

# Sales and Presales Module - Detailed Sequence Diagrams

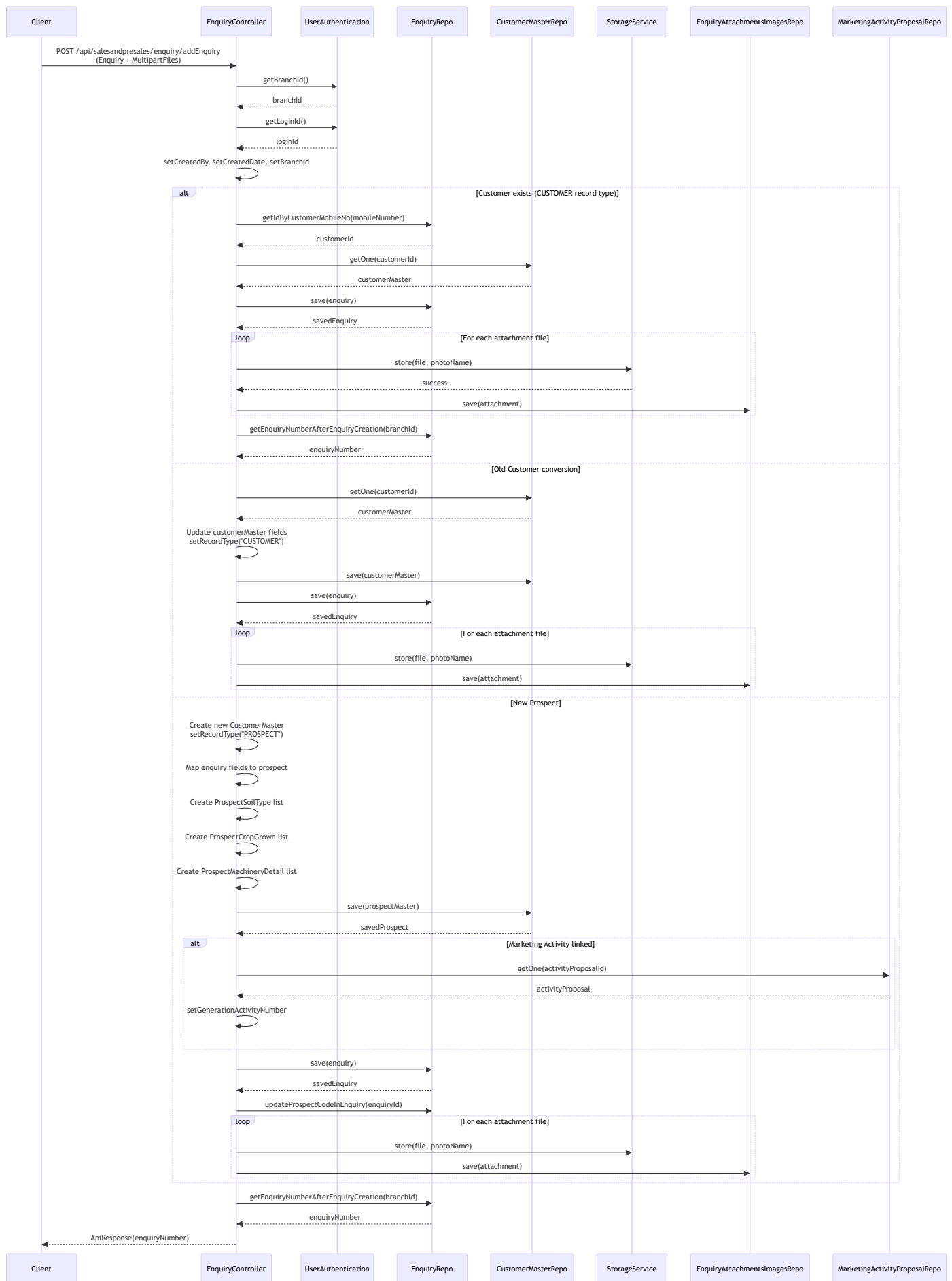
This document contains comprehensive sequence diagrams for all major flows in the Sales and Presales module of the KUBOTA DMS system.

## Table of Contents

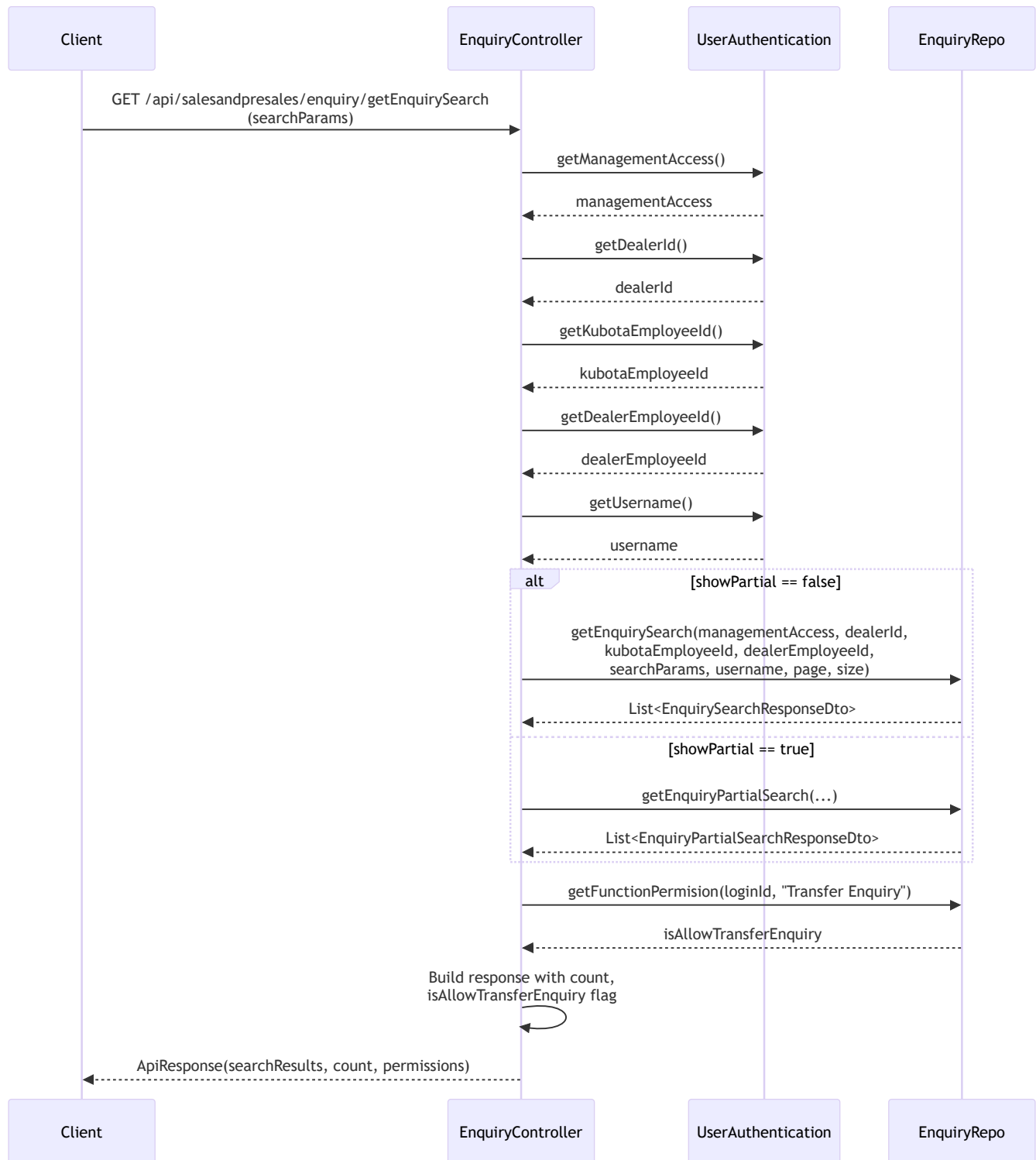
1. [Enquiry Management Flow](#)
2. [Purchase Order Flow](#)
3. [GRN \(Goods Receipt Note\) Flow](#)
4. [Delivery Challan Flow](#)
5. [Sales Invoice Flow](#)
6. [Marketing Activity Proposal Flow](#)
7. [Market Intelligence Flow](#)
8. [Branch Transfer Flow](#)

