

Project Title: Automated Daily Learning Social Posting Workflow using n8n

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Abstract / Introduction

This project is centered on creating a fully automated n8n workflow that publishes my daily learning reflections across LinkedIn and Twitter without manual intervention. Instead of manually logging in and posting every day, this system reads my daily learning notes from Google Sheets and automatically processes them at a scheduled time each evening. Using Gemini AI, the text is rewritten into a clear and engaging post suitable for social platforms. This workflow ensures consistency, reduces daily effort, and supports continuous learning documentation online.

Tools & Technologies Used

This project utilizes multiple tools, APIs and AI services working together as an automation pipeline.

The primary engine is **n8n**, which controls the overall workflow and manages node-level execution.

- **n8n**
– workflow automation platform



- **Google Sheets**
– used as a structured database storing daily learnings



Google Sheets

- **Gemini AI**
– rewrites the learning text into a professional short-form post



- **LinkedIn API**

- used for automatic publishing

- **Twitter / X API**

- used for social posting



- **ChatGPT**

- used for prompt refinement and workflow planning



Throughout the project, I learned practical skills such as API authentication, scheduled execution, prompt engineering, and automated content publishing.

Prompts Used

The Gemini rewriting prompt is crafted to ensure the learning summary becomes a clean, high-quality post.

Below is the exact prompt used inside n8n:

Rewrite the following learning note into a concise, engaging, professional social media post. Make the tone positive, curious, reflective. Keep it within 250 characters. Keep core meaning. Add relevant hashtags. DO NOT mention that it is rewritten or AI generated.

Original: {{\$json["Learning Summary"]}}

This ensures every post is professional, unique, consistent and audience-friendly.

Architecture & Design Documentation

The workflow follows a structured multi-layer pipeline:

1. **Trigger Layer**

- activates daily at scheduled time

2. **Data Layer**

- retrieves learning entries from Google Sheets

3. **Validation Layer**
 - checks which entries are not yet posted
4. **AI Processing Layer**
 - Gemini rewrites and enhances text
5. **Publishing Layer**
 - LinkedIn and Twitter posting nodes
6. **Persistence Layer**
 - marks sheet row as posted

This ensures smooth, repeatable, predictable automation.

Functionality Description

This n8n workflow is composed of a series of connected nodes working sequentially. The process begins with the Schedule Trigger node, configured to run every evening. Next, the system retrieves the rows from Google Sheets that contain daily learning entries. The IF node evaluates whether the current entry has already been posted or not. Once confirmed, the Gemini node rewrites the text and prepares a formatted, engaging version of the learning reflection.

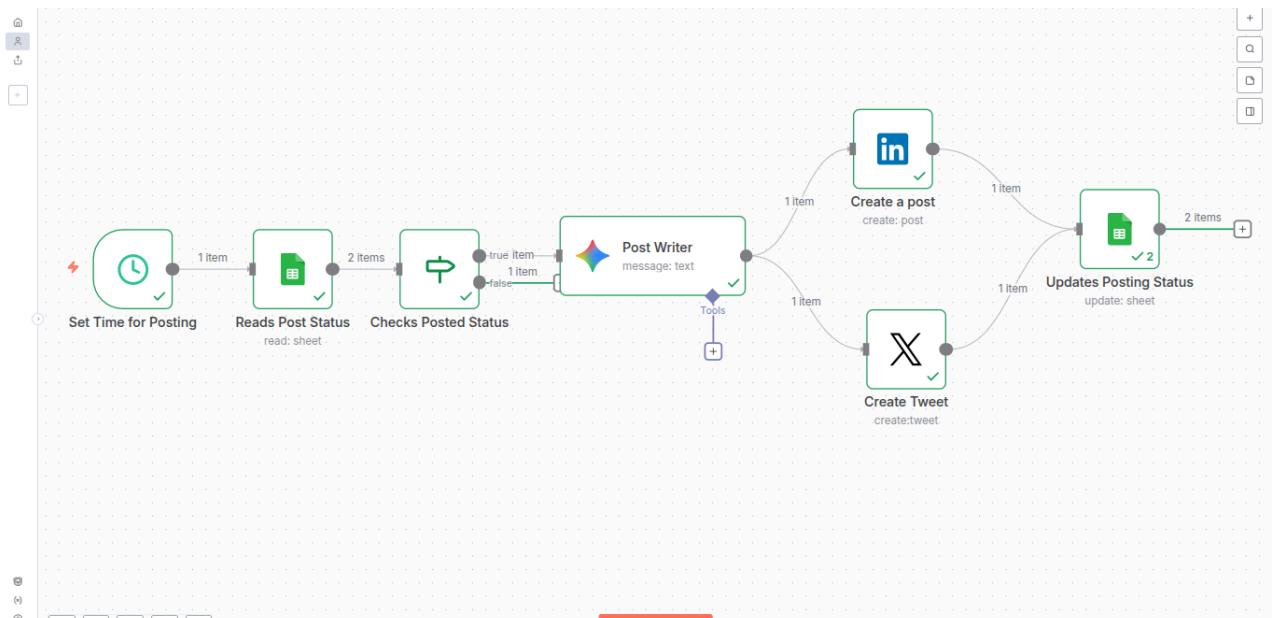
The rewritten content then travels through two platform nodes — LinkedIn Post creation and Twitter/X Tweet posting. Upon successful completion of both posts, the workflow invokes an Update Row node, which modifies the Google Sheet by marking the row as “Posted,” ensuring it will not be processed again in future runs. This prevents duplication and ensures only new learnings are published each day.

