

# Service Module - Detailed Sequence Diagrams

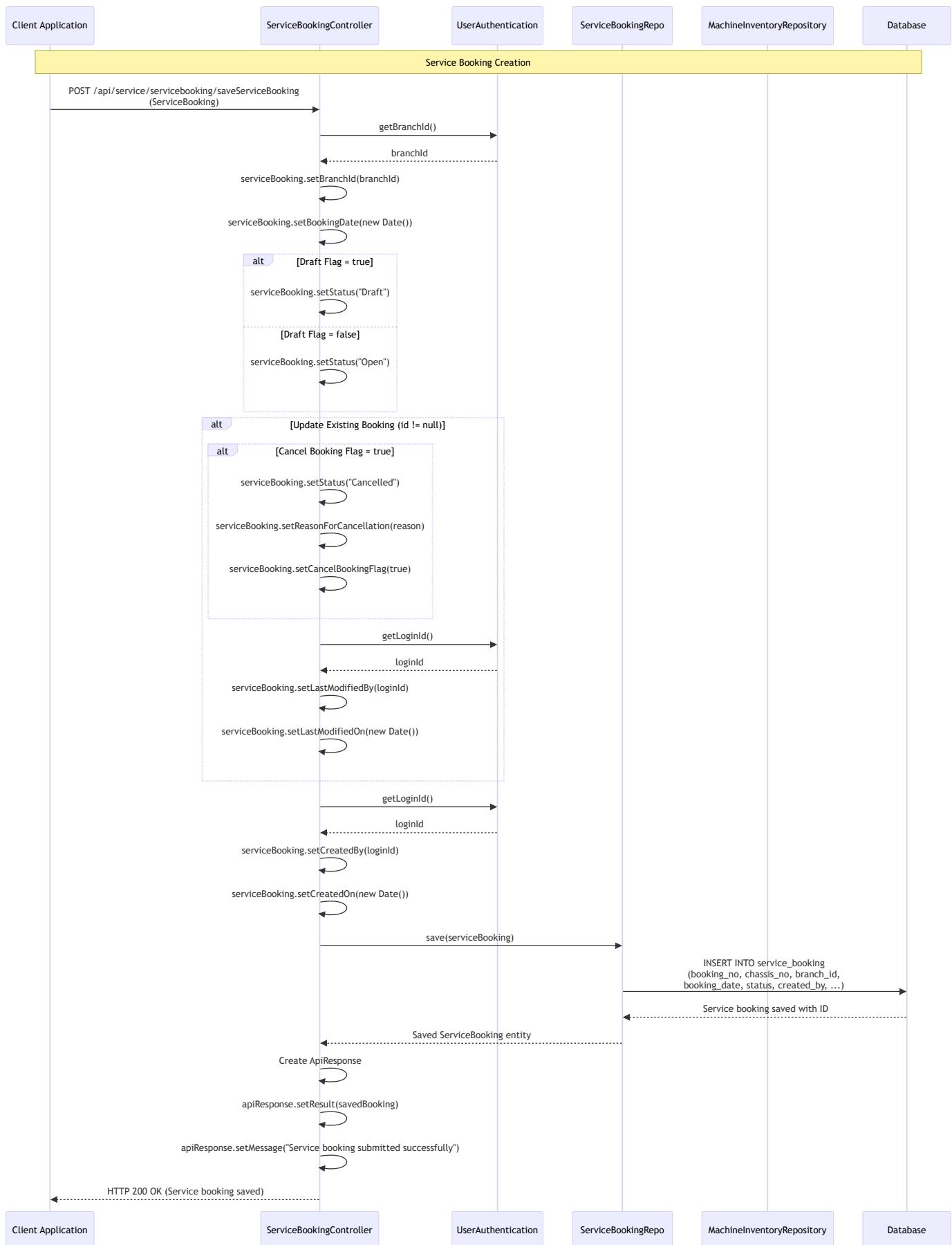
This document describes the **key technical flows** implemented in the `com.i4o.dms.kubota.service` module:

- **Service Booking** (Create, search, cancel service bookings).
- **Job Card Management** (Create, update, search, close, reopen job cards with photos and spare parts).
- **Service Claim** (Create, search, approve service claims with approval hierarchy).
- **Activity Proposal** (Create, search, approve service activity proposals).
- **Activity Claim** (Create, search, approve service activity claims with photos and vendor details).
- **Activity Report** (Create, search service activity reports with photos and PDF generation).
- **PSC/PDI/PDC** (Post-Sales Check, Pre-Delivery Inspection, Pre-Delivery Check).
- **MRC** (Machine Reconditioning with photos and invoice integration).

All diagrams use Mermaid sequence diagrams and reflect the current implementation of the Service module.

