

# ACCPAC Module - Detailed Sequence Diagrams

This document contains comprehensive and detailed sequence diagrams for all flows within the ACCPAC Module of the KUBOTA-BACKENED system. The ACCPAC module handles integration with ACCPAC accounting system, including dealer master management, purchase order details, and channel finance invoice management.

## Module Overview

The ACCPAC module consists of:

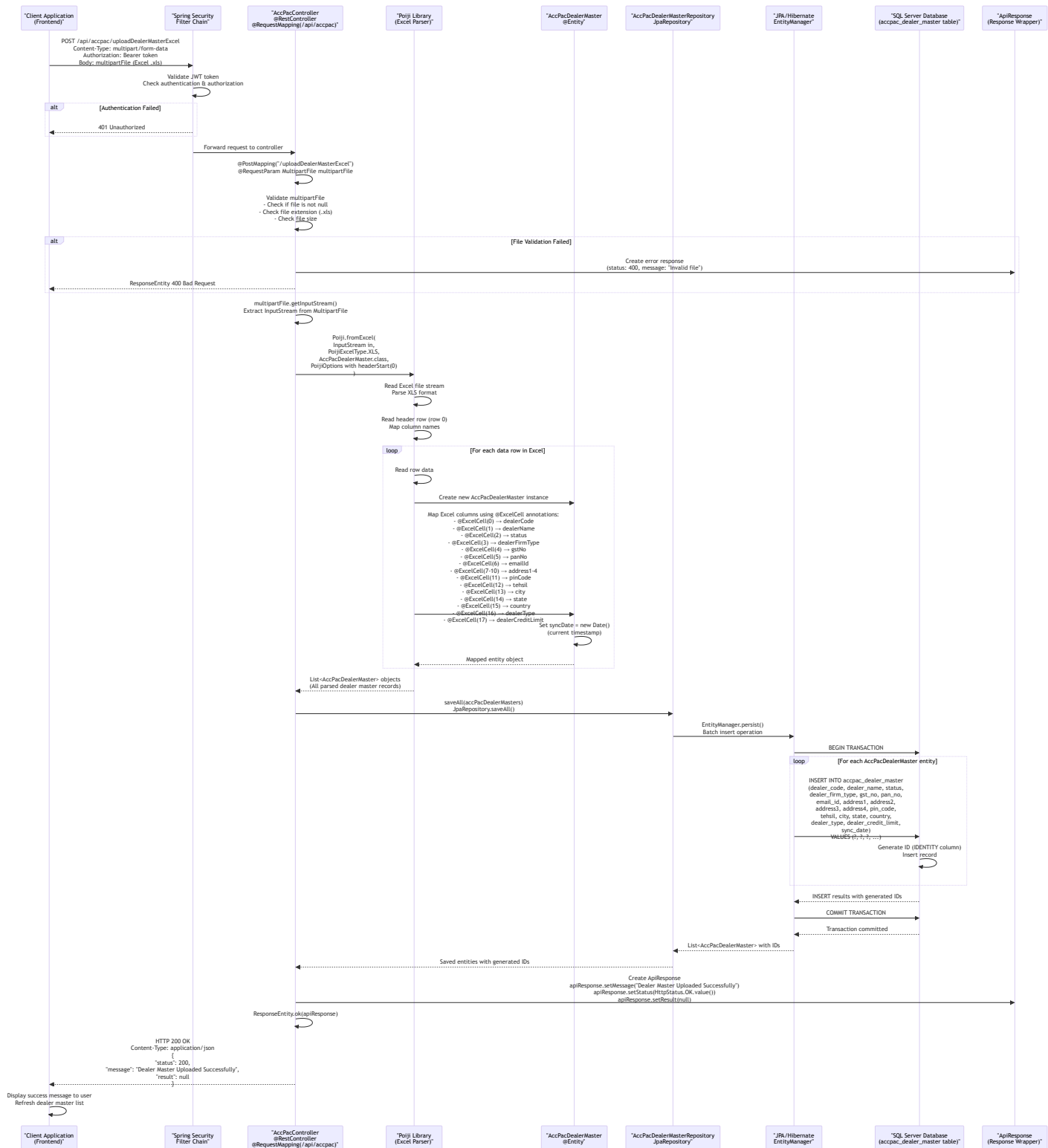
- **3 Controllers:**
  - `AccPacController` - Dealer Master operations
  - `AccpacPoDetailsController` - Purchase Order Details and Outstanding Status
  - `AccpacChannelFinanceController` - Channel Finance Invoice operations
- **3 Repositories:**
  - `AccPacDealerMasterRepository` - Dealer Master data access
  - `AccpacPoDetailsRepo` - PO Details and Outstanding data access
  - `InvoiceDetailsRepo` - Invoice Details data access
- **3 Main Domain Entities:**
  - `AccPacDealerMaster` - Dealer master information
  - `AccpacPoDetails` - Dealer outstanding and PO details
  - `AccpacChannelFinanceInvoice` - Channel finance invoice information

