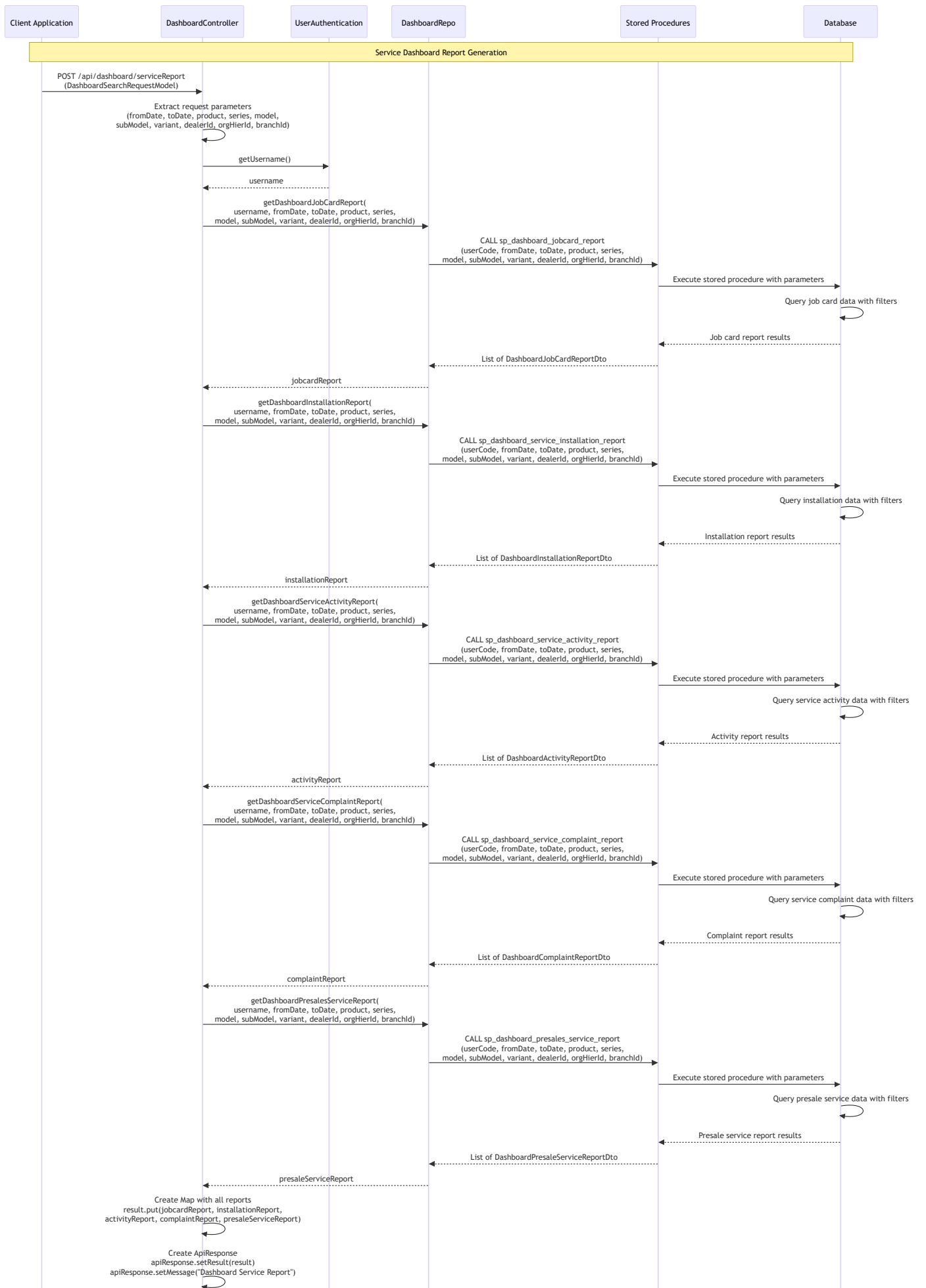# Dashboard Module - Detailed Sequence Diagrams

This document describes the **key technical flows** implemented in the `com.i4o.dms.kubota.dashboard` module:
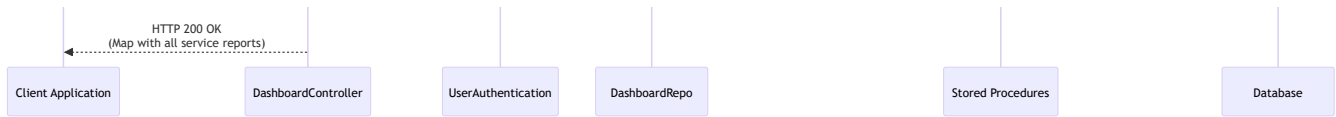
- **Service Report Generation** (Job cards, installations, activities, complaints, presale services).
- **Sales Report Generation** (Enquiries, activities, complaints, stock, retail reports).
- **Marketing Report Generation** (Budget status, proposal status, enquiry status, claim status).
- **Warranty Report Generation** (PCR status, WCR status, settlement status, goodwill status).