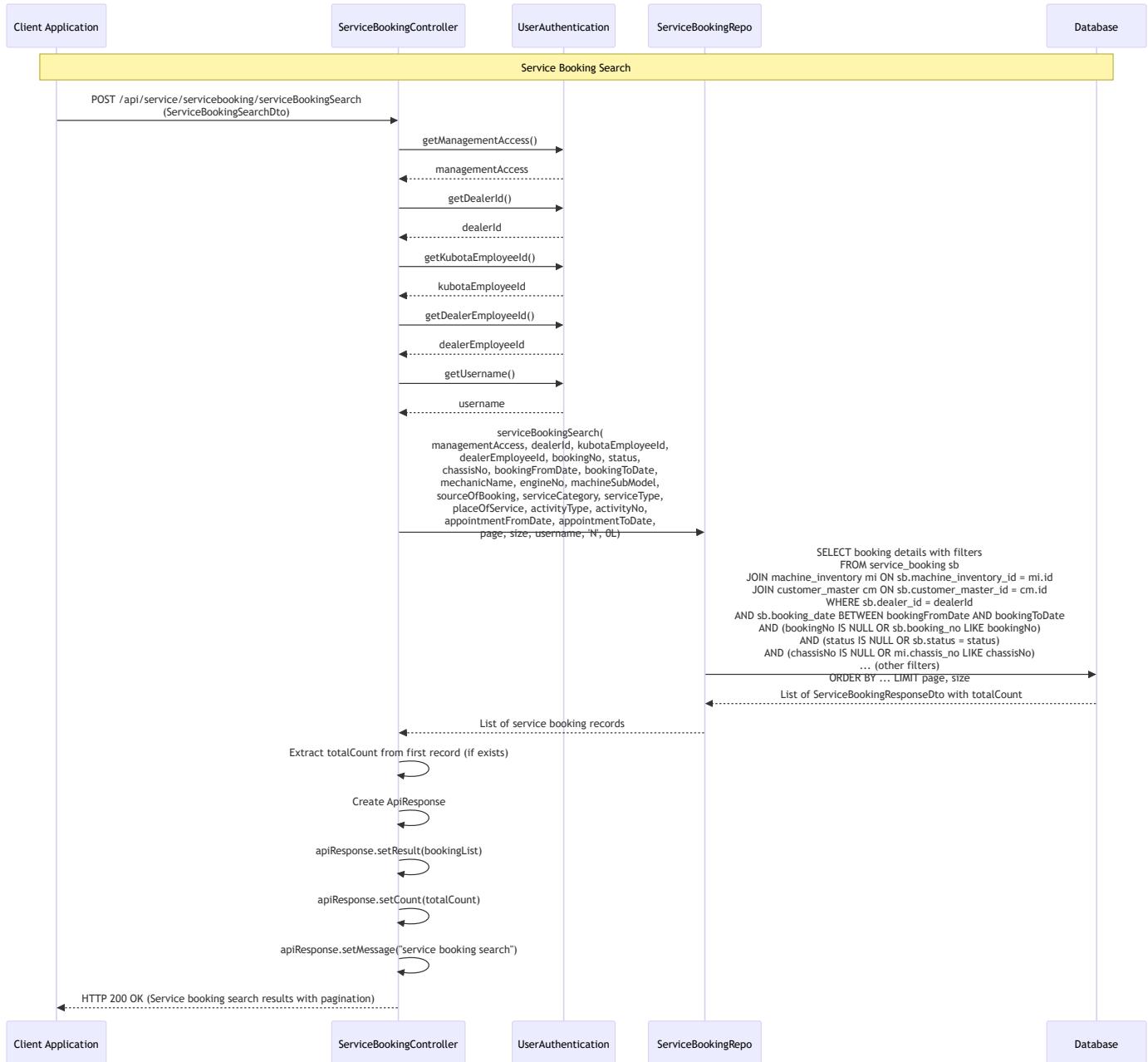
## 1. Service Booking Creation Flow

This flow shows how **service bookings** are created with machine details, customer information, and service requirements.



