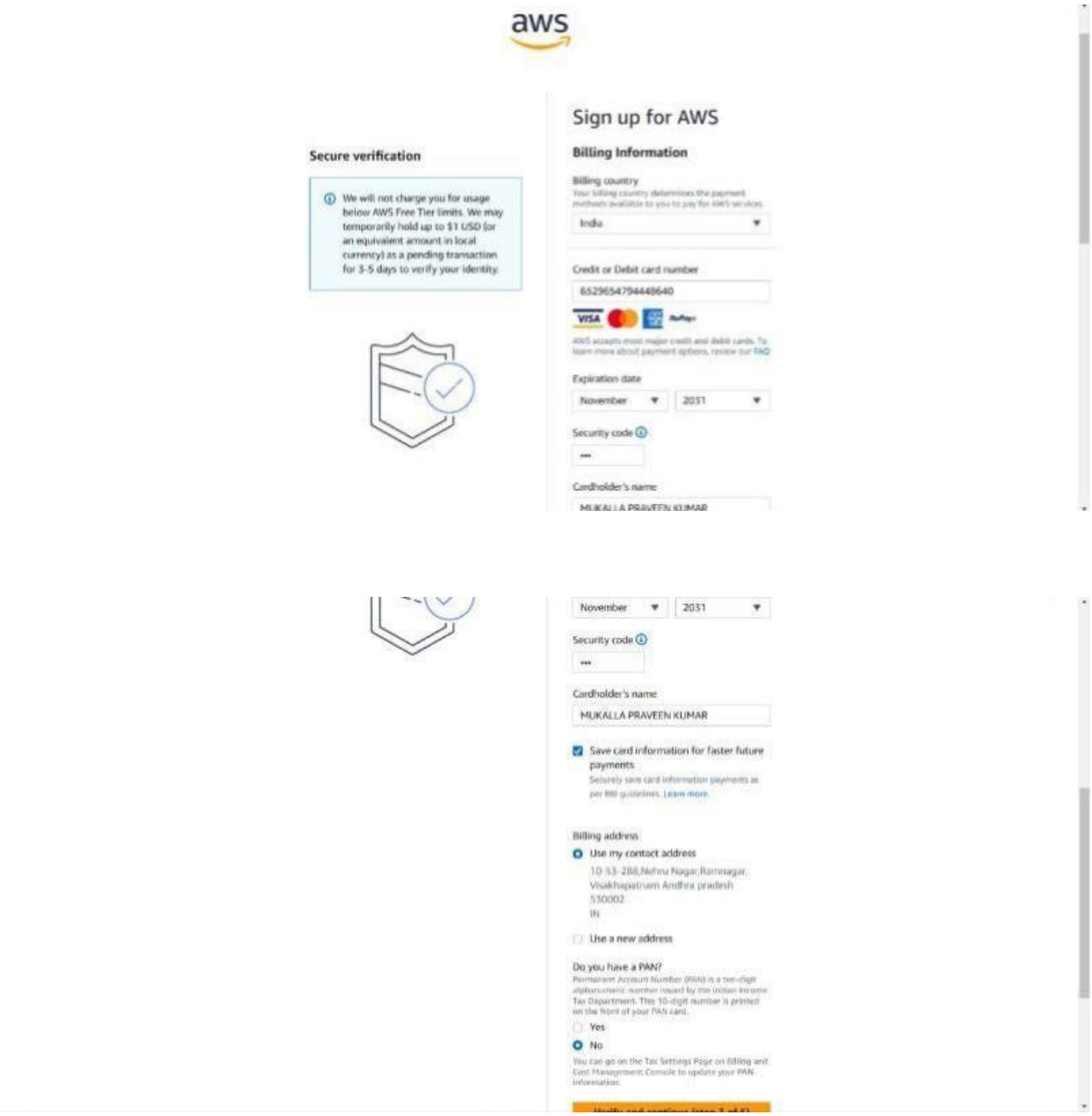
Step 5: Contact info, payment info.





payment info





Step 6: Identity verification.

Choose one that best applies to you. If your account is tied to a business, select the one that applies to your business.

Personal use

Ownership type

Choose your ownership relation to the account. Based on your selection, you may be asked to complete additional customer verification steps.

Individual

India document type Info

To verify your identity, the name on the document must match the name that you chose.

PAN card

Date of birth

To use this document type, you must be at least 18 years old.

2003/11/23

Format: YYYY/MM/DD

Permanent Account Number (PAN)

CRWPT1892A

The PAN is 10 alphanumeric characters without spaces or tabs. Example: AAAAA1111B

Name Info

Choose the name that you want to use for identity verification.

Tejaswi Tadelu

Upload front of Permanent Account

The PAN is 10 alphanumeric characters without spaces or tabs. Example: AAAAA1111B

Name Info

Choose the name that you want to use for identity verification.

Tejaswi Tadelu

Upload front of Permanent Account Number (PAN) card

Choose file

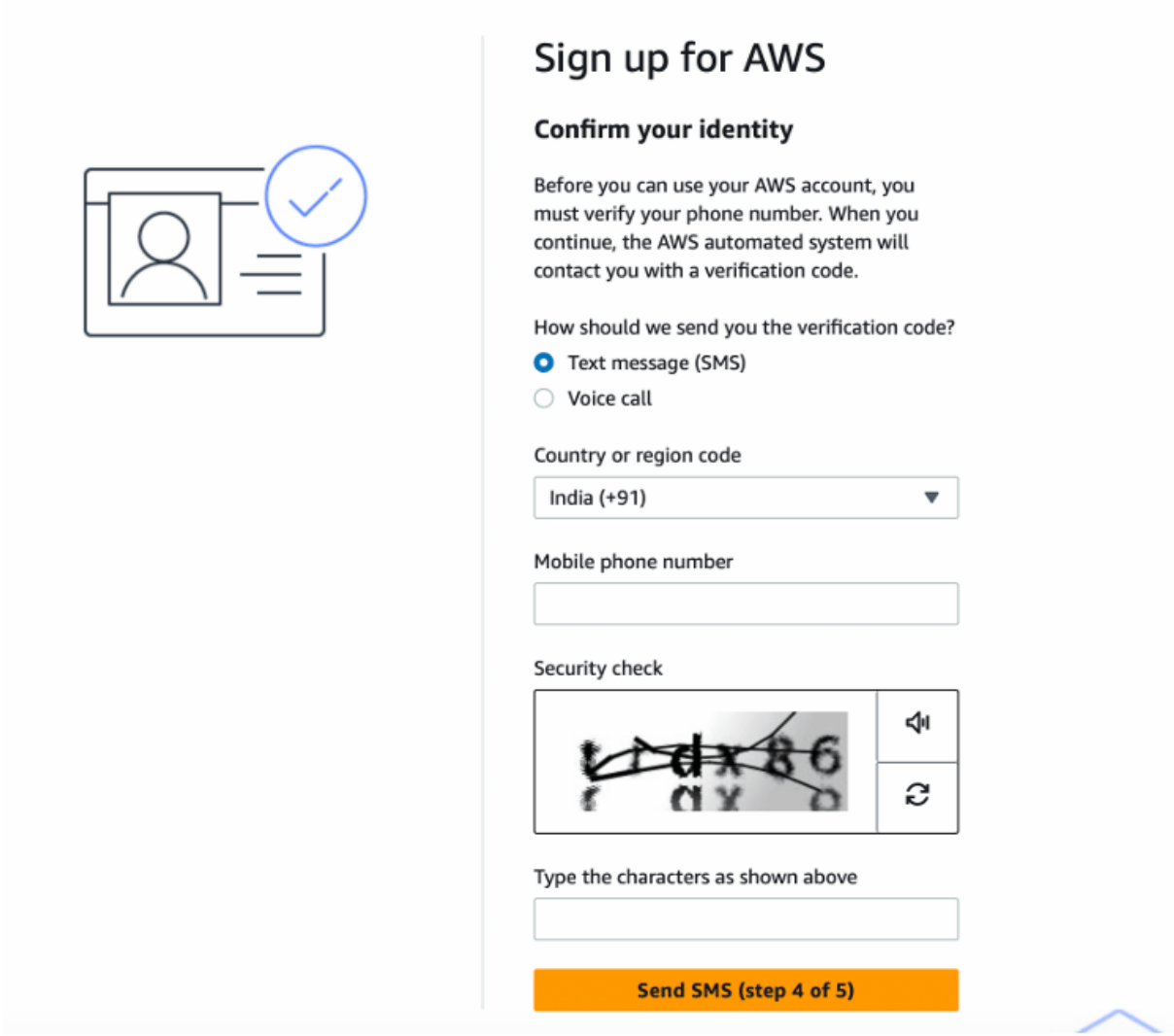
File must be in .pdf, .jpg, .jpeg, or .png format. Maximum file size 5 MB.

WhatsApp Image 2024-12-20 at 13.48.52_c1fe1b84.jpg

62.88 KB

I consent to allowing AWS to use and send the information above to a third-party service for identity verification purposes.

Continue (step 4 of 5)



Step 7: Choose a support plan.

Sign up for AWS

Select a support plan

Choose a support plan for your business or personal account. Compare plans and pricing examples. You can change your plan anytime in the AWS Management Console.

Basic support - Free

- Recommended for new users just getting started with AWS
- 24x7 self-service access to AWS resources
- For account and billing issues only
- Access to Personal Health Dashboard & Trusted Advisor

Developer support - From $29/month

- Recommended for developers experimenting with AWS
- Email access to AWS Support during business hours
- 12 (business)-hour response times

Business support - From $100/month

- Recommended for running production workloads on AWS
- 24x7 tech support via email, phone, and chat
- 1-hour response times
- Full set of Trusted Advisor best-practice recommendations

Need Enterprise level support?

From $15,000 a month you will receive 15-minute response times and concierge-style experience with an assigned Technical Account Manager. Learn more

Complete sign up

Congratulations

Thank you for signing up for AWS.

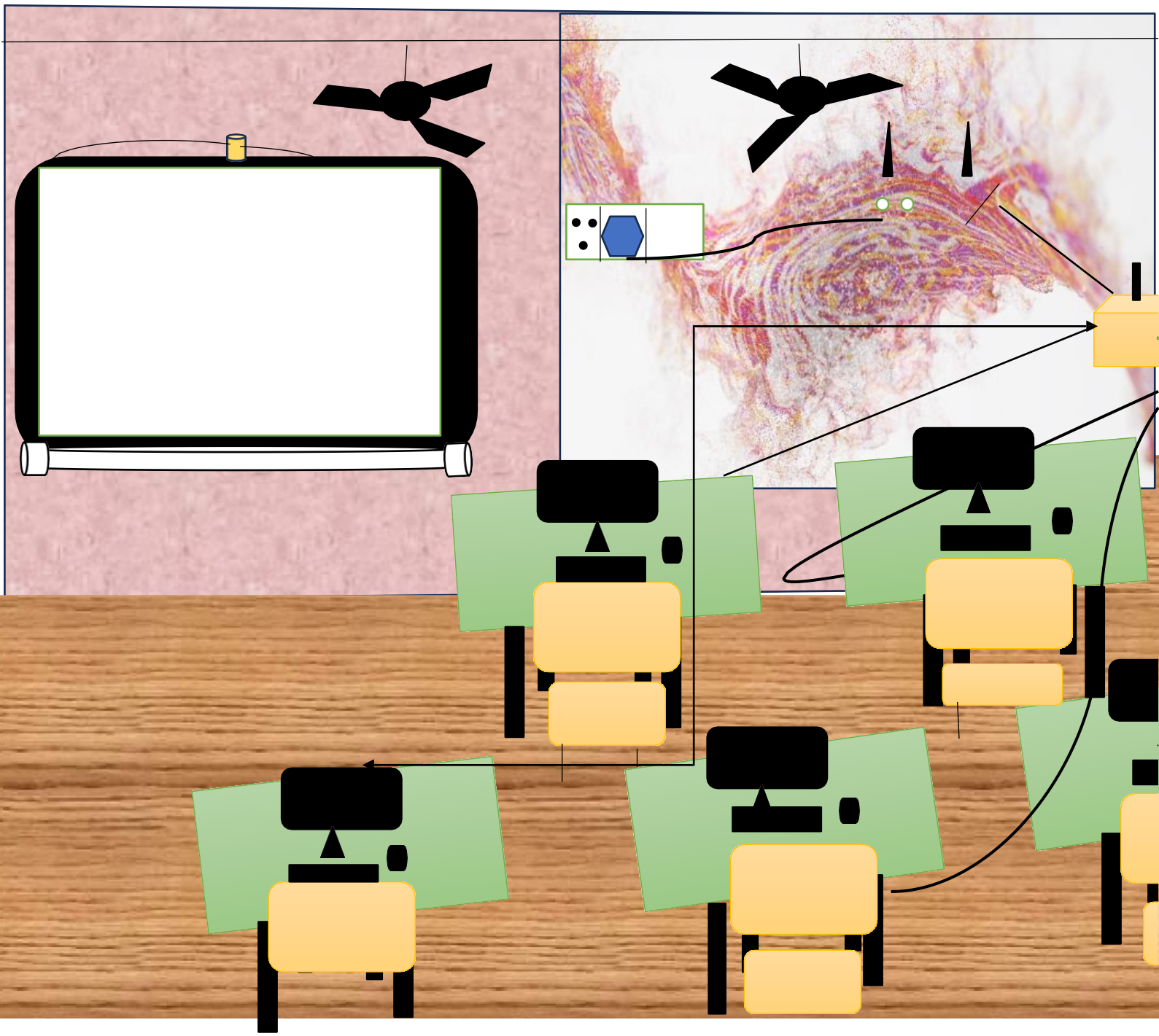
We are activating your account, which should only take a few minutes. You will receive an email when this is complete.

Go to the AWS Management Console

Sign up for another account or contact sales.

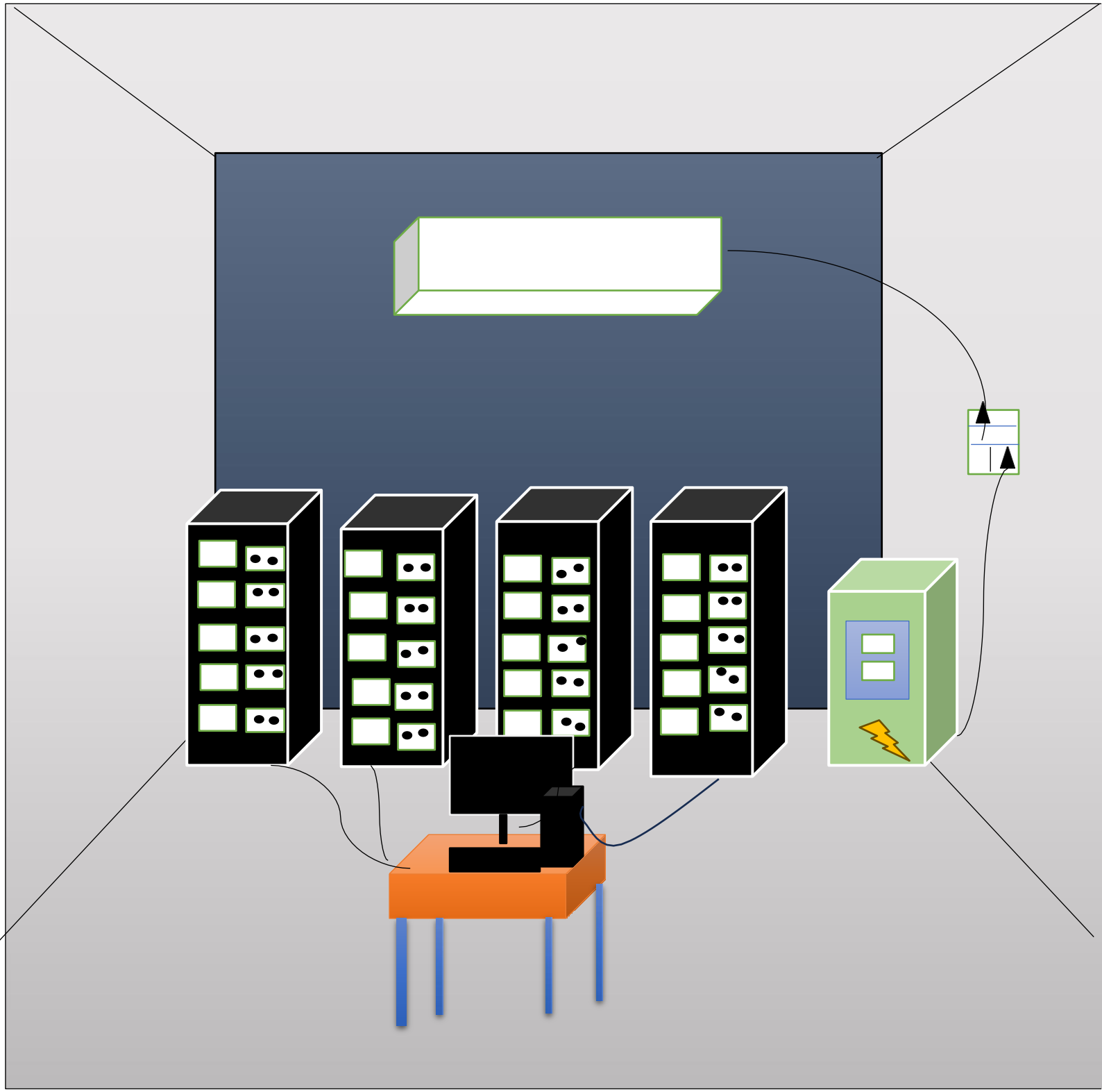
PROJECT 2:

Design a computer lab Connecting switches and routers.



PROJECT 3

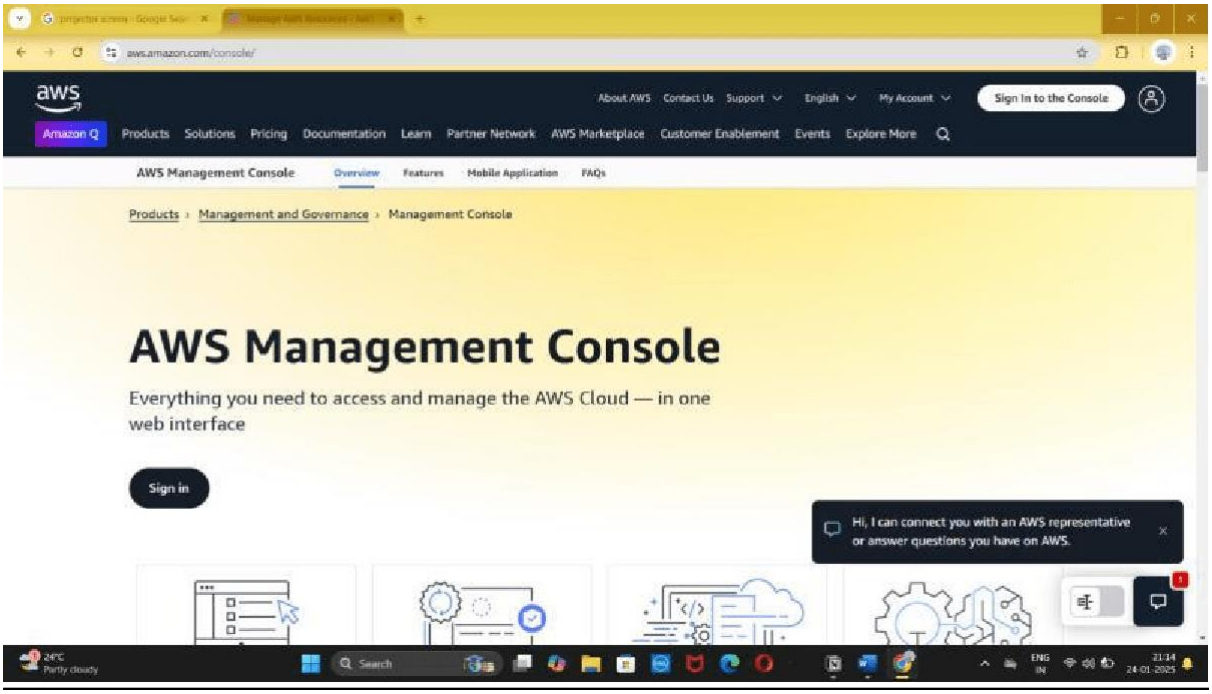
Design a computer lab with server block



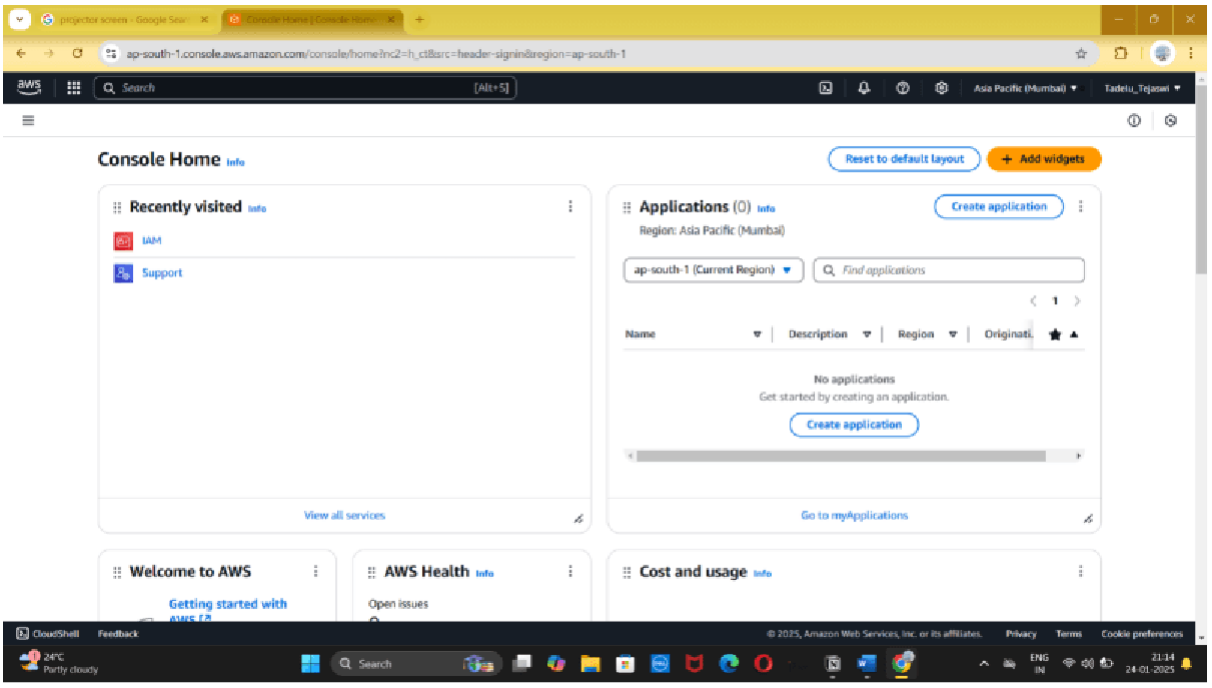
PROJECT 4

Cloud console services

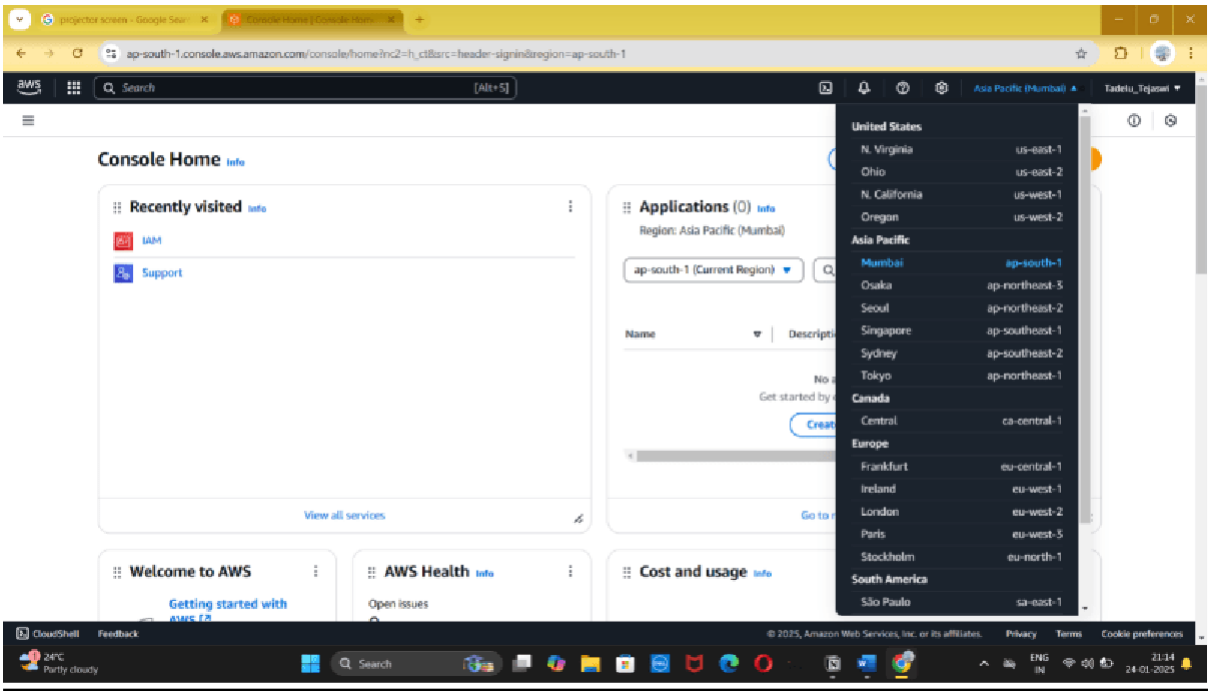
Step 1: Sign in to management console home page.



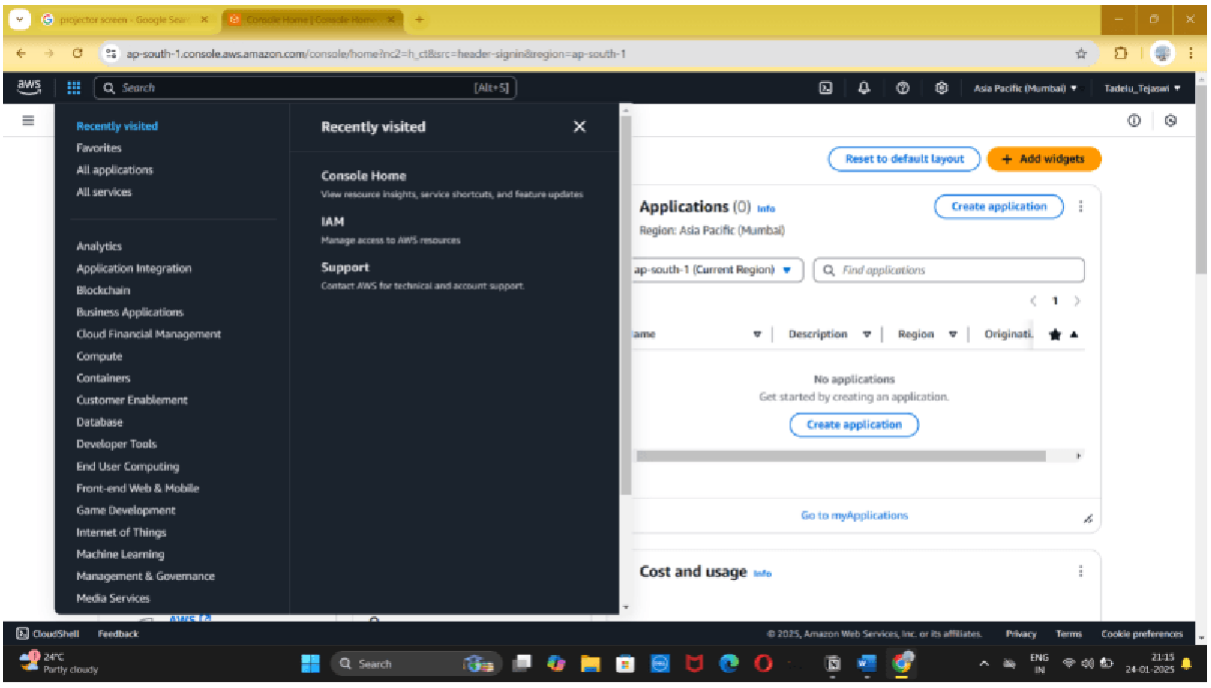
Step 2: The console home page will be loaded.



Step 3: Now select Mumbai region



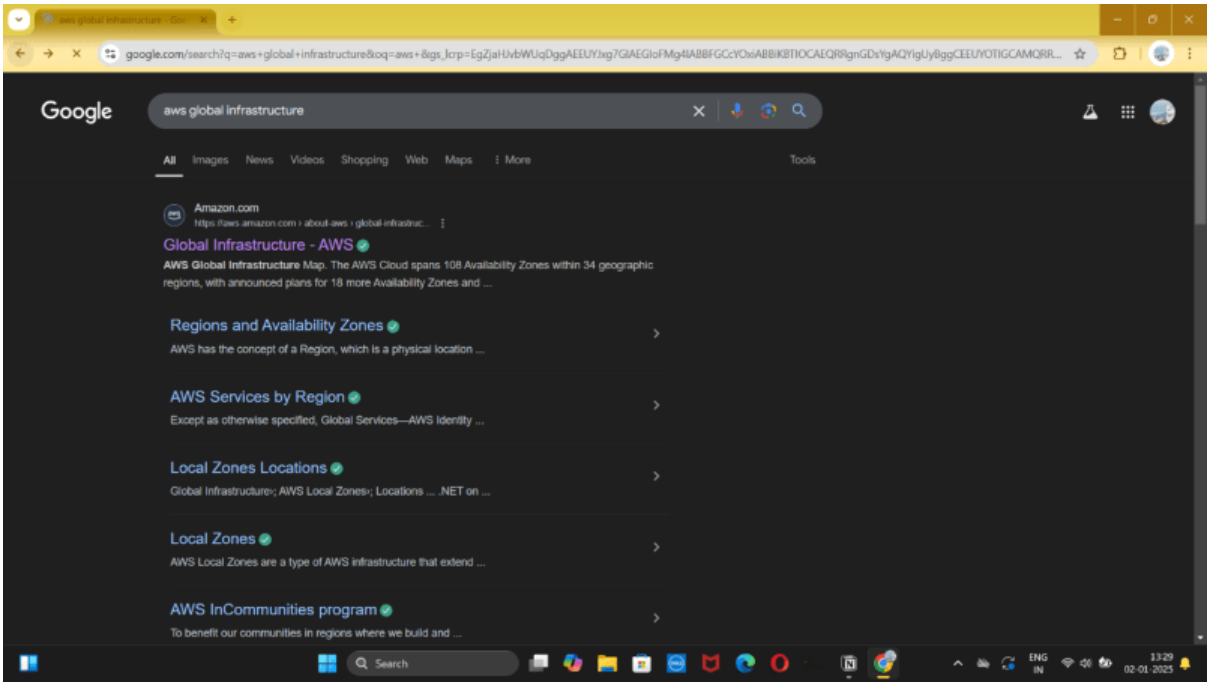
Step 4: Show the services available



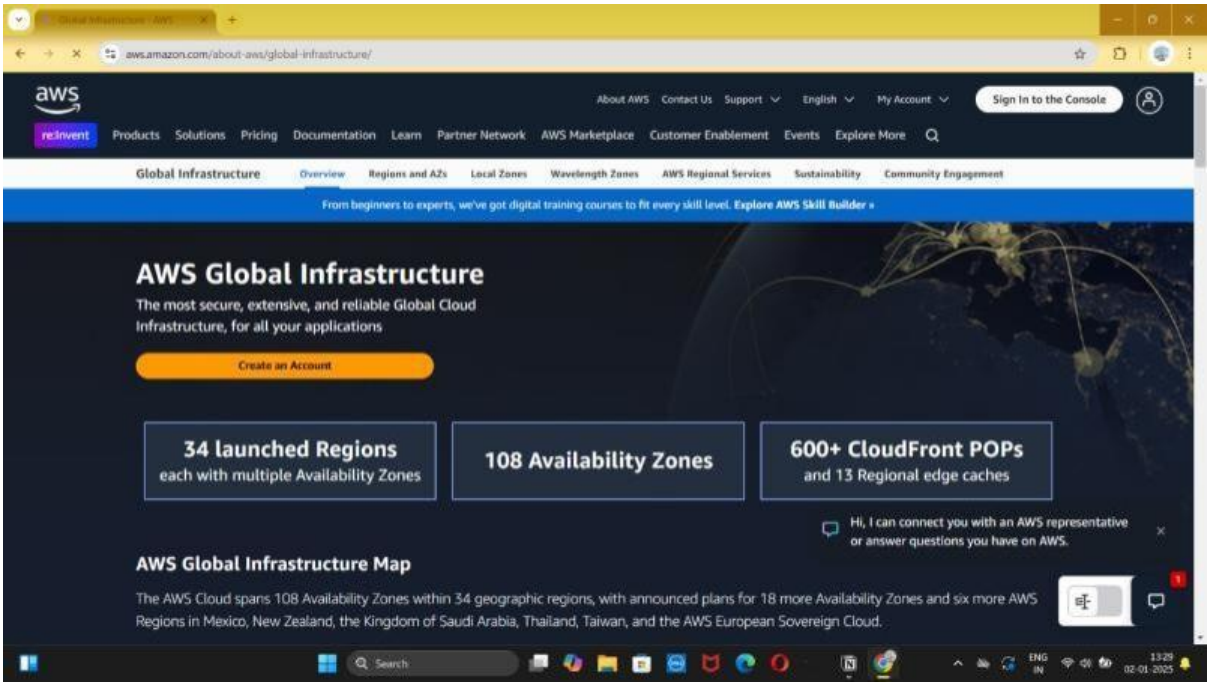
PROJECT 5

AWS GLOBAL INFRASTRUCTURE

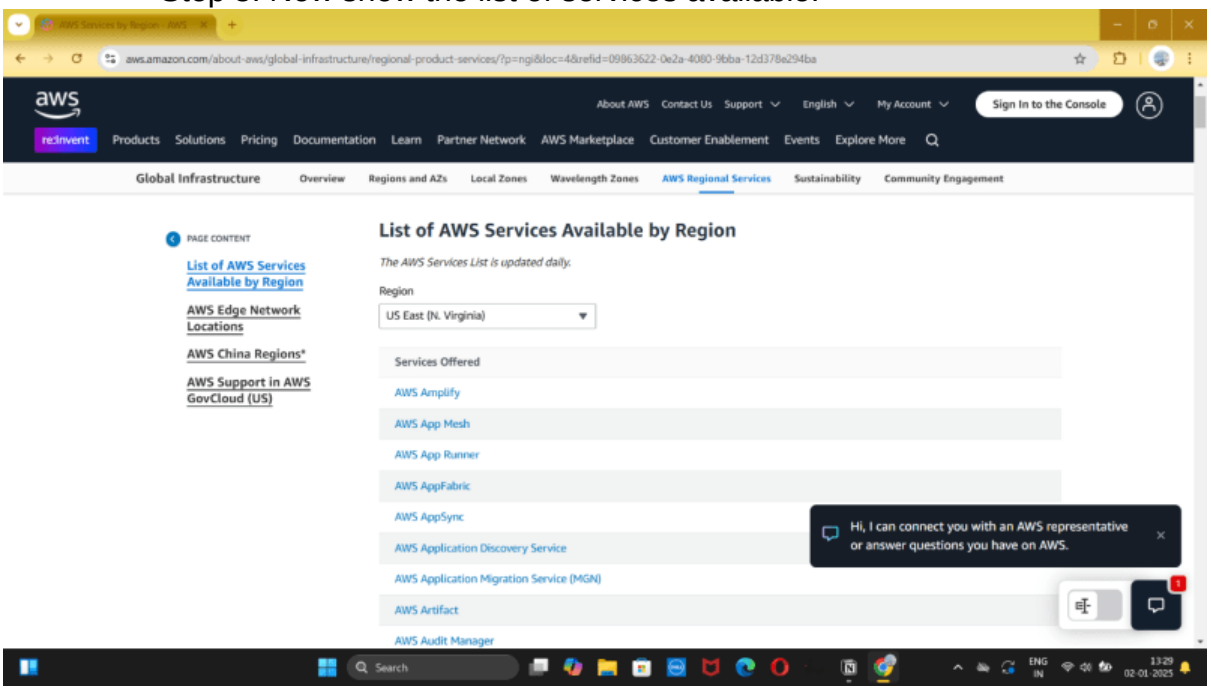
Step 1: Search AWS Global Infrastructure.



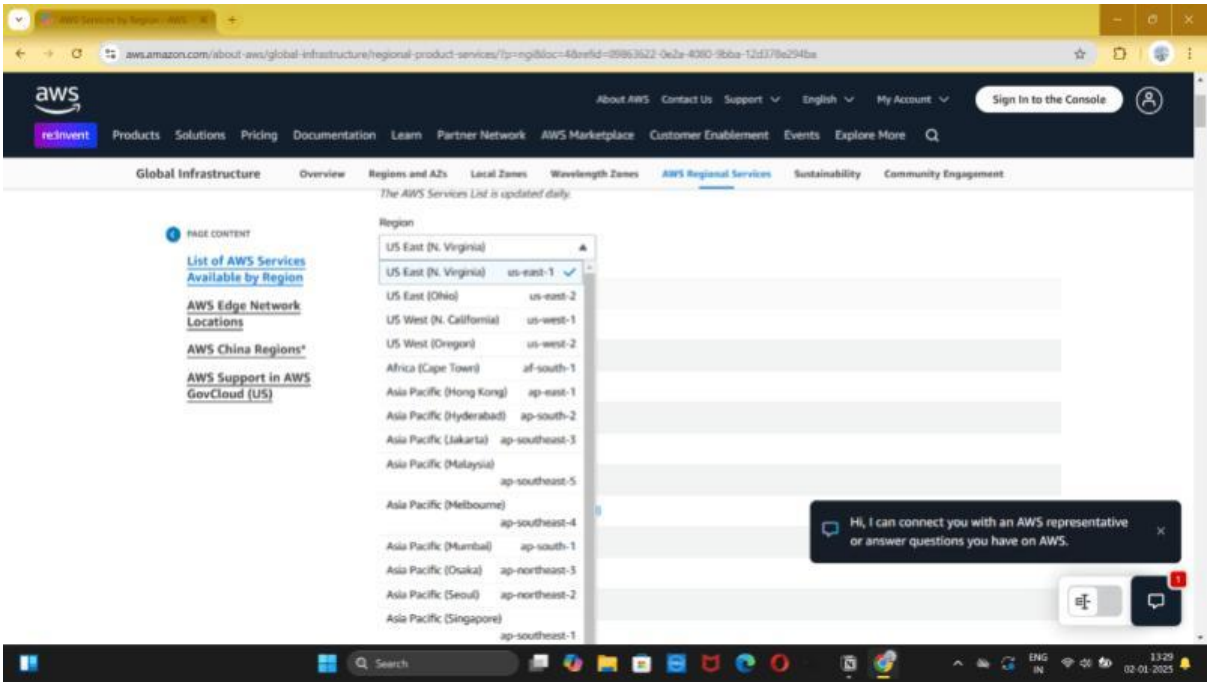
Step 2: Now click on AWS Regional services



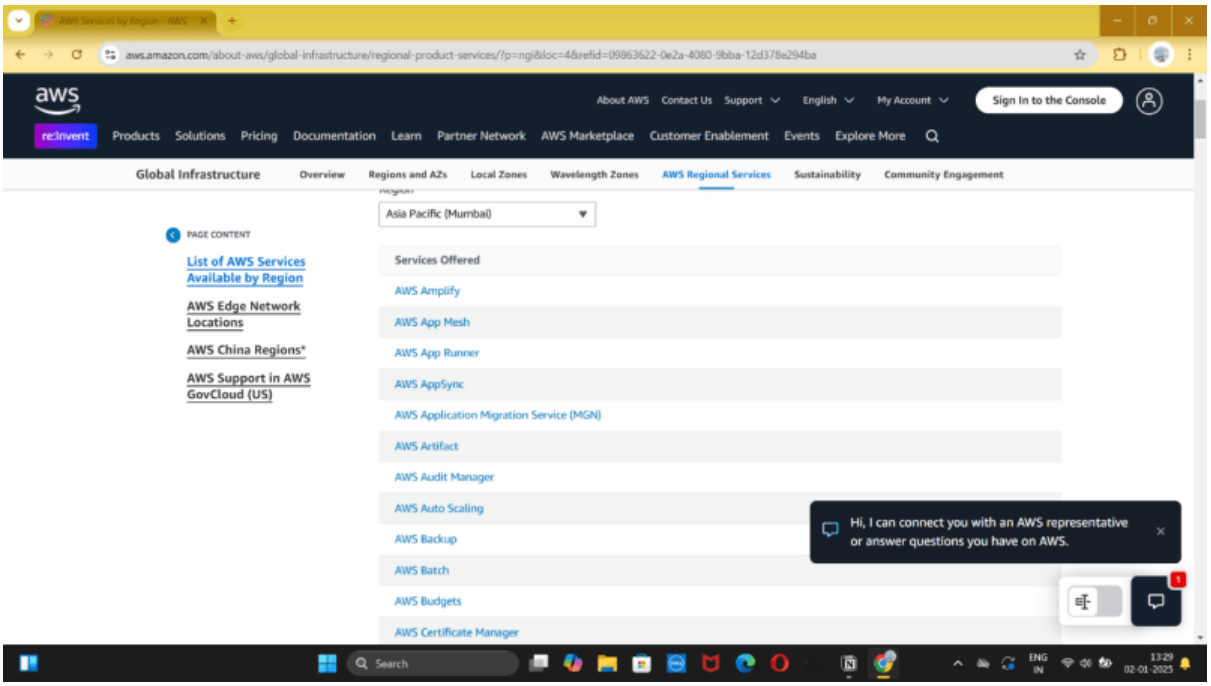
Step 3: Now show the list of services available.



Step 4: Now click on the list of servies



Step 5: Choose Mumbai region.

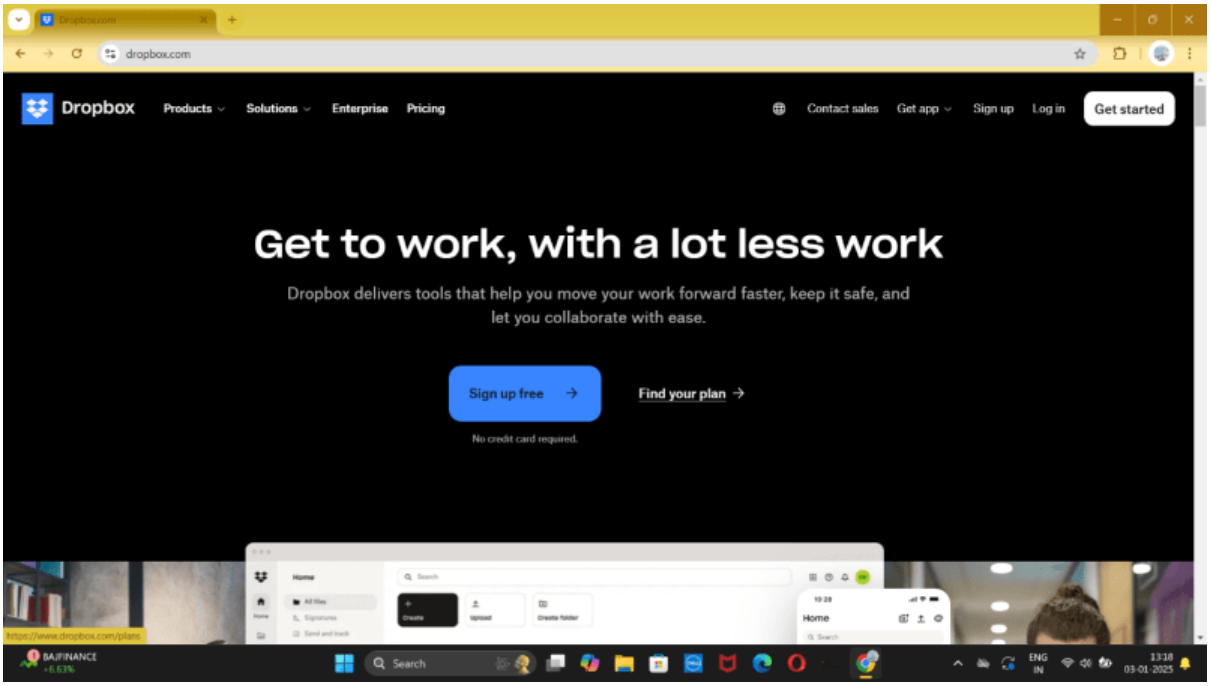


PROJECT 6

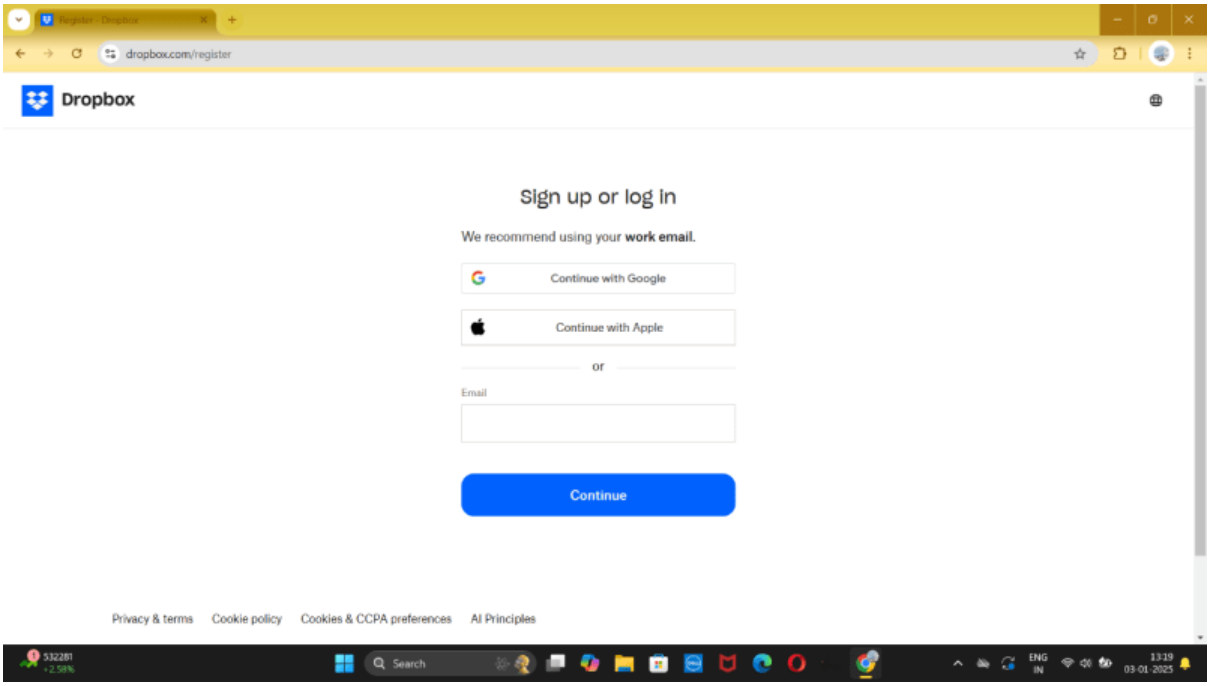
DROP BOX.COM

CREATE A FILE STORAGE IN DROPBOX

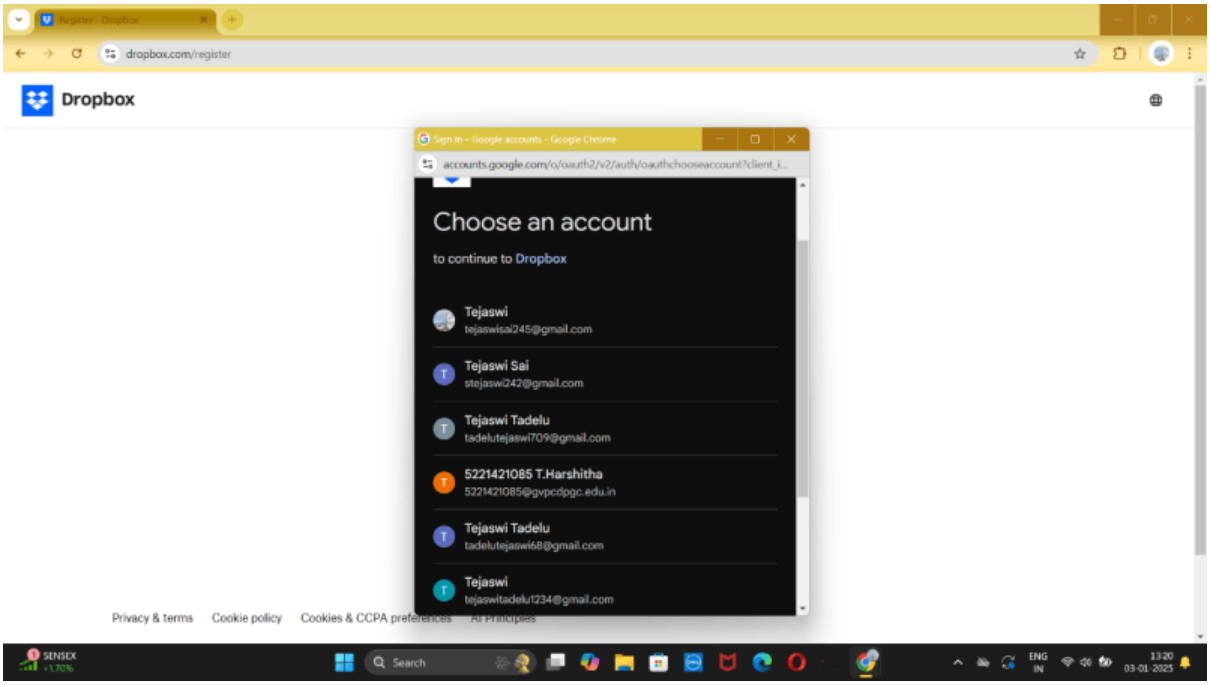
Step 1: Go to Google and type dropbox.com to open official drop box website



