
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** : **ChatApp**
- **Year and Semester** : **T.E. (Sem VI)**
- **Group Members Roll No. & Name** :

**20102095 Somiya Panikar**
**20102106 Namrata Narkhede**
**20102203 Sayali Nikam**

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**FOLLOW THE GUIDELINES GIVEN BELOW FOR PREPARING YOUR REPORT IN THE GIVEN FORMAT**

1. The project report should be neatly typed.
2. Avoid using Abbreviations.
3. The text should be justified and typed in the Font style ‘Times New Roman’ and Font size ‘12’.
4. Heading and subheading should be bold with font 14.

# Abstract

The anonymous chat room platform is a web-based application that allows users to join chat rooms and communicate with each other without revealing their identities. This platform is designed to offer a safe and secure place for people to discuss various topics without any fear of being judged or identified.The platform is built using modern web technologies and is deployed on the Amazon Web Services (AWS) cloud. By utilizing the AWS cloud, the platform can easily scale up or down based on traffic, and ensure high availability and reliability. The platform is designed to be easy to use, with users simply entering a room name to join a chat room and start communicating with others.

The chat rooms created on the platform are entirely anonymous, with no user registration or login required. Users can communicate with each other using text-based messages, making it a simple and user-friendly platform. Additionally, the platform is designed to be scalable and reliable, with features such as load balancing, auto-scaling, and database backups, ensuring that the platform is always available to users.The platform is also designed to be secure, with SSL/TLS encryption and user authentication. This ensures that all communication between users is encrypted and secure, protecting users' privacy and preventing any unauthorized access to the platform. User authentication helps ensure that only authorized users can access the chat rooms, providing an additional layer of security.The anonymous chat room platform offers an excellent opportunity for individuals to learn about cloud computing and DevOps methodologies while building a real-world application. By deploying the platform on AWS, individuals can gain valuable experience in working with cloud-based services, such as EC2 instances, IAM, and security groups. Additionally, individuals can gain experience in designing and deploying scalable and reliable applications using DevOps methodologies, such as continuous integration and deployment, infrastructure as code, and monitoring and troubleshooting.In conclusion, the anonymous chat room platform offers a safe, user-friendly, and scalable solution for people to communicate with each other without revealing their identities. Deploying the platform on AWS cloud provides an opportunity for individuals to gain valuable experience in cloud computing and DevOps methodologies, making it a great project for those interested in the field.



**Keywords :** anonymous chat room, Amazon Web Services (AWS), cloud computing, reliability, database backups, SSL/TLS encryption , security, EC2 instances, IAM, security groups

# Introduction

Chat rooms have been a popular form of online communication for several years now. They are virtual spaces where people can chat with each other in real-time, regardless of their physical location. Chat rooms have evolved over time, and today, there are many different types available, including anonymous chat rooms.

Anonymous chat rooms are online spaces where people can chat with each other without revealing their true identity. They offer a sense of privacy and anonymity that many users find appealing. These chat rooms can be found on various websites and are often used for different purposes, such as casual chatting, seeking advice, or finding support.

Chatapp is a website that provides an anonymous chat room for its users. Anyone can join the chat room by entering the room name. The website aims to provide a safe and secure space for people to communicate with each other while maintaining their anonymity. This type of chat room can be particularly useful for individuals who may not feel comfortable sharing personal information or want to avoid being judged for their opinions or beliefs.

The Chatapp anonymous chat room is designed to be easy to use. Users can create their own room by choosing a name for the chat room, and then invite others to join by sharing the room name. Once in the chat room, users can communicate with each other via text messages.

The website also provides some basic features to enhance the user experience, such as the ability to change the chat room's background color and font size. There is also an option to report any inappropriate behavior or messages to the website's administrators.

In conclusion, anonymous chat rooms provide an excellent opportunity for people to communicate with each other without revealing their true identity. The Chatapp website's anonymous chat room aims to provide a safe and secure space for people to communicate while maintaining their anonymity. With its simple design and basic features, it is an excellent option for anyone looking to connect with others online.

# Problem Definition

In the current digital age, online communication has become a fundamental aspect of our daily lives. However, many individuals may not feel comfortable sharing personal information or opinions due to concerns about privacy, security, or potential judgment. As a result, there is a growing need for online platforms that provide users with a safe and secure environment for anonymous communication.

