PARSHVANATH CHARITABLE TRUST'S

A.P. Shah Institute of Technology

Thane, 400615

Academic Year: 2022-23

Department of Computer Engineering

CSL605 SKILL BASED LAB COURSE: CLOUD COMPUTING

Mini Project Report

- **Title of Project:** **Absolute Journal** :
- **Year and Semester: T.E. (SEM VI)**
- **Group Members Roll No. & Name** :

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Abstract

Books on a variety of subjects and genres are available through a number of programs, including Kindle and Z-Library. Users are able to upload their own books using apps like Inkitt. Colleges have their own websites on a lesser scale, such Moodle, which we have. Through this site, you can access the shared PPTs, PDFs, and notes that the teachers have made.

As it is a known fact, sorting through a lot of notes and keeping track of everything is challenging. Students frequently borrow books even when they can find them in the library. Because of this, other pupils are unable to utilize the same book. As and all round solution to this we have suggested using the "Absolute Journal" system to address these problems. It will be simpler as well because it will comprise books, handwritten notes, PDFs, and other materials on all engineering related topics. Students can access notes from their previous years in case of backlog which can make the concepts easier to understand. By making the use of chat-bot, the student can clear their doubts by talking to their fellow classmates. We believe that academic inquiry should be accessible to everyone, and that all voices and perspectives have a place in the academic conversation. Our project is committed to promoting diversity, equity, and inclusion in all aspects of our work, and we strive to create a welcoming and supportive community for all students. We are excited to launch this project and to begin this journey of academic exploration and collaboration. We invite all students to join us in this endeavor, whether as readers, writers, or contributors. Together, we can create a space where academic excellence and intellectual curiosity thrive, and where the voices of all are heard.

Introduction:

Various applications such as Kindle, Z-Library include books on numerous genres and topics. Apps such as Inkitt allows user to upload their own books. On a smaller level, colleges have their own websites, such as ours: Moodle. Notes, PDFs and PPTs shared by the teachers are available on this platform. However, it is a hassle to access numerous notes and keep track of it. Books, though available in library, are often times issued by students.

Thus, other studentscannot access the same book. As a solution to these problems, we propose a system titles “Absolute Journal” which will contain books, handwritten notes, PDFs etc. of all engineering subjects reducing the task of managing notes and books that are scattered over the internet. Absolute Journal's primary objective is to assemble books, pdfs, and notes from various learners and educators. When a student selects an E-note, it will appearing their personal "My Library."

Welcome to our online journal project, a platform for intellectual exchange and academic exploration. Our project is a student-led initiative, created by and for the students of our college, with the aim of providing a space for rigorous and thoughtful academic discourse. Our project is a reflection of our college's commitment to academic excellence, critical inquiry, and community engagement.

Through this project, we hope to provide a platform for students to share their research and academic work with a wider audience, and to foster intellectual exchange and collaboration among students, faculty, and the broader community. We believe that by sharing our work and engaging in meaningful dialogue, we can deepen our understanding of the world around us and develop the skills necessary for lifelong learning.

The system displays the notes uploaded by both students and faculty. The discussion box makes it possible for the students and teachers to share information with one another in order to clarify any misunderstandings. This web application also helps in making the notes available to all users at any point of time. Absolute Journal enables users to upload freely available books, which overcomes the concern of copyright fragmentation. A student can share their handwritten notes as well so their fellow pupils can access.

Problem Definition:

In this digital era, anything can be obtained over the internet, so people don't have to deal with any inconveniences or waste most of our time and also the books aren't available in the library most of the time as they are in limited quantity.
We believe that academic inquiry should be accessible to everyone, and that all voices and perspectives have a place in the academic conversation. Our project is committed to promoting diversity, equity, and inclusion in all aspects of our work, and we strive to create a welcoming and supportive community for all students.

Absolute Journal aims to provide books pdf's as well as notes by various teachers and students in an organized manner.
When selected by the student, the E-note will be available in their personal "My Library". The platform will display all notes uploaded by teachers as well as students. Discussion box will provide students and teachers to converse with one and another to solve doubts.

Model Selected: Evolutionary Process Model:
Evolutionary models are iterative. They are characterized in a manner that enables software engineers to develop increasingly more complete versions of the software.
1. We started with project initiation and requirement gathering.
2. We started scheduling the flow of Absolute Journal as well as estimating it's working.
3. The next module included the coding and designing of the project.
4. We added a new feature called "The Discussion Box".
5. Lastly, we worked on testing and analysing our project.
For Absolute Journal, Evolutionary process model was chosen as user can not only access notes, but also upload their own notes. As Evolutionary process model is iterative and linear, it was a perfect fit for our project

Objectives:

To develop a highly accessible web-app where all kinds of notes, pdfs and books are available.

