

# Optimo Capital Outreach Agent Technical Doc

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## Introduction

This spec describes a WhatsApp-based agent that promotes Optimo Capital's loan-against-property products. It engages customers in English, Kannada, Tamil, Telugu, and Hindi via text and voice, qualifies interest, calculates loan potential, and schedules follow-ups—all powered by an n8n workflow with dynamic state management.

## System Overview

The Optimo Capital Outreach Agent via n8n to automate customer outreach for loan-against-property offerings. Deployed on WhatsApp, it supports multilingual interactions (text and voice in five languages), collects property data, computes loan amounts ( $(\text{Value} - \text{Balance}) * 0.8$ ), and manages follow-ups for uninterested prospects. The workflow integrates external APIs (e.g., Google Gemini for NLU, ElevenLabs for voice) and persists conversation state in n8n's Static Data.

## Workflow Architecture

- Gets Contact number and Name from CSV Sheet**
  - A CSV sheet which maintains people to approach.
  - Contact\_no, Name, Status timestamp, ChatID, Requested\_followup
- Initial Contact:**
  - Sends welcome message, prompts for language (English | kannada | tamil | telugu | hindi).
  - Introduces Optimo Capital's loan product.
- Ask about preferred Output (Voice, Text)**
  - preference : "Text" | "Voice" | "Unknown"
- Qualification:**
  - Asks if interested (Yes/No).

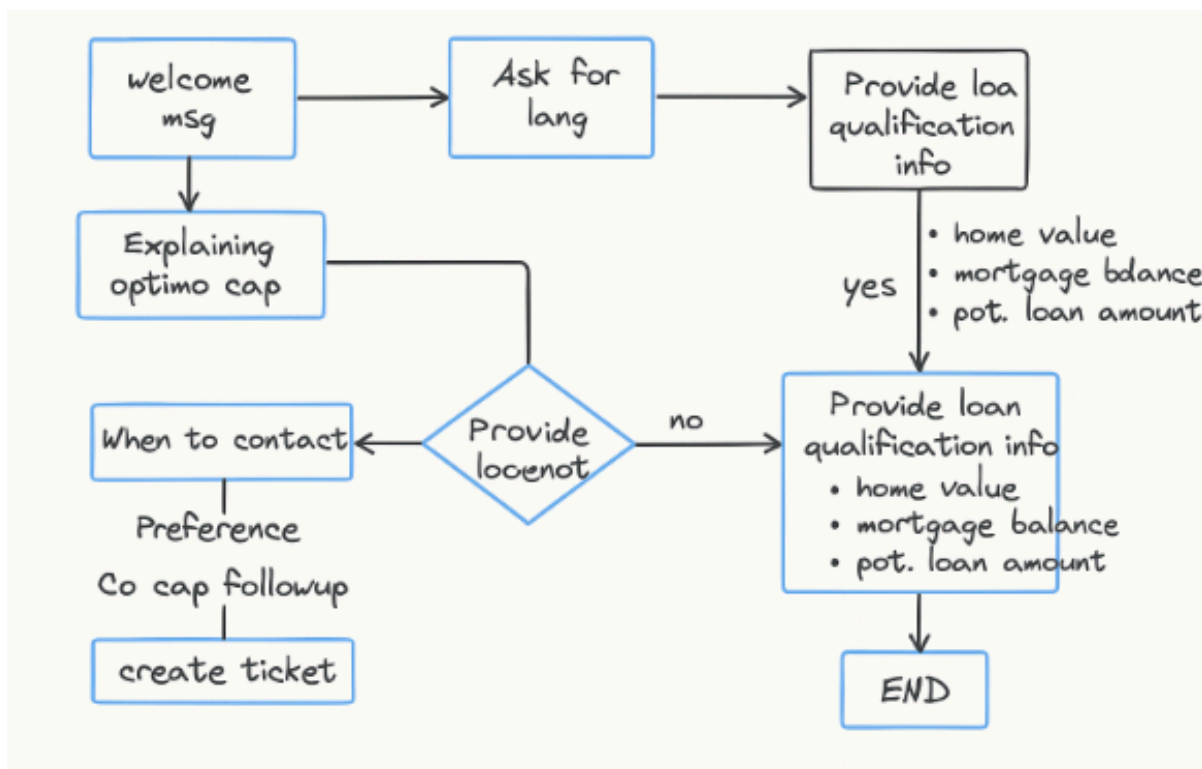
- Yes: Proceeds to data collection;
- No: Triggers **follow-up flow**.

