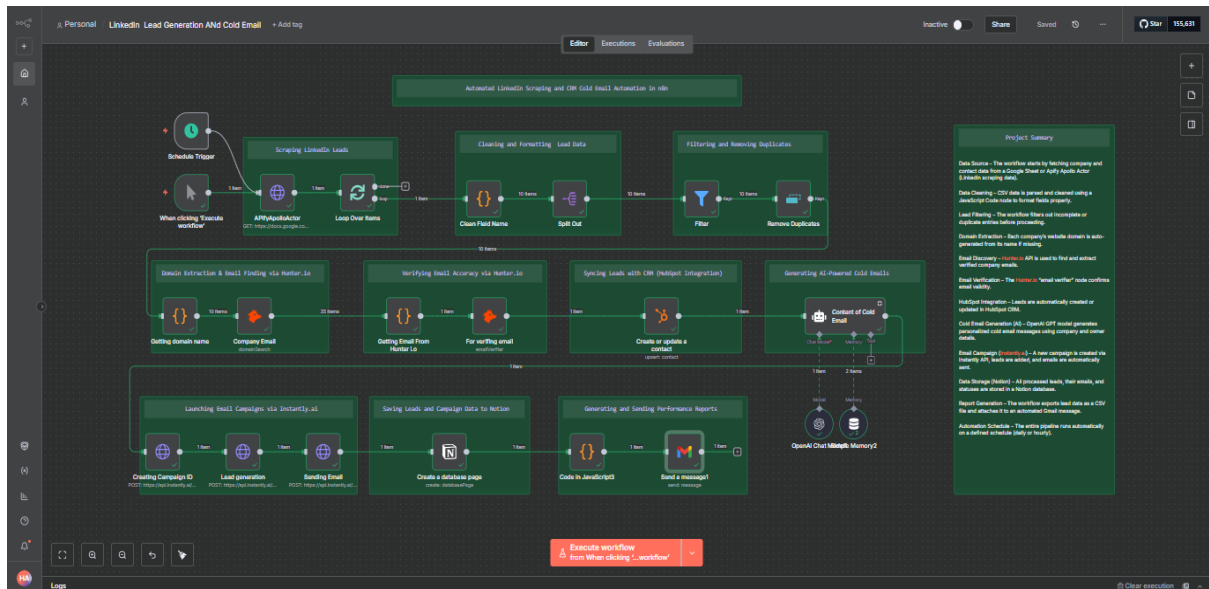


# Automated LinkedIn Lead Scraping and CRM Cold Email Automation in n8n



This project automates the entire lead generation and cold outreach process from LinkedIn to CRM. It scrapes company and contact data from LinkedIn, cleans and filters the leads, extracts company domains, and finds verified emails using Hunter.io. The verified leads are synced with HubSpot CRM, where AI-generated personalized cold emails are created and sent automatically via Instantly.ai. All lead details and campaign results are stored in Notion, and a performance report is generated and sent through Gmail. The entire workflow runs on a set schedule, ensuring continuous and hands-free lead generation.

# Scraping LinkedIn Leads

LinkedIn leads are scraped using the Apollo Apify scraper, which automatically collects company and contact details such as name, position, email, and company information. This ensures accurate, real-time data directly from LinkedIn for high-quality lead generation.

The screenshot displays the Apify Apollo Actor interface. On the left, the 'INPUT' section shows a workflow starting with 'When clicking "Execute workflow"', followed by a 'Schedule Trigger' and 'Variables and context'. The central 'APifyApolloActor' configuration panel is set to 'Parameters' mode, showing a 'GET' method, a URL pointing to a Google Docs spreadsheet, and authentication set to 'None'. On the right, the 'OUTPUT' section displays a single JSON item representing a scraped LinkedIn lead. The JSON structure includes fields for company details, lead information, and search criteria.

```
{  "city": "Chicago",  "company": "Charles Hall Construction, LLC",  "company_size": "1-25",  "country": "United States",  "data_quality": "professional",  "email": "h.ahmed9.9888@gmail.com",  "industry": "Construction",  "lead_id": "1762890948534",  "location": "Chicago, IL",  "name": "Tiffany Ford",  "phone": "77585534",  "position": "Tiffany Ford",  "search_criteria": "United States, Construction, unlimited-leads",  "source": "https://docs.google.com/spreadsheets/d/13NdWSNqD-7a2",  "verified_website": "https://www.charleshallconstruction.com",  "website": "https://www.charleshallconstruction.com"}"
```

# Finding Verified Emails using Hunter.io

**Hunter.io** is used to find and extract verified professional emails for each company, ensuring only valid and reachable contacts are added to the workflow

The screenshot displays the n8n workflow editor with a 'Company Email' node configured to search for emails using Hunter.io. The node is set to 'Domain Search' and uses a 'Hunter account' for authentication. The domain is set to a JSON variable: `{{ $json.domain }}`. The 'Only Emails' toggle is turned on, and the 'Limit' is set to 10. The 'Filters' section is currently empty.