## Table of Contents

1. [Upload Dealer Master Excel Flow](#)
2. [Dealer Code Autocomplete Flow](#)
3. [Get Details by Dealer Code Flow](#)
4. [Get Dealer Type List Flow](#)
5. [Save ACCPAC PO Details Flow](#)
6. [Get Outstanding Status Flow](#)

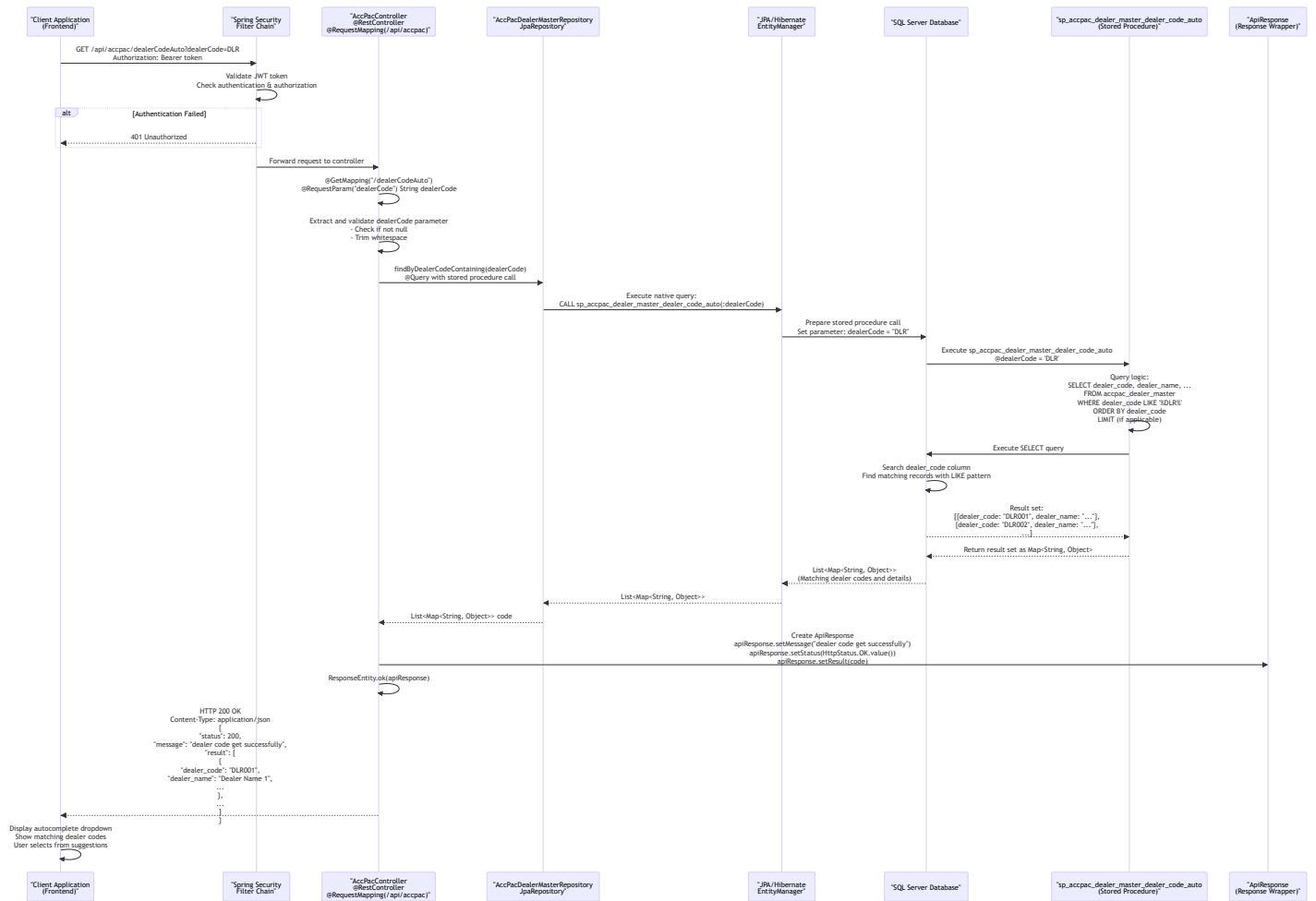
# 1. Upload Dealer Master Excel Flow

This diagram shows the complete flow for uploading dealer master data from an Excel file, including file parsing, data mapping, and database persistence.