#### 5. **Data Collection:**

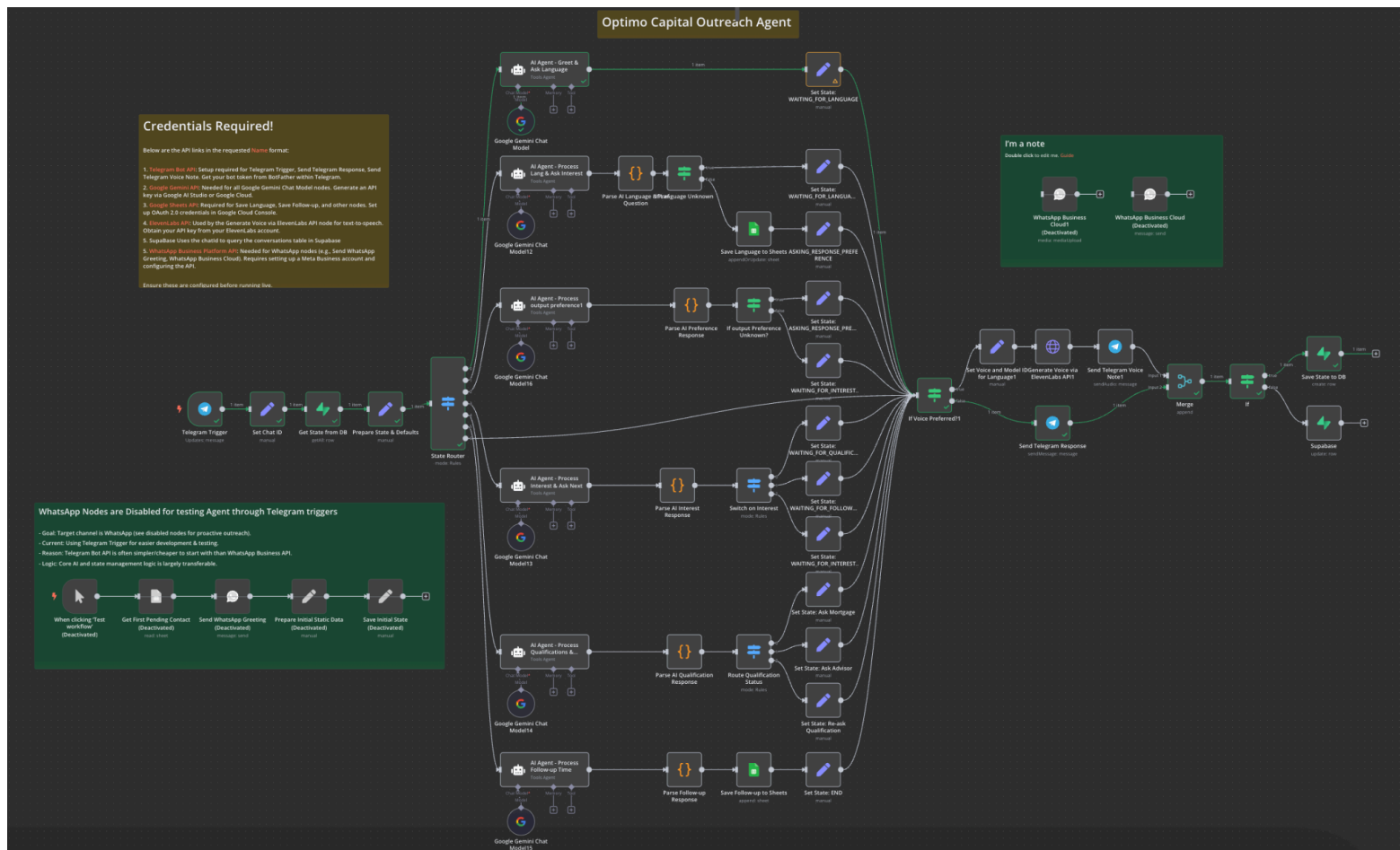
- Collects property value and mortgage balance. (AI generated personalised questions with buffer chat storage)
- Calculates loan amount using  $((\text{Value} - \text{Balance}) * 0.8)$ .

#### 6. **Follow-up:**

- For uninterested customers, captures preferred recontact time.
- Schedules **CRM ticket** and notifies human agent and stores ticket to CSV.



