|  |
| --- |
| REST API Testing challenge |
|  |

**Challenge Title: REST API Testing Challenge**

**V1.0**

**Challenge Overview:** As a senior automation test engineer, your task is to automate the testing of a RESTful web service using Python and the **requests** library. The web service has endpoints for user authentication and profile management. Your goal is to create a robust automation script to perform the following tasks:

1. Using the following API : https://gorest.co.in/
2. Authenticate a user by obtaining an authentication token using valid credentials.
3. Verify that the authentication is successful by checking the response st+atus and extracting the token.
4. Use the obtained token to make requests to retrieve and validate user profile information.
5. Update the user's profile information (e.g., change the display name).
6. Verify that the profile information is updated correctly.
7. Implement error handling for various scenarios (e.g., invalid credentials, missing token).
8. Include meaningful comments in your code to explain the purpose of each section.

**Requirements:**

1. Use the **requests** library for making HTTP requests in Python.
2. Implement the automation script in a modular and maintainable way.
3. Handle authentication token management effectively.
4. Include clear and informative test output or reports.
5. Make the script parameterized, allowing the tester to easily switch between different test environments (e.g., development, staging, production).
6. Provide a README.md file with instructions on how to run the automation script and any additional information.

**Bonus Points (Optional):**

1. Use a testing framework such as PyTest
2. Implement a data-driven approach by storing test data separately.
3. Parallelize test execution for improved efficiency.
4. Handle and test for edge cases in the API responses.
5. Implement a mechanism for cleaning up test data after the tests are executed.

**Submission:**

1. Commit your code to https://github.com/
2. Include a README.md file with instructions on how to run the automation script and any additional information.

**Note:** Make sure to provide any necessary setup instructions, including the installation of dependencies, in your README file. The challenge is designed to assess your automation skills, coding style, and ability to create a maintainable and reliable test suite for REST API testing