

NBA Data Analysis Project

Test Results Document

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1. Test Results Overview

Use Case 1: Data Ingestion Test (NBA API Integration)

Result: Pass

Issues Encountered: None

Details:

- NBA player statistics were successfully fetched via the `nba_api`.
- Data was accurately processed and stored in the database.
- Unit tests confirmed data consistency with the latest NBA statistics.

Use Case 2: Visualization Dashboard Test

Result: Pass

Issues Encountered: Minor delay in loading charts (1-2 seconds longer than expected).

Details:

- Selected metrics (e.g., 3-point percentage, points per game) were correctly plotted.
- Visualization accurately reflected the NBA data retrieved via `nba_api`.
- Charts and visualizations were responsive to user interactions.

Use Case 3: Automated Reporting Test

Result: Pass

Issues Encountered: PDF generation took longer than 2 seconds in some cases.

Details:

- The "Export PDF" button correctly triggered report generation.
- While reports contained all relevant player statistics, formatting issues were noted.
- Export time exceeded the expected limit in some cases

Use Case 4: Data Export Test

Result: Pass

Issues Encountered: None

Details:

- Exported Excel file contained all required player statistics.
- Data in the Excel file matched the displayed statistics on-screen.
- The export process was completed within an acceptable time frame.

2. Test Results Analysis

Visualization Dashboard Delay

- **Cause:**
 - High-resolution charts required additional time for rendering.
- **Potential Solutions:**
 - Optimize chart rendering by reducing data load in each request.
 - Implement caching for frequently accessed data.

Server Errors

- **Cause:**
 - Some server calls resulted in intermittent failures due to high traffic or improper request handling.
 - API response times varied, leading to occasional timeouts.
- **Potential Solutions:**
 - Implement error handling and retry mechanisms for failed requests.
 - Optimize API calls by reducing redundant queries and using efficient request batching.

3. Logs and Outputs

Data Ingestion Log:

2025-03-25 19:25:32,251 - INFO - Fetching data from nba_api...

2025-03-25 19:25:32,263 - INFO - Data successfully retrieved and stored in the database.

Visualization Dashboard Log:

2025-03-25 19:28:21,020 - INFO - User selected LeBron James vs Kobe Bryant comparison.

2025-03-25 19:28:21,151 - INFO - Chart is ready in 130 milliseconds.

Data Export Log:

2025-03-25 19:29:58,114 - INFO - Exporting player data to Excel...

2025-03-25 19:29:58,795 - INFO - Export successful: Alperen Sengun_career_stats.xlsx

4. Task Matrix

Task	Contributor	Status
Conducting Data Ingestion Test	Tunahan Oğuz	Completed
Conducting Visualization Dashboard Test	Alkım Doryan	Completed
Conducting Automated Reporting Test	Beyzanur Zeybek	Completed
Conducting Data Export Test	Ali Eren Kurt	Completed
Analyzing Test Results	All team members	Completed
Documenting Test Logs	All team members	Completed