This automated pipeline eliminates manual effort while improving content quality and publishing consistency.

Output & Demonstration

Successful execution results include:

- A published LinkedIn post
- A published Tweet
- A Google Sheet row updated from “No” to “Yes”
- Visible execution logs in n8n confirming full pipeline completion



Screen Capture 1: n8n Workflow

The screenshot shows a Google Sheets document titled "Social Automate". The spreadsheet contains a table with three columns: "Date", "Learning Summary", and "Posted?". The data is as follows:

	Date	Learning Summary	Posted?
1	18-11-2025	Explored basics of API authentication	Yes
2	19-11-2025	Practiced writing automation workflows	No
4	20-11-2025	Learned how to integrate Google Sheets with n8n	Yes
5	21-11-2025	Experimented with LinkedIn posting automation	No
6	22-11-2025	Learned about X	Yes
7	23-11-2025	Got hands-on experience with n8n	No

Screen Capture 2: Google Sheet for recording Daily learnings

Link for Google Sheets:

https://docs.google.com/spreadsheets/d/14zOZvS6mTGVtfq0ziPT_GGZ3DiYFYCyZGaTSIcvkfGI/edit?usp=sharing

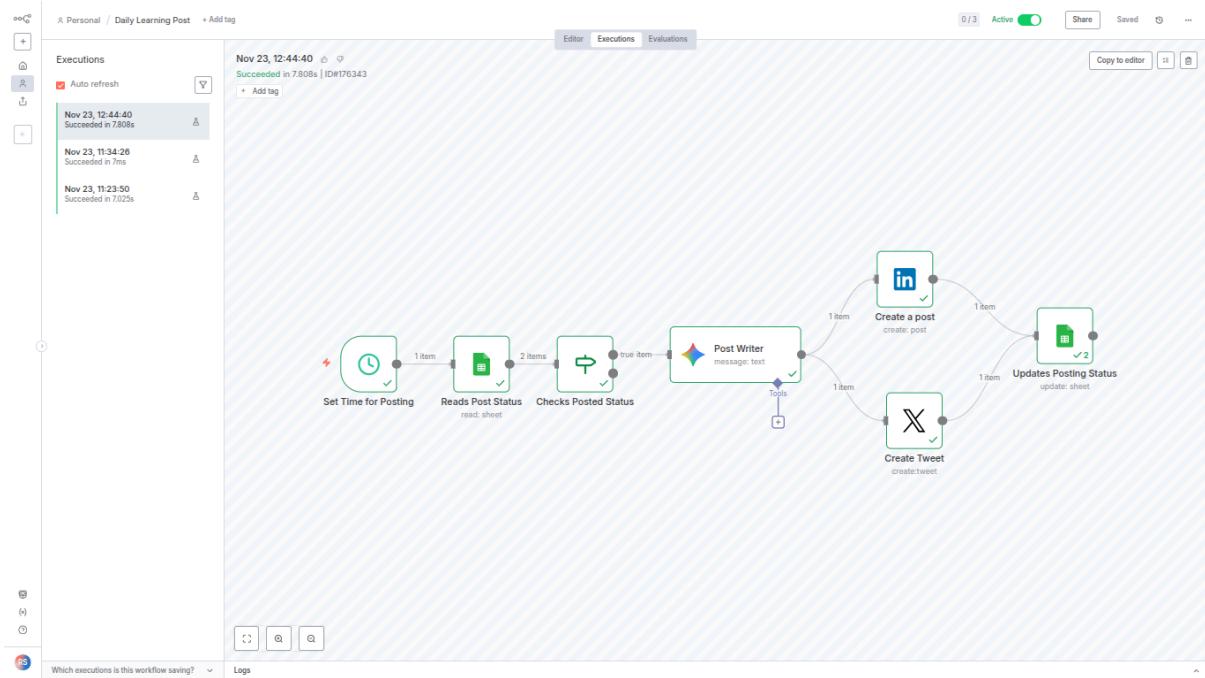
The screenshot shows the X (formerly Twitter) mobile application interface. On the left, a sidebar menu includes Home, Explore, Notifications, Messages, Grok, Communities, Profile (selected), and More. Below the menu is a large 'Post' button. The main area displays the user's profile: Ramanand (@MyselfRamanand). The profile card features a placeholder for a profile picture with an 'R' icon, the name 'Ramanand', the handle '@MyselfRamanand', and three dots for more options. At the top of the feed is a green banner with the text 'Get verified'. Below the banner are tabs for Posts, Replies, Highlights, Articles, Media, and Likes, with 'Posts' being the active tab. A section titled 'Let's get you set up' provides four tasks: 'Follow 5 accounts' (4 left), 'Follow 3 Topics' (3 left), 'Complete your profile' (DONE), and 'Turn on' (partially visible). The feed contains two recent tweets from the user:

- Ramanand @MyselfRamanand · 29m**