**INPUT**

Property	Value
city	Chicago
companysize	1-25
country	States
dataQuality	professional
email	h.ahmed9.9888@gmail.com
industry	Construction
leadid	_1762860948594_0
linkedin	tiffany-ford-77585534
linkedinUrl	tiffany-ford-77585534
location	Chicago
name	Ford
phone	2025-11-11T11:35:48.594Z
scrapedAt	1-25
searchCriteria_companySize	States
searchCriteria_country	Construction

**Company Email**

Parameters: Hunter account, Domain Search, Domain: `{{ $json.domain }}`, Only Emails: ☒, Return All: ☐, Limit: 10, Filters: No properties.

**OUTPUT**

Property	Value
value	hello@chapter.com
type	generic
# confidence	95
sources	[{"domain": "chapter.com", "uri": "https://chapter.com", "extracted_on": "2018-09-09", "last_seen_on": "2024-12-21", "still_on_page": false}, {"domain": "compliance.ai", "uri": "https://compliance.ai/compliance-ai-referral-deal-registration", "extracted_on": "2020-04-25", "last_seen_on": "2025-09-06"}]

# Verifying Email Accuracy

Each email is verified through Hunter.io's email verifier to confirm its validity and reduce bounce rates during cold email campaigns

The screenshot displays the n8n workflow editor interface. On the left, the 'INPUT' section lists several steps: 'Getting Email From Hunter.io' (1 item), 'Company Email' (35 items), 'Getting domain name' (10 items), 'Remove Duplicates' (10 items), 'Filter' (10 items), 'Split Out' (10 items), 'Clean Field Name' (10 items), 'Loop Over Items' (1 item), 'APIFyApolloActor' (1 item), 'When clicking "Execute workflow"' (1 item), and 'Schedule Trigger'. The 'Company Email' step is selected, showing its configuration with 'companyEmail' set to 'hello@chapter.com'.

The central panel shows the configuration for the 'For verifying email' step. It includes a 'Credential to connect with' dropdown set to 'Hunter account', an 'Operation' dropdown set to 'Email Verifier', and an 'Email' field containing the expression '[[ \$json.companyEmail ]]' and the value 'hello@chapter.com'. An 'Execute step' button is visible in the top right corner of this panel.

On the right, the 'OUTPUT' section shows the result of the verification for the email 'hello@chapter.com'. The output is a JSON object with the following fields: 'status' (valid), 'score' (100), 'email' (hello@chapter.com), 'regex' (true), 'gibberish' (false), 'disposable' (false), 'webmail' (false), 'mx\_records' (true), 'smtp\_server' (true), 'smtp\_check' (true), 'accept\_all' (false), 'block' (false), and 'sources' (an array containing one source object with 'domain' set to 'chapter.com').

# Syncing Leads with CRM (HubSpot Integration)

Verified leads are automatically synced with **HubSpot CRM**, where new contacts are created or existing ones are updated to keep the database organized and up to date

The screenshot displays a workflow automation interface with three main panels: INPUT, a central configuration panel, and OUTPUT.

**INPUT Panel:** Shows a single item for 'For verifying email' with the following properties:

- status: valid
- score: 100
- email: hello@chapter.com
- regex: true
- gibberish: false
- disposable: false
- webmail: false
- mx\_records: true
- smtp\_server: true
- smtp\_check: true
- accept\_all: false
- block: false
- sources: sources[0]
- domain: chapter.com

**Central Configuration Panel:** Titled 'Create or update a contact', it includes an 'Execute step' button and tabs for Parameters, Settings, and Docs. The 'Parameters' tab is active, showing:

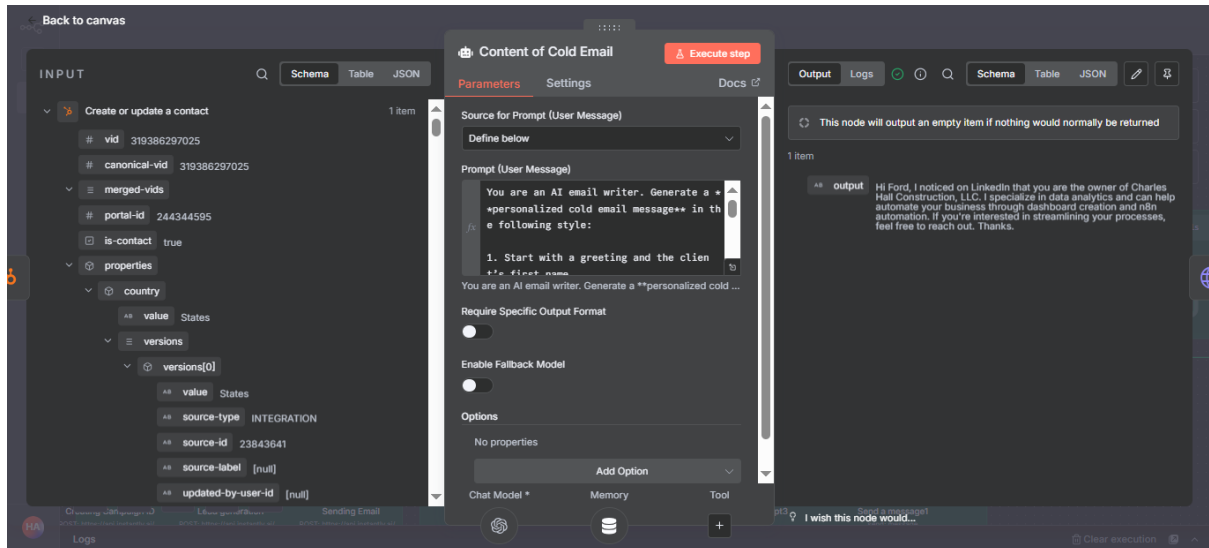
- Credential to connect with:** HubSpot account
- Resource:** Contact
- Operation:** Create or Update
- Email:** {{ \$('Getting Email From Hunter i.o').item.json.companyEmail }}
- Contact Properties:**
  - City:** {{ \$('Clean Field Name').first().json.city }}
  - Company Name:** {{ \$('Clean Field Name').first().json.company }}

**OUTPUT Panel:** Shows the result of the step execution with the following properties:

- vid: 319386297025
- canonical-vid: 319386297025
- merged-vids: merged-vids
- portal-id: 244344595
- is-contact: true
- properties: properties
  - country: value States
  - versions: versions[0]
    - value: States
    - source-type: INTEGRATION
    - source-id: 23843641
    - source-label: [null]
    - updated-by-user-id: [null]

# Generating AI-Powered Cold Emails

Personalized cold emails are generated using AI (OpenAI GPT), tailored to each lead's company details and role to increase engagement and response rates



# Launching Email Campaigns via Instantly.ai

Workflow connects with Instantly.ai to create and launch automated cold email campaigns, sending personalized messages to verified leads at scale

The screenshot displays the Instantly.ai workflow editor. The central panel is titled 'Creating Campaign ID' and shows the 'Parameters' tab. The 'Method' is set to 'POST', the 'URL' is 'https://api.instantly.ai/api/v2/campaigns', and 'Authentication' is 'None'. The 'Send Headers' toggle is turned on. The 'Header Parameters' section shows 'Name' and 'Authorization'. The 'OUTPUT' panel on the right shows the JSON response for the campaign creation, including fields like 'id', 'name', 'status', 'campaign\_schedule', 'schedules', 'timestamp\_created', 'timestamp\_updated', and 'organization'.

**INPUT**

- Content of Cold Email (1 item)
- Create or update a contact (1 item)
- For verifying email (1 item)
- Getting Email From Hunter.io (1 item)
- Company Email (35 items)
- Getting domain name (10 items)
- Remove Duplicates (10 items)
- Filter (10 items)
- Split Out (10 items)
- Clean Field Name (10 items)
- Loop Over Items (1 item)

**Creating Campaign ID**

Method: POST

URL: https://api.instantly.ai/api/v2/campaigns

Authentication: None

Send Query Parameters: ☐

Send Headers: ☒

Specify Headers: Using Fields Below

Header Parameters: Name, Authorization

**OUTPUT**

```
{
  "id": "4f7029d3-2eab-4771-8aa1-ca013ba15be9",
  "name": "n8n",
  "status": 0,
  "campaign_schedule": {
    "schedules": [
      {
        "name": "Weekday Schedule",
        "timing": {
          "from": "09:00",
          "to": "17:00"
        },
        "days": {
          "timezone": "Etc/GMT+11"
        }
      }
    ]
  },
  "timestamp_created": "2025-11-12T10:21:27.872Z",
  "timestamp_updated": "2025-11-12T10:21:27.872Z",
  "organization": "31d312c8-a5c4-4427-a754-357894d95659"
}
```

# Saving Leads and Campaign Data to Notion

All lead details and campaign results are automatically stored in Notion, providing an organized and easily accessible record of your outreach activities

The screenshot displays a workflow automation interface with three main panels: INPUT, a central configuration panel, and OUTPUT.