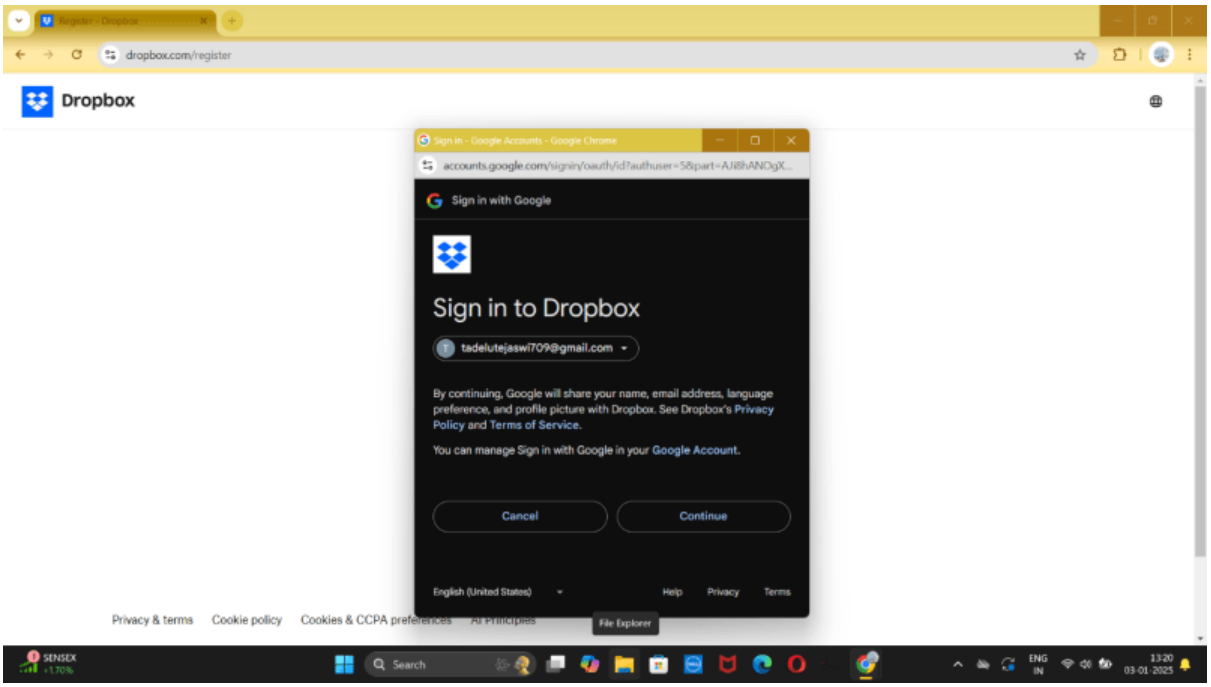
Step 2: Sign up or login page occurs to login or signup to portal



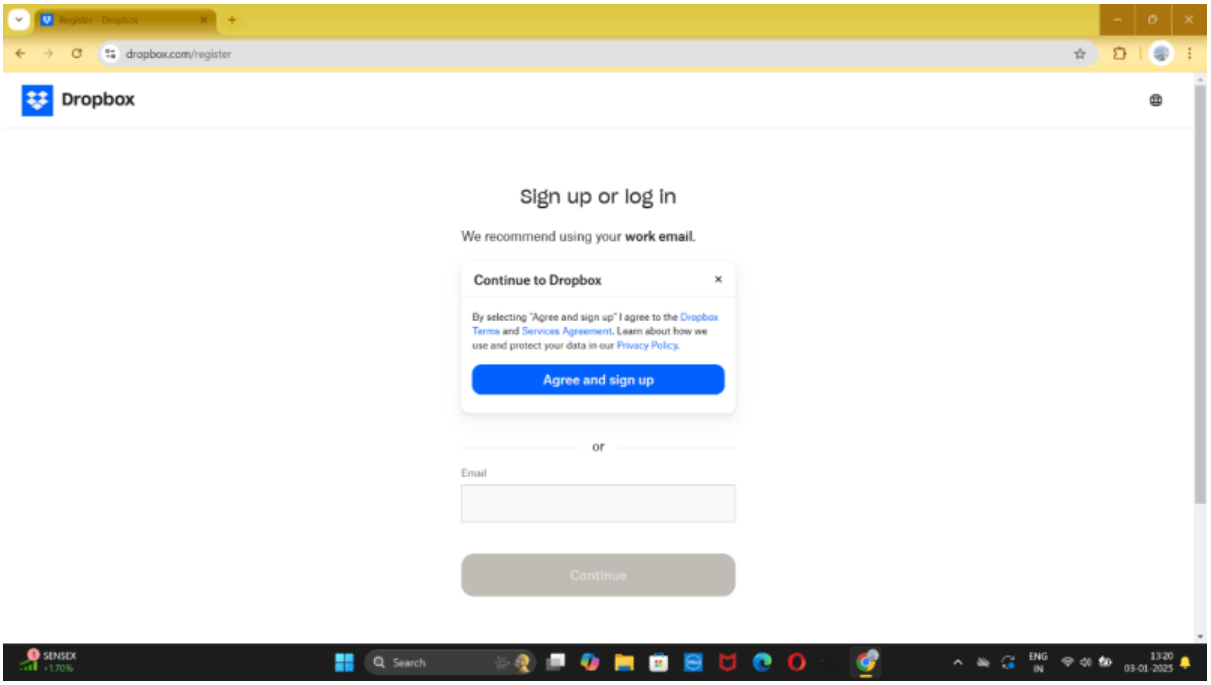
Step 3: Now click on choose an account or type mail id and password



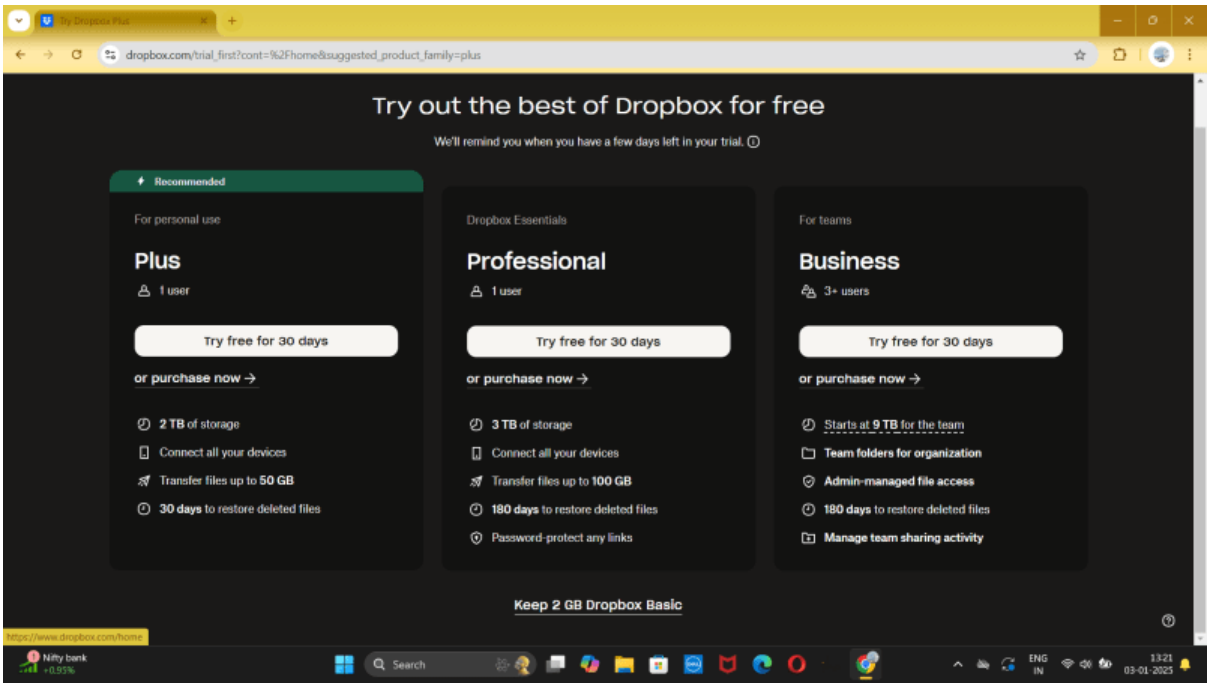
Step 4: Click on sign in to drop box and continue



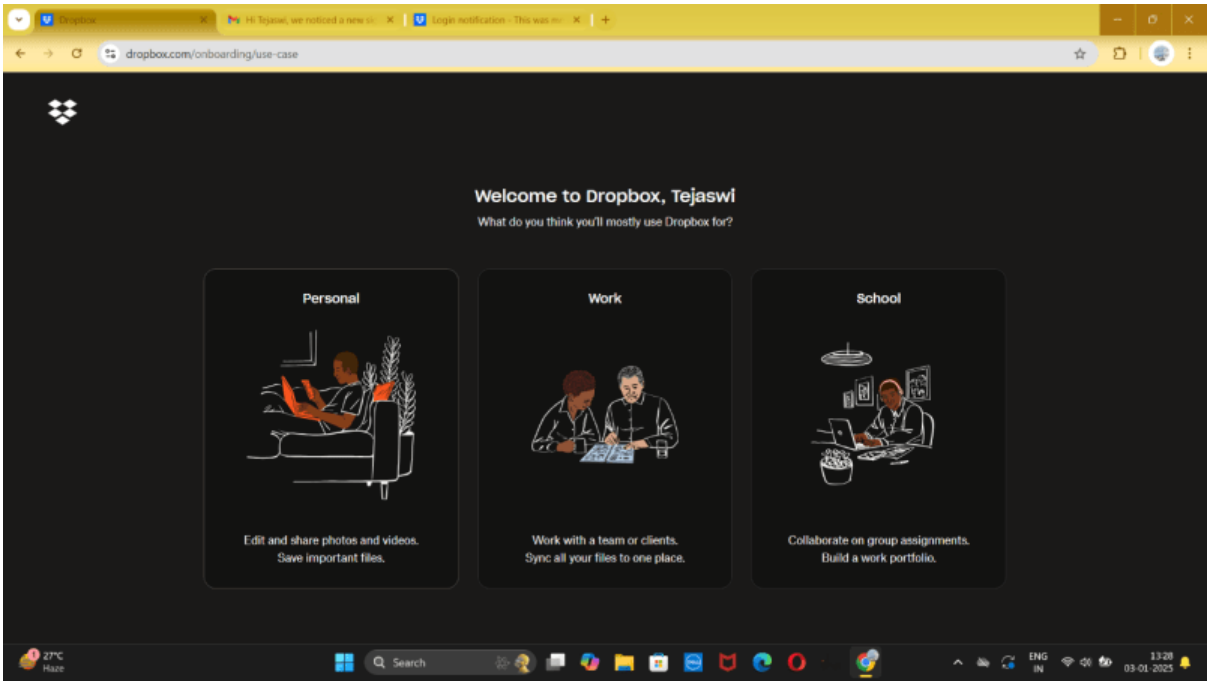
Step 5: Now click on agree and continue and then continue to open dropbox official portal



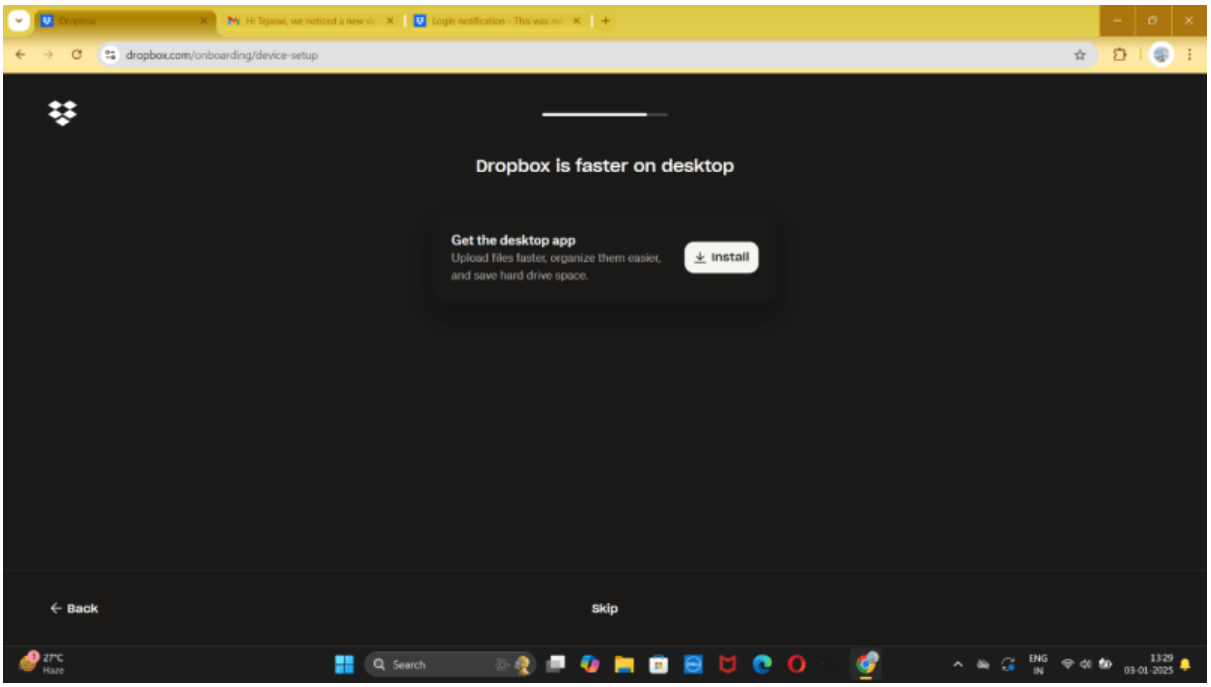
Step 6: In the following plans click on basic 2GB plan for free access of drop box.



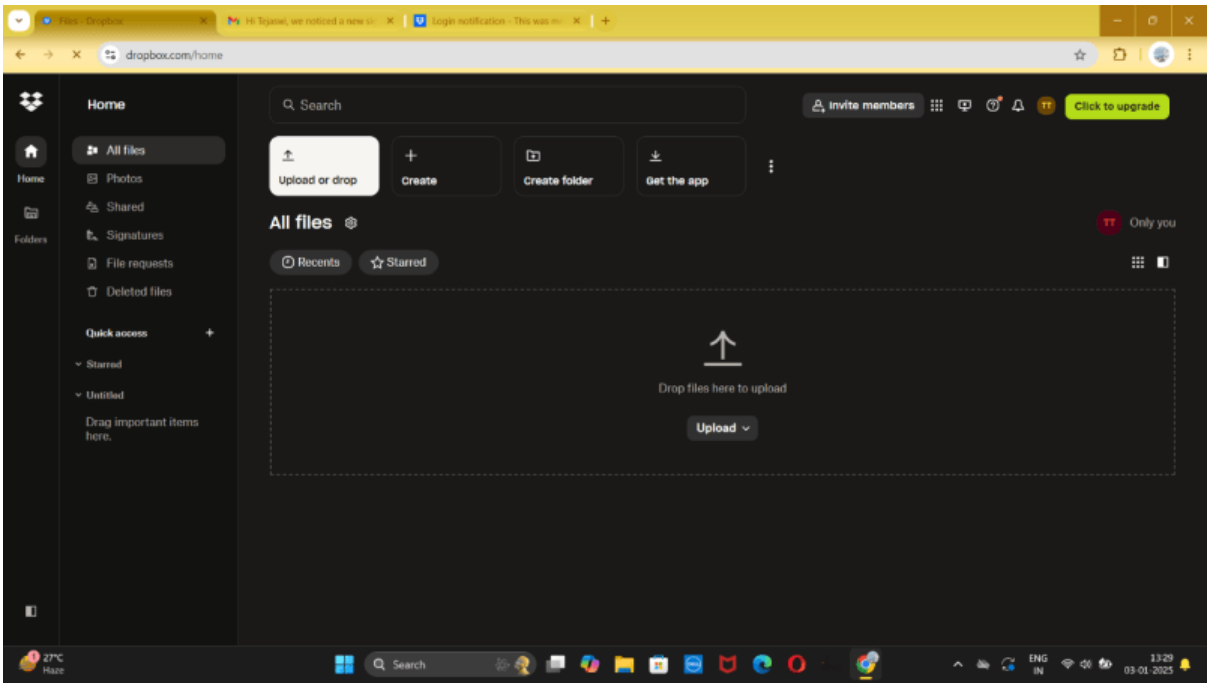
Step 7: Welcome to drop box appears appears and click on Personal.



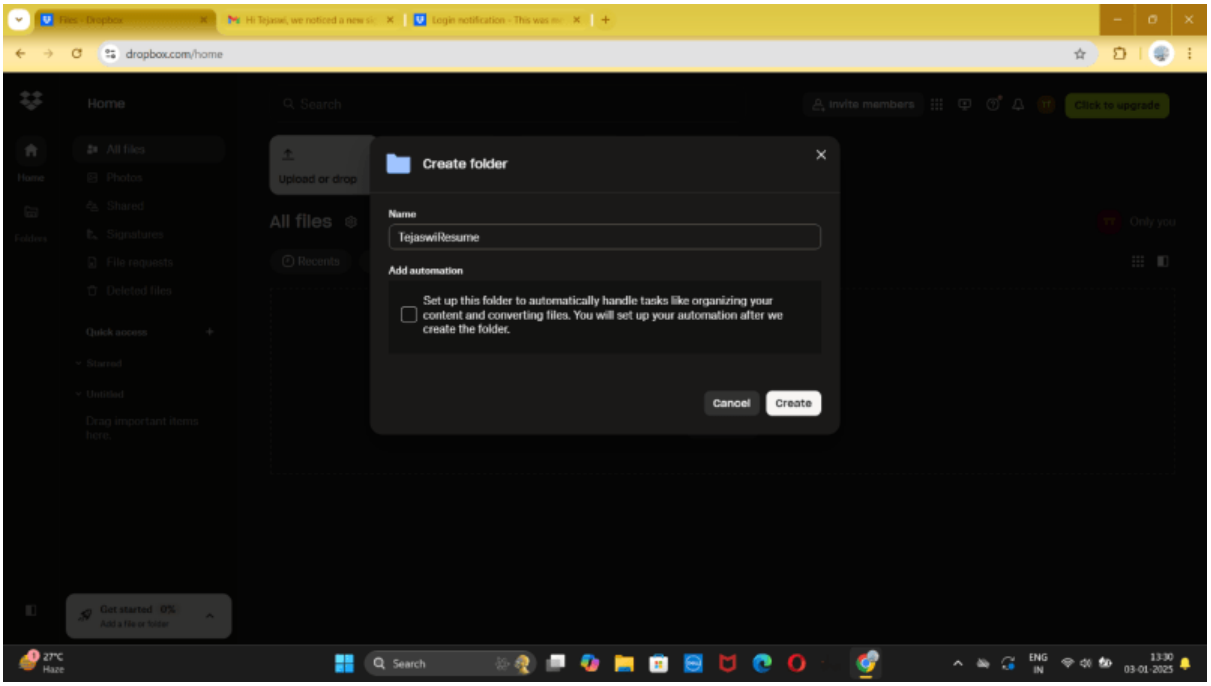
Step 8: Get the desktop site appears, if necessary, click on install in order to add as desktop icon of Dropbox.



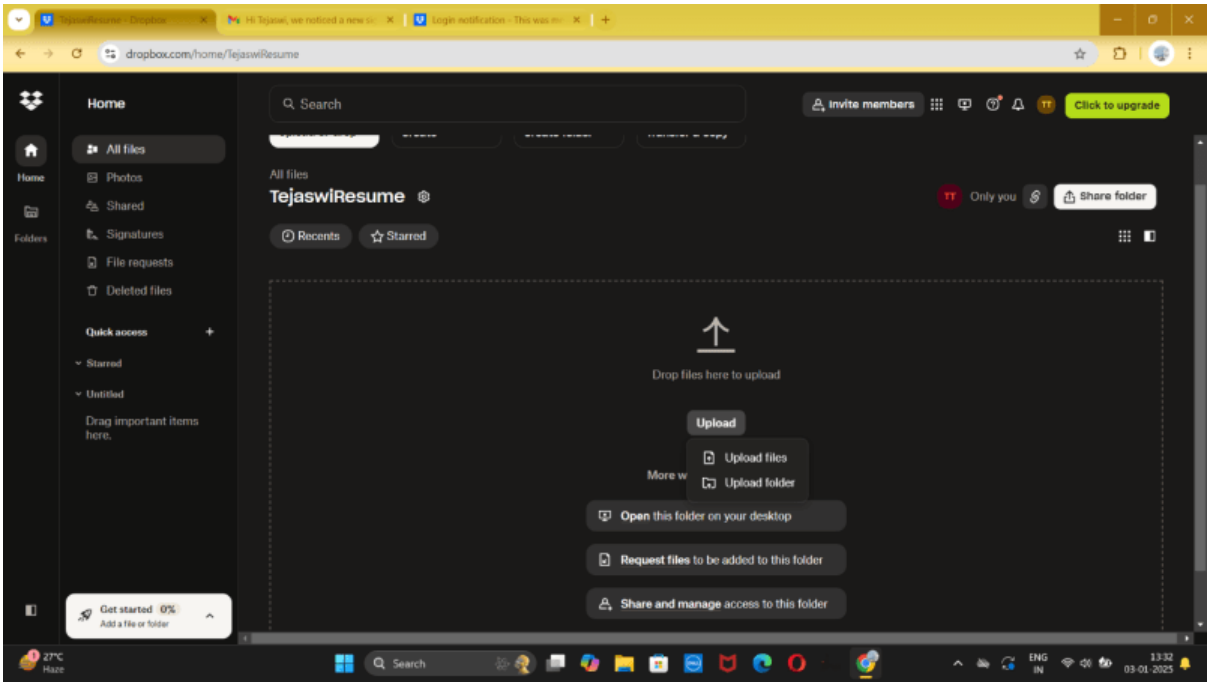
Step 9: The official portal of Dropbox appears and click on new folder.



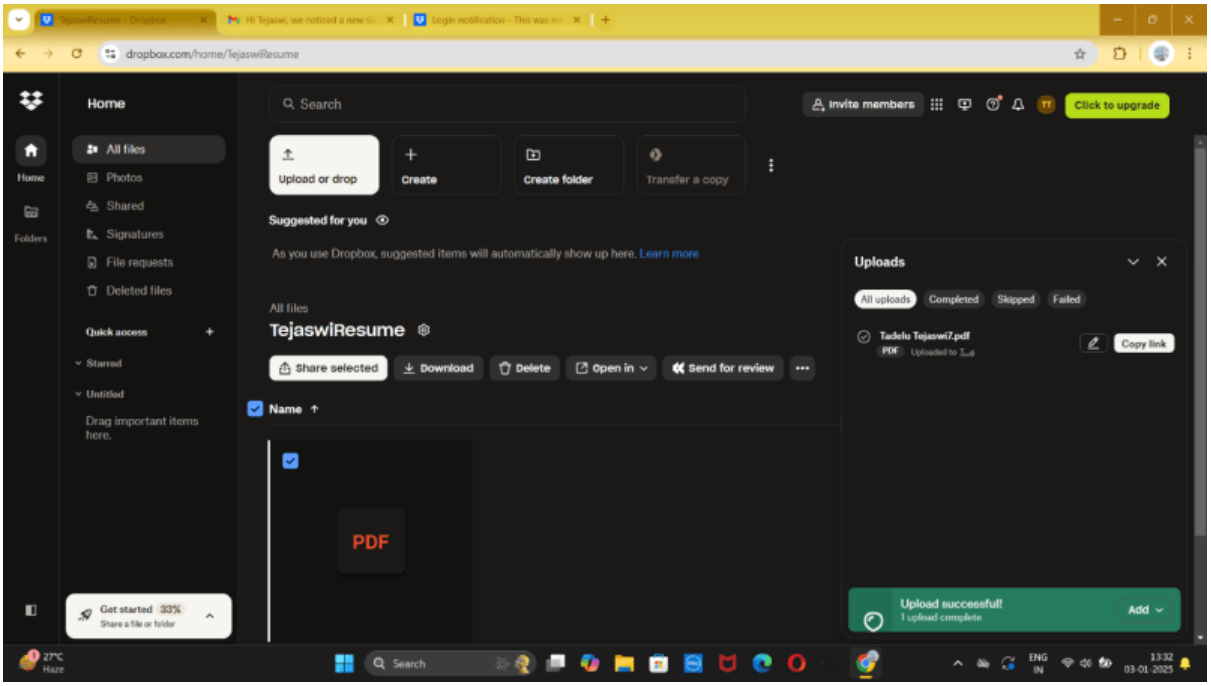
Step 10: Name the folder and click on create.



Step 11:The new folder appears and click on upload to upload resume.



Step 12: The resume is uploaded successfully as a new file in the created folder.

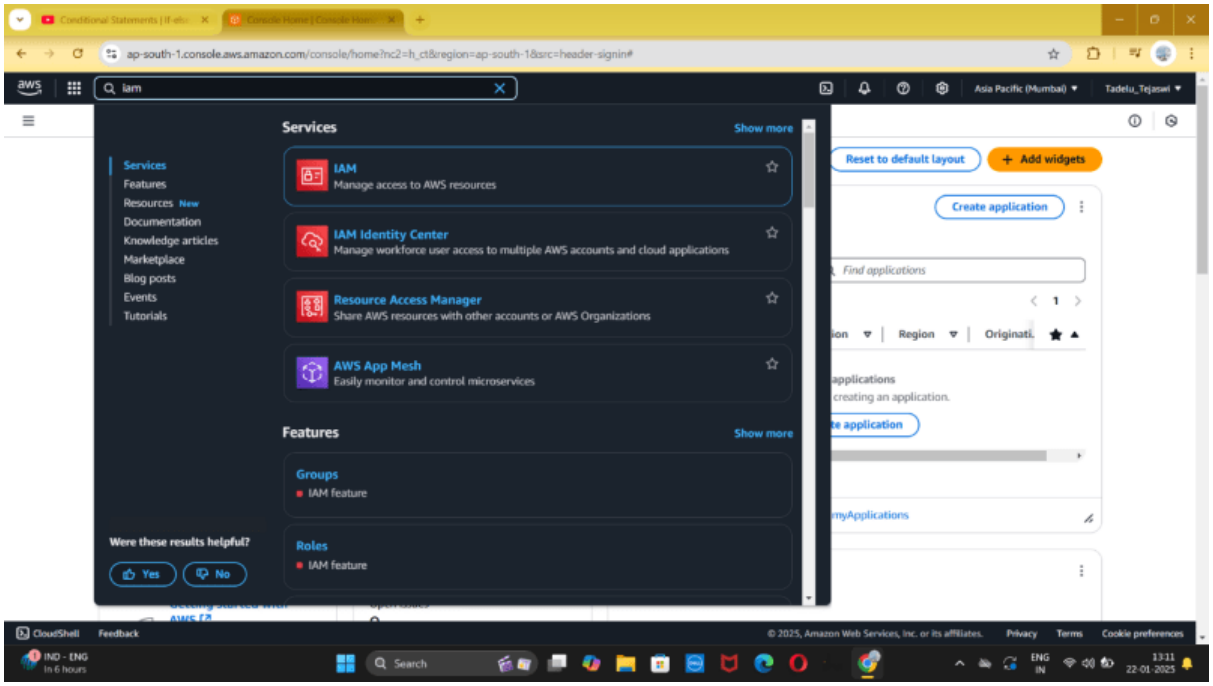


Step 13: The resume is uploaded successfully as a new file in the created folder.

PROJECT 7

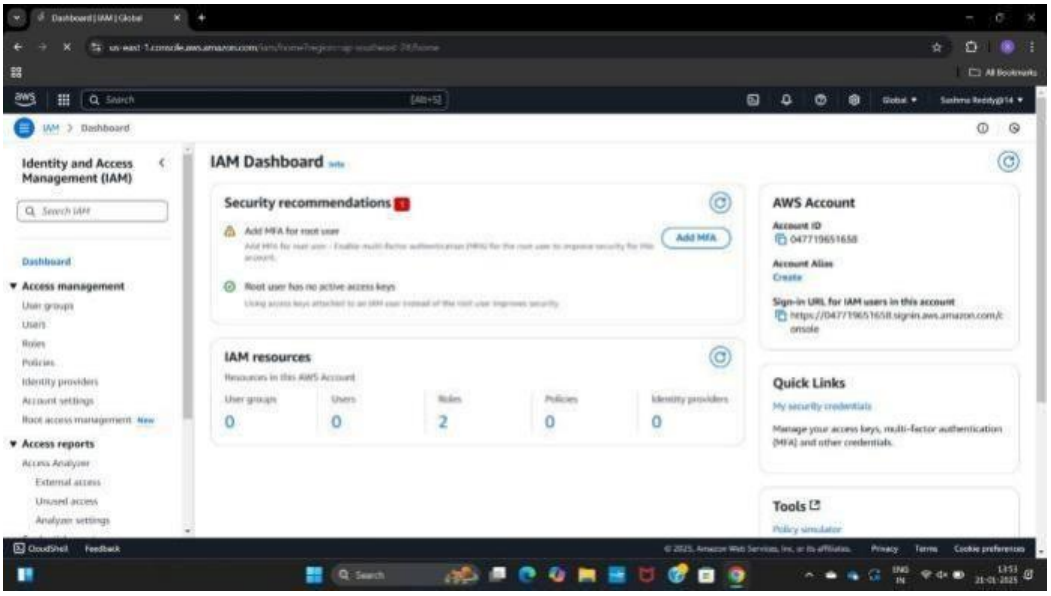
Step 1:-Create an IAM(Identify Access Management) user account

- Sign into the AWS Management Console



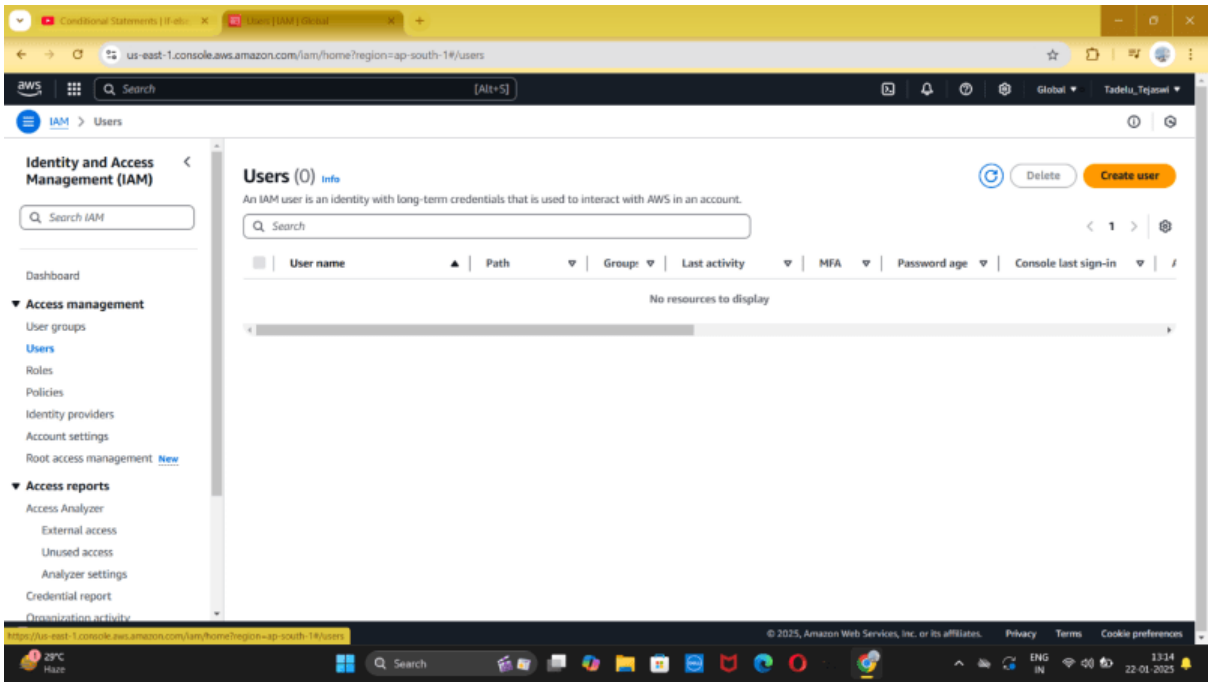
Step 2:- Security recommendations

- Choose the option “users groups” in the access management



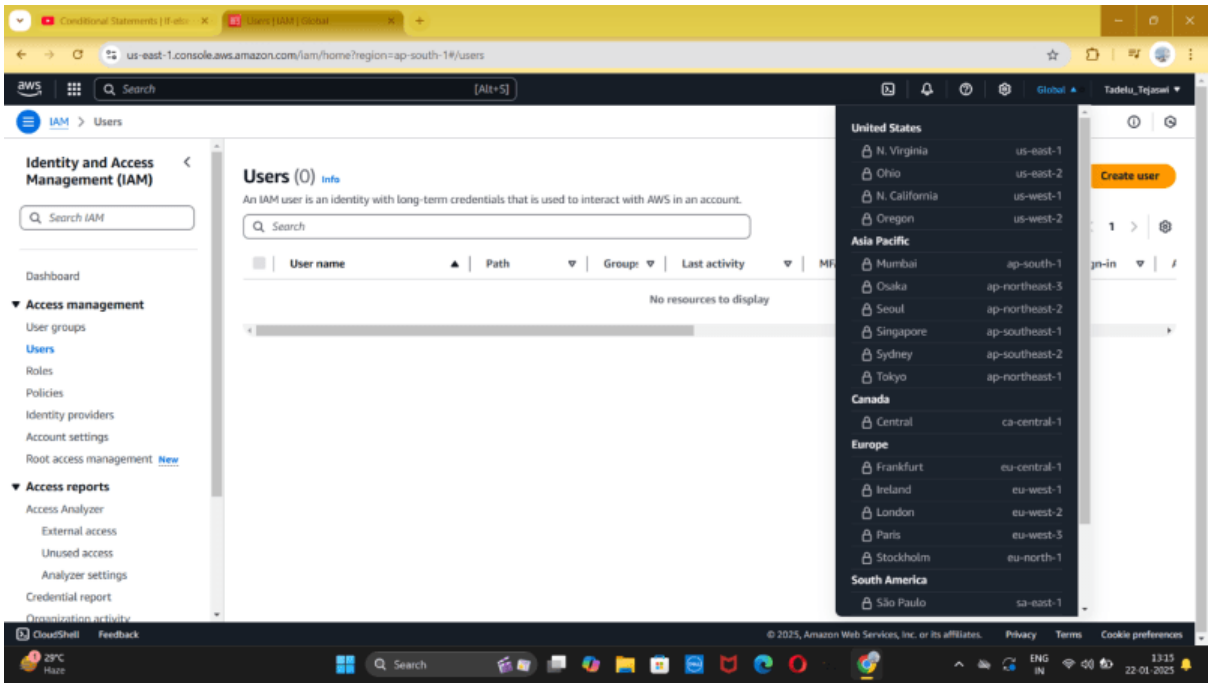
Step 3:- Users

- Select create user



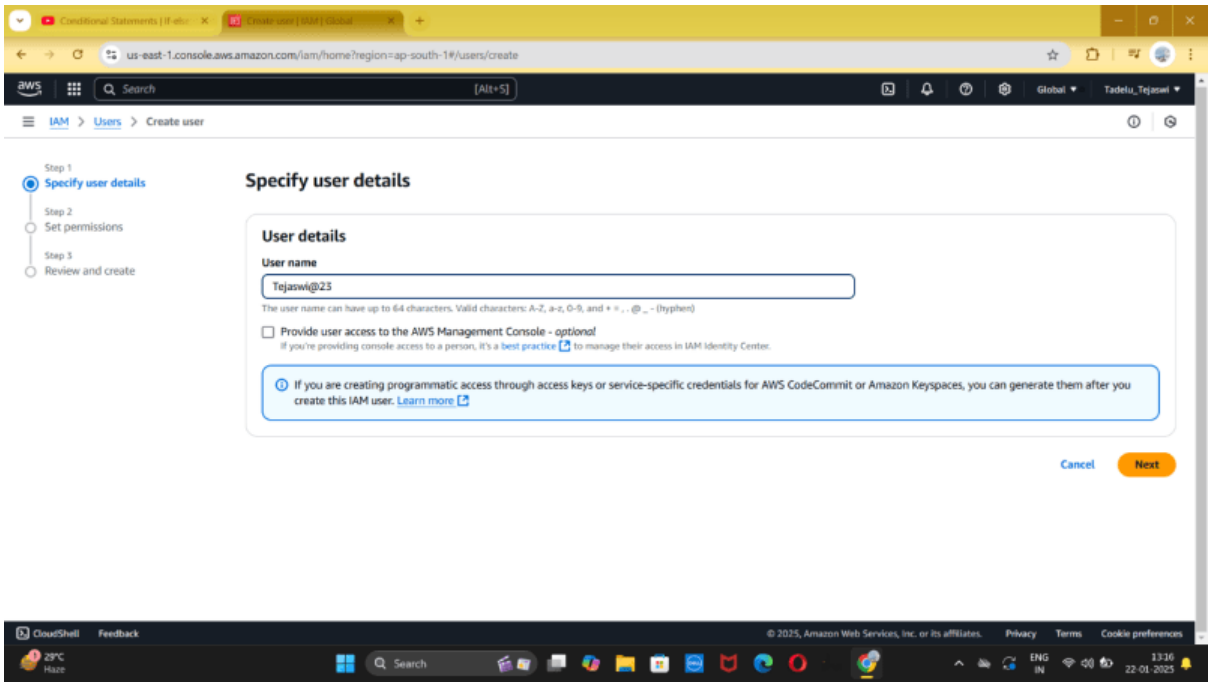
Step 4:-Service global

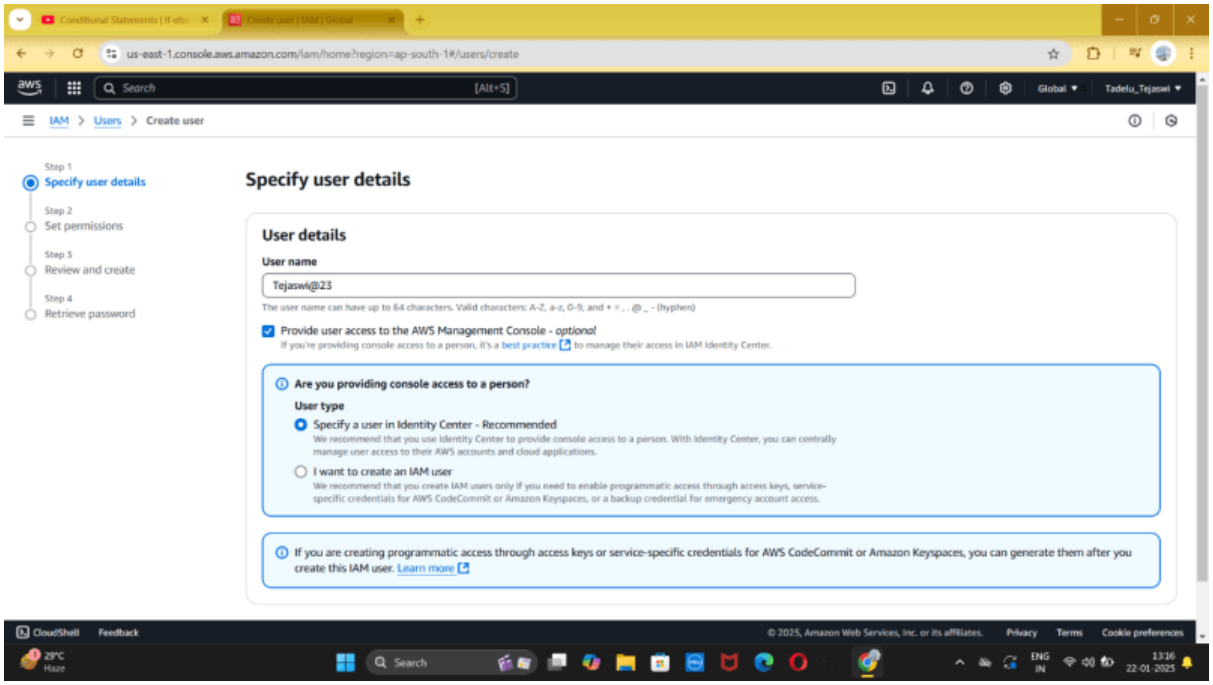
- IAM is a web service that lets you control access to AWS resources



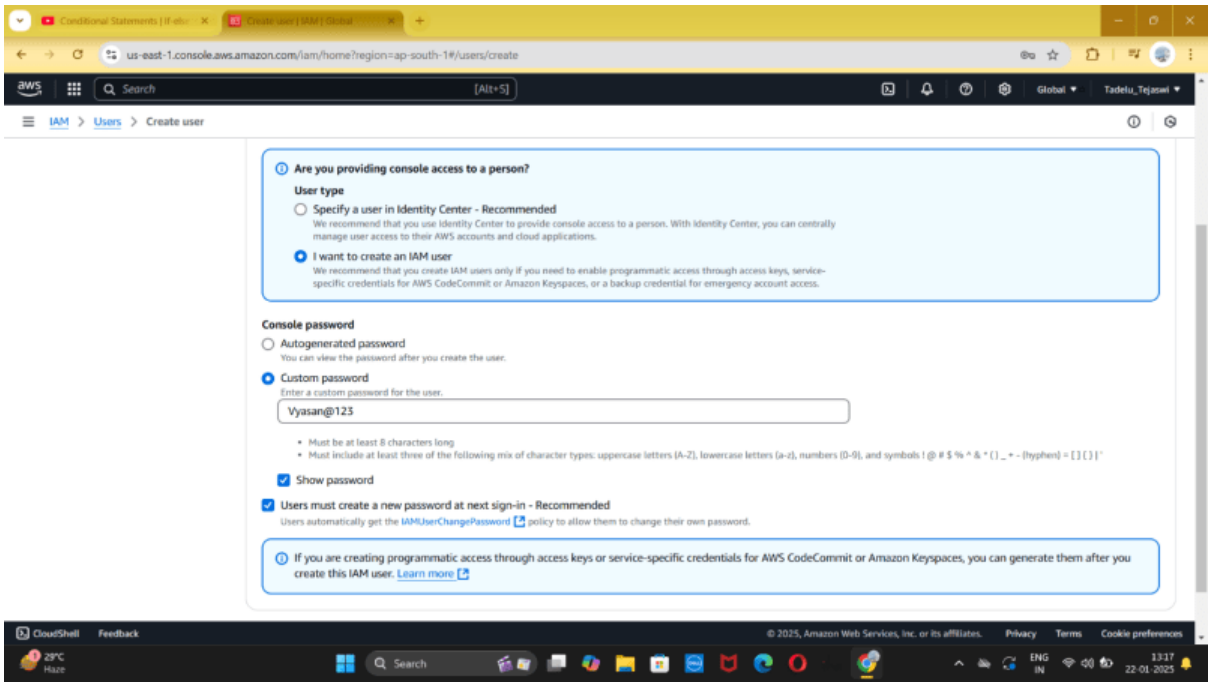
Step 5:- Create users

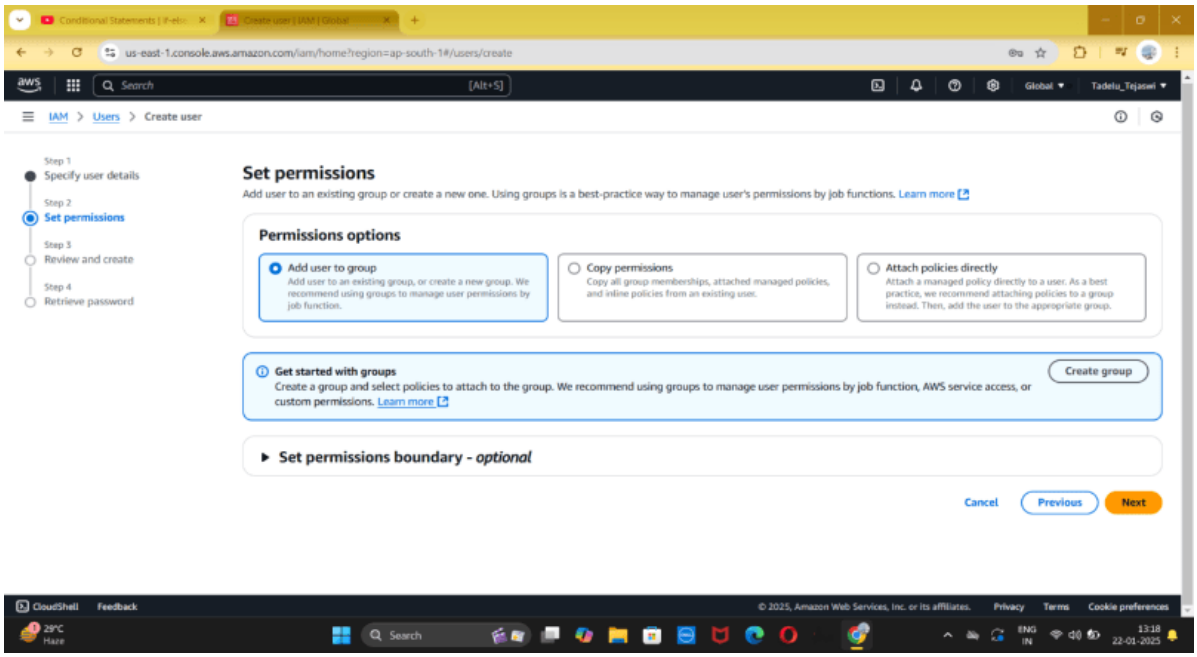
- Now create the username and click the next option





Step 7:- Create custom password

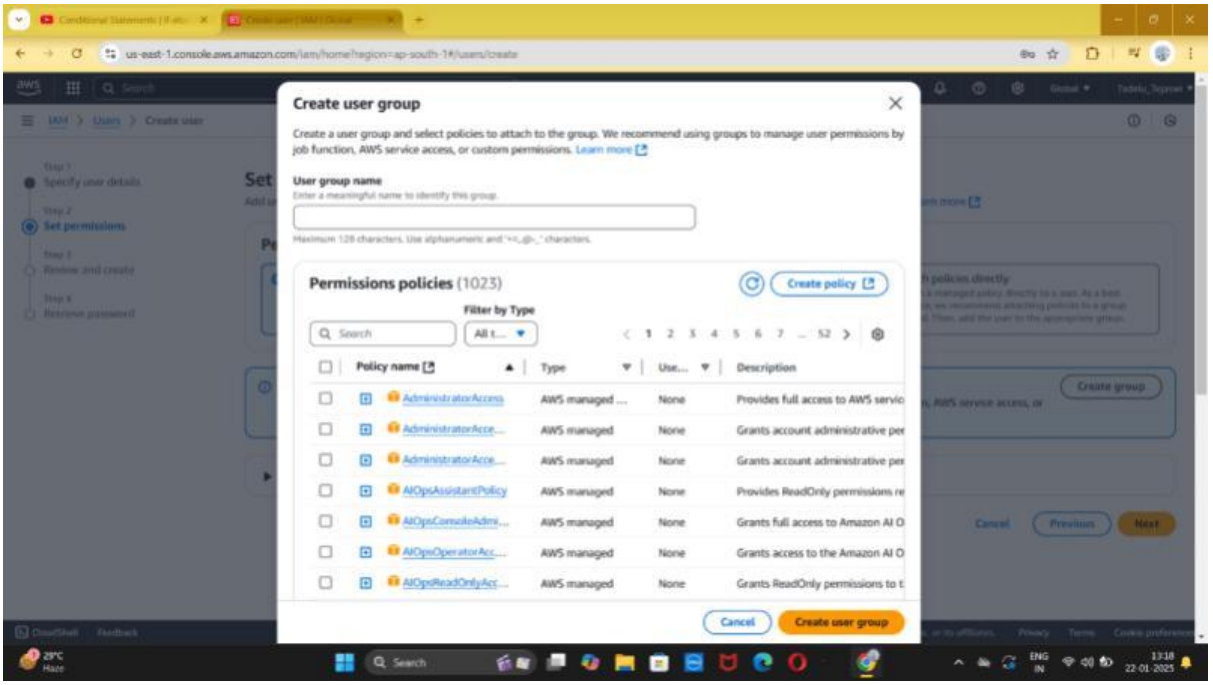

us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users/create
Search
[Alt+S]
Global
Tadelu_Tejaswi
IAM > Users > Create user
Are you providing console access to a person?
User type
Specify a user in Identity Center - Recommended
We recommend that you use Identity Center to provide console access to a person. With Identity Center, you can centrally manage user access to their AWS accounts and cloud applications.
I want to create an IAM user
We recommend that you create IAM users only if you need to enable programmatic access through access keys, service-specific credentials for AWS CodeCommit or Amazon Keyspaces, or a backup credential for emergency account access.
Console password
Autogenerated password
You can view the password after you create the user.
Custom password
Enter a custom password for the user.
Vyasan@123
Must be at least 8 characters long
Must include at least three of the following mix of character types: uppercase letters (A-Z), lowercase letters (a-z), numbers (0-9), and symbols ! @ # $ % ^ & * ( ) _ + - (hyphen) = [ ] { } |'
Show password
Users must create a new password at next sign-in - Recommended
Users automatically get the IAMUserChangePassword policy to allow them to change their own password.
If you are creating programmatic access through access keys or service-specific credentials for AWS CodeCommit or Amazon Keyspaces, you can generate them after you create this IAM user. Learn more
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
29°C
Haze
Search
ENG
IN
13:17
22-01-2025


us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users/create
Search
[Alt+S]
Global
Tadelu_Tejaswi
IAM > Users > Create user
Step 1
Specify user details
Step 2
Set permissions
Step 3
Review and create
Step 4
Retrieve password
Set permissions
Add user to an existing group or create a new one. Using groups is a best-practice way to manage user's permissions by job functions. Learn more
Permissions options
Add user to group
Add user to an existing group, or create a new group. We recommend using groups to manage user permissions by job function.
Copy permissions
Copy all group memberships, attached managed policies, and inline policies from an existing user.
Attach policies directly
Attach a managed policy directly to a user. As a best practice, we recommend attaching policies to a group instead. Then, add the user to the appropriate group.
Get started with groups
Create a group and select policies to attach to the group. We recommend using groups to manage user permissions by job function, AWS service access, or custom permissions. Learn more
Create group
Set permissions boundary - optional
Cancel
Previous
Next
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
29°C
Haze
Search
ENG
IN
13:18
22-01-2025