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

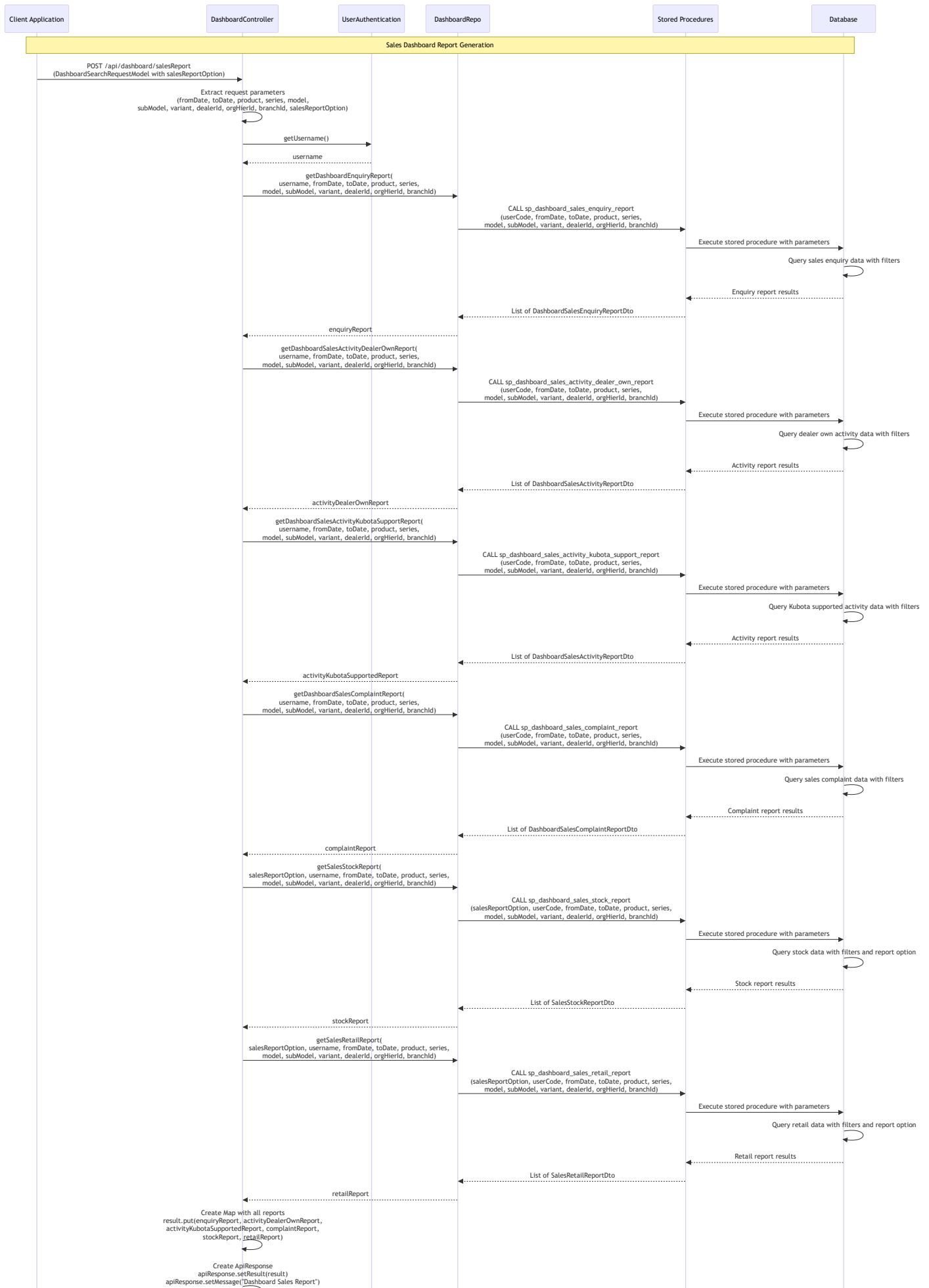# 1. Service Report Generation Flow

This flow shows how **service dashboard reports** are generated, including job card reports, installation reports, activity reports, complaint reports, and presale service reports.

```
Client Application      DashboardController      UserAuthentication      DashboardRepo            Stored Procedures            Database
```