# **1. Enquiry Management Flow**

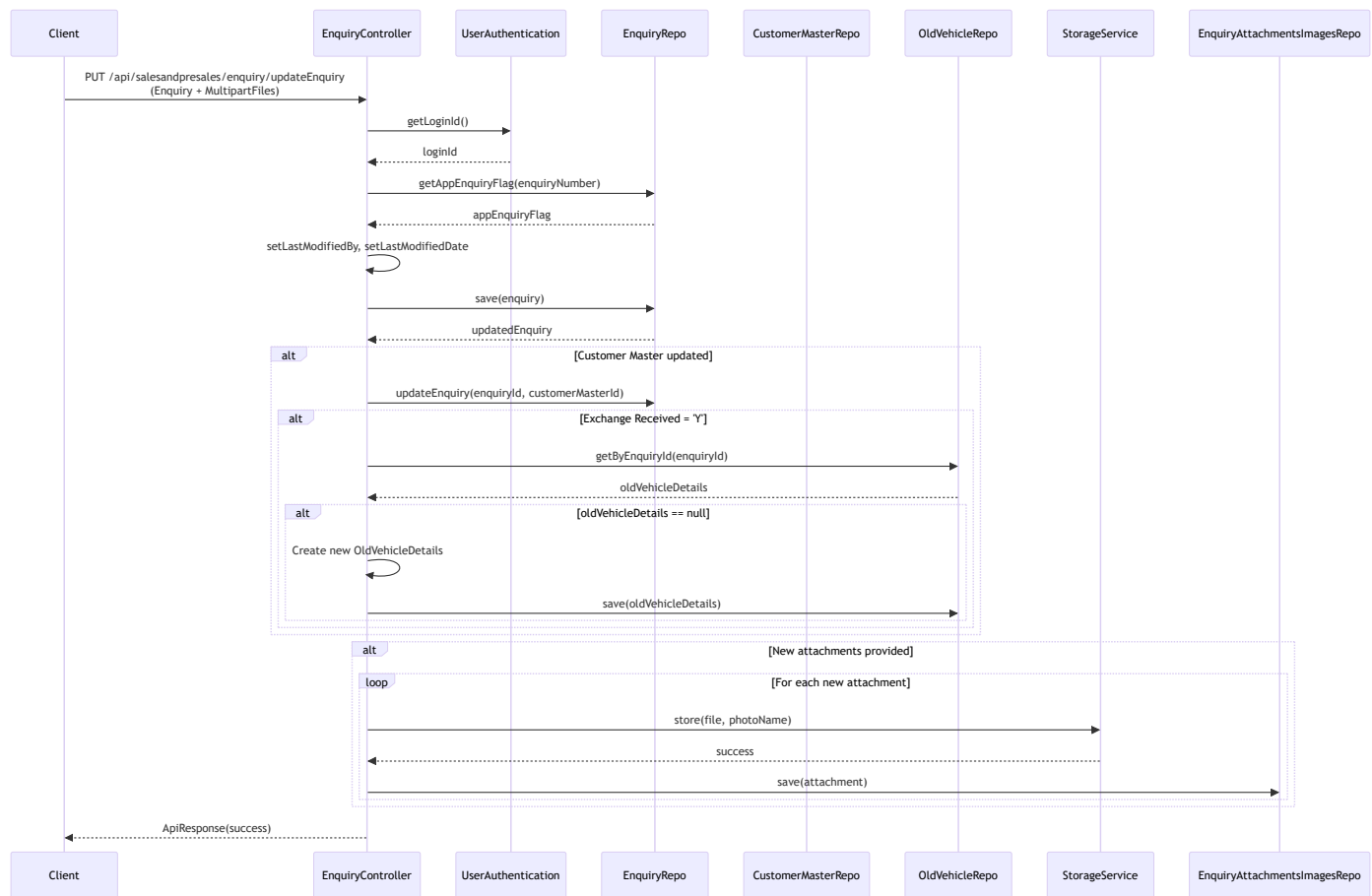
## **1.1 Create Enquiry Flow**



## 1.2 Search Enquiry Flow

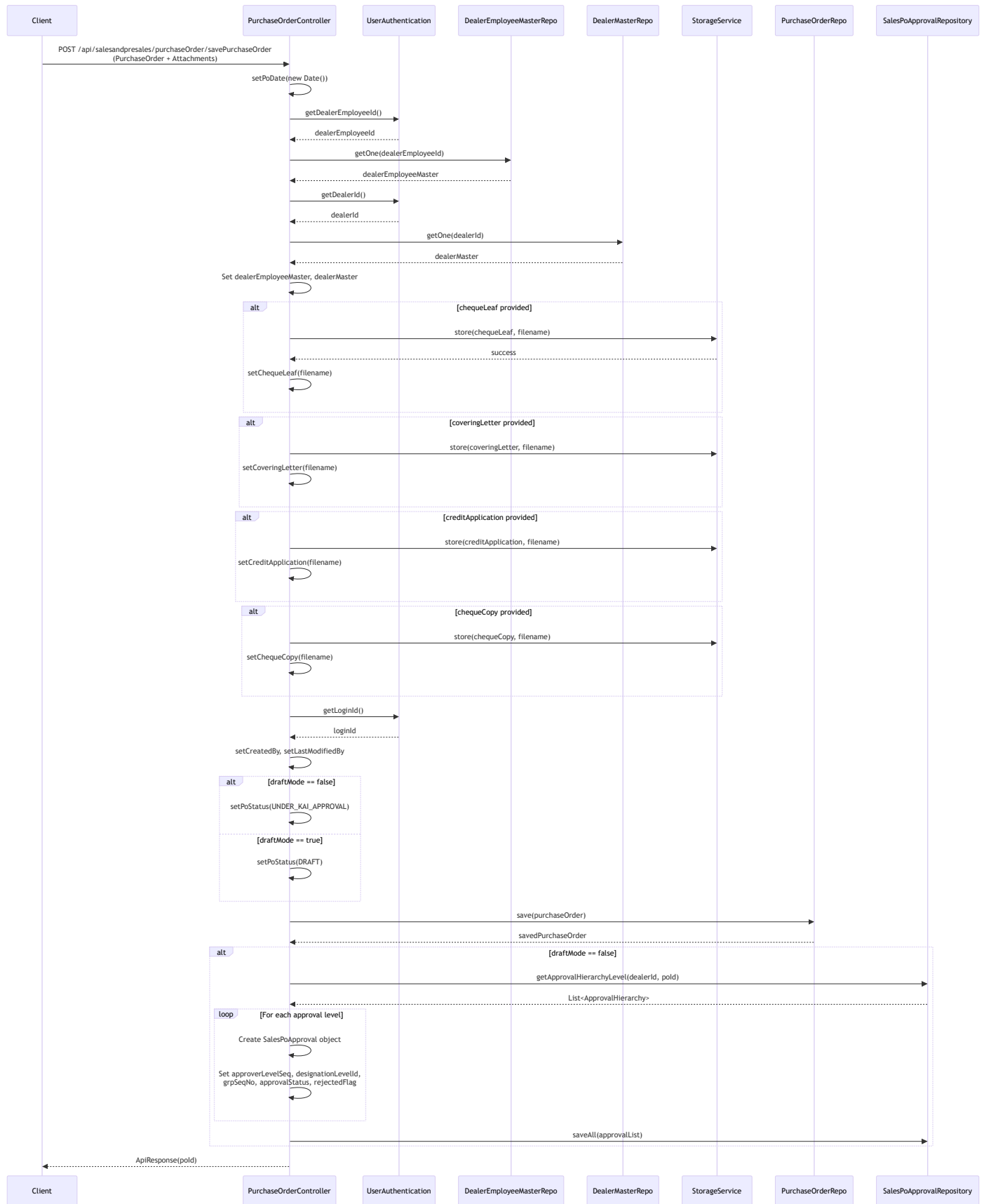


## 1.3 Update Enquiry Flow

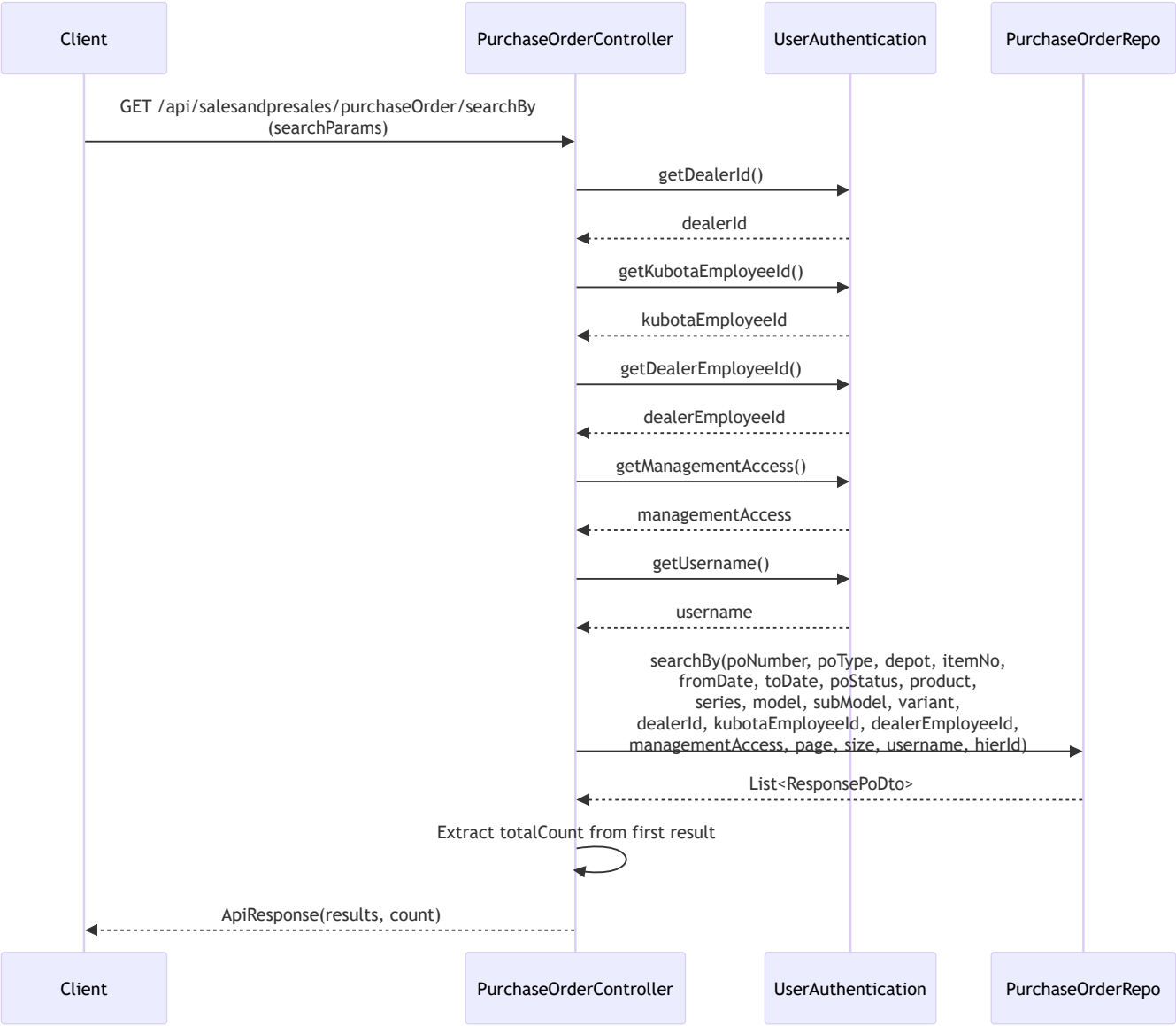


# 2. Purchase Order Flow

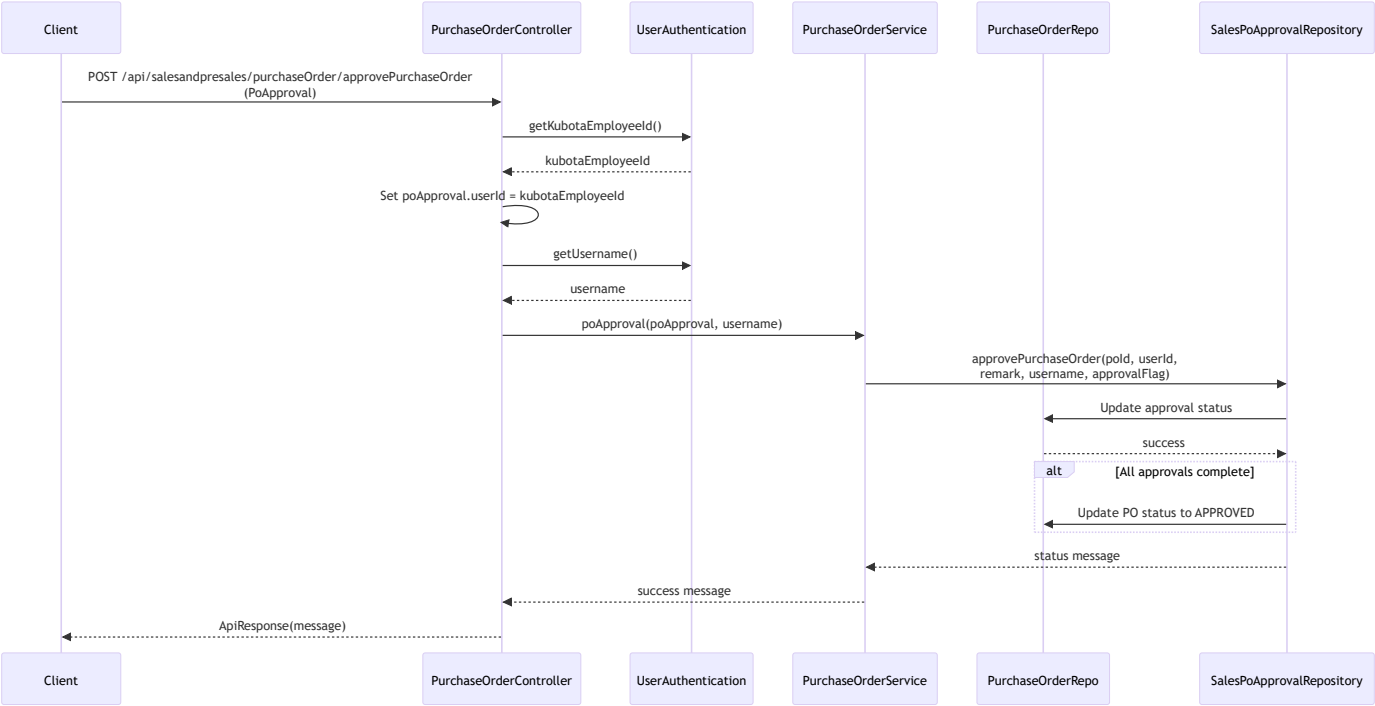