Project-8

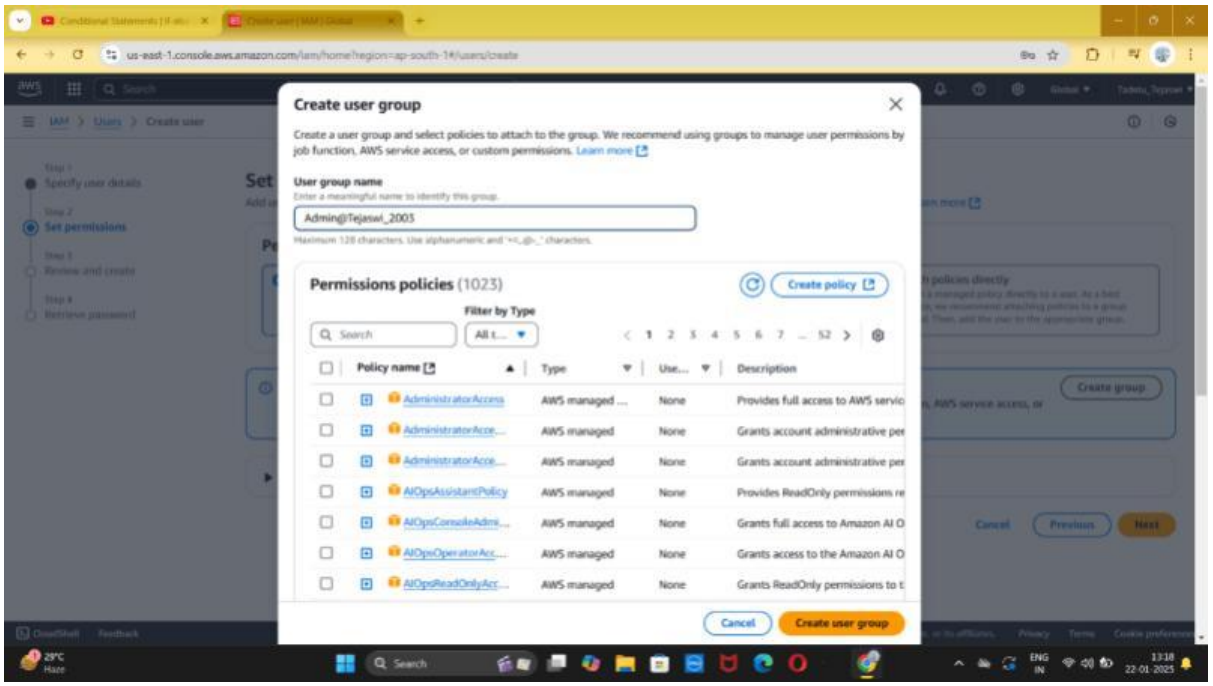
- Create a group in IAM

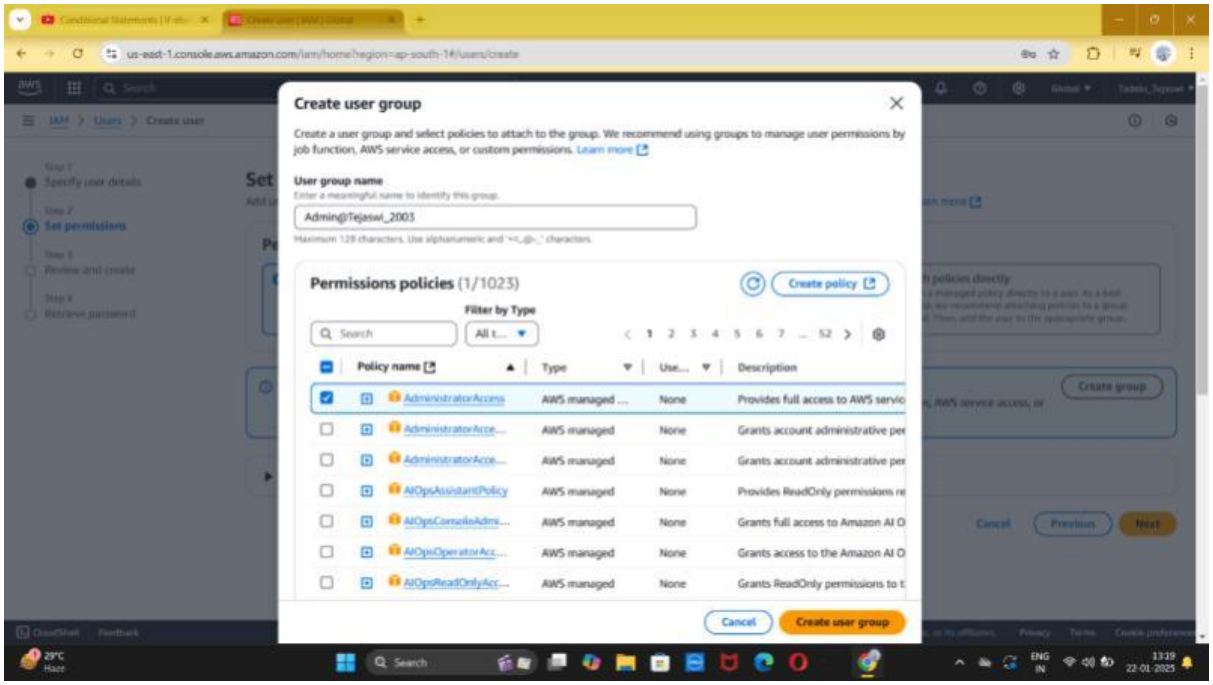
Step 1:- Click on create group



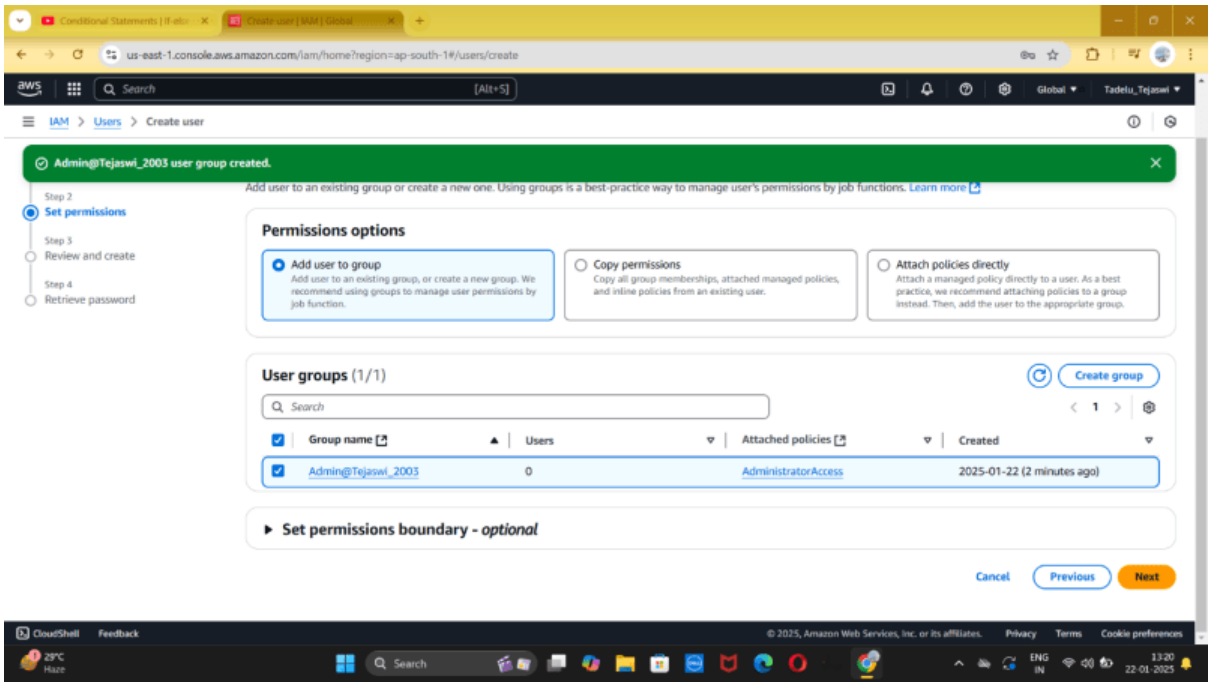
Step 2:-Create group

- Give the username before creating the group



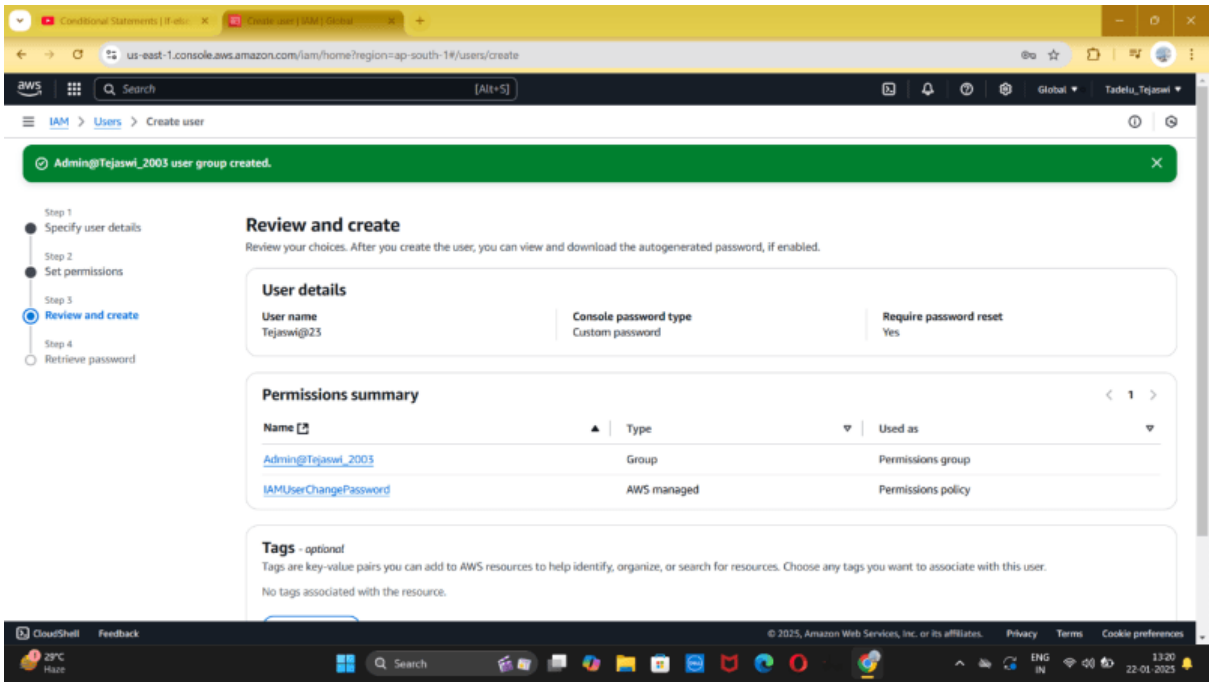


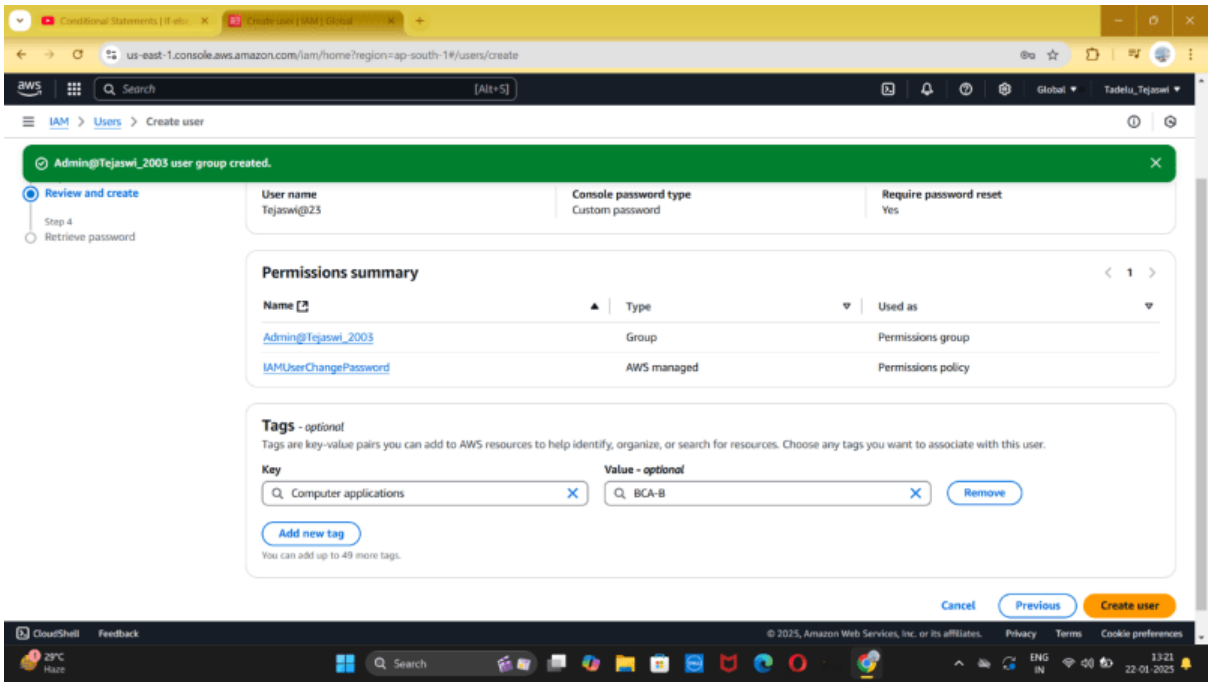
Step 3:-Choose policy name and click on create user group

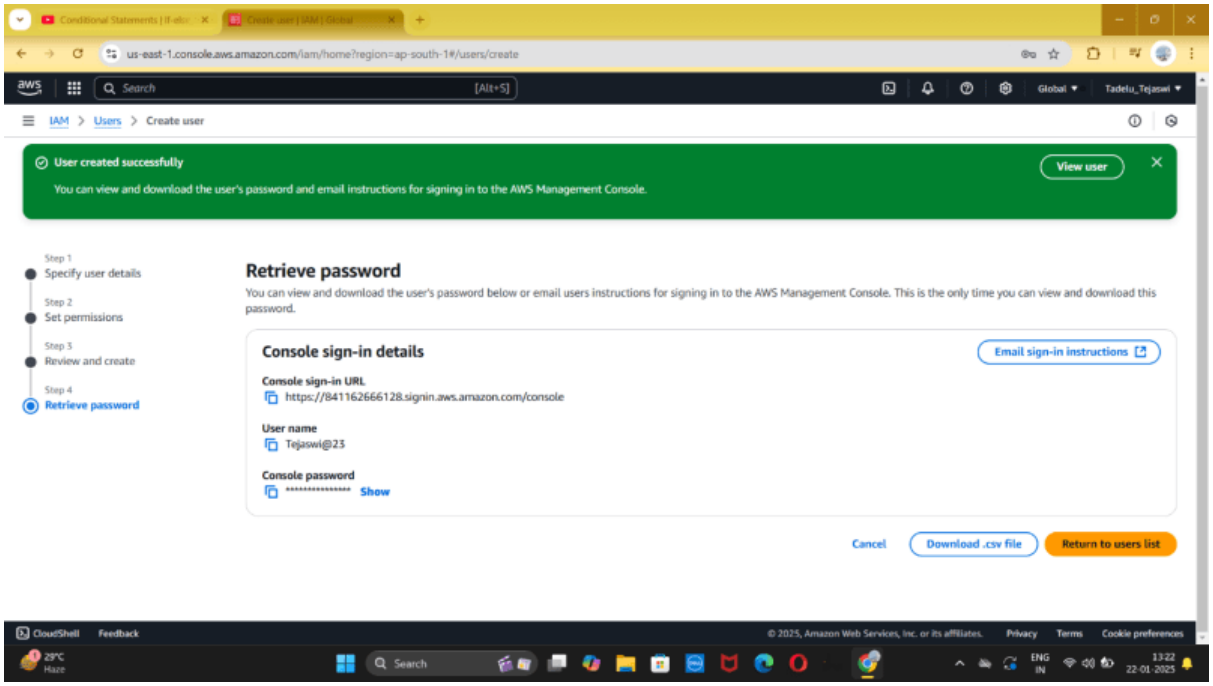


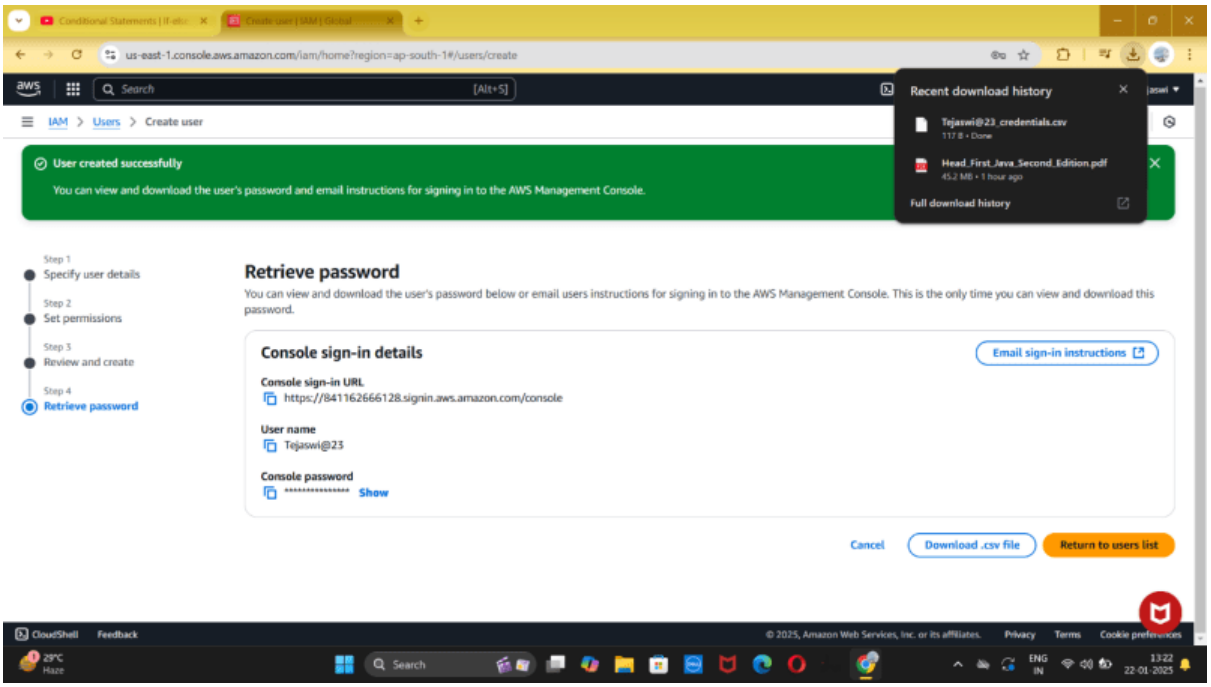
Step 4:

Add user into admin group and click on next.




us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users/create
IAM > Users > Create user
Admin@Tejaswi_2003 user group created.
Review and create
Step 4
Retrieve password
User name
Tejaswi@23
Console password type
Custom password
Require password reset
Yes
Permissions summary
Name
Type
Used as
Admin@Tejaswi_2003
Group
Permissions group
IAMUserChangePassword
AWS managed
Permissions policy
Tags - optional
Tags are key-value pairs you can add to AWS resources to help identify, organize, or search for resources. Choose any tags you want to associate with this user.
Key
Value - optional
Computer applications
BCA-B
Remove
Add new tag
You can add up to 49 more tags.
Cancel
Previous
Create user
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences

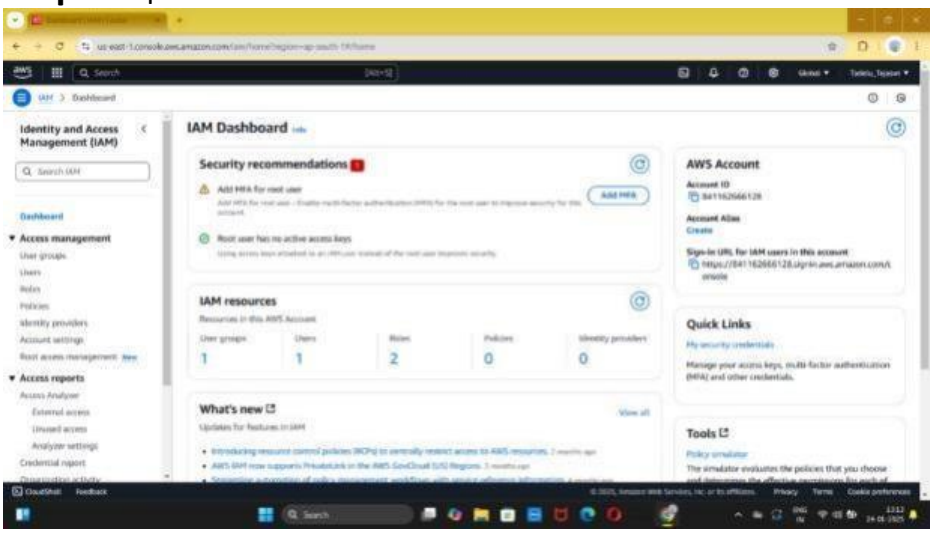

us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users/create
IAM > Users > Create user
User created successfully
You can view and download the user's password and email instructions for signing in to the AWS Management Console.
View user
Step 1
Specify user details
Step 2
Set permissions
Step 3
Review and create
Step 4
Retrieve password
Retrieve password
You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.
Console sign-in details
Email sign-in instructions
Console sign-in URL
https://841162666128.signin.aws.amazon.com/console
User name
Tejaswi@23
Console password
Show
Cancel
Download .csv file
Return to users list
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences


us-east-1.console.aws.amazon.com/iam/home?region=ap-south-1#/users/create
Search
[Alt+S]
Recent download history
Tejaswi@23_credentials.csv
117 B • Done
Head_First_Java_Second_Edition.pdf
45.2 MB • 1 hour ago
Full download history
IAM > Users > Create user
User created successfully
You can view and download the user's password and email instructions for signing in to the AWS Management Console.
Step 1
Specify user details
Step 2
Set permissions
Step 3
Review and create
Step 4
Retrieve password
Retrieve password
You can view and download the user's password below or email users instructions for signing in to the AWS Management Console. This is the only time you can view and download this password.
Console sign-in details
Email sign-in instructions
Console sign-in URL
https://841162666128.signin.aws.amazon.com/console
User name
Tejaswi@23
Console password
Show
Cancel
Download .csv file
Return to users list
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
29°C
Haze
Search
ENG
IN
13:22
22-01-2025

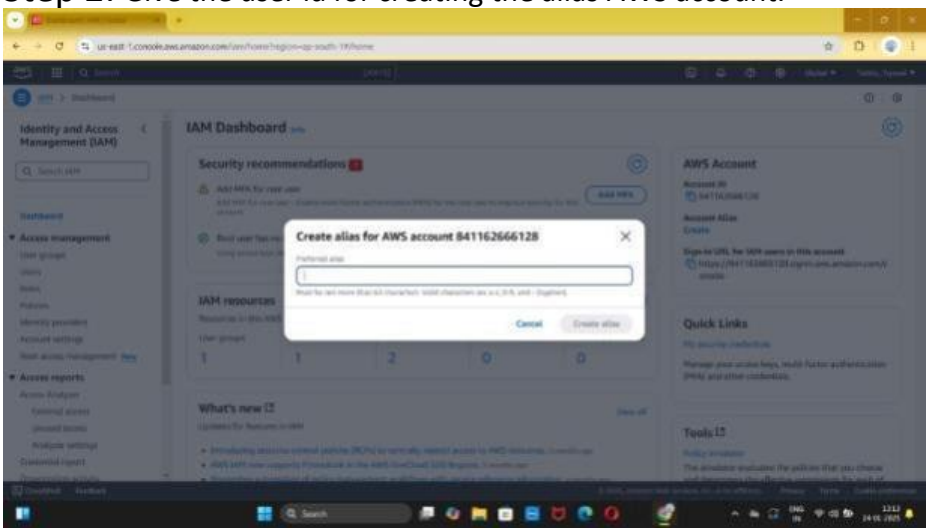
PROJECT 9

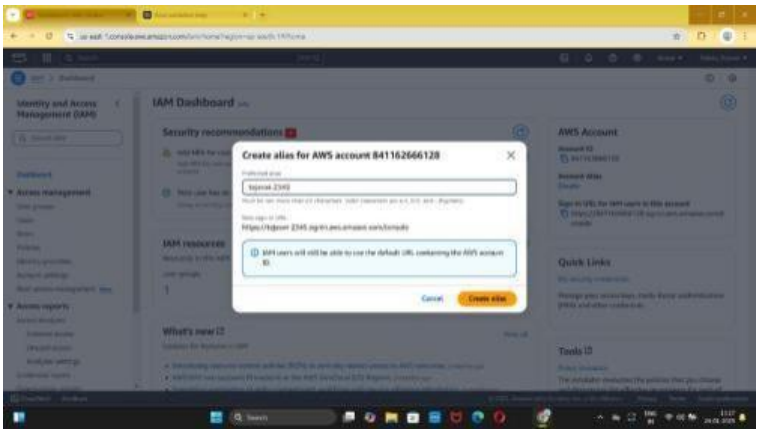
CREATE ALIAS ACCOUNT FOR YOUR AWS ACCOUNT

Step 1: Open AWS IAM dashboard

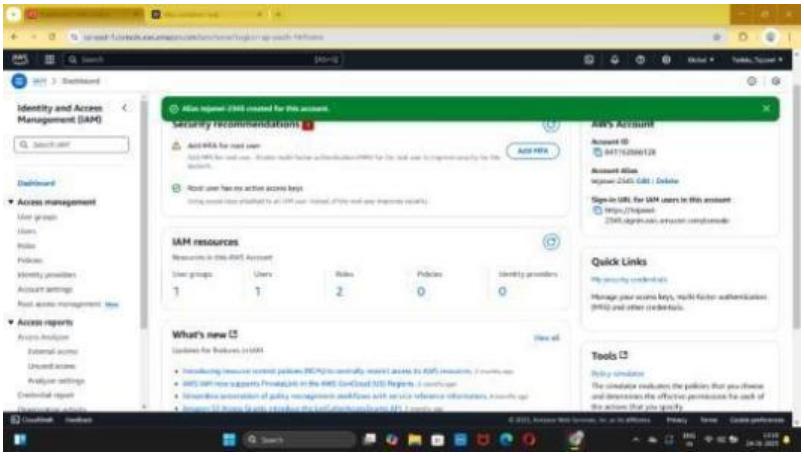


Step 2: Give the user id for creating the alias AWS account.



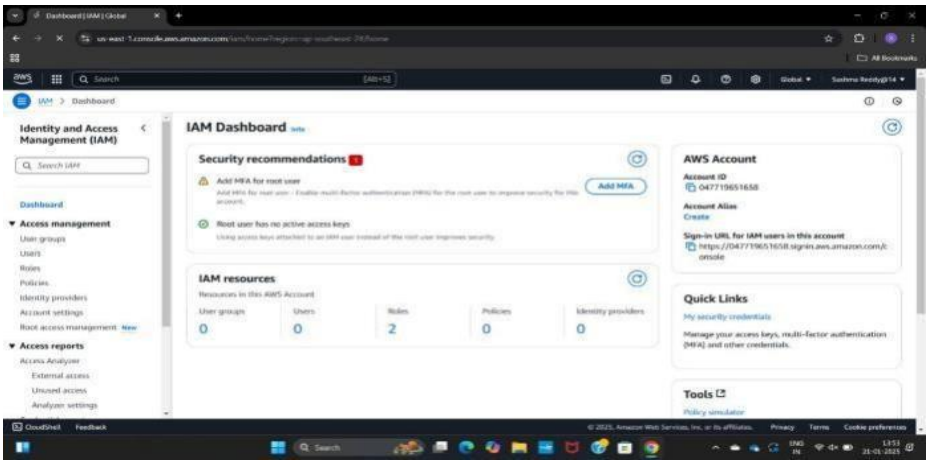


Step 3: Successfully user id will be created.

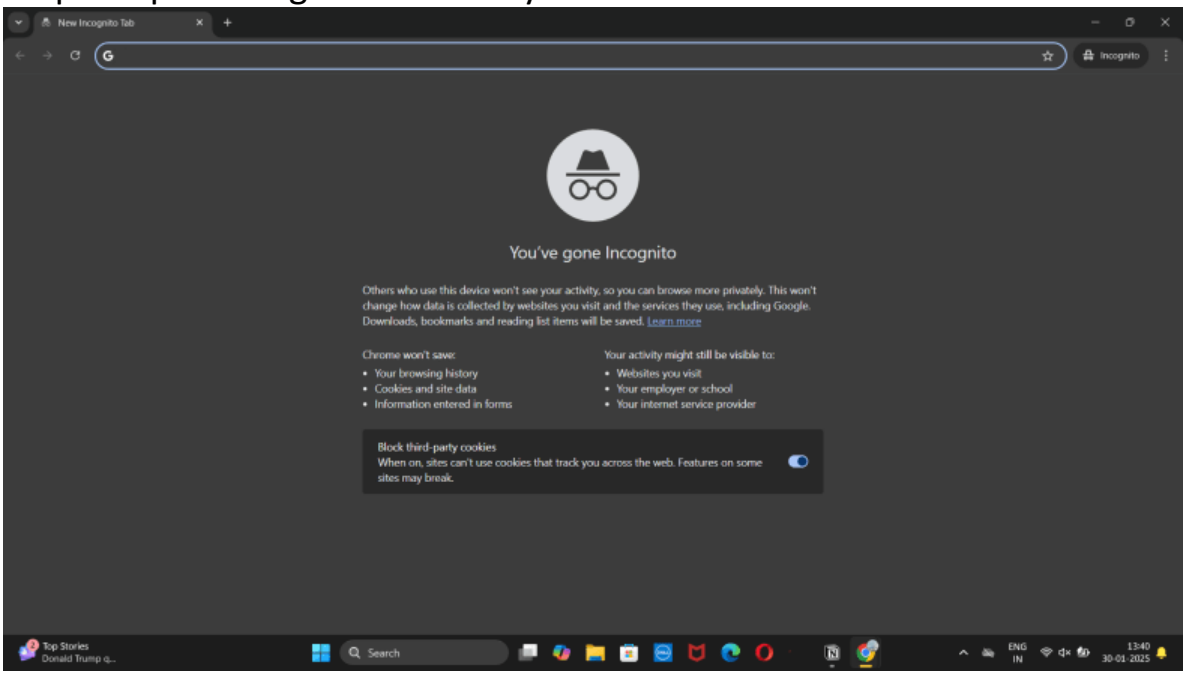


PROJECT – 10

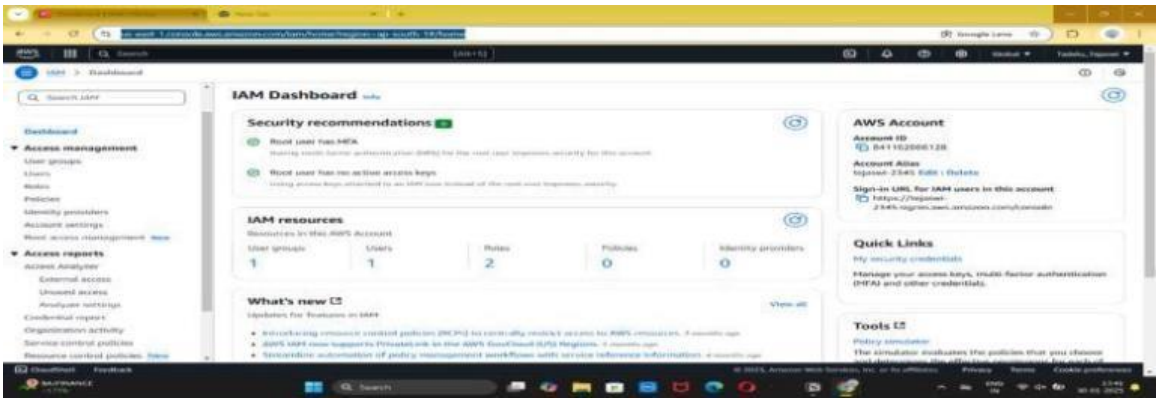
Step 1: Open AWS management console and select IAM Dashoard

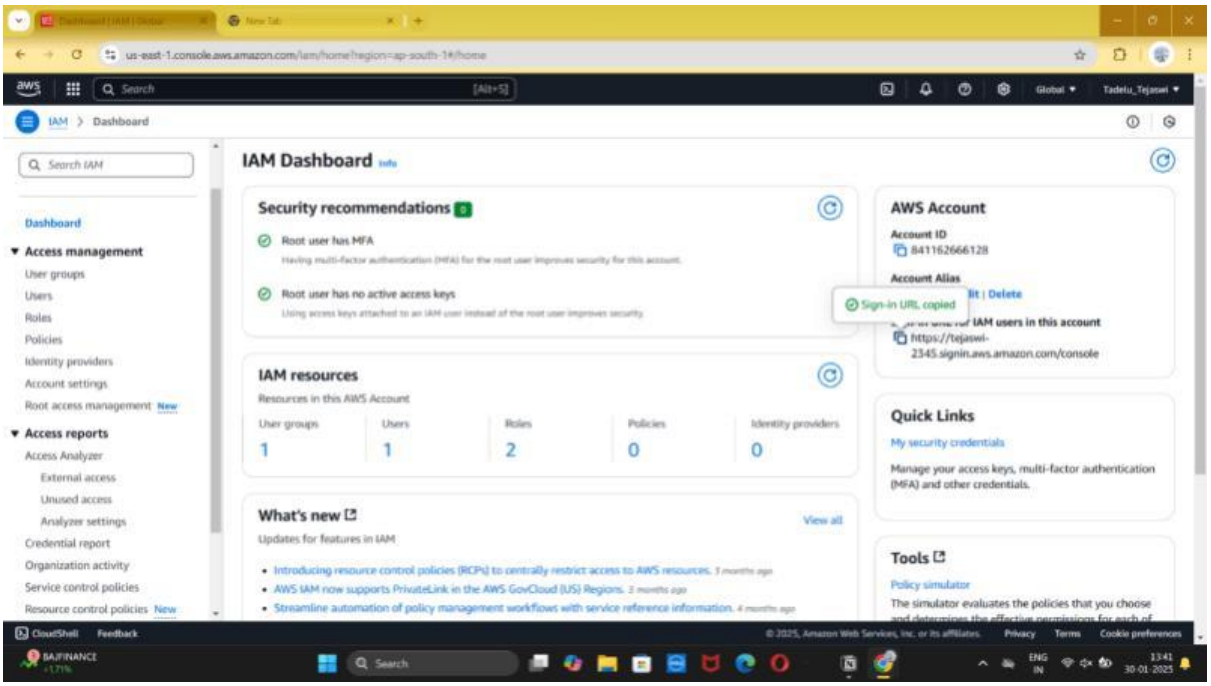


Step 2: Open Incognito tab in any web browser.

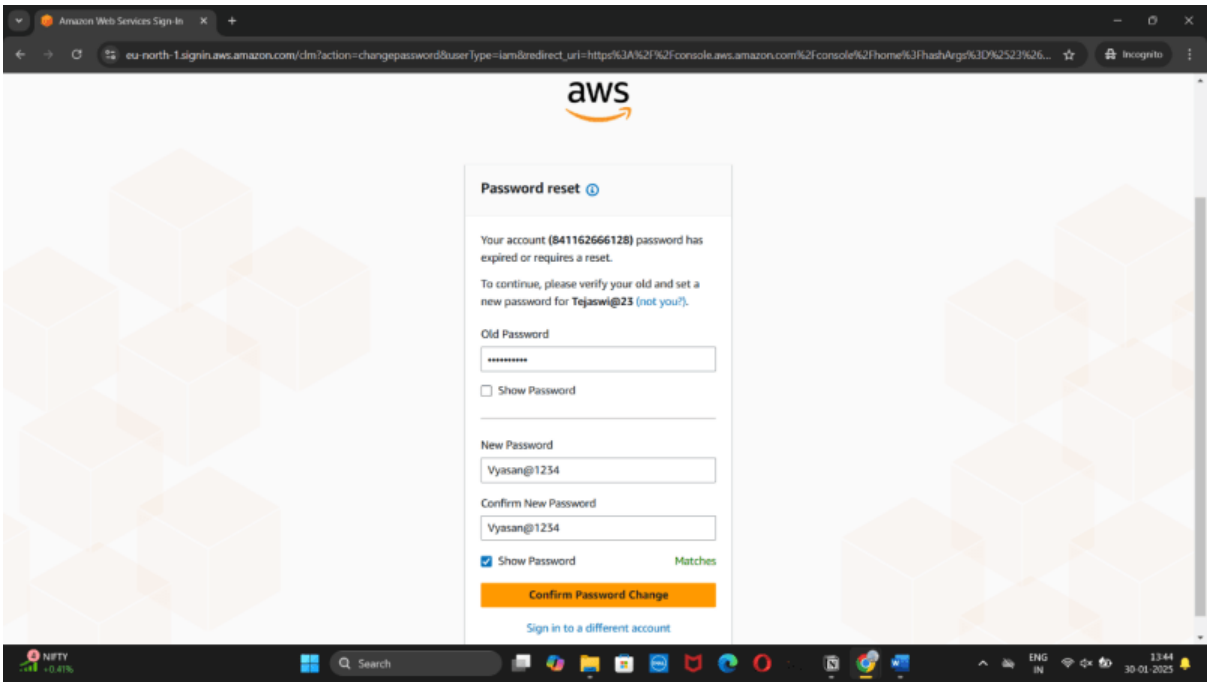


Step 3: Copy the URL and press it and enter.

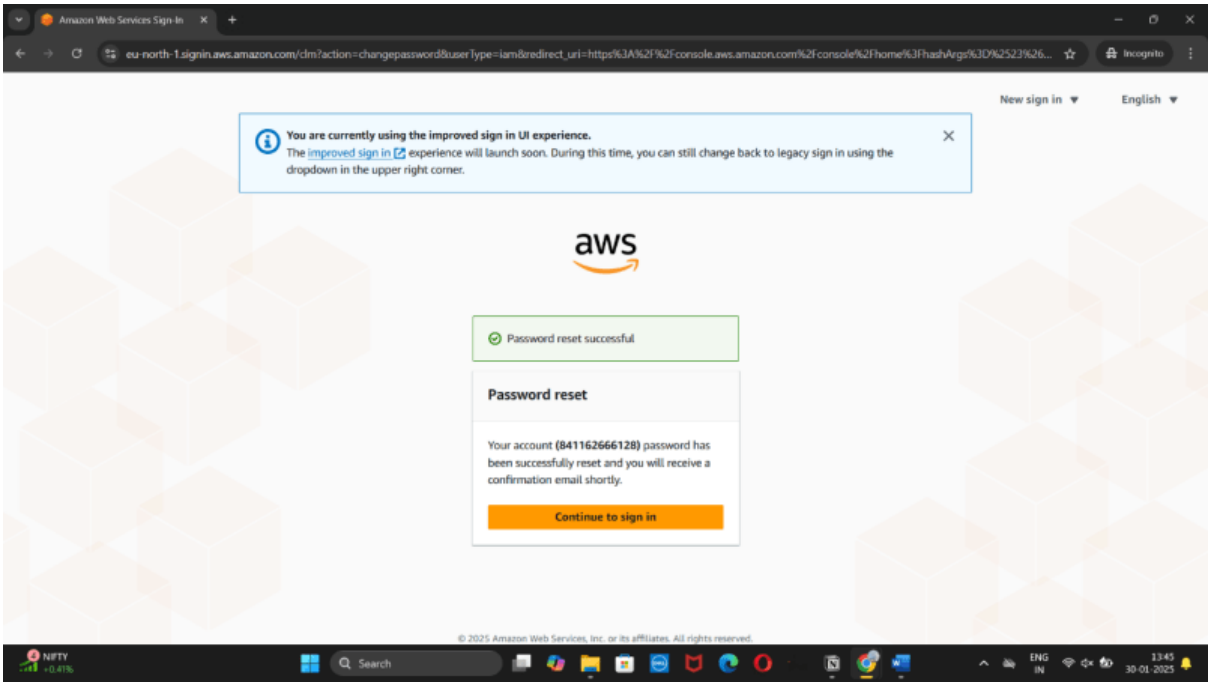




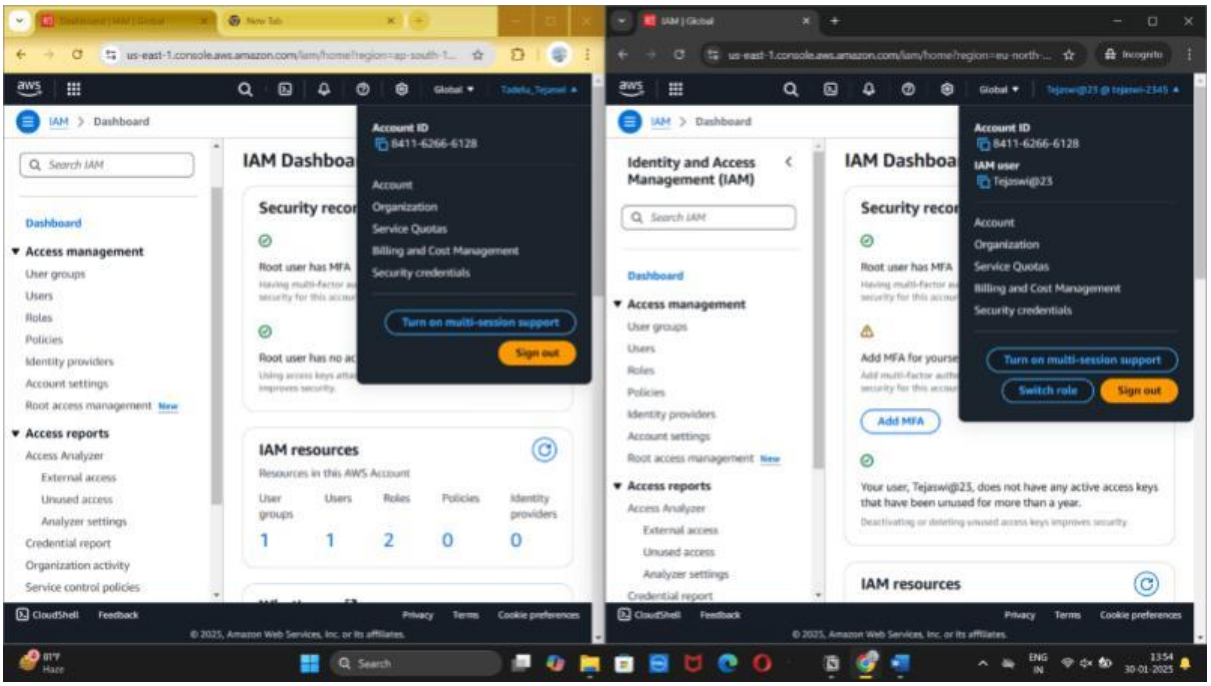
Step 4: Set password and username as per IAM.



Step 5: Password set automatically.

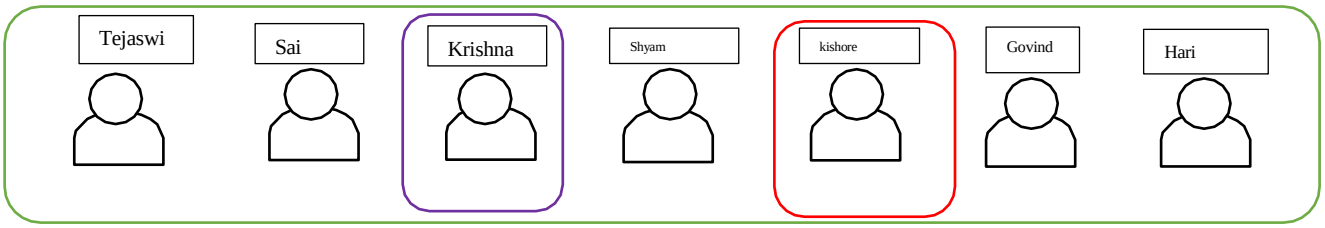


Step 6: IAM Dashboards and accounts.