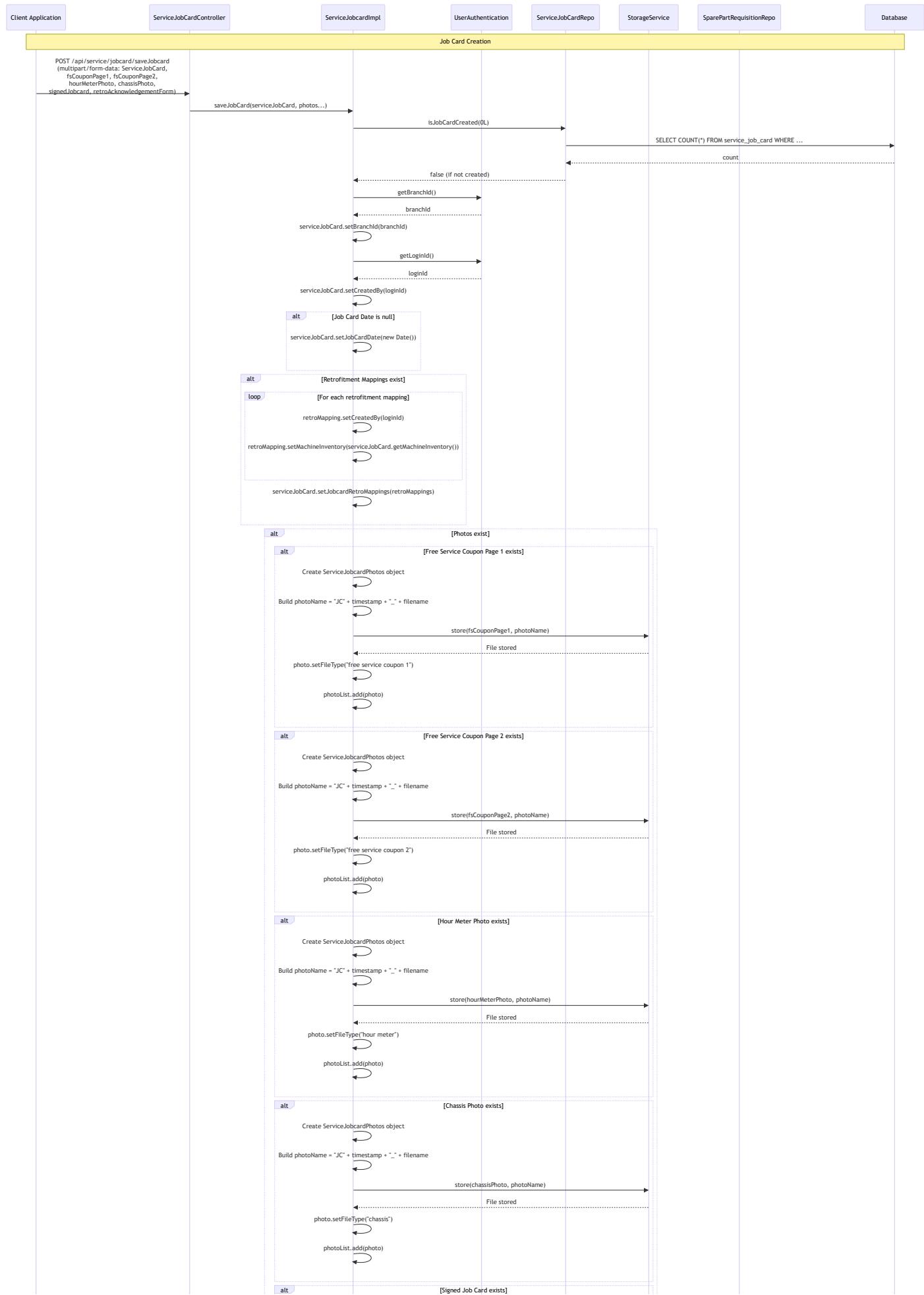
## 2. Service Booking Search Flow

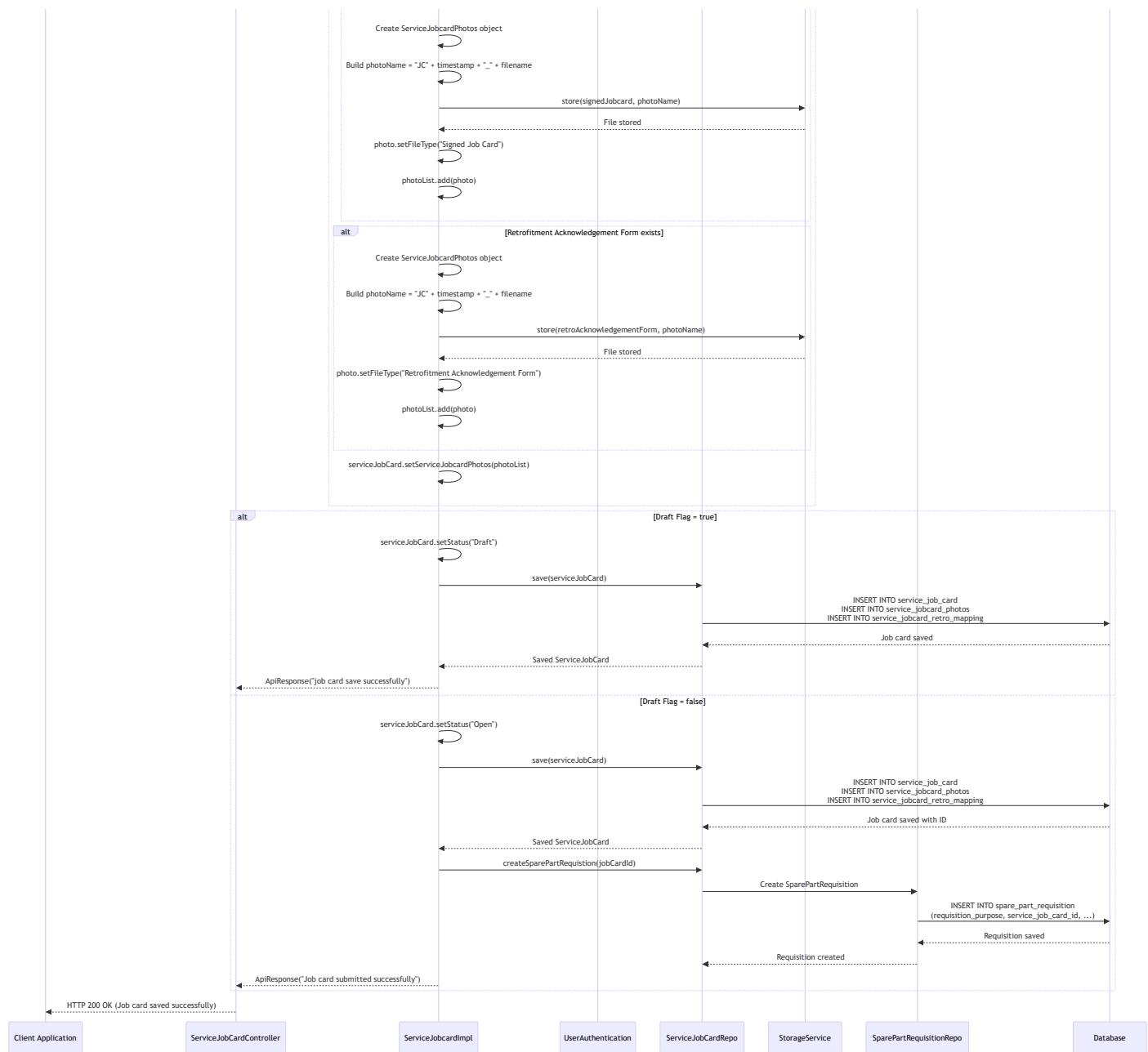
This flow shows how **service bookings** are searched with various filters including booking number, chassis number, status, date range, and service details.



## 3. Job Card Creation Flow

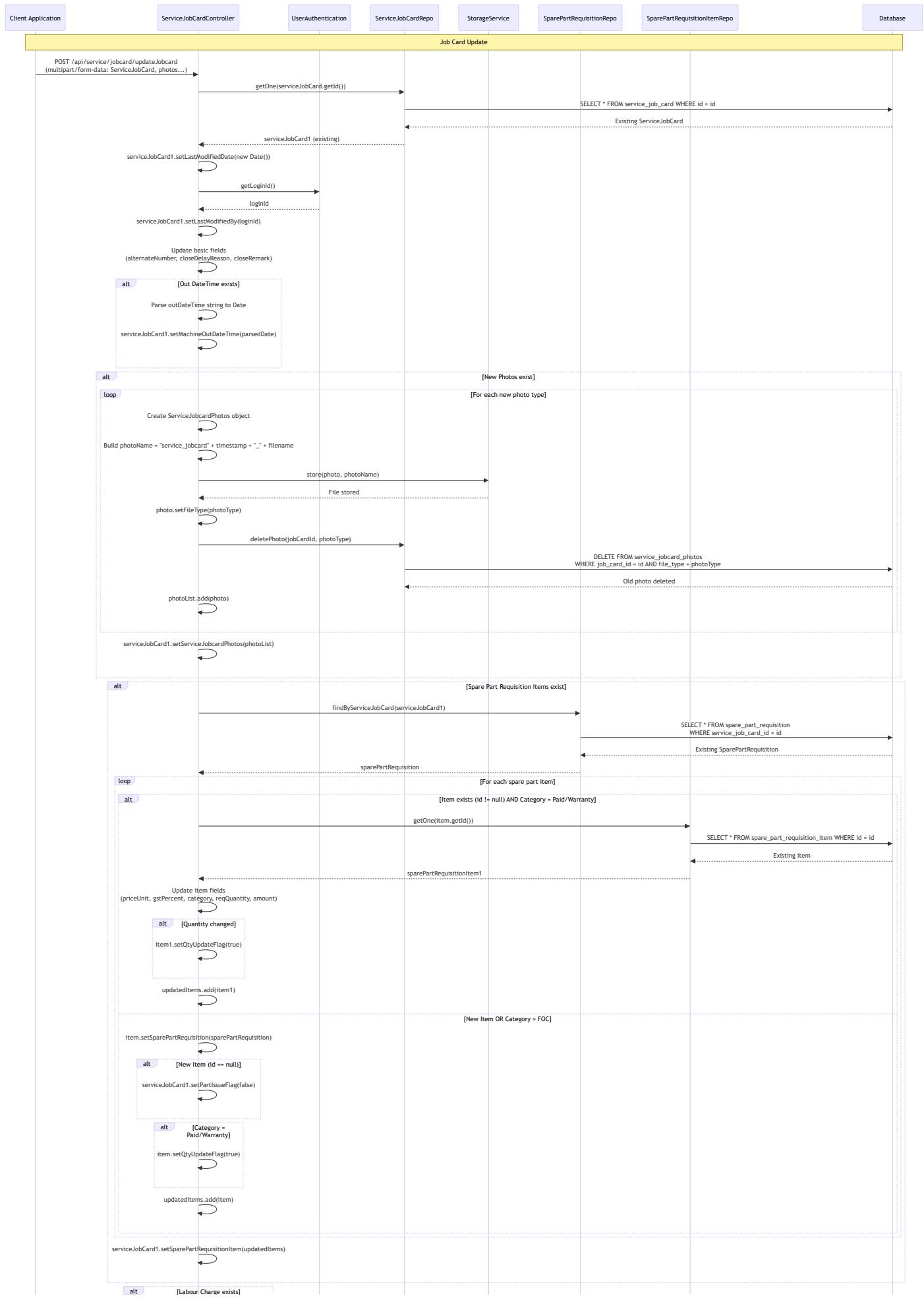
This flow shows how **job cards** are created with machine details, service information, photos, spare parts, and retrofitment mappings.