This need for anonymity is especially prevalent in chat rooms where users can engage in real-time conversations with others on a variety of topics. However, not all chat rooms provide users with the option to remain anonymous. Moreover, existing anonymous chat rooms may not always provide a safe and secure environment for users, which can lead to instances of cyberbullying, harassment, or other forms of inappropriate behavior.

Therefore, the problem statement is to develop an anonymous chat room platform that provides users with a secure and safe environment to communicate with others while remaining anonymous. The platform should be user-friendly, easy to use, and allow users to connect with others on different topics without any fear of judgment or discrimination. The platform should also implement appropriate measures to prevent and mitigate instances of cyberbullying, harassment, or other forms of inappropriate behavior to ensure a safe and secure online environment for all users.

# Objective & Scope

## Objective:

The objective of this project is to develop an anonymous chat room platform that provides users with a safe and secure environment for online communication while allowing them to remain anonymous. The platform aims to provide a user-friendly interface that facilitates real-time communication between users on various topics, without any fear of judgment or discrimination. The platform will aim to achieve the following goals:

- Develop a user-friendly interface that allows users to create an anonymous profile and connect with others in real-time.
- Provide a secure and safe online environment that prevents and mitigates instances of cyberbullying, harassment, or other forms of inappropriate behavior.
- Implement features that allow users to report any inappropriate behavior or messages to the website's administrators.
- Provide tools that enable users to customize the chat room settings, such as background color and font size.

## Scope:

The scope of the project will include the following:

- Developing a website that provides an anonymous chat room platform.
- Designing a user-friendly interface that allows users to create an anonymous profile and connect with others in real-time.
- Developing a chat room system that enables users to engage in real-time conversations with others anonymously.
- Implementing security measures to prevent and mitigate instances of cyberbullying, harassment, or other forms of inappropriate behavior.
- Providing features that allow users to report any inappropriate behavior or messages to the website's administrators.
- Developing tools that enable users to customize the chat room settings, such as background color and font size.
- Ensuring the platform's performance and scalability to handle a large number of users.

The project's scope is to create a user-friendly anonymous chat room platform that provides users with a safe and secure environment for online communication. The platform will allow users to connect with others anonymously, engage in real-time conversations, and customize the chat room settings. The platform will also implement appropriate measures to prevent and mitigate instances of cyberbullying, harassment, or other forms of inappropriate behavior, providing a safe and secure online environment for all users.

# Description

(Include the cloud services used in the project, methodologies used and software requirements)

The anonymous chat room platform will be developed and deployed on the Amazon Web Services (AWS) cloud. AWS provides a robust and scalable cloud infrastructure that can handle the project's requirements.
EC2 Instance:

EC2 (Elastic Compute Cloud) is an AWS cloud service that provides scalable computing capacity in the cloud. It enables the deployment of virtual servers (known as instances) that can be launched in minutes and scaled up or down as per the application's demand. EC2 instances will be used to run the application servers and host the website. The EC2 instances will be configured with the appropriate operating system, web server software, and application server software. The instances will also be configured with appropriate security settings to ensure a secure environment for the application.

IAM:

IAM (Identity and Access Management) is an AWS service that enables the management of users and their access to AWS resources. It provides secure and granular access control to AWS resources and services. IAM will be used to manage the anonymous chat room platform's access and control the permissions of users and administrators. IAM will help to control access to AWS services and resources, making it easier to manage user access to the anonymous chat room platform.

Security:

Security is an essential aspect of the anonymous chat room platform, and appropriate security measures will be implemented to ensure the platform's integrity and confidentiality. AWS offers a wide range of security services and features to ensure secure application hosting on the cloud. The following AWS security services will be used to secure the anonymous chat room platform:

Virtual Private Cloud (VPC): VPC is an AWS service that enables the creation of a private virtual network within the AWS cloud. VPC will be used to isolate the anonymous chat room platform's infrastructure from other AWS resources, providing an additional layer of security.

Security Groups: Security groups are virtual firewalls that control traffic to and from AWS resources. Security groups will be used to restrict access to the EC2 instances hosting the anonymous chat room platform, allowing only authorized traffic.

SSL/TLS Certificates: SSL/TLS (Secure Sockets Layer/Transport Layer Security) certificates will be used to enable secure communication between the website and users'

browsers. SSL/TLS certificates provide encryption of data in transit, ensuring that the data transmitted over the network is secure.

Overall, the anonymous chat room platform will leverage the scalable and reliable AWS cloud infrastructure, along with appropriate security measures and access control, to provide a secure and reliable platform for online communication.

