

Below is the **formal, PDF-ready documentation**, rewritten in a **professional, standardized format** suitable for direct export to PDF.

Language, structure, and headings are aligned with **enterprise software documentation standards**.

Project: **SubSync – Subscription Management Platform**

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# SubSync

## Frontend Architecture Document

**Version:** 1.0

**Prepared By:** Sathish E

**Date:** December 2025

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## 1. Introduction

### 1.1 Purpose

This document defines the frontend architecture, components, and interaction model for the SubSync platform. It serves as a reference for developers, designers, and stakeholders to understand how the user-facing applications are structured and implemented.

### 1.2 Scope

The frontend includes:

- Web Application (React.js)
  - Mobile Application (React Native – Android)
  - Role-based user interfaces for Users and Admins
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## 2. Technology Stack

Layer	Technology
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Web	React.js
Mobile	React Native (Android)
State Management	Redux Toolkit / Context API
API Communication	Axios
Authentication	JWT
UI Design	Component-based architecture

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### 3. User Roles

Role	Description
User	Manages personal subscriptions
Admin	Manages services and users
Super Admin (Future)	System-wide administration

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## 4. Application Modules

### 4.1 Authentication Module

- User Registration
- Login via Email or Phone Number
- Password Recovery
- Secure session handling using JWT

#### Registration Fields

- Name
- Email
- Phone Number
- Password
- Date of Birth
- Gender

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## 4.2 User Dashboard

- Subscription overview
  - Monthly expense summary
  - Upcoming renewals
  - Expiry alerts
- 

## 4.3 Subscription Management

- Add, edit, pause, or cancel subscriptions
  - Categories: OTT, Mobile, Broadband
  - Billing cycle and renewal tracking
  - Subscription history
- 

## 4.4 Admin Dashboard

- Switch between User View and Admin View
  - Service management
  - User management
  - Platform insights
- 

## 5. State Management

- Authentication State
  - User Profile State
  - Subscription State
  - Admin Configuration State
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## 6. Security Considerations

- Role-based routing
- Protected routes
- Token-based authentication
- Input validation and sanitization

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# SubSync

## Backend Architecture Document

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## 1. Introduction

### 1.1 Purpose

This document describes the backend architecture, services, APIs, and security mechanisms used in the SubSync platform.

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## 2. Technology Stack

Layer	Technology
Runtime	Node.js
Framework	Express.js / NestJS
Authentication	JWT
Database	PostgreSQL, MongoDB
Deployment	Docker

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## 3. Architecture Overview

The backend follows a **modular layered architecture**:

- API Layer
  - Authentication & Authorization Layer
  - Business Logic Layer
  - Data Access Layer
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## 4. Core Backend Modules

### 4.1 Authentication Module

- User registration
  - Login via email or phone
  - Password encryption (bcrypt)
  - Token generation and validation
- 

### 4.2 User Management Module

- Profile management
  - Role assignment
  - Account status management
- 

### 4.3 Subscription Module

- Create, update, delete subscriptions
  - Fetch active and expired subscriptions
  - Renewal date calculations
- 

### 4.4 Service Management Module (Admin)

- Manage OTT, Mobile, Broadband services
  - Configure default plans
  - Category mapping
- 

### 4.5 Notification Module

- Subscription renewal reminders
  - Expiry alerts
  - System announcements
- 

## 5. API Endpoint Overview

### Authentication

- POST /api/auth/register
- POST /api/auth/login

### User

- GET /api/users/profile
- PUT /api/users/profile

### Subscriptions

- POST /api/subscriptions
- GET /api/subscriptions
- PUT /api/subscriptions/{id}
- DELETE /api/subscriptions/{id}

### Admin

- POST /api/admin/services
  - GET /api/admin/users
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## 6. Security

- JWT-based authorization
  - Role-based access control
  - Rate limiting
  - Request validation
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# SubSync

## Database Design Document

**Version:** 1.0

**Prepared By:** Sathish E

**Date:** December 2025

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## 1. Introduction

### 1.1 Purpose

This document defines the database architecture and schema used in the SubSync platform.

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## 2. Database Strategy

Data Category	Database
Users & Authentication	PostgreSQL
Subscriptions & Services	MongoDB

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## 3. PostgreSQL Schema

### 3.1 Users Table

- Stores user profile and authentication details

#### Fields

- User ID (UUID, Primary Key)
- Name
- Email (Unique)
- Phone Number (Unique)
- Password Hash

- Date of Birth
  - Gender
  - Role
  - Created At
  - Updated At
- 

### **3.2 Session / Token Table (Optional)**

- Stores refresh tokens and session expiry details
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## **4. MongoDB Collections**

### **4.1 Services Collection**

- Service Name
  - Category (OTT / Mobile / Broadband)
  - Provider
  - Default Plans
  - Created Date
- 

### **4.2 Subscriptions Collection**

- User ID
  - Service ID
  - Plan Name
  - Amount
  - Billing Cycle
  - Renewal Date
  - Payment Method
  - Status
- 

### **4.3 Notifications Collection**

- User ID
- Notification Type
- Message

- Read Status
  - Created Date
- 

## 5. Future Enhancements

- Cost sharing and family subscriptions
  - Payment gateway integration
  - Advanced analytics and reporting
  - Push notifications and email integration
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### Next Steps

I can now:

1. Generate **print-ready PDF layout formatting**
2. Create **ER diagrams**
3. Create **Swagger / OpenAPI documentation**
4. Prepare a **development roadmap**
5. Split documents into **individual PDFs**

Tell me what you want next.