## 2.1 Create Purchase Order Flow



# 2.2 Search Purchase Order Flow



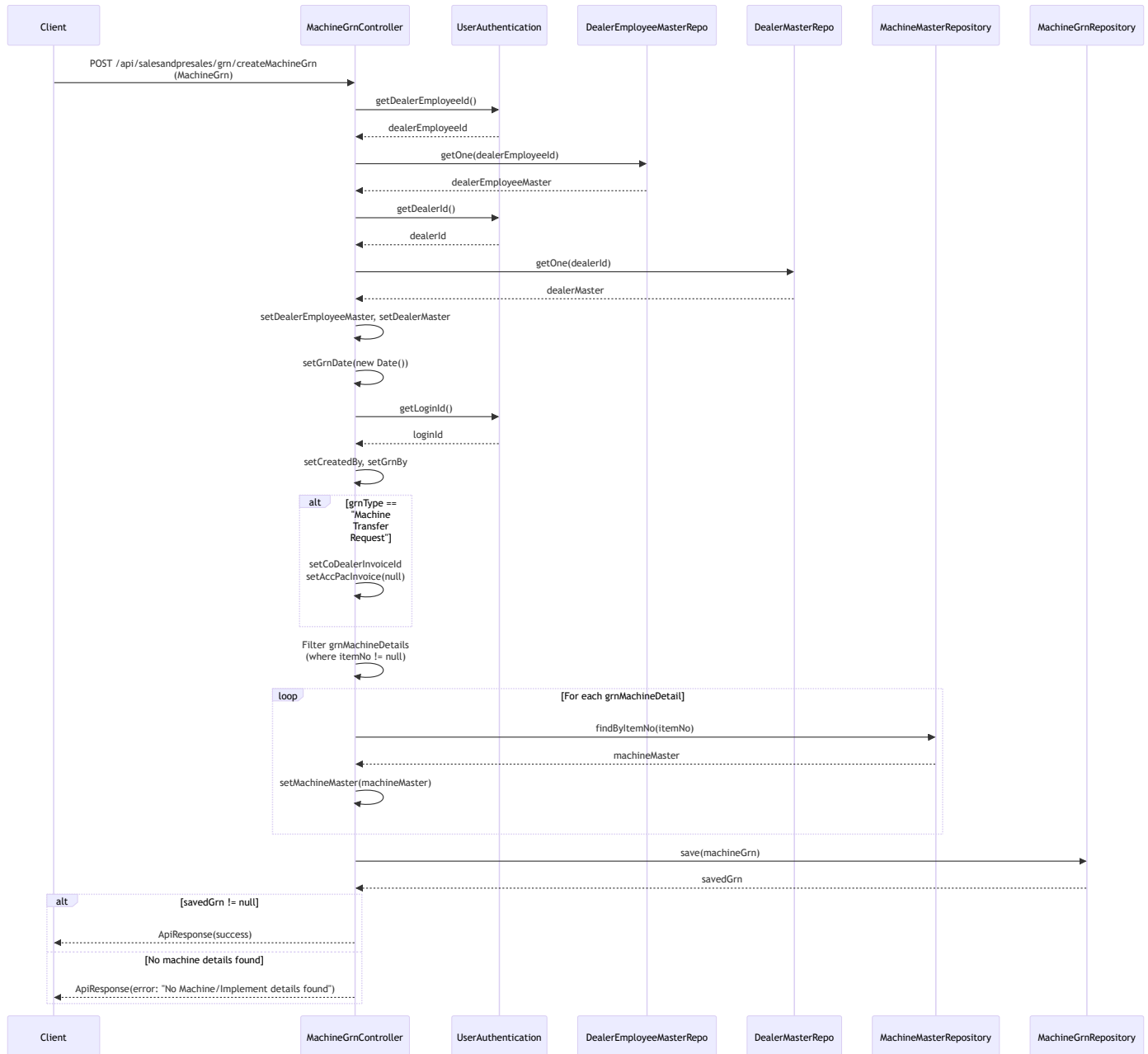
# 2.3 Approve Purchase Order Flow



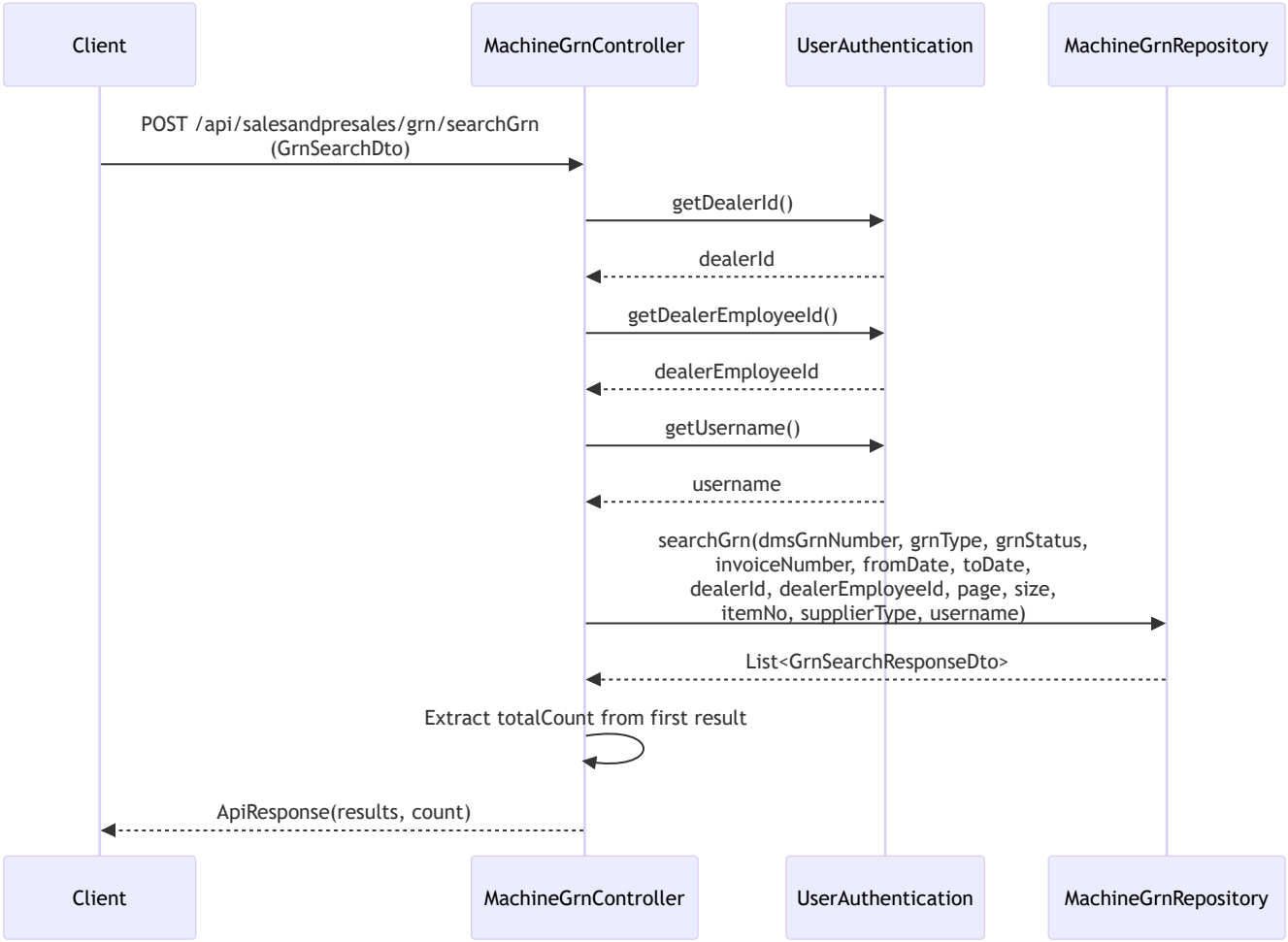


# 3. GRN (Goods Receipt Note) Flow

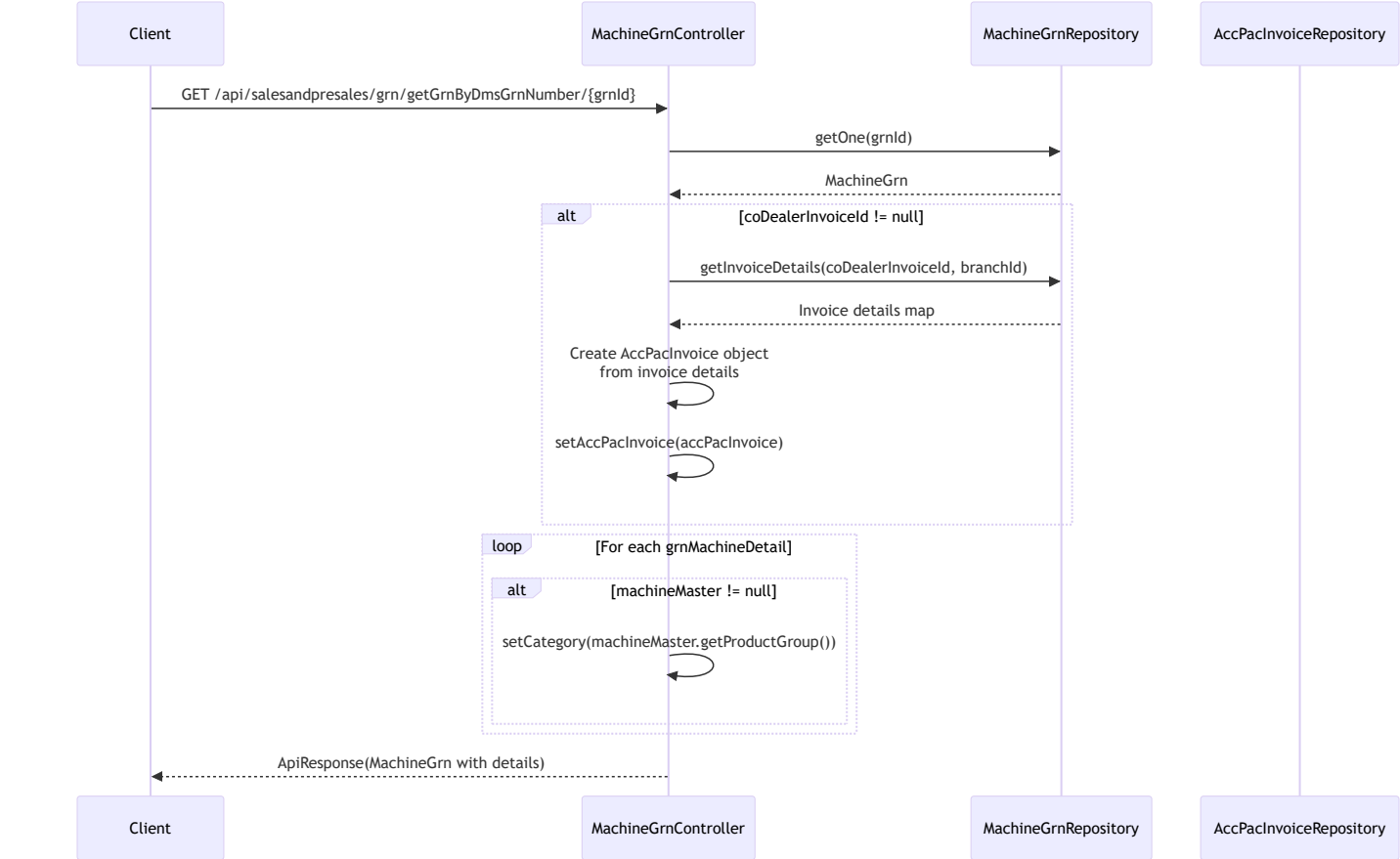