Software requirements:
Deploying a project on AWS cloud requires certain software and tools to ensure a successful deployment. Below are the software requirements for deploying the anonymous chat room platform on the AWS cloud:

- Operating System: The anonymous chat room platform will require an operating system to run on the EC2 instances. A popular choice for web applications is Linux-based operating systems such as Ubuntu or Amazon Linux.

- Web Server Software: A web server software such as Apache or Nginx will be required to serve the web pages to users' browsers. The web server software will be installed on the EC2 instances running the anonymous chat room platform.

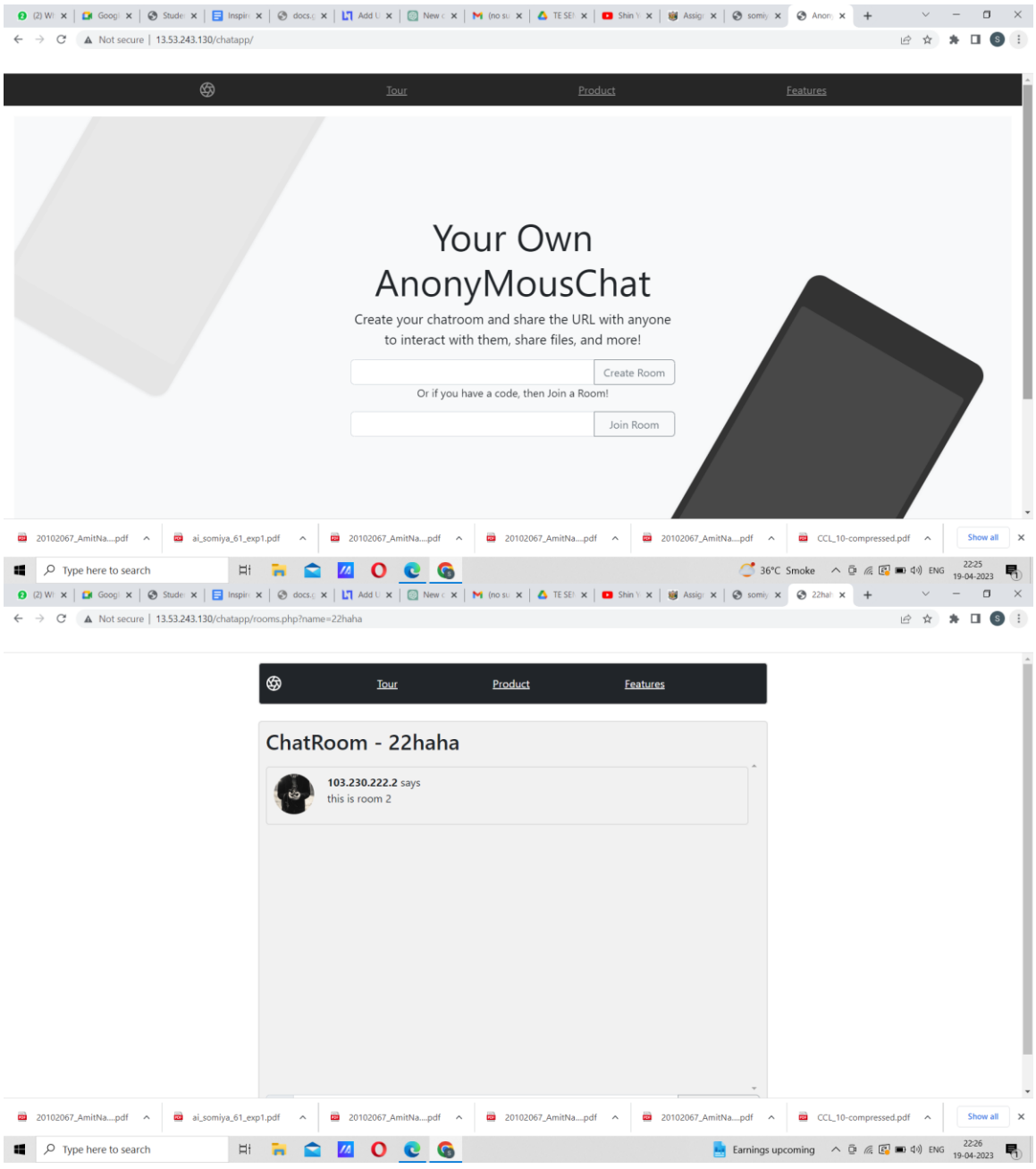
- Application Server Software: The anonymous chat room platform will require application server software such as Node.js or Flask to handle the application logic and communication with the database.