Link to Image - <https://drive.google.com/file/d/1-GnhpvgZthn8GI-DIBFPmSRJO2DHCj3m/view?usp=sharing>



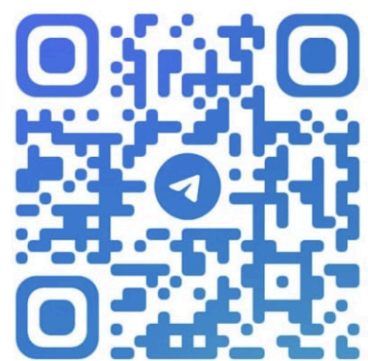
Link to image – <https://drive.google.com/file/d/1wGFHsZomDE9dgY97MmPDdb-3mRY6gnkcR/view?usp=sharing>

Check out folder for img - “ n8n projects ”

**TEST Deployed AGENT –**

“@n8n\_devdatta\_bot” Telegram BOT Id

“[https://t.me/n8n\\_devdatta\\_bot](https://t.me/n8n_devdatta_bot)”

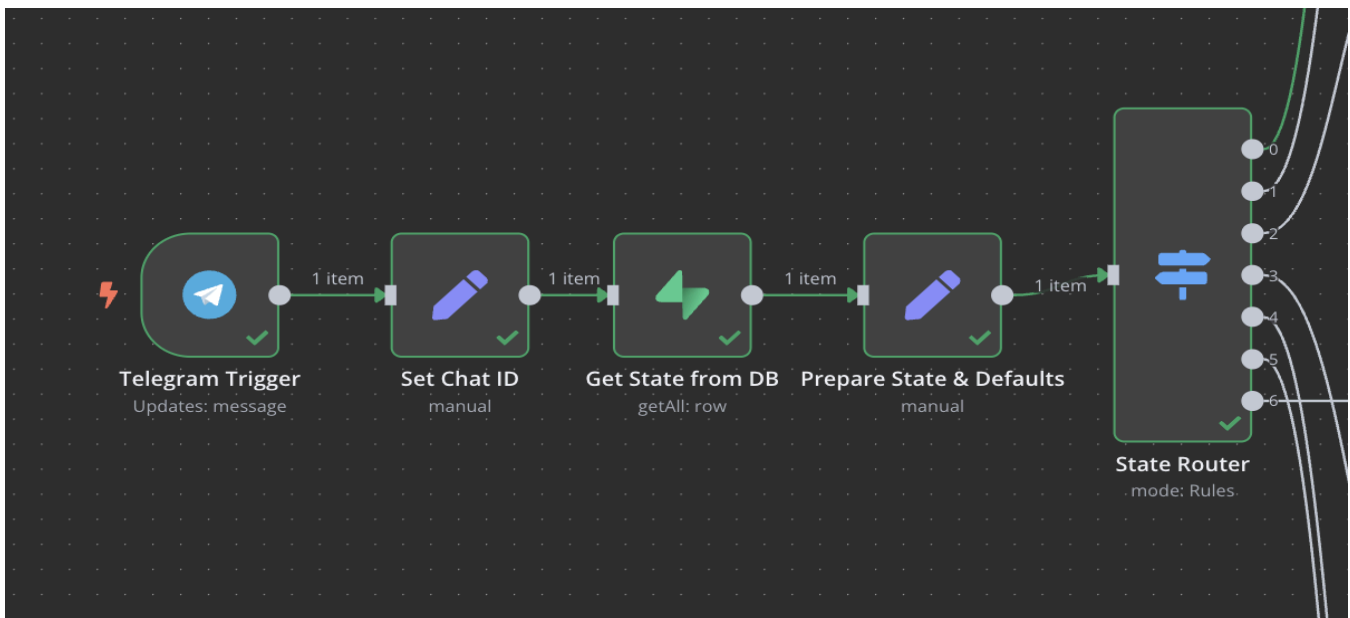


@N8N\_DEVDATTA\_BOT

## Flow Explaintation-

### 1. Initiation & State Retrieval (User Sends a Message):

- **Telegram Trigger** : This node listens for incoming messages on the configured Telegram bot. When a user sends a message, it triggers the workflow.
- **SupaBase Node** : Uses the chatId to query the conversations table in Supabase. It attempts to retrieve the existing record for this user, which contains their last known state, conversation history, chosen language, etc.
  - **Why Supabase?** It makes the bot stateful. Without it, the bot wouldn't remember previous interactions with the user in the same conversation. HTTP is stateless, so we need a database to store the state between workflow runs.