## 3.1 Create GRN Flow



### 3.2 Search GRN Flow

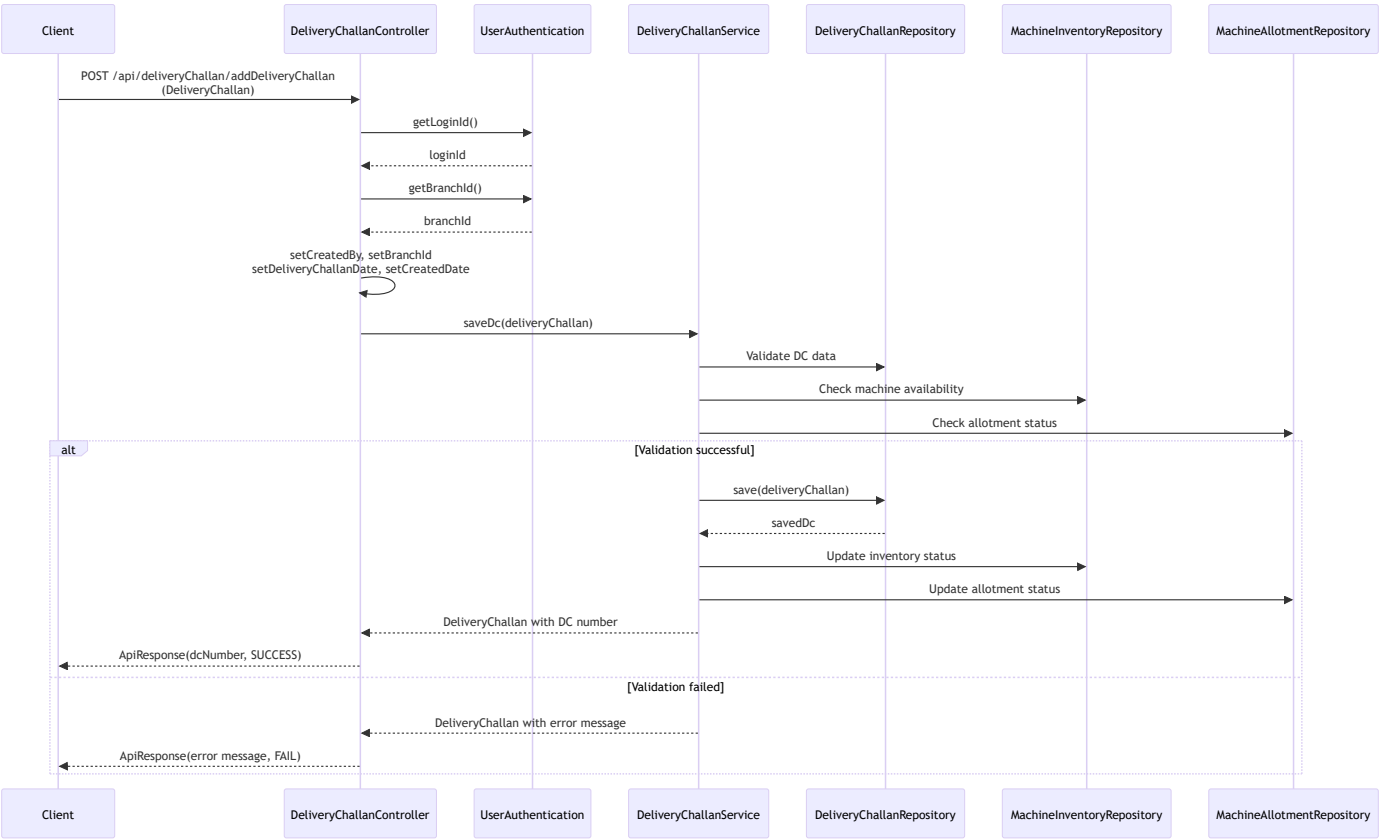


### 3.3 Get GRN Details Flow

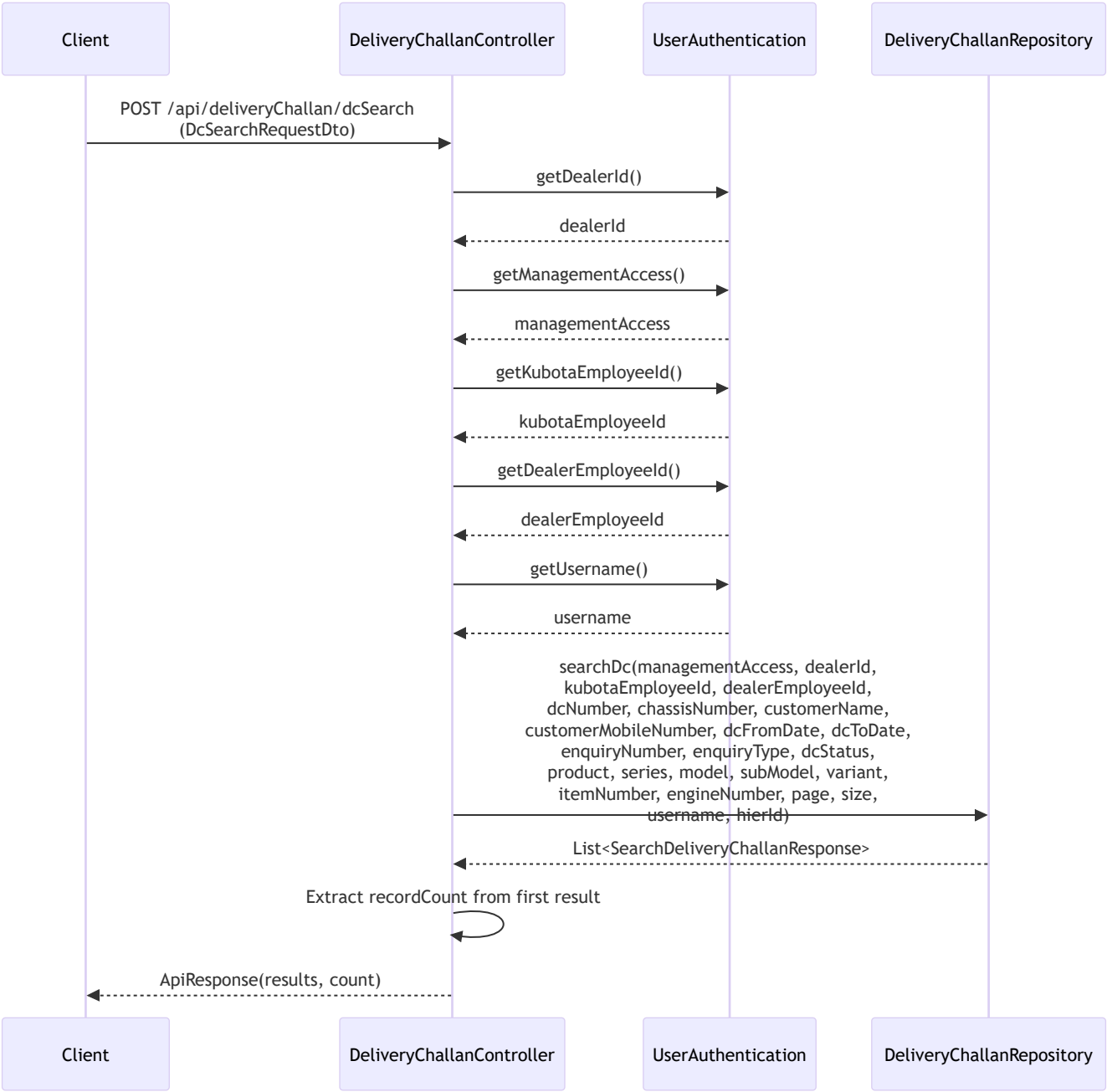


# 4. Delivery Challan Flow

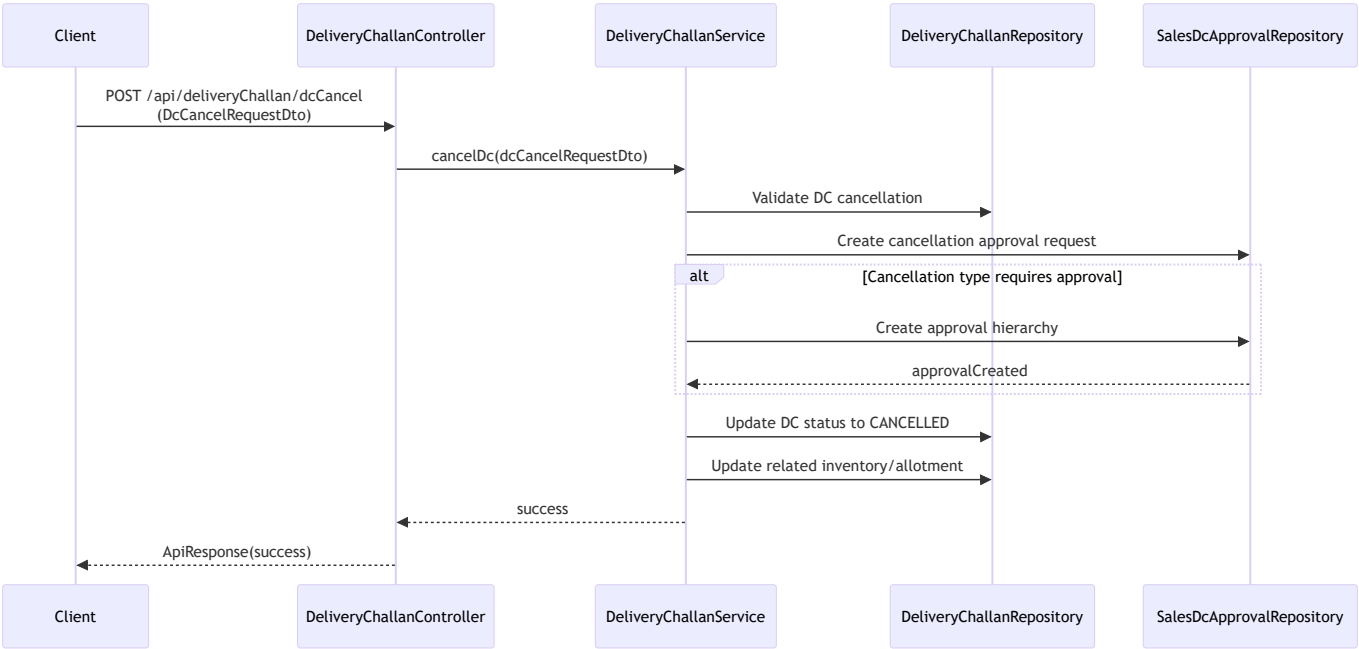
## 4.1 Create Delivery Challan Flow



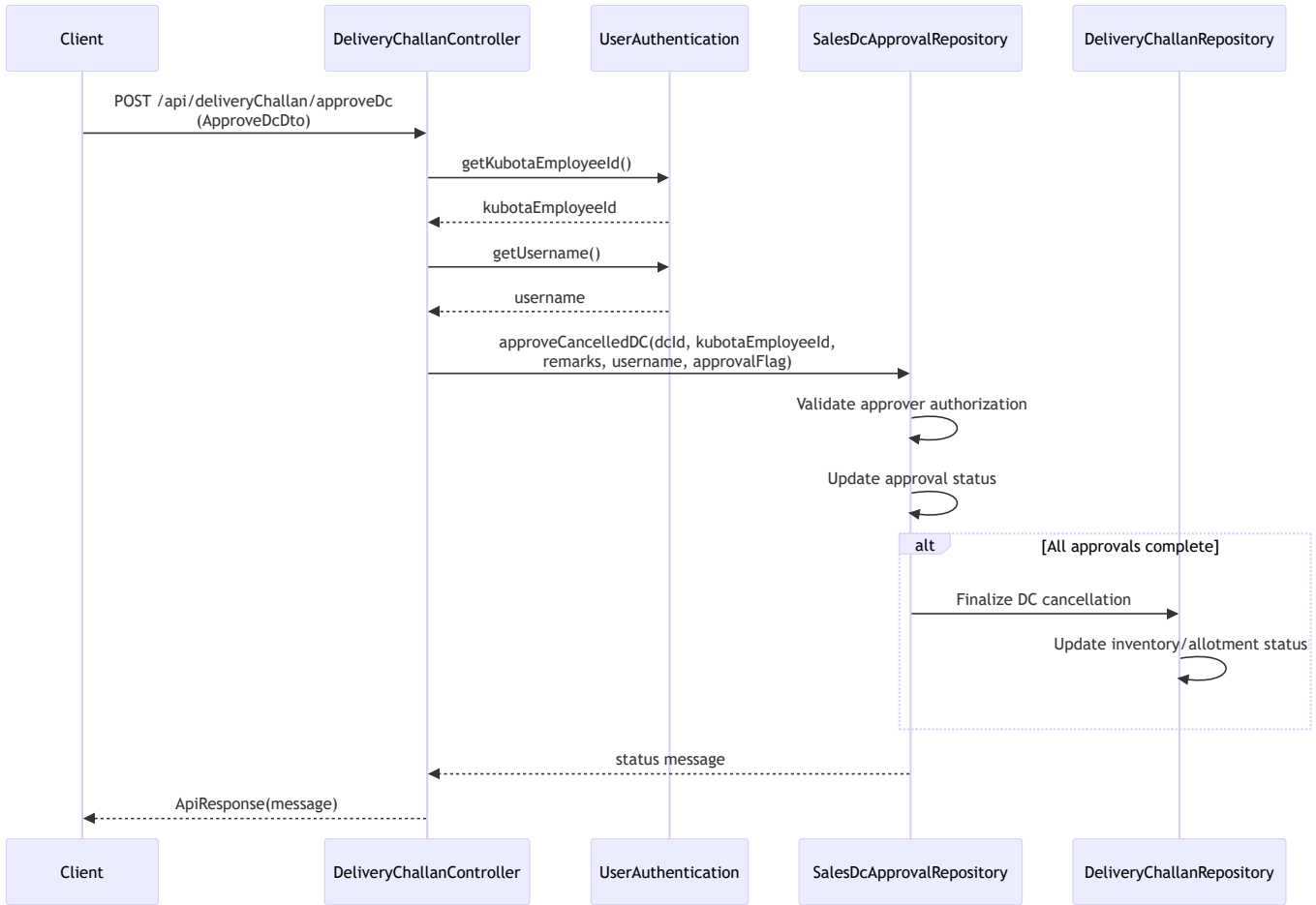