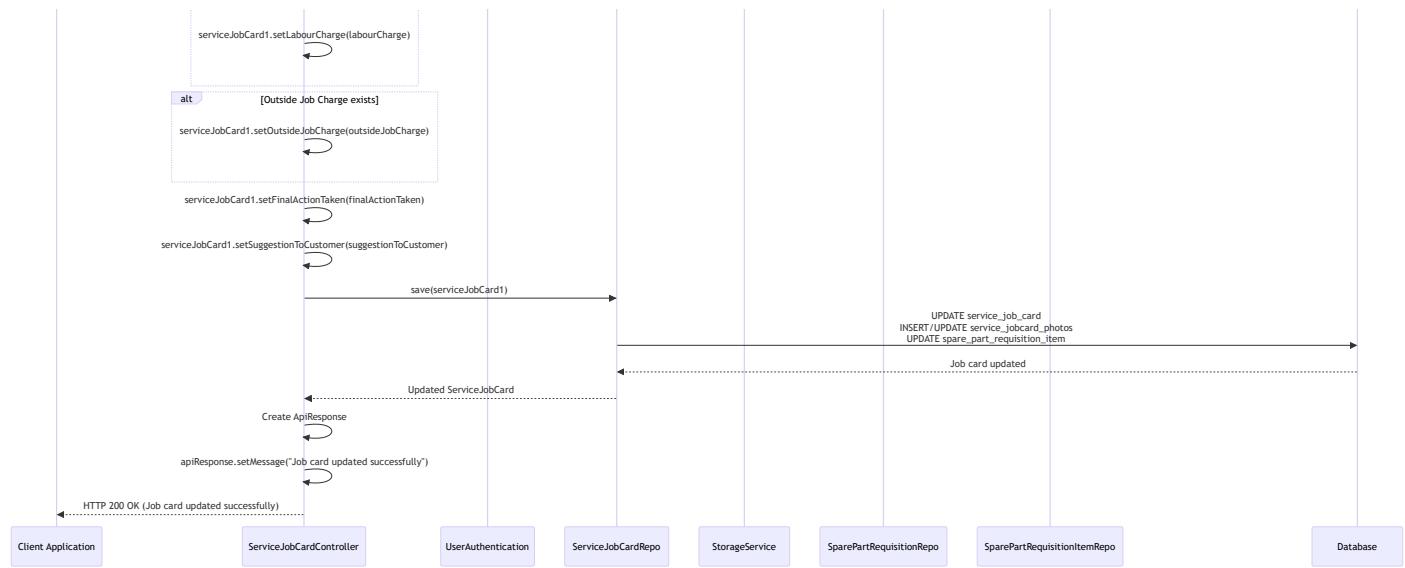




## 4. Job Card Update Flow

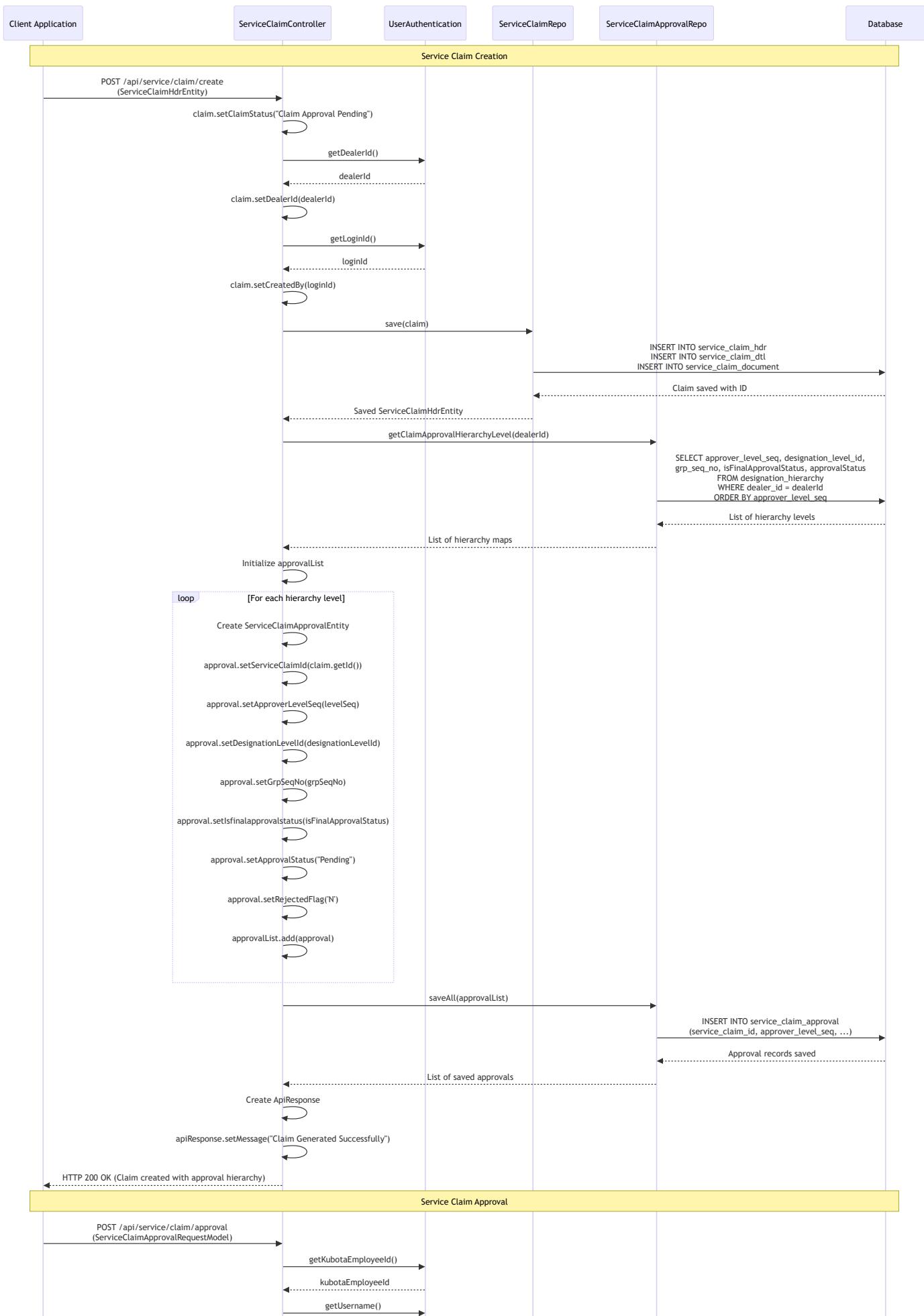
This flow shows how **job cards** are updated with new photos, spare parts, labour charges, and machine out details.