### 2. START State: Greeting & Language Selection:

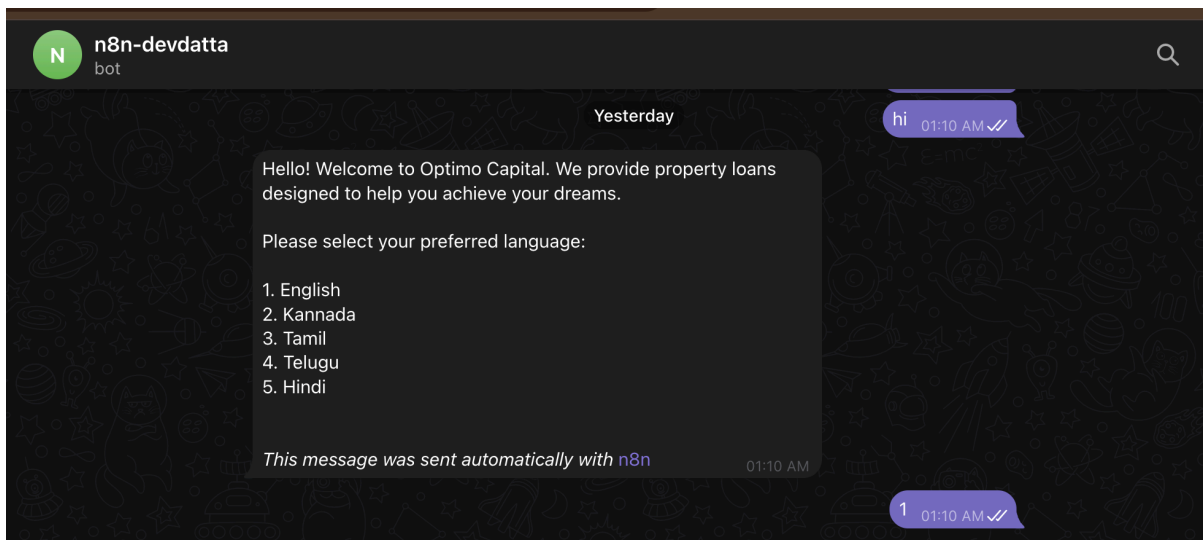
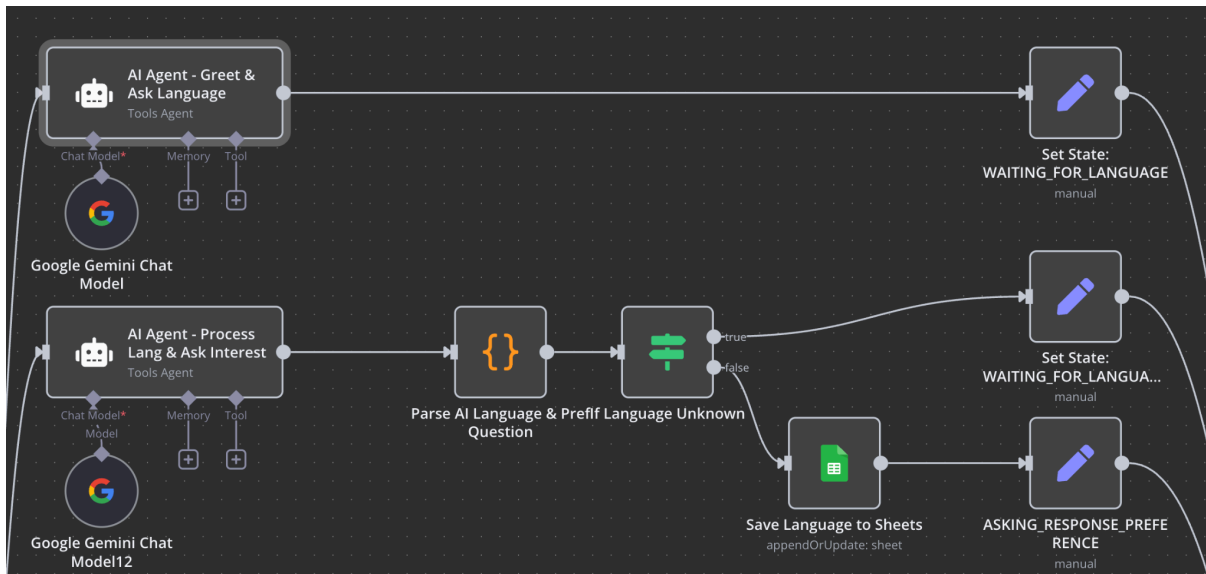
(Triggered if currentState is START)

