Mutual Fund Portfolio Analytics Platform

Business Requirements Document (BRD)

Project Title

Mutual Fund Portfolio Analytics Platform

Objective

To develop a backend system that ingests mutual fund portfolio files (like the ones provided), extracts relevant data (holdings, sector-wise allocations, NAVs), stores it in a database, and exposes REST APIs for querying and reporting.

Stakeholders

- Business Analyst – defines the rules of portfolio structure
- Fund Managers / Distributors – upload portfolio files
- Developers – build ingestion, storage, and API components
- Data Consumers – dashboards, analytics teams

Scope

- Upload and parse mutual fund Excel files
- Store portfolio holdings, NAV history, fund metadata
- Expose REST APIs to retrieve holdings, sectors, NAV trends
- Schedule monthly uploads for automation
- Basic authentication to protect upload & access endpoints

Out of Scope

- Frontend UI for now
- Real-time market integration

Software Requirements Specification (SRS)

1. Functional Requirements

a. Upload Module
- Accept excel files for mutual funds via a secured API
- Validate file type and format
- Store raw file for audit trail

b. Parser Module
- Extract fund name, type (e.g., midcap, large cap)
- Extract holdings, sectors, % Allocation
- Store structured data in DB

c. Fund Metadata API
`GET /api/funds` - Returns list of available funds

d. Holdings API
`GET /api/funds/{fundId}/holdings` - Returns holdings info

e. Sector Allocation API
`GET /api/funds/{fundId}/sectors`

f. NAV Upload and History
- Allow appending NAVs by date (optional)

2. Non-Functional Requirements

- Java Spring Boot with REST API
- MySQL as database
- Modular architecture
- Basic authentication
- Use Spring Scheduler for monthly load (if possible)

3. System Design Suggestion

Entity Model (simplified):
- Fund: id, name, type, date_of_portfolio
- Holding: id, fund_id (FK), company_name, sector, allocation_percent, isin_code
- NAV (optional): id, fund_id, nav_date, nav_value

4. Developers to work on

- Excel upload and validation
- Excel parser & data extractor
- Database modeling and persistence layer
- REST API layer and scheduler