## 4.2 Search Delivery Challan Flow



### 4.3 Cancel Delivery Challan Flow

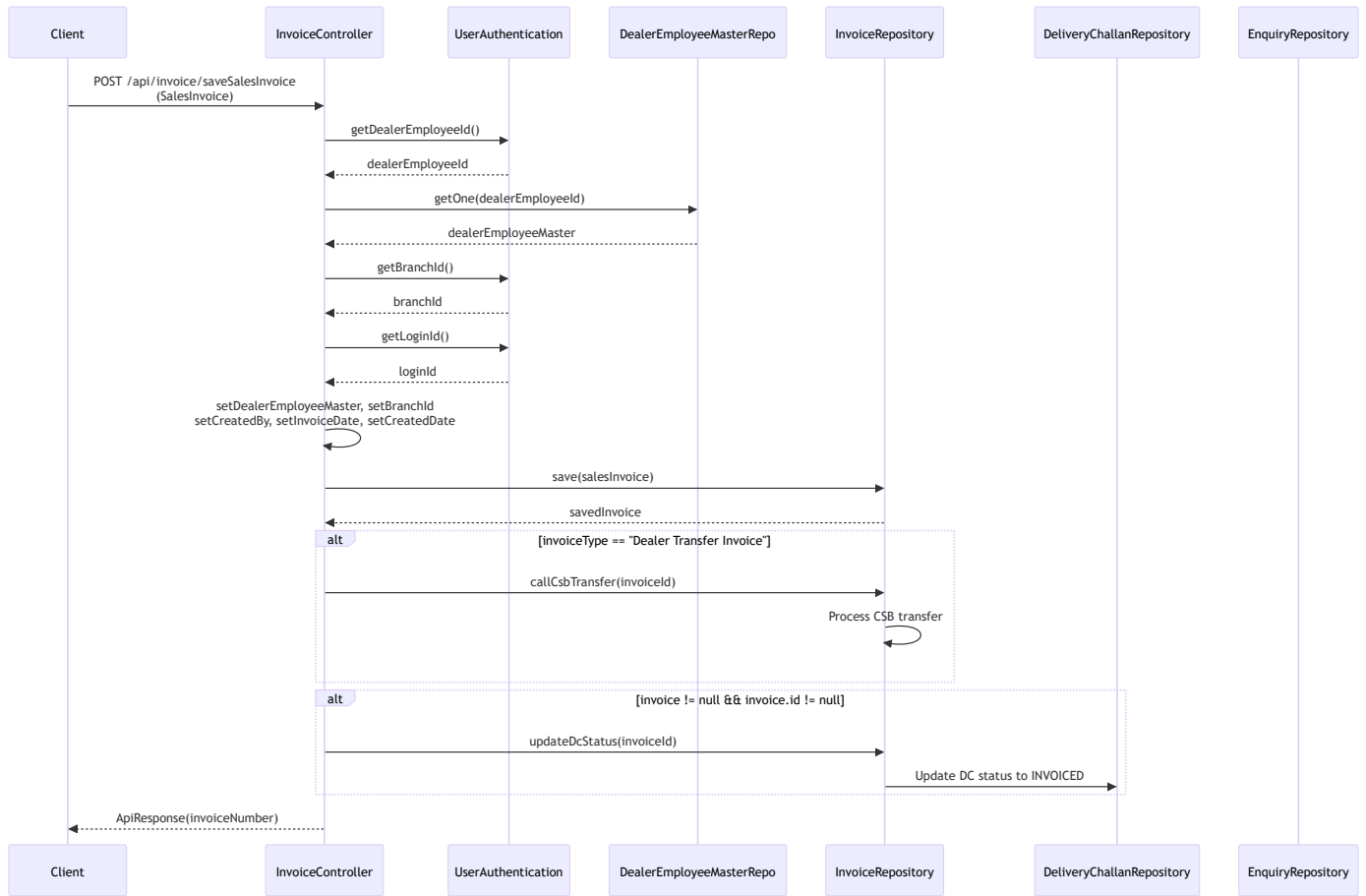


### 4.4 Approve DC Cancellation Flow

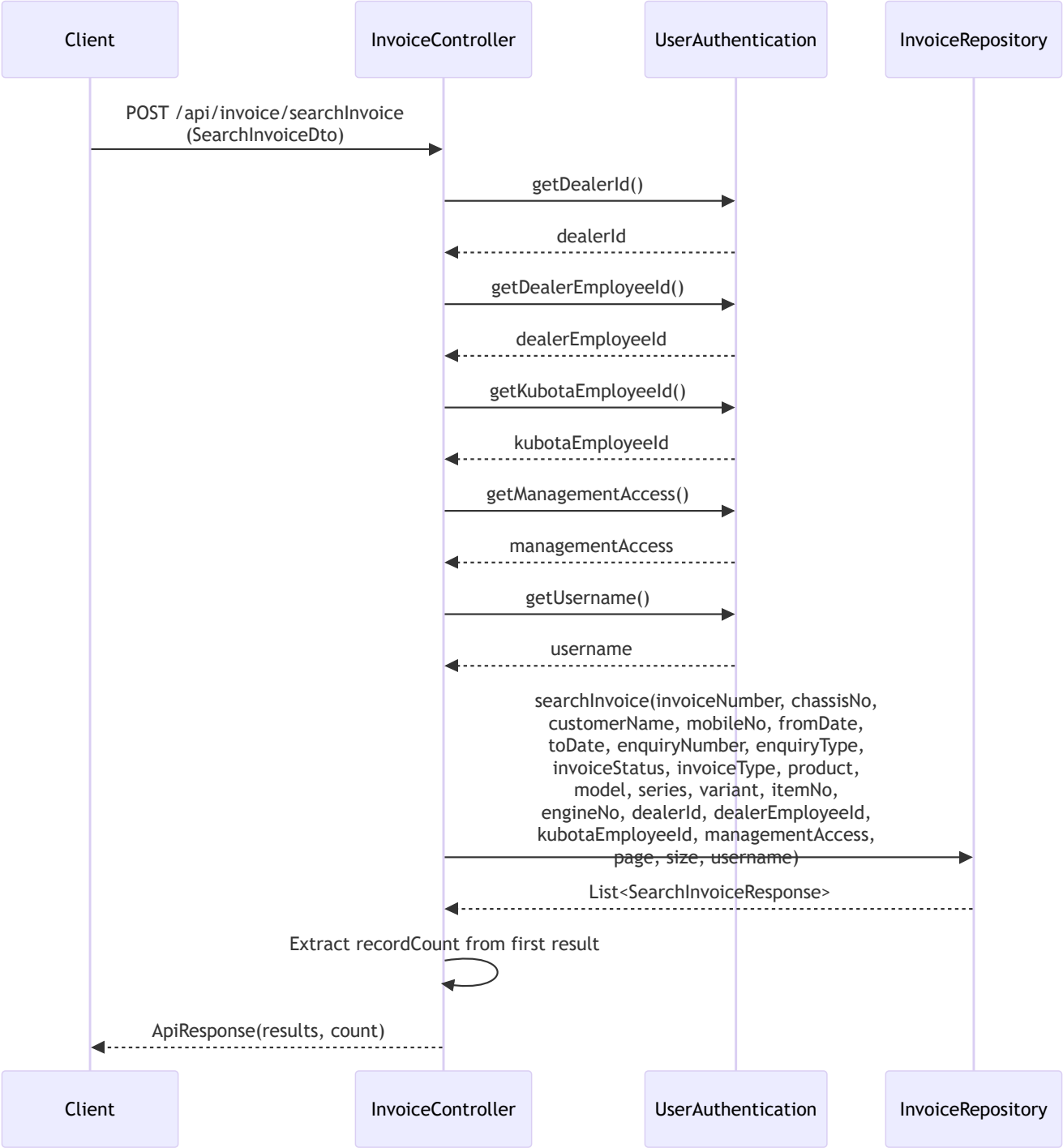


# 5. Sales Invoice Flow

## 5.1 Create Sales Invoice Flow

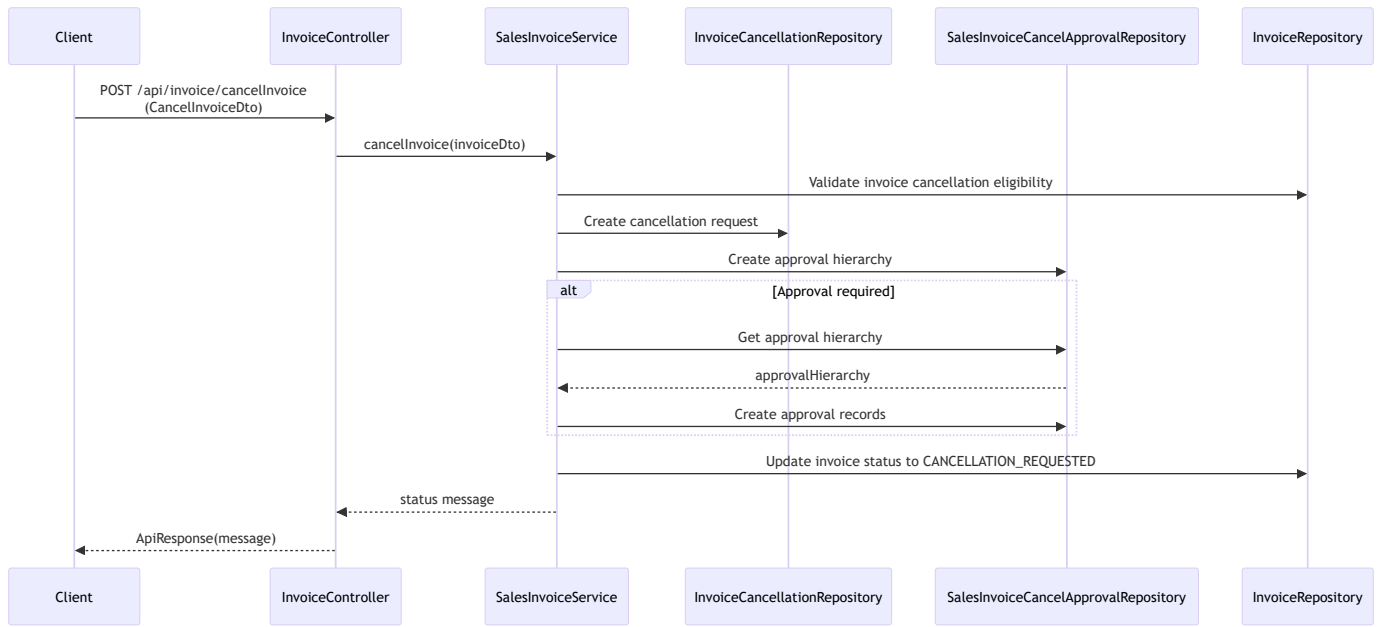


# 5.2 Search Invoice Flow

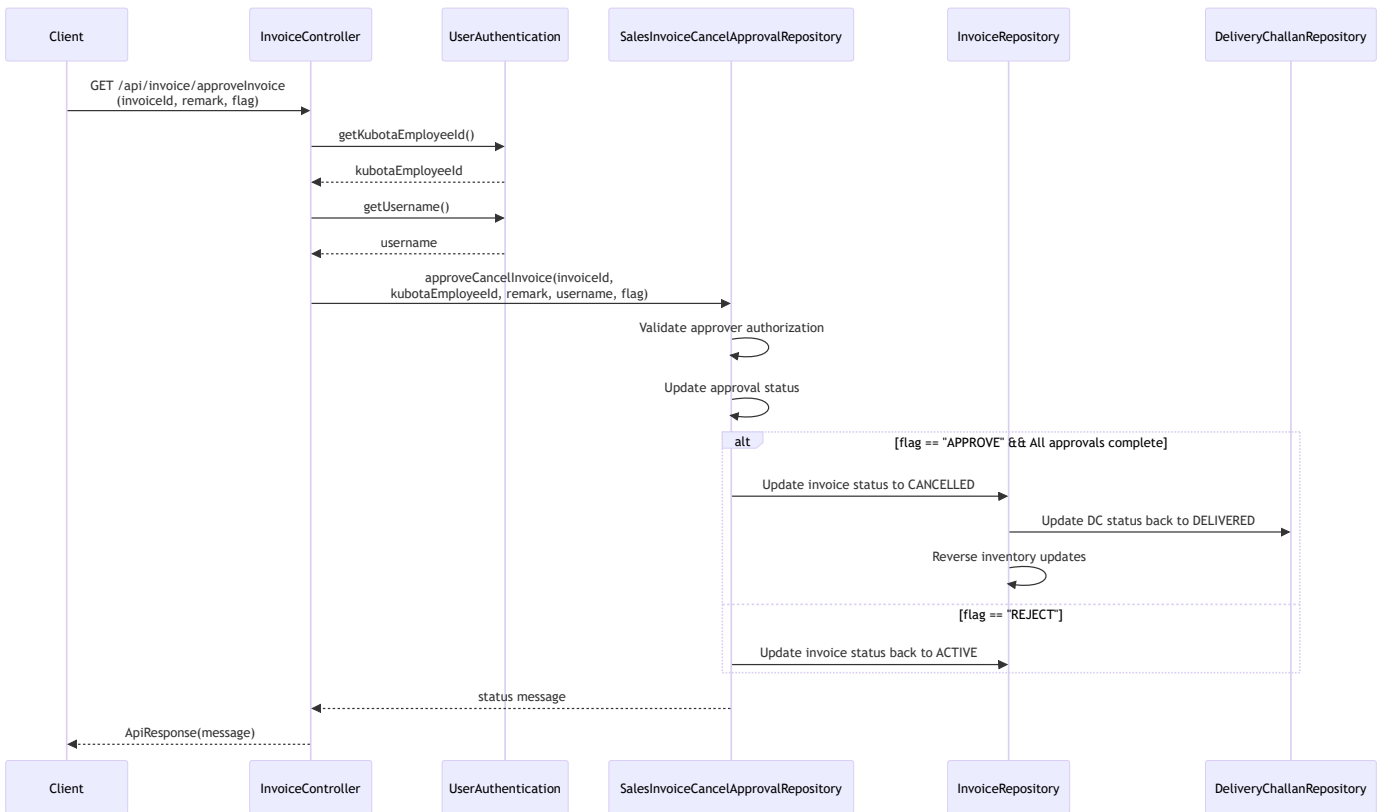




