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NEXT GEN EMPLOYABILITY PROGRAM

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CAPSTONE PROJECT SHOWCASE

Project Title

Voting Application using Django Framework-SURENDAR S(4083,AEC)

Abstract | Problem Statement | Project Overview | Proposed Solution |
Technology Used | Modelling & Results | Conclusion



Abstract

The proposed voting application is a web-based platform that allows users to create and participate in online votes. The application is built using the Django framework, a popular and well-supported Python-based web framework that provides a robust foundation for building scalable and secure web applications . The application is also designed to be flexible and scalable, with a modular architecture that allows for easy customization and extension. This makes it suitable for a wide range of use cases, from small-scale internal votes to large-scale public elections . Overall, the proposed voting application is a secure, user-friendly, and flexible platform for conducting online votes. Its use of the Django framework ensures a robust and scalable foundation, while its focus on security and user experience makes it an ideal choice for a wide range of voting scenarios.

Problem Statement

Online voting has become increasingly popular in recent years, with a growing number of organizations and governments turning to digital platforms to conduct elections and polls. However, online voting also presents a number of challenges, particularly in terms of security and integrity . Overall, the proposed voting application will address the challenges of security and integrity in online voting, while also providing a user-friendly platform for conducting online votes. Its use of the Django framework will ensure a robust and scalable foundation, while its focus on security and user experience will make it an ideal choice for a wide range of voting scenarios. In addition to its focus on security, the application will also prioritize user experience, with a clean and intuitive interface that makes it easy for users to create and participate in votes. The application will support multiple types of votes, including single-choice and multiple-choice votes, and will allow users to set deadlines and restrictions for each vote.

Project Overview

The project overview for a voting application using the Django framework involves creating a secure and user-friendly online voting system. The application allows users to register, vote, and view real-time results. Here is a steps involved in building the voting application:

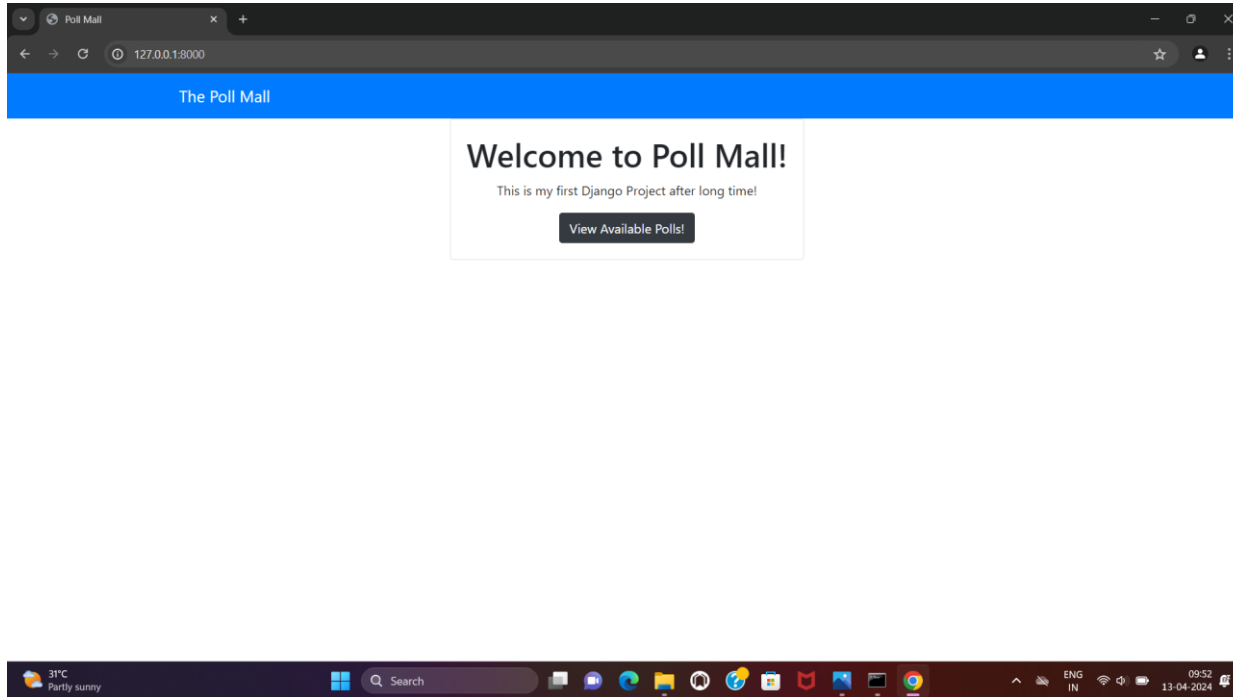
- 1.Setting up a Django Project:** Create a Django project to serve as the foundation for the voting application.
- 2.Designing the Database Schema:** Define the database structure to store user information, votes, and other relevant data.
- 3.Creating User Authentication:** Implement user authentication to allow users to register, log in, and participate in voting.
- 4.Building the Voting Interface:** Develop the interface where users can view options, select their choices, and submit votes.
- 5.Implementing Real-time Results:** Display the voting results dynamically to provide instant feedback to users.
- 6.Developing an Admin Panel:** Build an admin panel to manage the voting process, candidates, and user accounts effectively.