IAM > Dashboard
Search IAM
Dashboard
Access management
User groups
Users
Roles
Policies
Identity providers
Account settings
Root access management New
Access reports
Access Analyzer
External access
Unused access
Analyzer settings
Credential report
Organization activity
Service control policies
IAM Dashboa
Security recor
Root user has MFA
IAM resources
Resources in this AWS Account
User groups
Users
Roles
Policies
Identity providers
1
1
2
0
0
Account ID
8411-6266-6128
Account
Organization
Service Quotas
Billing and Cost Management
Security credentials
Turn on multi-session support
Sign out
CloudShell
Feedback
Privacy
Terms
Cookie preferences
© 2025, Amazon Web Services, Inc. or its affiliates.
Identity and Access Management (IAM)
IAM user
Tejaswi@23
Switch role
Add MFA
Your user, Tejaswi@23, does not have any active access keys that have been unused for more than a year.
Deactivating or deleting unused access keys improves security
Search
ENG
IN
13:54
30-01-2025

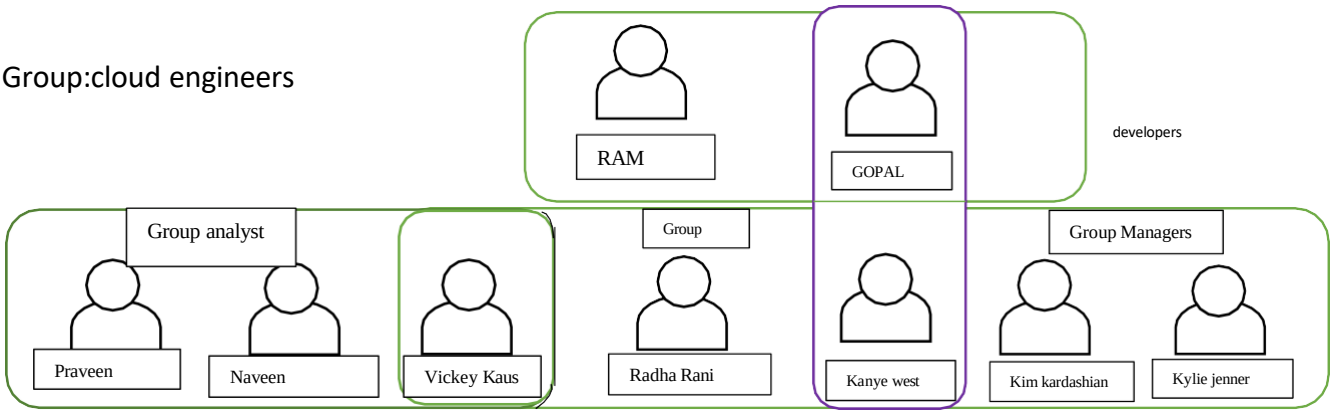
PROJECT 11

Create IAM policies inheritance for your company



Group:developers Group:operators Group:audit team

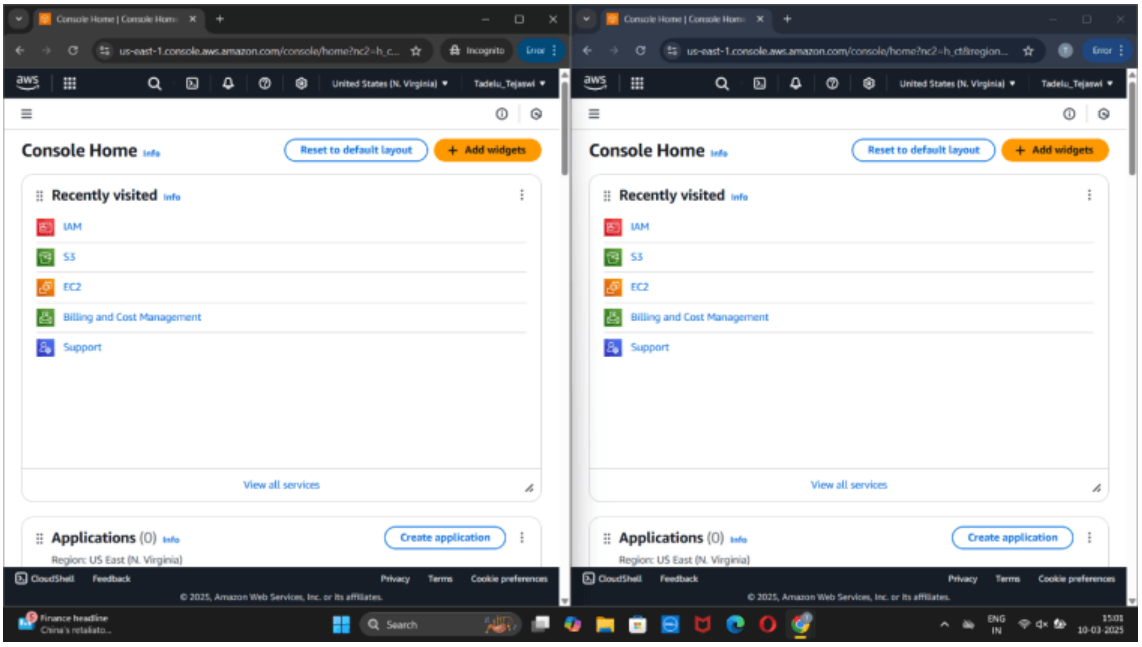
Group:cloud engineers



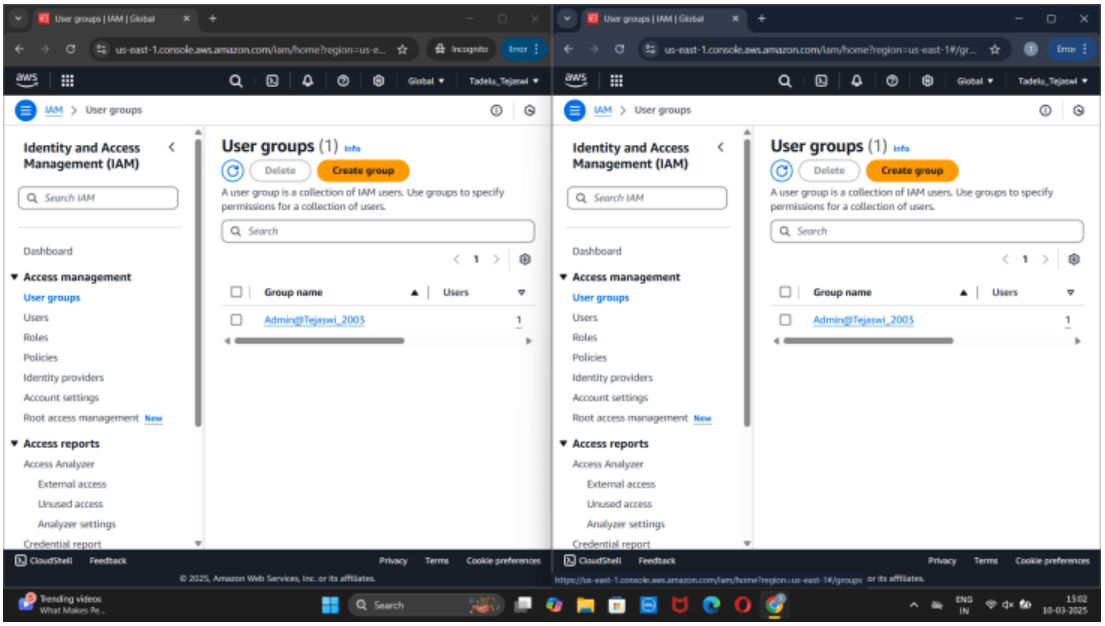
Project-12

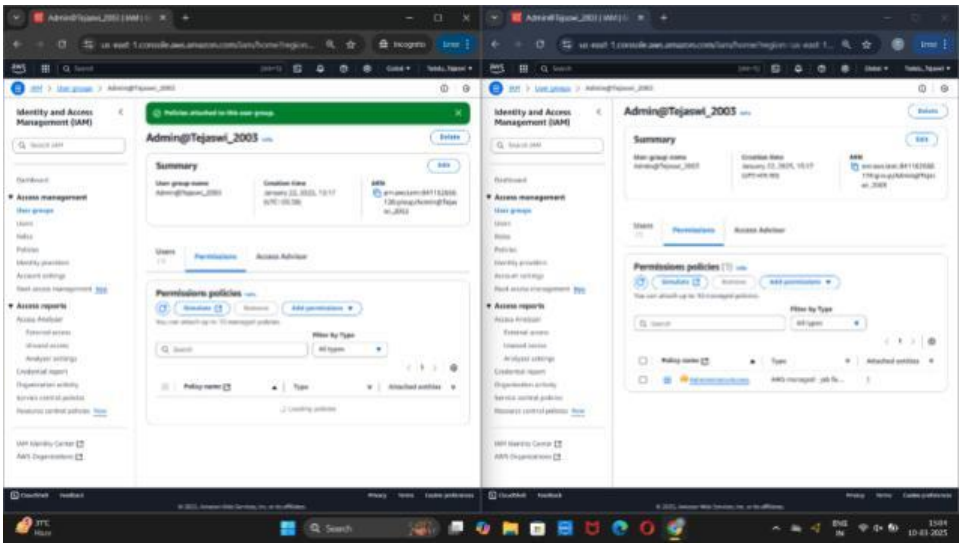
- Remove the permissions for a specific user in IAM

Step 1:- Open console home in two different tabs

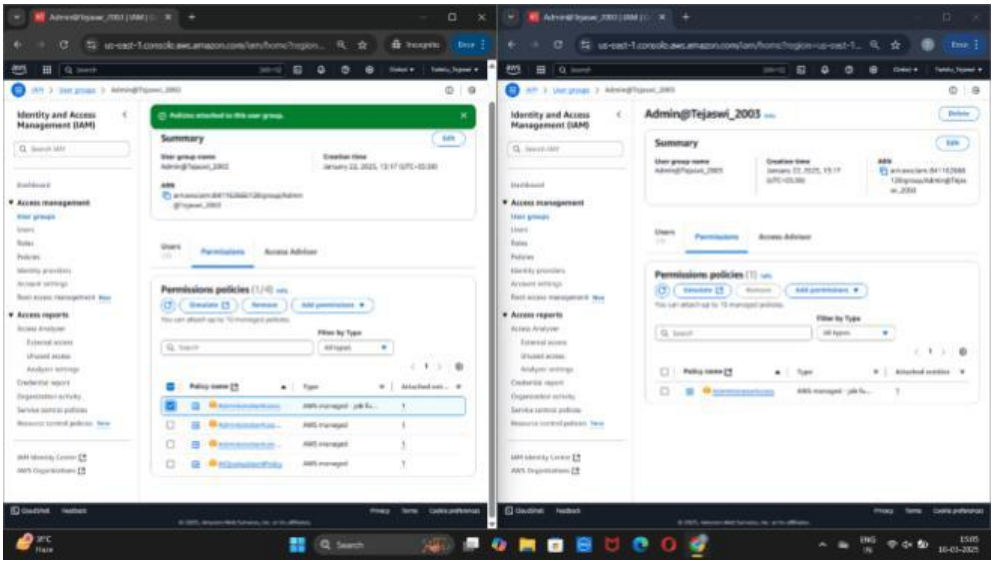


Step 2:-Now click on IAM users, select the AWS account that has the user you want to remove

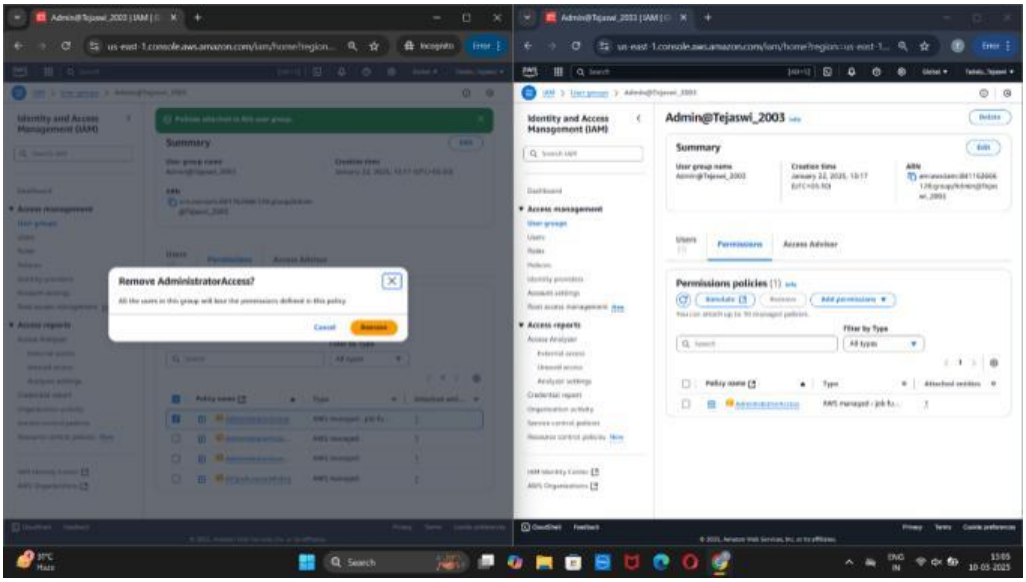




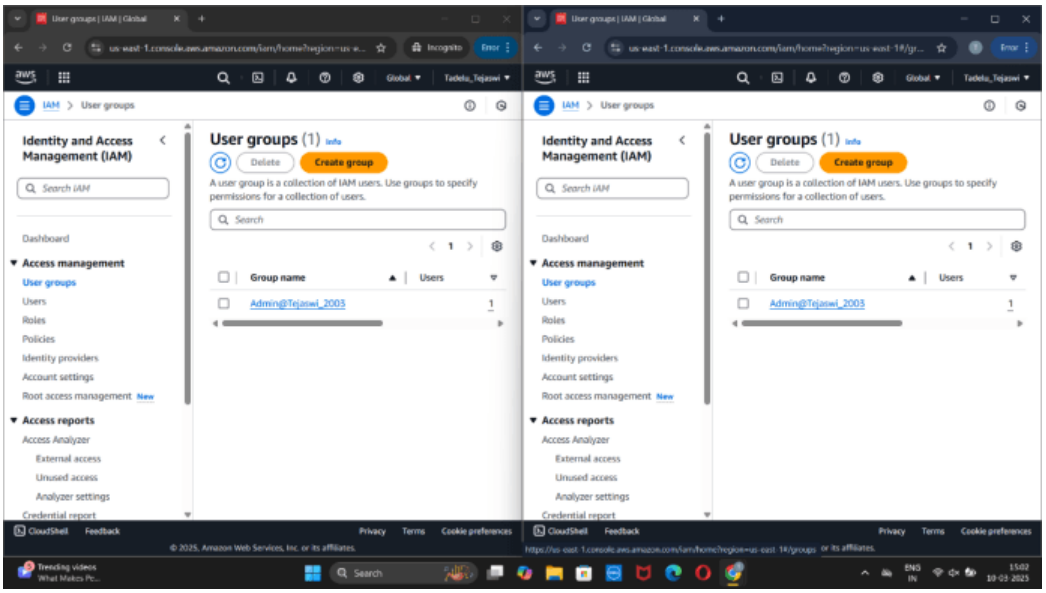
Step 3:-Select multi-account permission



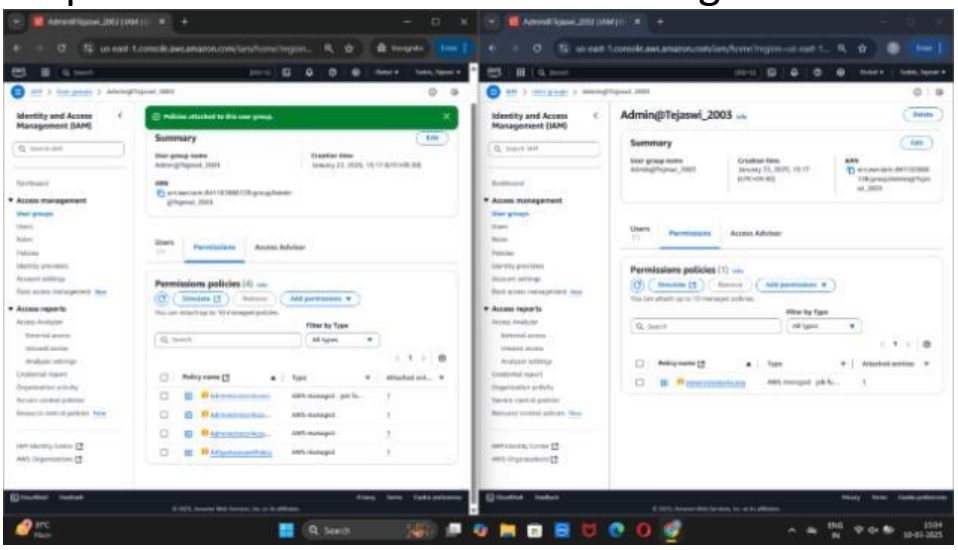
Step 4:-Choose the AWS account, select the name of the user you want to remove



Step 5:- Confirm the names of the users in the dialog box, Choose the remove access



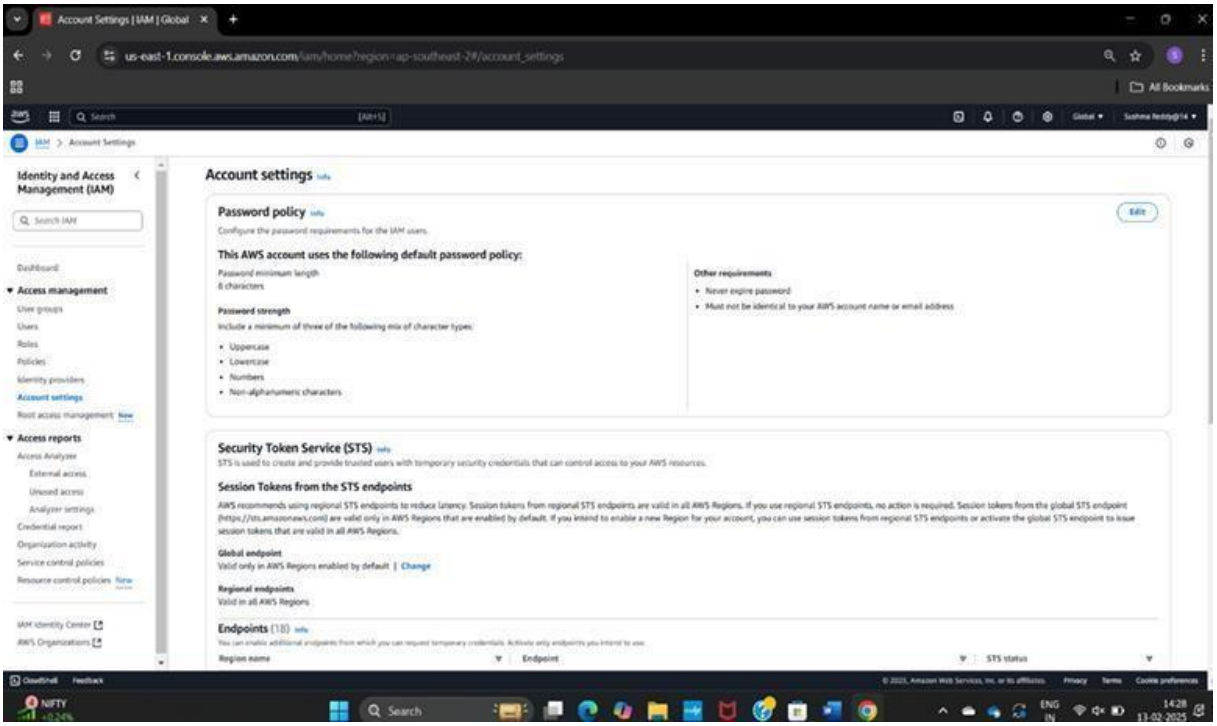
Step 6:-Choose the remove access again



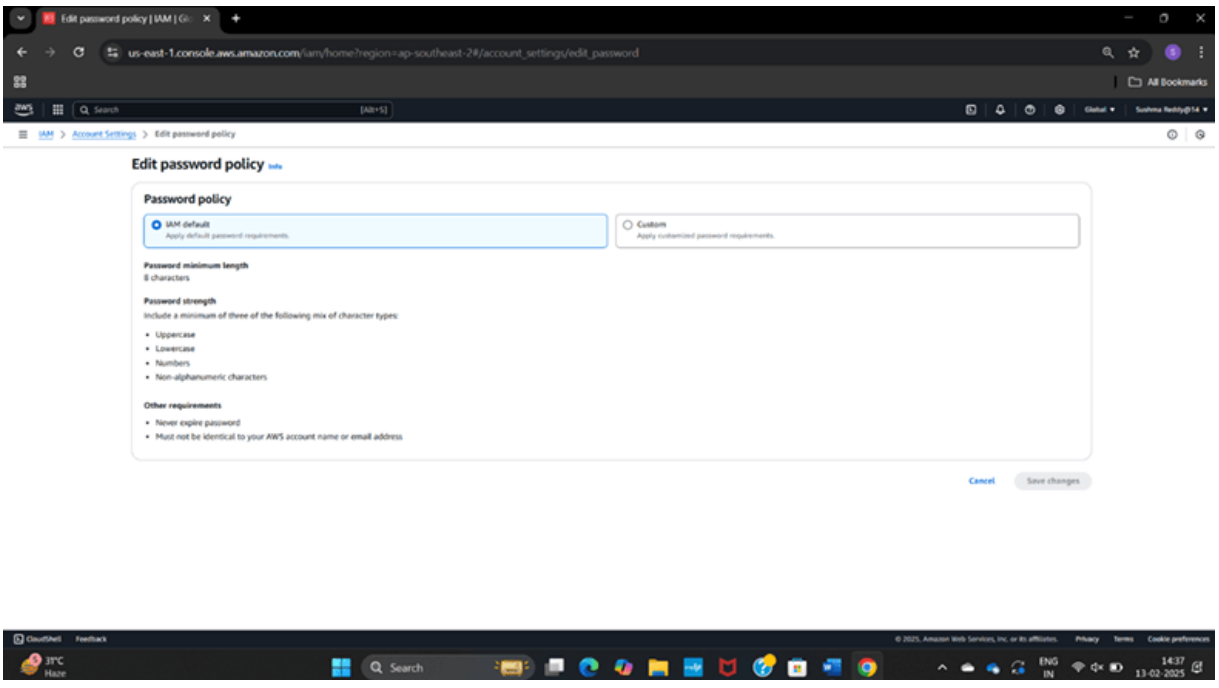
Project 13

Create a password policy

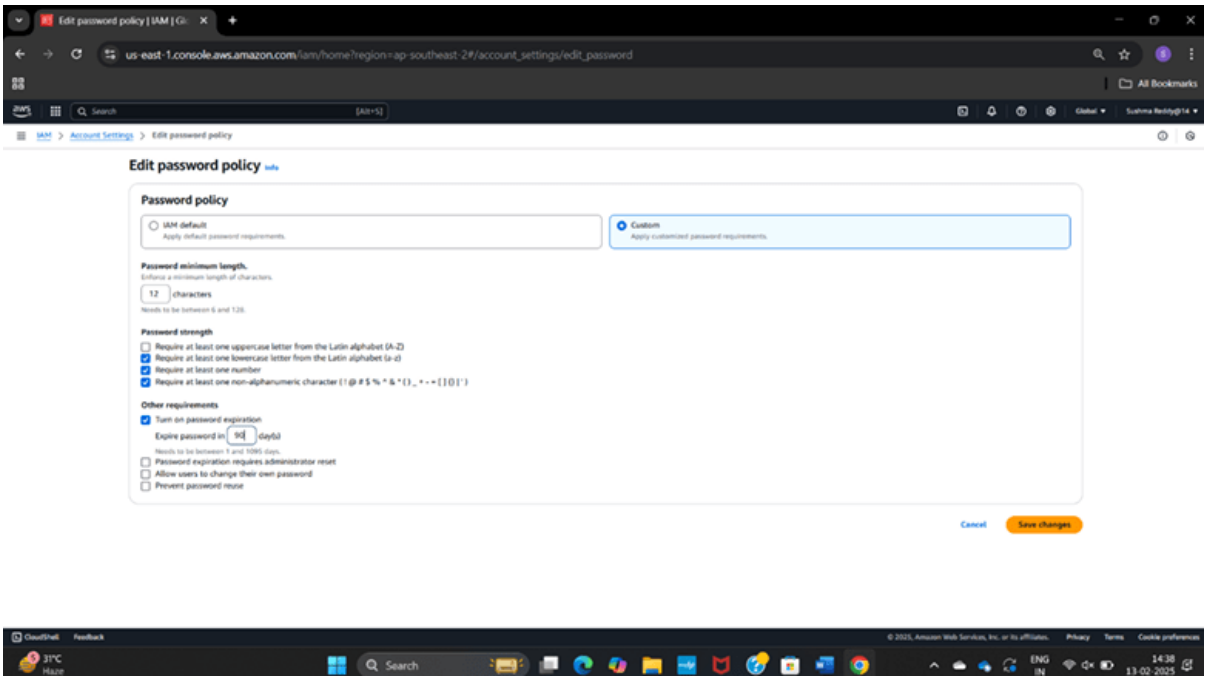
Step 1: Click on Account settings



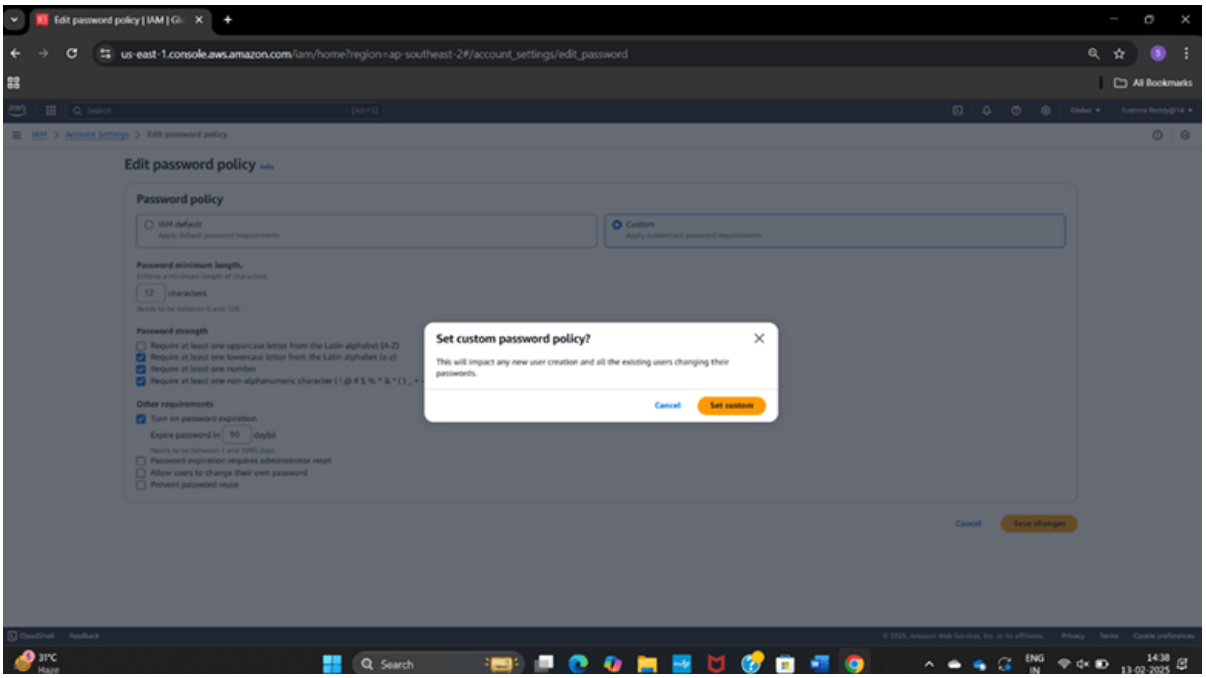
Step 2: Click on edit



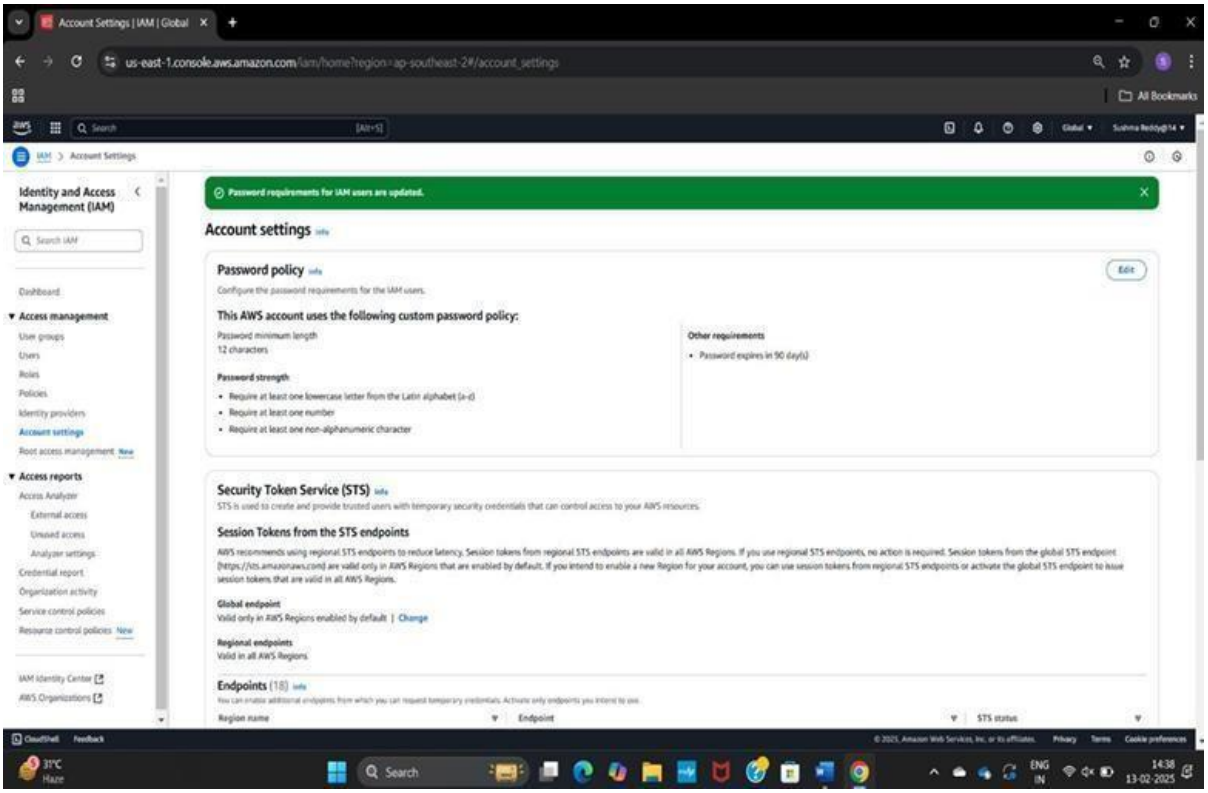
Step 3: Click on custom to change password according to you



Step 4: Select custom password policy



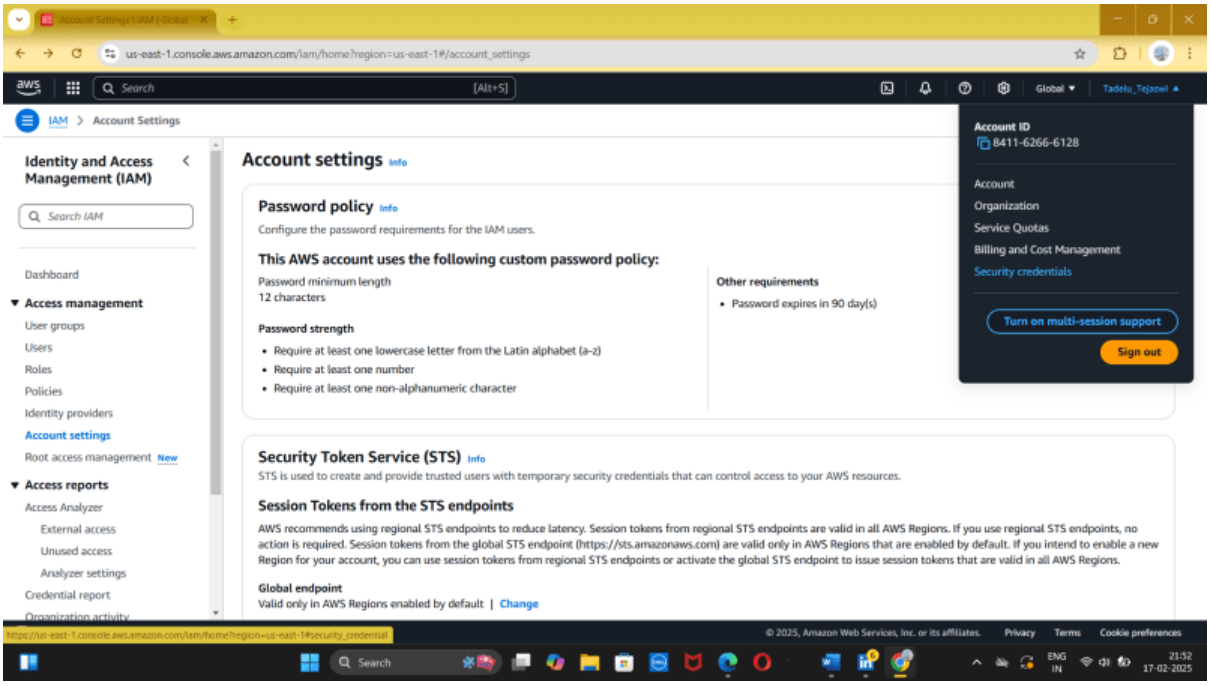
Step 5: Password requirements for IAM users are updates



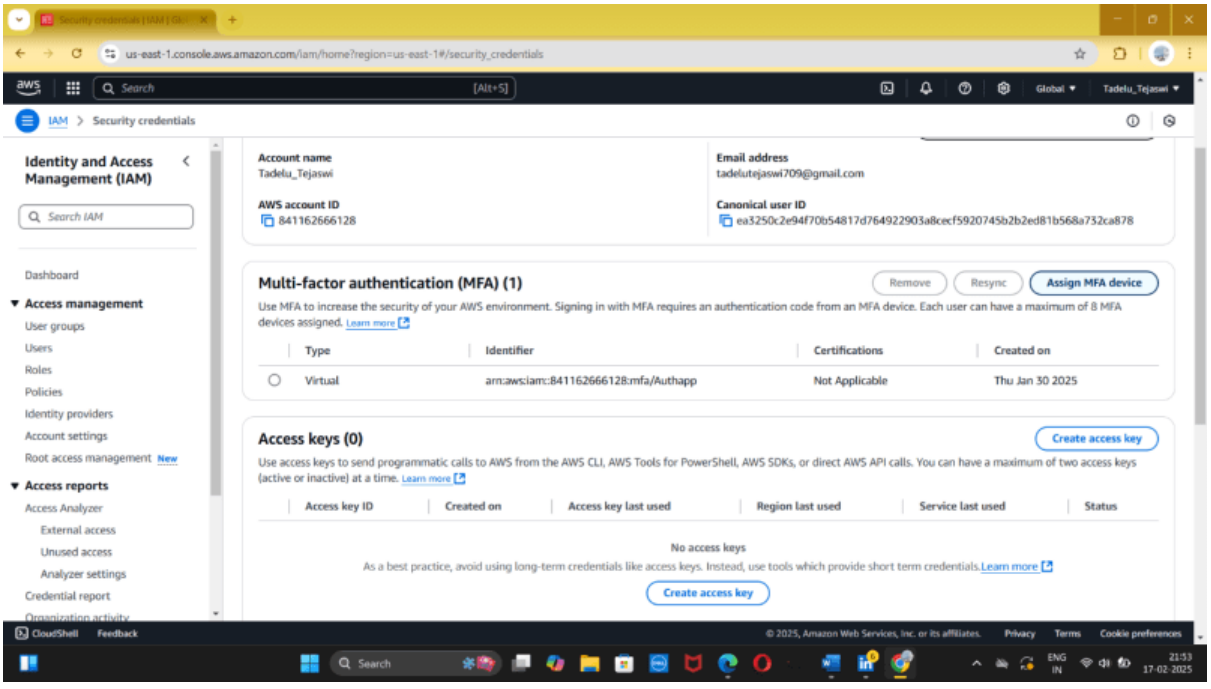
Project-14

- Login using MFA code

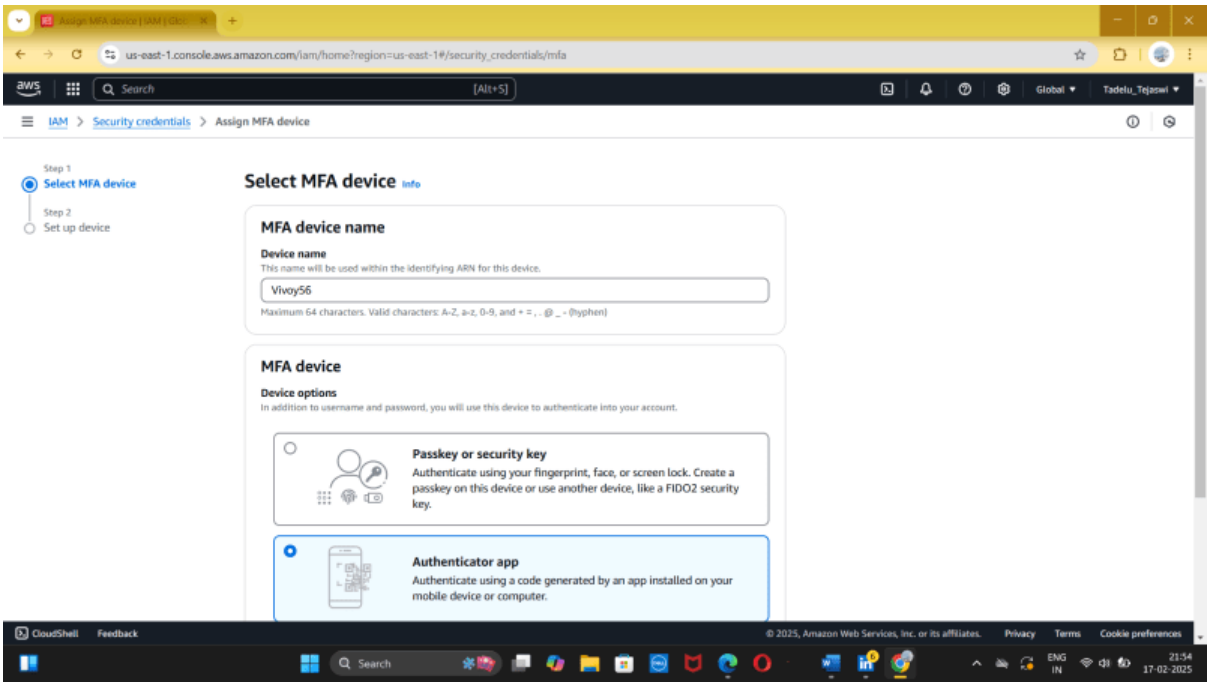
Step 1:-Click on security credentials



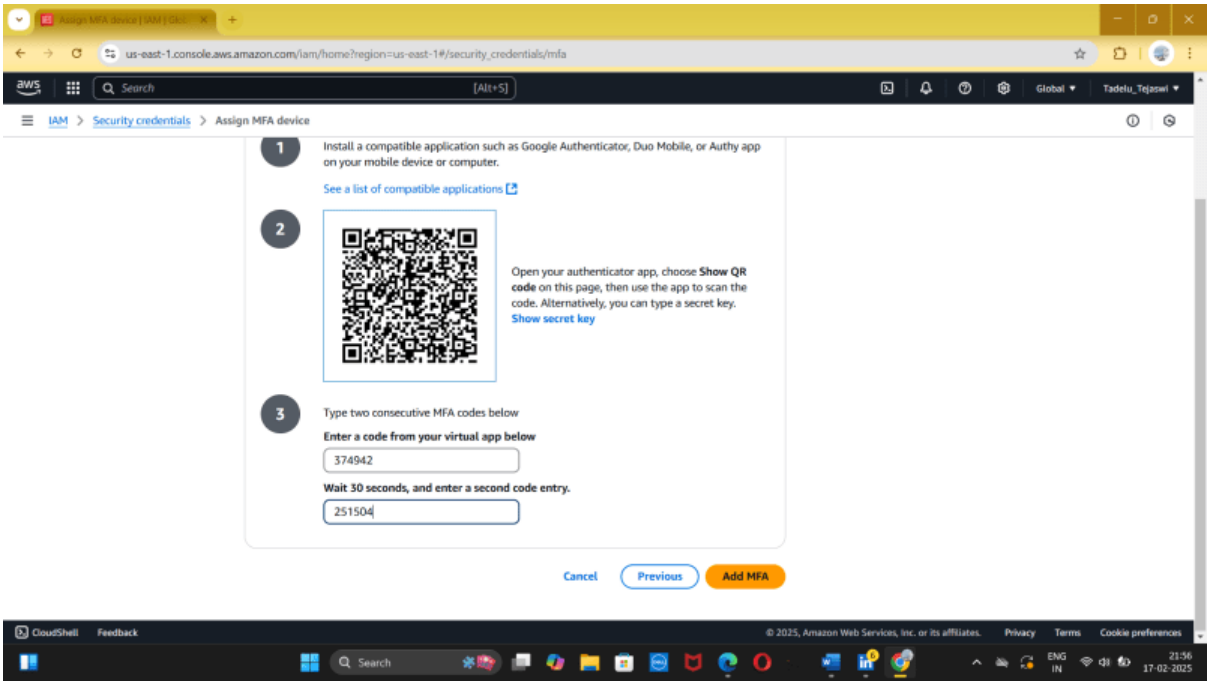
Step 2:-Click on assign MFA



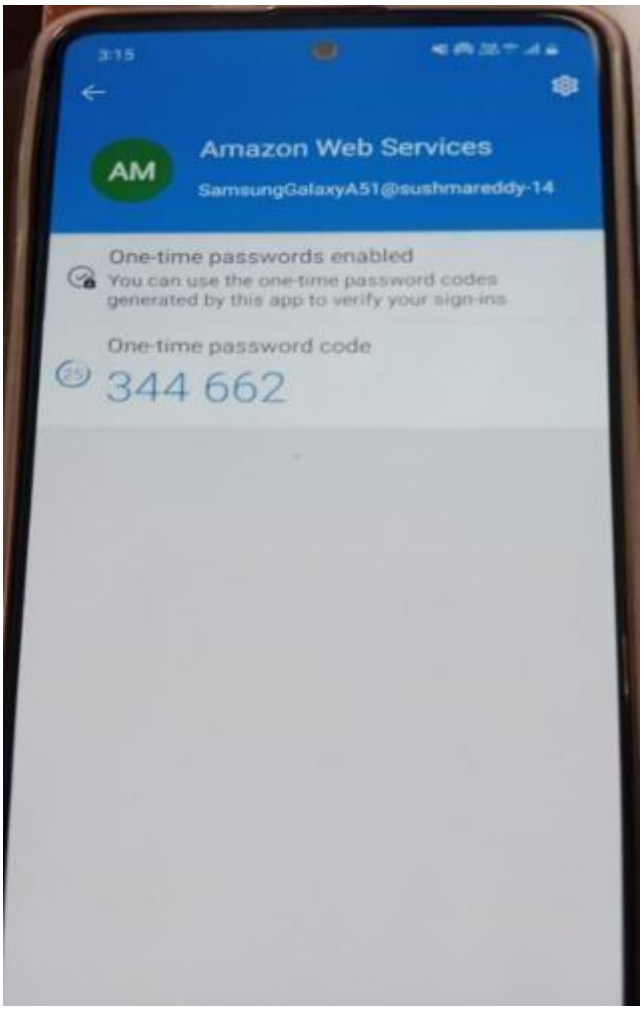
Step 3:- Give the device name and choose Authenticator app



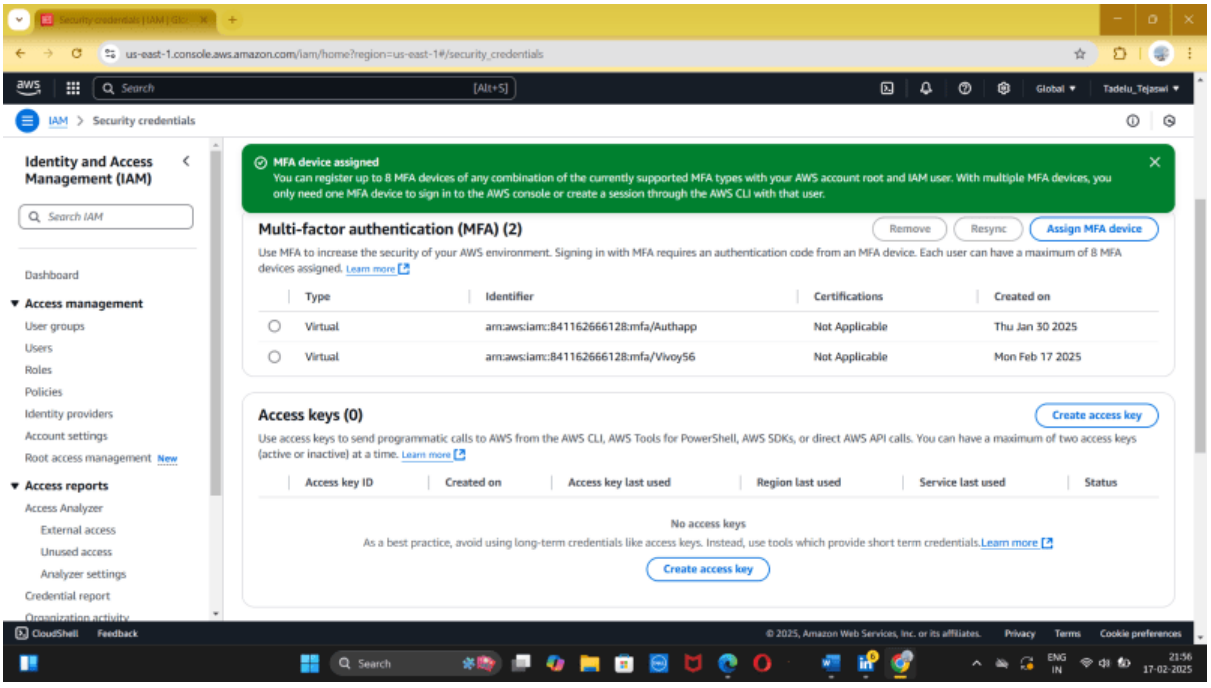
Step 4:- Click on show QR code



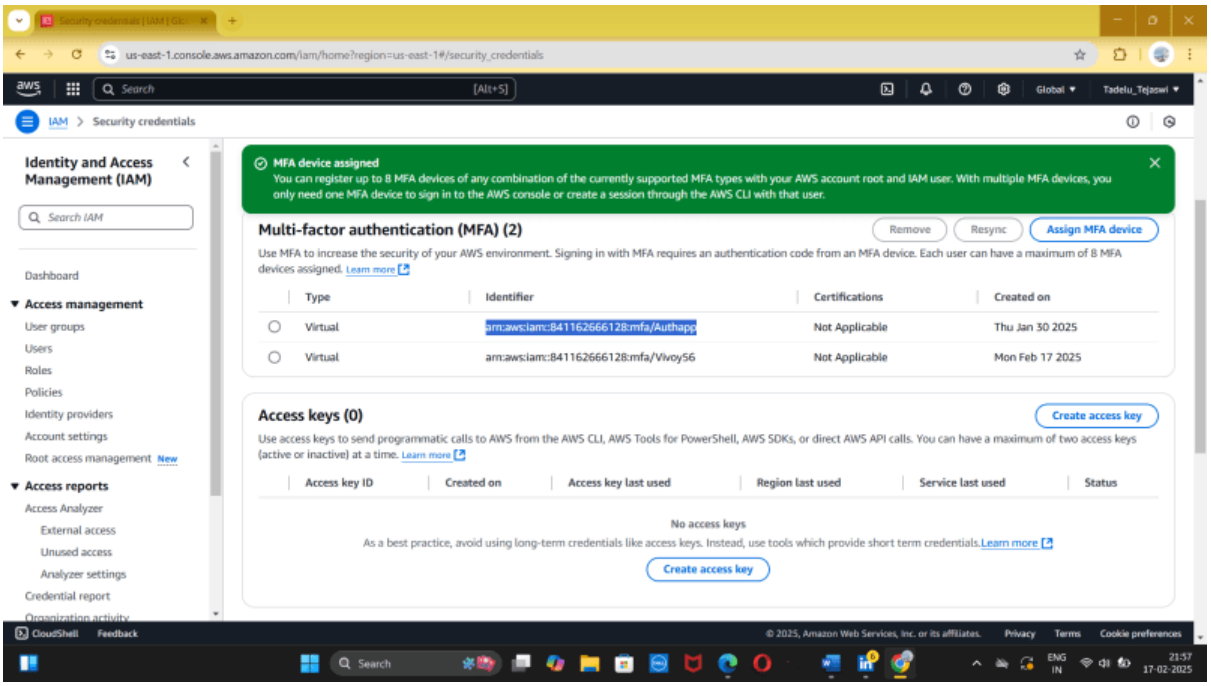
Step 5:- Use the authenticator app, you will get two MFA codes. First enter the MFA code 1, then you will receive MFA code 2



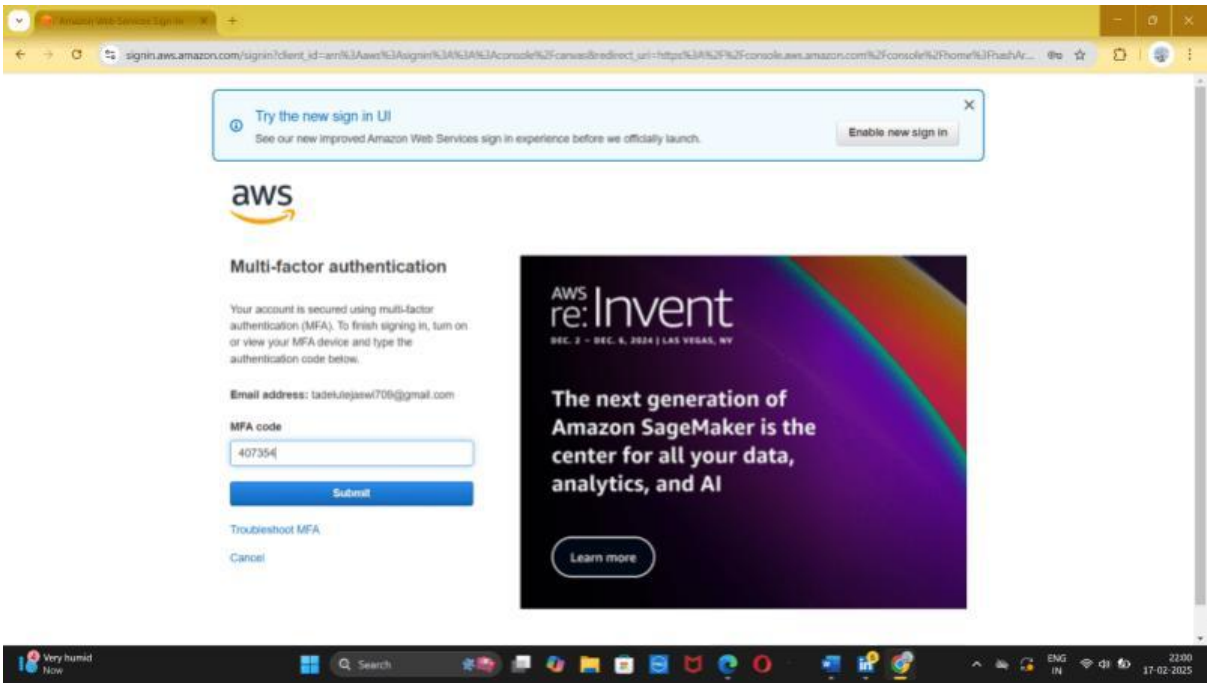
Step 6:-MFA device assigned



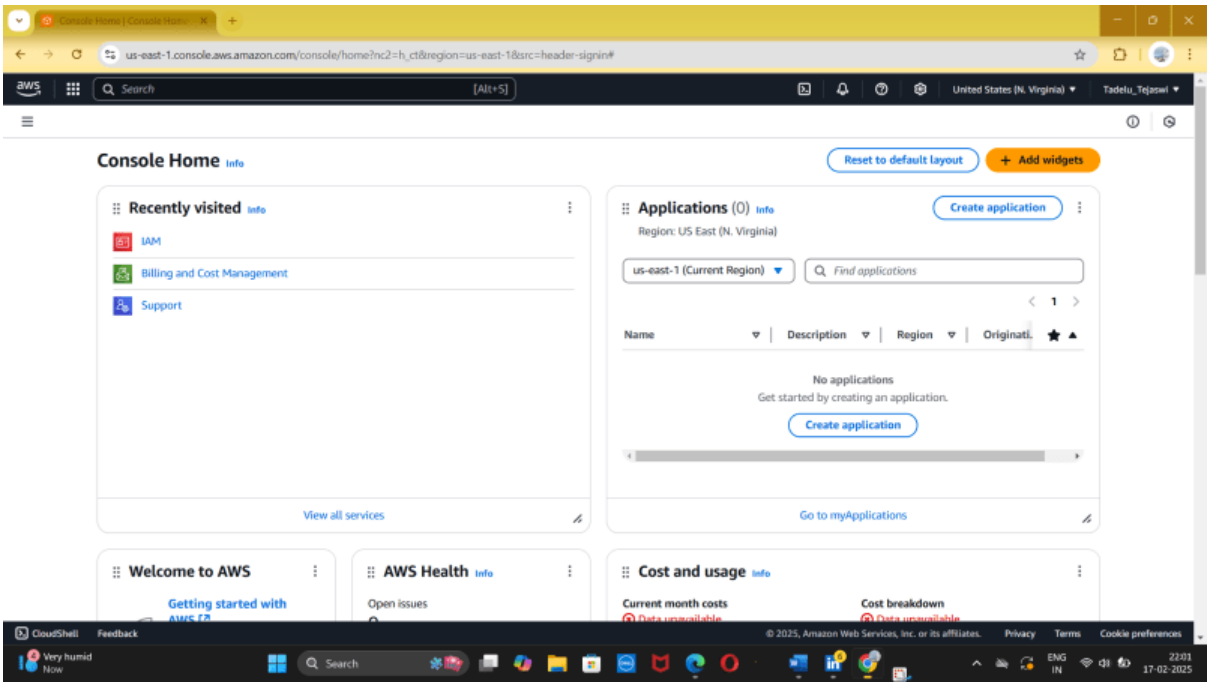
Step 7:- The device link will be appeared