#### AI Agent - Greet & Ask Language :

- Receives the (empty) user message.
- Prompt: Instructs the AI to act as an Optimo Capital assistant, greet the user, briefly introduce the company, and ask them to select a preferred language

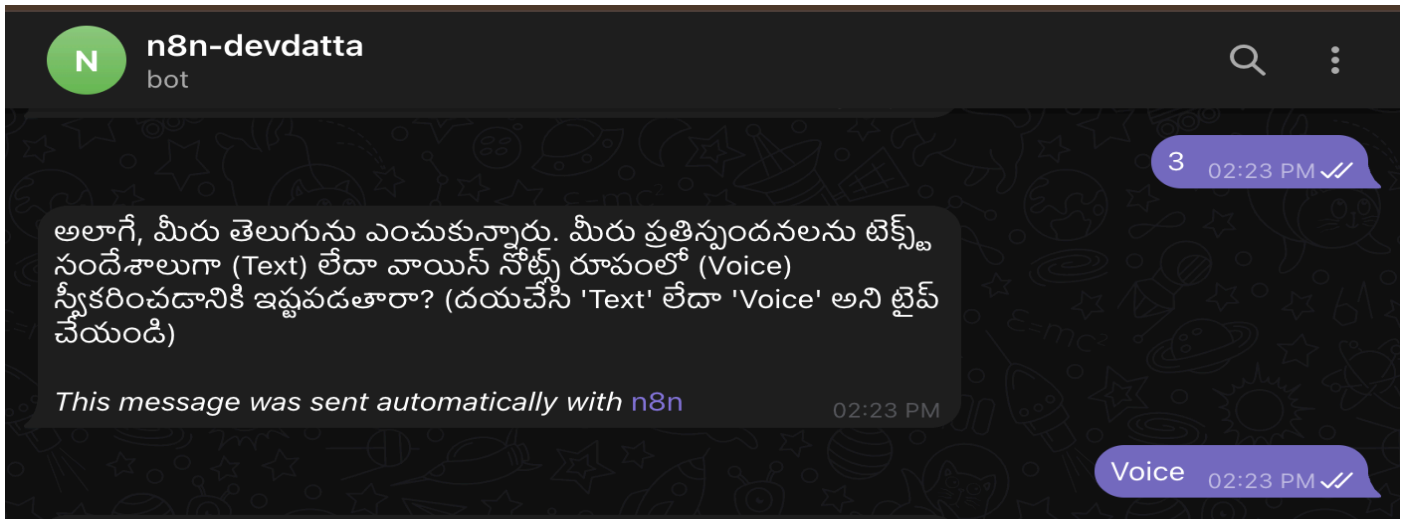
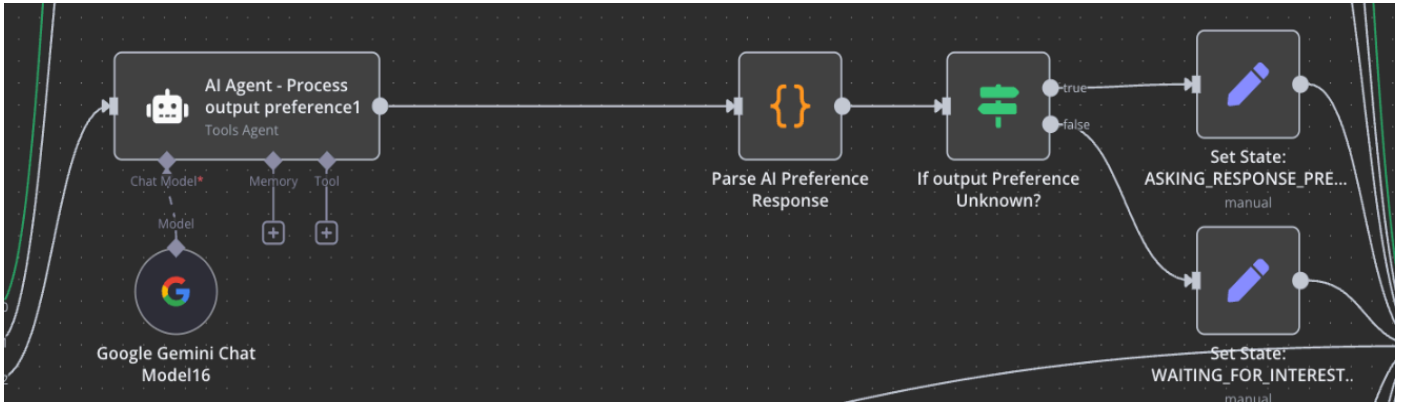
#### AI Agent - Process Lang & Ask Interest :

