Lead Generator Bot (n8n Automation Project)

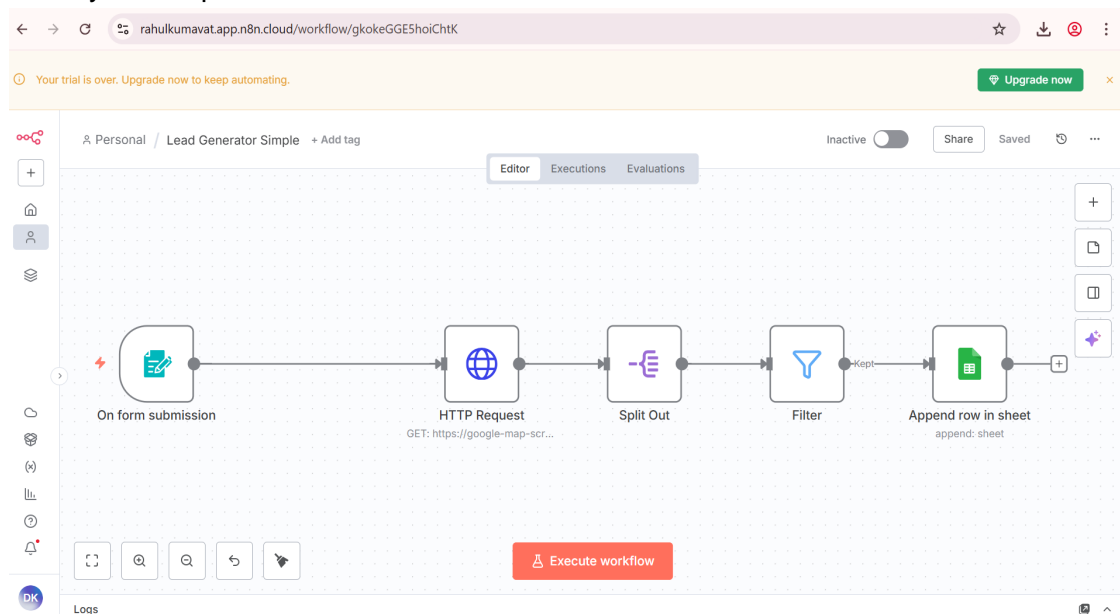**Author:** Mohammad Nehal
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Abstract

The Lead Generator Bot is an automation workflow built using n8n to collect business leads from Google Maps and automatically store them in Google Sheets. The system allows users to input queries such as 'Eye Hospitals in Churchgate', retrieves relevant business information through an HTTP request, filters and processes the data, and appends the final list into a Google Sheet for easy access and analysis.
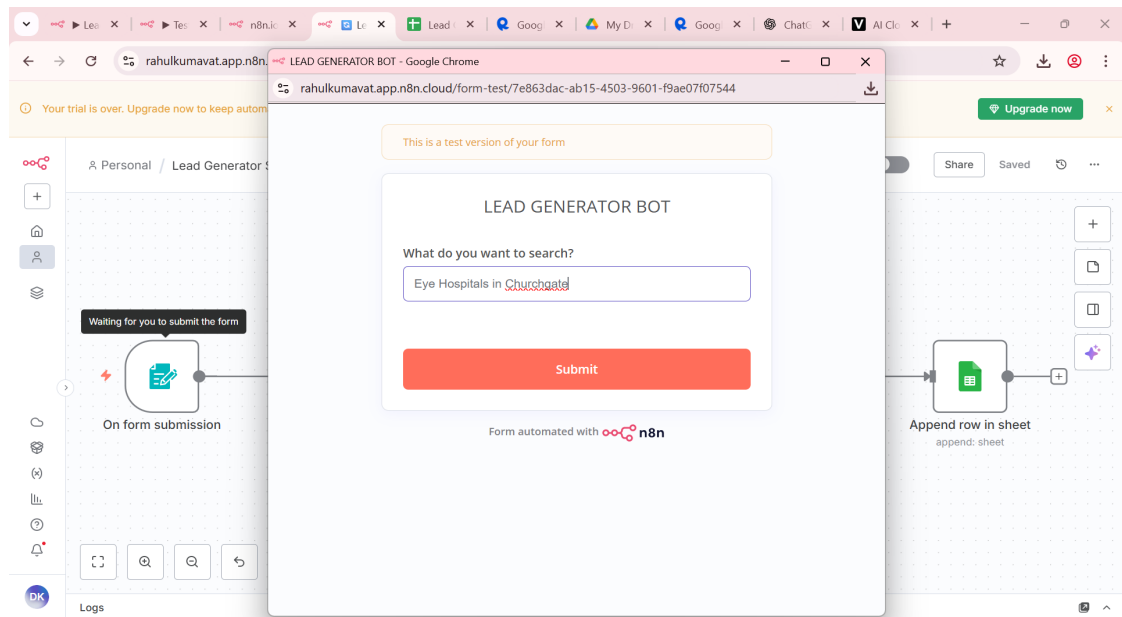
High-Level Design