Proposed Solution

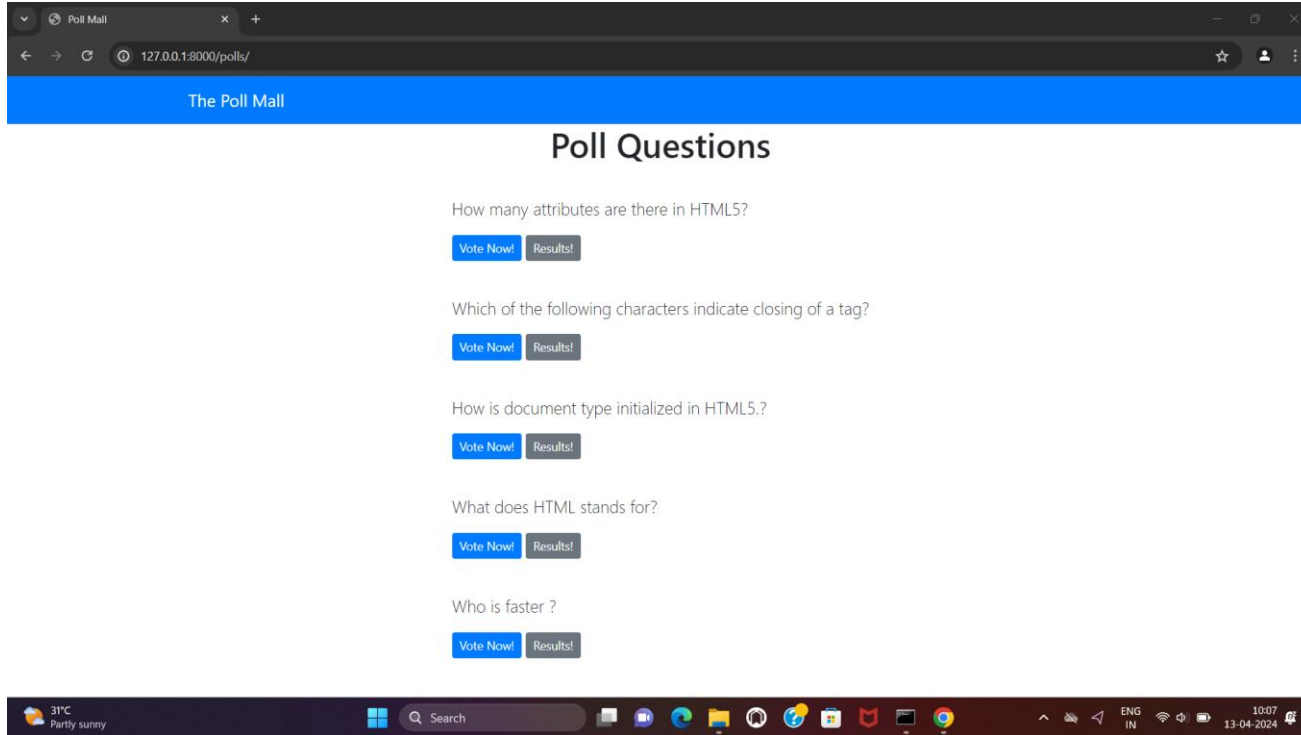
The proposed solution for a voting application using the Django framework is to create a secure and user-friendly online voting platform. The application will allow users to register, vote, and view real-time results. To build the application, the Django framework will be used as the foundation due to its robustness and scalability. The application will have a user-friendly interface, a secure database, real-time results, and an admin panel for efficient management of elections, candidates, and user accounts.

In summary, the proposed solution for a voting application using the Django framework is a secure, user-friendly, and flexible platform for conducting online votes. Its use of the Django framework ensures a robust and scalable foundation, while its focus on security and user experience makes it an ideal choice for a wide range of voting scenarios.