- Receives the user's message (presumably their language choice).
- Prompt: Instructs the AI to analyze the user's message (and conversation history) to determine the selected language. It must output only a JSON object containing selectedLanguage ("English", "Kannada", "Unknown", etc.) and nextMessage (a confirmation in the chosen language, asking if they prefer Text or Voice responses).



### 3. ASKING\_RESPONSE\_PREFERENCE State: Processing Text/Voice Choice

- **AI Agent - Process output preference1 :**
  - Prompt: Analyzes the user's message (Text/Voice) based on the selectedLanguage. Outputs JSON with preference ("Text", "Voice", "Unknown") and confirmationMessage (confirms preference in their language and asks about loan interest: "Are you interested...?").
  - **Generate Voice via ElevenLabs API1 :** Sends the aiResponse text and selected Voice ID to the ElevenLabs API to generate the audio



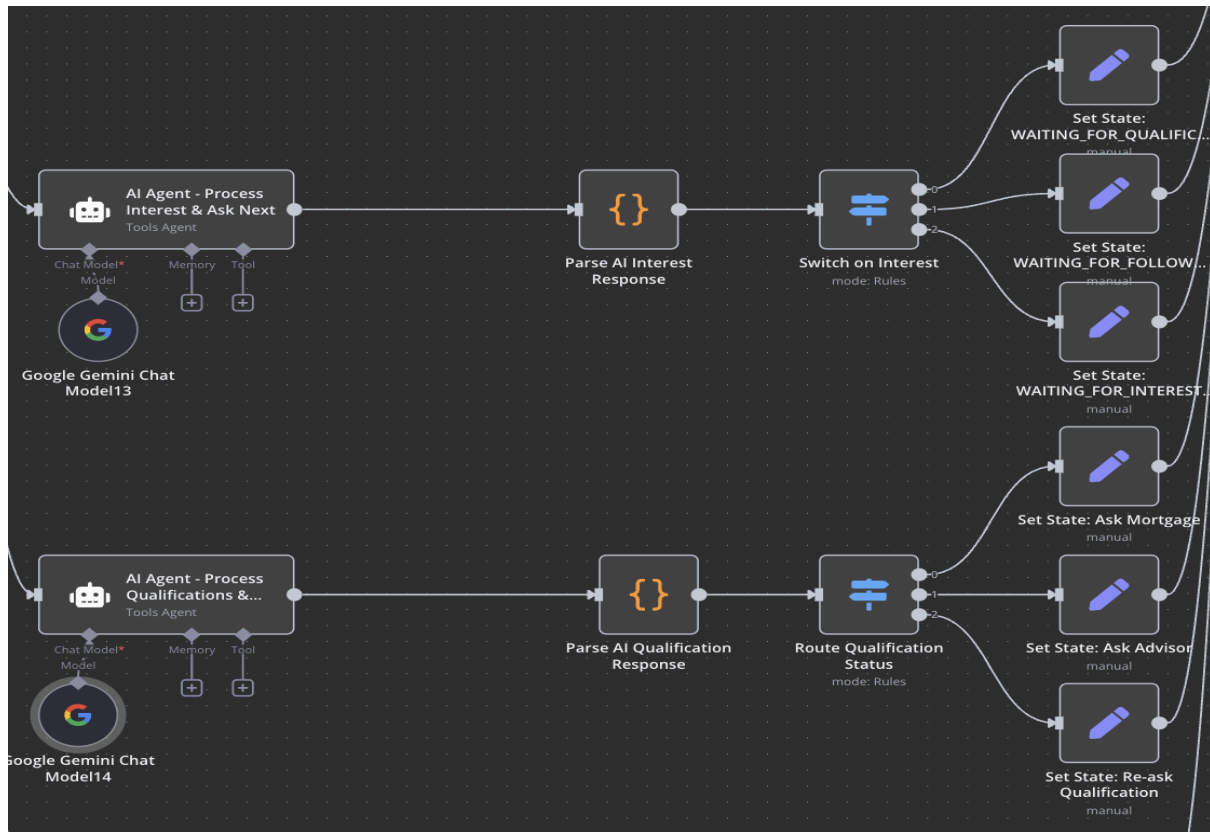
#### 4. WAITING\_FOR\_INTEREST State: Processing Loan Interest (Yes/No):