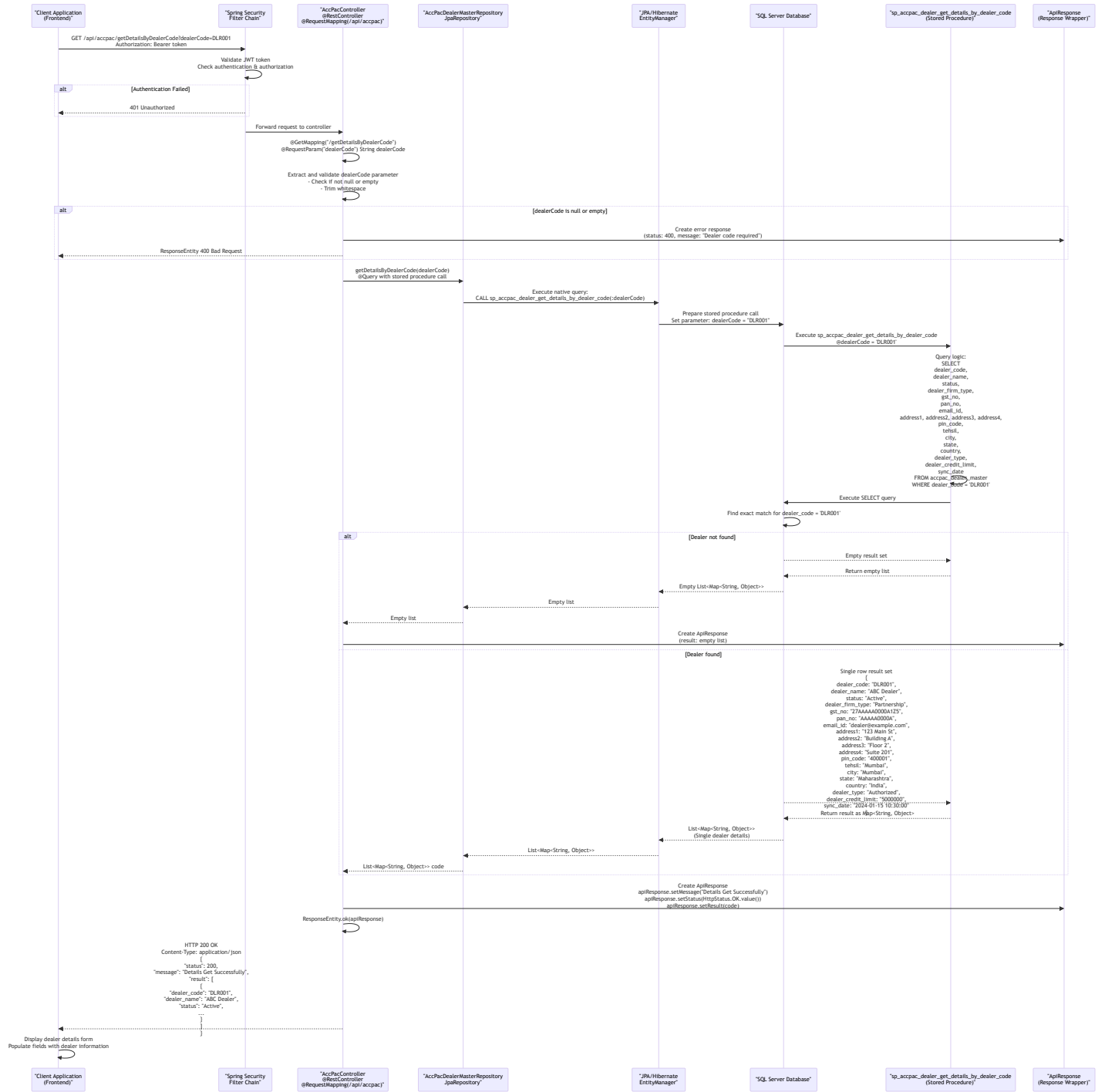
## 2. Dealer Code Autocomplete Flow

This diagram shows the flow for dealer code autocomplete functionality using stored procedures.