Step 8:-Now sign out and sign in again



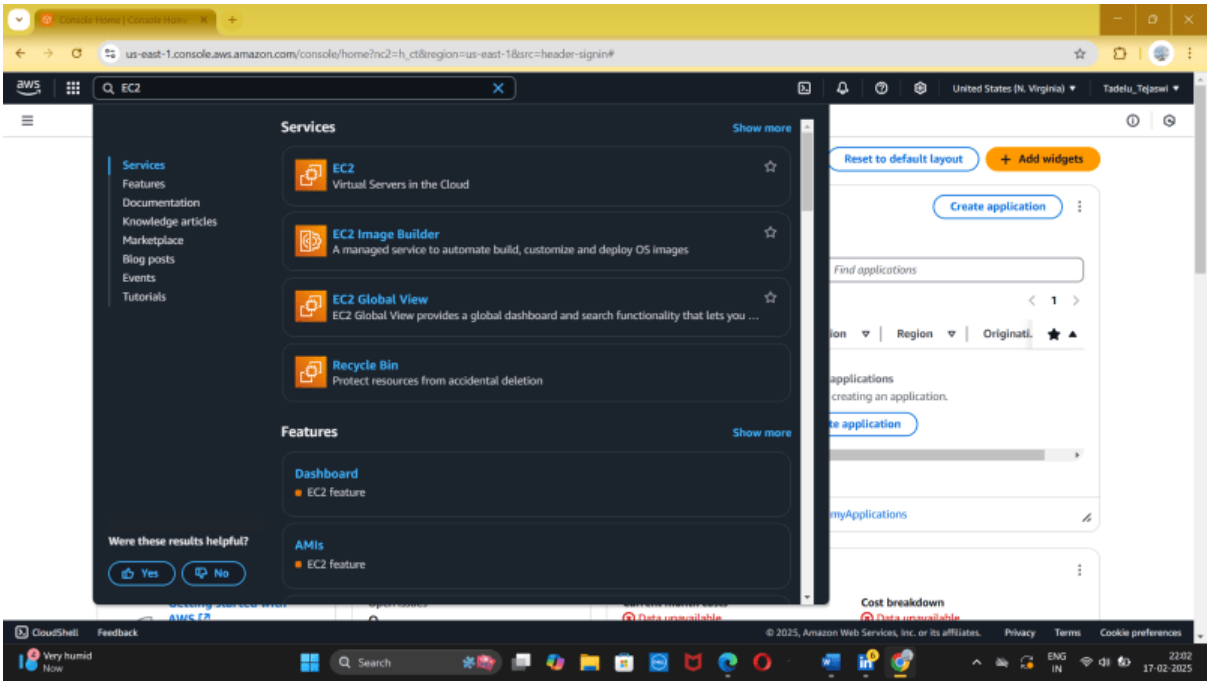
Step 9:- Your console home page will be opened


us-east-1.console.aws.amazon.com/console/home?nc2=h_ct&region=us-east-1&src=header-signin#
Search
[Alt+S]
United States (N. Virginia)
Tadelu_Tejaswi
Console Home Info
Reset to default layout
+ Add widgets
Recently visited Info
IAM
Billing and Cost Management
Support
View all services
Applications (0) Info
Create application
Region: US East (N. Virginia)
us-east-1 (Current Region)
Find applications
Name
Description
Region
Originati.
No applications
Get started by creating an application.
Create application
Go to myApplications
Welcome to AWS
Getting started with
AWS
AWS Health Info
Open issues
Cost and usage Info
Current month costs
Cost breakdown
CloudShell
Feedback
© 2025, Amazon Web Services, Inc. or its affiliates.
Privacy
Terms
Cookie preferences
Very humid
Now
Search
ENG
IN
22:01
17-02-2025

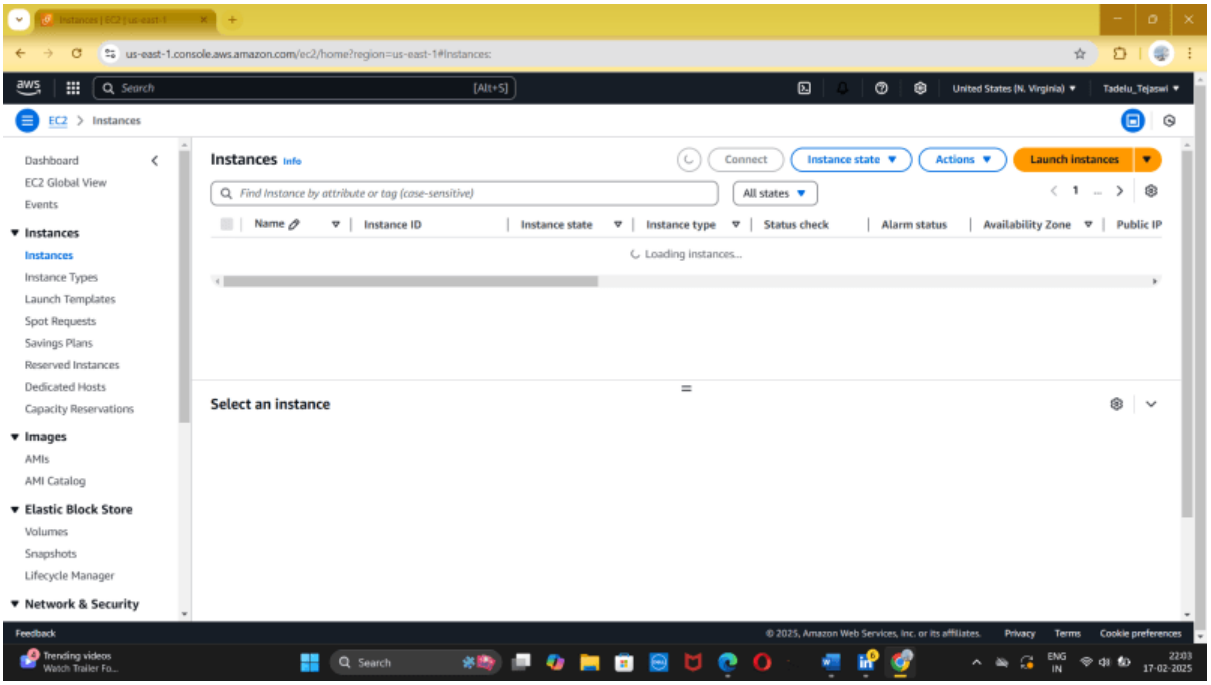
Project-15

• Elastic Compute Cloud (EC2)

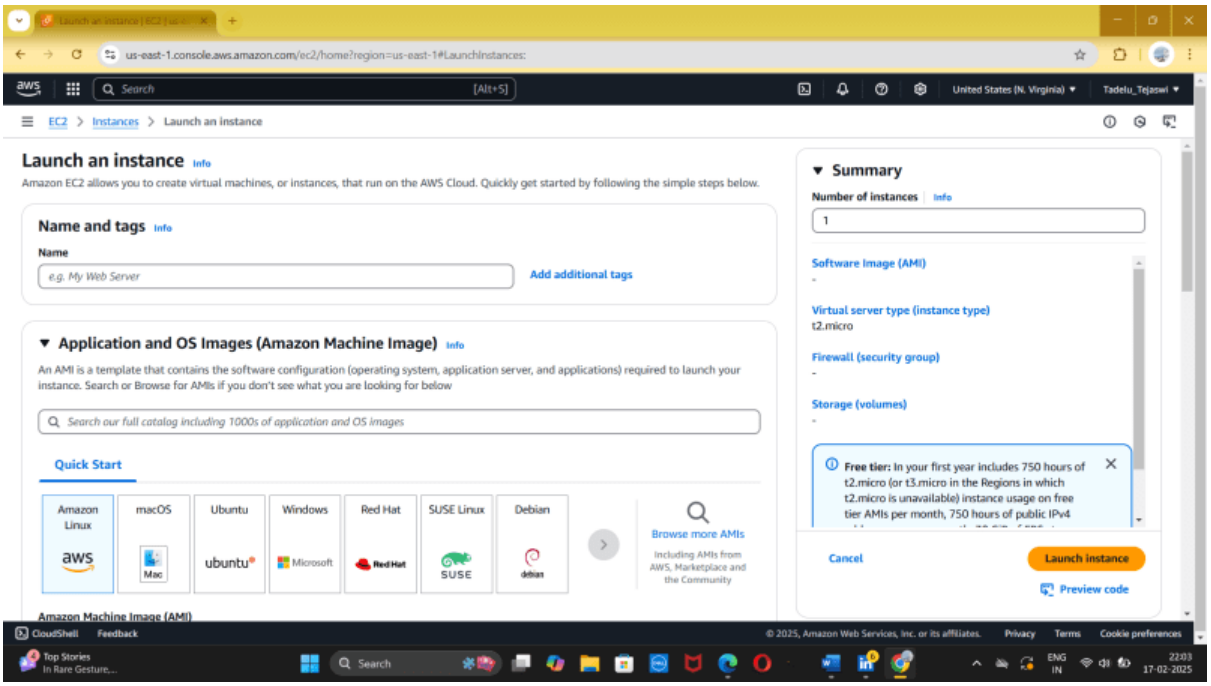
Step 1:-Search EC2 in the console page



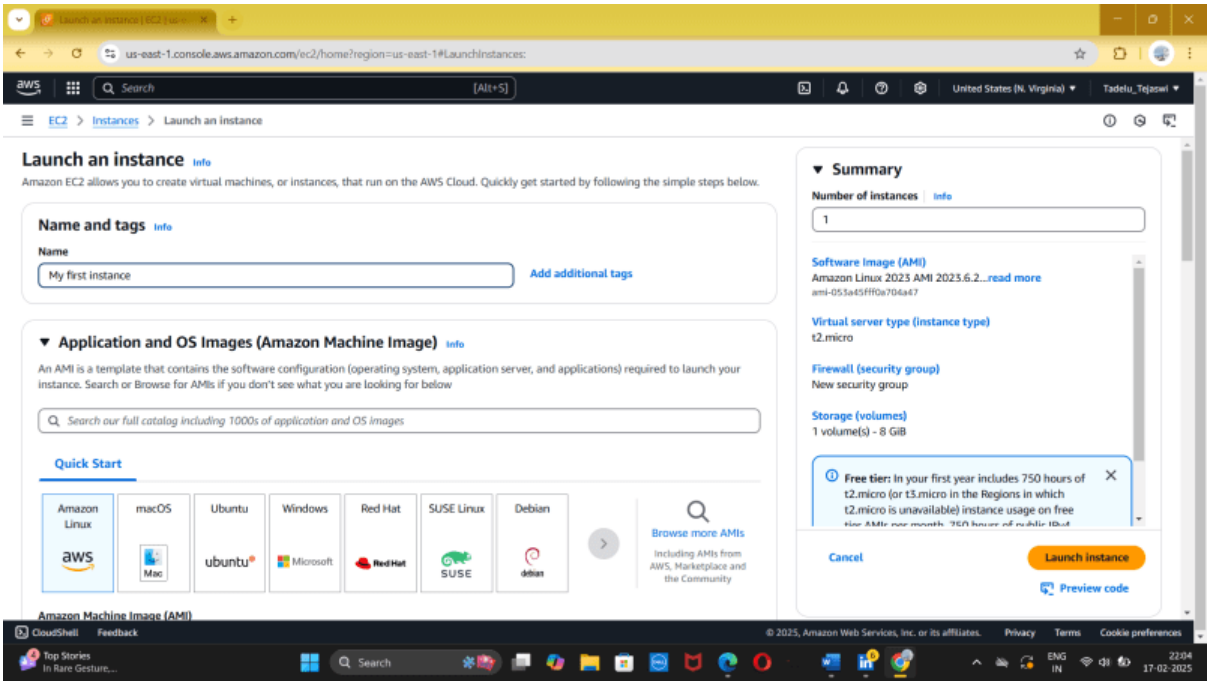
Step 2:- Click on Instance



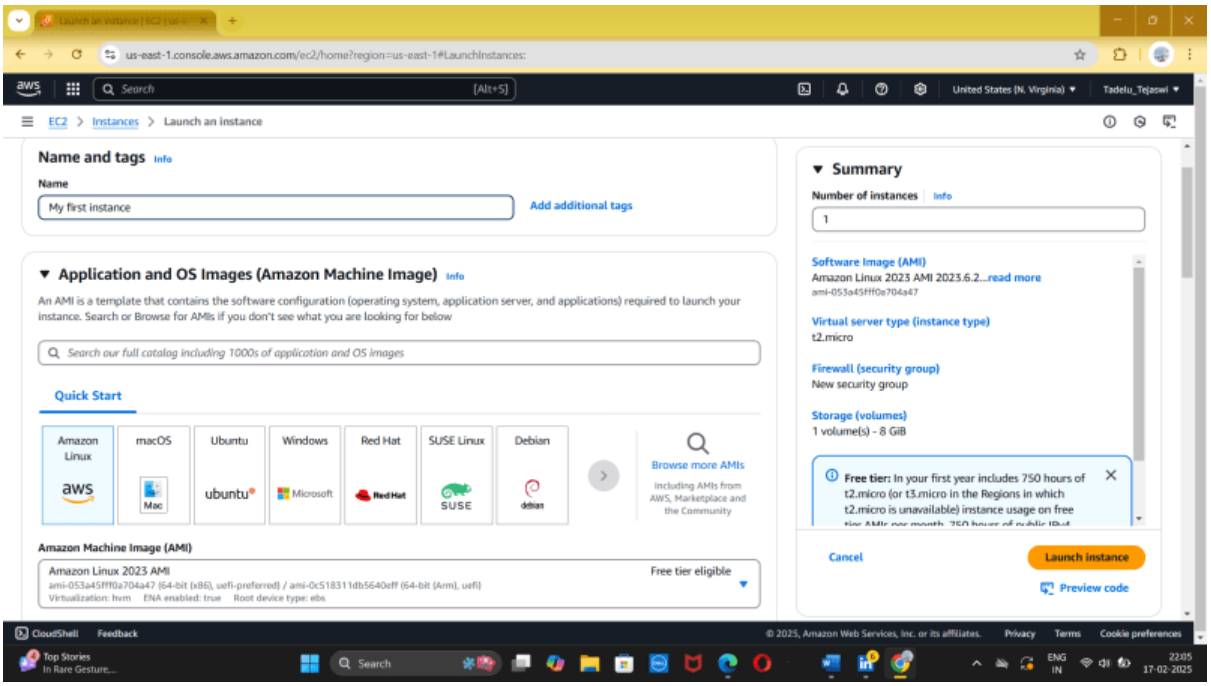
Step 3:- Click on launch instance



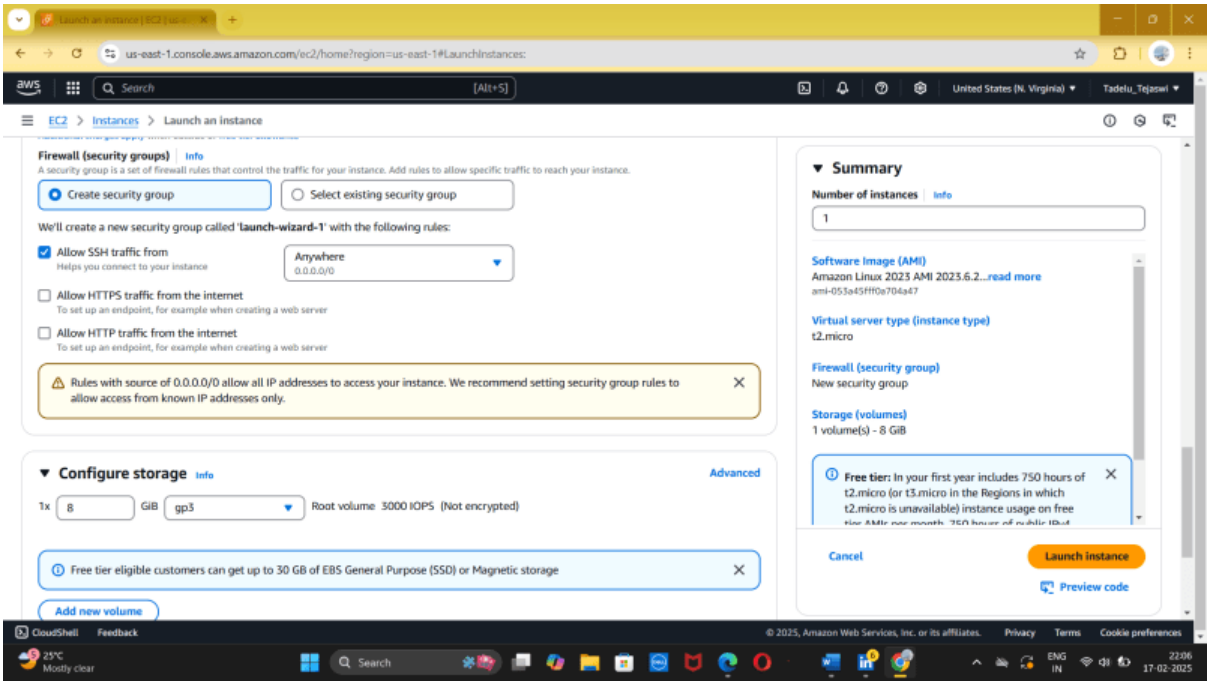
Step 4:- Define Name



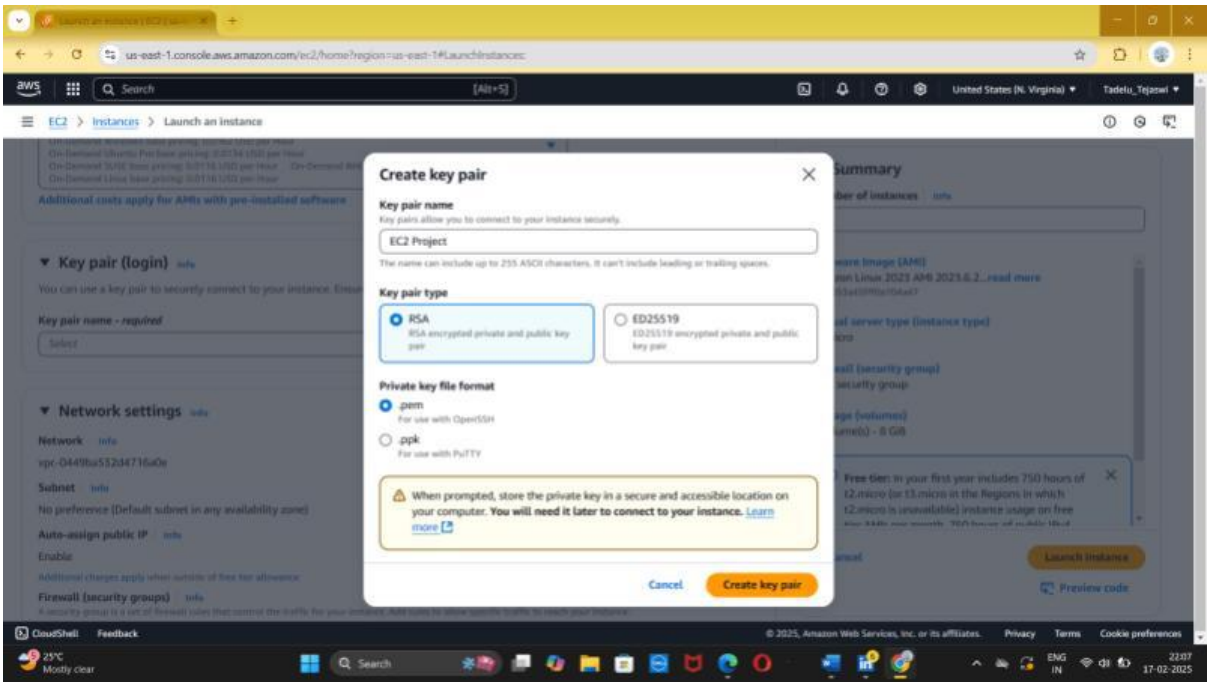
Step 5:- Choose Amazon Linux



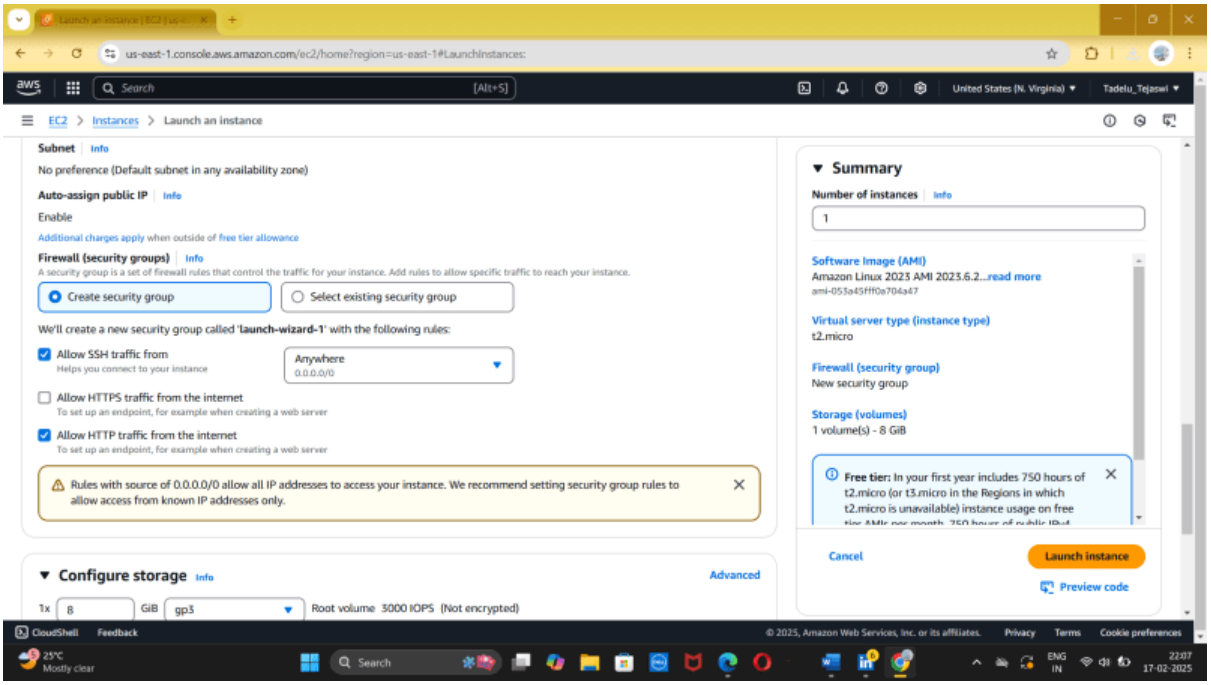
Step 6:-Choose instance type



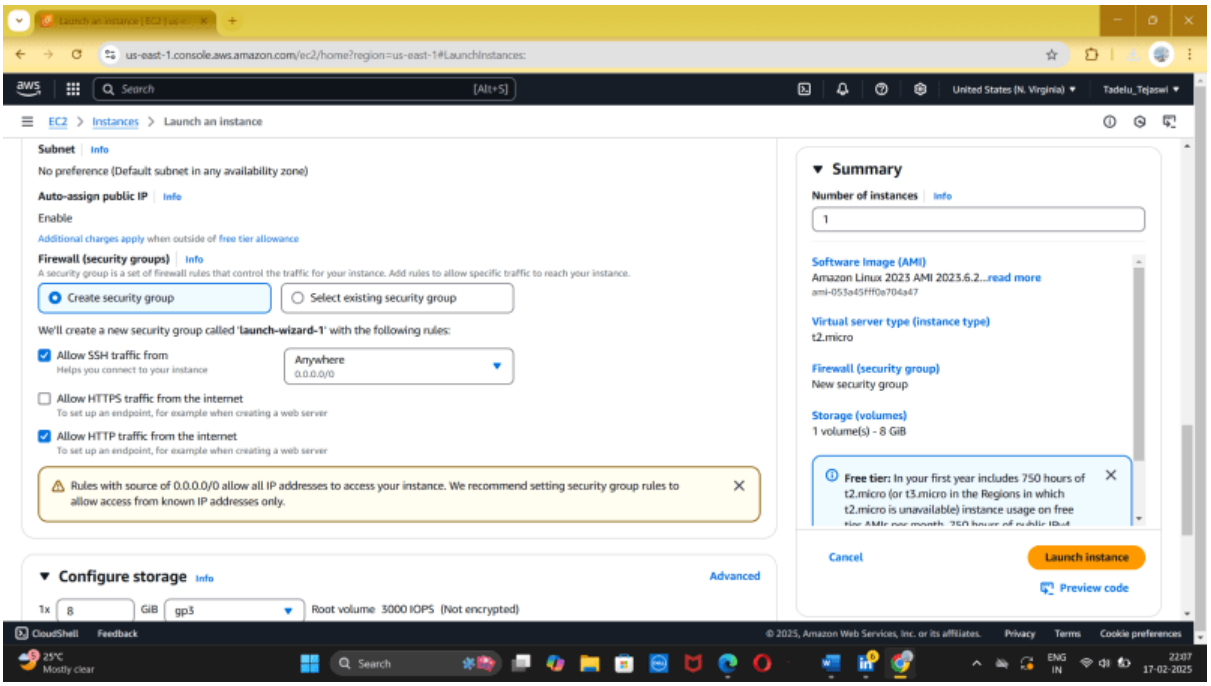
Step 7:-Click on create new key pair and define key pair name and click on create key pair



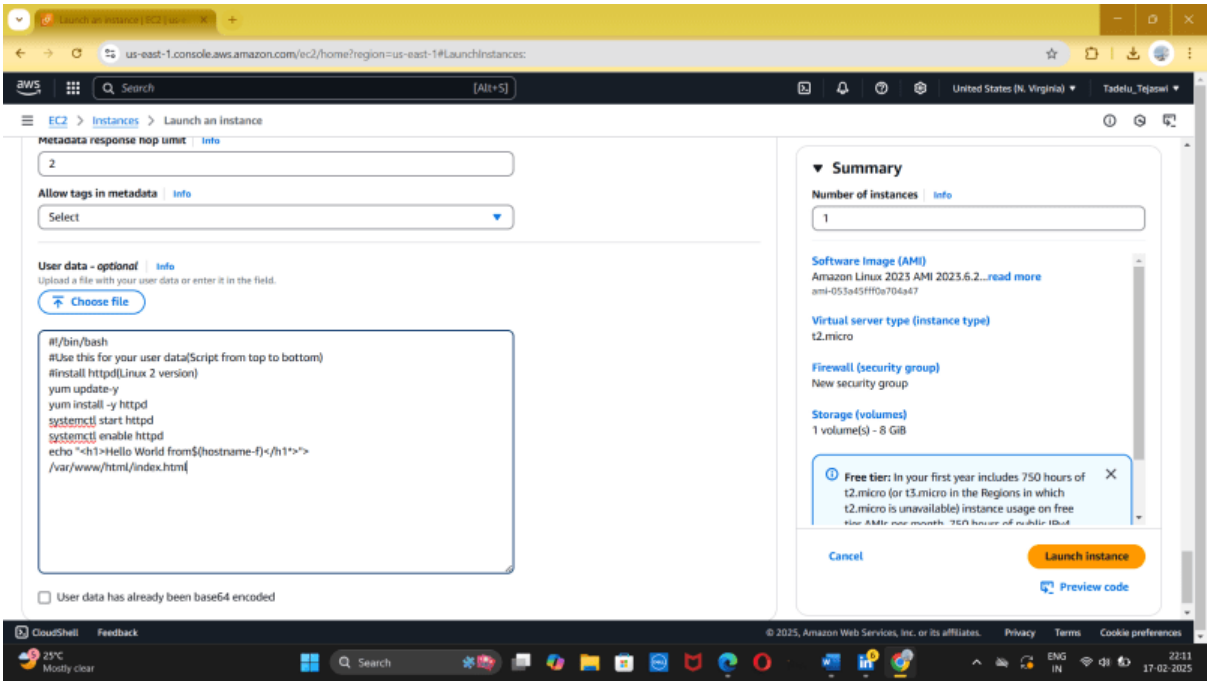
Step 8:-In the Network settings, Select allow SSH ana Http



Step 9:- Have a look on configure storage

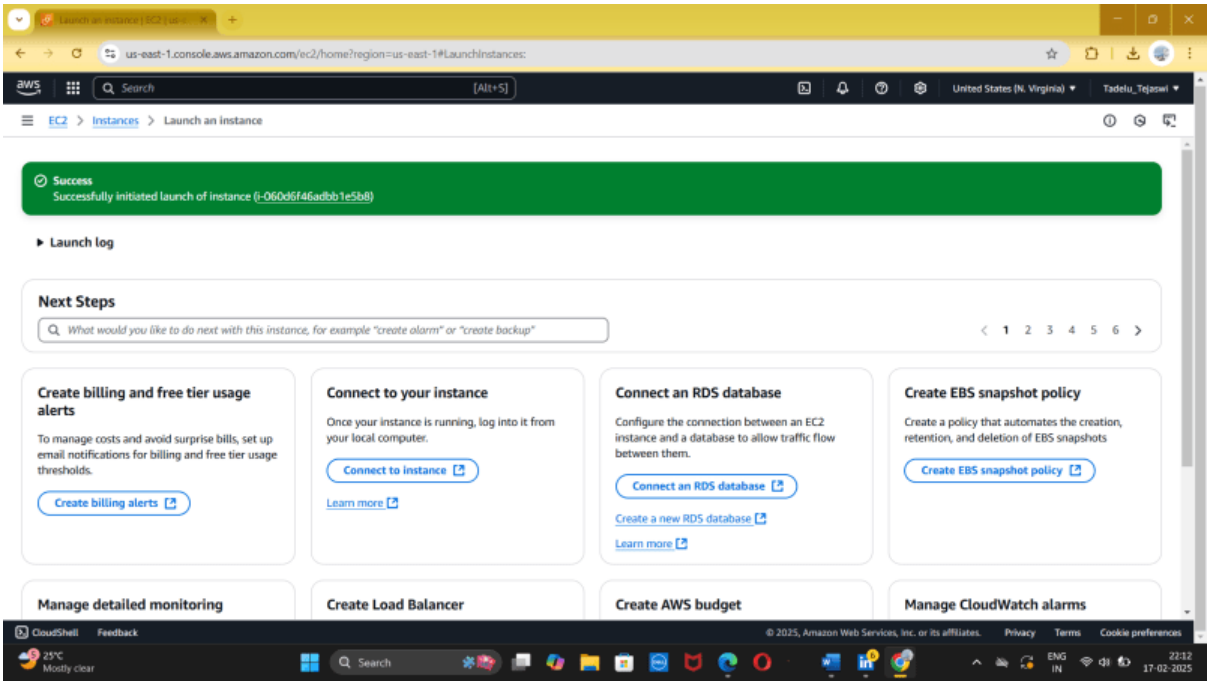


Step 10:-Click on Advanced Details and write the code. Now have a look on summary and click on Launch instance

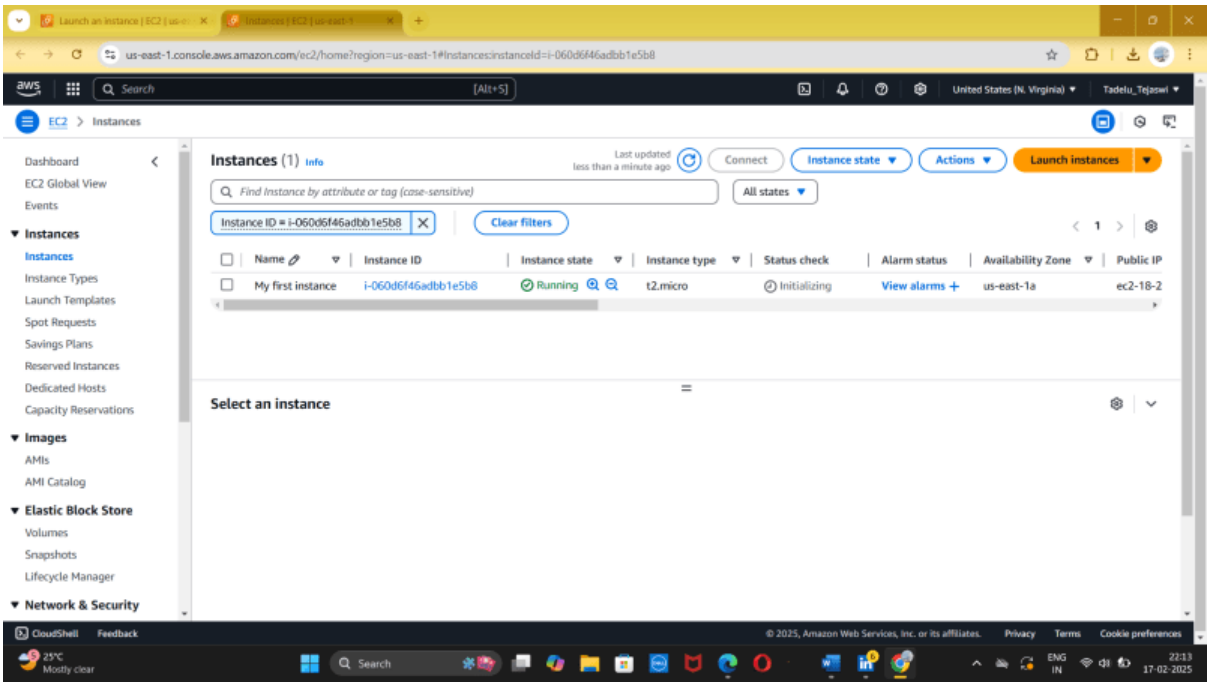


```
#! / bin/bash

# Use this for your user data (script from top to bottom)

# Install httpd (Linux 2 version)

Yum update -y

Yum Install -y httpd

Systemctl start httpd

Systemctl enable httpd

Echo “<h1>Hello World from $(hostname-f) </h3”>

/var/www/html/index.html
```

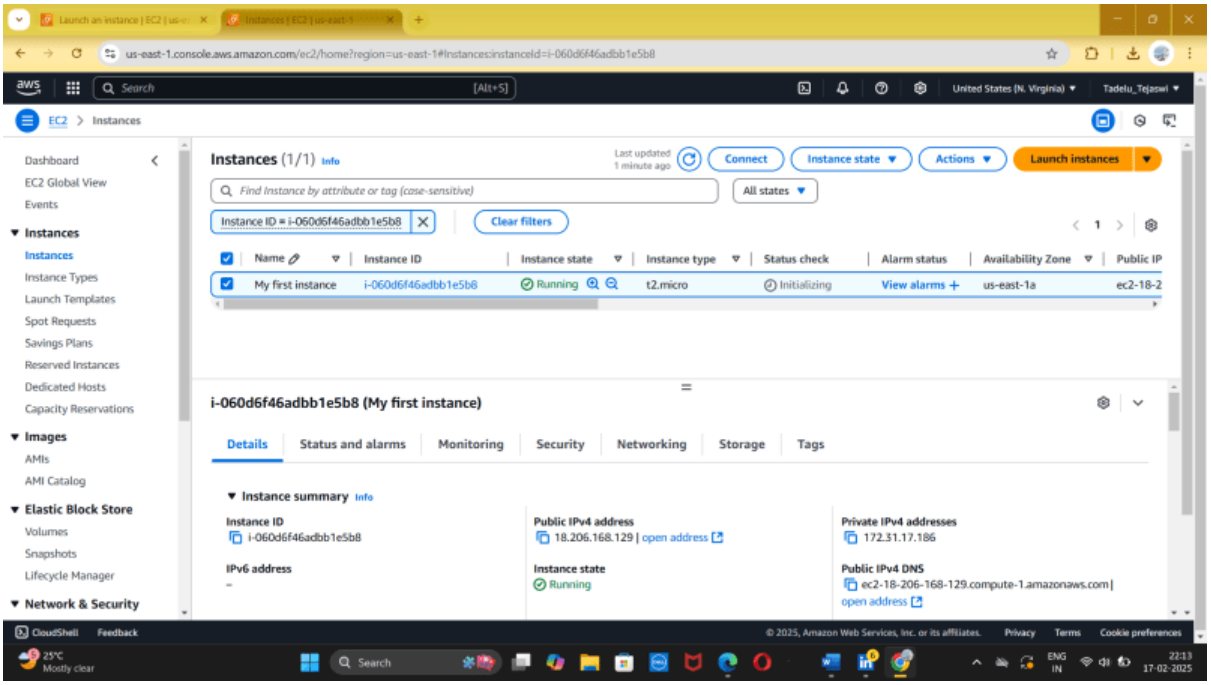
Step 11:-Successfully instance will be launched



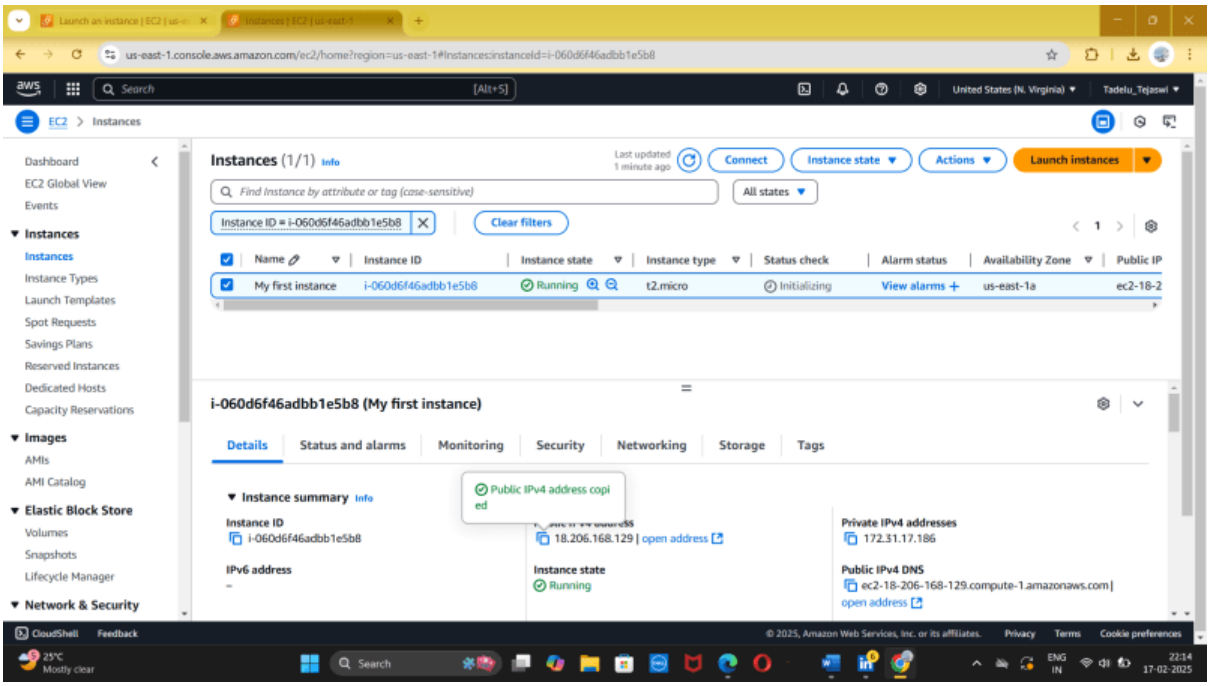
Step 12:-Now click on instance and check your first instance, it take 30 seconds to update. Please wait and refresh the page, we can see its running



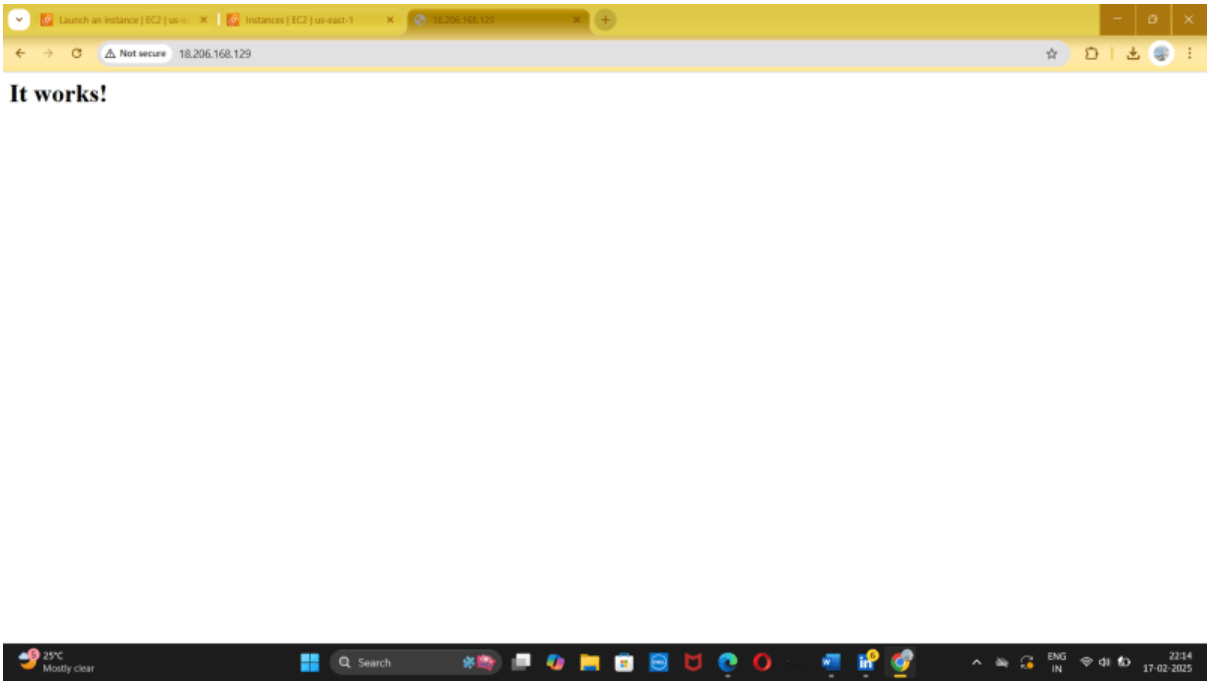
Step 13:- Click on my first instance and you can see the details down



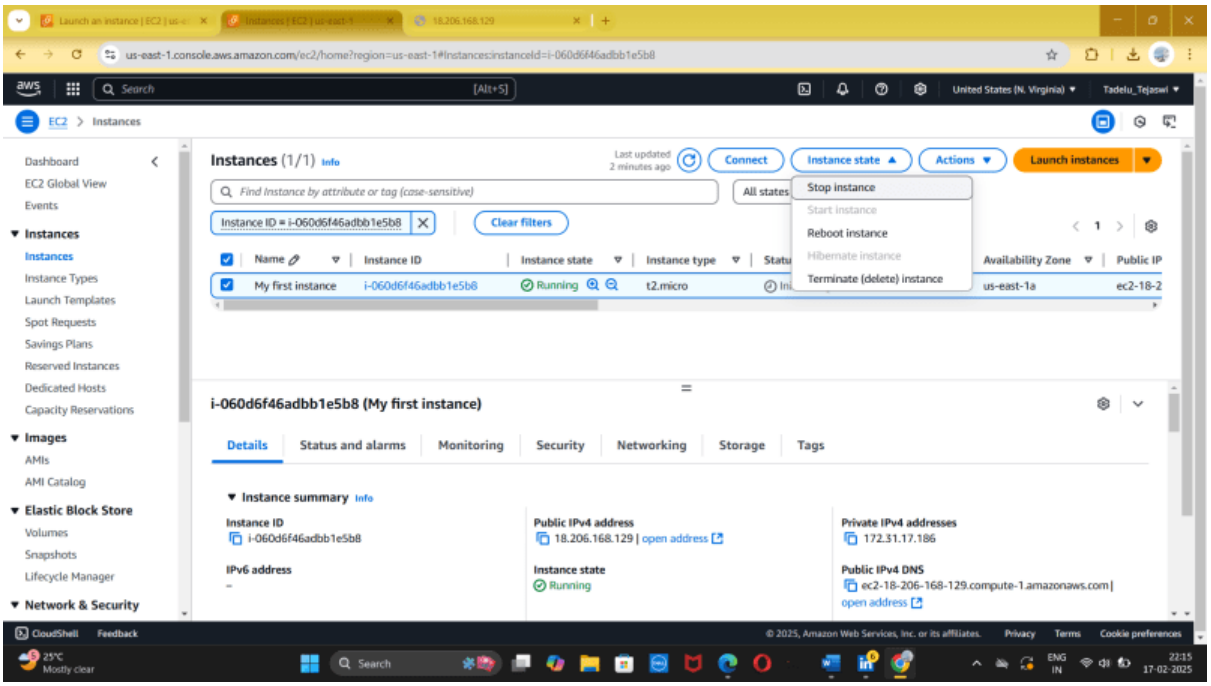
Step 14:-Copy the public IP Address



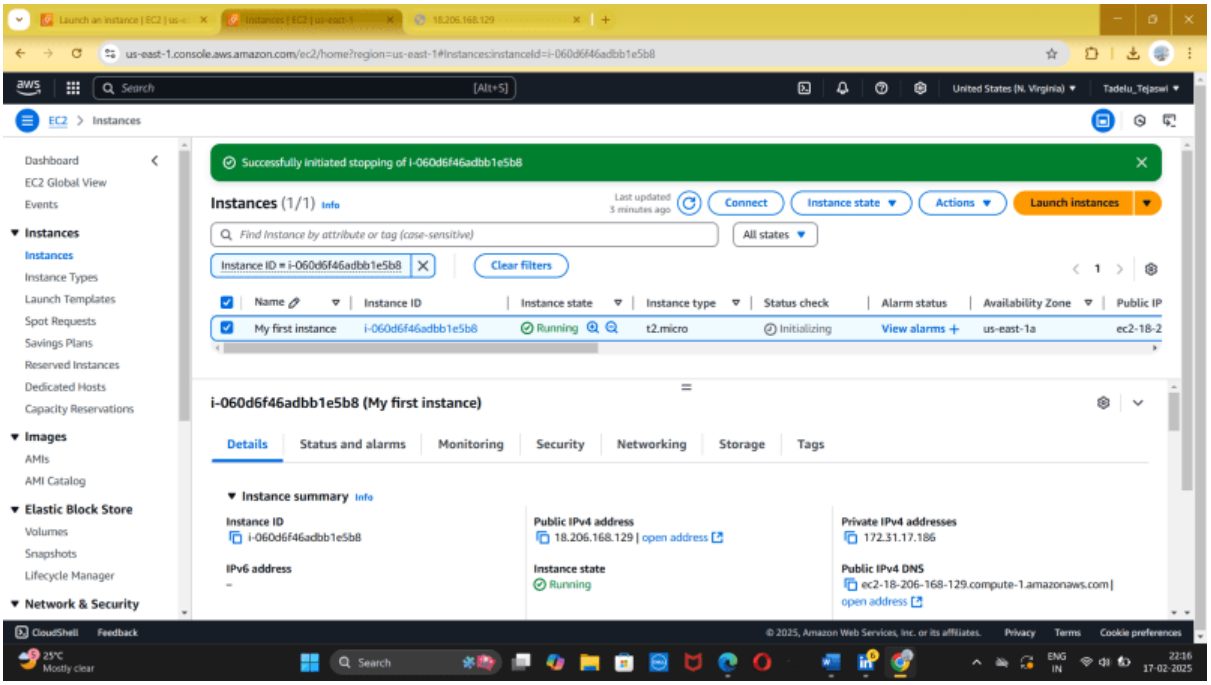
Step 15:-Paste the URL in the new browser and run it



Step 16:- Now stop to avoid billing from AWS



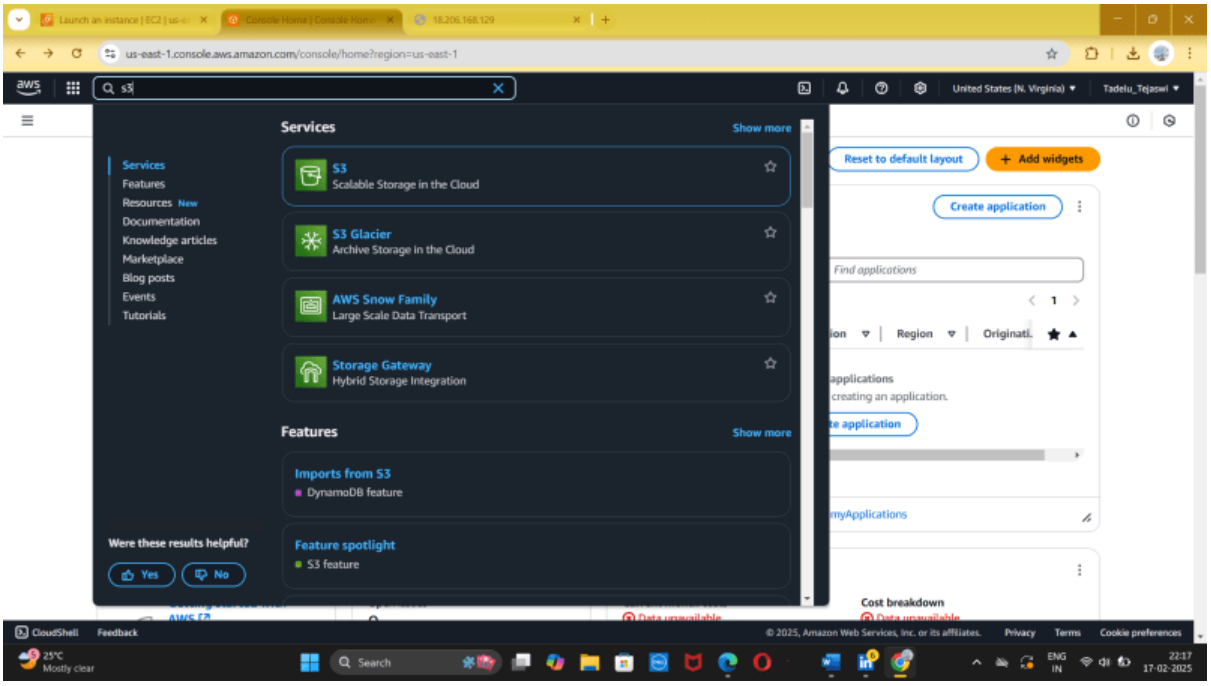
Step 17:- Successfully stopped.



