DOCUMENTATION

Hotel Room Assignment AI (n8n + Apaleo)
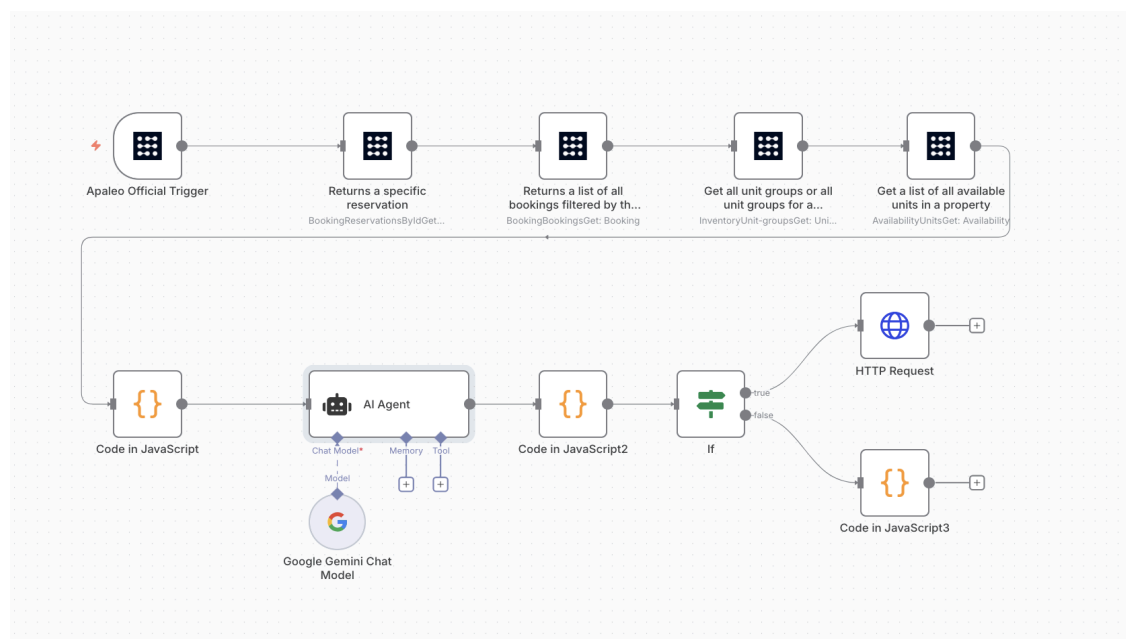
This project is an **AI-powered hotel room assignment assistant** built in [n8n](https://n8n.io/).

It integrates with the **Apaleo API** to automatically assign (or upgrade) hotel rooms based on guest history, reservation details, and room availability.

✨ Features:

- Uses Google Gemini AI as a reasoning agent.

- Checks guest booking history for upgrades.

- Considers birthdays for complimentary upgrades.

- Avoids downgrades and ensures only available/clean rooms are assigned.

- Capacity-aware: avoids upgrading if the upgraded category has fewer than 5 rooms left.

- Fallback logic: keeps original unit if no valid upgrade is available.

🔁 Workflow Overview

1. **Trigger**: Manual execution or chat message.

2. **Reservation Fetch**: Pulls guest reservation, history, unit groups, and available units from Apaleo.

3. **AI Agent**: Applies hotel-specific upgrade rules.

4. **Validation (JS)**: Parses AI output into JSON and applies fallback logic if needed.

5. **If Node:**

   - ✅ True: Assigns upgraded room via Apaleo API.

   - ❌ False: Keeps original assigned room.

6. **Apaleo Reservation Action**: Final API call to confirm the unit assignment.

🤖 **AI Agent Rules**

- If guest is new (0 previous bookings) → upgrade.

- If guest has 5+ bookings → upgrade.

- If stay overlaps with guest's **birthday** → upgrade.

- Only assign rooms that:

  - Are in allowed `status` (Available, Ready, CheckedOut).

  - Have `condition = Clean`.

  - Are not occupied.

- Do not downgrade guests.

- If multiple upgrades are possible → choose the closest higher-ranked group.

- If fewer than 5 upgraded rooms are left → do not upgrade.

1. For a guest's first booking at our hotel, a standard room was reserved but upgraded to a Suite, since it was the next available category and more than five Suites were available at the time.

2. For a guest's first booking, no upgrade is applied if fewer than five upgraded rooms are available.

3. If a guest is celebrating their birthday during their stay, we make it memorable with a complimentary room upgrade.

4. If a guest has 5 or more bookings in our hotel, an upgrade is made.

Czech Property Test / Reservations / GAKCFCWJ / GAKCFCWJ-1

Johnson Klocko 202, Twin Room Booked unit group 2,553.00 CZ

9/26/25, 4:00 PM 9/27/25, 11:00 AM 1 adult Guest Room

General   Guests   Travel dates   Extras   Folios   Invoices   AdriaScan