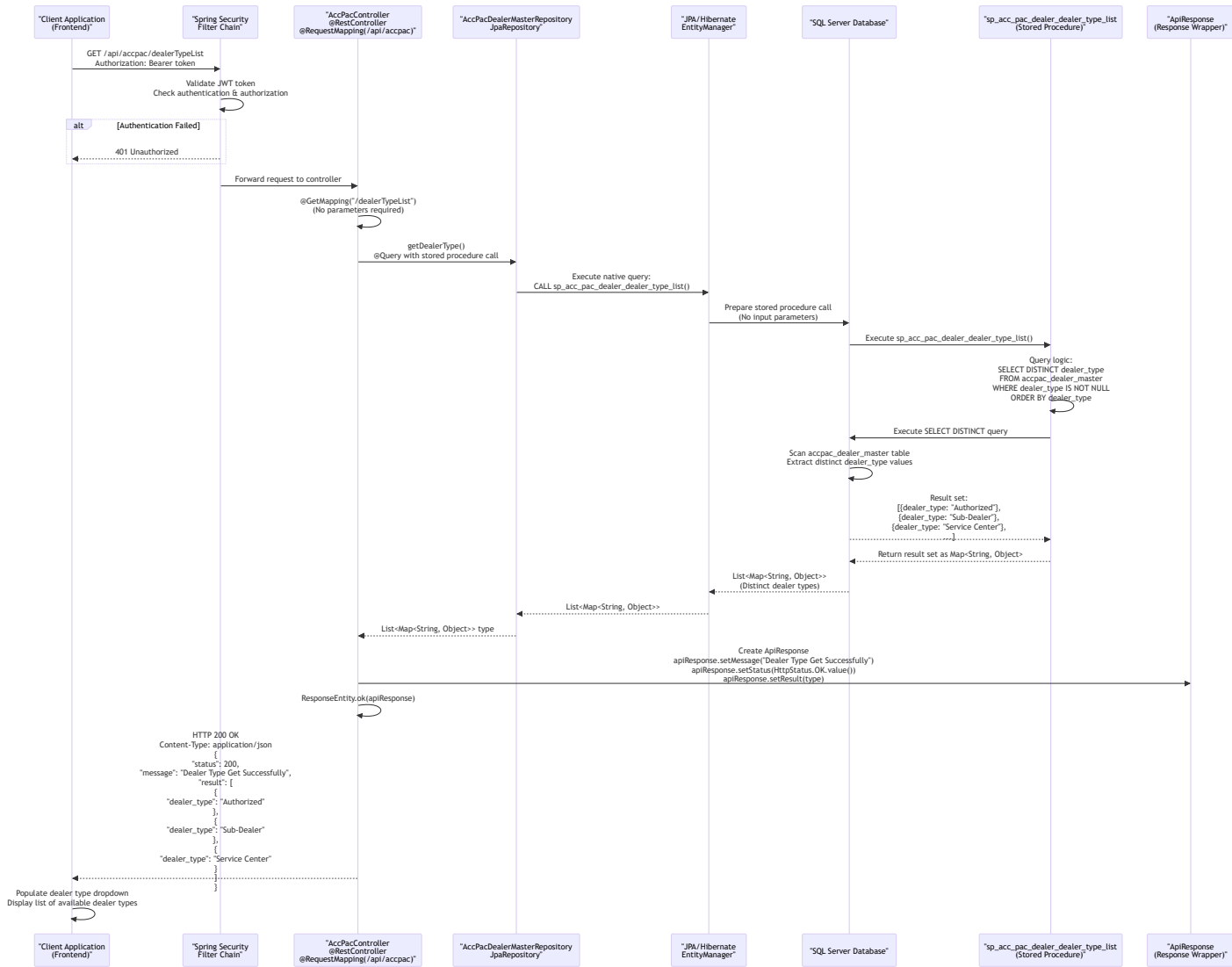
### 3. Get Details by Dealer Code Flow

This diagram shows the flow for retrieving complete dealer details by dealer code.



