**API Test Summary Report**

**Date:** 15 July, 2024

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### **Overview**

This report summarizes the API testing conducted on [insert date or date range]. The objective was to verify the functionality, performance, and reliability of the API endpoints.

During recent API testing, several anomalies were observed when attempting to fetch data over different time spans using a POST request. The results varied significantly based on the duration of the data being requested, leading to inconsistent and unpredictable responses. Below are the detailed observations:

#### **Detailed Observations**

1. **Fetching Data for One Week**:
   * **Outcome**: Successful
   * **HTTP Status**: 200 OK
   * **Description: When data is requested for one week, the API consistently returns the expected results without errors.**
2. **Fetching Data for 15 Days**:
   * **Outcome**: Inconsistent
   * **HTTP Status**:
     + Sometimes 200 OK
     + Sometimes 502 Bad Gateway
   * **Description**: Requests for data spanning 15 days yield mixed results. While the API occasionally returns a successful response (200 OK), it also frequently encounters errors (502 Bad Gateway), indicating an intermittent issue that may be linked to the size or complexity of the data being processed.
3. **Fetching Data for More Than 15 Days**:
   * **Outcome**: Unsuccessful
   * **HTTP Status**: Continuously 502 Bad Gateway
   * **Description**: Requests for data exceeding a 15-day duration consistently fail, resulting in a 502 Bad Gateway error. This suggests a potential limitation or timeout issue when handling larger data sets.
4. **Fetching Data for Specific Days (27 to 31)**:
   * **Outcome**: Successful
   * **HTTP Status**: 200 OK
   * **Description**: Interestingly, when the data request is narrowed down to specific days within a larger time frame (e.g., from day 27 to day 31), the API returns a successful response (200 OK). This implies that the issue may not be solely related to the date range but could be influenced by the volume or nature of the data.

### **Test Results**

Some exceptional results from the API Test report;

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **SL No.** | **API CURL** | **Request** | **Start Date** | **End Date** | **Amount Per Page** | **Total Elements** | **Response Screenshot** | **Status** |
|  |  |  |  |  |  |  |  |  |
| 1 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/7/2024 | 8 | 318 | <https://prnt.sc/-sRmBAvWOK3y> | 200 |
| 2 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/9/2024 | 24 | 476 | <https://prnt.sc/lyqsw50Fw8Rp> | 200 |
| 3 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/14/2024 | 24 | 1002 | <https://prnt.sc/gkfEN5-JF_jZ> | 200 |
| 4 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/21/2024 | 8 | N/A | <https://prnt.sc/u68Q8K1OkBVS> | 502 |
| 5 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/16/2024 | 8 | N/A | <https://prnt.sc/n48SrpcyEW3g> | 502 |
| 6 | <https://keeron.selisestage.com/api/business-keeron/activity/student-activity/reports> | POST | 5/1/2024 | 5/15/2024 | 24 | 1135 | <https://prnt.sc/TKFoz0CZZtru> | 200 |

### **Conclusion and Recommendations**

The inconsistent behavior observed suggests that the API may be struggling with larger data requests due to one or more of the following potential issues:

* **Server Load**: The server may be experiencing high load or resource constraints when processing larger requests.
* **Timeout Settings**: The API might have timeout settings that are not sufficient for handling extensive data fetch operations.
* **Data Volume**: The volume of data requested could be causing the server to fail, resulting in 502 Bad Gateway errors.

**Recommended Actions**

* **Server-Side Investigation**: Conduct a thorough analysis on the server side to identify any resource constraints, performance bottlenecks, or timeout configurations that might be causing these issues.
* **Optimize Requests**: Consider optimizing the API requests by breaking down larger requests into smaller, more manageable chunks.
* **Error Handling**: Implement robust error handling and retry mechanisms in the API client to manage intermittent failures gracefully.
* **Monitor and Log**: Enhance monitoring and logging to capture detailed metrics and logs during API requests to diagnose and troubleshoot issues effectively.

By addressing these areas, we aim to achieve more consistent and reliable API performance, ensuring successful data retrieval across varying time spans.