- To provide an organized collection of all the materials available.
- To make a Dynamic web-app which can then be updated as and when the
- user uploads data.
- To make an engaging user-interface.
- To make books, notes and pdf available to all registered users
- To make a discussion box for sharing, receiving and upgrading one
- another’s knowledge.

Scope:

In the event that information is the cash of the information economy, digital libraries are where it is contributed'. Our project Absolute Journal is exclusively for the computer branch of A. P. Shah institute of technology. Herein all the subjects from all four years of engineering will be available.

Amongst several other features, notes from various teachers for the same subject will be available. This will help the students to gain a clearer idea about a certain topic that they may have found difficult previously. Students sharing their ideas and notes will also help making the web application interactive.

We believe that academic inquiry should be accessible to everyone, and that all voices and perspectives have a place in the academic conversation. Our project is committed to promoting diversity, equity, and inclusion in all aspects of our work, and we strive to create a welcoming and supportive community for all students.

Description:

AWS VPC:

A VPC, or Virtual Private Cloud, is a virtual network environment that provides a private and isolated network space within the public cloud infrastructure of Amazon Web Services (AWS), including EC2 (Elastic Compute Cloud). By using a VPC, you can create a logically isolated section of the AWS Cloud, in which you can launch AWS resources such as EC2 instances, RDS instances, and Elastic Load Balancers. You have complete control over your virtual networking environment, including the selection of your own IP address range, creation of subnets, and configuration of route tables and network gateways. Using a VPC in conjunction with EC2 allows you to deploy and manage a highly secure and scalable infrastructure in the cloud, while maintaining complete control over your network architecture and security. You can also use VPC to connect your AWS resources to your on-premises data center or other cloud environments using VPN or Direct Connect.

AWS EC2:

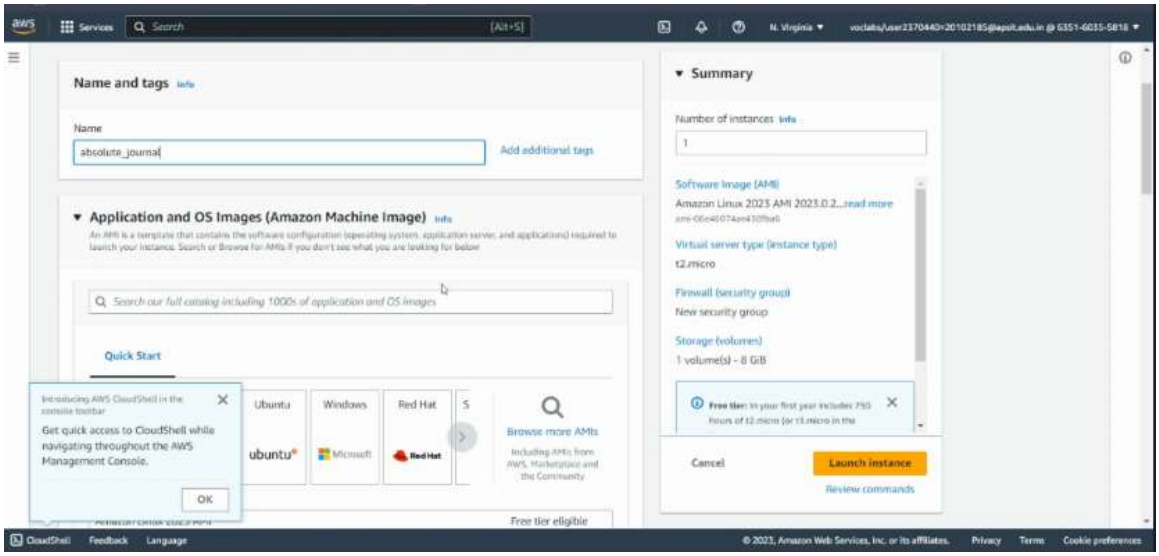
Amazon Elastic Compute Cloud (EC2) is a cloud computing service provided by Amazon Web Services (AWS). It enables users to rent virtual computers, called instances, in the AWS cloud, and run applications and workloads on these instances. EC2 provides a scalable infrastructure that allows users to increase or decrease capacity within minutes, depending on their computing requirements. Users can choose from a variety of instance types, each optimized for different workloads and use cases, such as general-purpose computing, memory-intensive workloads, or compute-optimized applications. With EC2, users can also configure security and networking features, such as firewalls, security groups, and virtual private clouds (VPCs), to isolate and secure their instances and data. EC2 also provides various storage options, including Elastic Block Store (EBS) and Amazon Simple Storage Service (S3), to store and manage data. EC2 is used by organizations of all sizes, from startups to large enterprises, for a wide range of use cases, including website hosting, data processing and analysis, machine learning, and running enterprise applications.

