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| RAZDA Co. | | |
| **Filename: [password\_reset.py]** | | |
| **Summary***:*  The password\_reset.py file provides users with a secure process for resetting their passwords, sending a unique reset link to their verified email addresses. It generates temporary tokens and ensures password changes meet security standards. This system helps maintain account access while protecting user data, enhancing account security and safeguarding against unauthorized access. | | |
| ***Processes*** | | |
| * **Environment and Logging Setup:** | * **Loads environment variables, including database and SMTP credentials, to securely manage sensitive configurations. Configures logging in password\_reset.log, capturing events like token generation, email dispatch, and password changes to track password reset activities.** | |
| * **Database Connection:** | * **Defines connect\_db() for establishing a secure, reusable database connection, essential for accessing the users and password\_resets tables. Logs connection errors to aid troubleshooting if database connectivity issues arise.** | |
| * **Password Reset Token Generation:** | * **Generates a unique password reset token using uuid.uuid4() and stores it in password\_resets. Associates tokens with users, setting an expiry time (1 hour) to prevent indefinite access. Logs each token generation, creating a trail for each reset request.** | |
| * **Secure Password Update:** | * **Implements secure password updating, ensuring only valid tokens update user passwords. Uses bcrypt to hash new passwords before storing, enforcing high security. Logs updates and prevents reused or expired tokens, further enhancing security.** | |
| **Files it Gets Information From:** | | **Files it Sends too:** |
| * **.env file**: Contains credentials for the database and SMTP server, such as DB\_HOST, DB\_USER, DB\_PASSWORD, SMTP\_USER, and SMTP\_PASSWORD. Keeps sensitive information secure and easily configurable. | * **Log file (password\_reset.log)**: Logs actions, including token generation, email dispatch, password update attempts, and errors. These logs support auditing, debugging, and tracking for each password reset request. | |
| **Expected input into file:** | | **Expected output from file:** |
| * **User ID, Email, Username**: Required inputs for sending a password reset email. **New Password**: Provided by the user for updating their account after token verification. **Token**: A unique string that enables secure reset; used only once per request. | | * **Database Record for Reset Token**: Stores each token in the password\_resets table with user ID, expiration, and usage status. **Password Reset Email**: Sends an email with the reset link, directing users to reset their password securely. Logs token usage and password update success or failure. |
| **Things that need to be taking place:** | | |
| |  | | --- | | **1. Environment Variable Verification: Confirm all environment variables (e.g., DB\_HOST, DB\_USER, SMTP\_USER) are present and configured correctly in .env. Test each variable to confirm it loads as expected and does not cause interruptions.** |  |  | | --- | | **2. Logging Verification: Ensure password\_reset.log captures key actions, including token generation, email sending, and password update attempts. Logs should include timestamps, user IDs, and relevant status messages for efficient auditing.** |  |  | | --- | | **3. Token Security and Uniqueness: Validate that uuid.uuid4() produces unique tokens, making reset links secure and unpredictable. Ensure tokens are stored with an expiration timestamp to prevent indefinite access.** |  |  | | --- | | **4. SMTP Configuration and Testing: Confirm SMTP settings (e.g., server, port, credentials) are correctly configured, and that test emails are sent successfully. Error messages should indicate connection or credential issues, with logs capturing detailed failure descriptions.** |  |  | | --- | | **5. Password Update Functionality: Ensure password updates comply with security policies:** |  |  | | --- | |  | | | |
| Edit log (update each time you make changes to doc or file). | | |
| * Oliver Smith (Razda Admin) Nov 8, 2024: | | |