Service Dashboard Report Generation

```
POST /api/dashboard/serviceReport
(DashboardSearchRequestModel)
───────────────────────────────►
```

Extract request parameters
(fromDate, toDate, product, series, model,
subModel, variant, dealerId, orgHierId, branchId)

getUsername()
─────────────────────►

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─ ─
username

getDashboardJobCardReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

CALL sp_dashboard_jobcard_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

Execute stored procedure with parameters
───────────────────────────────►

Query job card data with filters

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─
Job card report results

List of DashboardJobCardReportDto
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

jobcardReport
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

getDashboardInstallationReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

CALL sp_dashboard_service_installation_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

Execute stored procedure with parameters
───────────────────────────────►

Query installation data with filters

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─
Installation report results

List of DashboardInstallationReportDto
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

installationReport
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

getDashboardServiceActivityReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

CALL sp_dashboard_service_activity_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

Execute stored procedure with parameters
───────────────────────────────►

Query service activity data with filters

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─
Activity report results

List of DashboardActivityReportDto
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

activityReport
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

getDashboardServiceComplaintReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

CALL sp_dashboard_service_complaint_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

Execute stored procedure with parameters
───────────────────────────────►

Query service complaint data with filters

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─
Complaint report results

List of DashboardComplaintReportDto
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

complaintReport
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

getDashboardPresalesServiceReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

CALL sp_dashboard_presales_service_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)
───────────────────────────────►

Execute stored procedure with parameters
───────────────────────────────►

Query presale service data with filters

◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─
Presale service report results

List of DashboardPresaleServiceReportDto
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

presaleServiceReport
◄─ ─ ─ ─ ─ ─ ─ ─ ─ ─

Create Map with all reports
result.put(jobcardReport, installationReport,
activityReport, complaintReport, presaleServiceReport)

Create ApiResponse
apiResponse.setResult(result)
apiResponse.setMessage("Dashboard Service Report")

HTTP 200 OK
(Map with all service reports)