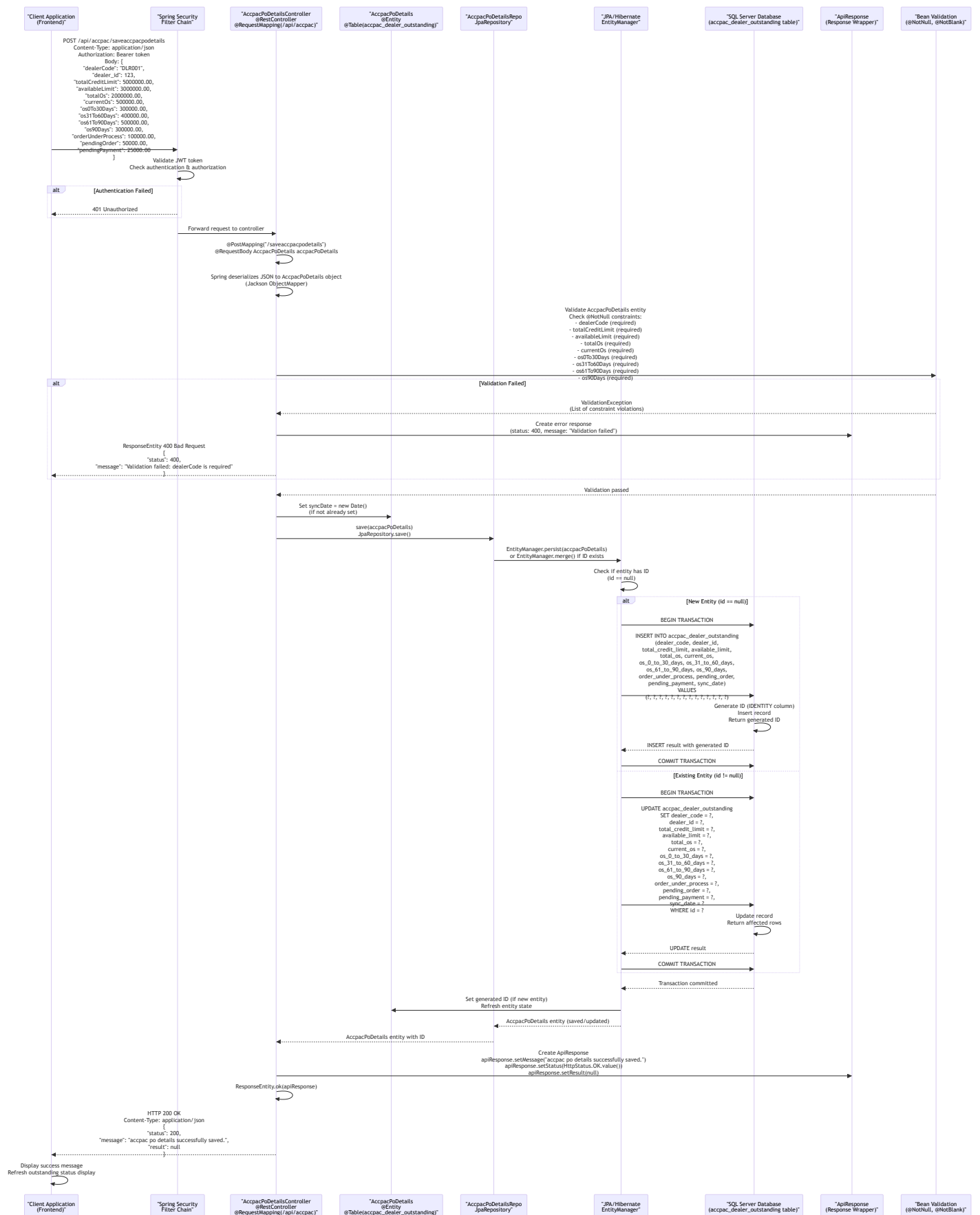
## 4. Get Dealer Type List Flow

This diagram shows the flow for retrieving the list of distinct dealer types.