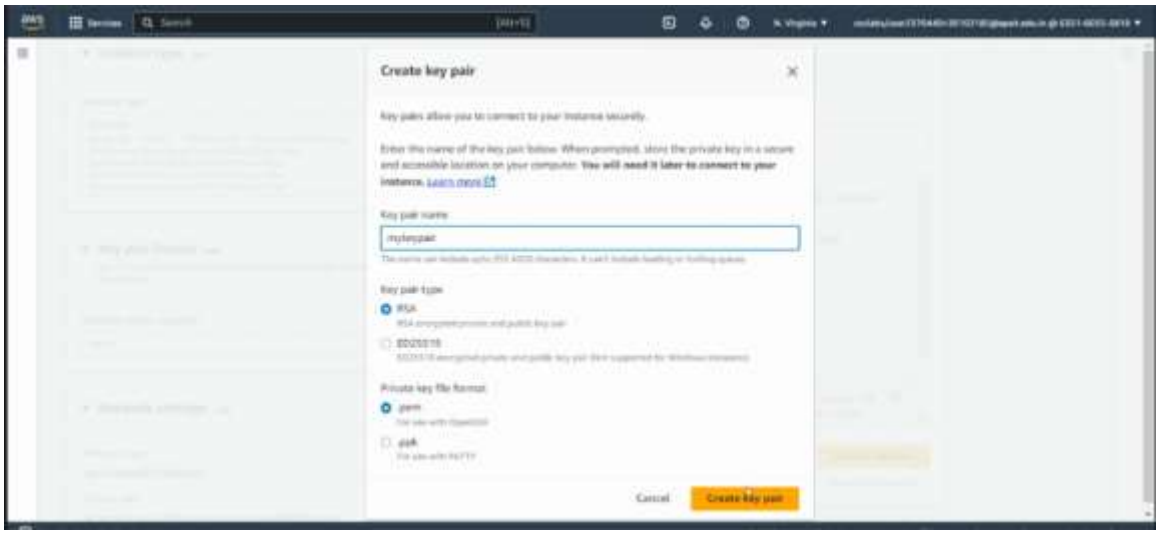
Amazon S3 (Simple Storage Service):
It is a cloud-based object storage service offered by Amazon Web Services (AWS). It allows users to store and retrieve large amounts of data from anywhere on the web, at any time, with virtually unlimited capacity. The primary objectives of Amazon S3 are: 1. Scalability: S3 is designed to scale up or down automatically based on the storage needs of the user. This means that users can start with a small amount of storage and increase it as they need more, without having to worry about the underlying infrastructure. 2. Security: S3 provides various security features to help protect data from unauthorized access. These include access control lists (ACLs), bucket policies, and server-side encryption. Additionally, S3 supports compliance with various industry standards, such

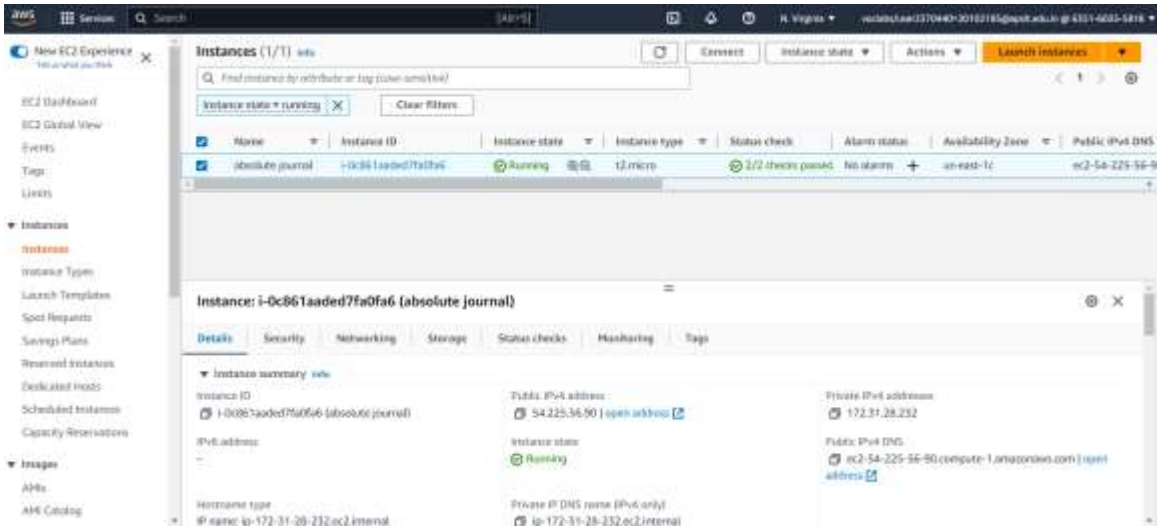
as HIPAA, PCI, and GDPR. 3. Ease of use: S3 provides a simple web interface and APIs for managing data, making it easy for users to upload, download, and manage their data. S3 also integrates with other AWS services, such as EC2 and Lambda, to provide a seamless experience for building and deploying applications in the cloud.