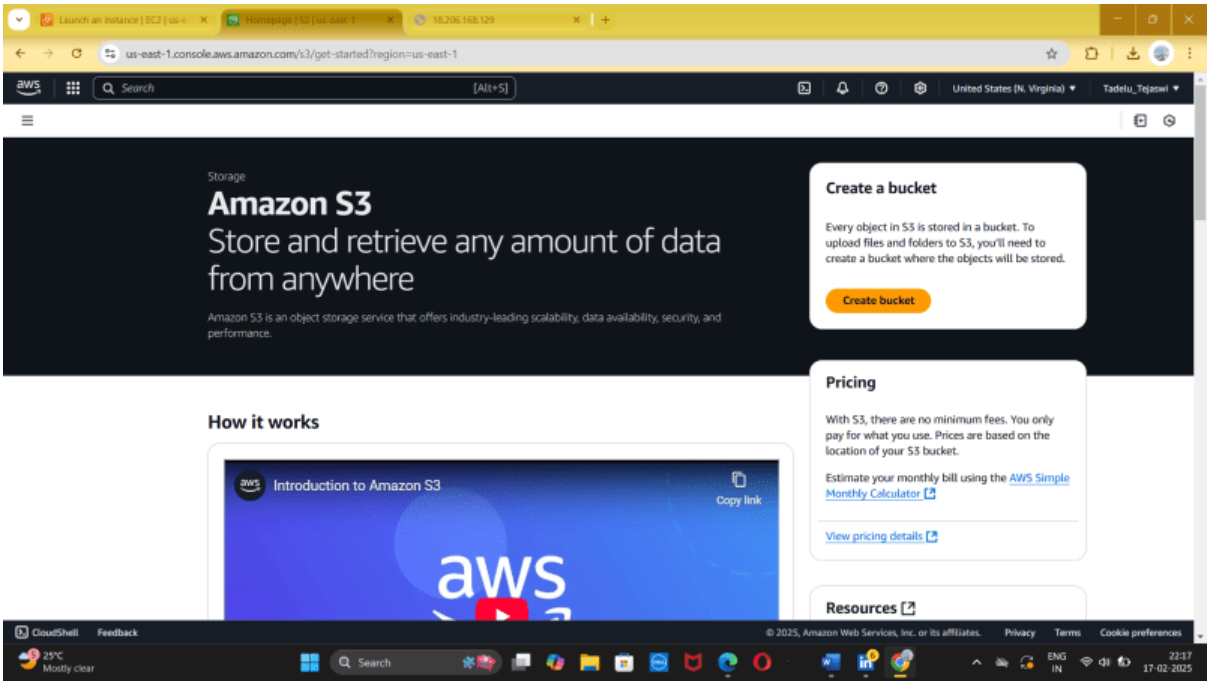
Project-16

- Creating of S3 Buckets and Objects

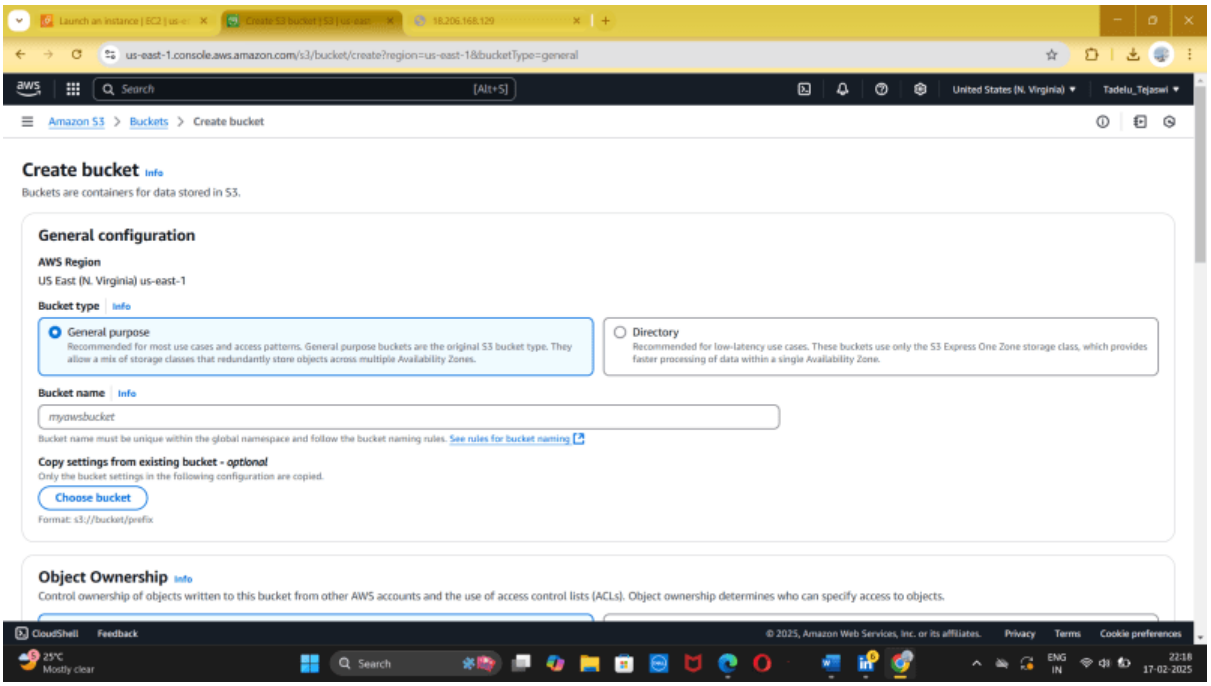
Step 1:-Search S3 in the console home page



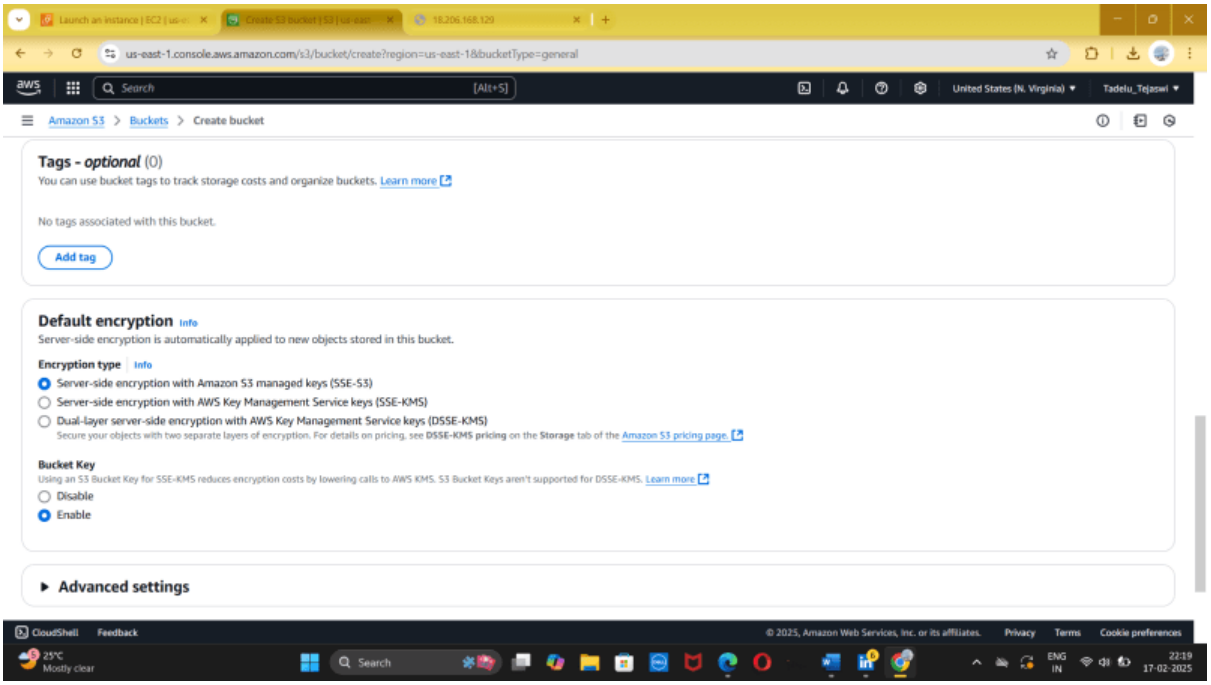
Step 2:- Click on create object



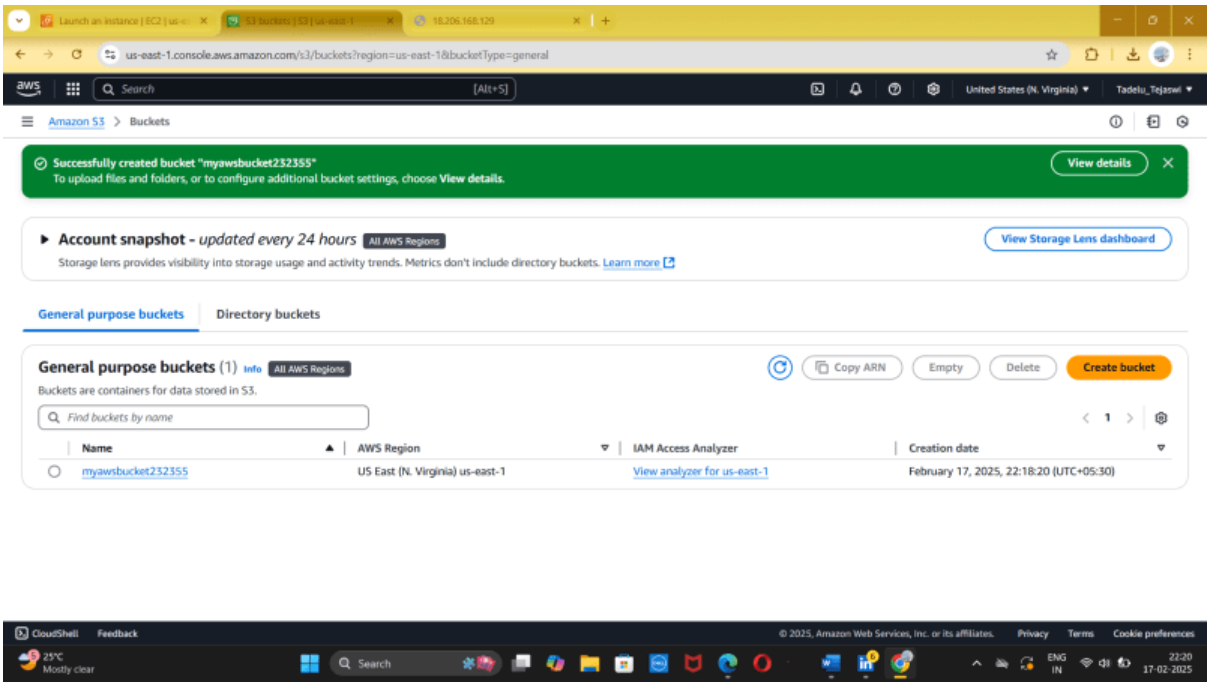
Step 3:-Define AWS Region and Bucket name



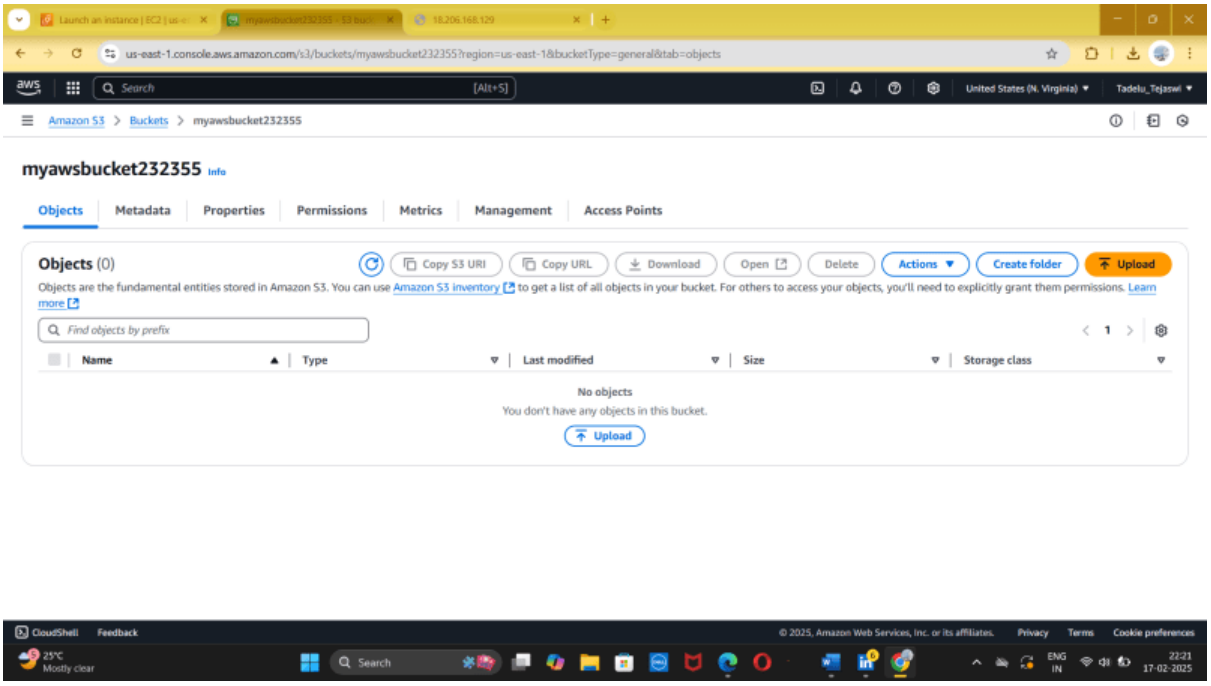
Step 4:- Have a look on default settings and click on create Bucket.



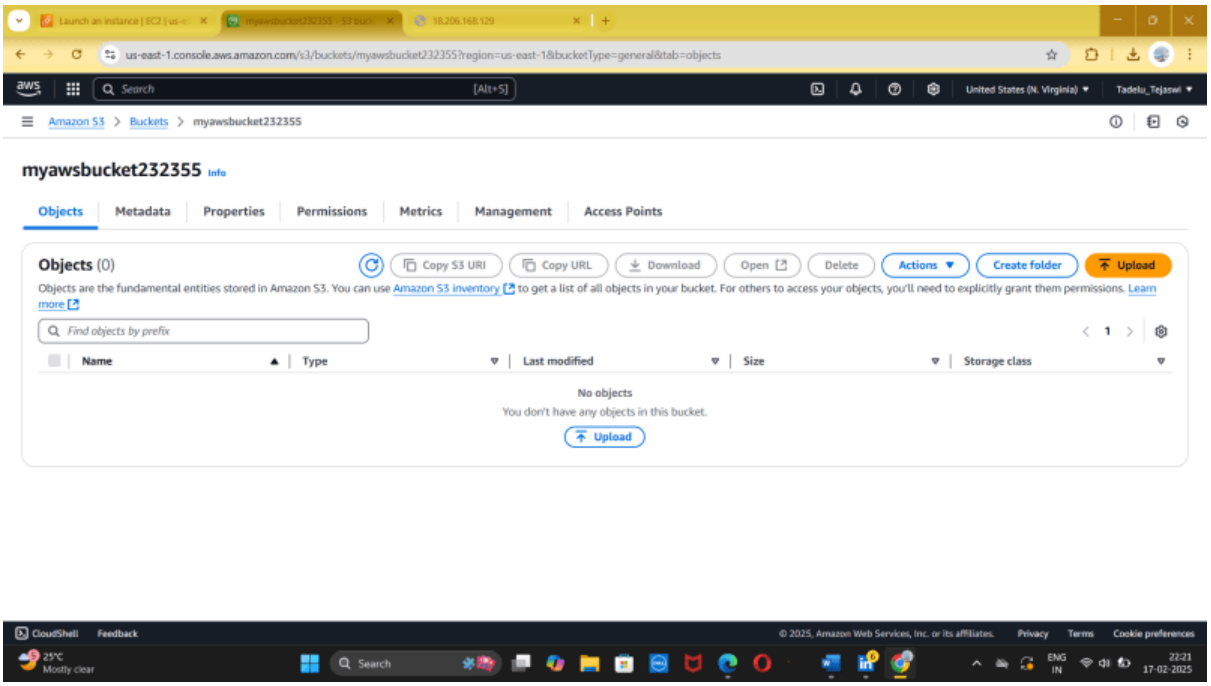
Step 5:-Successfully bucket will be created



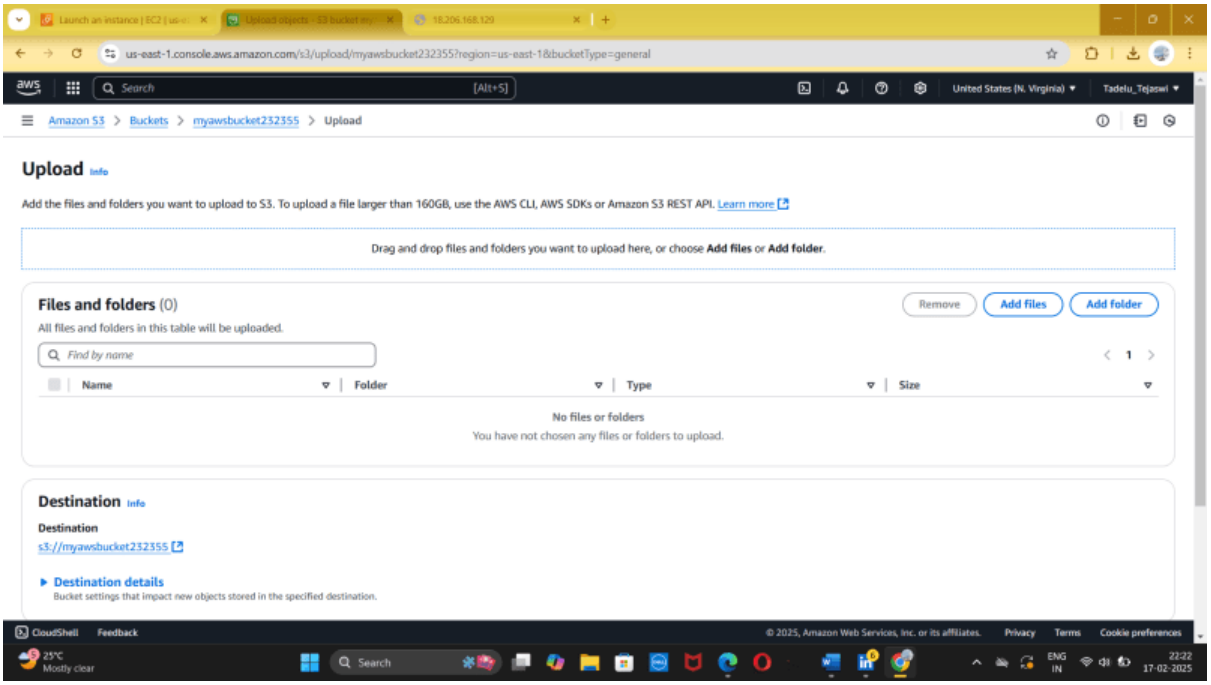
Step 6:- Click on your bucket



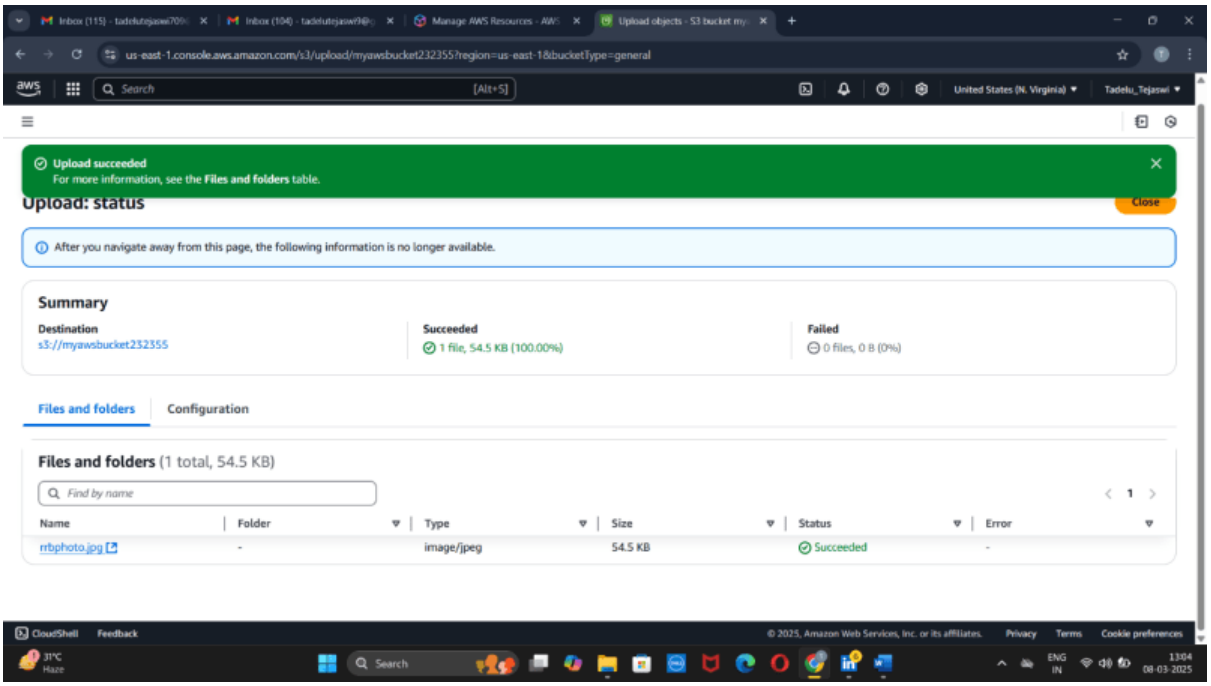
Step 7:- 0 objects will be appeared



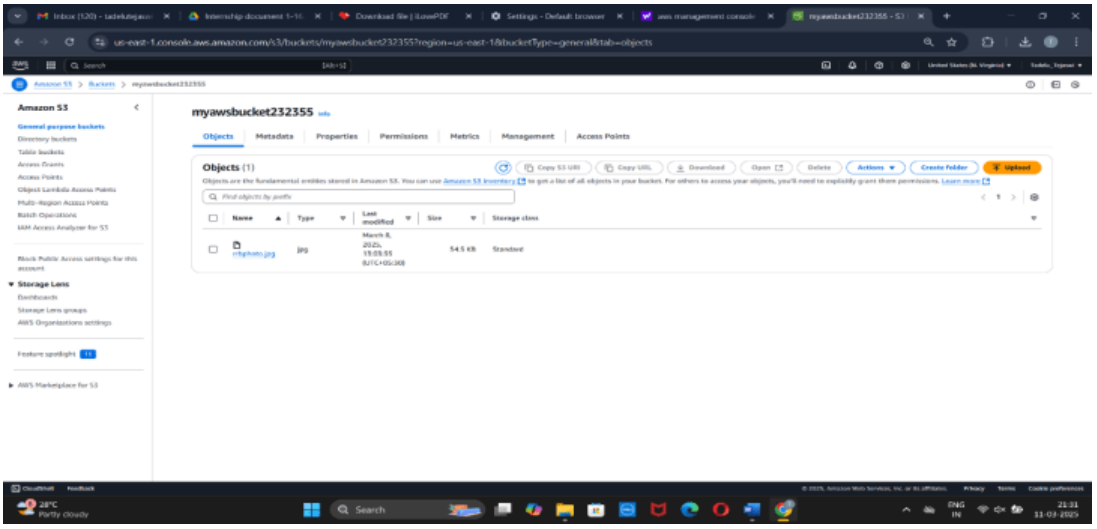
Step 8:- Click on upload. Click on upload object and click on upload



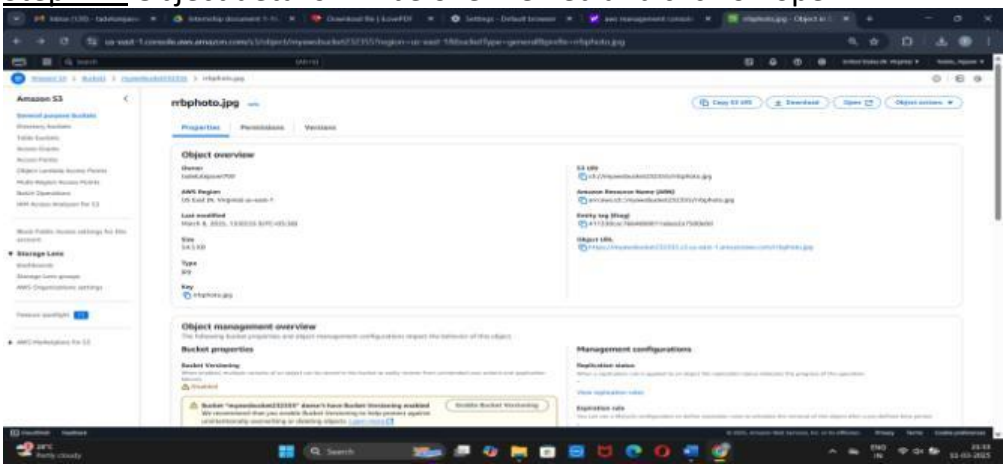
Step 9: Successfully will be uploaded



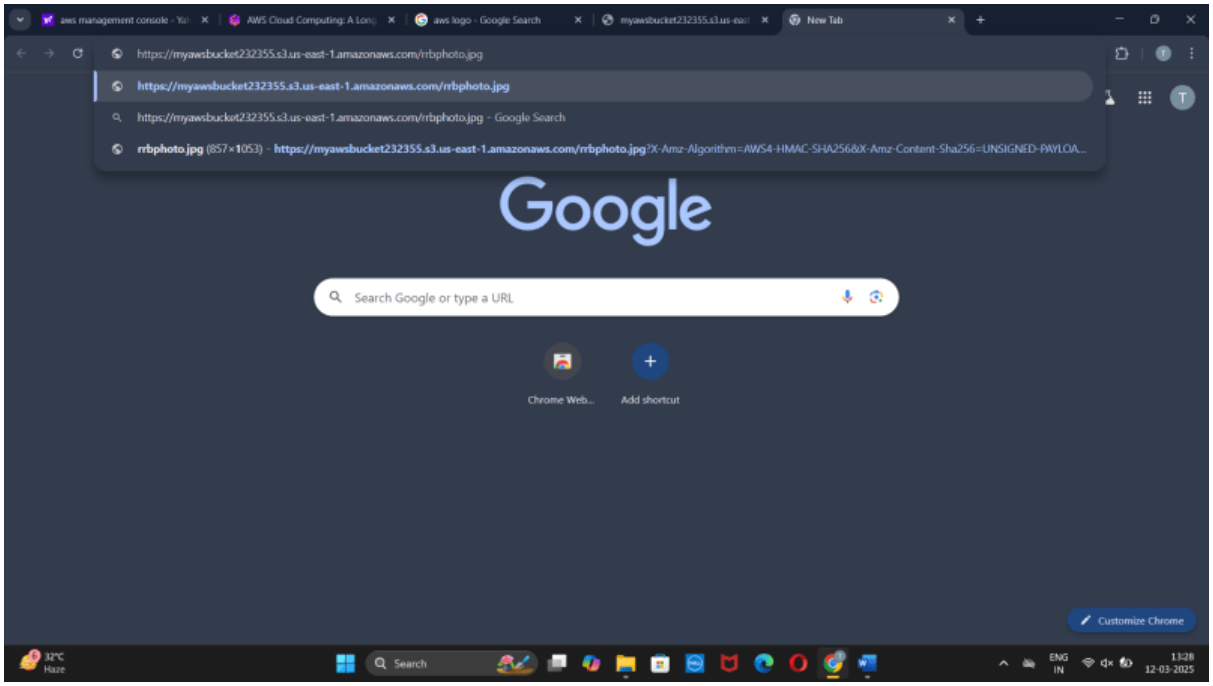
Step 10: Go to objects and click on the object you have created

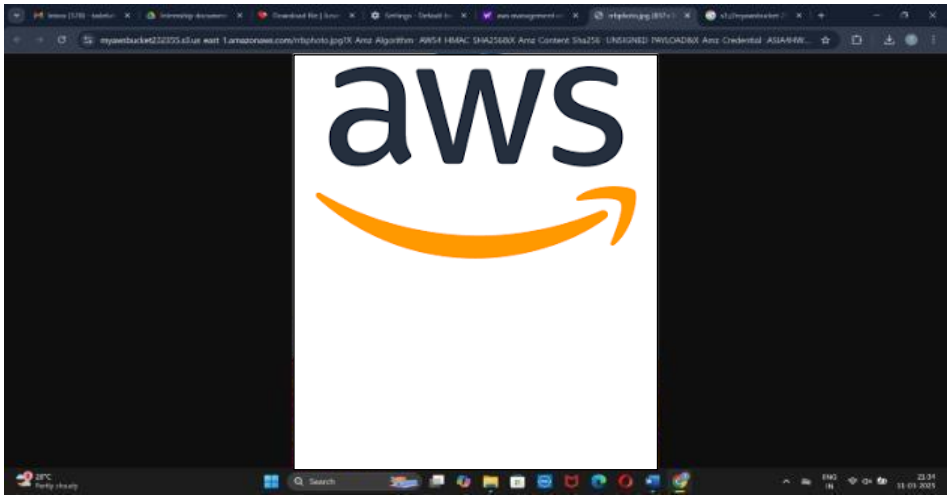


Step 11:- Object details will be overviewed and click on open

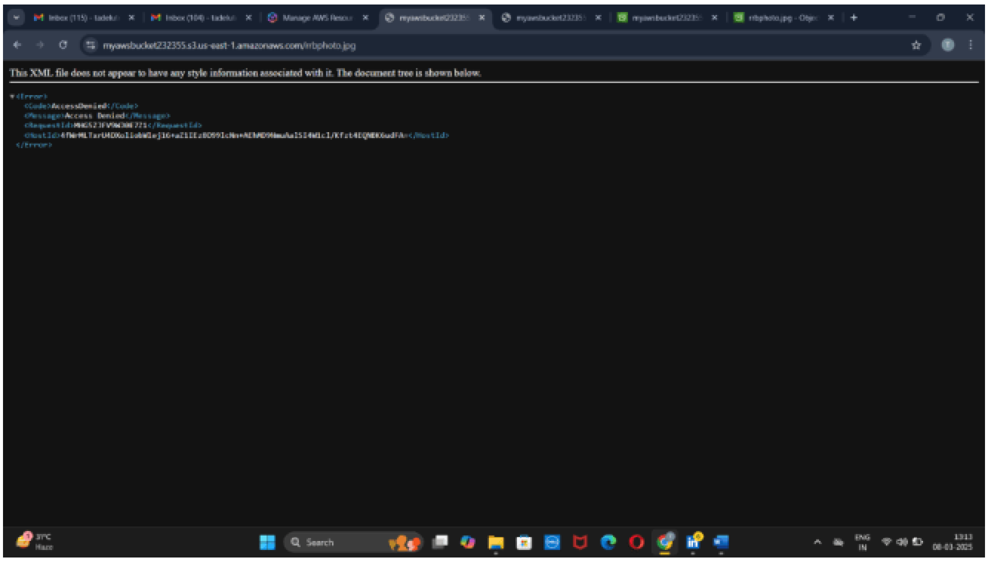


Step 12:-Copy the URL and open it





Step 13:- Object denied


myawsbucket232355.s3.us-east-1.amazonaws.com/rrbphoto.jpg
This XML file does not appear to have any style information associated with it. The document tree is shown below.
<Error>
<Code>AccessDenied</Code>
<Message>Access Denied</Message>
</Error>

ADHOC NETWORK TECH, VIZAG

ADITYA DEGREE COLLEGE, RAMNAGAR(LONG TERM INTERNSHIP)

RESTRICT EC2 ACTIONS USING IAM POLICIES

MINI PROJECT-1

TEAM MEMBERS
T.Tejaswi
D.Tejaswini
K.chinmayi
M.sravanthi
K.vijaya joytha

MARCH 7, 2025

ADHOC NETWORK TECH
VISAKHAPATNAM

INTRODUCTION

In cloud environments, managing permissions effectively is crucial to ensuring security and operational efficiency. AWS Identity and Access Management (IAM) allows fine-grained control over user actions. This project focuses on creating an IAM policy to restrict EC2 instance actions—permitting users to start and stop instances while preventing them from terminating any. This ensures operational flexibility without the risk of accidental or unauthorized instance deletion.

By implementing this policy, organizations can enforce better governance, protect critical workloads, and minimize accidental disruptions while still allowing necessary instance management operations.

Cloud security is a key aspect of managing AWS resources effectively. AWS Identity and Access Management (IAM) enables administrators to define fine-grained permissions for users and roles. In this project, we will create an IAM policy that restricts EC2 instance actions—allowing users to start and stop instances but preventing them from terminating them.
This restriction is crucial for maintaining operational stability, preventing accidental data loss, and enforcing governance policies in an AWS environment. By implementing this policy, organizations can ensure that instances remain protected from unintended deletions while still granting users the flexibility to manage compute resources as needed. This approach enhances security, reduces downtime risks, and aligns with best practices in cloud management.

Additionally, this policy can be customized to include more granular permissions based on specific user roles and responsibilities. For instance, administrators may allow developers to restart instances but restrict modifications to instance configurations or security groups. This ensures that users have only the necessary permissions required for their tasks, reducing the risk of misconfigurations or unauthorized changes.

Implementing IAM policies also supports compliance with security standards and organizational policies. Many industries require strict access control to prevent unauthorized resource modifications. By restricting EC2 instance termination, businesses can align their cloud security strategies with best practices, ensuring accountability and reducing potential vulnerabilities.

Furthermore, this policy can be integrated with AWS CloudTrail to monitor and log all user actions related to EC2 instances. This enhances transparency and provides insights into access patterns, helping organizations audit changes and investigate any unauthorized attempts to terminate instances. Combining IAM policies with logging and monitoring tools strengthens overall cloud governance and security posture.

In conclusion, implementing an IAM policy to restrict EC2 instance termination enhances security, operational stability, and compliance within an AWS environment. It ensures that users can manage instances efficiently without the risk of accidental deletion, safeguarding critical workloads. By combining this policy with monitoring and auditing tools, organizations can strengthen their cloud governance, maintain better control over resource management, and align with industry best practices for security and access control.

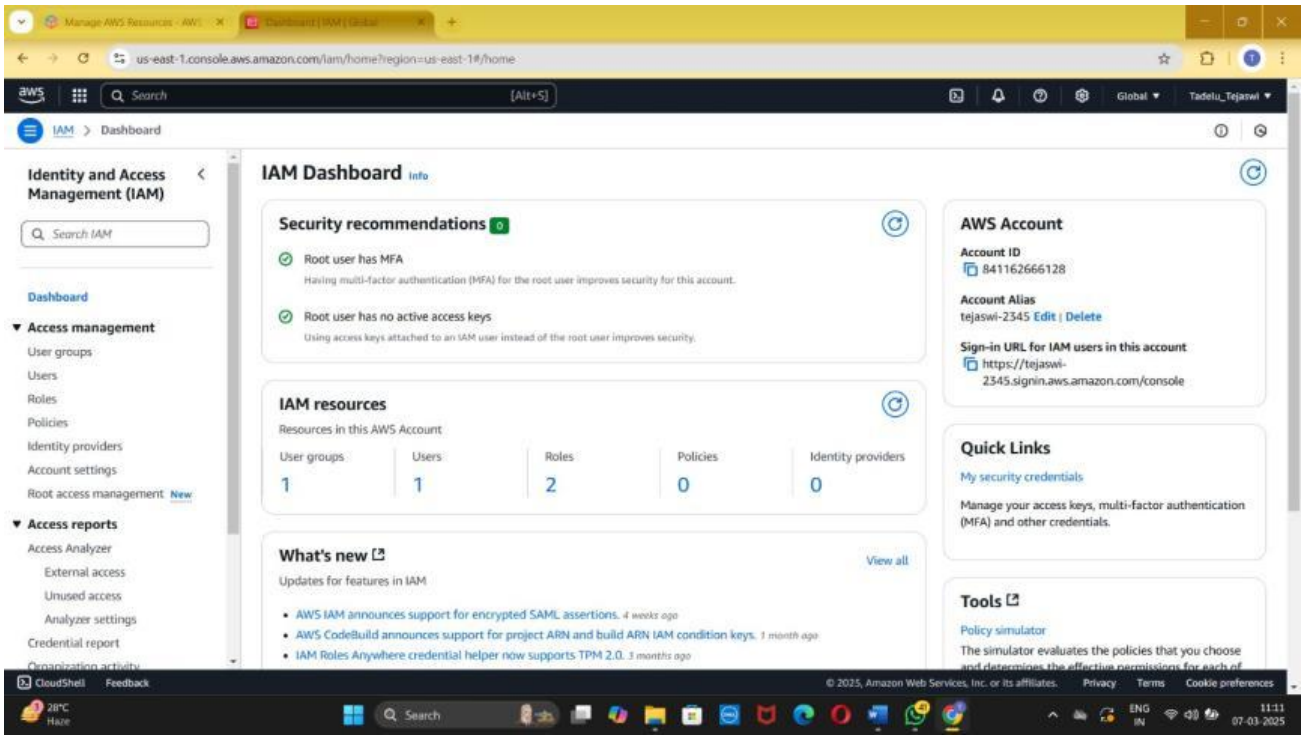
ALGORITHM

- ***Create an IAM Policy:***
  - ***Open the AWS IAM Console.***
  - ***Navigate to Policies and click Create Policy.***
- ***Define the JSON Policy:***
  - ***Allow ec2: StartInstances and ec2: StopInstances.***
  - ***Deny ec2: TerminateInstances.***
- ***Attach the Policy to Users/Roles:***
  - ***Go to IAM Users or IAM Roles.***
  - ***Attach the newly created policy to the intended users or roles.***
- ***Test the Policy:***
  - ***Log in as a user with this policy.***
  - ***Attempt to start, stop, and terminate an EC2 instance.***
  - ***Ensure that termination is blocked while the other actions are allowed.***

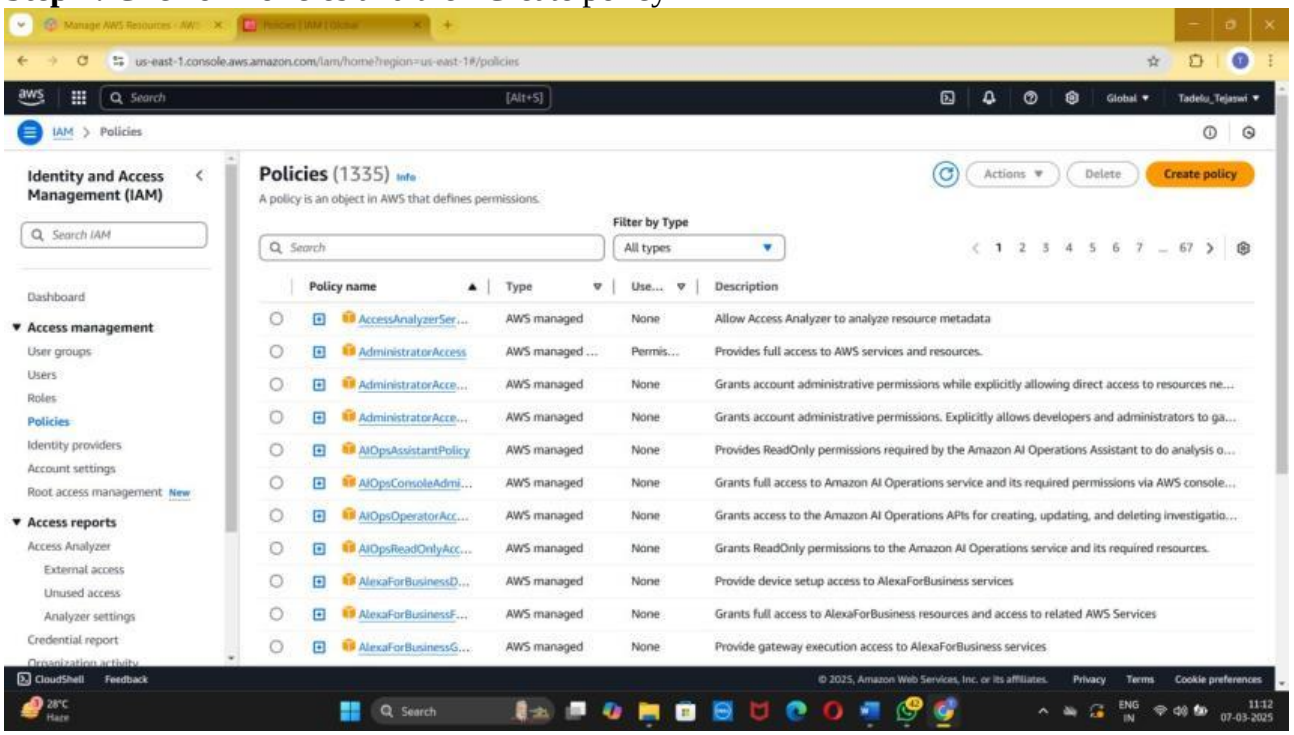
MINI PROJECT 1

PROJECT NAME: CREATE A POLICY THAT ALLOWS USERS TO START OR STOP EC2 INSTANCES BUT NOT TERMINATE THEM.

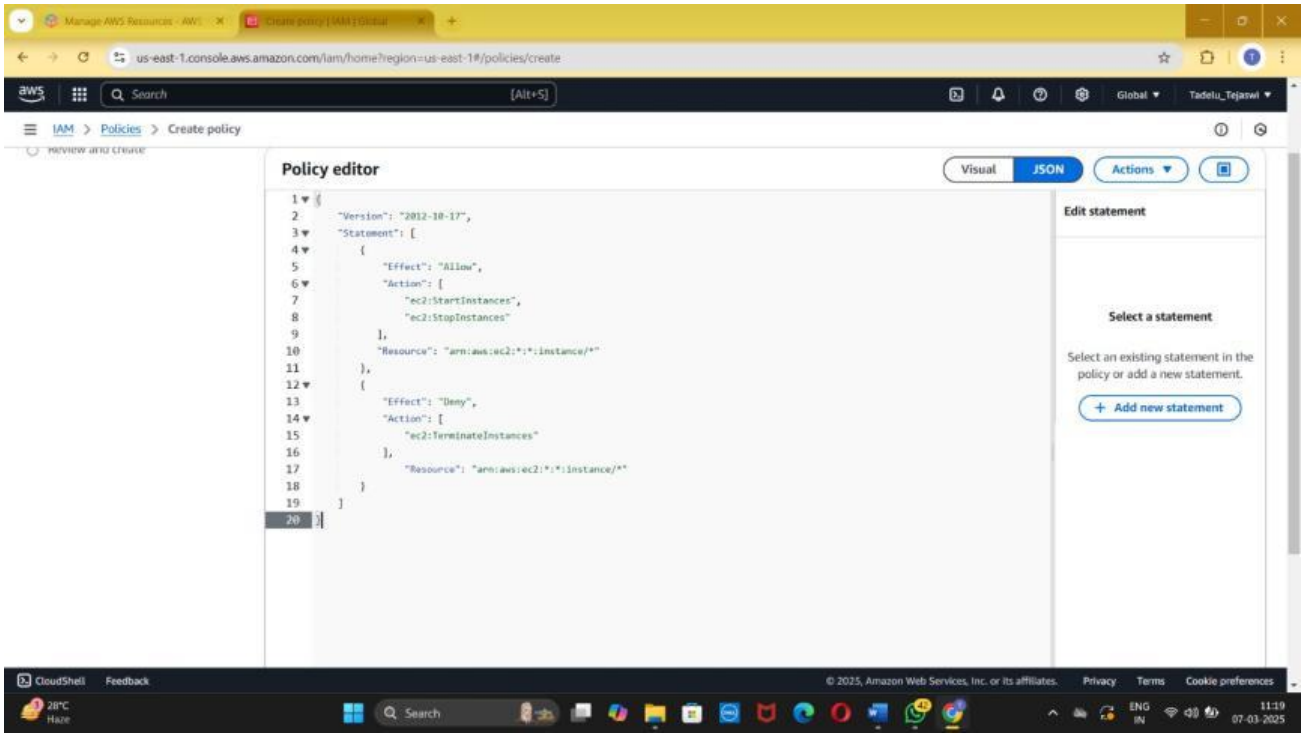
Step 1: Login in to the AWS with Rootuser



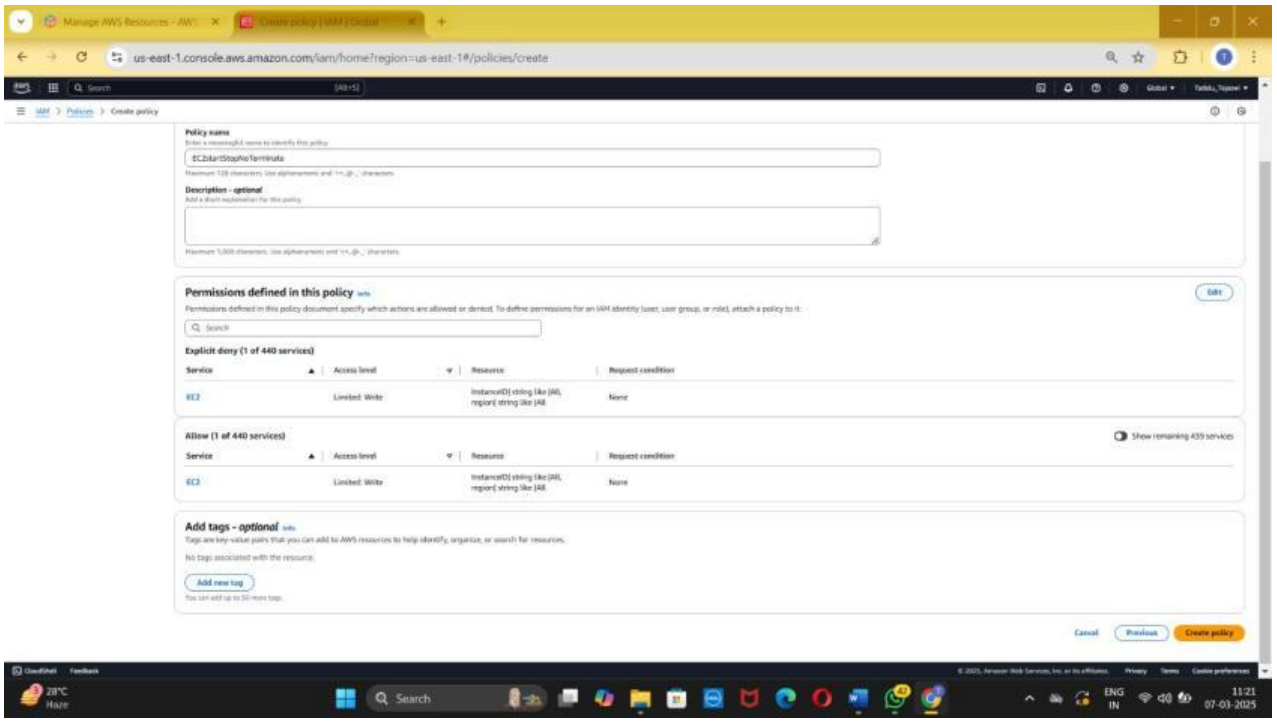
Step 2: Click on Policies and then Create policy



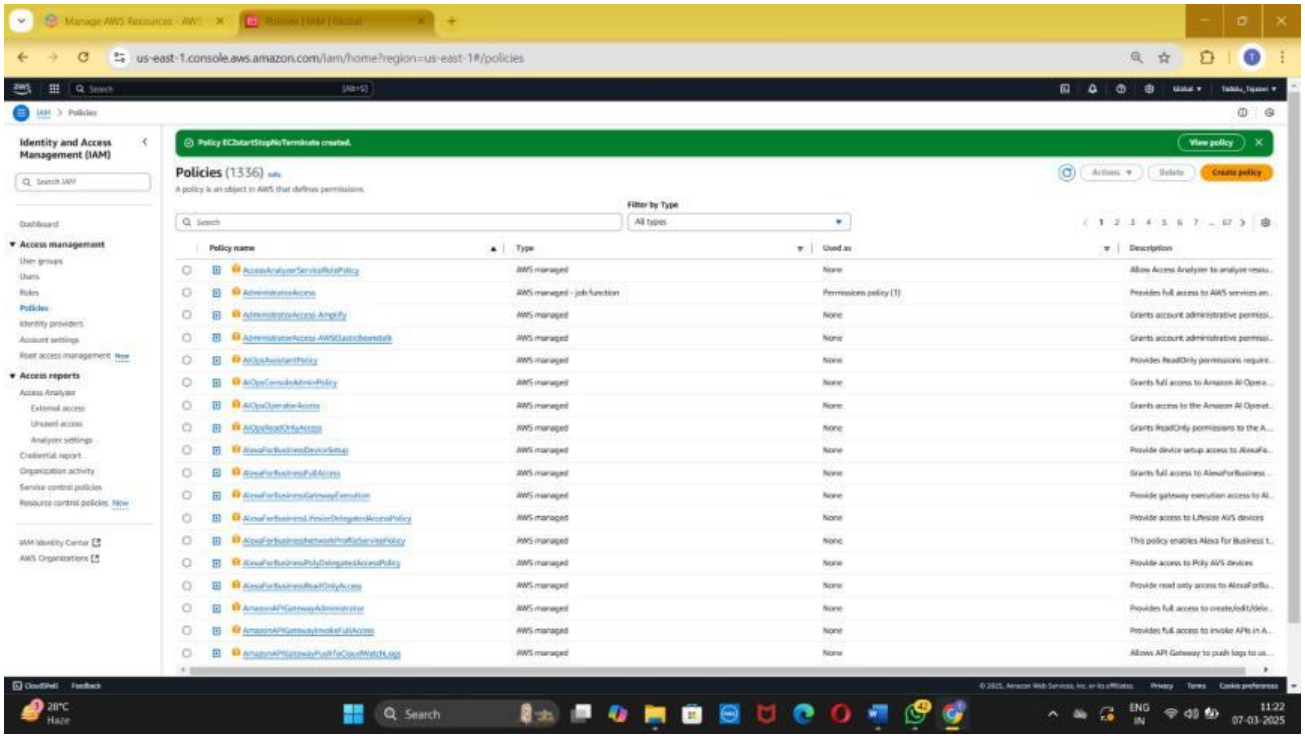
Step 3: After clicking on create policies then select JSON on tab and enter the code



