

### 1. App Initialization & Configuration

#### Initialization:

python

Copy code

```
app = Flask(__name__) # Initializes the Flask app.
```

- - **Database Setup:**
    - `app.config["SQLALCHEMY_DATABASE_URI"]`: Sets up SQLite for data persistence.
    - `db = SQLAlchemy(app)`: Initializes SQLAlchemy ORM for database operations.
  - **Security:**
    - `app.config["SECRET_KEY"]`: Configures secret key for session security.
    - `bcrypt = Bcrypt(app)`: Enables password hashing.
  - **File Management:** Configures directories for resume uploads and static files.
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### 2. User Authentication

- **Routes:**
    - `/login (POST)`: Verifies username and password using the database and logs the user in.
    - `/signup (POST)`: Registers a new user with hashed passwords and stores them in the database.
    - `/logout (GET)`: Clears the session and redirects to the login page.
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### 3. Resume Management

- **Upload:**
  - **Route:** `/student/upload (POST)`
  - **Purpose:** Allows users to upload resumes, storing file paths in the database.
- **Review:**
  - **Admin Functionality:**
    - Add comments to resumes via `/comment/<user_id>/<admin_user_id>`.

- Save comments using /save\_comment (POST), updating the resume\_review table.
  - **Student View:**
    - **Route:** /student\_comments/<user\_id> (GET)
    - **Purpose:** Displays admin comments for the student.
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#### 4. Bookmark Jobs

- **Routes:**
    - /bookmark (POST): Saves bookmarked jobs to the bookmarked\_jobs table.
    - /test (GET): Retrieves and displays bookmarked jobs.
  - **Purpose:** Allows users to save and manage preferred job listings.
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#### 5. Event Management

- **Add Event:**
    - **Route:** /post\_event (POST)
    - **Purpose:** Enables users to add events such as webinars, career fairs, etc.
  - **Retrieve Events:**
    - **Route:** /student
    - **Purpose:** Displays events relevant to the logged-in user, fetched from the events table.
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#### 6. Database Management

- **Database Creation:**
  - create\_tables(db): Initializes tables (client, jobs, bookmarked\_jobs, events, resume\_review) to structure the application's data.
- **Tables:**
  - **client:** Stores user credentials and roles.
  - **jobs:** Stores job application details.
  - **bookmarked\_jobs:** Manages saved job listings.
  - **events:** Tracks events linked to users.
  - **resume\_review:** Stores uploaded resumes and admin comments.

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## 7. Key Features

- Secure login and signup with hashed passwords.
- Resume management with admin reviews and comments.
- Bookmarking and event management for personalized user experience.