

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**

SubSync

Frontend Architecture Document

Version: 1.0

Prepared By: Sathish E

Date: December 2025

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
-

2. Technology Stack

Layer

Technology

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

3. User Roles

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

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

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

6. Security Considerations

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

SubSync

Backend Architecture Document

Version: 1.0
Prepared By: Sathish E
Date: December 2025

1. Introduction

1.1 Purpose

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

2. Technology Stack

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

3. Architecture Overview

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

- API Layer
 - Authentication & Authorization Layer
 - Business Logic Layer
 - Data Access Layer
-

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`
-

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

1. Introduction

1.1 Purpose

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

2. Database Strategy

| Data Category | Database |
|--------------------------|------------|
| Users & Authentication | PostgreSQL |
| Subscriptions & Services | MongoDB |

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
-

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.