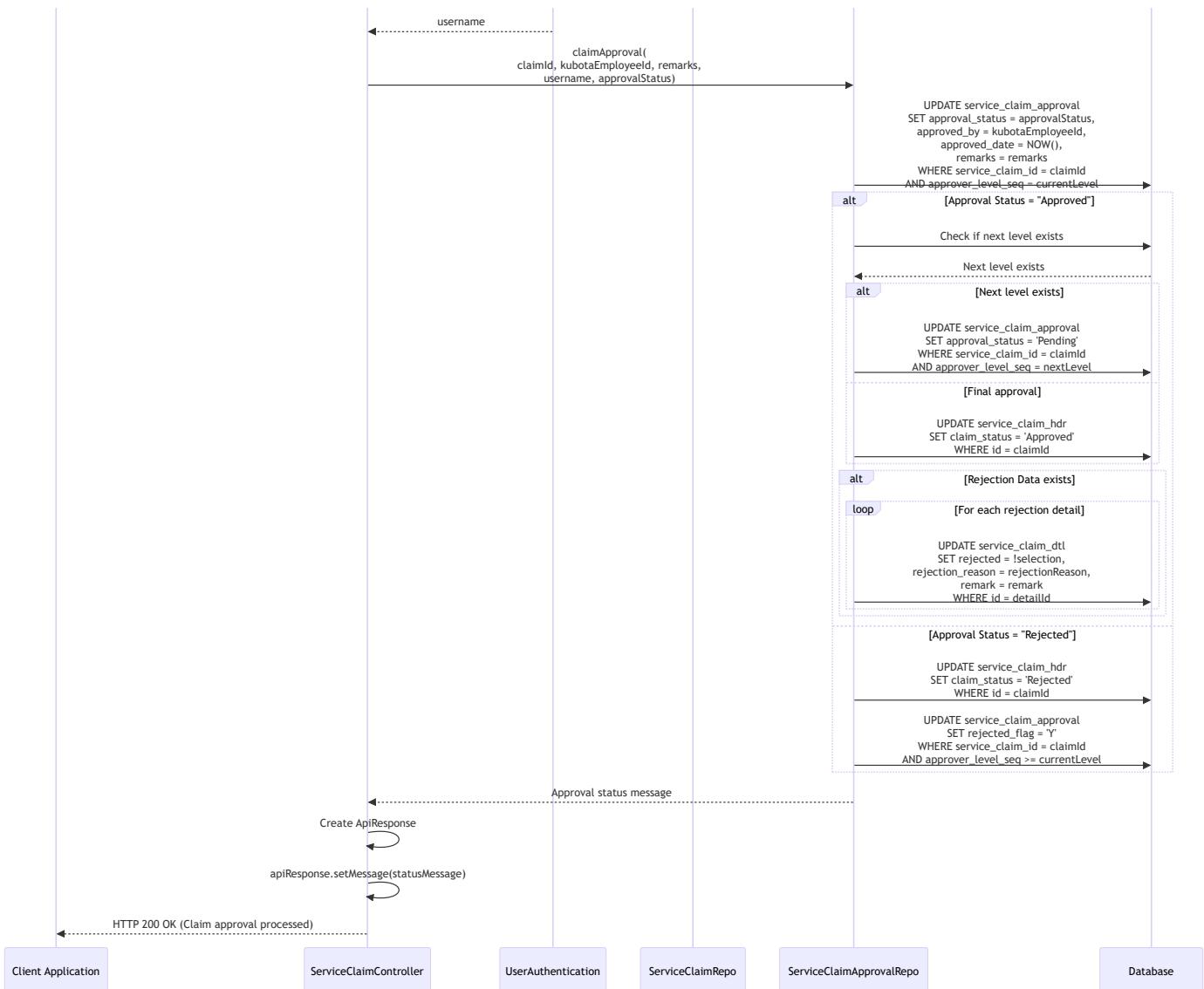




## 5. Service Claim Creation and Approval Flow

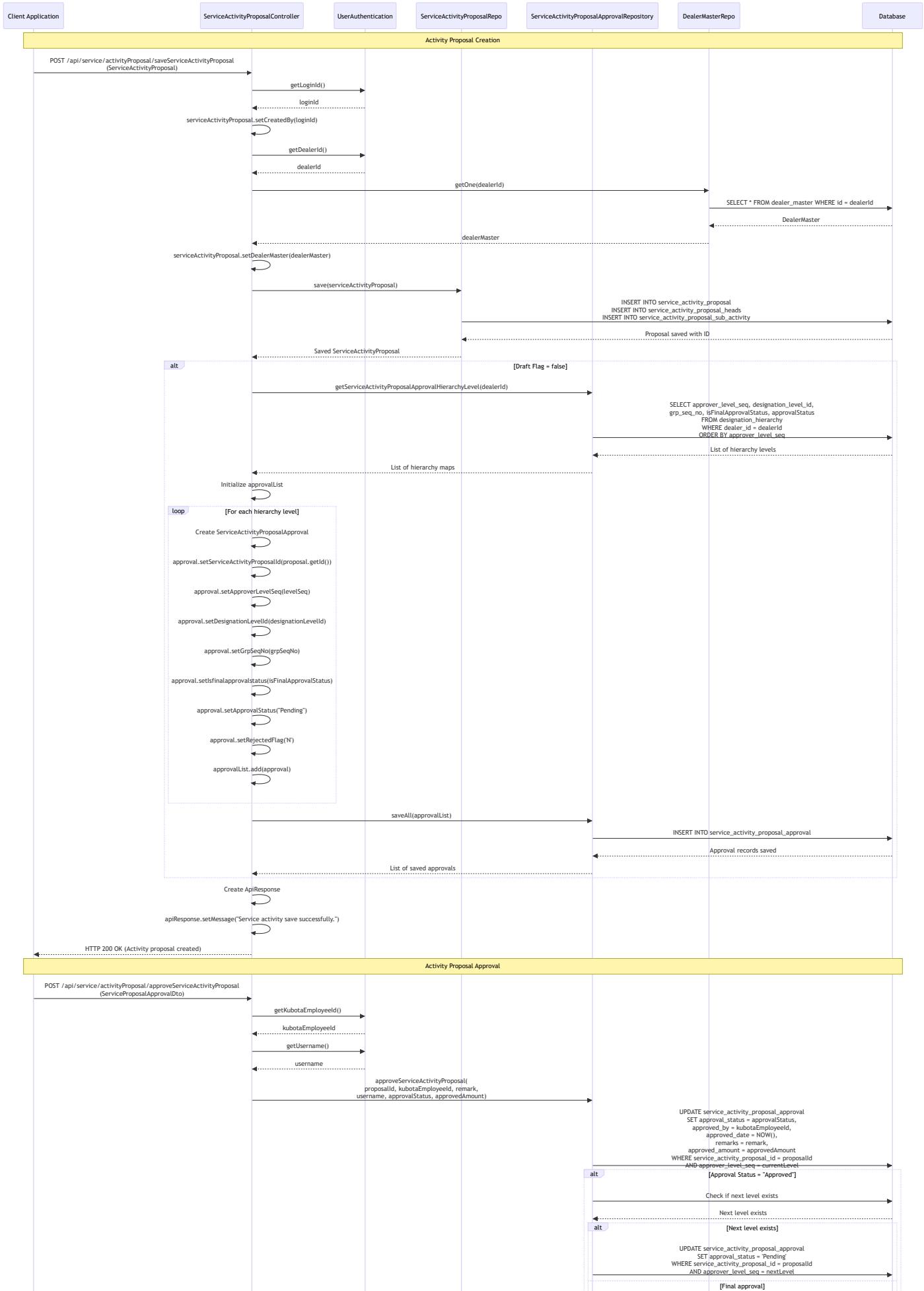
This flow shows how **service claims** are created with product/service details, documents, and approval hierarchy setup.

