

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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5. 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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6. 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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9. 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.

12. Key Features

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