# SME Accounting System

A comprehensive accounting system designed for Small and Medium Enterprises (SMEs) built with the MERN stack.

## Version 3 Updates

### New Features

- Enhanced Account Management

  - Bulk operations for account status updates

  - Excel import/export functionality

  - Account template download

  - Improved data validation

- Advanced Reporting

  - Income Statement report

  - Balance Sheet report

  - Account Balances report

  - Interactive charts and visualizations

- TypeScript Integration

  - Full TypeScript support

  - Enhanced type safety

  - Better development experience

### Technical Improvements

- Modern UI Components

  - Material-UI integration

  - Responsive layouts

  - Interactive data grids

  - Form validation

- Data Management

  - React Query for data fetching

  - Real-time updates

  - Optimistic updates

  - Error handling

- Development Features

  - TypeScript configuration

  - ESLint and Prettier setup

  - Path aliases

  - Development proxy

## Project Structure

```

sme-accounting-complete/

├── frontend/                 # React frontend application

│   ├── src/

│   │   ├── components/      # Reusable UI components

│   │   ├── pages/          # Page components

│   │   ├── services/       # API services

│   │   ├── types/          # TypeScript type definitions

│   │   └── utils/          # Utility functions

│   ├── public/             # Static assets

│   └── package.json        # Frontend dependencies

├── backend/                 # Node.js backend application

│   ├── src/

│   │   ├── controllers/    # Route controllers

│   │   ├── models/         # Database models

│   │   ├── routes/         # API routes

│   │   └── utils/          # Utility functions

│   └── package.json        # Backend dependencies

└── README.md               # Project documentation

```

## Features

### Account Management

- Create, read, update, and delete accounts

- Bulk operations for account status

- Excel import/export functionality

- Account templates

- Data validation

- Search and filter capabilities

### Financial Reports

- Income Statement

- Balance Sheet

- Account Balances

- Interactive charts

- Export to Excel

- Custom date ranges

### User Interface

- Modern Material-UI design

- Responsive layout

- Interactive data grids

- Form validation

- Real-time updates

- Error handling

## Technology Stack

### Frontend

- React 18

- TypeScript

- Material-UI

- React Query

- React Router

- Recharts

- Formik & Yup

- XLSX

### Backend

- Node.js

- Express

- MongoDB

- Mongoose

- TypeScript

- JWT Authentication

## Getting Started

### Prerequisites

- Node.js (v14 or higher)

- MongoDB

- npm or yarn

### Installation

1. Clone the repository:

```bash

git clone https://github.com/yourusername/sme-accounting-complete.git

cd sme-accounting-complete

```

2. Install frontend dependencies:

```bash

cd frontend

npm install

```

3. Install backend dependencies:

```bash

cd ../backend

npm install

```

4. Create a `.env` file in the backend directory:

```

MONGODB\_URI=your\_mongodb\_connection\_string

JWT\_SECRET=your\_jwt\_secret

PORT=5000

```

5. Start the development servers:

Frontend:

```bash

cd frontend

npm run dev

```

Backend:

```bash

cd backend

npm run dev

```

The application will be available at:

- Frontend: http://localhost:3000

- Backend: http://localhost:5000

## Development

### Frontend Development

- TypeScript for type safety

- ESLint and Prettier for code formatting

- React Query for data management

- Material-UI for components

- Path aliases for clean imports

### Backend Development

- TypeScript for type safety

- MongoDB with Mongoose

- JWT authentication

- Error handling middleware

- API documentation

## Contributing

1. Fork the repository

2. Create your feature branch (`git checkout -b feature/AmazingFeature`)

3. Commit your changes (`git commit -m 'Add some AmazingFeature'`)

4. Push to the branch (`git push origin feature/AmazingFeature`)

5. Open a Pull Request

## License

This project is licensed under the MIT License - see the LICENSE file for details.

## Support

For support, email support@example.com or create an issue in the repository.