Office Hours Agent

January 2026

With Elastic Agentic Builder & Workflows

elastic | The Search AI Company

Agenda

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The Challenge

Manually searching through meeting recordings to find relevant information is time-consuming and unscalable.

The Solution

A **scalable, serverless architecture** that automates ingestion, processing, and indexing of meeting content from **Google Drive into ElasticSearch** using **Gemini** 2.5 Pro.

Key Benefits

Zero-Touch Automation

System automatically detects new content based on folder creation dates. Zero manual intervention required.

Secure & Scalable

Uses Cloud Functions with strict IAM and application-level secrets. Auto-scales to handle any volume.

Cost Efficient

Serverless architecture means we only pay for the seconds of compute used during ingestion.

Search Ready

Data is structured and pushed immediately to Elastic as “semantic_text” for instant retrieval.

Pipeline Architecture

ELASTIC WORKFLOWS & AGENT BUILDER FLOW

1 The Trigger

Runs on a **Daily Schedule**.

- Scans Google Drive specifically for yesterday's recording.

2 The Processing

Retrieves the **video file** via **Apps Script**.

Passes file to **Ingester Cloud Function** for secure handling.

3 AI Analysis

Sends video to **Gemini 2.5 Pro** via **Vertex AI**.

Generates **verbatim,** timestamped **transcript** & chunks.

4 Ingestion

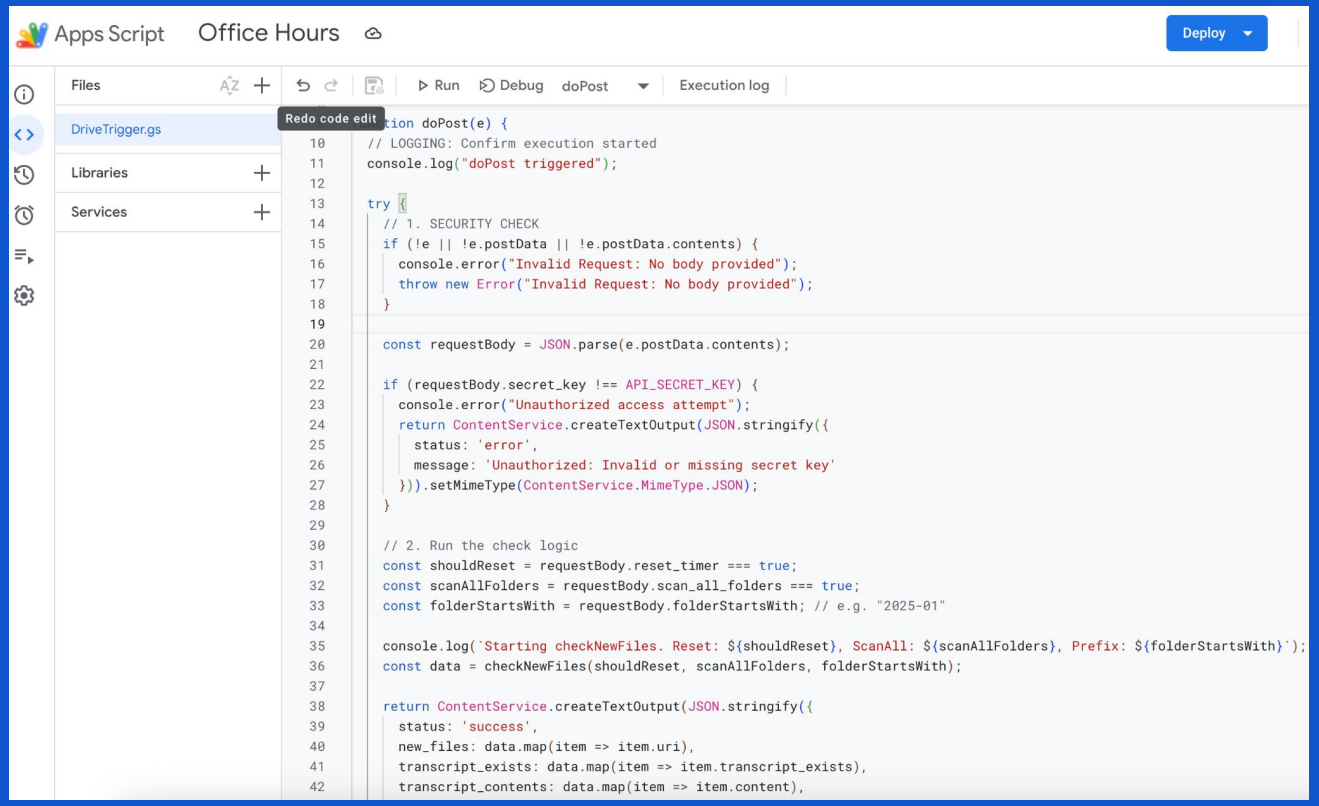
Structures the data.