##### AI Agent - Process Interest & Ask Next :

- Prompt: Analyzes user response (Yes/No/Unclear) in their selectedLanguage. Outputs JSON with interest ("Yes", "No", "Unknown"), potentially extracted homeValue, mortgageBalance, creditScore, calculated potentialLoanAmount, and nextMessage.
  - If Yes: Asks for property value (if not provided).
  - If No: Asks about future follow-up.
  - If Unknown: Asks interest question again.

##### AI Agent - Process Qualifications & Calculate :

- Prompt: Reviews history. If just asked for value, expects value and asks for mortgage. If just asked for mortgage, expects mortgage, calculates potential loan  $(\text{Value} - \text{Mortgage}) * 0.8$ , presents it, and asks about connecting with an advisor. Outputs JSON with status ("NEEDS\_MORTGAGE", "CALCULATION\_COMPLETE", "INFO\_MISSING"), respons, and calculatedLoanAmount



N

**n8n-devdatta**  
bot

🔍 ⋮

Okay, I'll respond with text. Are you interested in taking a property loan from Optimo Capital? (Yes/No)

*This message was sent automatically with n8n* 04:53 PM

yes 04:54 PM ✓✓

Great! To see if you qualify, what is the estimated value of your property?

*This message was sent automatically with n8n* 04:54 PM

14 04:54 PM ✓✓

Got it. Based on a property value of 1,000,000 and mortgage of 14, you might be eligible for a loan amount of approximately 799,988.8. Would you like to connect with a loan advisor to discuss further? (Yes/No)

*This message was sent automatically with n8n* 04:54 PM



## 5. WAITING\_FOR\_FOLLOWUP\_TIME State: Processing Follow-up Details:

### AI Agent - Process Follow-up Time :

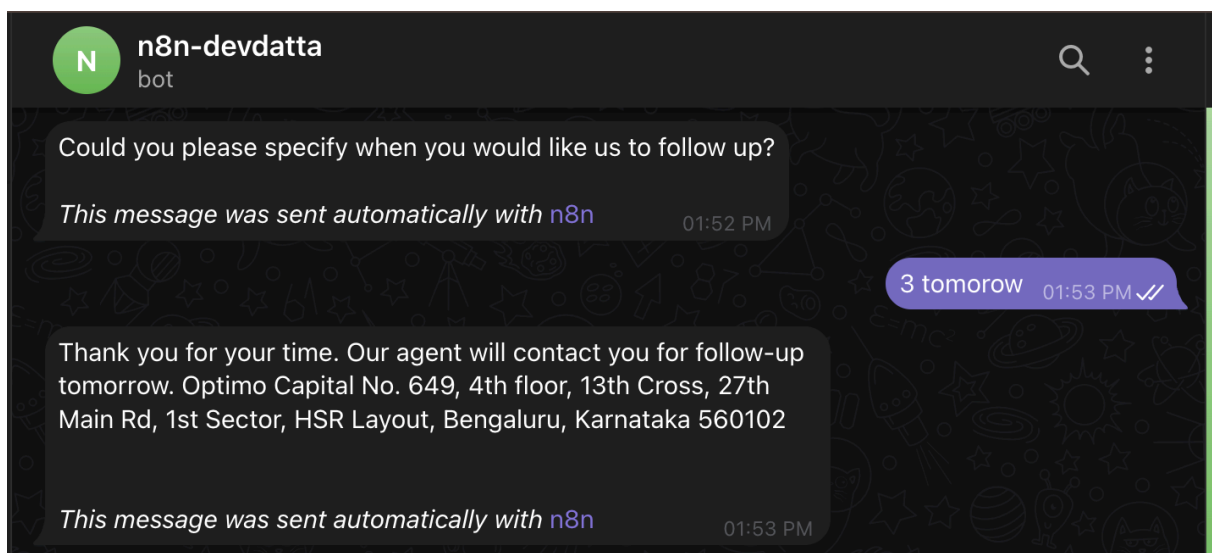
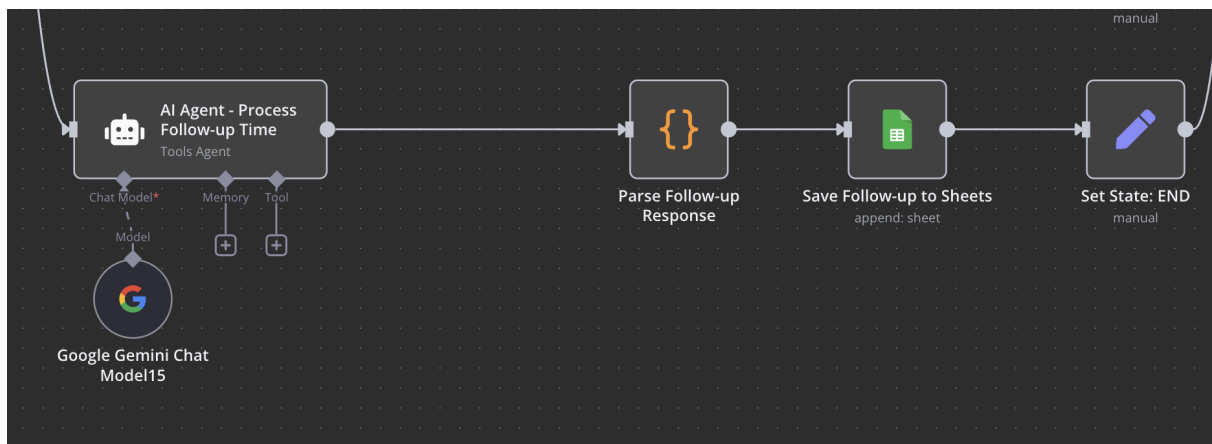
- Prompt: Analyzes user message to extract follow-up time/date or if they confirm connecting to an advisor. Outputs JSON with followUpDetails (extracted time, "Declined", "Confirmed Advisor", etc.) and confirmationMessage (confirmation/thank you).

