

# **UI network evidence (SDMT cost forecast)**

Finanzas SD – Architecture, Flows & SOPs

Arquitectura, Flujos y Procedimientos

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## 1 UI network evidence (SDMT cost forecast)

### 1.1 Endpoints observed

- GET `/projects?limit=100` - used by project selector (`getProjects` in `src/api/finanzas.ts`)
- GET `/baseline?projectId=<id>&project_id=<id>` - SDMT baseline payload for metrics/cards.
- GET `/allocations?projectId=<id>` - cost allocation rows backing SDMT charts.
- GET `/payroll?projectId=<id>&project_id=<id>` - MOD series for SDMT projections.

### 1.2 Sample response shapes

- Projects: `{ data: ProjectDT0[], total: number }` or bare array; items carry `project_id`, `codigo/code`, `cliente/client`, MOD totals, status fields.
- Baseline/Allocations/Payroll: array responses expected by charts (see `src/api/finanzas.ts`).

### 1.3 Pagination behavior

- `/projects` currently requests a single page with `limit=100`. DynamoDB backend responds with `LastEvaluatedKey` when more projects exist, but the UI makes no follow-up call.

### 1.4 Finding

- Live CloudFront endpoint responded with 503 `Service Unavailable`, so network traces could not be captured directly. Based on API client and handler code, **missing projects are not present in the single-page response** because pagination is not followed; UI does not filter them afterward.

### 1.5 Before/after comparison

- Before fix: `/projects?limit=100` returns first page only; any `LastEvaluatedKey` is ignored so end-user-created projects beyond the first 100 never reach the UI.
- After fix: backend now scans all pages internally and returns the complete authorized project list in one response (UI still issues a single call). # Evidence: UI Network Analysis - SDMT Data Flow Regression

**Date:** 2025-12-13

**Issue:** UI only showing a subset of projects (missing end-user-created data)

**Deployed UI:** <https://d7t9x3j6j6yd8k.cloudfront.net/finanzas/sdmt/cost/forecast>

## 1.6 API Endpoints Involved

### 1.6.1 1. GET /projects (Project Dropdown Population)

**URL Path:** /projects?limit=100

**Query Params:** - limit=100 (default)

**Request Headers:** - Authorization: Bearer <JWT\_TOKEN> - Content-Type: application/json

**HTTP Status:** Expected 200 OK

**Response Payload Shape (from backend handler):**

```
[ ] { "data": [ { "projectId": "P-xxxxx", "code": "P-xxxxx", "name": "Project Name",
"client": "Client Name", "status": "active", // ... other fields } ], "total": <number>
}
```

**Backend Handler:** services/finanzas-api/src/handlers/projects.ts (lines 1157-1253)

**DTO Mapping:** services/finanzas-api/src/models/project.ts (mapToProjectDTO function)

**Pagination Support:** - Backend: DynamoDB ScanCommand with Limit: 100 parameter - No pagination tokens (nextToken/lastEvaluatedKey) in current implementation - UI: Does NOT request additional pages

**RBAC Filtering (Backend):**

```
[ ] // Lines 1175-1246 in projects.ts if (userContext.isAdmin || userContext.isExecRO
|| userContext.isPMO || userContext.isSDMT) { // See all projects - Scan with FilterEx-
pression // sk = METADATA OR sk = META (backward compatibility) } else if (userCon-
text.isSDM) { // Only see projects where sdm_manager_email matches user email }
else { // Empty list }
```

### 1.6.2 2. SDMT Metrics/Cards API Calls

The SDMT forecast view makes additional calls: - GET /plan/forecast?projectId={projectId}&metrics={metrics}  
 - GET /baseline?projectId={projectId} - GET /allocations?projectId={projectId}  
 - GET /adjustments?projectId={projectId}

These depend on having a valid projectId selected from the dropdown.