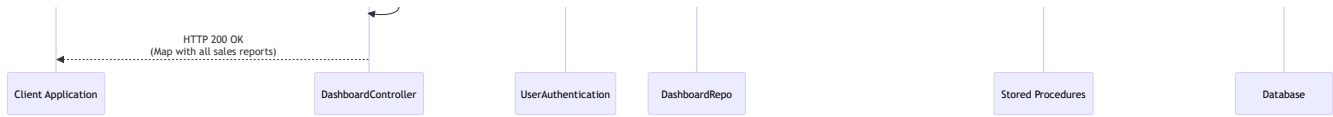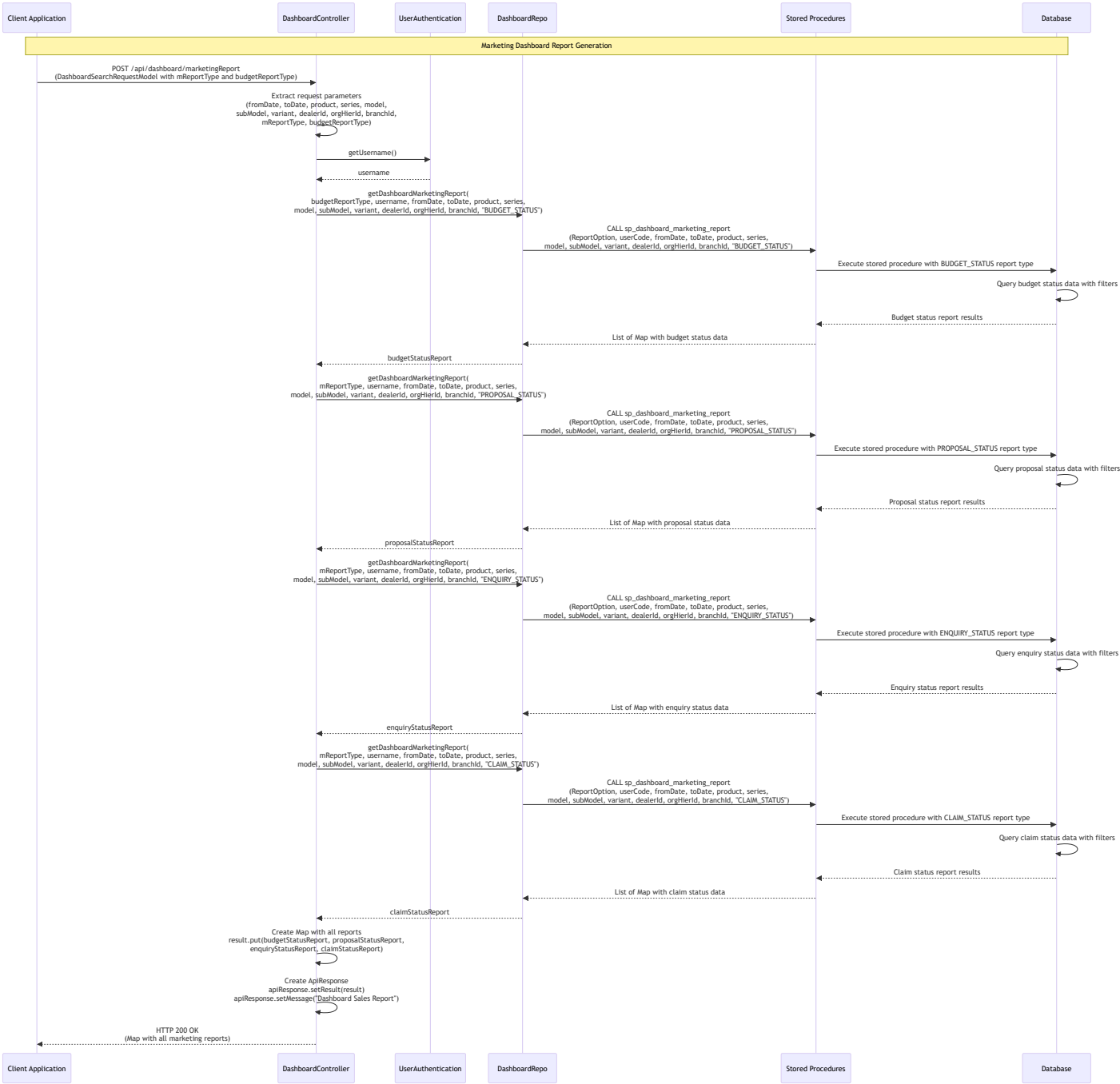| Client Application | DashboardController | UserAuthentication | DashboardRepo | Stored Procedures | Database |

2. Sales Report Generation Flow

This flow shows how **sales dashboard reports** are generated, including enquiry reports, activity reports (dealer own and Kubota supported), complaint reports, stock reports, and retail reports.

Client Application	DashboardController	UserAuthentication	DashboardRepo	Stored Procedures	Database

Sales Dashboard Report Generation

POST /api/dashboard/salesReport
(DashboardSearchRequestModel with salesReportOption)

Extract request parameters
(fromDate, toDate, product, series, model,
subModel, variant, dealerId, orgHierId, branchId, salesReportOption)

getUsername()

username

getDashboardEnquiryReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_enquiry_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query sales enquiry data with filters

Enquiry report results

List of DashboardSalesEnquiryReportDto

enquiryReport

getDashboardSalesActivityDealerOwnReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_activity_dealer_own_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query dealer own activity data with filters

Activity report results

List of DashboardSalesActivityReportDto

activityDealerOwnReport

getDashboardSalesActivityKubotaSupportReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_activity_kubota_support_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query Kubota supported activity data with filters

Activity report results

List of DashboardSalesActivityReportDto

activityKubotaSupportedReport

getDashboardSalesComplaintReport(
username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_complaint_report
(userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query sales complaint data with filters

Complaint report results

List of DashboardSalesComplaintReportDto

complaintReport

getSalesStockReport(
salesReportOption, username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_stock_report
(salesReportOption, userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query stock data with filters and report option

Stock report results

List of SalesStockReportDto

stockReport

getSalesRetailReport(
salesReportOption, username, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

CALL sp_dashboard_sales_retail_report
(salesReportOption, userCode, fromDate, toDate, product, series,
model, subModel, variant, dealerId, orgHierId, branchId)

Execute stored procedure with parameters

Query retail data with filters and report option

Retail report results

List of SalesRetailReportDto

retailReport

Create Map with all reports
result.put(enquiryReport, activityDealerOwnReport,
activityKubotaSupportedReport, complaintReport,
stockReport, retailReport)