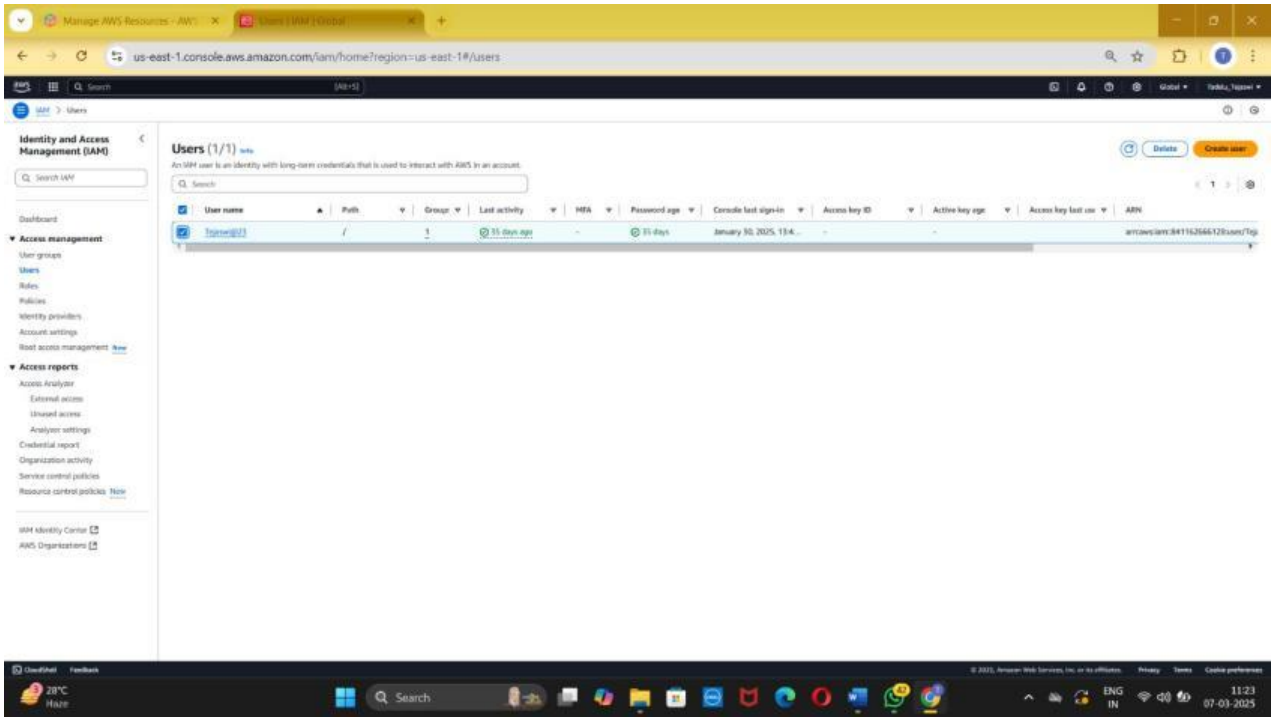
Step 4: After entering the code click on next and give the policy name then click on create policy



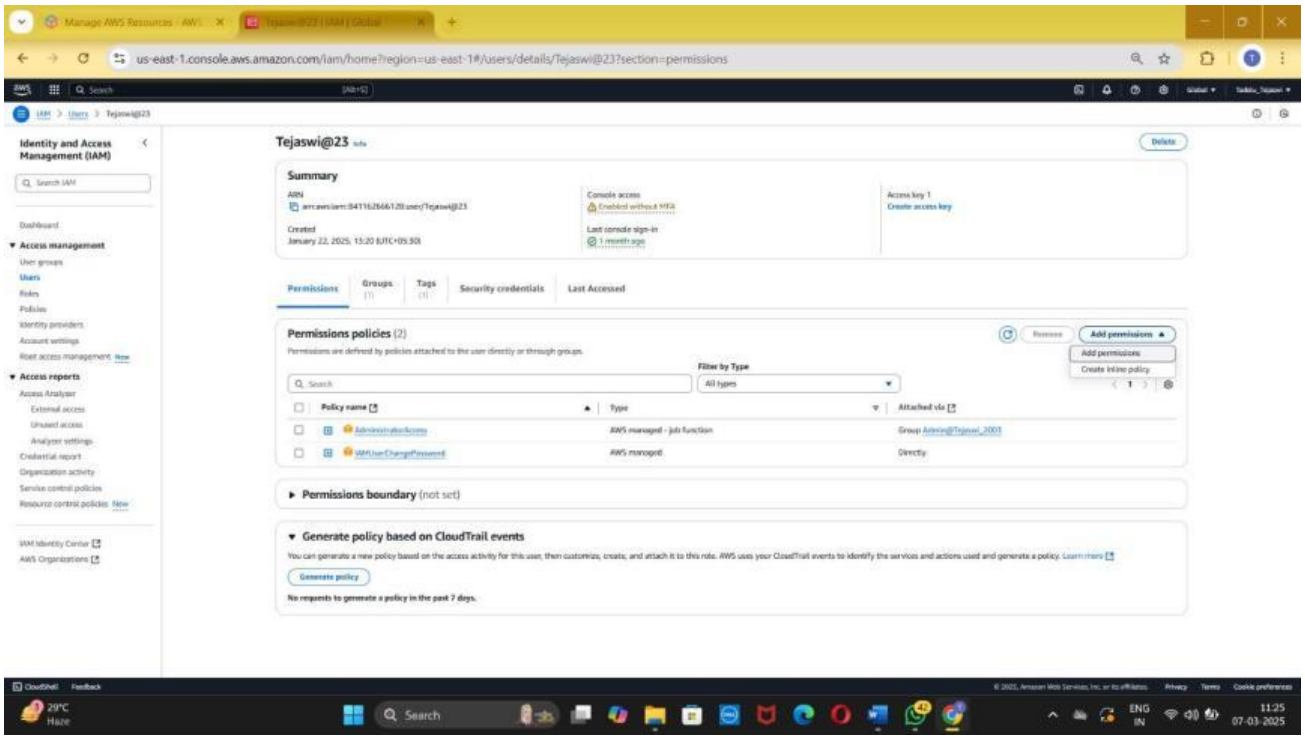
Step 5: So the policy successfully created



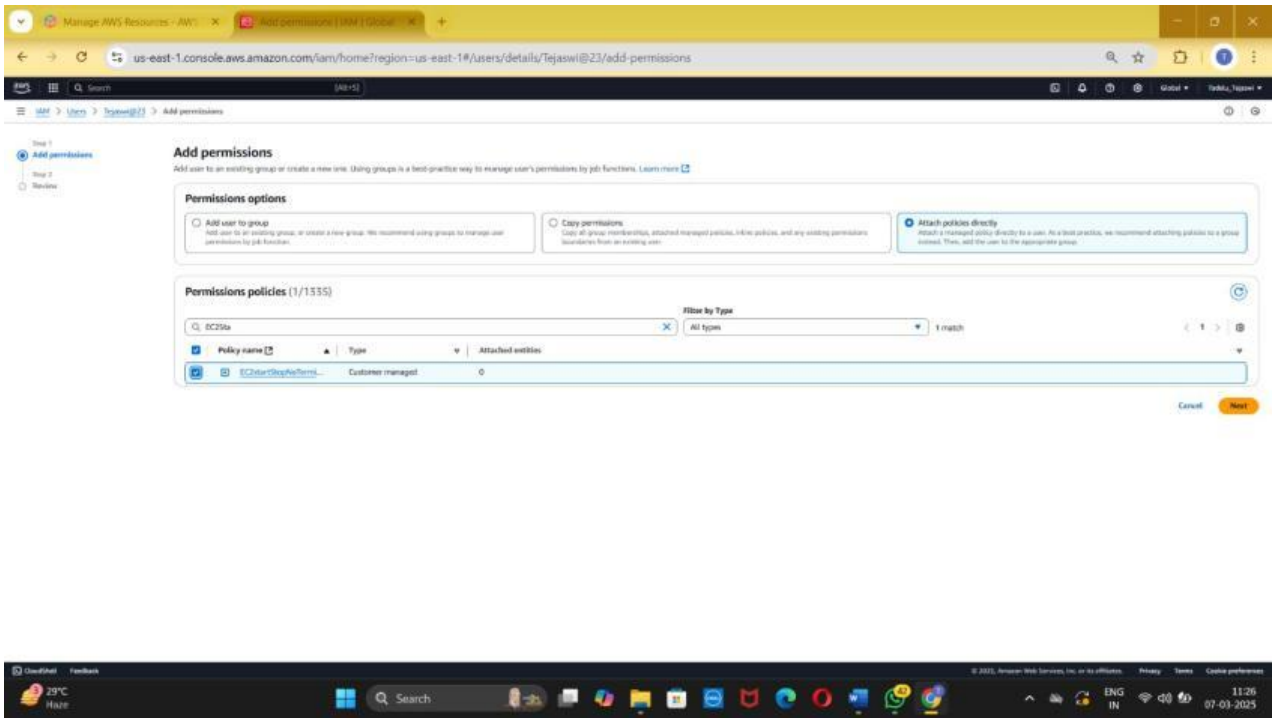
Step 6: Now we have to attach the policy to the Users, So click on users then select the user which you want to attach the policy



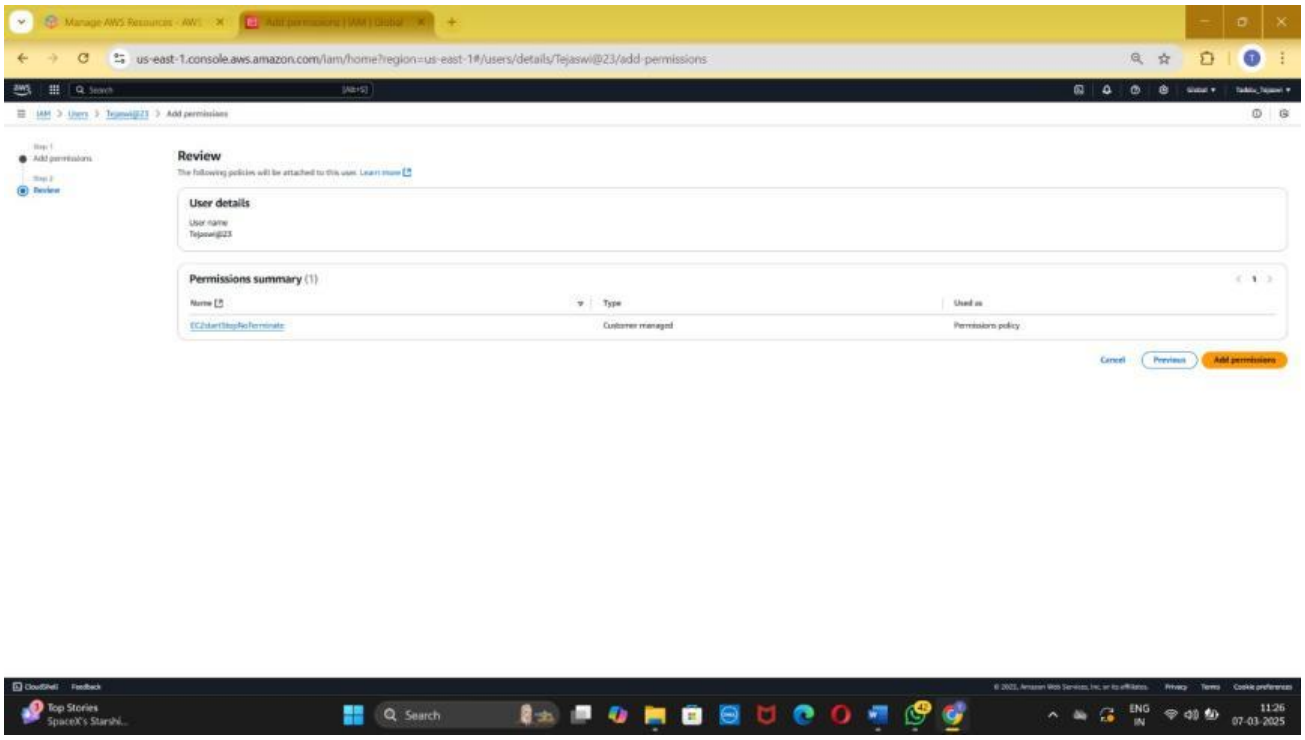
Step 7: After selecting the user Click on Add permissions



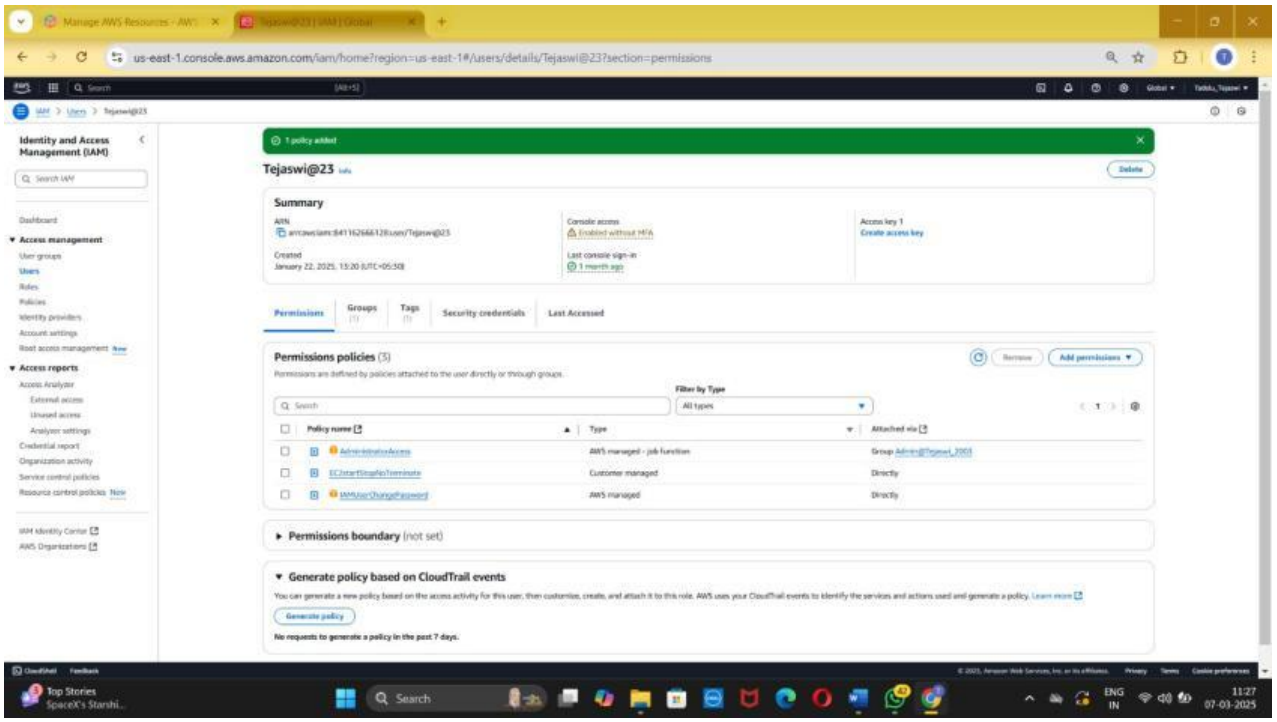
Step 8: In that permissions select Attach policies directly And select the policy which you want to Attach



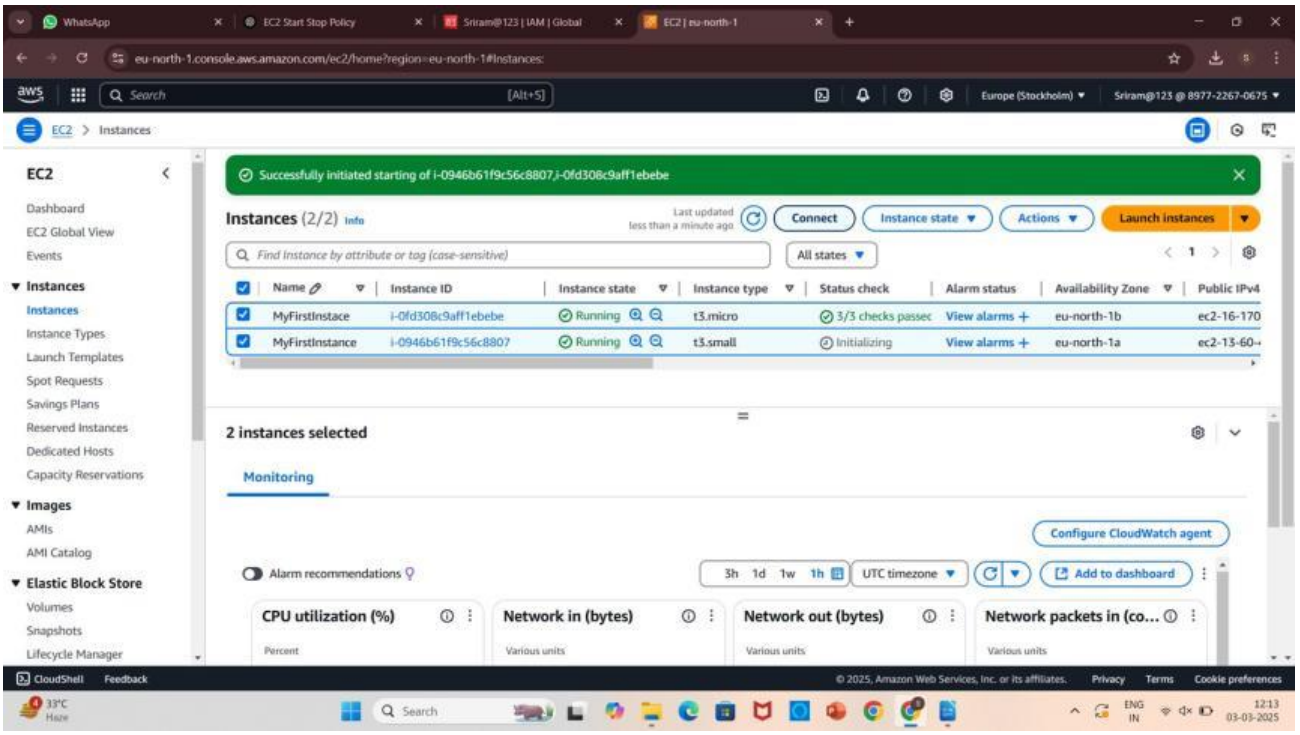
Step 9: Then click on Add permission on the tab



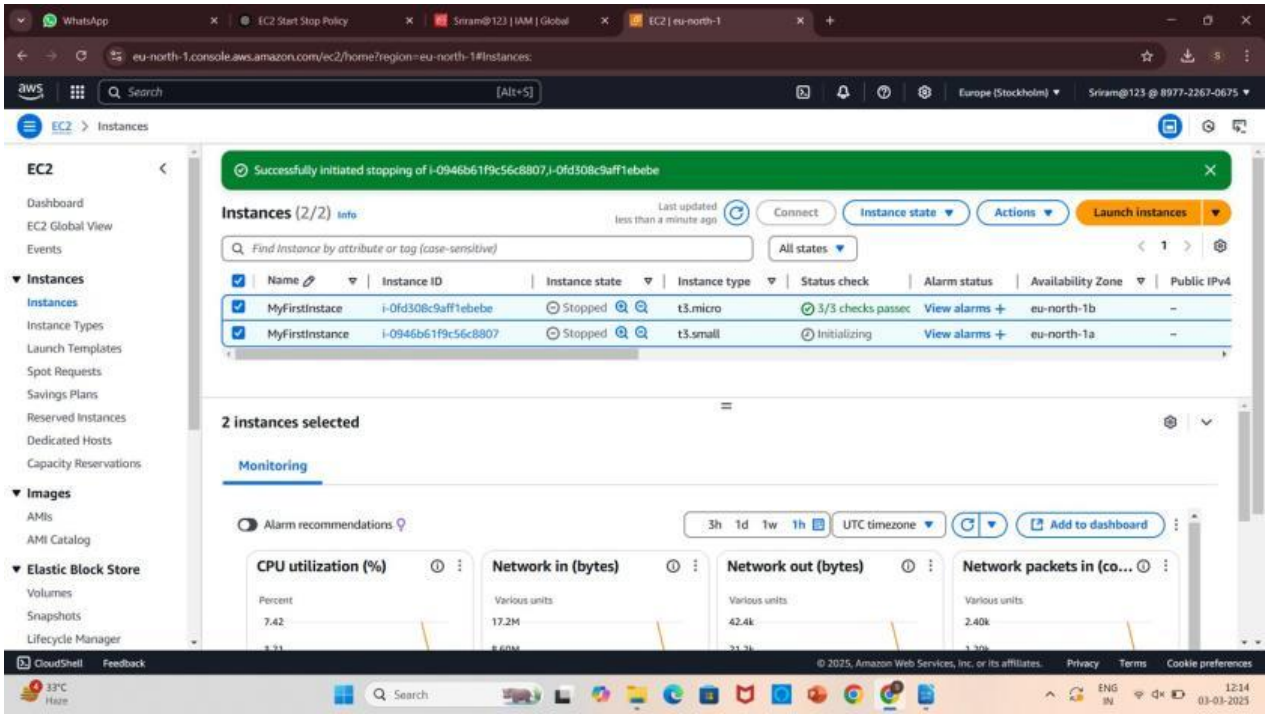
Step 10: So successfully we gave the permissions to the policy Now we can check as below steps



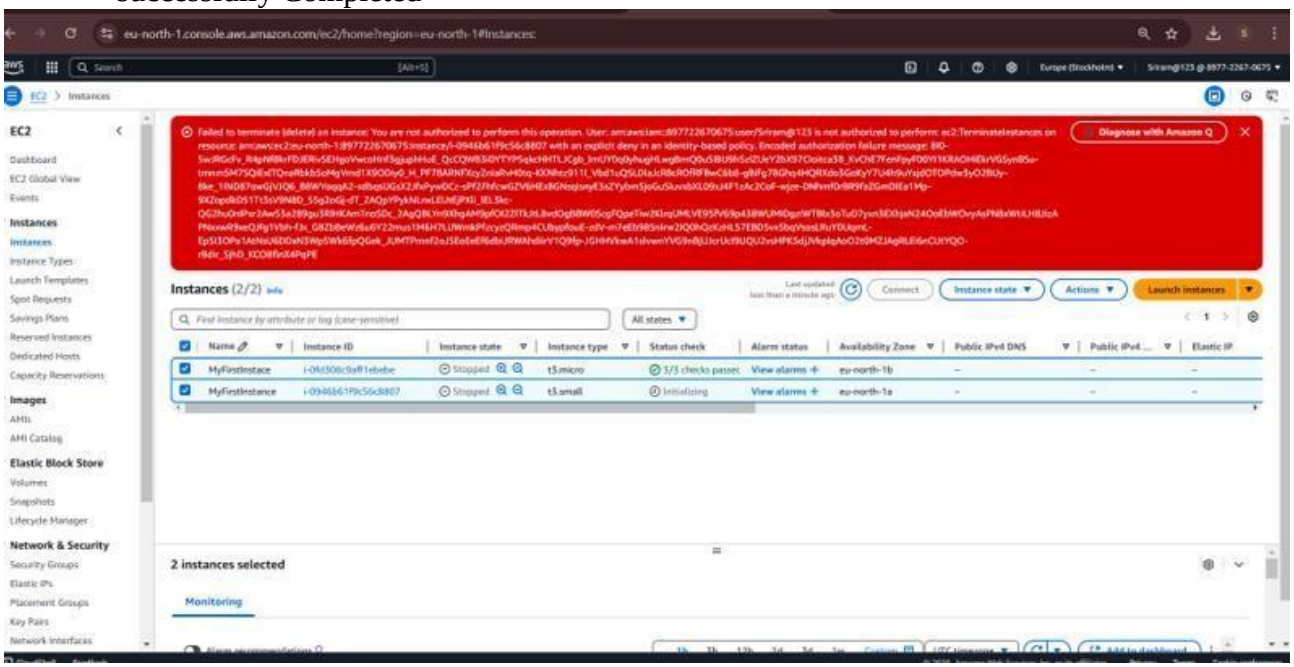
Step 11: Now we have to login in to the user which we used above to give the permissions And then go to EC2 click on instaces Then select the instace which you want to check.
Here we successfully started the instace.



Step 12: Now we successfully stopped the running instace



Step 13: We tried to terminate the stopped instance but it showed an error. So, our Project is successfully Completed



ADHOC NETWORK TECH, VIZAG

ADITYA DEGREE COLLEGE, RAMNAGAR(LONG TERM INTERNSHIP)

CREATE A FILE STORAGE IN DROPBOX

MINI PROJECT-2

TEAM MEMBERS
T.Tejaswi
D.Tejaswini
K.chinmayi
M.sravanthi
K.vijaya joytha

INTRODUCTION

In today's digital age, the need for secure and scalable file storage solutions has become more critical than ever. Cloud storage platforms like Dropbox have revolutionized the way individuals and businesses store, manage, and share files over the internet. Dropbox, a cloud storage service, allows users to store files, synchronize them across devices, and share them with others easily. This project aims to demonstrate how to create a robust file storage solution in Dropbox using Amazon Web Services (AWS) to automate and manage file uploads to Dropbox from within a cloud environment.

The integration of Dropbox with AWS enables users to leverage the power and scalability of cloud computing while providing an intuitive interface for file management. Using AWS services like Lambda, S3, and IAM (Identity and Access Management), we can automate the process of uploading files, synchronizing them with Dropbox, and setting permissions for access control. This project will implement a solution that will allow users to interact with Dropbox through the AWS environment, ensuring both flexibility and security.

This project not only helps in understanding Dropbox's API and its integration with AWS but also explores automation techniques that can greatly enhance productivity in business workflows. Furthermore, by using AWS services, this solution ensures scalability, security, and ease of access to the stored files across multiple devices and applications. The main objective of this project is to automate file storage operations, such as uploading files, synchronizing directories, and enabling real-time access to files in Dropbox, while utilizing AWS as the backbone for all automated processes.

Problem Statement

With the rise of remote work and digital collaboration, the need for a cloud-based file storage system that is both reliable and accessible is paramount. Dropbox has emerged as one of the most popular platforms for such purposes. However, manually managing files on Dropbox can be time-consuming and prone to errors. By automating file uploads to Dropbox using AWS, we can streamline this process, ensuring that files are uploaded consistently and securely. The integration should be able to handle file uploads from AWS S3, user authentication, and permission management for secure file sharing.

Objective

The objective of this project is to build a file storage solution within Dropbox, leveraging AWS services to automate file uploads and synchronize files across Dropbox. The project will focus on creating a secure, scalable, and easily accessible file storage solution by integrating Dropbox's API with AWS services.

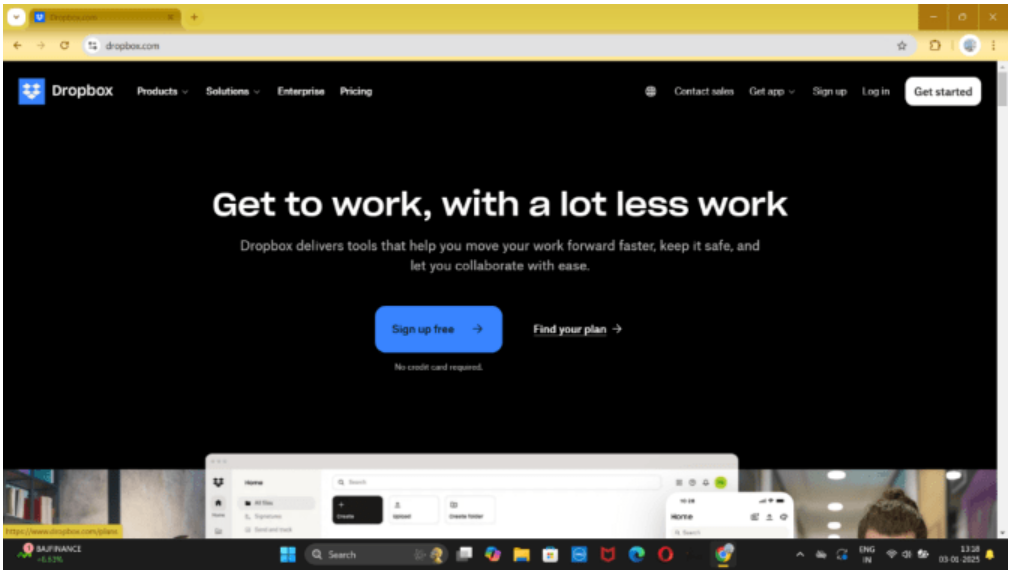
ALGORITHM

1. ***Set Up Dropbox App:***
    - ***Create a Dropbox Developer account and set up a new app to get the API Key, App Secret, and Access Token.***
2. ***Set Up AWS Services:***
    - ***Create an S3 Bucket: For storing files temporarily before uploading them to Dropbox.***
    - ***Create a Lambda Function: The function will trigger when a file is uploaded to S3 and handle uploading it to Dropbox.***
    - ***IAM Role: Assign the necessary permissions for Lambda to access the S3 bucket.***
3. ***Create Lambda Function:***
    - ***Use the Dropbox API to authenticate and upload files to Dropbox.***
    - ***Trigger the Lambda function whenever a file is uploaded to the S3 bucket.***
4. ***Lambda Code:***
    - ***Fetch the uploaded file from S3.***
    - ***Use the Dropbox API's files_upload method to upload the file to Dropbox.***
5. ***Test the Process:***
    - ***Upload a file to S3 and verify that it is automatically uploaded to Dropbox by Lambda.***

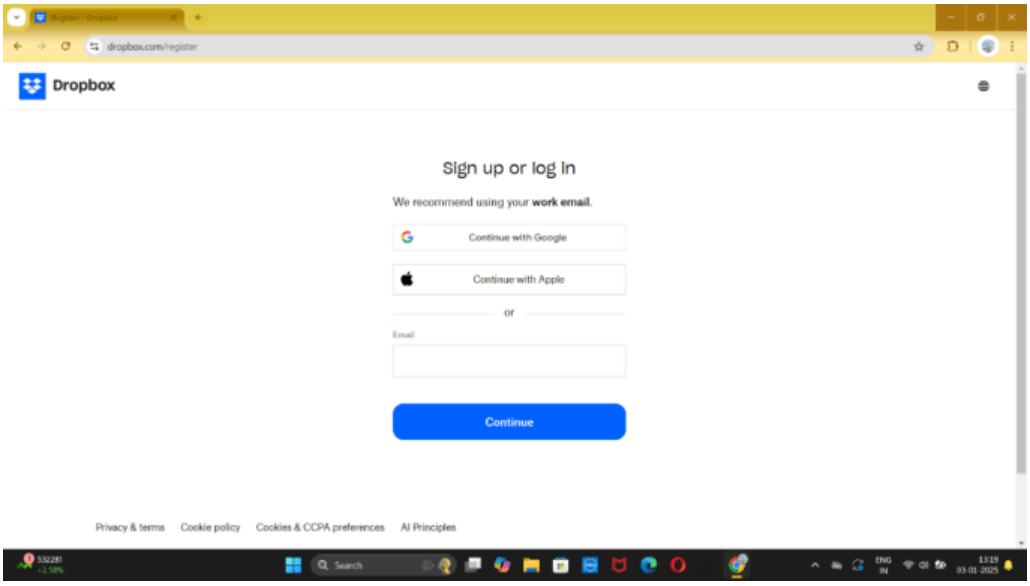
Dropbox

Objective: CREATE A FILE STORAGE IN DROPBOX

Step 1:- : Go to Google and type dropbox.com to open official drop box website

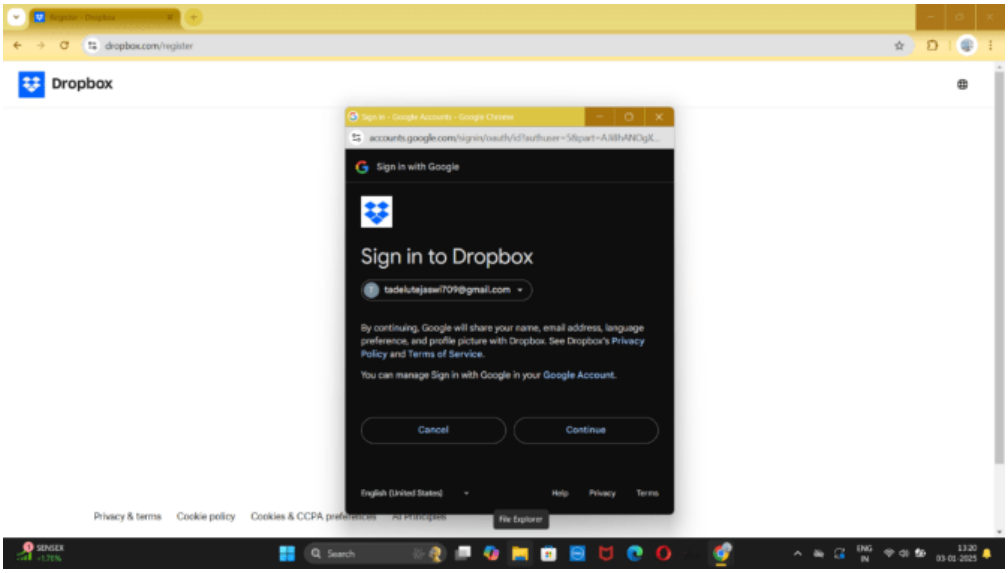


Step 2:- Choose sign up for free and enter your E-mail



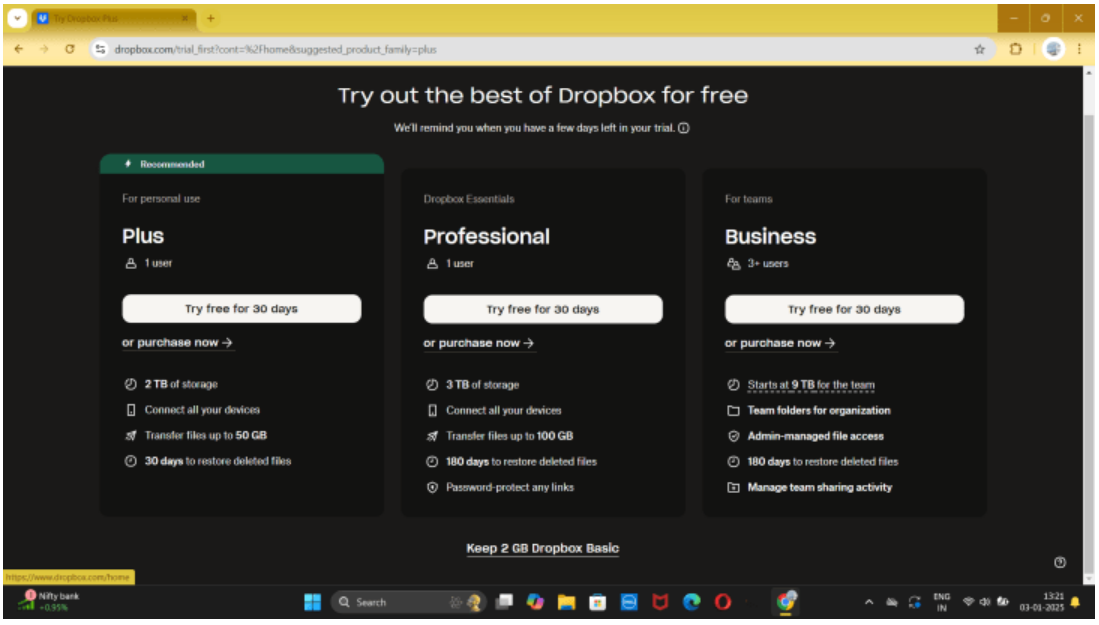
Step 3:-

Fill the details of the individual

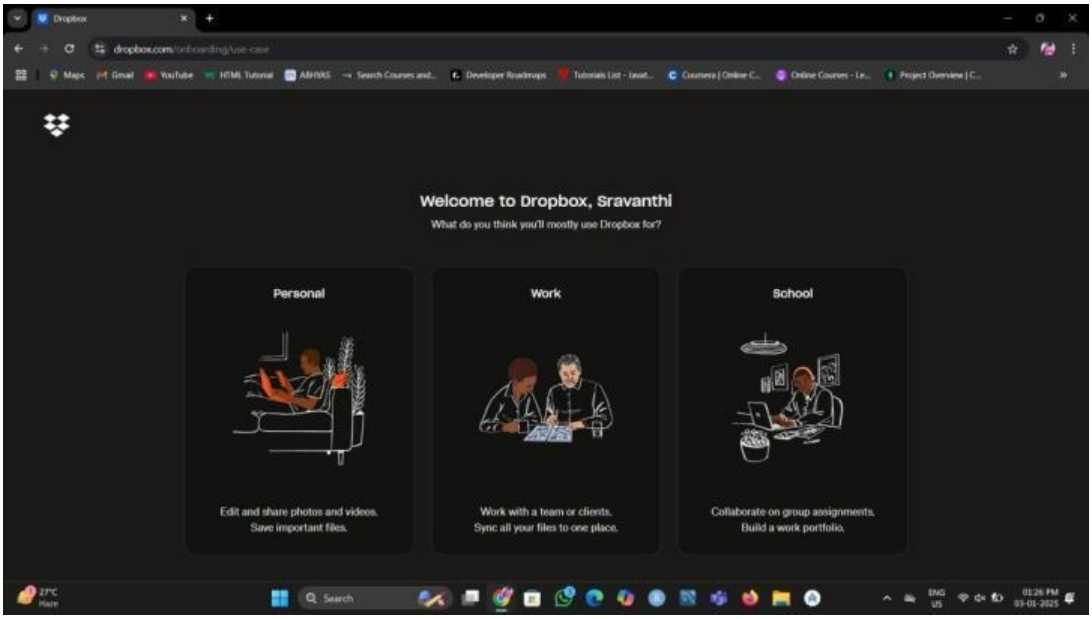


Step 4:-

Choose 2GB drop box basic

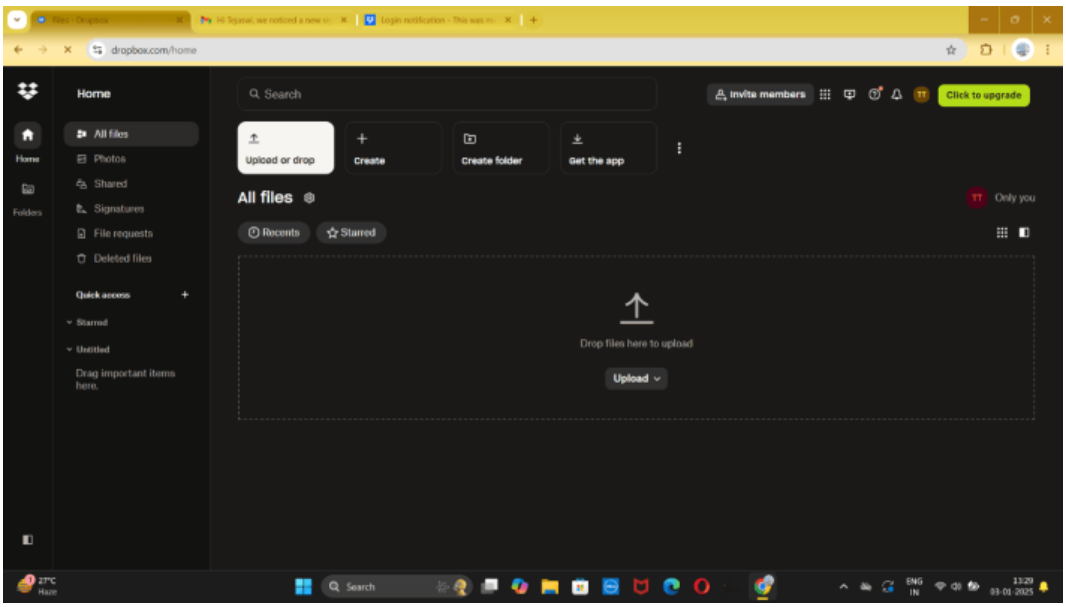


Step 5:- Select the option “Personal”

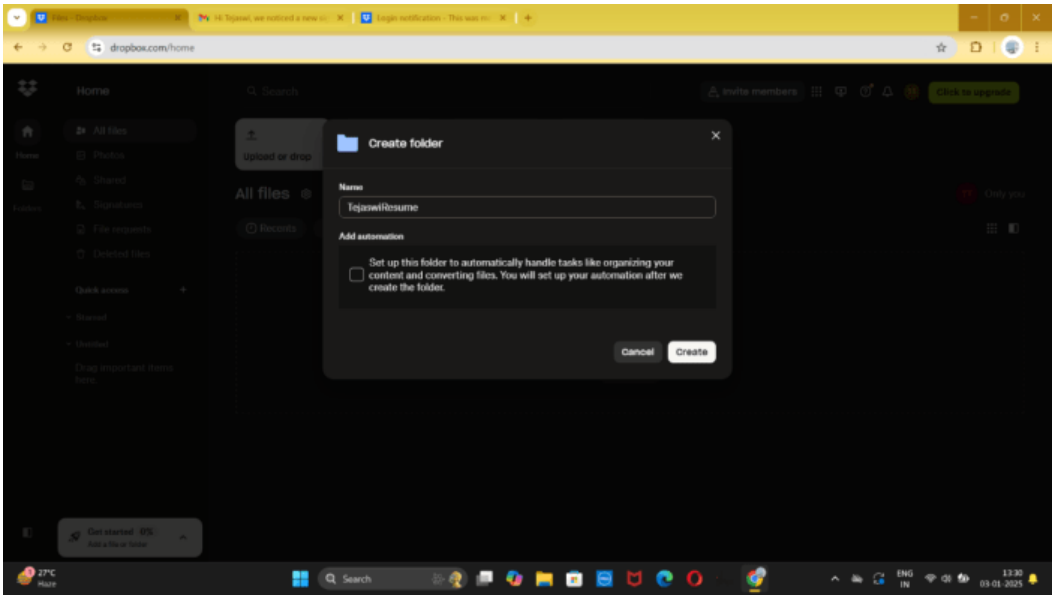


Step 6:-

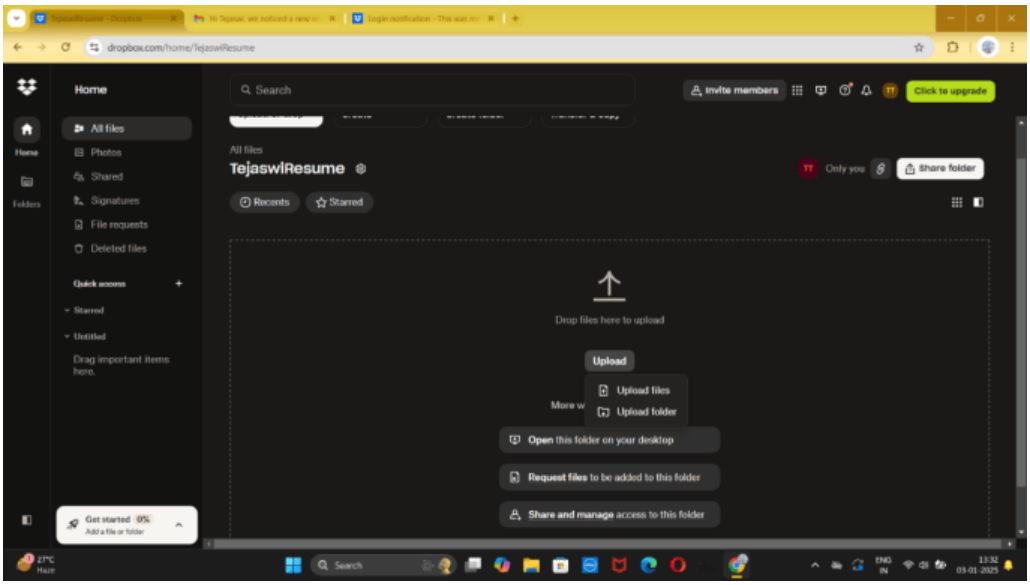
Home page will be opened



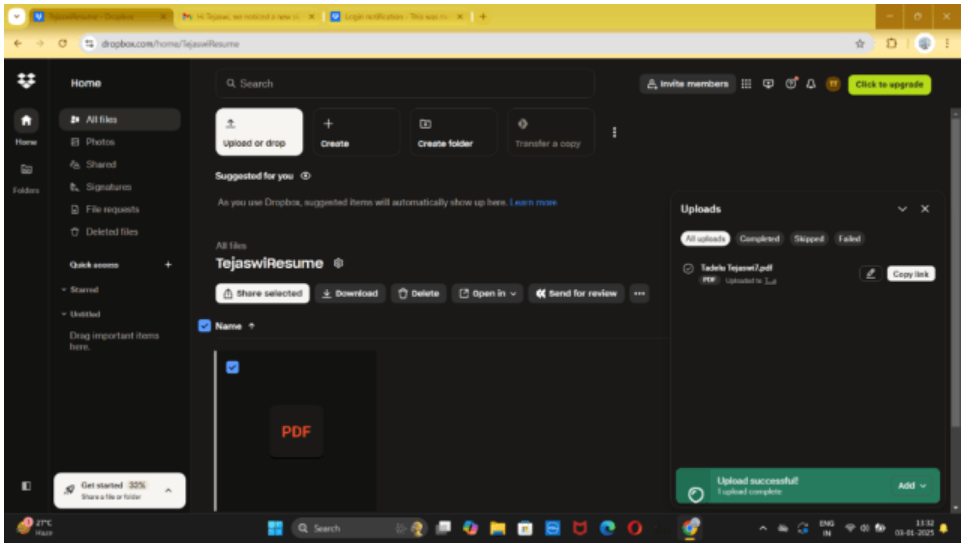
Step 7:-Create a folder



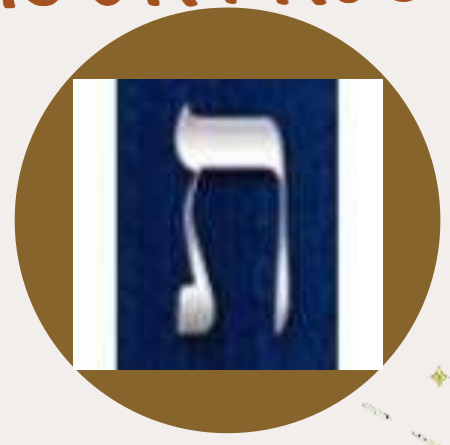
Step 8:-Upload the resume



Step 9:-Your resume will be uploaded successfully



MAJOR PROJECT



ADHOC NETWORK-TECH COMPANY,VIZAG

ADITYA DEGREE COLLEGE, RAM NAGAR
LONG TERM INTERNSHIP

Host a static website using AWS S3
-- Major Project

BY – T.TEJASWI

HOST A STATIC WEBSITE USING AWS S3

AGENDA

Title

Introduction

Algorithm

Process

Conclusion

HOST A STATIC WEBSITE USING AWS S3

INTRODUCTION:

To host a static website using AWS S3, you will leverage S3's object storage capabilities to store your website's HTML, CSS, and JavaScript files, and configure S3 to serve them directly to your users over the internet.

•What is S3?
•Amazon S3 (Simple Storage Service) is a powerful, scalable object storage service within Amazon Web Services (AWS).
•Static Website: •A website composed primarily of HTML, CSS, and JavaScript files, where content is not dynamically generated from a database. •Why S3? •S3 is an ideal choice for hosting static websites due to its durability, scalability, and cost-effectiveness.

CHARACTERISTIC

•Scalability and Durability:

•S3 is designed for high scalability and durability, ensuring your website is accessible even with fluctuating traffic and provides data protection with 99.999999999% durability.

•Cost-Effectiveness:

•S3 offers a pay-as-you-go pricing model, so you only pay for the storage and data transfer you actually use.

•Simplicity:

•The process of setting up website hosting is straightforward, primarily involving creating a bucket, enabling website hosting, and uploading your static files.