## 5.3 Cancel Invoice Flow

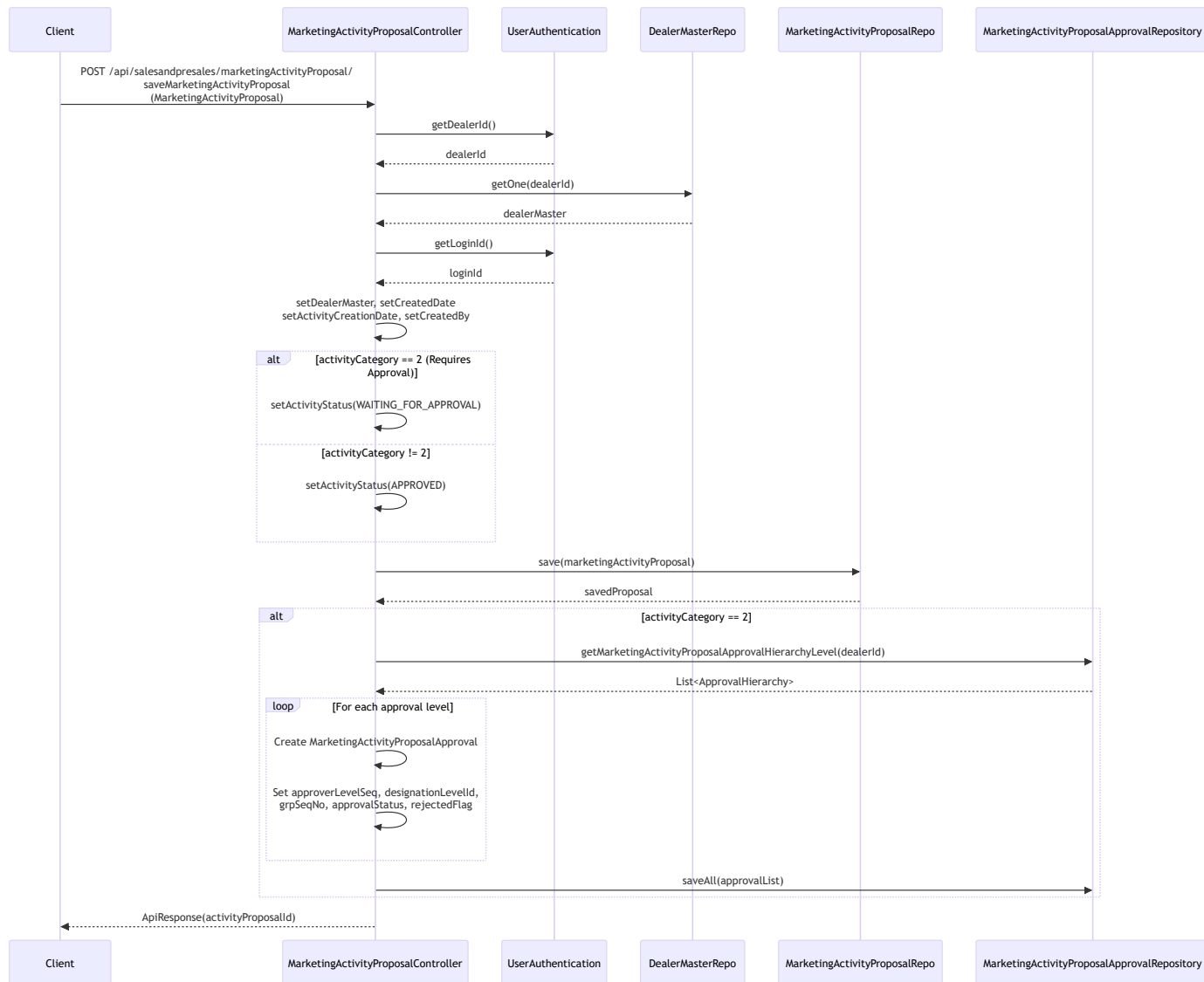


## 5.4 Approve Invoice Cancellation Flow

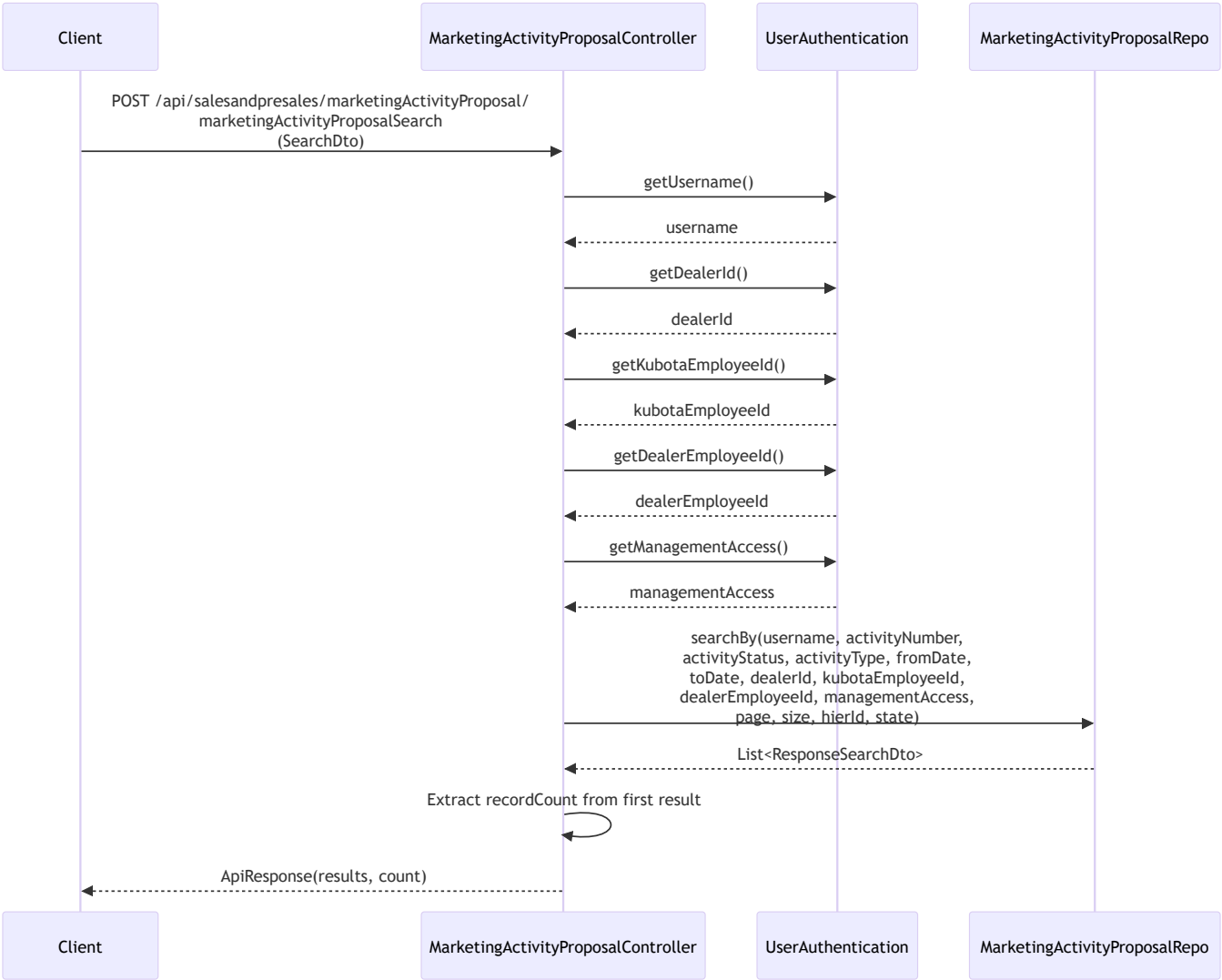


# 6. Marketing Activity Proposal Flow

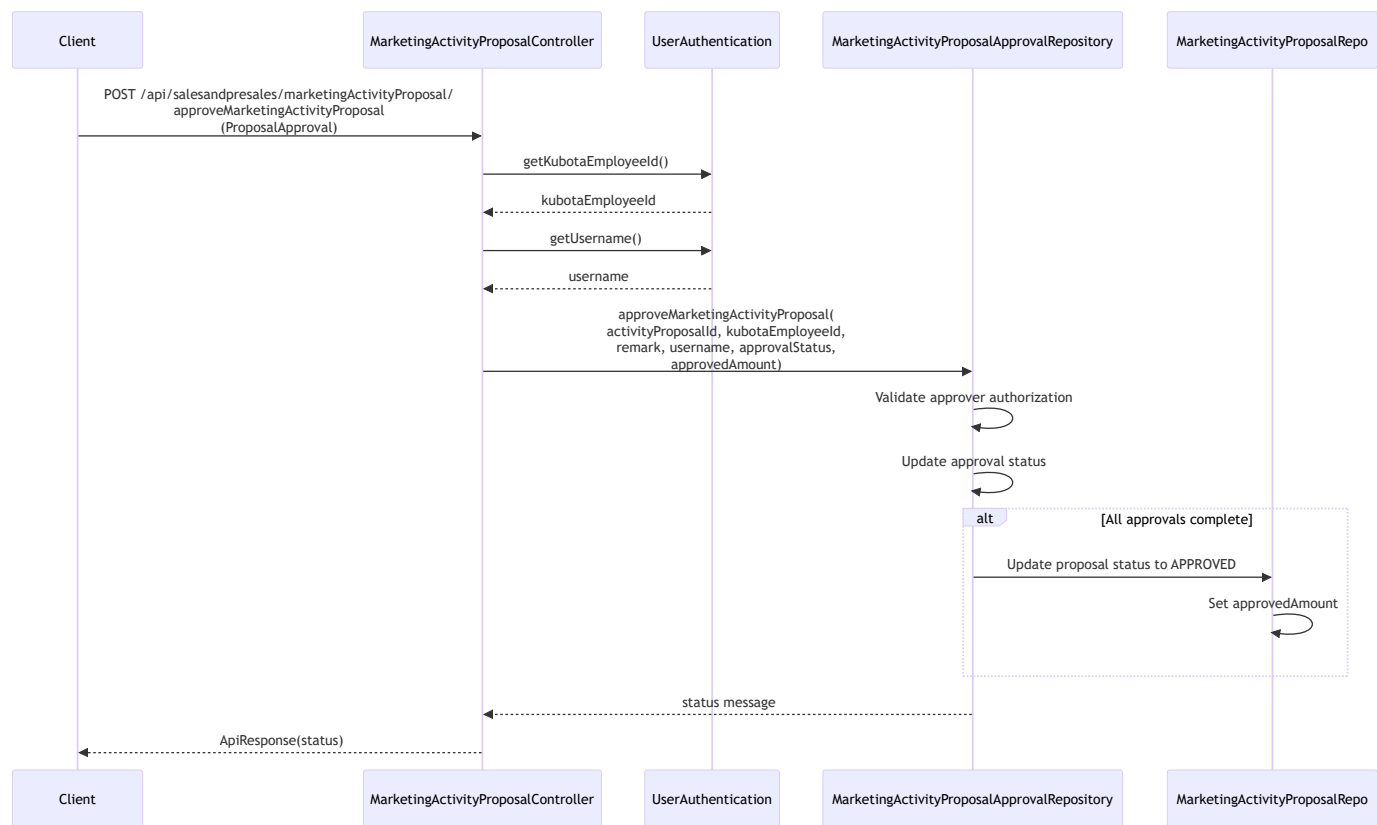
## 6.1 Create Marketing Activity Proposal Flow