Home Page



Poll Page



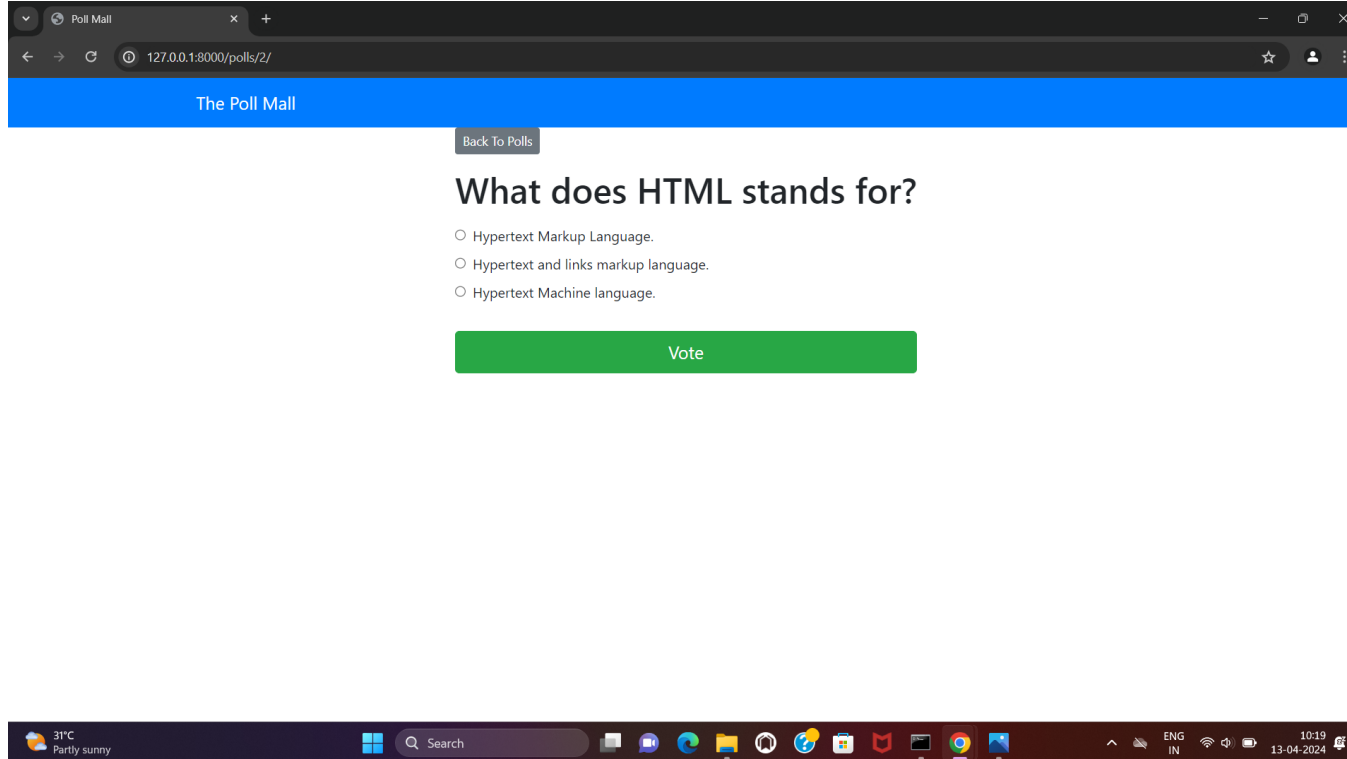
The screenshot shows a web browser window with the title 'Poll Mall' and the address bar displaying '127.0.0.1:8000/polls/'. The page has a blue header with the text 'The Poll Mall'. Below the header, the main content area is titled 'Poll Questions'. There are five questions listed, each with a 'Vote Now!' button and a 'Results!' button.

Poll Questions

- How many attributes are there in HTML5?
[Vote Now!](#) [Results!](#)
- Which of the following characters indicate closing of a tag?
[Vote Now!](#) [Results!](#)
- How is document type initialized in HTML5?
[Vote Now!](#) [Results!](#)
- What does HTML stands for?
[Vote Now!](#) [Results!](#)
- Who is faster ?
[Vote Now!](#) [Results!](#)

The bottom of the screenshot shows a Windows taskbar with the date and time '13-04-2024 10:07' and the weather '31°C Partly sunny'.

Voting Page



The screenshot shows a web browser window with the title 'Poll Mall'. The address bar displays '127.0.0.1:8000/polls/2/'. The page has a blue header with the text 'The Poll Mall'. Below the header, there is a button labeled 'Back To Polls'. The main content area asks the question 'What does HTML stands for?' and provides three radio button options: 'Hypertext Markup Language.', 'Hypertext and links markup language.', and 'Hypertext Machine language.'. At the bottom of the content area is a green button labeled 'Vote'. The Windows taskbar is visible at the bottom, showing the date as 13-04-2024 and the time as 10:19.

Poll Mall

127.0.0.1:8000/polls/2/

The Poll Mall

[Back To Polls](#)

What does HTML stands for?

☐ Hypertext Markup Language.

☐ Hypertext and links markup language.

☐ Hypertext Machine language.