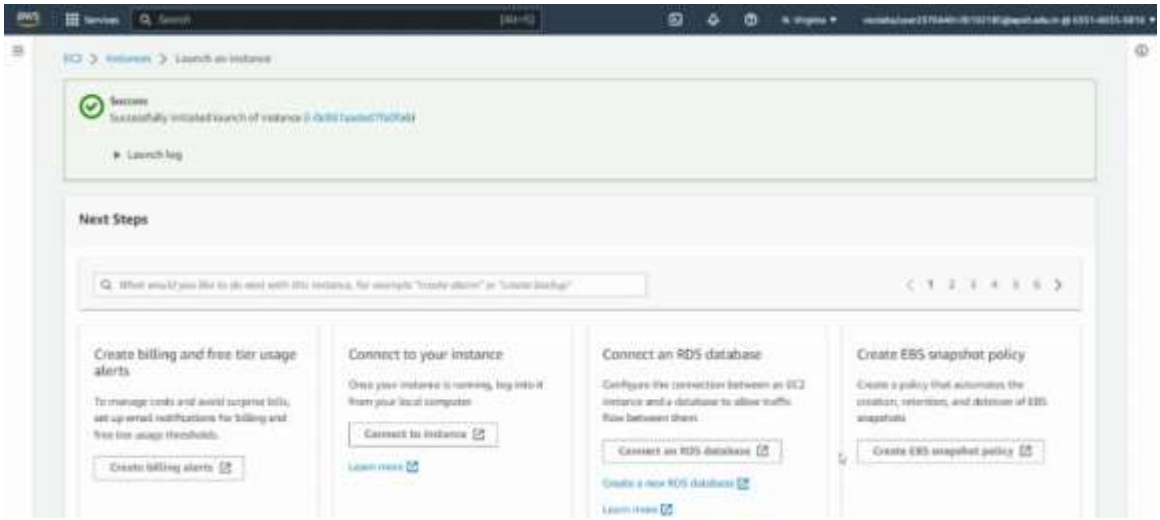
Implementation details with screen-shots (stepwise):

Instance Name:



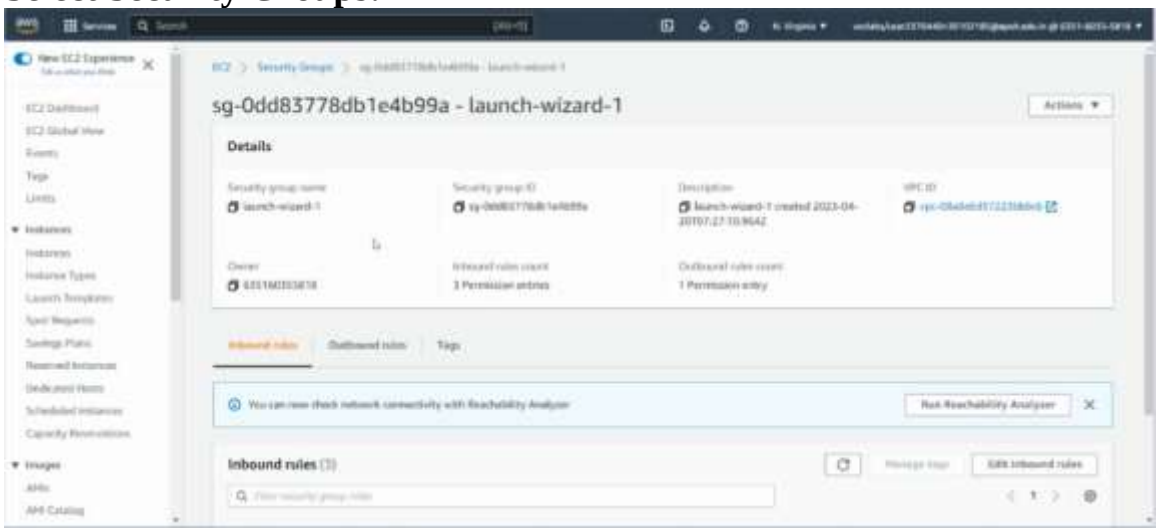



Instances (1/1)
Instance: i-0c861aaded7fa0fa6 (absolute journal)
Details
Security
Networking
Storage
Status checks
Monitoring
Tags