•No Servers Required:

•You don't need to manage web servers or operating systems, reducing operational overhead

ALGORITHM

Step 1:- Create an S3 Bucket

Step 2:-Configure Static Website Hosting

Step 3 :- Upload Your Website Files

Step 4 :-Set Permissions for Public Access

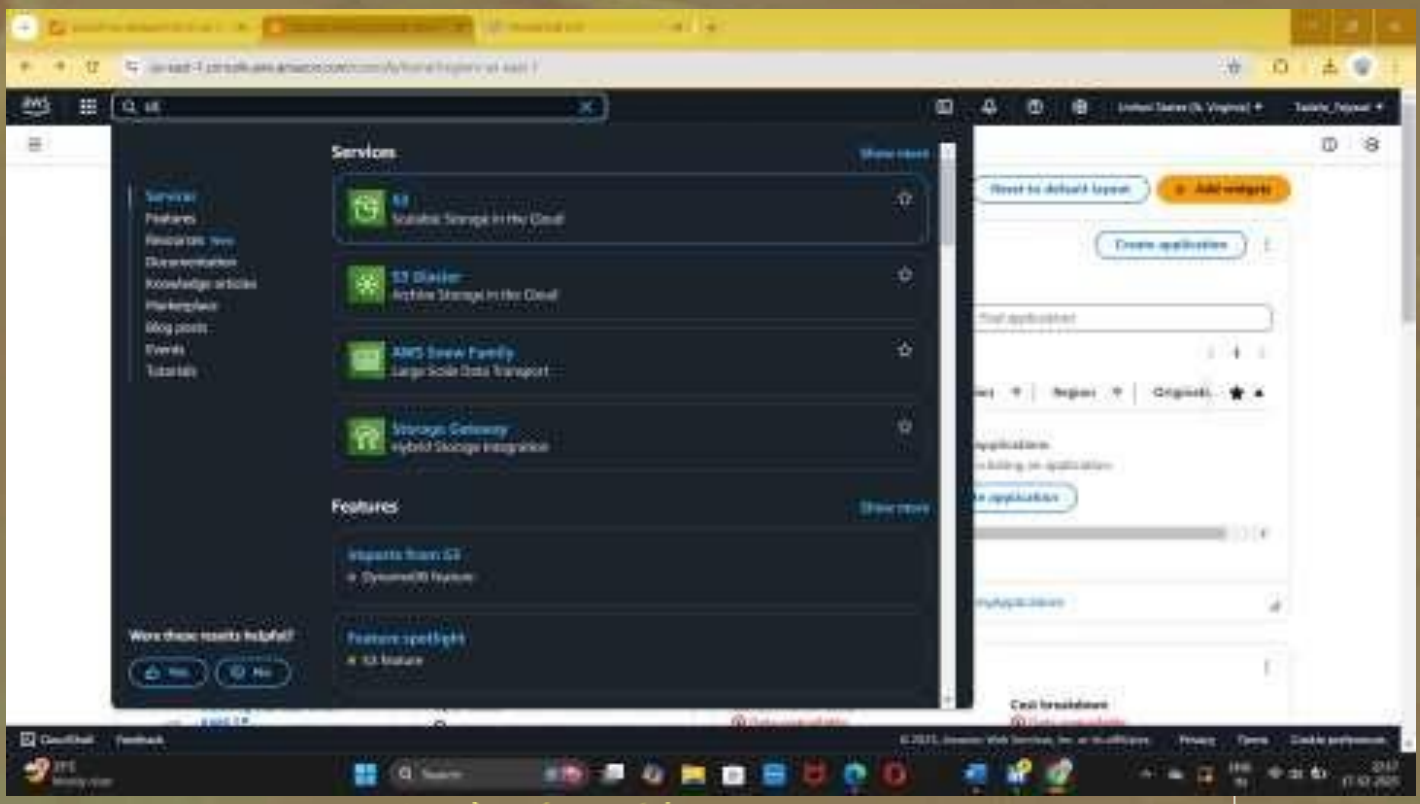
Step 5:- Configure CloudFront for Distribution:

Step 6:- Connect a Custom Domain (using Route53)

MAJOR PROJECT

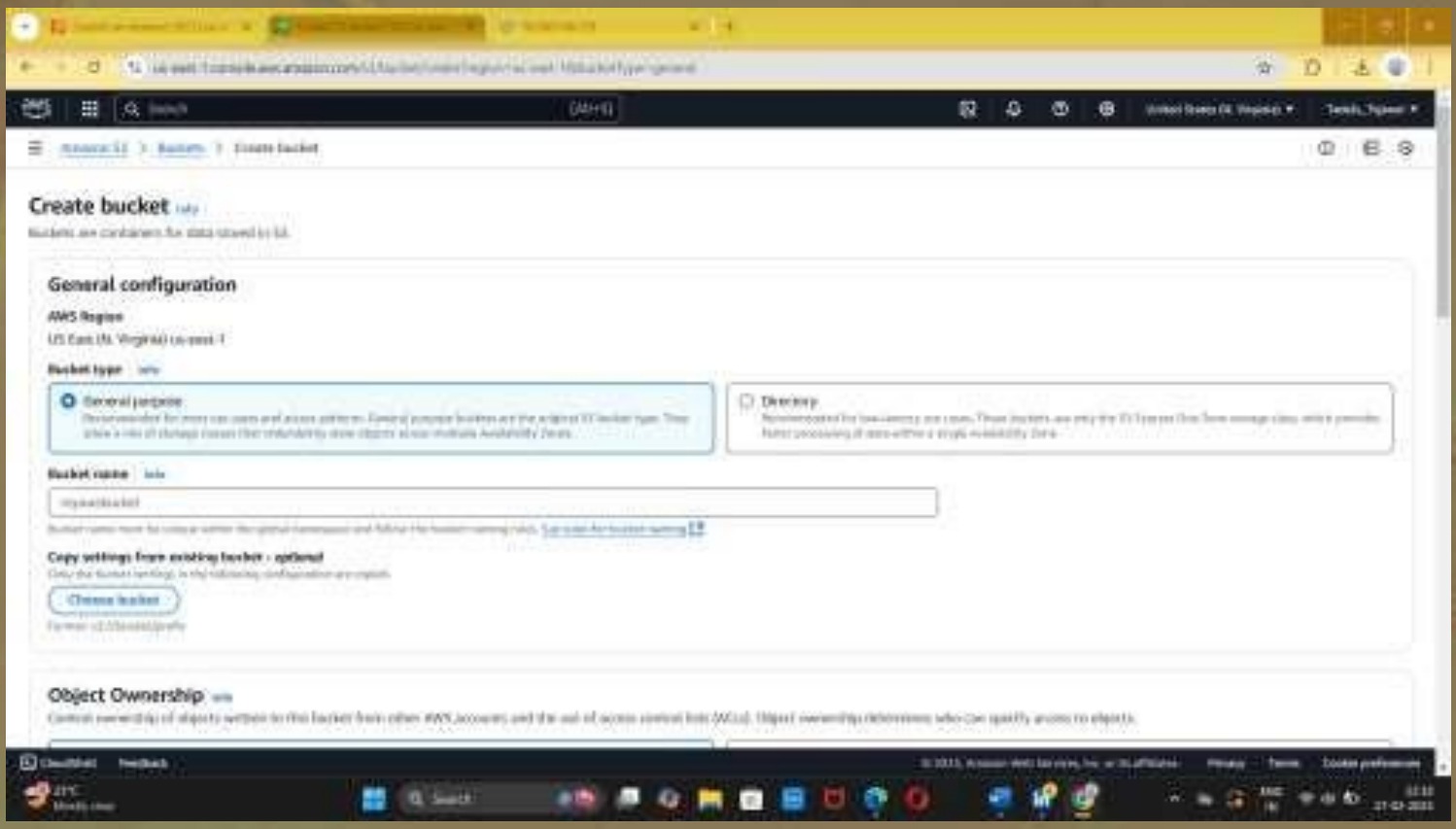
- **Creating of S3 Buckets and Objects**

Search S3 in the console home page

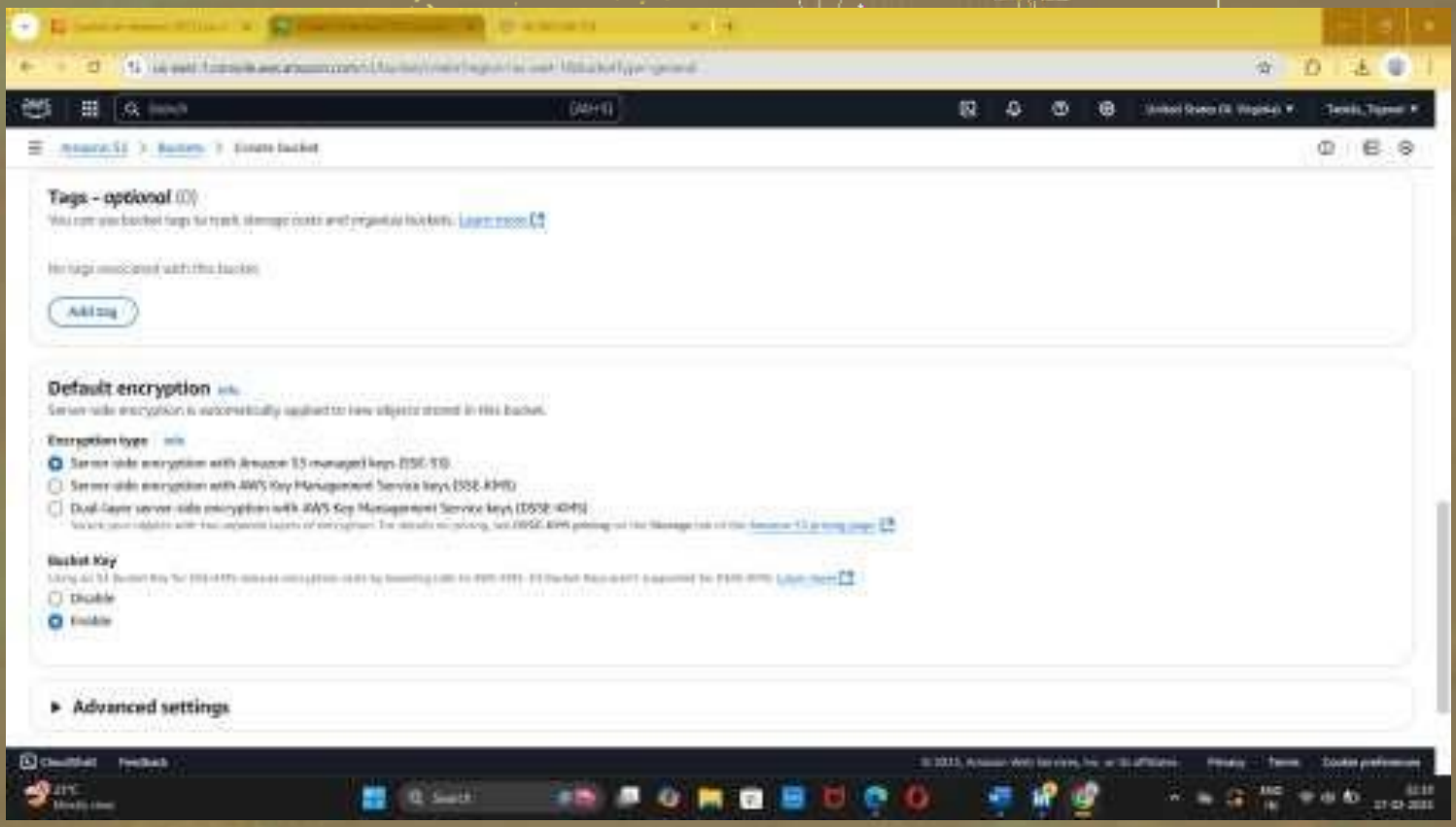


Click on create object

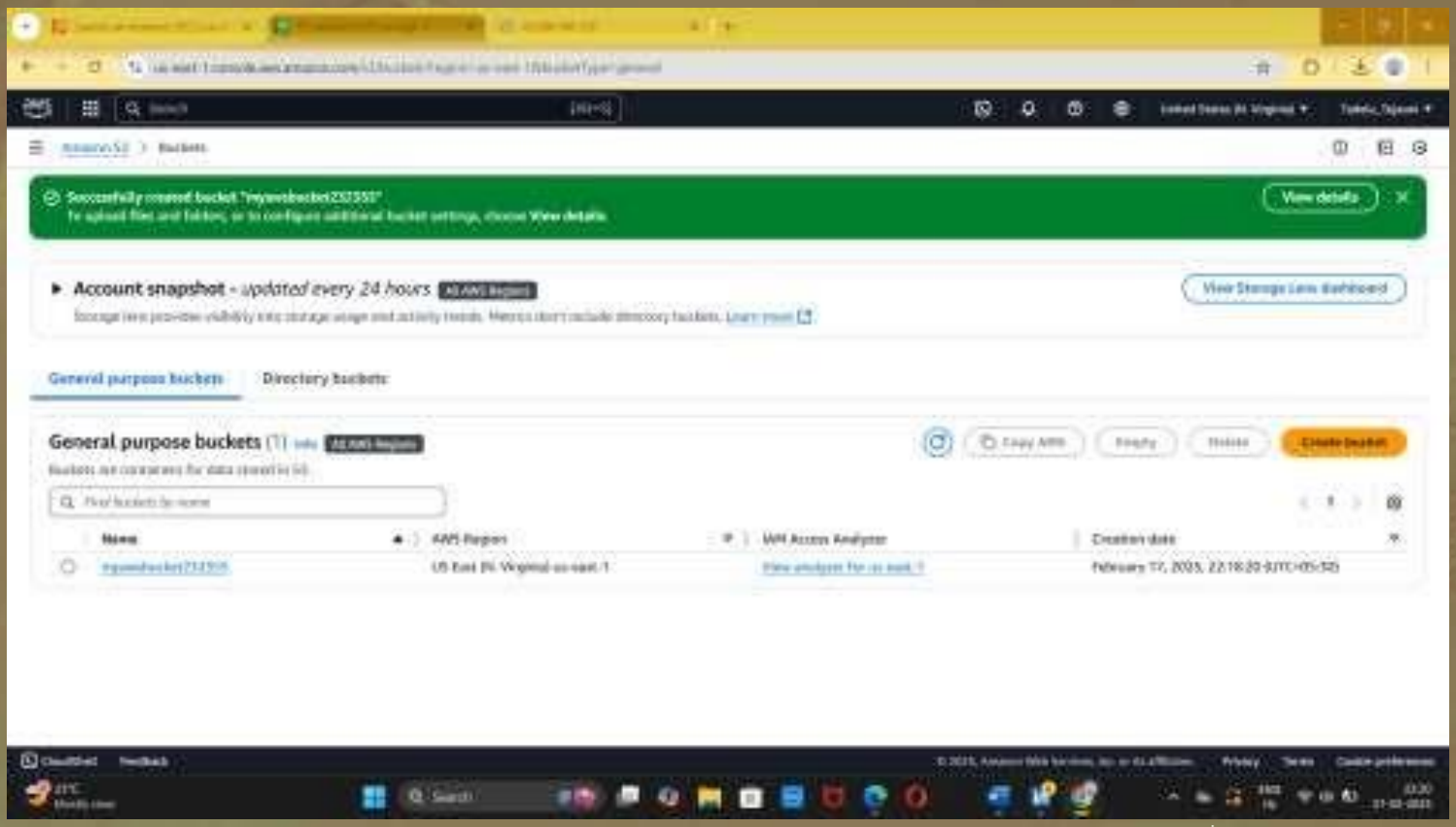
Define AWS Region and Bucket name



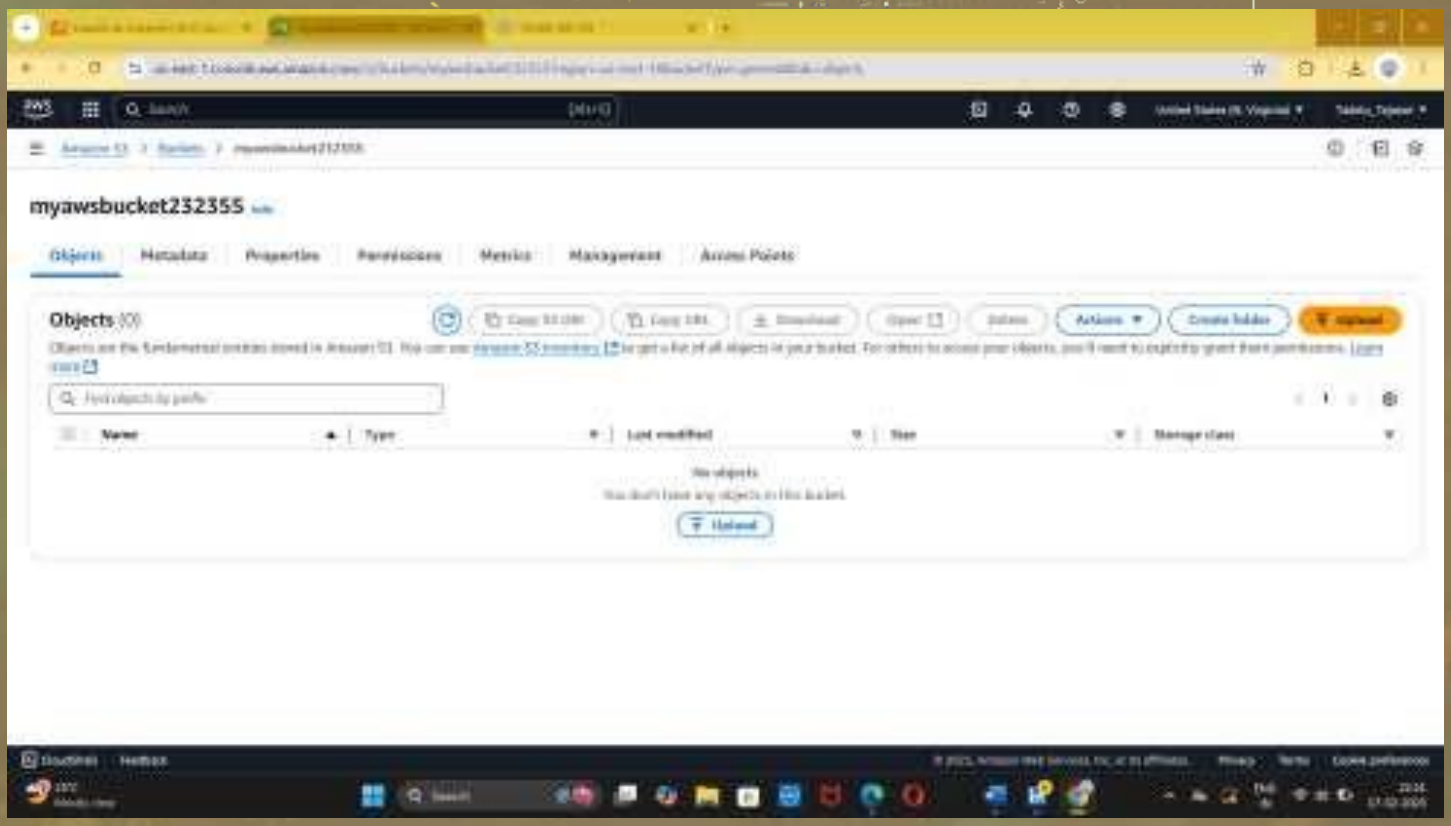
Have a look on default settings and click on create Bucket.



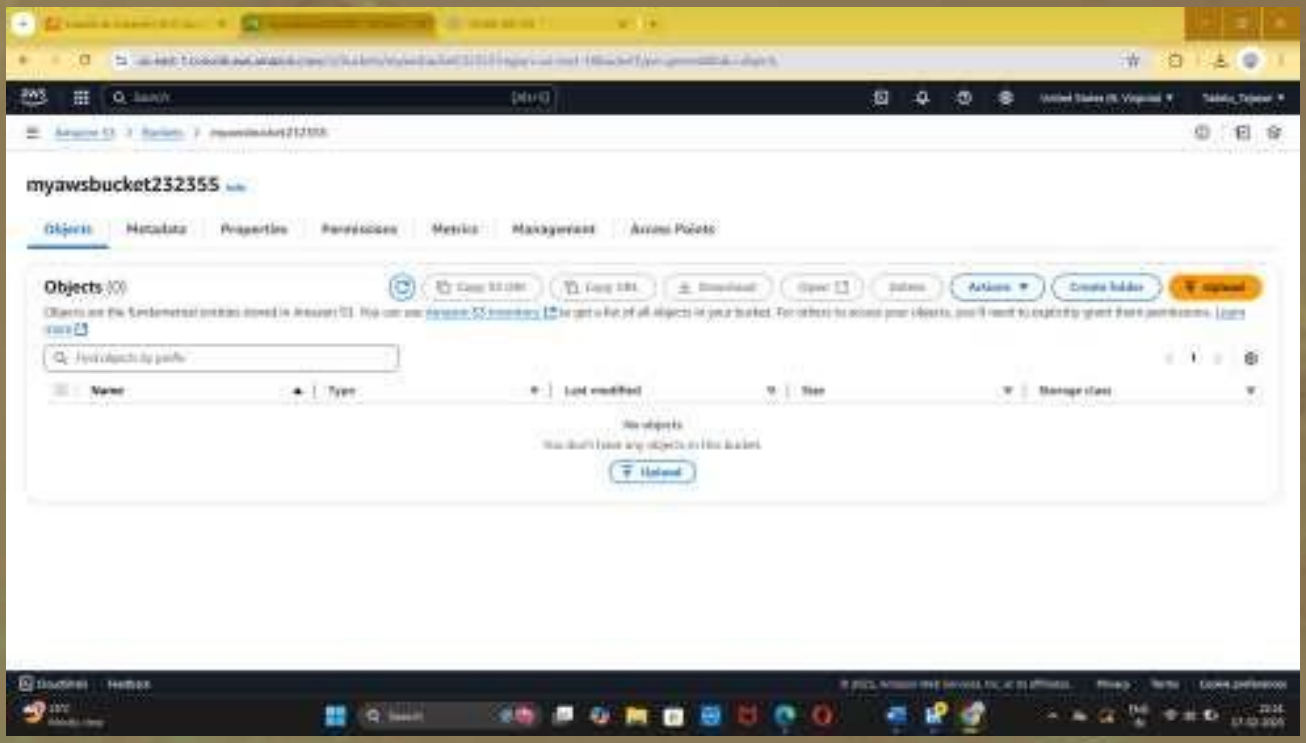
Successfully bucket will be created



Click on your bucket

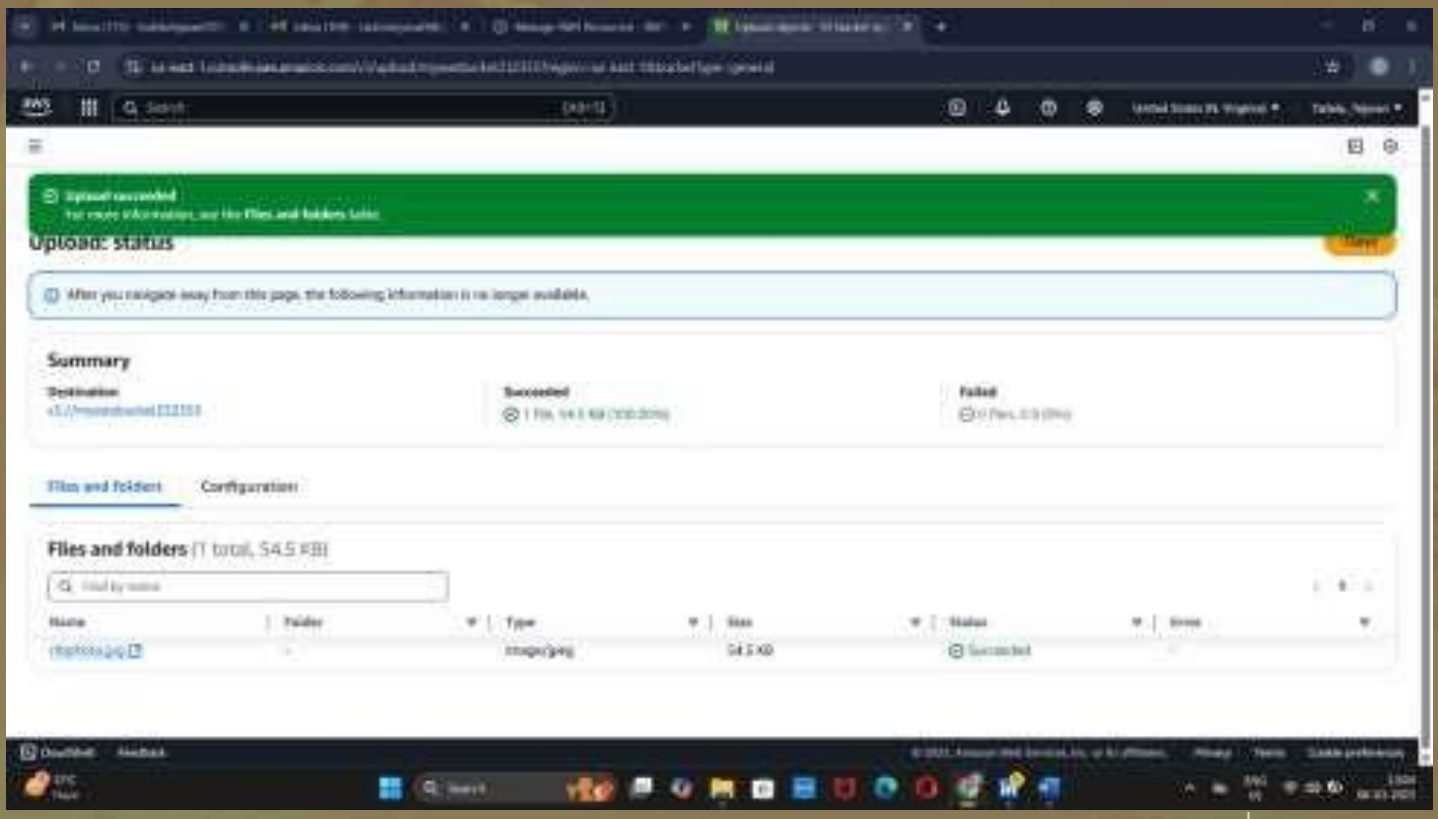


0 objects will be appeared

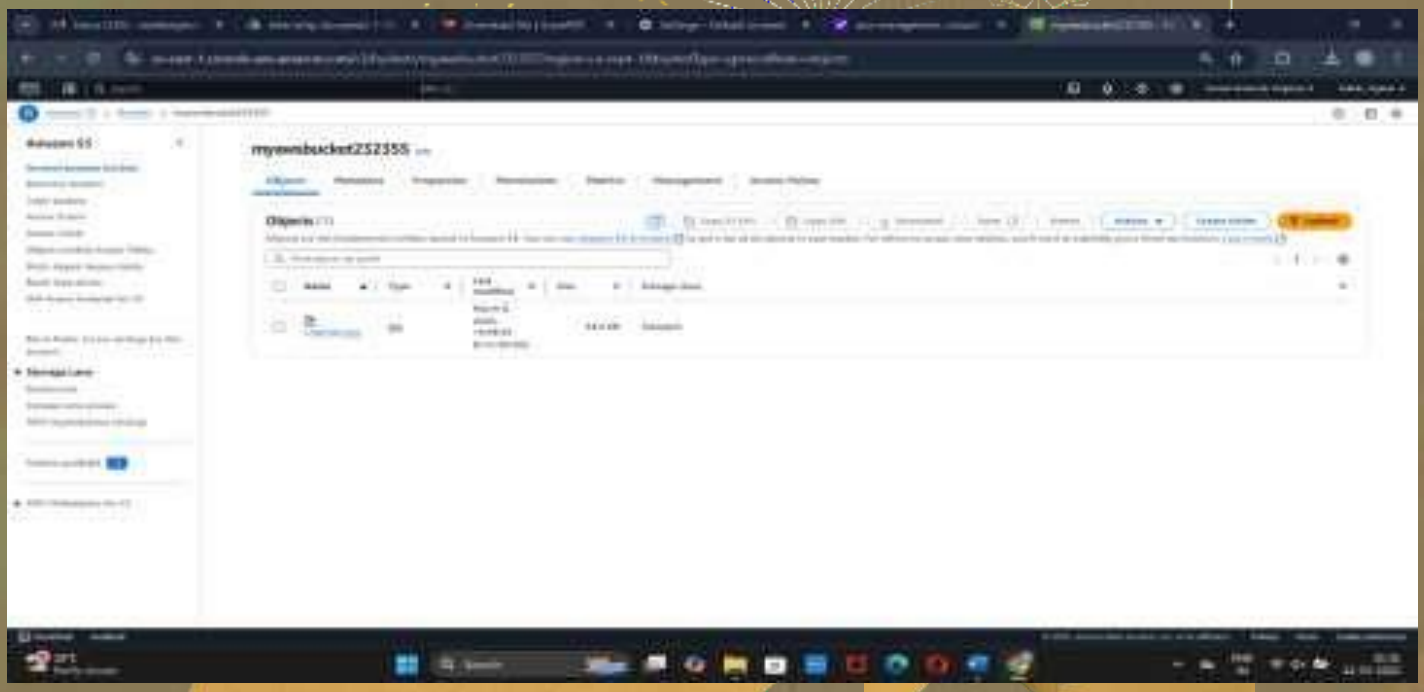


Click on upload. Click on upload object and click on upload

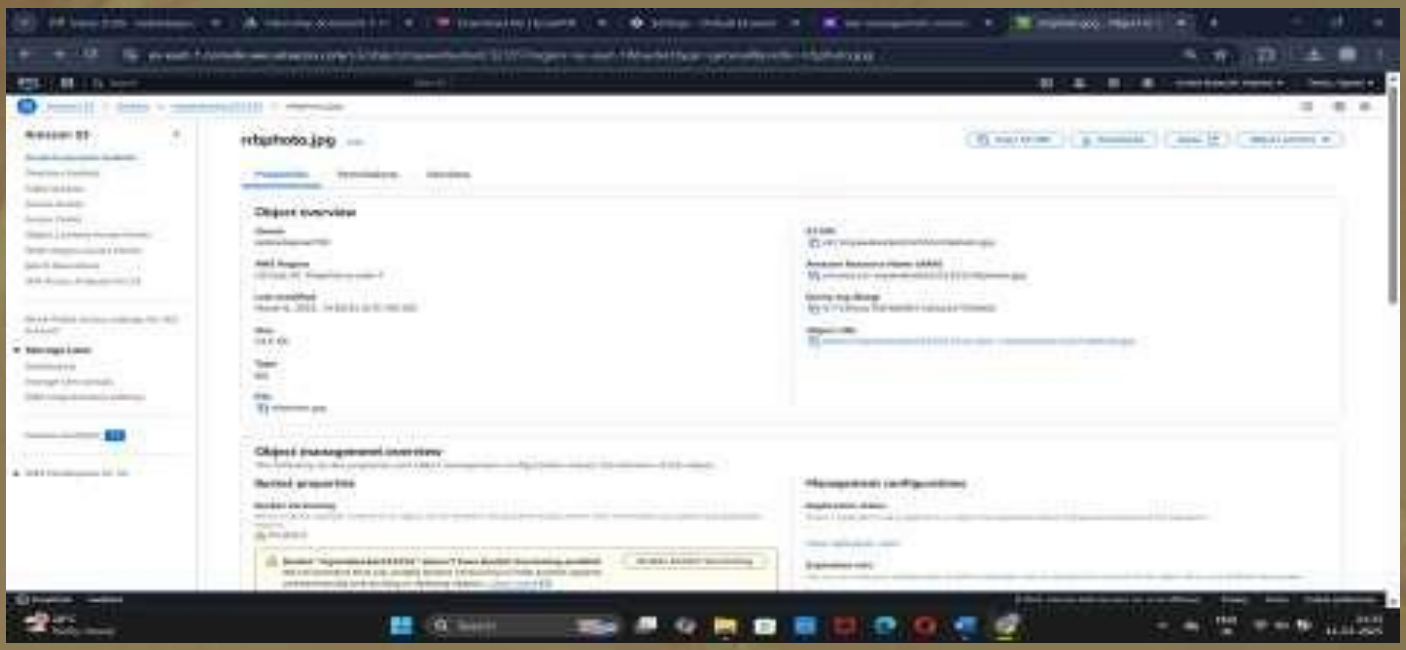
Successfully will be uploaded



Go to objects and click on the object you have created



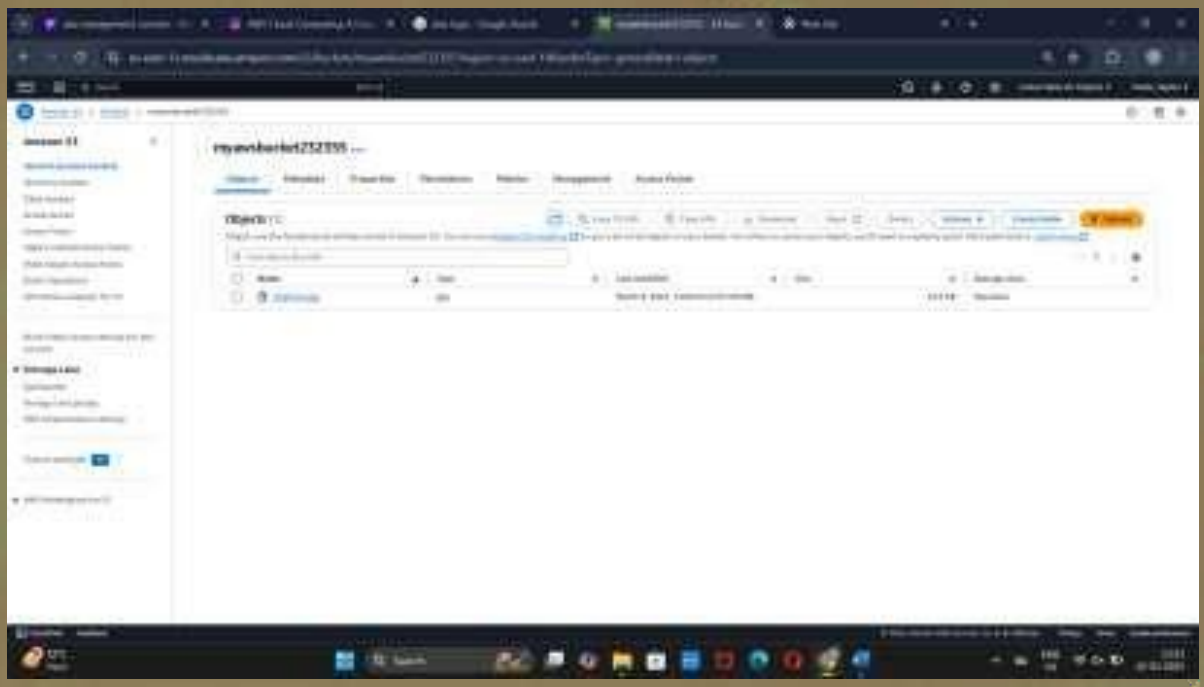
Object details will be overviewed and click on open



Copy the URL and open it

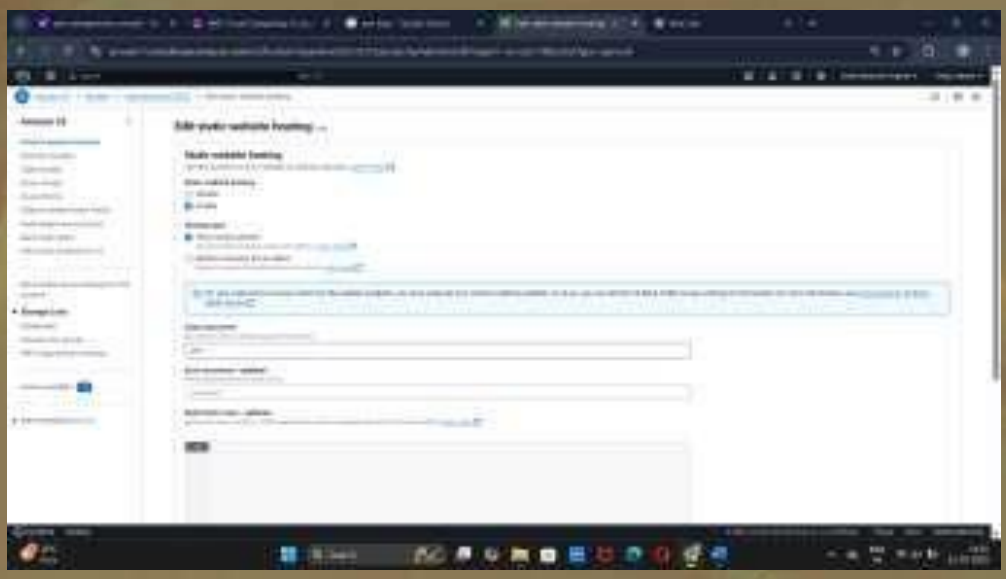
If you receive an error in this way you need to follow these procedures

Click in properties to enable settings in public view in window



Click on edit in STATIC WEBSITE HOSTING

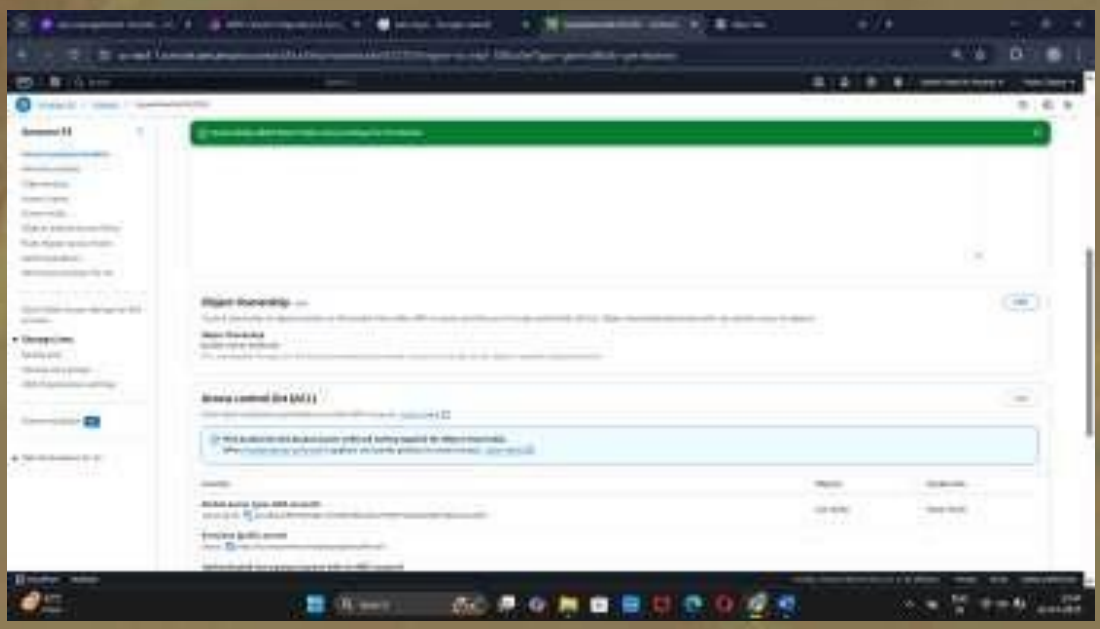
Click on Enable and hosting type and choose the options as below and enter index document name that you want to insert



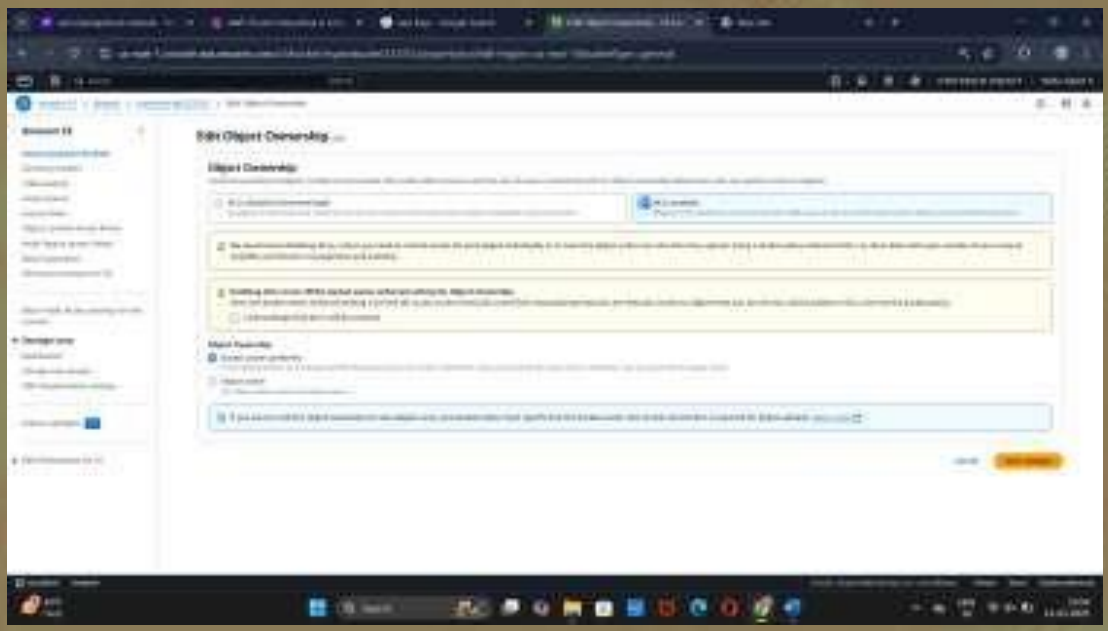
Now click on PERMISSIONS and select edit option in BLOCK PUBLIC ACCESS

Remove the tick mark on the block all public access as shown and click on save changes

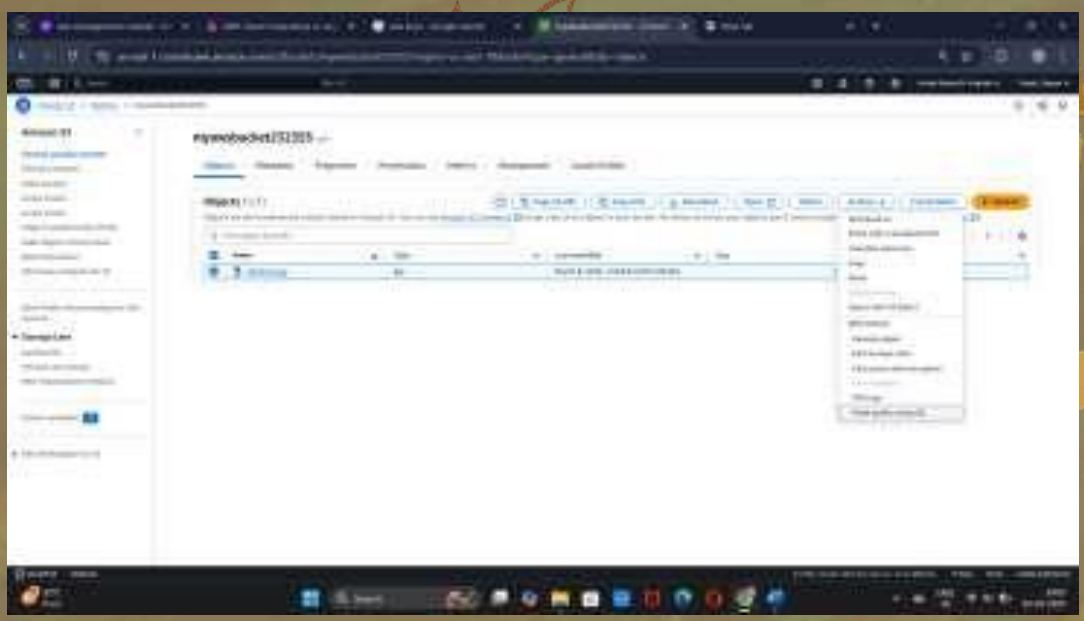
Again,in PERMISSIONS go to object ownership and click on edit



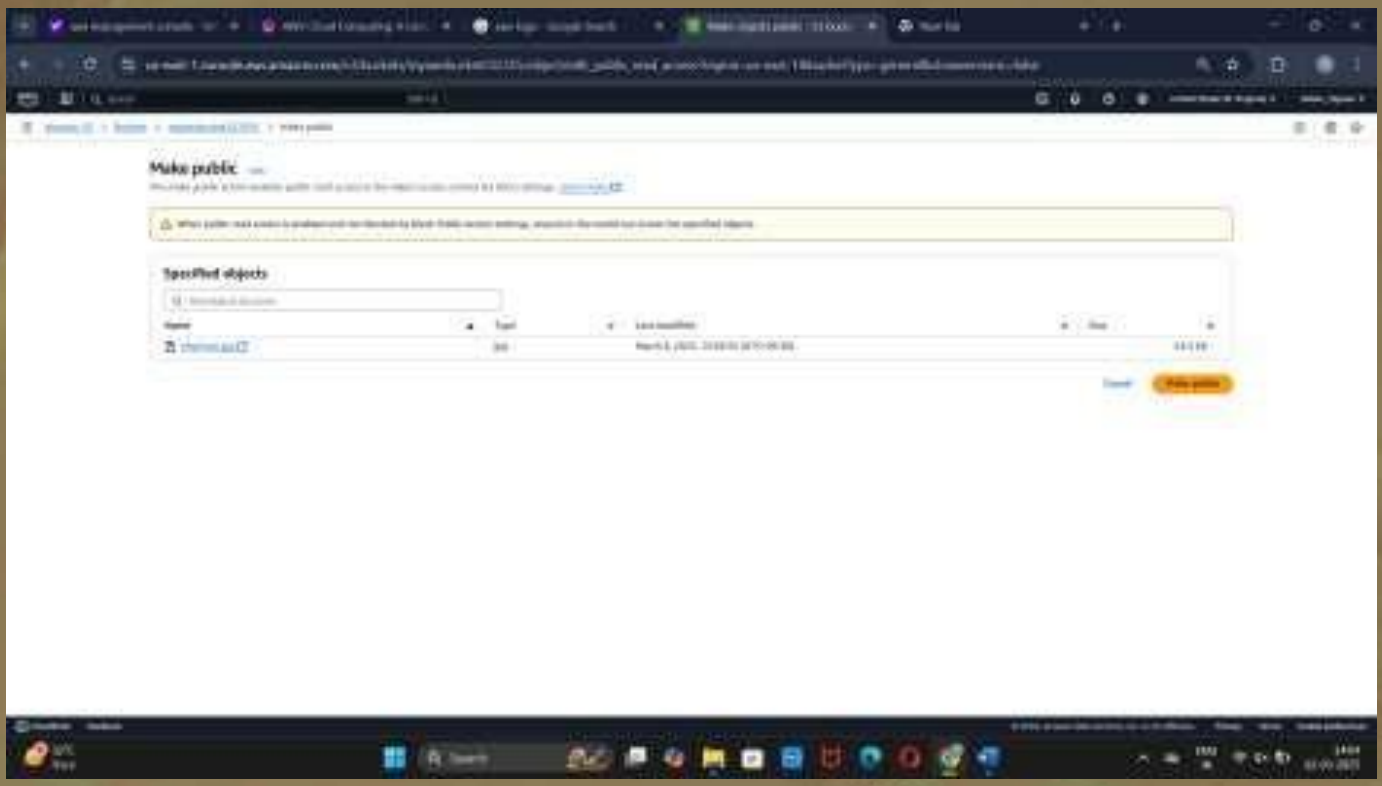
Click on ACL enabled and I acknowledge and save changes and confirm it



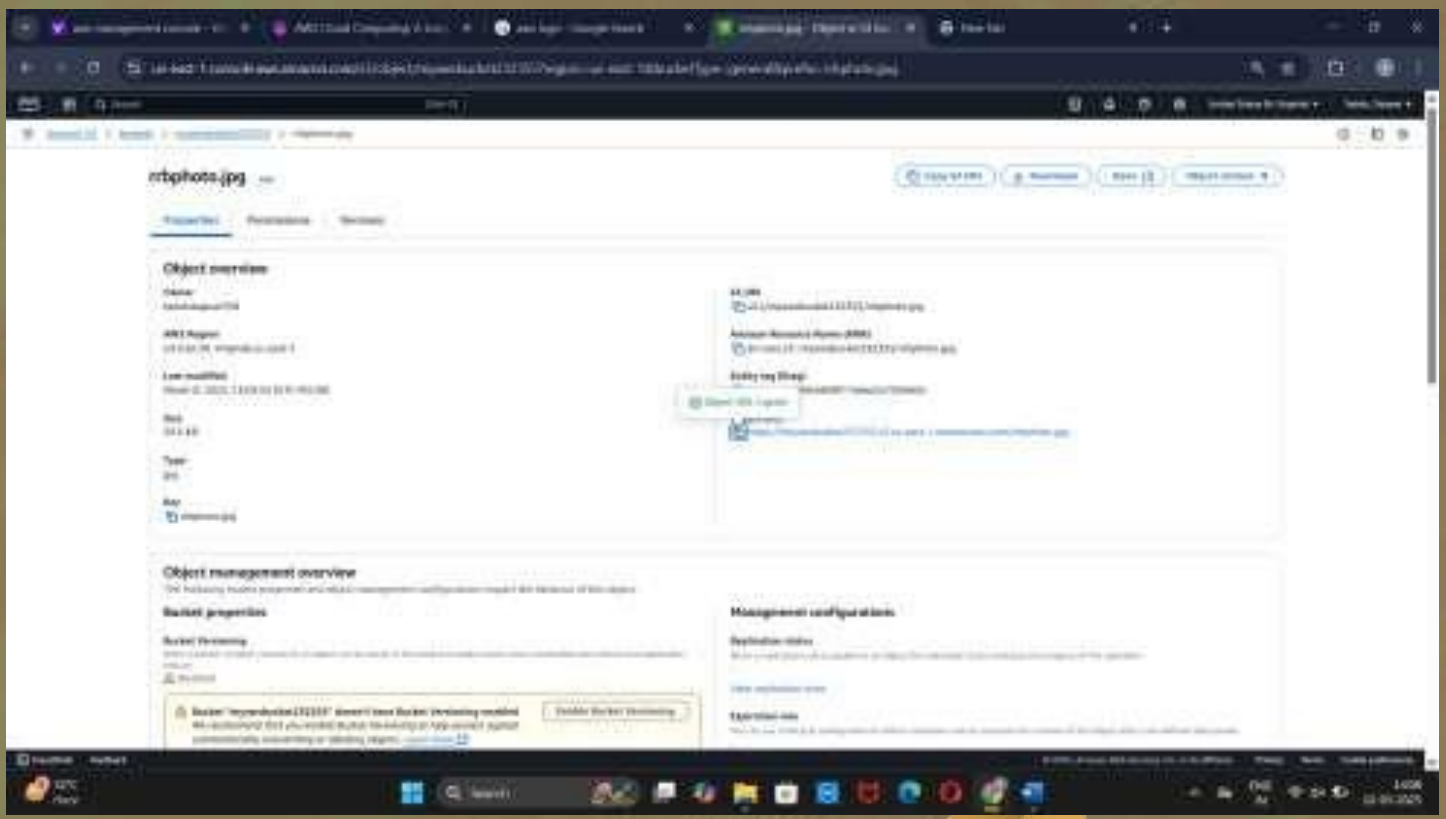
Again, go to objects and click on the actions to enable the changes to the bucket file
ACTION->MAKE PUBLIC USING ACL



Click on MAKE PUBLIC



Now click on the file and copy URL



Paste the URL in the new window

Now successfully the picture will be shown

CONCLUSION

Hosting a static website on AWS S3 provides a cost-effective and scalable solution for serving web content, allowing you to leverage the power of cloud computing for a reliable and performant web presence, according to multiple

•Cost-effective
. •You only pay for the storage and data transfer you use, rather than the cost of running and maintaining servers.

•Scalable:
•Easily handle increased traffic and demand with S3's ability to scale on-demand.

•High Availability:
•S3 is designed to provide high availability and durability, ensuring your website remains accessible even if infrastructure issues occur.

THANK YOU