**Technical Documentation: Automated Employee Time-Off Management**

**Introduction**

This document outlines the setup of an automated employee time-off management system using Airtable and Zapier, as per the Product Requirement Document (PRD). The system streamlines leave request submissions, manager approvals, employee notifications, and leave balance tracking. Employees start with 22 days of Paid Time Off (PTO) annually, with automatic resets each year. The goal is to reduce manual effort and ensure accurate data.

**Airtable Setup**

Airtable is the database, storing employee, manager, and leave request data in two tables.

**Employees Table**

* **Purpose:** Stores employee details and PTO balances.
* **Fields:**
  + **Name** (Single line text): Employee’s full name (e.g., John Doe).
  + **Email** (Email): For notifications (e.g., [john@example.com](mailto:john@example.com)).
  + **Manager** (Link to Employees): Links to the employee’s manager (e.g., John links to Jane Smith).
  + **PTO Balance** (Number): Starting at 22 days, updated after approvals.
  + **Last Reset Date** (Date): Tracks annual reset (e.g., 2025-01-01).
* **Setup Notes:** Test records were added (e.g., John Doe, manager Jane Smith). Ensured managers have valid emails.

**Leave Requests Table**

* **Purpose:** Stores leave requests and their status.
* **Fields:**
  + **Employee** (Link to Employees): Links to the requesting employee.
  + **Start Date** (Date): Start of leave (e.g., 2025-10-01).
  + **End Date** (Date): End of leave (e.g., 2025-10-02).
  + **Number of Days** (Formula): DATETIME\_DIFF({End Date}, {Start Date}, 'days') + 1 to calculate days.
  + **Notes** (Long text): Employee comments (e.g., “Vacation”).
  + **Status** (Single select): Options: Pending, Approved, Rejected (default: Pending).
  + **Manager Comments** (Long text): For manager feedback.
  + **Manager Email** (Lookup): Pulls manager’s email from Employees via Employee → Manager → Email.
* **Form:** Created a form for employees to submit requests (fields: Employee, Start Date, End Date, Notes). Shared via link.
* **Troubleshooting:** Fixed Manager Email not populating by ensuring Employee links and Manager field in Employees table were correct.

**Screenshots**

* [Placeholder: Add screenshot of Employees table structure]
* [Placeholder: Add screenshot of Leave Requests table with sample data]
* [Placeholder: Add screenshot of submission form]

**Zapier Setup**

Zapier automates workflows for notifications, approvals, and balance updates. Five Zaps were created.

**Zap 1: Notify Manager on New Request**

* **Trigger:** Airtable → New Record in Leave Requests.
* **Action:** Gmail → Send Email to Manager Email with request details (Employee, Dates, Days, Notes) and Approve/Reject webhook links.
* **Notes:** Tested to ensure manager receives email with correct links.

**Zap 2: Approve Request**

* **Trigger:** Webhooks by Zapier → Catch Hook (custom URL).
* **Actions:**
  + Update Airtable Leave Requests: Set Status to Approved, add Manager Comments.
  + Find Employee in Employees table.
  + Update PTO Balance: Subtract Number of Days (e.g., 22 - 2 = 20).
* **Notes:** Webhook URL included in manager email for approval.

**Zap 3: Reject Request**

* **Trigger:** Webhooks by Zapier → Catch Hook.
* **Action:** Update Airtable Leave Requests: Set Status to Rejected.
* **Notes:** No balance update for rejections.

**Zap 4: Notify Employee on Status Change**

* **Trigger:** Airtable → New or Updated Record in Leave Requests (filtered for Status = Approved or Rejected).
* **Action:** Gmail → Send Email to Employee Email with Status and Manager Comments.
* **Notes:** Ensures employees are informed promptly.

**Zap 5: Yearly Balance Reset**

* **Trigger:** Schedule by Zapier → Every Year (January 1, 12:00 AM).
* **Actions:**
  + Find all records in Employees table.
  + Update PTO Balance to 22 and Last Reset Date to current year.
* **Notes:** Manually tested by running the Zap.

**Screenshots**

* [Placeholder: Add screenshot of Zap 1 setup in Zapier]
* [Placeholder: Add screenshot of webhook URL in Zap 2]

**Testing Results**

* **Request Capture:** Submitted requests via form; verified Employee, Dates, and Number of Days populate correctly.
* **Notifications:** Manager received email with correct details and links. Employee received status update emails.
* **Approvals/Rejections:** Approve link updated Status to Approved and deducted PTO Balance. Reject link set Status to Rejected without balance change.
* **Balance Reset:** Manually triggered Zap 5; confirmed all balances reset to 22.
* **Fixes:** Resolved Manager Email issue by correcting Lookup field configuration in Airtable.

**Future Improvements**

* **Calendar Integration:** Add a Zap to sync approved requests to Google Calendar for managers.
* **Sick Leave Tracking:** Add a “Leave Type” field (Vacation, Sick) in Leave Requests to track separately.
* **Reporting Dashboard:** Use Airtable Interfaces to create a view for managers to see team PTO balances.
* **Slack Notifications:** Replace email with Slack messages via Zapier for faster communication.
* **Error Handling:** Add a Zap to notify admins if a request fails to process (e.g., invalid email)