# Session Notes — ECSE 429 Part A

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**Charter:** Explore the **Categories** API endpoints to understand how categories are created, linked to Todos, and retrieved, and to identify any undocumented behaviors or inconsistencies.  
**Date & Timebox:** October 5 , 2025 (~45 minutes)

## Steps & Observations

* Launched the REST API Todo Manager locally with java -jar runTodoManagerRestAPI-1.5.5.jar.
* Sent requests to /categories and /todos/{id}/categories using Postman to test CRUD operations.
* Created categories with POST /categories – valid payloads succeeded, but missing title fields caused silent failures (no error response).
* Linked a category to a Todo with POST /todos/{todoId}/categories; the API accepted the request even when the Todo ID was invalid.
* Retrieved categories using GET /categories; recent changes sometimes failed to appear until the server was restarted → possible caching issue.
* Verified XML mode responses; the id attribute was missing from the output although it is documented in Swagger.
* Observed that deleting a category did not fully remove it from linked Todos lists.

## New Test Ideas

* Add tests for cache invalidation by performing back-to-back POST and GET requests with minimal delay.
* Include malformed XML payload tests to confirm validation errors are returned.
* Test linking multiple categories to a single Todo and unlinking them sequentially.
* Verify that DELETE /categories/{id} properly removes all references from Todos.

## Risks / Concerns

* Cached category data can lead to stale reads and inconsistent UIs.
* Missing id field in XML responses may break clients depending on that field.
* Lack of validation for nonexistent Todo IDs creates potential data integrity issues.

## Files Used / Created

* categoriesCapabilities.sh – shell script used to automate POST/GET/DELETE calls.
* Bug summaries saved in /Bug Summaries/.

## Summary of Findings

* Category creation and retrieval work for JSON but fail silently with missing fields.
* XML responses omit the id attribute (documented but not implemented).
* Linking categories to Todos succeeds even for invalid IDs.
* Cache refresh delay causes outdated GET results.
* Deleting a category does not always remove its reference from linked Todos.

**End of Session Notes — Categories Domain**