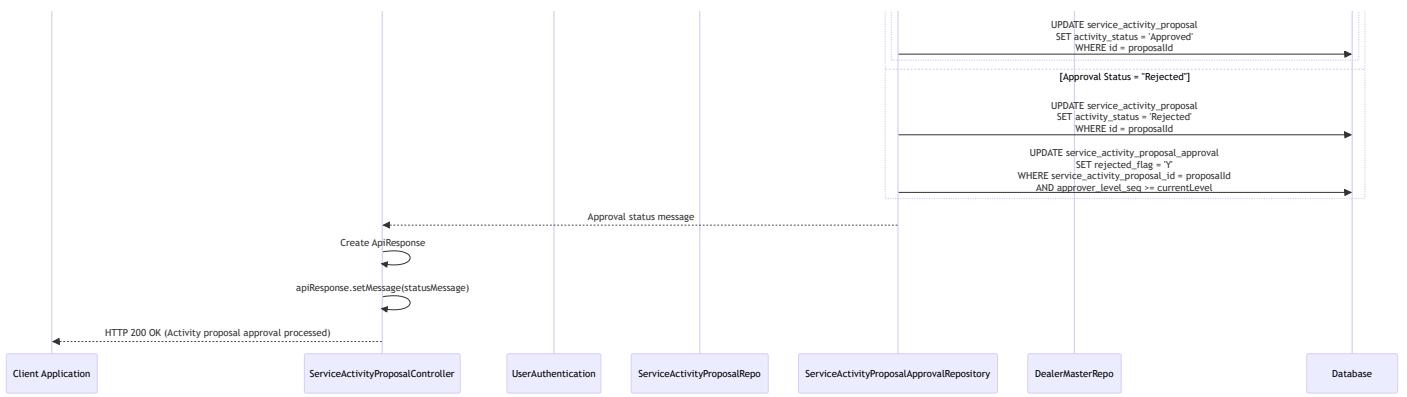




## 6. Activity Proposal Creation and Approval Flow

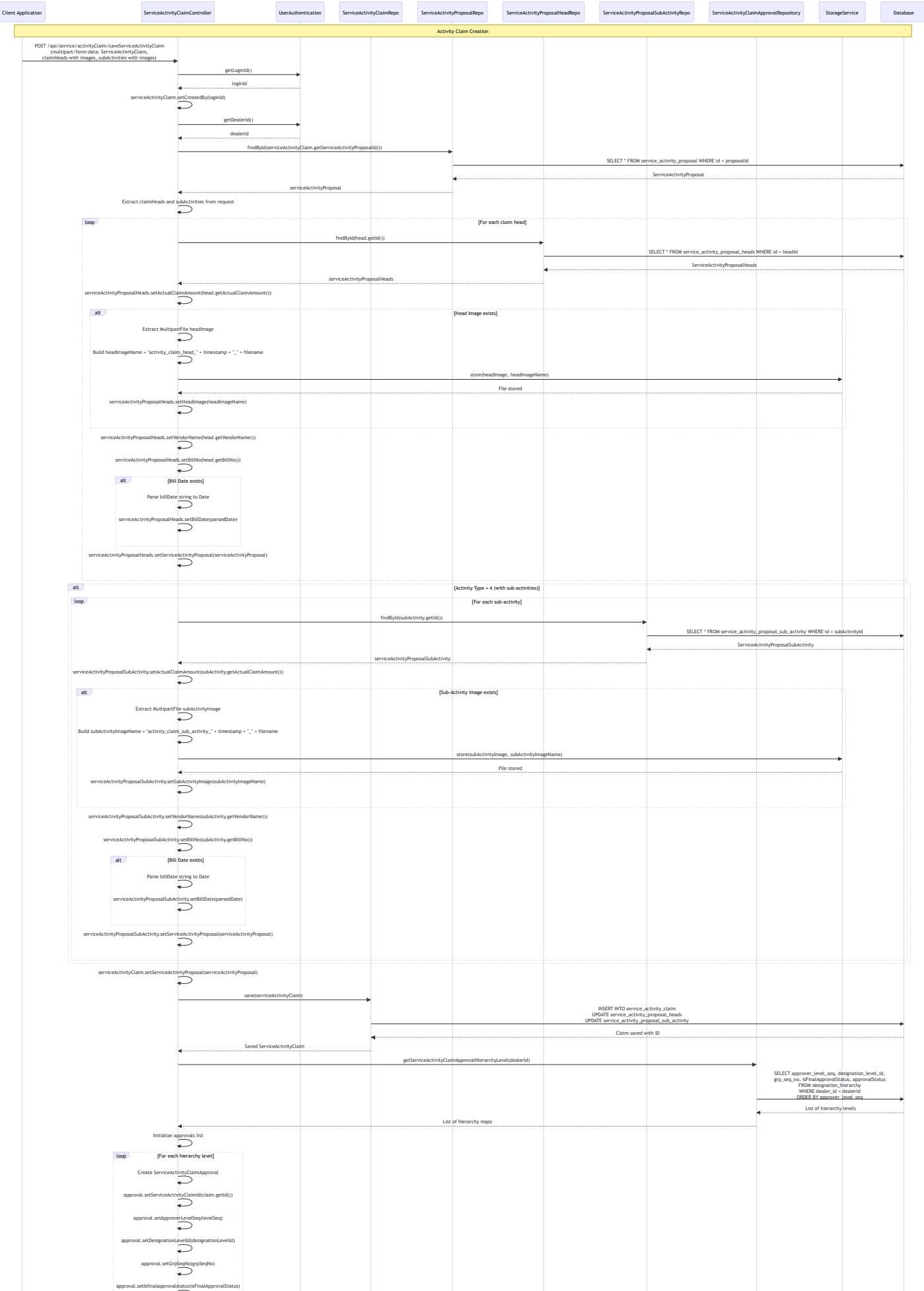
This flow shows how **service activity proposals** are created with activity details, heads, sub-activities, and approval hierarchy setup.