The high-level design of this project includes four primary components: (1) User Form for input, (2) HTTP Request to fetch leads, (3) Data Transformation nodes (Split and Filter), and (4) Google Sheets for storage. The workflow ensures that lead data is processed efficiently and duplicates are avoided.

Low-Level Workflow Design

1. **On Form Submission**: The workflow begins when a user submits the n8n form with a search query. This acts as the trigger node. 2. **HTTP Request Node**: Fetches data from a Google Maps scraping API or custom endpoint based on the search query. 3. **Split Out Node**: Splits the received JSON array into individual lead entries for processing. 4. **Filter Node**: Filters data to remove invalid or duplicate records. 5. **Append Row in Sheet**: Adds validated leads into a Google Sheet under specific columns: Name, Address, Place, State, Phone, Email, Website, and Source URL.

Results

After execution, the workflow appends structured business lead data into the configured Google Sheet. Each row represents a lead entry with complete details such as name, contact, address, and website link. Below are screenshots of the Google Sheet displaying the output results.

	Name	Address	Place	State	Phone	Email	Website	SourceURL
1	Name	Address	Place	State	Phone	Email	Website	SourceURL
2	Shroff Eye Clinic	Shroff Eye Clinic, Gobind Mahal, M	Mumbai	Maharashtra 400002	918850104077		https://www.shroffeye.org/	
3	Eyeris Eye Clinic	Ground Floor, Eyeris Eye Clinic, P	Mumbai	Maharashtra 400002	919372475889		http://www.eyeriscenter.com/	
4	DR CHOPADE EYE HOSPTAL	DR CHOPADE EYE HOSPTAL, Po	Mumbai	Maharashtra 400002	919764291291			
5	Eye Solutions - The Complete Eye Hospital	Ground Floor, Eye Solutions - The	Mumbai	Maharashtra 400002	919372475889		http://www.eyesolutions.in/	
6	Shroff Anand	Shroff Anand, Door No. 86/ B, 1st	Mumbai	Maharashtra 400002	912222814077		https://www.shroffeye.org/team/d	
7	Nature Cure Eye Clinic	Nature Cure Eye Clinic, Sunder M	Mumbai	Maharashtra 400002	912222043174			
8	Shroff Eye Clinic	Shroff Eye Clinic, Gobind Mahal, M	Mumbai	Maharashtra 400002	918850104077		https://www.shroffeye.org/	
9	Eyeris Eye Clinic	Ground Floor, Eyeris Eye Clinic, P	Mumbai	Maharashtra 400002	919372475889		http://www.eyeriscenter.com/	
10	Eye Solutions - The Complete Eye Hospital	Ground Floor, Eye Solutions - The	Mumbai	Maharashtra 400002	919372475889		http://www.eyesolutions.in/	
11	Shroff Anand	Shroff Anand, Door No. 86/ B, 1st	Mumbai	Maharashtra 400002	912222814077		https://www.shroffeye.org/team/d	
12	Nature Cure Eye Clinic	Nature Cure Eye Clinic, Sunder M	Mumbai	Maharashtra 400002	912222043174			

Challenges and Problems Faced

During the development of the Lead Generator Bot, several challenges were encountered:
- **Google Sheets Integration**: Authentication with Google API required correct OAuth credentials and scopes. - **API Limitations**: The scraping API used for Google Maps sometimes imposed rate limits, requiring retries. - **Data Formatting**: Ensuring consistency in the address and phone number fields during split operations. - **Duplicate Handling**: Managing duplicates between runs when appending new rows in the sheet. These challenges were mitigated by introducing filters, delay nodes, and validation logic within n8n.

Conclusion

The Lead Generator Bot successfully automates the process of generating business leads through n8n. It showcases the power of no-code automation by integrating form inputs, web data extraction, and Google Sheets storage. The workflow can be easily adapted for other industries such as real estate, healthcare, or retail by modifying search parameters.