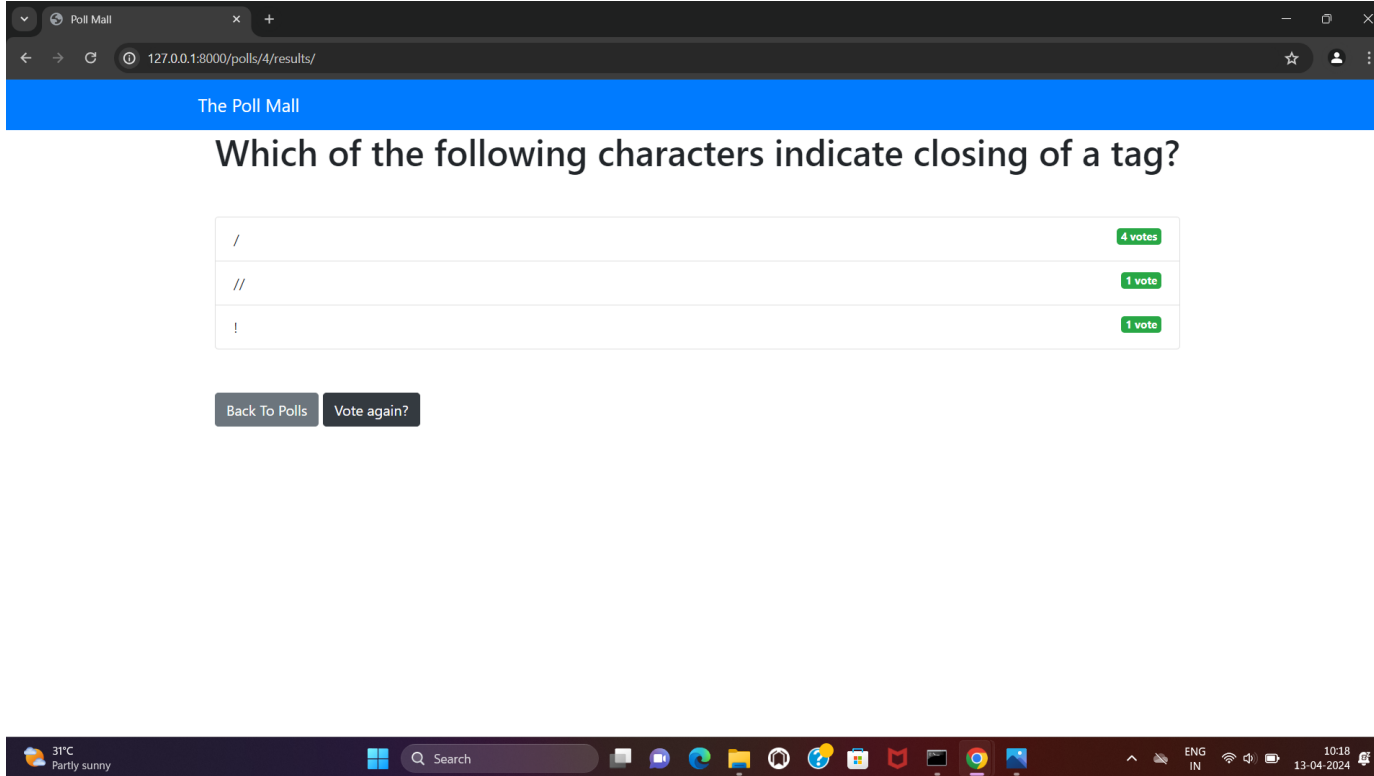
[Vote](#)

31°C Partly sunny

Search

ENG IN 10:19 13-04-2024

Voting Details Page



The Poll Mall

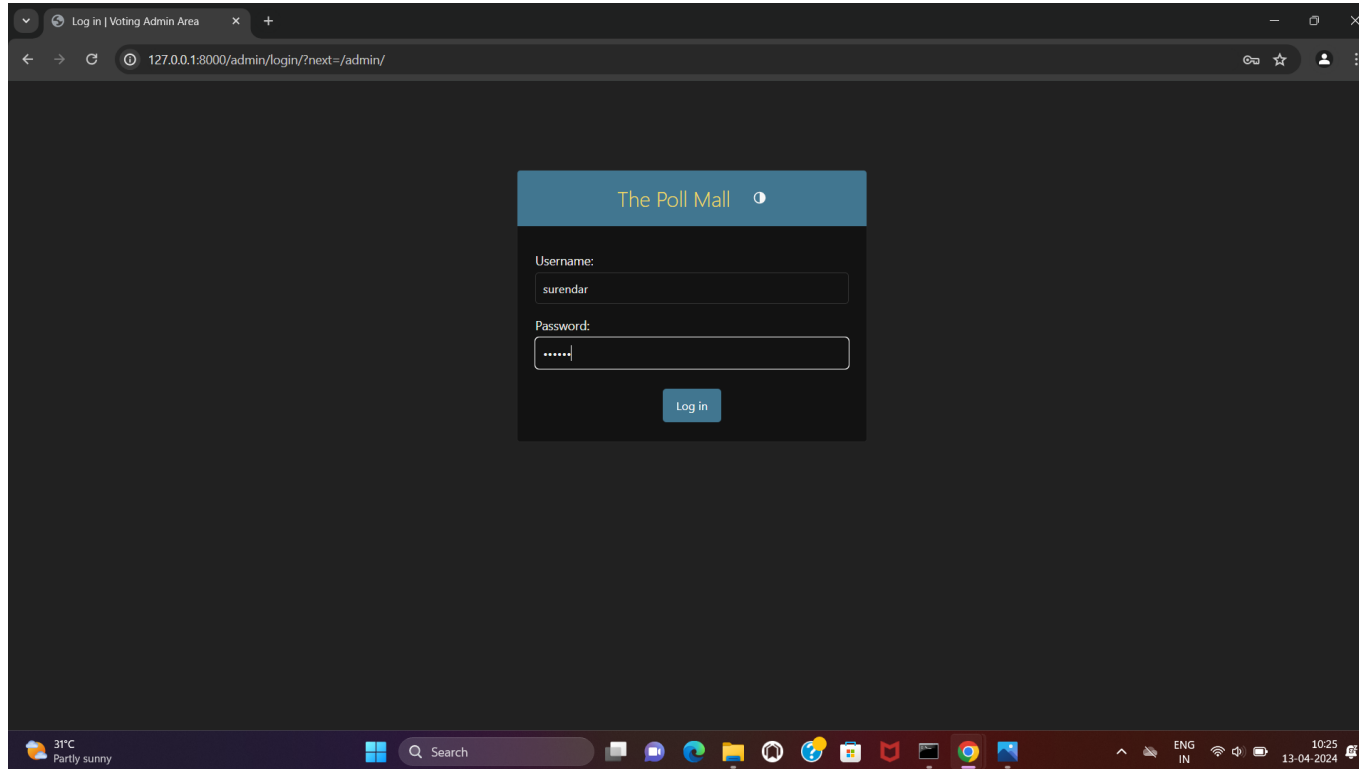
Which of the following characters indicate closing of a tag?