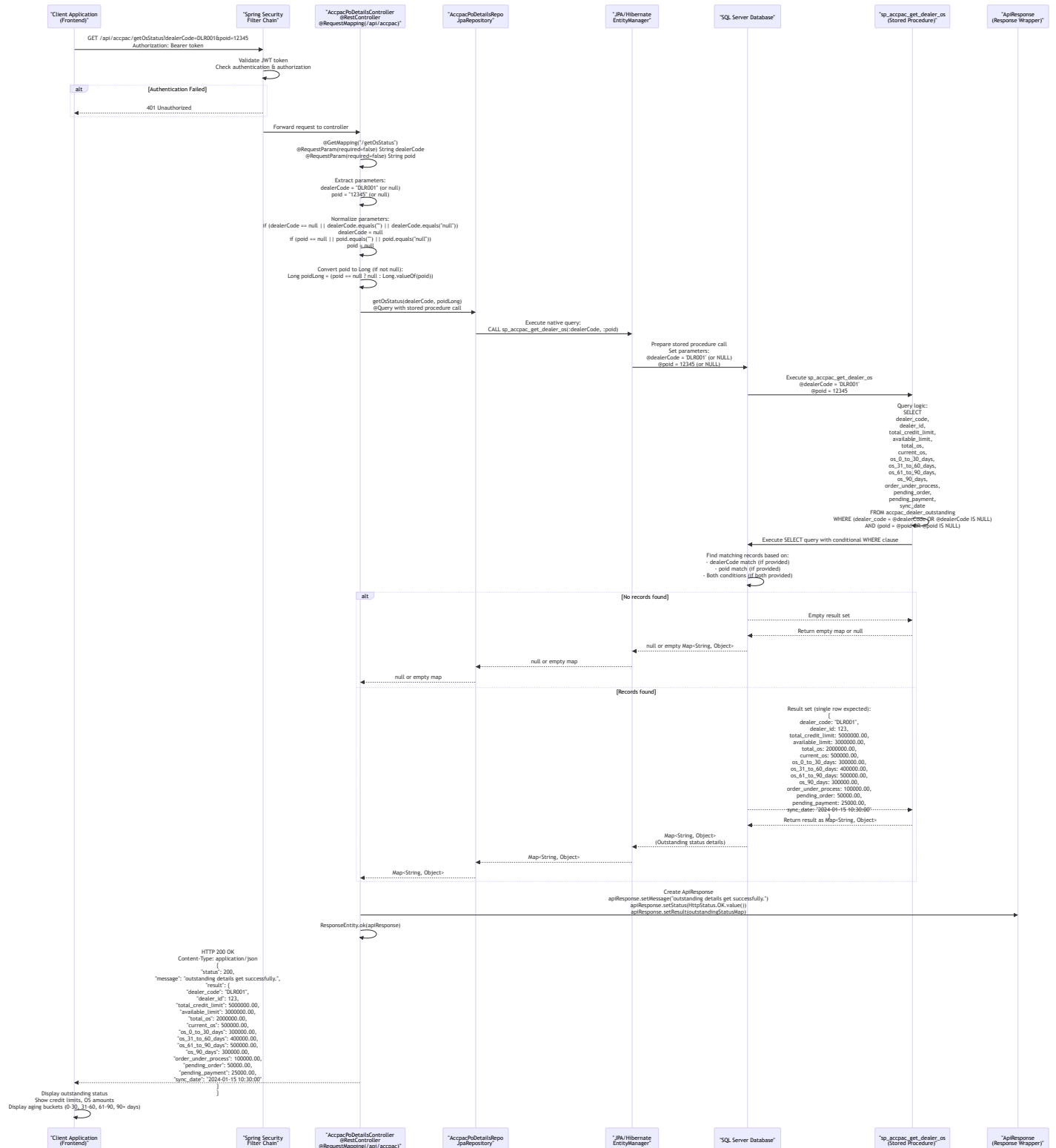
# 5. Save ACCPAC PO Details Flow

This diagram shows the complete flow for saving ACCPAC purchase order details (dealer outstanding information).



