

Server Migration: FastAPI to Node.js/Express

I have successfully migrated the server from FastAPI (Python) to Node.js/Express (TypeScript) while maintaining complete functional parity. This document explains the key aspects of the migration and what you need to know.

What Has Been Migrated

1. Core Functionality

- All API endpoints remain identical
- Same request/response formats
- Identical business logic
- Same data validation rules
- Identical error handling patterns

2. External Service Integrations

All third-party services are fully integrated:

- ElevenLabs: For voice/transcription services
- OpenAI: For transcript processing
- Dentally: For appointment and practitioner management
- Twilio/Clicksend: For SMS notifications
- Stripe For payment processing

3. Database Operations

- MongoDB integration maintained
- Same data models and schemas
- Identical database operations
- Same data validation rules

Technology Substitutions

Framework & Language

- FastAPI (Python) → Express (TypeScript)
- Python type hints → TypeScript interfaces and types
- Pydantic models → Mongoose schemas

Database

- Motor (Async MongoDB) → Mongoose

HTTP Client

- httpx → axios
- Python's httpx → Node's axios
- Same async capabilities
- Identical request/response handling

File Processing

- openpyxl →xlsx
- Python's openpyxl → Node's xlsx
- Same Excel file handling capabilities
- Identical data extraction methods

Environment & Config

- python-dotenv → dotenv
- Same .env file handling
- Identical environment variable management

WebSocket

- websockets → ws
- Python's websockets → Node's ws

- Same real-time communication capabilities
- Identical event handling

FastAPI vs Express Routes Comparison

Base URL

Both use `/api/v1` prefix

Appointment Routes

FastAPI:

- GET `/appointmentss` - List all appointments
- GET `/appointments/{id}` - Get appointment by ID

Express:

- GET `/appointmentss` - List all appointments
- GET `/appointments/:id` - Get appointment by ID

✅ Matches (note: using Express's `:param` syntax instead of FastAPI's `{param}`)

Dentally Routes

FastAPI:

- GET `/fetch-all-dentally-appointments/{date}` - Fetch appointments
- POST `/upload-practitioners-excel-file/` - Upload practitioners
- POST `/upload-practitioners-mapping-excel-file/` - Upload mapping
- POST `/sync/payment-plans` - Sync payment plans

Express:

- GET `/fetch-all-dentally-appointments/:date` - Fetch appointments
- POST `/upload-practitioners-excel-file/` - Upload practitioners

- POST `/upload-practitioners-mapping-excel-file/` - Upload mapping
 - POST `/sync/payment-plans` - Sync payment plans
- ✓ Matches (note: using Express's :param syntax instead of FastAPI's {param})

ElevenLabs Routes

FastAPI:

- GET `/practitioners` - Get list of practitioners
- GET `/check-available-time/{practitioner_id}/{start_time}/{finish_time}/{duration}` - Check availability
- POST `/create-appointment` - Create appointment webhook

Express:

- GET `/practitioners` - Get list of practitioners
- GET `/check-available-time/:practitioner_id/:start_time/:finish_time/:duration` - Check availability
- POST `/create-appointment` - Create appointment webhook

✓ Matches (note: using Express's :param syntax instead of FastAPI's {param})

Authentication

FastAPI:

- Dentally token verification
- ElevenLabs webhook verification (disabled)

Express:

- Dentally token verification
- ElevenLabs webhook verification (disabled)

✓ Matches