/	4 votes
//	1 vote
!	1 vote

[Back To Polls](#) [Vote again?](#)

31°C Partly sunny Search 10:18 13-04-2024

Admin Login Page



The screenshot shows a web browser window with the title "Log in | Voting Admin Area". The address bar displays the URL "127.0.0.1:8000/admin/login/?next=/admin/". The main content area features a dark blue background with a central white login form. The form has a header "The Poll Mall" with a small circular icon. Below the header, there are two input fields: "Username:" with the value "surendar" and "Password:" with masked characters ".....". A "Log in" button is positioned below the password field. The browser's taskbar at the bottom shows the Windows logo, a search bar, and various application icons. The system tray on the right indicates the temperature is 31°C, the weather is "Partly sunny", and the date and time are "13-04-2024 10:25".

Log in | Voting Admin Area

127.0.0.1:8000/admin/login/?next=/admin/

The Poll Mall

Username:
surendar

Password:
.....

Log in

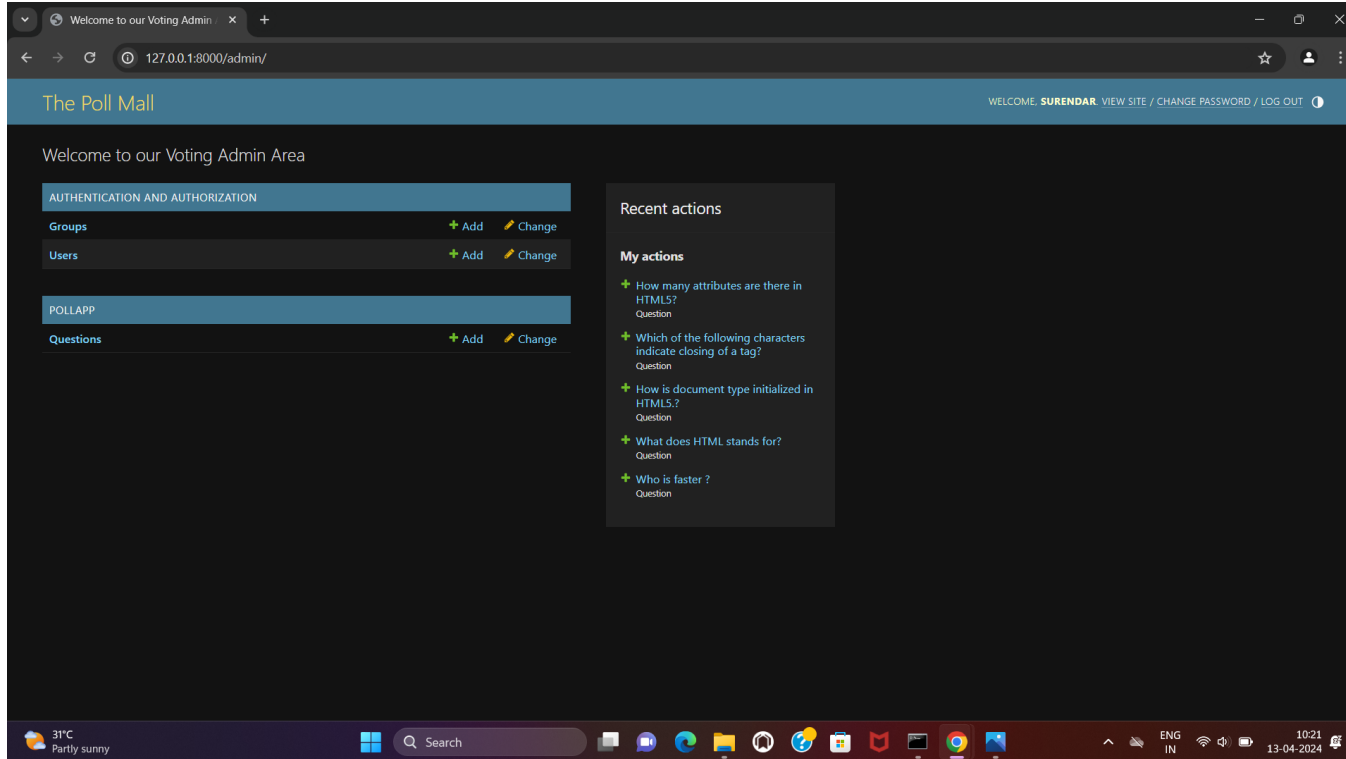
31°C
Partly sunny

Search

ENG
IN

13-04-2024 10:25

Admin Home Page



The screenshot displays the 'Admin Home Page' of a system titled 'The Poll Mall'. The browser address bar shows the URL '127.0.0.1:9000/admin/'. The page header includes a welcome message for 'SURENDAR' and links for 'VIEW SITE', 'CHANGE PASSWORD', and 'LOG OUT'.