# 6. Get Outstanding Status Flow

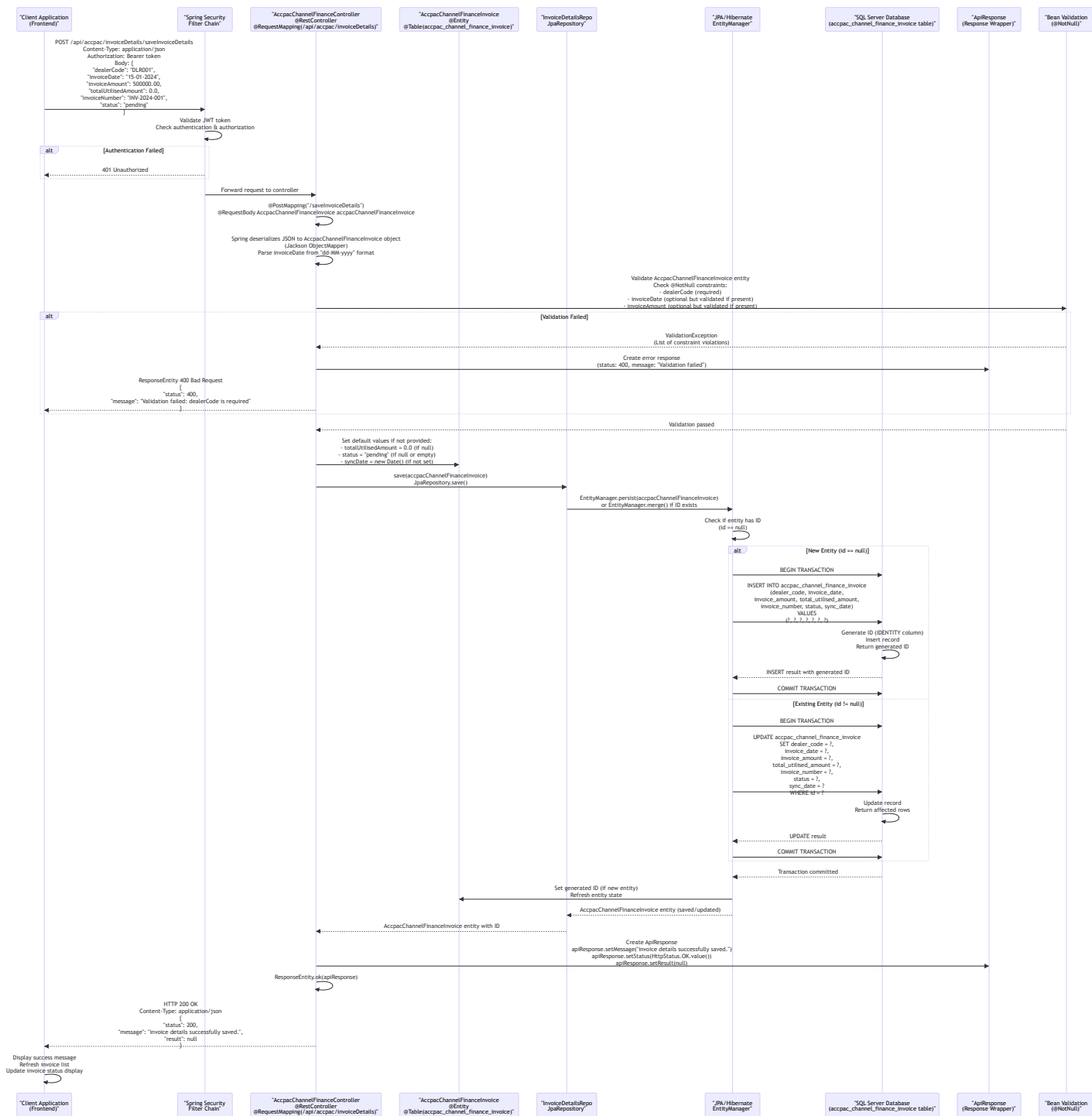
This diagram shows the flow for retrieving outstanding status for a dealer or purchase order using stored procedures.





