**Assignment-2**

**Use Case Chosen – Job Application Tracker**

**Problem Statement**

Students often apply to multiple events, internships, and job opportunities. It becomes difficult to keep track of all the applications, interviews, deadlines, and results. Usually, students maintain manual lists or spreadsheets, which is time-consuming and error-prone.

**Proposed Solution**

I designed a **Job Application Tracker** that automates this process by leveraging emails as the primary data source. The system continuously monitors incoming emails, identifies relevant ones, extracts critical details, and stores them in a structured way.

**Workflow**

1. **Email Filtering**

* The system scans emails from Gmail.
* If the subject line contains keywords such as *important*, *shortlisted*, *interview*, *application*, or *applying*, the email is marked as relevant.

1. **Information Extraction**

* The **email body** is passed to a **Gemini AI agent** (chat model).
* Gemini processes the text and responds with a **JSON object** containing extracted fields such as:
  + - Company Name
    - Event/Program Name
    - Job Role
    - Interview Date / Scheduled Date
    - Application Deadline (if available)
    - Date Email Was Sent

1. **JSON Parsing & Processing**

* A **Code node (JavaScript)** parses the JSON response.
* The Gmail node provides the internal *Date* field in Unicode format. This is converted into a human-readable **IST date & time** for consistency.

1. **Data Storage**

* The extracted details are appended into a **Google Sheet**, creating a centralized record of all applications and deadlines.
* This sheet acts as a real-time, structured **Application Tracker Dashboard**.

1. **Alerts & Notifications**

* To ensure students don’t miss deadlines, an **AI-generated alert message** is created based on the extracted details.
* Alerts are sent via **Telegram** (chosen since students frequently use it).
* Example notification:

Reminder: Your interview with XYZ Company is scheduled on 20 Sept 2025, 10:00 AM IST.

**Tech Stack**

* **n8n** – Workflow automation
* **Gmail API** – Email ingestion
* **Google Gemini AI** – Information extraction & JSON generation
* **JavaScript (Code Node)** – JSON parsing, Unicode date conversion
* **Google Sheets API** – Data storage & tracking
* **Telegram Bot API** – Sending alerts & reminders

**Benefits**

* Eliminates manual effort of tracking multiple applications
* Reduces the risk of missing deadlines
* Centralized dashboard of all opportunities
* Real-time alerts keep students updated and stress-free