The main content area is divided into two primary sections: 'Welcome to our Voting Admin Area' and 'Recent actions'.

Welcome to our Voting Admin Area

This section contains two main categories of management options:

- AUTHENTICATION AND AUTHORIZATION**
 - Groups**: Includes '+ Add' and 'Change' (pencil icon) buttons.
 - Users**: Includes '+ Add' and 'Change' (pencil icon) buttons.
- POLLAPP**
 - Questions**: Includes '+ Add' and 'Change' (pencil icon) buttons.

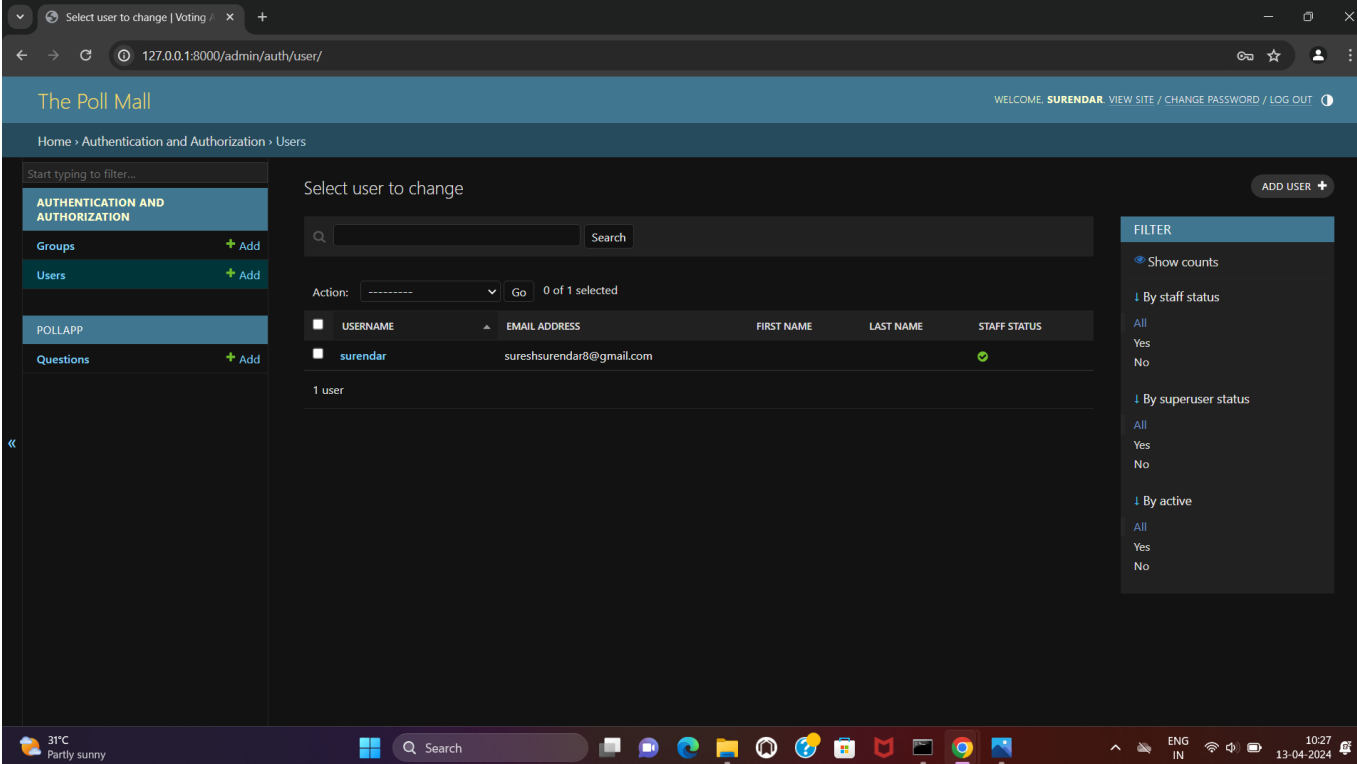
Recent actions

This section lists five recent actions, each preceded by a green plus icon and followed by the word 'Question':

- How many attributes are there in HTML5?
- Which of the following characters indicate closing of a tag?
- How is document type initialized in HTML5?
- What does HTML stands for?
- Who is faster ?

The Windows taskbar at the bottom shows the system is at 31°C, partly sunny, with the date and time set to 10:21 on 13-04-2024.

Authentication and Authorization Page



The screenshot shows a web browser window with the address bar displaying `127.0.0.1:8000/admin/auth/user/`. The page title is "The Poll Mall" and the user is logged in as "SURENDAR". The breadcrumb trail is "Home > Authentication and Authorization > Users".

On the left sidebar, under "AUTHENTICATION AND AUTHORIZATION", the "Users" link is selected. Below it, the "POLLAPP" section contains a "Questions" link.