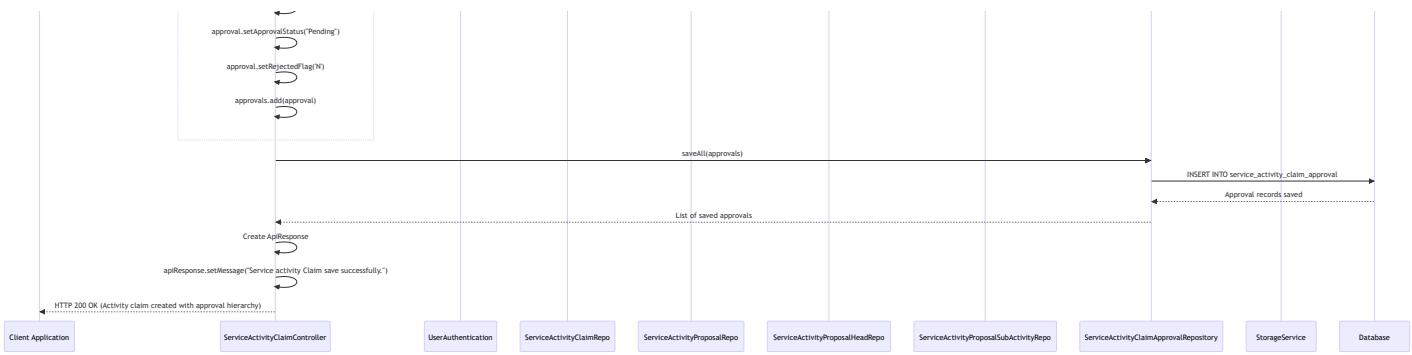




## 7. Activity Claim Creation Flow

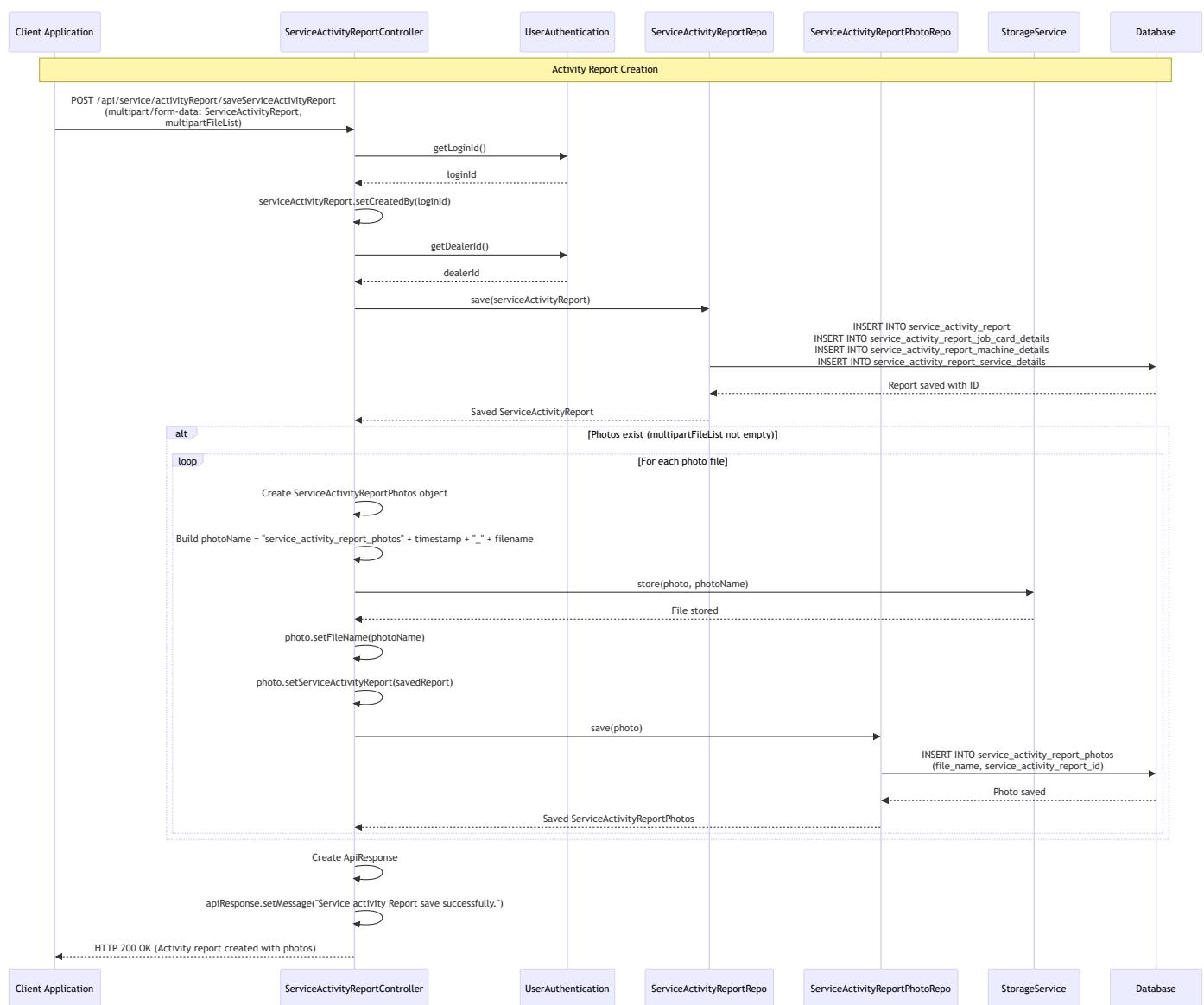
This flow shows how **service activity claims** are created with activity proposal details, heads, sub-activities, photos, and vendor information.





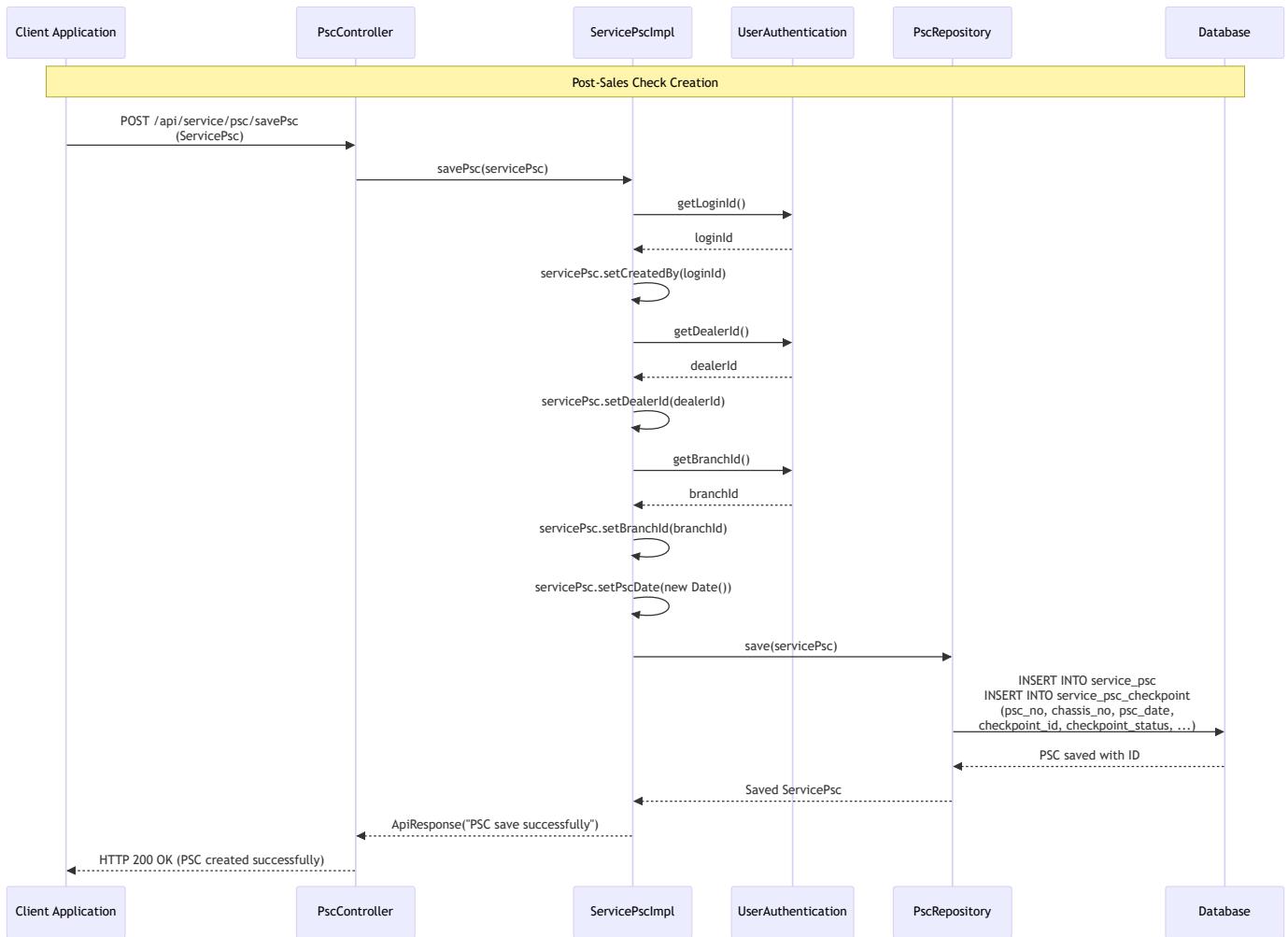
## 8. Activity Report Creation Flow

This flow shows how **service activity reports** are created with activity proposal details, job card details, machine details, service details, and photos.