Indexes directly into **office_hours_qa** for instant RAG availability.

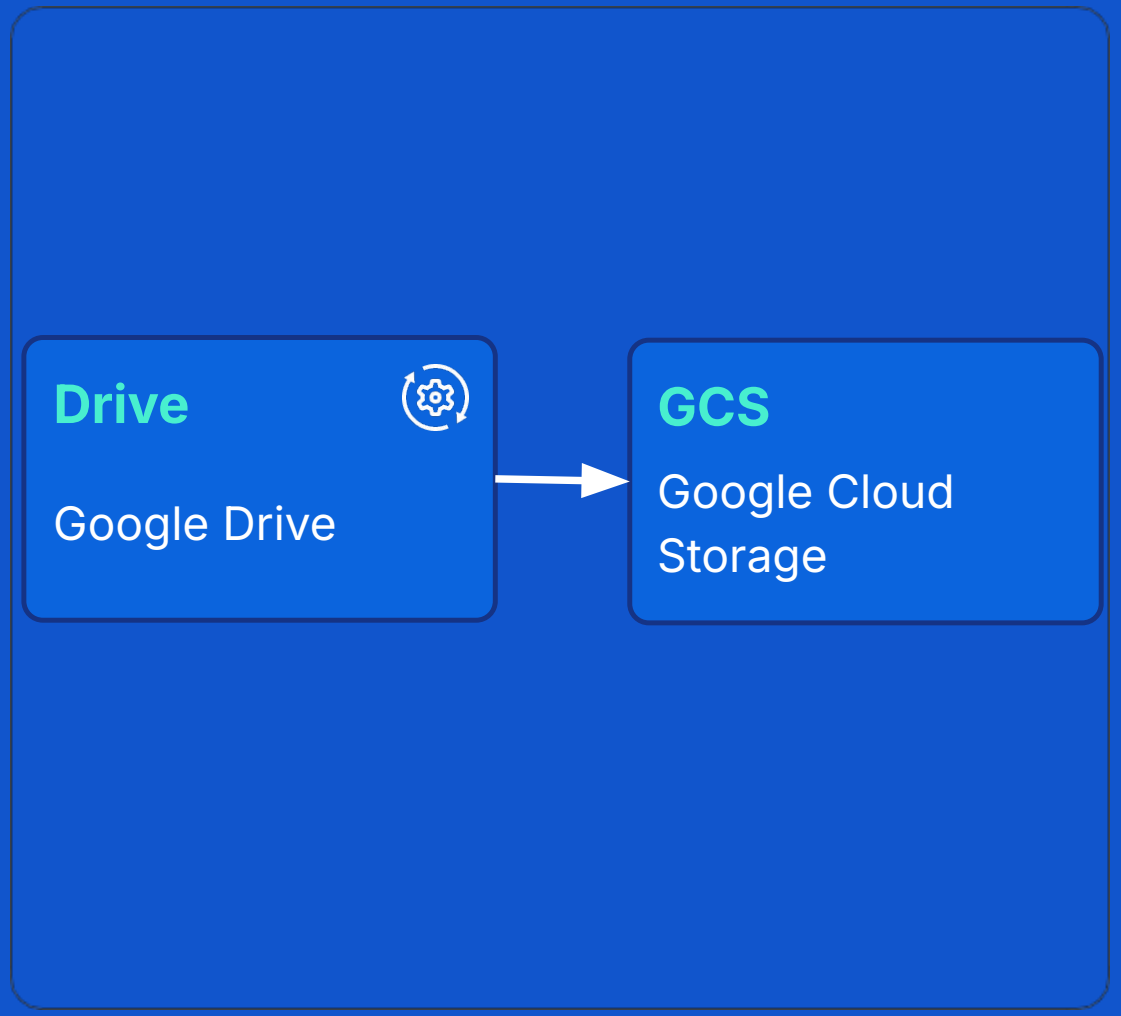
The Watchdog: Apps Script

Role: Acts as the bridge between Elastic and Google Drive's internal file system.

- **State Management:** Maintains a LAST_CHECK_TIME state to only process net-new content.
- **Intelligent Scanning:** Scans subfolders (e.g., 2025-12-10) for organized data ingestion.
- **Optimization:** Prioritizes .transcript.vtt files to save compute costs, falling back to video if needed.
- **Security:** Implements a Shared Secret handshake to reject unauthorized requests.