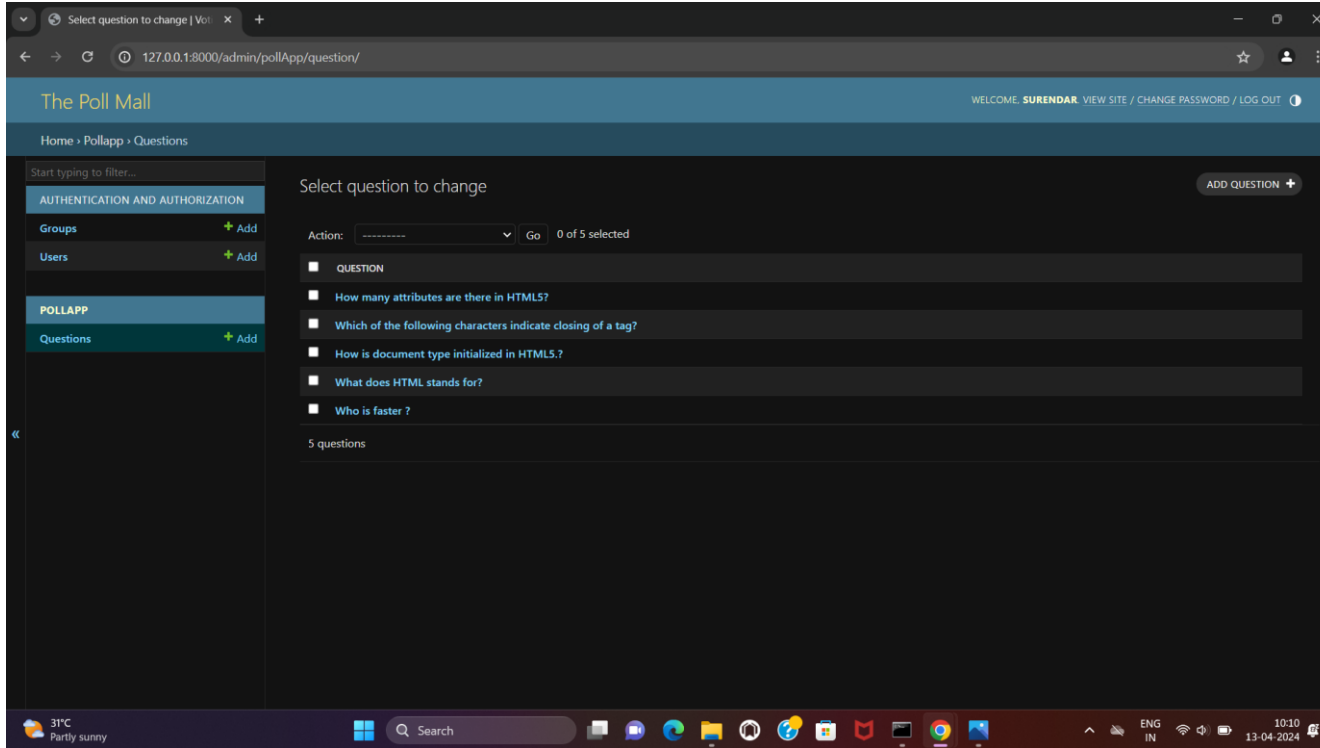
The main content area is titled "Select user to change". It features a search bar, an "ADD USER +" button, and a table of users. The table has columns for "USERNAME", "EMAIL ADDRESS", "FIRST NAME", "LAST NAME", and "STAFF STATUS". One user, "surendar", is listed with the email "sureshsurendar8@gmail.com" and a green checkmark in the "STAFF STATUS" column. Below the table, it indicates "1 user".

On the right, a "FILTER" sidebar is visible with the following options:

- Show counts
- By staff status
 - All
 - Yes
 - No
- By superuser status
 - All
 - Yes
 - No
- By active
 - All
 - Yes
 - No

The Windows taskbar at the bottom shows the date and time as 10:27 on 13-04-2024, along with various system icons and the language set to ENG IN.

