

# Business Class Asia Flight Deal Finder

Final Build Report and Non-Developer User Guide

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This PDF explains what the app does and how to run it locally in a few steps, without needing to be a developer.

**What you get:** A local website that scans business-class flight offers from SEA (Seattle) or YVR (Vancouver) to Asia, stores daily results, and highlights the best deals for a family trip.

**Important:** Flights for Dec 2026 may not be published yet by airlines. The app handles this by showing no availability and continuing to scan daily.

Project folder: /Users/olivialiu/Documents/chatgpt project

## 1. Overview

This app finds and ranks business-class roundtrip flight options for a specific family trip. It scans a search space (origins x Asia destinations x date pairs), stores every scan run and offer, tracks price history, and computes a Deal Score.

### Trip Defaults (can be changed)

- Passengers: 4 adults + 2 children (children ages 2-11 assumed; ages are configurable)
- Origins: SEA (Seattle) or YVR (Vancouver, BC)
- Destination: any airport in Asia (dataset-driven; includes a curated fallback list)
- Cabin: Business Class
- Depart window: 2026-12-10 to 2026-12-20
- Return window: 2027-01-01 to 2027-01-07

### Flight Preferences (how the app filters)

- Nonstop/direct is preferred.
- If nonstop is not available, the app allows connections only if there is exactly one overnight layover.
- Overnight layover definition: layover duration is at least 8 hours AND the connection crosses local midnight (arrival date differs from next departure date).
- Maximum stops is 1 by default (2 segments).

### What 'Deal Score' Means

Deal Score ranges from 0 to 100. The score combines price signals (cheap vs comparable options, price drops) and quality signals (nonstop bonus, reasonable duration). The app also produces a plain-English rationale for each recommendation.

## 2. Run It (Recommended: Docker Desktop)

This is the easiest way to run the app if you are not a developer. Docker runs everything for you locally.

### What You Need

- Docker Desktop installed (free). Download: <https://www.docker.com/products/docker-desktop/>
- A web browser (Chrome/Safari).

### Step-by-Step

Step	Do this
1	Open Docker Desktop and wait until it shows 'Docker is running'.
2	Open the Terminal app (macOS: Spotlight search for 'Terminal').
3	Change into the project folder.
4	Start the app using Docker Compose.
5	Open <a href="http://localhost:3000">http://localhost:3000</a> in your browser.

### Commands to copy/paste

In Terminal, you can copy/paste these commands. Note: the project path includes a trailing space; if you have trouble, you can type **cd**, then drag the folder from Finder into Terminal to auto-fill the path.

```
cd "/Users/olivialiu/Documents/chatgpt project "
docker compose up --build
```

### Stopping the App

To stop it, go back to the Terminal window that is running Docker Compose and press Ctrl+C. If needed, you can also run:

```
cd "/Users/olivialiu/Documents/chatgpt project "
docker compose down
```

## 3. Using the Website

### Dashboard

The Dashboard shows the top 'Book Now' recommendations and a table of scanned offers. Use filters at the top to narrow down results.

- Origin: SEA or YVR
- Destination: pick a specific airport code (example: HND for Tokyo Haneda)
- Date ranges: adjust depart/return windows for viewing
- Nonstop-only toggle and max stops
- Sort by Deal Score (default), total price, or duration

### Run Scan Now

Click the 'Run Scan Now' button to run a scan immediately. This updates prices and may add new offers. Daily automated scans are handled by a background worker.

### Deal Details

Click any deal to open the detail page. You will see:

- An itinerary timeline (segments and layovers)
- Total price for the full group and per-passenger price
- A 'Why it is a deal' section with exact scoring factors
- Price history over time (if multiple scans have run)

### Admin Page

The Admin page shows scan runs (success/fail), counts, and quota usage. This is useful if you enable a real provider API.

## 4. How Deals Are Scored

### Comparable Set

To decide if a price is good, the app compares each offer to other similar offers:

- Same origin + destination
- Same cabin (Business)
- Same stops category (nonstop vs one-stop-with-overnight)
- Similar dates (within plus/minus 2 days of the depart/return dates)

### Signals Used

- Price percentile vs comparable offers (lower percentile is better)
- Spread vs comparable median price
- Price drop over the last 7 days (if history exists)
- Nonstop bonus (preferred)
- Overnight-layover bonus (only when allowed)
- Duration penalty if travel time is much longer than typical

### When It Says 'Great Deal'

An offer is marked as a 'great deal' if any of these triggers happen:

- Deal Score is at least 80
- Price is at or below the 15th percentile vs comparable offers
- Price dropped at least 10% over the last 7 days

### Example Rationale

A real rationale might look like:

- \$24,500 total is in the 12th percentile vs comparable SEA->ICN business itineraries
- Nonstop on both legs
- Total travel time 13h vs median 17h

## 5. Optional: Turn On Live Data (Amadeus API)

By default, the app uses built-in demo data (MockProvider) so you can see the UI immediately. If you want real pricing, you can enable Amadeus Self-Service API.

### What You Need

- An Amadeus developer account and API keys.
- Amadeus docs: <https://developers.amadeus.com/>

### Where to Put the Keys

Open this file in a text editor:

```
/Users/olivialiu/Documents/chatgpt project /apps/web/.env
```

If it does not exist, copy the example file:

```
cd "/Users/olivialiu/Documents/chatgpt project /apps/web"  
cp .env.example .env
```

### Edit These Lines

```
FLIGHT_PROVIDER="amadeus"  
AMADEUS_HOST="https://test.api.amadeus.com"  
AMADEUS_CLIENT_ID="YOUR_ID"  
AMADEUS_CLIENT_SECRET="YOUR_SECRET"
```

Then restart Docker Compose. The next scan will use live data (subject to Amadeus availability and quotas).

### Why You May Still See No Results

- Airlines often only publish schedules about 330-355 days ahead. For Dec 2026, live APIs may return no flights yet.
- When this happens, the app records the scan run and keeps scanning daily.

## 6. Troubleshooting

### I do not see the website

- Confirm Docker Desktop says it is running.
- In Terminal, confirm the command is still running (it should keep printing logs).
- Open <http://localhost:3000> exactly (no https).

### Port 3000 is already in use

If something else is using port 3000, Docker may fail to start the web service. Close the other app using port 3000 and run Docker Compose again.

### The Dashboard shows no flights

- If you are using MockProvider: click 'Run Scan Now' once; you should see seeded demo results.
- If you enabled Amadeus: schedules for your dates may not be published yet. This is normal for far-future travel.

### Reset everything (start over)

This deletes the local database and rescans demo data:

```
cd "/Users/olivialiu/Documents/chatgpt project"
docker compose down
# Delete the docker volume that stores the SQLite database
docker volume rm chatgpt-project_flights-db || true
docker compose up --build
```

### Privacy and Safety Notes

- This app runs locally on your computer.
- It does not scrape consumer travel websites. It uses an official Flight Offers API when enabled.
- Final prices and availability can change; always confirm on the airline or booking site.

Repository files: The main app is in `/Users/olivialiu/Documents/chatgpt project /apps/web`. The database lives inside the Docker volume when using Docker, or at `apps/web/prisma/dev.db` for local non-Docker runs.