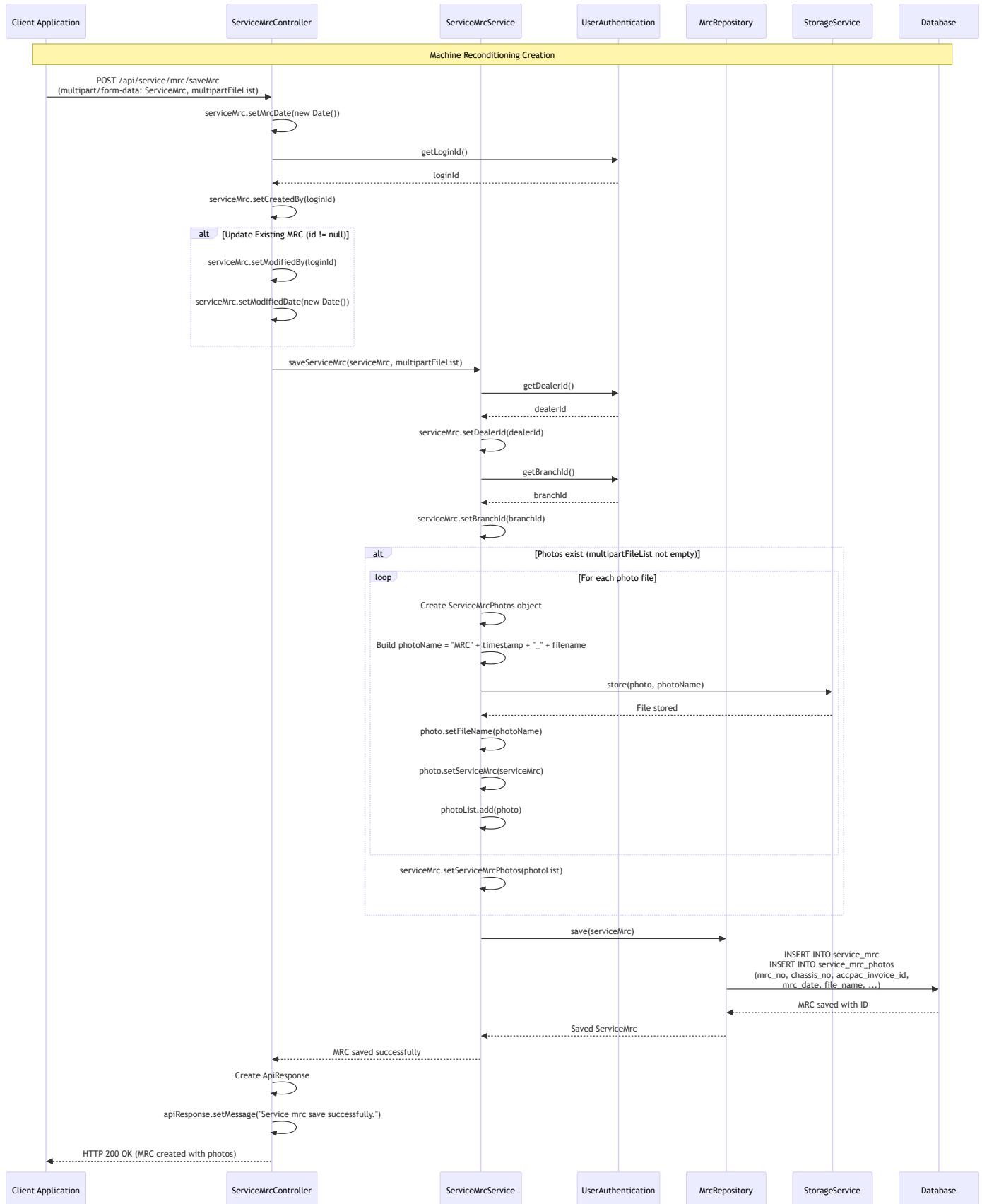
## 9. PSC (Post-Sales Check) Creation Flow

This flow shows how **Post-Sales Check (PSC)** records are created with chassis details and checkpoint information.



## 10. MRC (Machine Reconditioning) Creation Flow

This flow shows how **Machine Reconditioning (MRC)** records are created with chassis details, invoice information, and photos.



# Summary

The **Service module** provides comprehensive **Service Management** functionality for the KUBOTA DMS:

- **Service Booking:**

- Create service bookings with machine and customer details
- Search bookings with multiple filters (booking number, chassis number, status, date range, service details)
- Cancel service bookings with reason
- Auto-complete chassis numbers and booking numbers
- Support for draft and open status

- **Job Card Management:**

- Create job cards with machine details, service information, and photos
- Upload multiple photo types (free service coupons, hour meter, chassis, signed job card, retrofitment acknowledgement)
- Manage spare part requisitions with categories (FOC, Paid, Warranty)
- Update job cards with labour charges, outside job charges, and machine out details
- Close and reopen job cards with approval workflow
- Search job cards with extensive filters
- Machine service history tracking
- Excel report generation for job cards
- Retrofitment campaign integration

- **Service Claim:**

- Create service claims with product/service details and documents
- Multi-level approval hierarchy setup
- Claim search with filters (claim number, status, date range)
- Claim approval workflow with rejection handling
- Excel report generation (summary and detail)
- Document approval amount tracking

- **Activity Proposal:**

- Create service activity proposals with activity type, budget, and targets
- Activity heads and sub-activities management
- Budget calculation for activity types
- Multi-level approval hierarchy
- Activity proposal search with filters
- Group approval support
- Activity status tracking

- **Activity Claim:**

- Create activity claims linked to approved proposals
- Upload photos for heads and sub-activities
- Vendor details and bill information (vendor name, bill number, bill date)
- Actual claim amount tracking
- Multi-level approval workflow
- Head and sub-activity level approval
- Claim search and view functionality
- Edit capability for non-approved claims

- **Activity Report:**

- Create activity reports with job card, machine, and service details
- Upload multiple photos
- Report search functionality
- PDF report generation using Jasper Reports
- View activity report details with all associated data

- **PSC/PDI/PDC:**

- Post-Sales Check (PSC) with checkpoint management
- Pre-Delivery Inspection (PDI) with inspection details
- Pre-Delivery Check (PDC) with check details
- Chassis number auto-complete
- Search functionality for all check types

- **MRC (Machine Reconditioning):**

- Create MRC records with chassis and invoice details
- Photo upload support
- Integration with ACCPAC invoices
- MRC search with filters
- View MRC details with photos

- **Machine Installation/Reinstallation:**

- Machine installation tracking
- Machine reinstallation tracking
- Installation details and status management

The Service module integrates with multiple other modules (Sales, Spares, Warranty, Masters) to provide a unified service management system, enabling dealers to efficiently manage service bookings, job cards, claims, activities, and machine maintenance operations.