**SQAT Assignment – 2**

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**Load Testing Use Case: Application API - Post Creation, Retrieval, Authentication, and Commenting**

**Objective:**

To perform load testing on the application's API endpoints related to user authentication (login/signup), post management, and commenting functionality.

**Scenarios:**

1. **Scenario 1: Create a Post**
   * Description: Simulate multiple users concurrently creating new posts via the API.
   * Steps:
     + Send HTTP POST request to **/posts/create** with a JSON payload containing post data.
     + Verify successful creation response (HTTP status code 200).
2. **Scenario 2: Get Posts**
   * Description: Simulate multiple users retrieving a list of posts via the API.
   * Steps:
     + Send HTTP GET request to **/post/near** to fetch posts.
     + Verify response includes the expected list of posts (HTTP status code 200).
3. **Scenario 3: User Authentication (Login)**
   * Description: Simulate users logging into the application via the API.
   * Steps:
     + Send HTTP POST request to  **/login** with user credentials.
     + Extract authentication token from the response.
     + Verify successful login response (HTTP status code 200).
4. **Scenario 4: User Registration (Signup)**
   * Description: Simulate new users registering/signup for the application via the API.
   * Steps:
     + Send HTTP POST request to **/signup** with user registration data.
     + Verify successful registration response (HTTP status code 200).
5. **Scenario 5: Comment on a Post**
   * Description: Simulate users commenting on a specific post via the API.
   * Steps:
     + Send HTTP POST request to **/post/createComment** with comment data and authentication token.
     + Verify successful comment creation response (HTTP status code 200).

**Performance Metrics:**

* Measure and analyze the following performance metrics during load testing:
  + Response times for each API endpoint under different load levels (concurrent users).
  + Throughput (requests per second) for key endpoints.
  + Error rates and error types encountered during load testing.

**Load Profile:**

* Use various load profiles (e.g., ramp-up) to simulate realistic user traffic and load conditions.
* Scale the number of concurrent users (**USERS**) and ramp-up duration (**RAMP\_DURATION**) to test the application's scalability and performance under load.