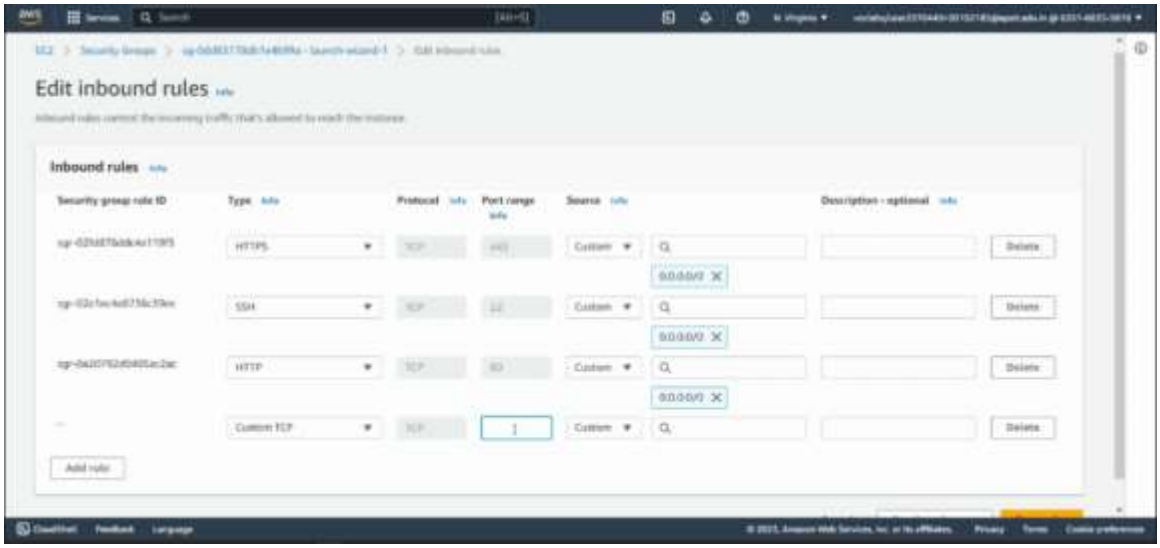

Next Steps
Create billing and free tier usage alerts
Connect to your instance
Connect an RDS database
Create EBS snapshot policy

 # Installation Commands
sudo su
sudo apt-get update
sudo apt-get install git
git clone [YOUR Repository]
cd [YOUR Repository]
python3 -m pip install -r requirements.txt
 # Run commands
python3 -m streamlit run filename.py

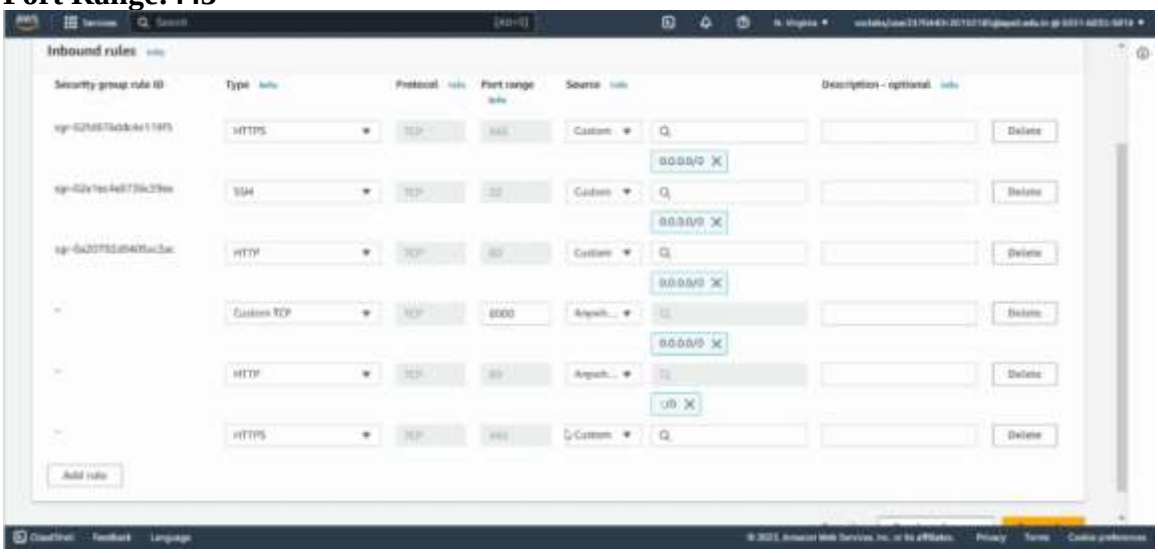
Select Security Groups:



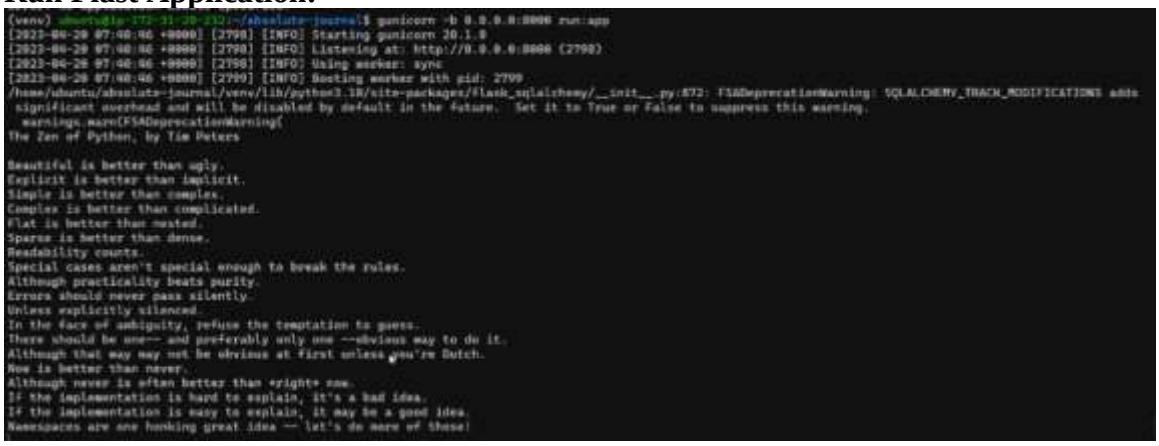
Edit Inbound rules:



Add Rule Type: Custom TCP- Port Range:8000, HTTP- Port Range:80, HTTPS- Port Range:443