- Database Software: The anonymous chat room platform will require a database to store the user information and chat messages. A popular choice for web applications is a relational database such as MySQL or PostgreSQL.

- AWS Services: The anonymous chat room platform will rely on various AWS services to operate successfully. These services include EC2 instances, VPC, IAM, Load Balancer, and RDS (Relational Database Service).

- SSL/TLS Certificate: SSL/TLS certificates will be required to enable secure communication between the website and users' browsers. SSL/TLS certificates provide encryption of data in transit, ensuring that the data transmitted over the network is secure.

Overall, the project requires the use of various AWS services and SSL/TLS certificates to provide a secure and scalable deployment on the AWS cloud.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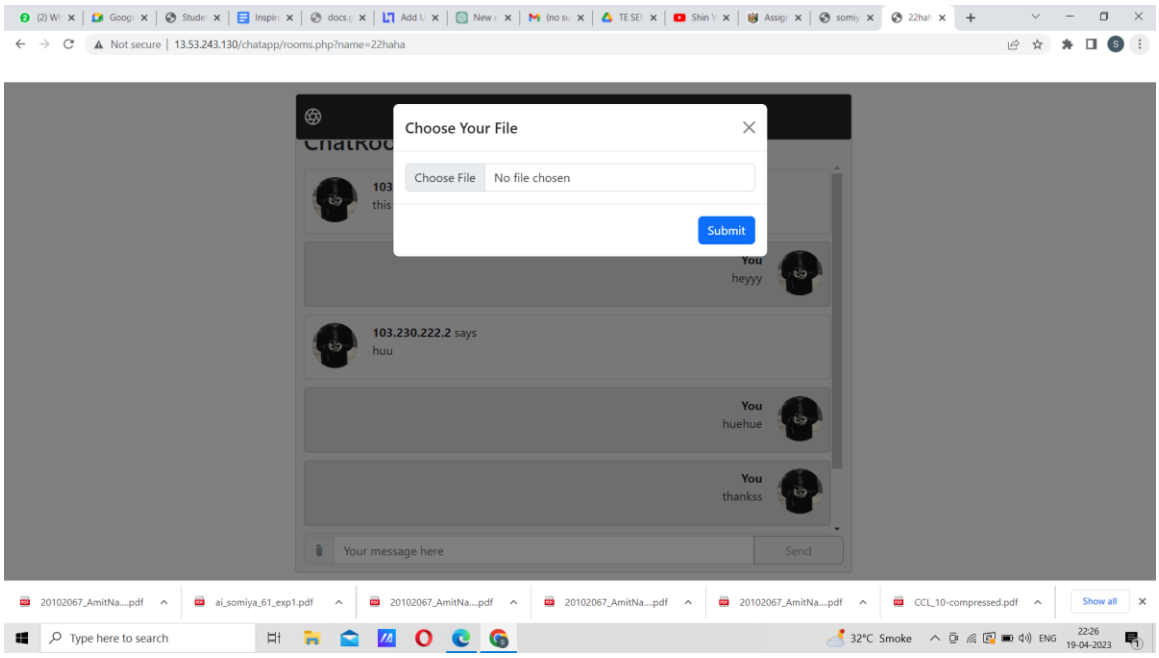
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Learning Outcome

- Understanding cloud computing and its benefits: By learning how to deploy a project on AWS cloud, individuals will gain a deeper understanding of cloud computing and its advantages, such as scalability, flexibility, and cost-effectiveness.

- Proficiency in cloud computing platforms: Individuals will acquire skills in deploying and managing applications on cloud platforms like AWS. This includes knowledge of various AWS services, understanding of infrastructure as code, CI/CD, and security best practices.

- Ability to design and deploy scalable and reliable cloud applications: With the skills acquired, individuals will be able to design and deploy scalable and reliable cloud applications that can handle large traffic loads and maintain high availability.

- Experience in DevOps methodologies: Individuals will gain experience in DevOps methodologies and tools, such as infrastructure as code, continuous integration and deployment, and monitoring and troubleshooting.

- Improved employability: By learning how to deploy a project on AWS cloud, individuals can enhance their employability in the IT industry, as cloud computing is in high demand.

Overall, learning how to deploy a project on AWS cloud provides individuals with valuable skills and knowledge in cloud computing and DevOps methodologies that can help them advance their careers and improve their employability.