

## API Test Cases: Dashboard Module

### Introduction

This document provides the API test cases for the Dashboard module, based on the logic defined in dashboard\_route.py. These tests are designed to verify the functionality of the statistical endpoints, which are restricted to users with the 'Manager' role.

### Testing Environment

- **Tool:** Postman
- **Base URL:** http://127.0.0.1:5000
- **Prerequisites:**
  - The application is running, and the database is seeded with the provided seed.sql data.
  - A valid JWT for a Manager (e.g., EM007) is stored as {{managerToken}}.
  - A valid JWT for a Learning Advisor (e.g., EM005) is stored as {{laToken}}.

### Manager Features

#### Feature: Overview Statistics

- **Feature ID:** DSH-001
- **Endpoint:** GET /dashboard/statistics
- **Description:** Verifies the retrieval of high-level statistics for the entire centre.

Test Case ID	Description	Test Steps	Expected Result
DHS-001-	Successful Statistics Retrieval	1. Set method to GET.	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a

<b>TC-001</b>		2. Set URL to {{baseUrl}}/dashboard/statistics. 3. Set Authorisation header to Bearer {{managerToken}}. 4. Send request.	JSON object containing the correct totals based on the seed data (e.g., total_employees, total_students, total_revenue, etc.).
<b>DHS-001-TC-002</b>	Unauthorised Access (Attempt by Learning Advisor)	1. Set method to GET. 2. Set URL to {{baseUrl}}/dashboard/statistics. 3. Set Authorisation header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access denied message.

### • Results

Test Case ID	Result	Status	Notes
<b>DHS-001-TC-001</b>	Similar to ER	PASSED	N/A
<b>DHS-001-TC-002</b>	Similar to ER	PASSED	N/A

### Feature: Student Statistics

- **Feature ID:** DSH-002
- **Endpoint:** GET /dashboard/statistics/students
- **Description:** Verifies the retrieval of detailed student statistics.

Test Case ID	Description	Test Steps	Expected Result
DSH-002-TC-001	Successful Student Statistics Retrieval	<ol style="list-style-type: none"> <li>1. Set method to GET.</li> <li>2. Set URL to {{baseUrl}}/dashboard/statistics/students.</li> <li>3. Set Authorisation header to Bearer {{managerToken}}.</li> <li>4. Send request.</li> </ol>	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a JSON object containing student counts grouped by age (elementary, middle school, high school, other) and by subject (math, english).
DSH-002-TC-002	Unauthorised Access	<ol style="list-style-type: none"> <li>1. Set method to GET.</li> <li>2. Set URL to {{baseUrl}}/dashboard/statistics/students.</li> <li>3. Set Authorisation header to Bearer {{laToken}}.</li> <li>4. Send request.</li> </ol>	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access

			denied message.
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- **Results**

Test Case ID	Result	Status	Notes
DSH-002-TC-001	Similar to ER	PASSED	N/A
DSH-002-TC-002	Similar to ER	PASSED	N/A

### Feature: Teacher Statistics

- **Feature ID:** DSH-003
- **Endpoint:** GET /dashboard/statistics/teachers
- **Description:** Verifies the retrieval of detailed teacher statistics

Test Case ID	Description	Test Steps	Expected Result
DSH-003-TC-001	Successful Teacher Statistics Retrieval	<ol style="list-style-type: none"> <li>1. Set method to GET.</li> <li>2. Set URL to {{baseUrl}}/dashboard/statistics/teachers.</li> <li>3. Set Authorisation header to Bearer {{managerToken}}.</li> <li>4. Send request.</li> </ol>	<b>ER:</b> Status code is <b>200 OK</b> . The response body is a JSON object containing the

			total_teachers count.
<b>DSH-003-TC-002</b>	Unauthorised Access	1. Set method to GET. 2. Set URL to {{baseUrl}}/dashboard/statistics/teachers. 3. Set Authorisation header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access denied message.

- **Results:**

Test Case ID	Result	Status	Notes
<b>DSH-003-TC-001</b>	Similar to ER	PASSED	N/A
<b>DSH-003-TC-002</b>	Similar to ER	PASSED	N/A

## Feature: Revenue Statistics

- **Feature ID:** DSH-004
- **Endpoint:** GET /dashboard/statistics/revenue
- **Description:** Verifies the retrieval of detailed revenue statistics.

Test Case ID	Description	Test Steps	Expected Result
<b>DSH-004-</b>	Successful Revenue	1. Set method to GET.	<b>ER:</b> Status code is <b>200 OK</b> .

<b>TC-001</b>	Statistics Retrieval	2. Set URL to {{baseUrl}}/dashboard/statistics/revenue. 3. Set Authorisation header to Bearer {{managerToken}}. 4. Send request.	The response body is a JSON object containing total revenue broken down by year.
<b>DSH-004-TC-002</b>	Unauthorised Access	1. Set method to GET. 2. Set URL to {{baseUrl}}/dashboard/statistics/revenue. 3. Set Authorisation header to Bearer {{laToken}}. 4. Send request.	<b>ER:</b> Status code is <b>403 Forbidden</b> . The response body contains an access denied message.

- **Results**

Test Case ID	Result	Status	Notes
<b>DSH-004-TC-001</b>	Similar to ER	PASSED	N/A
<b>DSH-004-TC-002</b>	Similar to ER	PASSED	N/A