Questions Adding Section Page



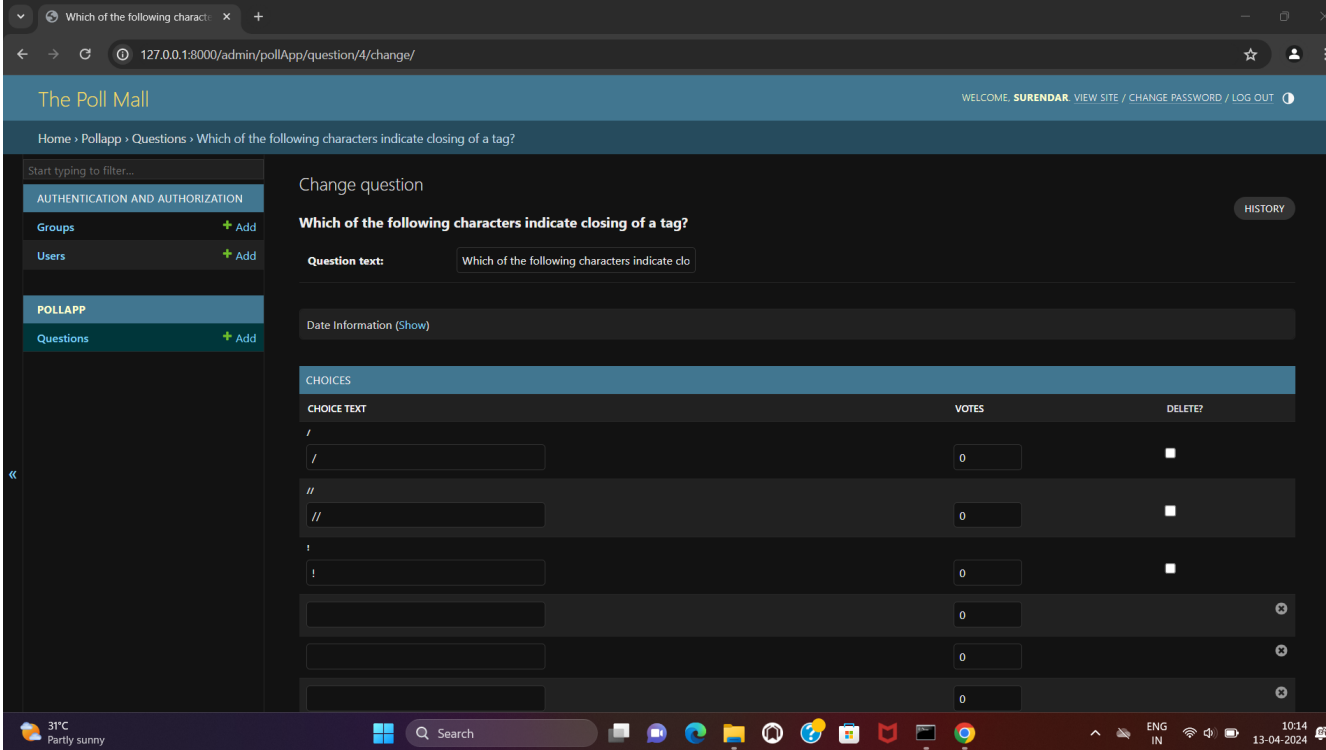
The screenshot displays a web browser window with the address bar showing `127.0.0.1:8000/admin/pollApp/question/`. The page title is "The Poll Mall" and the user is logged in as "SURENDAR". The navigation bar includes links for "VIEW SITE", "CHANGE PASSWORD", and "LOG OUT".

The main content area is titled "Select question to change" and features a search bar with the placeholder text "Start typing to filter...". Below the search bar, there are two sections: "AUTHENTICATION AND AUTHORIZATION" and "POLLAPP". The "POLLAPP" section is currently selected, showing a list of questions with checkboxes for selection. The questions are:

- QUESTION
- How many attributes are there in HTML5?
- Which of the following characters indicate closing of a tag?
- How is document type initialized in HTML5?
- What does HTML stands for?
- Who is faster ?

At the bottom of the list, it says "5 questions". The browser's taskbar at the bottom shows the system clock as 10:10 on 13-04-2024, along with various system icons and the Windows search bar.

Voting Details Page



The screenshot displays a web application interface for managing polls. The browser address bar shows the URL `127.0.0.1:8000/admin/pollApp/question/4/change/`. The application header includes the title "The Poll Mall" and a user greeting "WELCOME, SURENDAR" with links for "VIEW SITE", "CHANGE PASSWORD", and "LOG OUT".

The left sidebar contains a navigation menu with the following items:

- Start typing to filter...
- AUTHENTICATION AND AUTHORIZATION
 - Groups + Add
 - Users + Add
- POLLAPP
 - Questions + Add

The main content area is titled "Change question" and features a "HISTORY" button. The question text is "Which of the following characters indicate closing of a tag?". Below the question text, there is a "Date Information (Show)" section. The "CHOICES" table lists the following options:

CHOICE TEXT	VOTES	DELETE?
/	0	<input type="checkbox"/>
#	0	<input type="checkbox"/>
!	0	<input type="checkbox"/>
	0	<input type="checkbox"/>
	0	<input type="checkbox"/>
	0	<input type="checkbox"/>

The Windows taskbar at the bottom shows the system date and time as 10:14 on 13-04-2024, along with weather information (31°C, Partly sunny) and various application icons.

Technology Used

Front-end



Back-end



Future Enhancements:

Future enhancements in a voting application using the Django framework, several key features and improvements can be considered based on the information from the provided sources,

1.Asynchronous Programming: Implementing asynchronous programming can enhance the performance of the application by allowing tasks to run concurrently, improving responsiveness and scalability.

2.Microservices Architecture: Adopting a microservices architecture can make the application more modular, easier to maintain, and scalable by breaking it into smaller, independent services that communicate with each other

3.Serverless Computing: Utilizing serverless computing can optimize resource utilization and reduce costs by enabling automatic scaling and only paying for actual usage, enhancing the application's efficiency and cost-effectiveness.

4.Client-Side Encryption: Enhancing security by implementing client-side encryption can protect sensitive data and ensure the confidentiality of votes, contributing to a more secure e-voting platform.

5.Blockchain Technology: Integrating blockchain technology can provide transparent and verifiable voting processes, ensuring the integrity of elections and promoting trust in the system

Conclusion

To create a voting application using Django, one should have a solid understanding of Python programming, Django framework, HTML, CSS, and Bootstrap. The development process involves creating a new Django project, creating a Django app, defining models, creating views, defining templates, and creating URLs. The application can be further enhanced with features such as real-time results, a user-friendly interface, and a secure database design. It can also include an admin panel for managing elections, candidates, and user accounts. Overall, a voting application using the Django framework is a powerful and flexible solution for creating online voting systems that can cater to various use cases and requirements.

Thank You!