**INPUT Panel:** Shows a 'Sending Email' step with a single item. Below it, a 'campaign\_schedule' step is expanded, showing a 'schedules' array with one item: 'Weekday Schedule'. This schedule has a 'timing' of '09:00' to '17:00' on '3' days (Monday, Tuesday, Wednesday) and a 'timezone' of 'Etc/GMT+11'. A 'start\_date' field is also visible.

**Central Panel: 'Create a database page'**

- Parameters:** Includes a warning: 'In Notion, make sure to add your connection to the pages you want to access.' Below this, 'Credential to connect with' is set to 'Notion account 4', 'Resource' is 'Database Page', 'Operation' is 'Create', and 'Database' is 'From list' with a dropdown showing 'Lead Generation And Cold Ema...'. The 'Title' field is empty.
- Settings:** The 'Simplify' toggle is turned on.
- Properties:** A 'Key Name or ID' field is present.

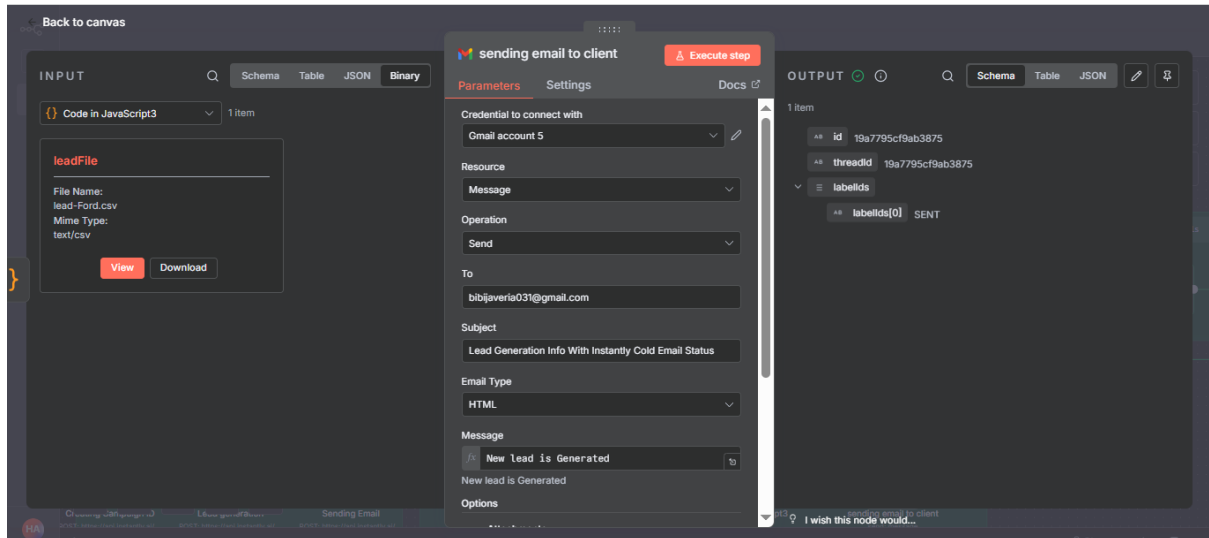
**OUTPUT Panel:** Shows the resulting Notion database entry with the following properties:

- id:** 2a9bd0e1-0486-8179-85b5-f20099cd050e
- name:** Ford
- url:** https://www.notion.so/Ford-2a9bd0e10486817985b5f20099cd050e
- property\_industry:** Construction
- property\_company\_email\_generat...:** hello@chapter.com
- property\_company\_linked\_in\_url:** tiffany-ford-77585534
- property\_verification\_of\_email\_re...:** valid
- property\_company\_name:** Charles Hall Construction, LLC
- property\_status\_of\_instantly\_cold...:** Scheduled
- property\_name\_of\_person:** Ford



# Generating and Sending Performance Reports

Detailed performance report is generated, summarizing leads, email statuses, and campaign results, and is automatically sent to your email for easy tracking



**Hunter.io** is used to find and extract verified professional emails for each company, ensuring only valid and reachable contacts are added to the workflow