The Mover: Ingester Cloud Function



Role: Securely moves data from user-facing Google Drive to backend infrastructure.

- **Secure Auth:** Authenticates as a Service Account with strict scope limitations.
- **Streamed Transfer:** Streams large media files directly to Google Cloud Storage (GCS) without loading them entirely into memory.
- **Metadata Handling:** Detects MIME types and preserves file metadata during transit.

The Processor: Splitter & Cleanup

Intelligent Chunking

Prepares large media for Gemini AI analysis by enforcing size constraints.

- **Dynamic Logic:** Splits files based on logical chunks based on Q&A answer segments.
- **Context Safety:** Ensures chunks fit within the AI model's context window.
- **Timeout Prevention:** Breaks monolithic files into segments to avoid HTTP timeout errors.

Automated Hygiene

Maintains a clean, stateless environment to control storage costs.

- **Post-Index Trigger:** Activates immediately after data is confirmed in Elastic.
- **Targeted Deletion:** Identifies original video source and all generated ephemeral chunks.
- **Cost Control:** Ensures we pay $0 for storage of processed temporary files in ada-bucket.

The Orchestrator: Elastic Workflow

Role: The central brain that coordinates the sequence.

- **Triggering:** Initiates the Apps Script scan.
- **Looping:** Receives list of new files and iterates through data to perform analysis.
- **Indexing:** Pushes final structured data (Video Source, Transcript Text, Folder Link) into the office_hours_qa Elastic index.

Next Steps

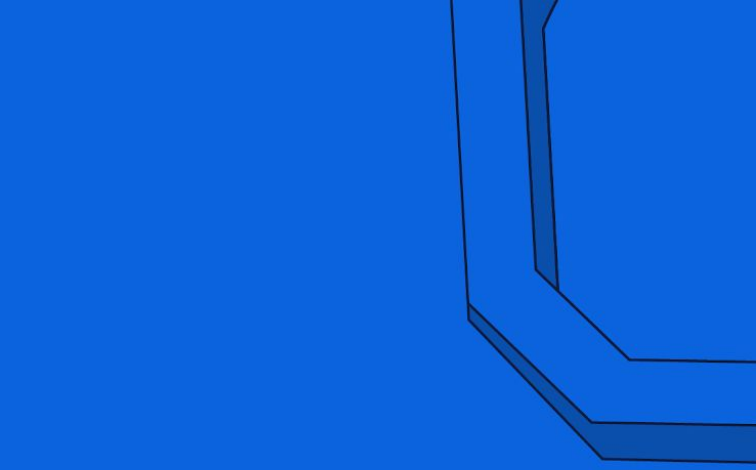
Semantic Search Optimization

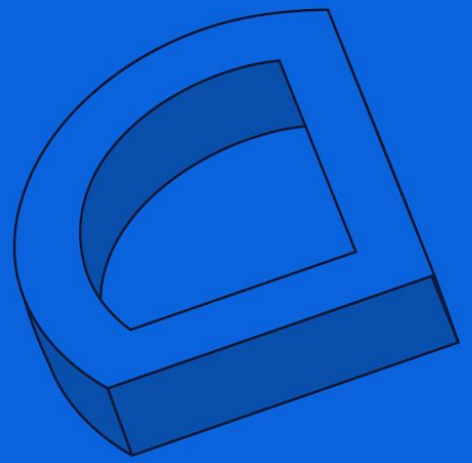
Review mapping for the Semantic Search Index to improve relevance. This will power a Q&A chatbot specifically for engineering teams.

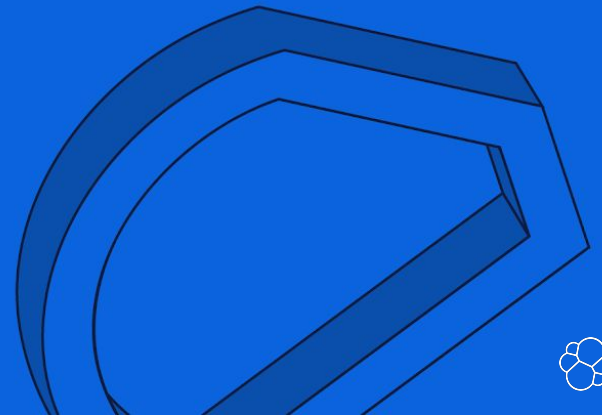
Video Search Fallback

Add capability to search video visual contents directly in cases where text transcripts are missing (pending Elastic workflow conditional updates).

Thank you!







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