E-Commerce System Architecture

MCP Documentation Server

25 listopada 2025

Spis treści

E-Commerce System Architecture Documentation

Overview

This document describes the architecture of our e-commerce platform, including system boundaries, external integrations, and internal components.

System Context

The following diagram shows the high-level context of our e-commerce system:

Figure 1: C4 Context Diagram showing external systems and main e-commerce platform

External Systems

- **Users**: Customers browsing and purchasing products
- **Payment Gateway**: External payment processing (Stripe/PayPal)
- **Shipping Service**: External delivery service (FedEx/UPS)

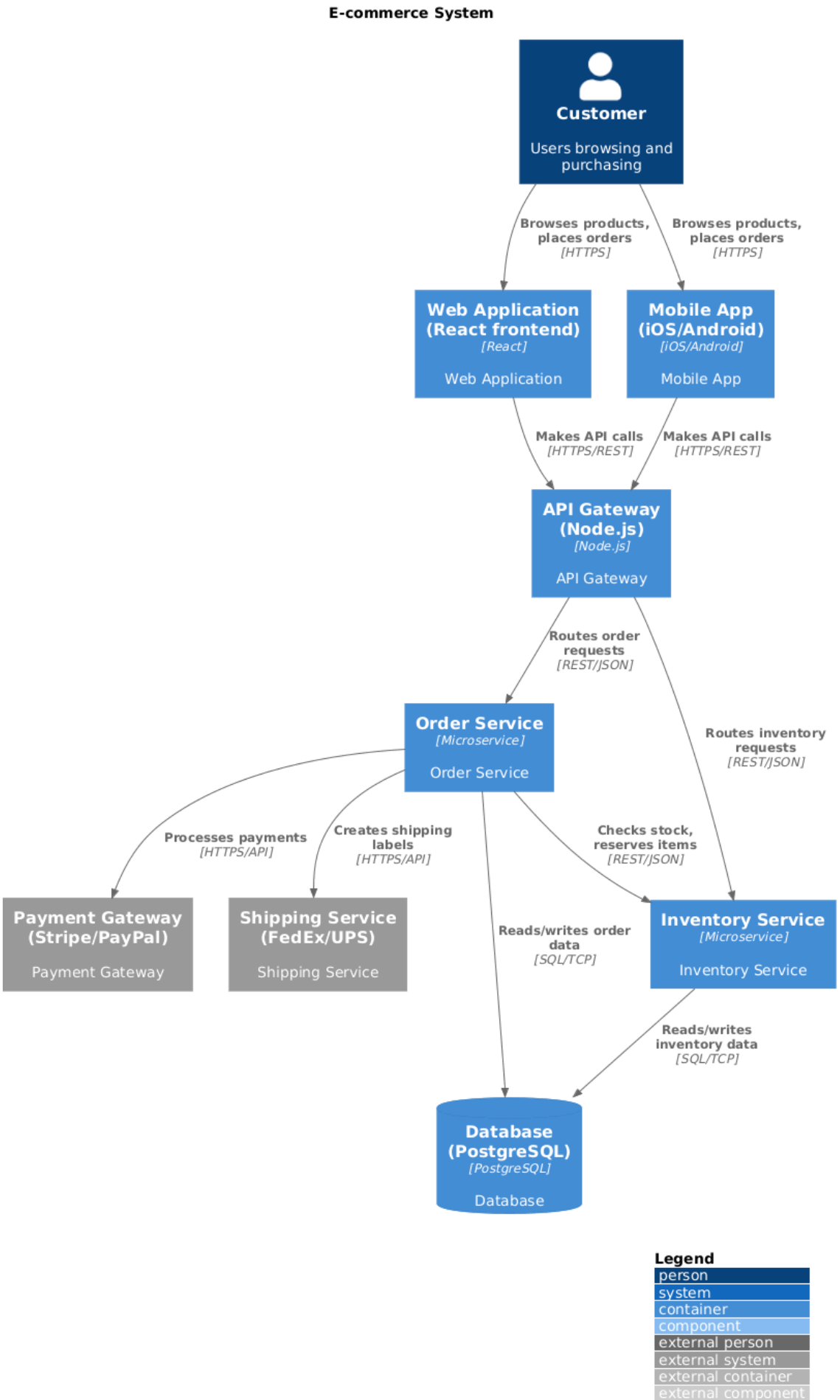
System Boundary

The E-Commerce Platform includes: - Web Application (React frontend) - Mobile App (iOS/Android) - API Gateway (Node.js) - Order Service - Inventory Service - Database (PostgreSQL)

Architecture Decisions

Technology Stack

- **Frontend**: React.js for web, React Native for mobile



Rysunek 1: C4 Context Diagram

- **Backend**: Node.js with Express for API Gateway
- **Services**: Python for business logic services
- **Database**: PostgreSQL for primary data store
- **Cache**: Redis for session management

Communication Protocols

- HTTPS for external communication
- REST API for service-to-service communication
- WebSocket for real-time updates

Next Steps

1. Implement microservices architecture
2. Add monitoring and logging
3. Set up CI/CD pipeline
4. Deploy to production