### Save Follow-up to Sheets :

- Logs the chatId and extracted followUpDetails to **Google Sheets**.

### Set State: END :

- Sets newState to **END**.
- Uses the AI's final **confirmation/thank you** message as aiResponse
- Updates newHistory.





## 2. State Management

Persisted in n8n Static Data: json

CollapseWrapCopy

```
{
  "conversationId": {
    "currentState": "WELCOME | QUALIFY | COLLECT_VALUE | COLLECT_MORTGAGE | CALCULATE | FOLLOWUP | END",
    "language": "en | kn | ta | te | hi",
    "data": {
      "propertyValue": 0,
      "mortgageBalance": 0,
      "loanAmount": 0,
      "followUpTime": "YYYY-MM-DD HH:MM"
    },
    "history": ["message1", "message2"]
  }
}
```

### Multilingual Support

- Function node detects language from first message or explicit choice.
- Gemini generates responses in selected language.
- ElevenLabs synthesizes voice with localized accents.

### Voice Integration

- If node checks voice preference.
- HTTP Request to ElevenLabs API generates audio file.

### WhatsApp node sends as voice note.

- WhatsApp Nodes are Disabled for testing Agent through Telegram triggers
- 
- Goal: Target channel is WhatsApp (see disabled nodes for proactive outreach).
- Current: Using Telegram Trigger for easier development & testing.
- Reason: Telegram Bot API is often simpler/cheaper to start with than WhatsApp Business API.
- Logic: Core AI and state management logic is largely transferable.

### Prompt Strategy

- **Welcome:** "Hi! Optimo Capital offers loans against property. What language do you prefer?"
- **Qualify:** "Are you interested in a loan against your property? (Yes/No)"

- **Collect:** “What’s your property’s value?” / “Any mortgage balance?”
- **Follow-up:** “When should we reach out again?”

### Recommendations

1. **State:** Use Error Trigger for stalled flows; persist state with Workflow Data.
2. **Testing:** Simulate multi-language paths in n8n’s sandbox; validate audio output.
3. **Security:** Encrypt customerData with n8n’s credential encryption; add session timeouts.
4. **Performance:** Cache frequent Gemini responses with Memory node; batch CRM updates.

### Deployment Checklist

- ☒ ~~Test all prompts across languages~~
- ☒ ~~Confirm voice clarity in all accents~~
- ☐ Activate WhatsApp Business API
- ☐ Enable error logging
- ☒ ~~Set up CRM escalation~~
- ☐ Verify regulatory complianc