Create ApiResponse
apiResponse.setResult(result)
apiResponse.setMessage("Dashboard Sales Report")

3. Marketing Report Generation Flow

This flow shows how **marketing dashboard reports** are generated, including budget status, proposal status, enquiry status, and claim status reports.
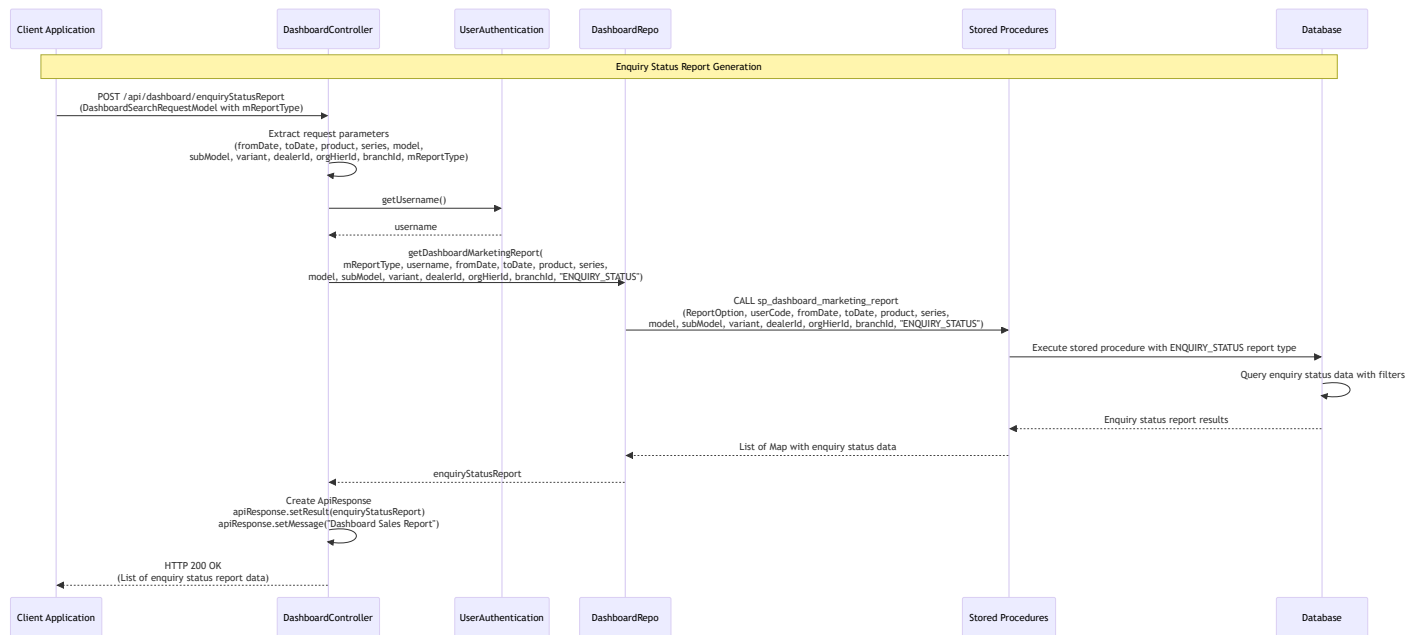
4. Warranty Report Generation Flow