## 1.7 Issue Analysis

### 1.7.1 Missing Projects: Present in API vs Filtered in UI?

**Hypothesis:** Projects are **present in API response** but **dropped during payload normalization** in the frontend.

**Evidence:**

1. **Backend Query:** Uses ScanCommand with FilterExpression checking for `sk = METADATA OR sk = META`
  - Seed/canonical projects: Created with `sk = "METADATA"` ☐
  - End-user projects: Also created with `sk = "METADATA"` (line 1076 in `projects.ts`) ☐
  - All projects should pass the filter
2. **Backend Response:** Returns `{ data: [...], total: N }`
  - Standard format defined in handler line 1253
3. **Frontend Extraction (src/lib/api.ts lines 156-164):**

```
[] const projectArray = Array.isArray(payload) ? payload : Array.isArray(payload?.data)
? payload.data // Should extract from { data: [...] } : Array.isArray(payload?.items)
? payload.items : Array.isArray(payload?.data?.items) ? payload.data.items : [];
```

This SHOULD work for `{ data: [...] }` format. ☐

4. **BUT:** The frontend extraction logic is **incomplete** compared to `normalizeProjectsPayload()` helper:
  - ☐ Missing support for `payload.projects`
  - ☐ Missing support for `payload.Items` (DynamoDB style)
  - ☐ Missing support for `payload.results`
  - ☐ Missing support for `payload.records`
  - ☐ Missing support for `payload.body.*` variants

**1.7.2 Root Cause Hypothesis**

**Primary Issue:** Frontend payload normalization in `src/lib/api.ts` (`ApiService.getProjects`) does NOT use the canonical `normalizeProjectsPayload()` helper function that was introduced in PR #606.

**Impact:** - If the API response format changes slightly (e.g., due to CloudFront caching, API Gateway transformations, or backend updates) - Or if different environments return different payload shapes - The frontend extraction logic may fail to extract the project array - Result: Empty or partial project list shown to users

**Evidence from PR #606:** - A new `normalizeProjectsPayload()` helper was created to handle multiple response shapes - It's used in `src/modules/finanzas/projects/useProjects` - BUT it's NOT used in `src/lib/api.ts` (which `ProjectContext` uses) - This created an inconsistency where some code paths handle alternate payloads, others don't

### 1.7.3 Secondary Contributors

1. **Pagination Limit:** Backend has a hard limit of 100 projects per request
  - If >100 projects exist, not all will be returned
  - Frontend does NOT handle pagination tokens
  - Could cause missing projects if total > 100
2. **RBAC Filtering:** SDM users only see projects they manage
  - If user's role isn't correctly identified
  - Or if sdm\_manager\_email isn't set on projects
  - User might see empty list
3. **DynamoDB sk Filtering:** Backward compatibility check for META vs METADATA
  - If any projects were created with a different sk value
  - They won't be returned by the query

## 1.8 Why Seeded/Demo Projects Appear But End-User Projects Don't

### Current Hypothesis:

1. Seed projects might be created through a different code path that results in a payload shape that the frontend CAN extract
2. End-user projects created via POST /projects might be in a payload format that requires `normalizeProjectsPayload()` to extract correctly
3. OR: Pagination - seed projects are alphabetically first, so they fit in the limit=100 response

### Alternative Hypothesis:

The issue might not be frontend extraction at all - it could be: - Backend RBAC filtering too aggressive - DynamoDB query not returning all items (pagination issue on backend) - Environment/table mismatch (TABLE\_PROJECTS pointing to wrong DynamoDB table) - CloudFront caching returning stale response

## 1.9 Next Steps

1. ☐ Add logging to backend handler to see what's being returned
2. ☐ Add logging to frontend API layer to see what's being received
3. ☐ Compare frontend extraction logic vs `normalizeProjectsPayload` logic
4. ☐ Test with different user roles (ADMIN vs SDM vs SDMT)
5. ☐ Check if pagination is causing truncation
6. ☐ Verify DynamoDB table contains end-user created projects

## 1.10 Before Fix vs After Fix

### 1.10.1 Before Fix

**API Response:** (Example with alternate shape)

```
[ ] { "Items": [ { "projectId": "P-SEED-1", "name": "Seed Project" }, { "projectId": "P-USER-1", "name": "User Project" } ] }
```

**Frontend Extraction Result:** [ ] (empty array, because "Items" key not checked)

**UI Dropdown:** Empty or shows only cached projects

### 1.10.2 After Fix

**API Response:** (Same)

```
[ ] { "Items": [ { "projectId": "P-SEED-1", "name": "Seed Project" }, { "projectId": "P-USER-1", "name": "User Project" } ] }
```

**Frontend Extraction Result:** [{ projectId: "P-SEED-1", ... }, { projectId: "P-USER-1", ... }]

**UI Dropdown:** Shows all 2 projects including user-created ones

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**Conclusion:** The issue is most likely in the frontend payload normalization logic not using the canonical `normalizeProjectsPayload()` helper. This creates an inconsistency where alternate API response shapes are not properly handled.