

# Software Development Technical Manual

## Table of Contents

1. Introduction
2. System Architecture
3. API Documentation
4. Database Schema
5. Security Guidelines
6. Deployment Procedures
7. Troubleshooting

## 1. Introduction

This technical manual provides comprehensive documentation for the enterprise software system. The system is built using modern web technologies and follows industry best practices.

### System Requirements:

- Operating System: Linux/Windows/macOS
- Memory: Minimum 8GB RAM
- Storage: 50GB available space
- Network: Broadband internet connection

## 2. System Architecture

The system follows a microservices architecture pattern with the following components:

- Frontend: React.js application
- Backend: Node.js with Express framework
- Database: PostgreSQL with Redis caching
- Message Queue: Apache Kafka
- Container: Docker with Kubernetes orchestration

## 3. API Documentation

The REST API follows OpenAPI 3.0 specification:

- Authentication: JWT tokens
- Rate Limiting: 1000 requests per hour
- Response Format: JSON
- Error Handling: Standard HTTP status codes

Endpoints:

GET /api/users - Retrieve user list

POST /api/users - Create new user

PUT /api/users/:id - Update user

DELETE /api/users/:id - Delete user

#### 4. Database Schema

The database uses PostgreSQL with the following main tables:

- users: User account information
- products: Product catalog
- orders: Order management
- payments: Payment processing
- logs: System activity logs