Diving into the world of n8n! 🛡️ Exploring its automation power and connecting workflows. So many possibilities! What cool integrations have you built? 🤖 #n8n #automation #workflow #nocode
- Ramanand @MyselfRamanand · 8h**
Diving into X today! 🚀 Always fascinating to see how it connects to the bigger picture. What are your favorite aspects of X? 🌐 #Learning #X #Curiosity #Innovation

Screen Capture 3: Post Uploaded On X

The screenshot shows the LinkedIn profile page of Ramanand Shirbhathe. At the top, the header includes the LinkedIn logo, a search bar, and navigation links for Home, My Network, Jobs, Messaging, Notifications, Me, For Business, and Try Premium for ₹0. The profile card for Ramanand Shirbhathe (He/Him) shows he is a BTech Student in Computer Science & Engineering | Data Science Enthusiast | Aspiring Data Professional. The profile has 39 followers. The 'Analytics' section shows 8 profile views, 33 post impressions, and 1 search appearance. The 'Activity' section shows two posts. The first post is identical to the one on X, and the second post is also from Ramanand Shirbhathe, reiterating his excitement about diving into X and its integration capabilities. To the right, a 'People you may know' sidebar lists connections: Bhawin Haldekar, Soham khandade, Omkar Rajure, and Krishna Gadhe, each with a 'Connect' button. A 'Messaging' button is at the bottom right.

Screen Capture 4: Post Uploaded On LinkedIn



Screen Capture 5: *Workflow executed successfully*

Conclusion

This project successfully implemented a fully automated social media posting workflow using n8n and Gemini AI. By integrating Google Sheets as a data source and utilizing the Gemini API for content enhancement, the system achieved consistent, high-quality daily posts to LinkedIn and Twitter. The multi-layered architecture ensures reliability and prevents content duplication, successfully eliminating the manual effort required for daily documentation of continuous learning. This project demonstrates practical application of workflow automation, API integration, and generative AI in a personal knowledge management context.

Submission Artifacts

- ✓ Final Report PDF
 - ✓ n8n Workflow JSON
 - ✓ Screenshots
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