# 7. Save Invoice Details Flow

This diagram shows the complete flow for saving channel finance invoice details.



# Summary

The ACCPAC Module provides comprehensive integration with the ACCPAC accounting system through the following functionalities:

## 1. Dealer Master Management ( AccPacController )

- **Upload Dealer Master Excel:** Bulk import dealer master data from Excel files using Poiji library
- **Dealer Code Autocomplete:** Search and autocomplete dealer codes using stored procedures
- **Get Details by Dealer Code:** Retrieve complete dealer information by dealer code
- **Get Dealer Type List:** Fetch distinct dealer types for dropdowns

## 2. Purchase Order Details Management ( AccpacPoDetailsController )

- **Save ACCPAC PO Details:** Persist dealer outstanding information including credit limits, OS amounts, and aging buckets
- **Get Outstanding Status:** Retrieve outstanding status for dealers or purchase orders using stored procedures with optional filtering

## 3. Channel Finance Invoice Management ( AccpacChannelFinanceController )

- **Save Invoice Details:** Store channel finance invoice information with default status and utilization tracking

## Technical Architecture

- **Framework:** Spring Boot 2.3.3.RELEASE with Spring Data JPA
- **Database:** Microsoft SQL Server with stored procedures for complex queries
- **Security:** Spring Security with JWT token authentication
- **Data Access:** JPA/Hibernate with custom repositories and native queries
- **Excel Processing:** Poiji library for Excel file parsing
- **Validation:** Bean Validation (JSR-303) with @NotNull constraints
- **Response Format:** Standardized ApiResponse wrapper for all API responses
- **Date Handling:** Jackson JSON serialization with custom date formats

# Key Features

1. **Stored Procedures:** Used for complex queries and business logic (dealer code search, outstanding calculations)
2. **Batch Operations:** Bulk insert support for Excel uploads
3. **Flexible Filtering:** Optional parameters for outstanding status queries
4. **Default Values:** Automatic setting of syncDate and default status values
5. **Error Handling:** Validation and error responses for invalid inputs
6. **Transaction Management:** Automatic transaction handling by Spring Data JPA

## Database Tables

- accpac\_dealer\_master : Dealer master information
- accpac\_dealer\_outstanding : Dealer outstanding and PO details
- accpac\_channel\_finance\_invoice : Channel finance invoice details

## Stored Procedures

- sp\_accpac\_dealer\_master\_dealer\_code\_auto : Dealer code autocomplete search
- sp\_accpac\_dealer\_get\_details\_by\_dealer\_code : Get dealer details by code
- sp\_accpac\_dealer\_dealer\_type\_list : Get distinct dealer types
- sp\_accpac\_get\_dealer\_os : Get outstanding status for dealer/PO

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