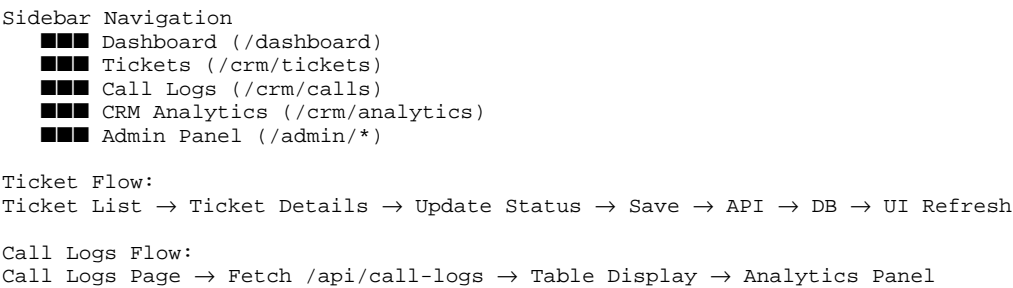# CALLpro Web Dashboard - Complete Flow Architecture (Production SaaS)
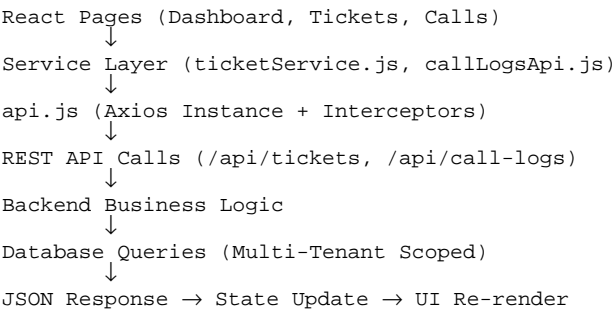
1. Web Dashboard High-Level Flow
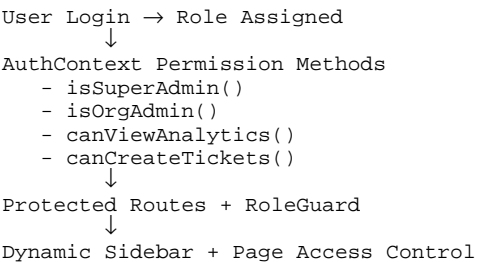
```
User Opens Web App (/dashboard)
        ↓
AuthContext Checks Authentication
        ↓
JWT Token Validation (localStorage)
        ↓
Axios API Client (Bearer Token Interceptor)
        ↓
Backend API (Express.js)
        ↓
Database (Supabase / MongoDB)
        ↓
Response → UI Rendering (Dashboard, CRM, Calls, Tickets)
```

2. Web CRM Module Flow

```
Sidebar Navigation
    ■■■ Dashboard (/dashboard)
    ■■■ Tickets (/crm/tickets)
    ■■■ Call Logs (/crm/calls)
    ■■■ CRM Analytics (/crm/analytics)
    ■■■ Admin Panel (/admin/*)

Ticket Flow:
Ticket List → Ticket Details → Update Status → Save → API → DB → UI Refresh

Call Logs Flow:
Call Logs Page → Fetch /api/call-logs → Table Display → Analytics Panel
```

3. Internal Data Flow (React Architecture)

```
React Pages (Dashboard, Tickets, Calls)
        ↓
Service Layer (ticketService.js, callLogsApi.js)
        ↓
api.js (Axios Instance + Interceptors)
        ↓
REST API Calls (/api/tickets, /api/call-logs)
        ↓
Backend Business Logic
        ↓
Database Queries (Multi-Tenant Scoped)
        ↓
JSON Response → State Update → UI Re-render
```

4. Role-Based Access Flow (RBAC)

```
User Login → Role Assigned
        ↓
AuthContext Permission Methods
    - isSuperAdmin()
    - isOrgAdmin()
    - canViewAnalytics()
    - canCreateTickets()
        ↓
Protected Routes + RoleGuard
        ↓
Dynamic Sidebar + Page Access Control
```

5. Real-Time Web Flow (Recommended Production)

```
New Call Logged (Android / API)
        ↓
Backend Event Trigger
        ↓
SSE / WebSocket Stream
        ↓
realTimeService.js (Frontend Listener)
        ↓
Live UI Update (No Page Refresh)
    - New Ticket Appears
    - Call Log Updates
    - Notifications Triggered
```
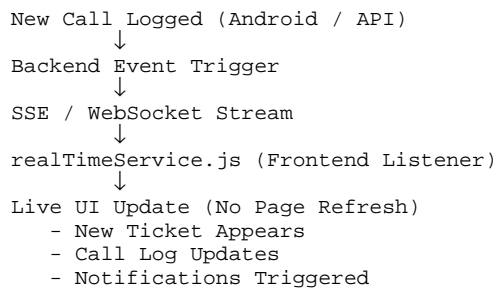
6. Current Web Flow Issues (From Project Analysis)

• Some APIs return 404 (analytics, SLA, notes) • UI components exist but backend logic missing • Real-time system partially implemented (client ready, server incomplete) • Mock/stub data still used in leads and notifications • SLA tracking UI present but no backend cron logic

7. Ideal Production Web Dashboard Flow (Final)

```
Login → Auth Verification → Role-Based Routing
        ↓
Dashboard Layout (Sidebar + Header + Outlet)
        ↓
API Fetch Layer (Service Files)
        ↓
Backend Services (Tickets, Calls, Analytics)
        ↓
Multi-Tenant Database (Org Scoped Data)
        ↓
Real-Time Event Layer (SSE/WebSocket)
        ↓
Live CRM Dashboard (Enterprise SaaS Ready)
```