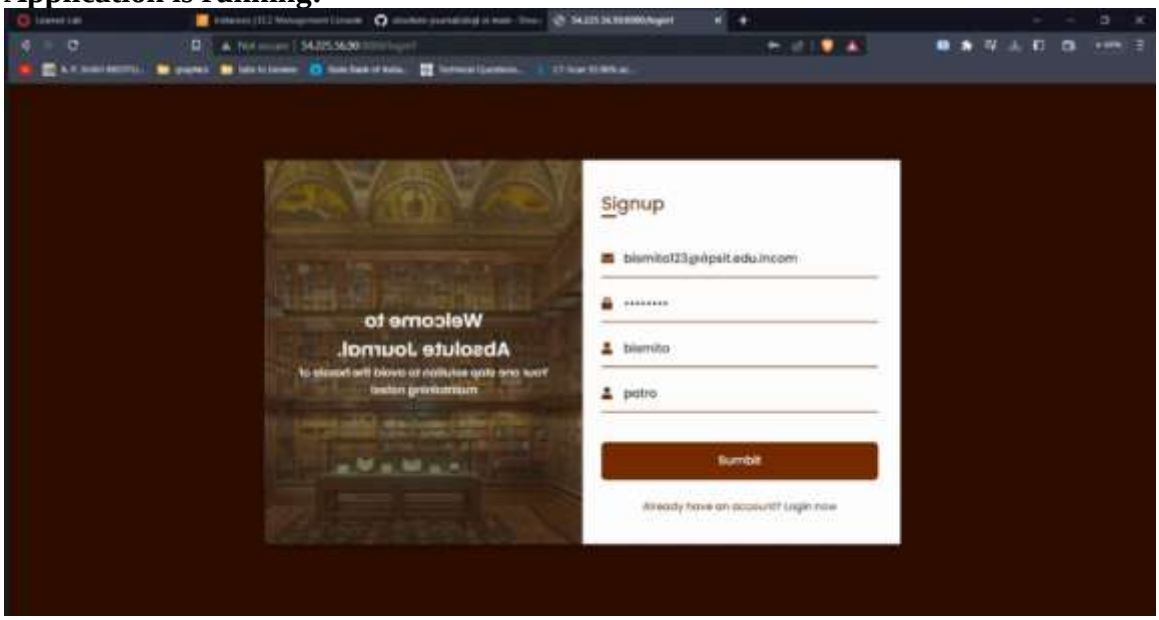


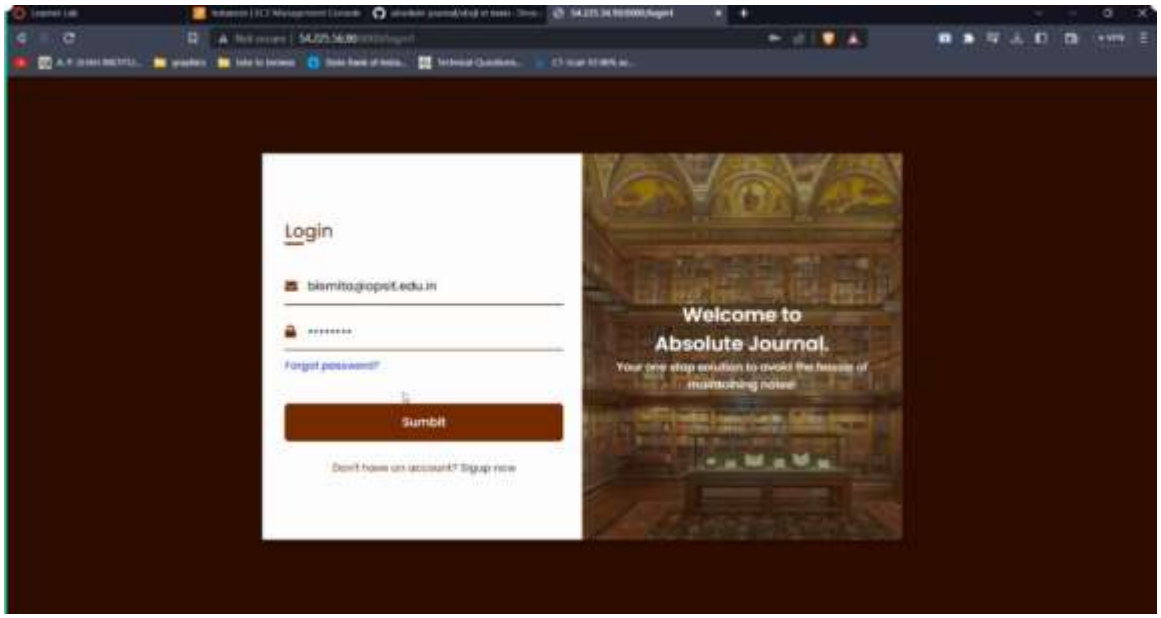
Run Flast Application:

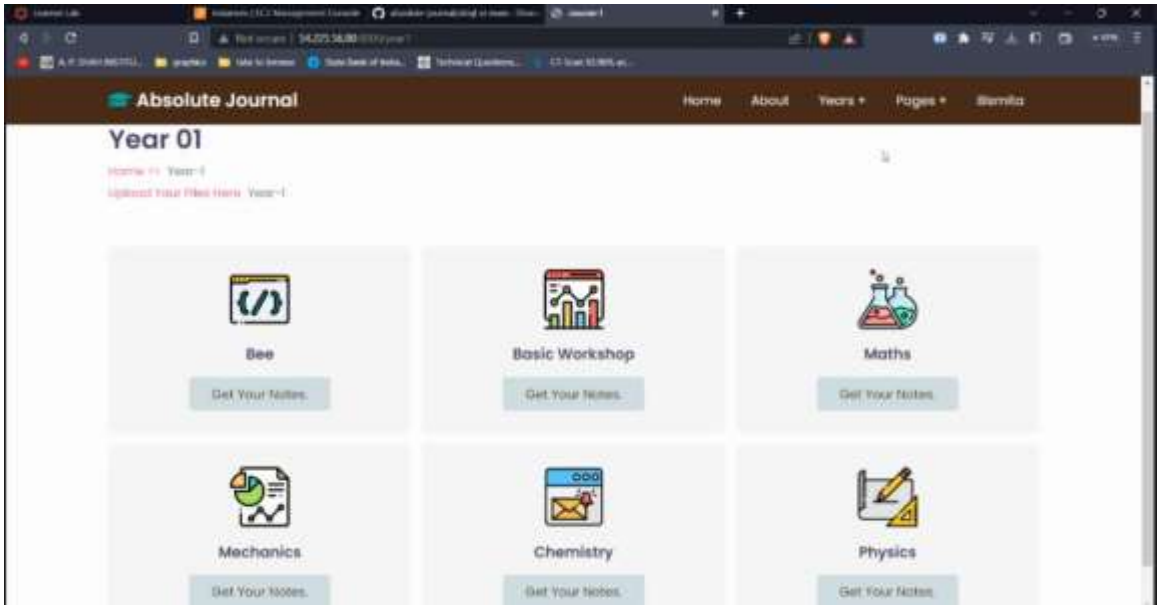


Database:

Paste http://54.225.56.90:8000 on a new tab
Application is running:



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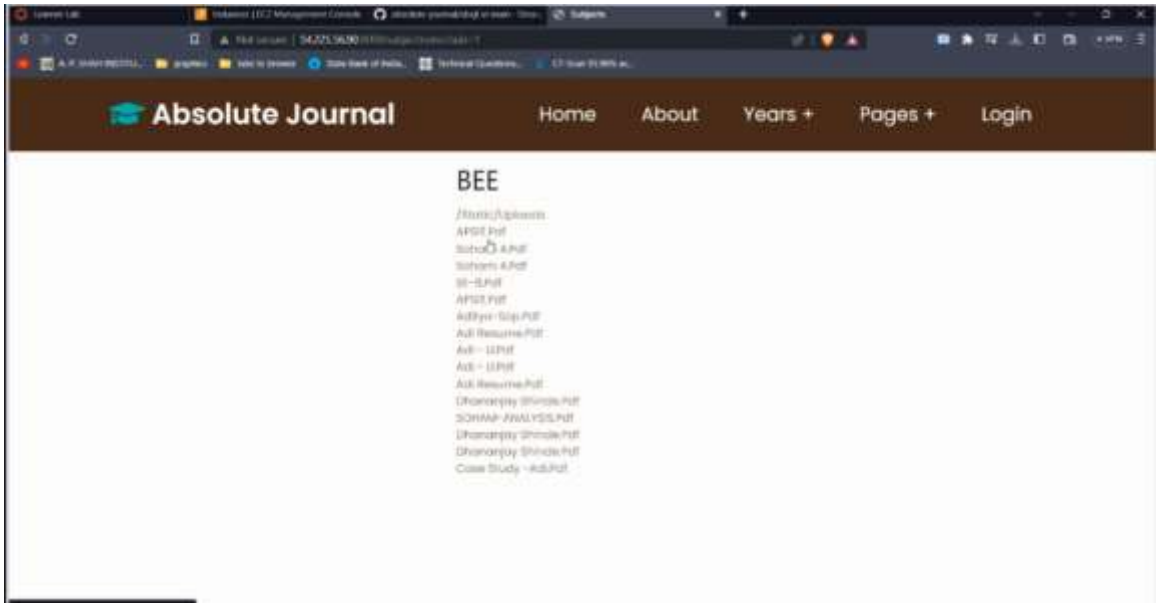
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Learning Outcome:

It is a hassle to access numerous notes and keep track of it. Books, though available in library, are often times issued by students. Thus, other students cannot access the same book. Limited copies of the books can cause great paranoia among the students. Often instances, books offer information that was only pertinent at the time they were originally published. Numerous books are out of date. It is quite a haste to maintain a lot of books and keep track of them. Furthermore, many publications written by certified authors are expensive and thus out of access for many learners. Some are difficult to locate because they are out of publication not only in institutions but also in bookshops.

Absolute Journal's primary objective is to assemble books, pdfs, and notes from various learners and educators. When a student selects an E-note, it will appearing their personal "My Library." The system displays the notes uploaded by both students and faculty. The discussion box makes it possible for the students and teachers to share information with one another in order to clarify any misunderstandings. This web application also helps in making the notes available to all users at any point of time. Absolute Journal enables users to upload freely available books, which overcomes the concern of copyright fragmentation.

As Absolute Journal is hosted on Amazon Elastic Compute Cloud (EC2) provides a dependable, scalable, and cost-effective approach to supply viewers with high-quality educational content. EC2's high availability, scalability, and security characteristics help ensure that readers have access to the most recent content at all times all the while keeping website operators' costs reasonable.

There are several things to consider before deploying a news website on Amazon Elastic Compute Cloud (EC2):

- **Select the appropriate instance type:** EC2 provides a variety of instance types with varying combinations of compute, memory, storage, and networking resources. It is critical to select the instance type that best meets the needs of the news website.
- **Optimize the operating system:** It is critical to optimise the operating system to ensure maximum performance and security.
- **Configure security groups:** Because EC2 security groups control traffic to and from the instance; they must be designed and deployed to ensure the news website's security.
- **Back up data:** It is critical to back up the website's data on a regular basis to avoid data loss in the event of a failure or disaster.
- **Select the appropriate region:** EC2 has several regions, each with a different availability zone. It is critical to select the region that best meets the requirements of the website's readers and operators.

Keeping these considerations in mind, website owners can ensure that their news website is optimised for performance, security, and scalability before deploying it on Amazon EC2.