This flow shows how **warranty dashboard reports** are generated, including PCR status, WCR status, settlement status, and goodwill status reports.
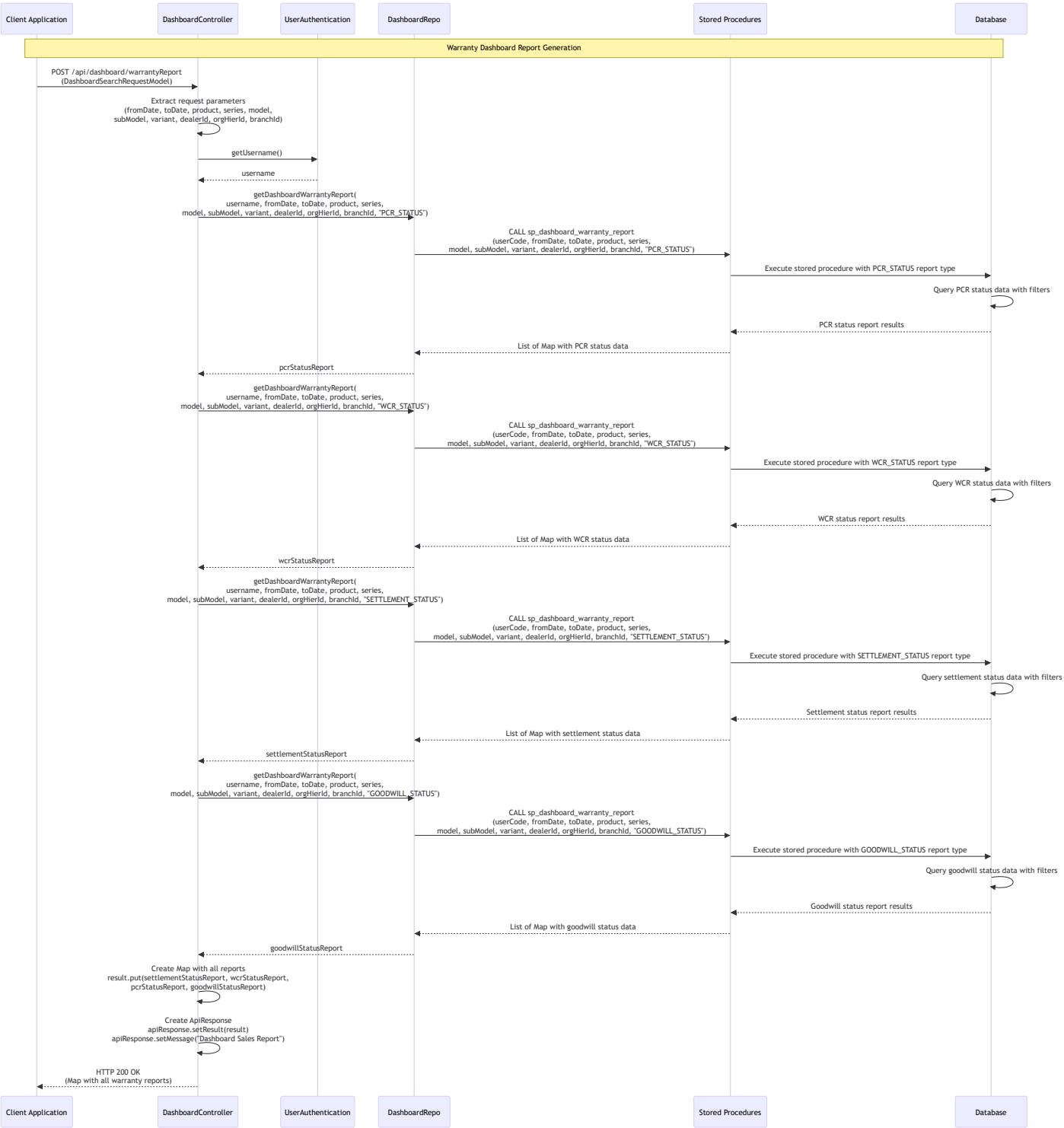
5. Enquiry Status Report Flow (Standalone)

This flow shows how a **standalone enquiry status report** is generated for marketing activities.

Summary

The **dashboard** module provides comprehensive **reporting and analytics** functionality for the KUBOTA DMS:

- **Service Reports**:
  - Job card reports, installation reports, service activity reports
  - Service complaint reports, presale service reports
  - All reports use stored procedures with common filtering parameters
- **Sales Reports**:
  - Sales enquiry reports, sales activity reports (dealer own and Kubota supported)
  - Sales complaint reports, stock reports, retail reports
  - Stock and retail reports support different report options
- **Marketing Reports**:
  - Budget status reports, proposal status reports
  - Enquiry status reports, claim status reports
  - All use a single stored procedure with different report type parameters
- **Warranty Reports**:
  - PCR (Product Complaint Report) status reports

- WCR (Warranty Claim Report) status reports
- Settlement status reports, goodwill status reports
- All use a single stored procedure with different report type parameters
- **Common Features**:
  - All reports support filtering by date range, product hierarchy (product, series, model, subModel, variant)
  - Dealer, organization hierarchy, and branch filtering
  - User-based access control through username parameter
  - Stored procedure-based data retrieval for performance
  - Aggregated results returned as Maps with multiple report types

The dashboard module integrates with multiple other modules (Service, Sales, Marketing, Warranty) to provide unified reporting capabilities, enabling dealers and headquarters to analyze performance, track activities, and monitor key metrics across all business areas.