# 6.2 Search Marketing Activity Proposal Flow

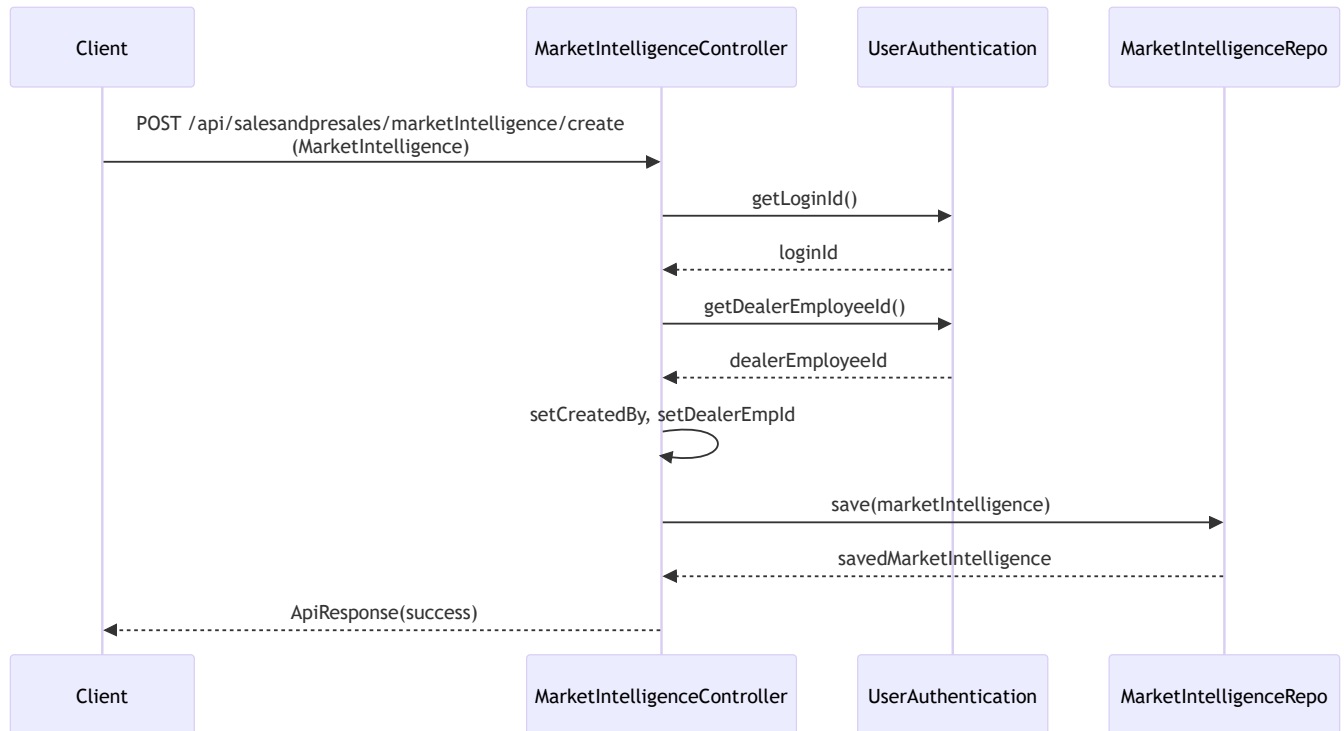


# 6.3 Approve Marketing Activity Proposal Flow

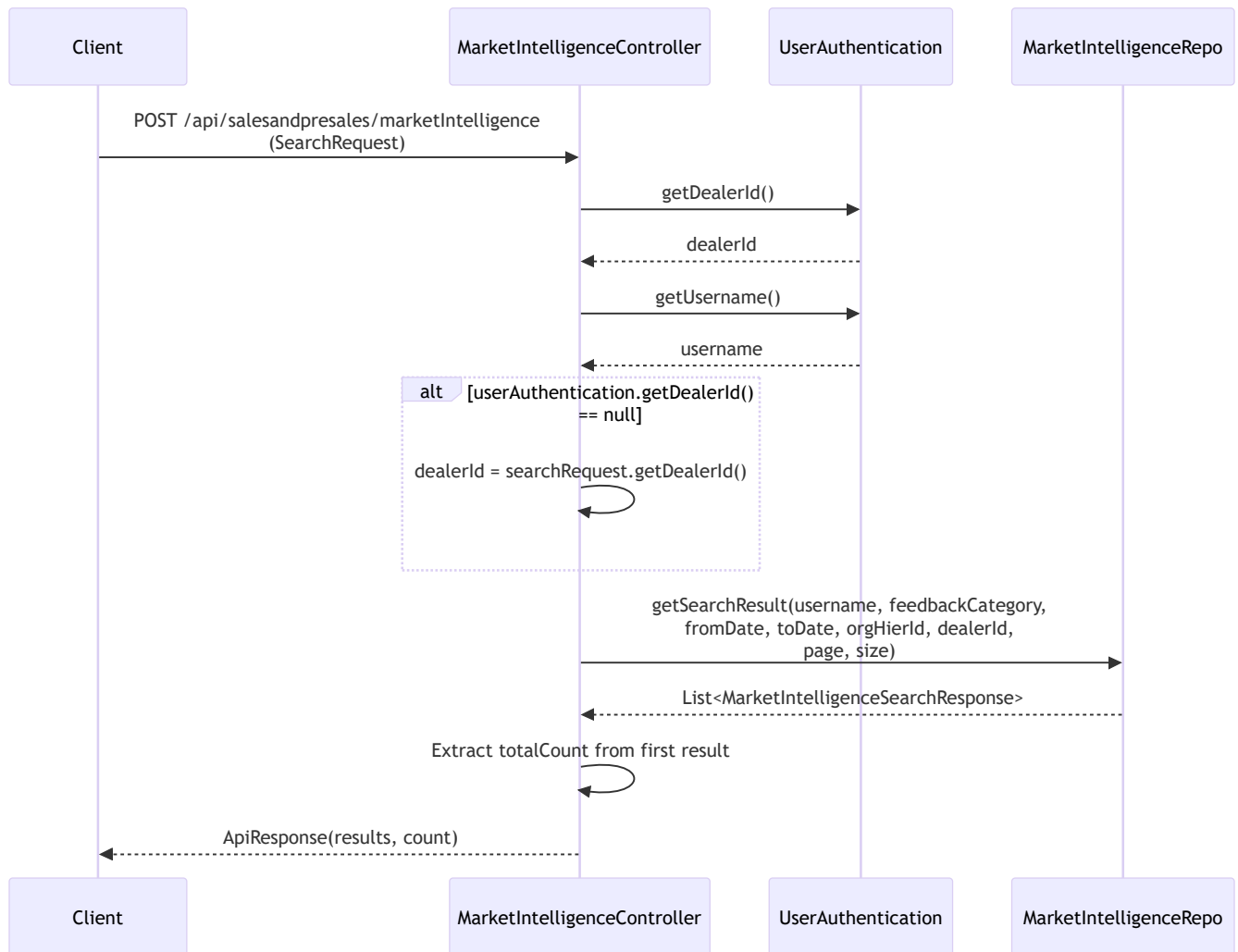


# 7. Market Intelligence Flow

## 7.1 Create Market Intelligence Flow

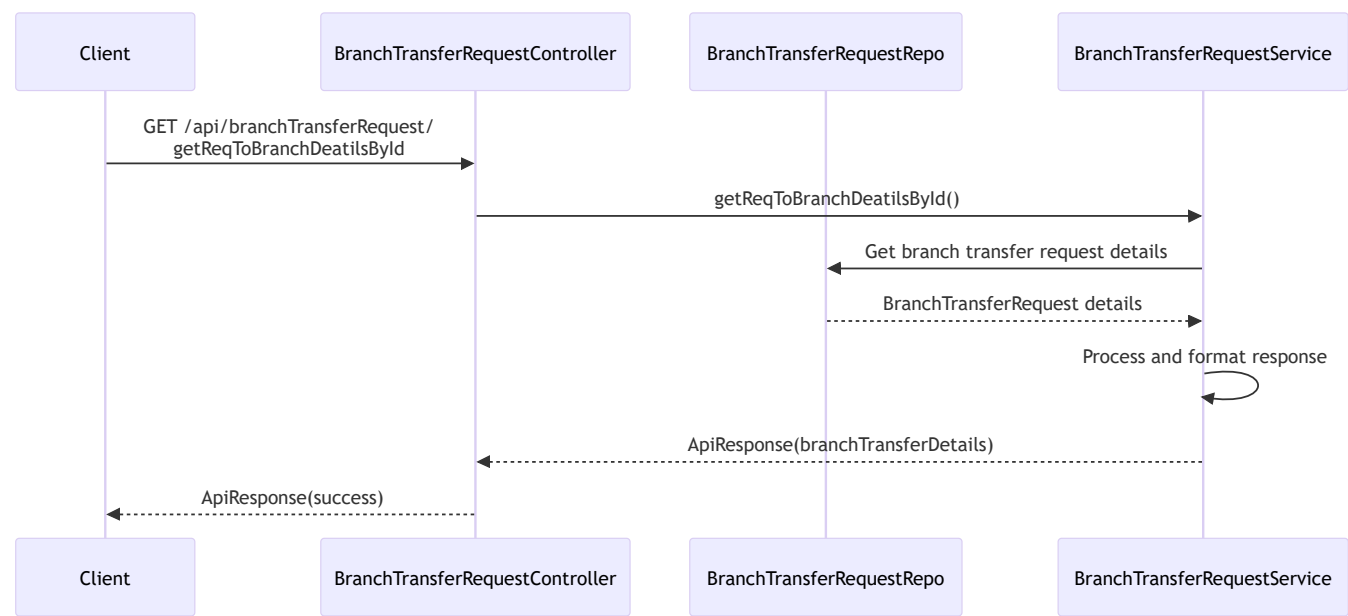


## 7.2 Search Market Intelligence Flow



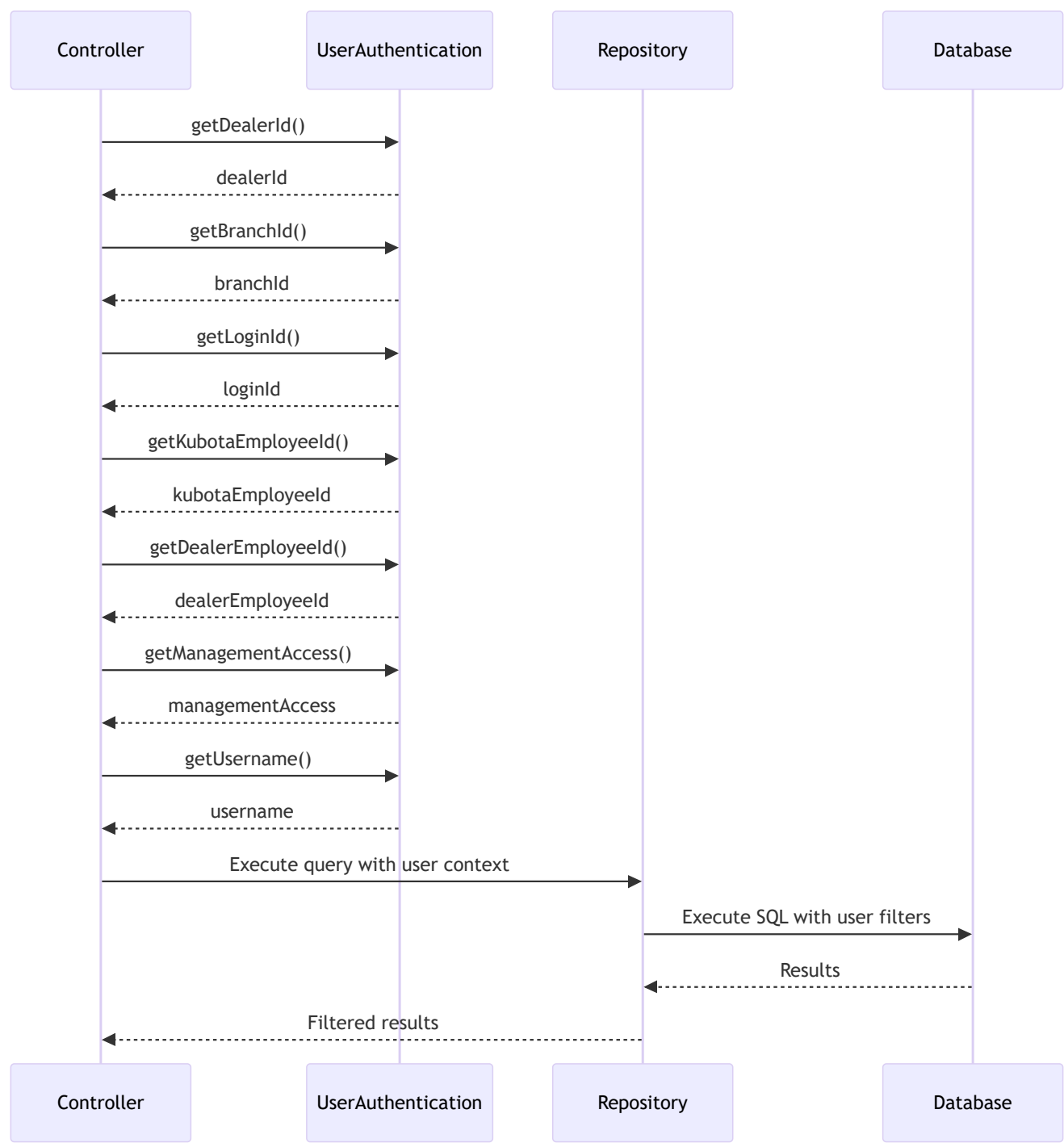
# 8. Branch Transfer Flow

## 8.1 Branch Transfer Request Flow



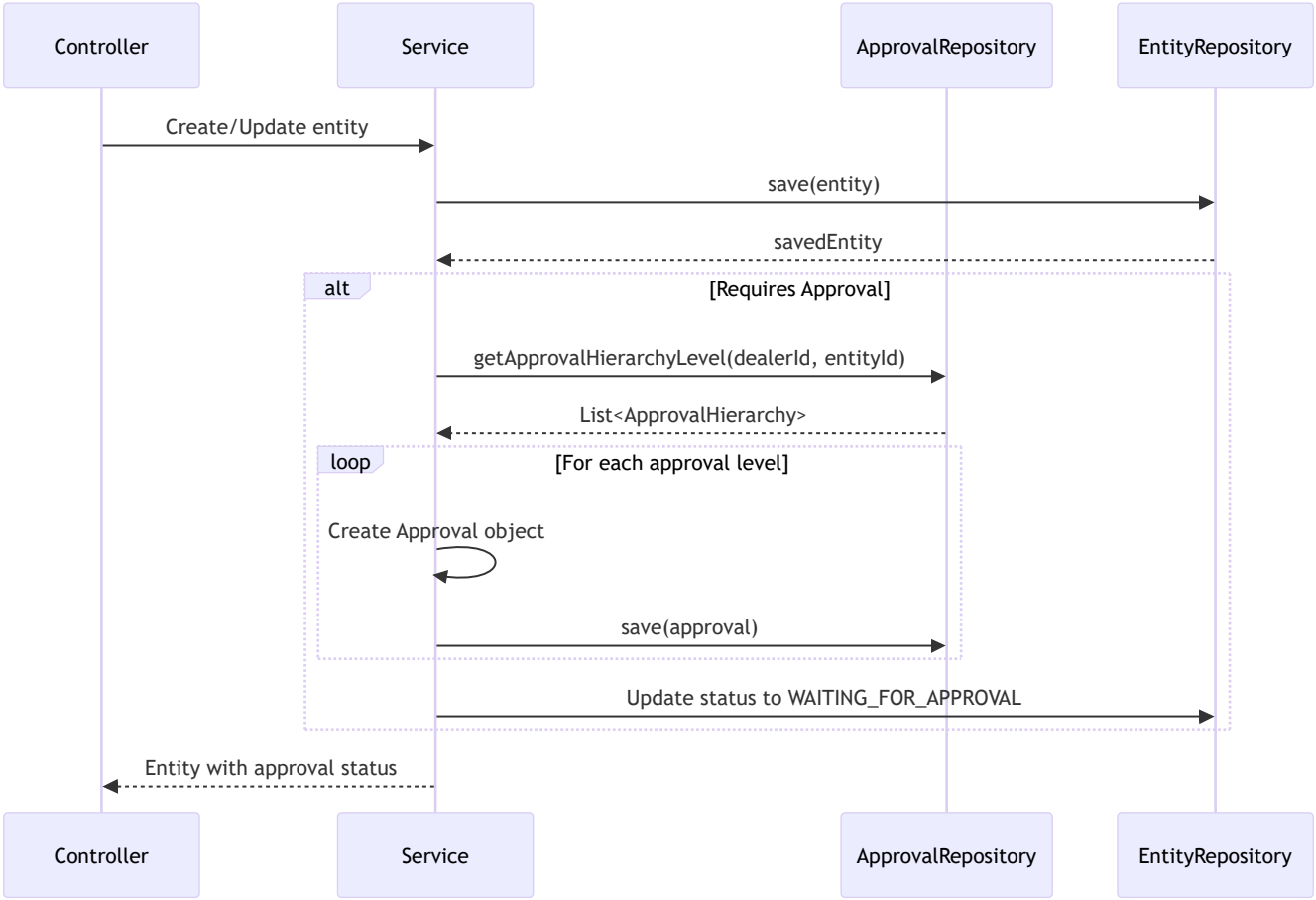
# Common Patterns Across All Flows

## Authentication and Authorization Pattern

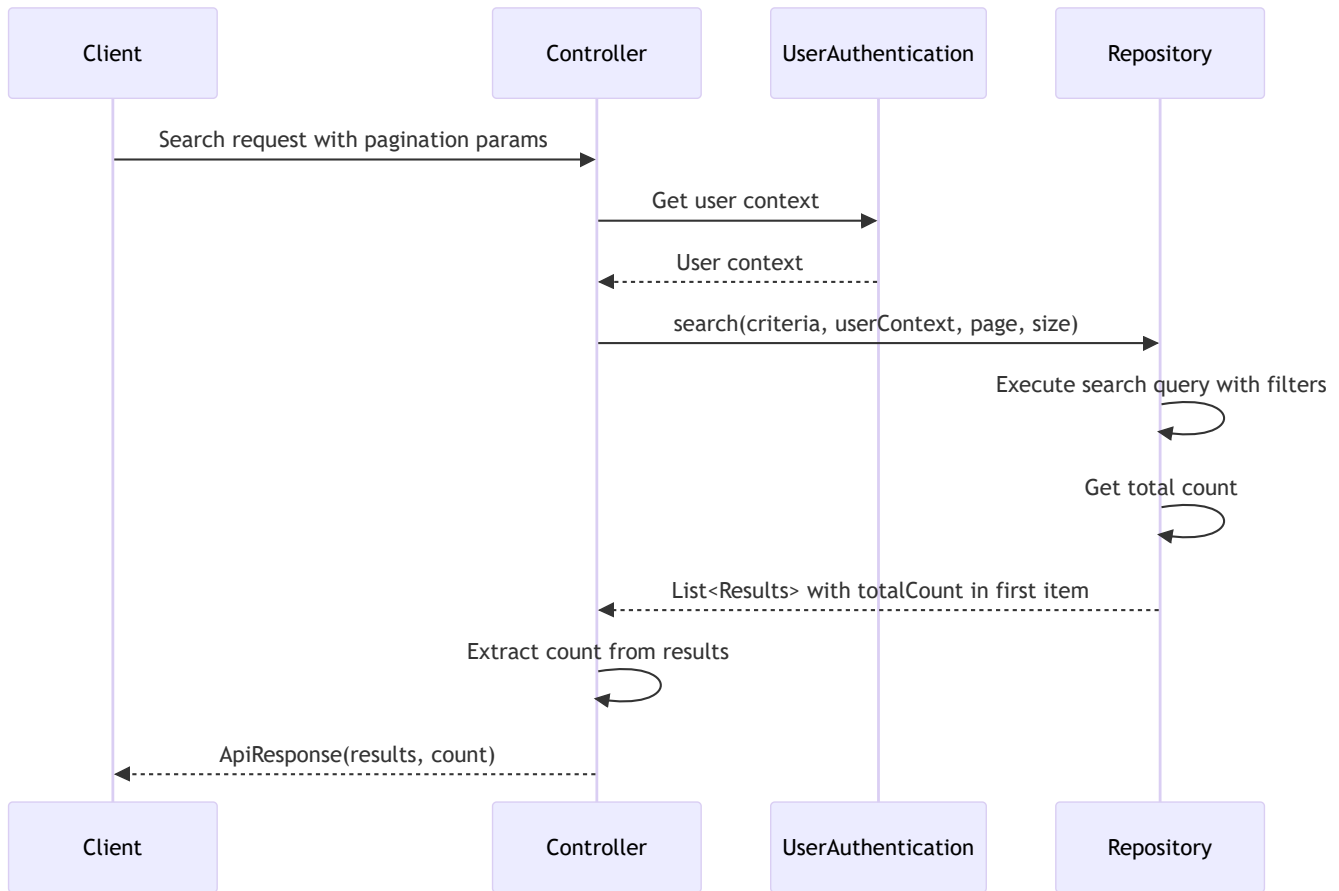




# Approval Workflow Pattern



# Search Pattern with Pagination



## Notes

1. **User Authentication:** All flows use `UserAuthentication` service to get user context (dealerId, branchId, loginId, etc.)
2. **Approval Workflows:** Purchase Orders, Marketing Activity Proposals, Invoice Cancellations, and DC Cancellations follow similar approval patterns with hierarchy-based approvals.
3. **File Storage:** Enquiry attachments and Purchase Order documents are stored using `StorageService`.
4. **Inventory Management:** GRN, Delivery Challan, and Invoice operations update machine inventory status.
5. **Search Operations:** All search operations support pagination and user-based filtering for data security.
6. **Status Management:** Entities transition through various statuses (DRAFT, WAITING\_FOR\_APPROVAL, APPROVED, CANCELLED, etc.)
7. **Transaction Management:** Critical operations use `@Transactional` to ensure data consistency.