**User Authentication using Flask**

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**Overview**

This is a user authentication system build using Flask as well as Django, integrated with a Cassandra Database. This system allows users to register, login, reset password, logout and delete their account.

**Introduction**

The objective is to build a simple web application that manages user registration and login functionalities. The database system used offers a system for better performance and scalability.

**System Architecture**

Frontend: HTML & CSS

Backend: Flask

Database: Cassandra

**Technologies Used**

* Python 3.11
* Flask 3.2
* Apache Cassandra 4.0
* HTML
* CSS
* JavaScript

**Setup Instructions**

Prerequisites

* Python 3.11
* Cassandra installed and running.
* Flask installed.

**Features**

* User registration
* User login and logout
* Password Protection
* Reset Password
* Authentication to reset password.
* Cassandra integration

**Project Structure**

**app/**

**|── app.py**

**|── templates**

**|── login.html**

**|── register.html**

**|── reset\_password.html**

**|── dashboard.html**

**|── home.html**

**|── static/**

**|── #image**

**Database Design**

* **username**: User’s login name
* **firstname**: User’s first name
* **lastname**: User’s last name
* **age**: User’s age
* **password**: User’s login password
* **security\_question**: User’s security question for authentication
* **security\_answer**: User’s security answer for authentication

The query used for the creation of the table is as follows:

CREATE TABLE IF NOT EXISTS users\_detail (

        username TEXT PRIMARY KEY,

        firstname TEXT,

        lastname TEXT,

        age INT,

        password TEXT,

        security\_question TEXT,

        security\_answer TEXT

    )

**Manual Testing**

* Registering a new user
* Logging in with the valid/invalid credentials
* Feature to reset password, if forgotten
* Logging out

**Limitations and Future Scope**

* Only basic authentication done for password reset.
* Currently supports only basic authentication.
* Future versions may include:
  + Multi-factor authentication
  + A better dashboard