

Flowforge UI – system low-code do budowy interfejsów API

Tryb jasny

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Agenda

- Wstęp: potrzeba biznesowa, cel, analiza rozwiązań
- Wymagania: funkcjonalne i niefunkcjonalne
- Technologie i narzędzia
- Projekt systemu: model danych, klasy, use case, UML
- Wnioski i dalszy rozwój
- Widoki główne (Workflows)
- Akcje na workflow (More → Versions/Rename/Import)
- Konfiguracja bloków (If, Switch, Calculation, HTTP itp.)
- Edytor workflow (canvas, palette, variables)
- Run drawer (open, result)
- Widoki główne (Executions)
- Detale wykonania (Execution details)
- Widoki główne (Scheduler)
- Harmonogram (create/edit)
- Widoki główne (Blocks)

Wstęp

- Potrzeba biznesowa: szybkie budowanie i uruchamianie przepływów API bez kodu back-end.
- Dlaczego: skrócenie time-to-market integracji oraz ujednolicenie operacji danych.
- Do czego ma służyć: orkiestracja bloków (HTTP, parser, transformacje, warunki) w jednolitym edytorze.
- Analiza podobnych rozwiązań: n8n, Zapier, Node-RED – różnicujemy się lekkim UI i kontrolą on-prem.

Wymagania

Funkcjonalne

- Tworzenie, wersjonowanie i import/eksport workflowów.
- Edycja bloków (If, Switch, HTTP, Parser, Calculation, itp.) na canvasie.
- Uruchamianie i podgląd wyników (Run drawer, Execution details).
- Planowanie zadań (Scheduler: create/edit/run now).

Niefunkcjonalne

- Responsywne UI (jasny/ciemny motyw).
- Szybki czas renderu i stabilność canvasu.

Technologie i narzędzia

- Języki: TypeScript (frontend), C#/.NET (API), SQL (SQLite dev).
- Biblioteki: React, React Flow, Vite, Playwright, NUnit, EF Core.
- Narzędzia: VS Code / Rider, latexmk (slidedeck), jq/rg (dev), Git.

Projekt systemu

- Schemat bazy: tabele Workflow, Version, Block, Execution, Schedule (SQLite dev, migrowalne do produkcyjnej bazy).
- Schemat klas: DTO + modele EF Core; pary interfejs/implementacja dla serwisów i repozytoriów.
- Use case: tworzenie/edykcja workflow, uruchomienie, schedulowanie, analiza przebiegu.
- UML (wysoki poziom): edytor (UI) → API (Controllers) → Services/Repositories → DB.

Workflows

The screenshot shows the Flowforge Workflow Studio interface. At the top left is the logo 'Flowforge Workflow Studio'. On the left side, there is a sidebar with navigation links: 'Workflows' (which is selected and highlighted in blue), 'Blocks', 'Executions', and 'Scheduler'. At the bottom of the sidebar, it says 'Connected to local API' and has a 'proxy/api' button.

The main area is titled 'Workflow projects' and contains the following sections:

- Create new workflow:** A form with a placeholder 'e.g. Customer onboarding' and a 'Create' button. A note says 'Use a short, descriptive name.'
- Import / Export:** Two boxes: 'IMPORT WORKFLOW JSON' (with a 'Choose file' button) and 'EXPORT' (with a note 'Use the Export button next to a workflow below').
- Existing workflows:** A list with two items:
 - Demo Flow** (Workflow ID: 1): Buttons for 'Open' and 'More'.
 - Data Sync** (Workflow ID: 2): Buttons for 'Open' and 'More'.

Lista projektów workflow

Workflow actions – More

The screenshot shows the Flowforge Workflow Studio interface. On the left, there's a sidebar with a logo and navigation links: Workflows (which is selected), Blocks, Executions, and Scheduler. A status message at the bottom says "Connected to local API" and "proxy api". The main area is titled "Workflow projects" and has a subtitle "Manage projects before wiring blocks and connections in React Flow." It displays two workflow projects: "Demo Flow" (ID: 1) and "Data Sync" (ID: 2). For each project, there are "Open" and "More" buttons, followed by "Export", "Versions", "Rename", and "Delete" buttons. A tooltip "Menu akcji 'More'" points to the "More" button for the "Demo Flow". At the top right, it says "2 total" and "CRUD ready".

Menu akcji "More"

Workflow actions – Versions

The screenshot shows the Flowforge Workflow Studio interface. The main header says "Workflow projects" and "Manage projects before wiring blocks and connections in React Flow". A modal dialog is open in the center, titled "Versions (workflow #1)". The dialog lists five versions of the workflow, each with a small preview icon, the version number, a timestamp, and two buttons: "Przywróć" (Restore) and "Usuń" (Delete). The versions listed are v5 (1/4/2026, 11:00:00 AM), v4 (1/1/2026, 9:30:00 AM), v3 (12/20/2025, 12:00:00 PM), v2 (12/10/2025, 11:00:00 AM), and v1 (12/7/2025, 9:00:00 AM). The background shows other project cards like "MAPPING" and "Data Sync".

Wersja	Data	Akcje
v5	1/4/2026, 11:00:00 AM	Przywróć Usuń
v4	1/1/2026, 9:30:00 AM	Przywróć Usuń
v3	12/20/2025, 12:00:00 PM	Przywróć Usuń
v2	12/10/2025, 11:00:00 AM	Przywróć Usuń
v1	12/7/2025, 9:00:00 AM	Przywróć Usuń

Lista wersji workflow

Workflow actions – Rename

The screenshot shows the Flowforge Workflow Studio interface. On the left, there's a sidebar with a logo and navigation links: Workflows (which is selected), Blocks, Executions, and Scheduler. Below the sidebar, a message says "Connected to local API" and "proxy/api". The main area is titled "Workflow projects" and has a subtitle "Manage projects before wiring blocks and connections in React Flow." It displays two workflow projects:

- Create new workflow**: A form with a placeholder "Workflow name" (e.g. Customer onboarding) and a "Create" button.
- Import / Export**: A section for managing workflow JSON files, with "IMPORT WORKFLOW JSON" and "EXPORT" sections.
- Existing workflows**: A list of existing projects:
 - Demo Flow**: A card with a "Save" and "Cancel" button.
 - Data Sync**: A card with an "Open" and "More" button.

Formularz zmiany nazwy

Workflow actions – Import

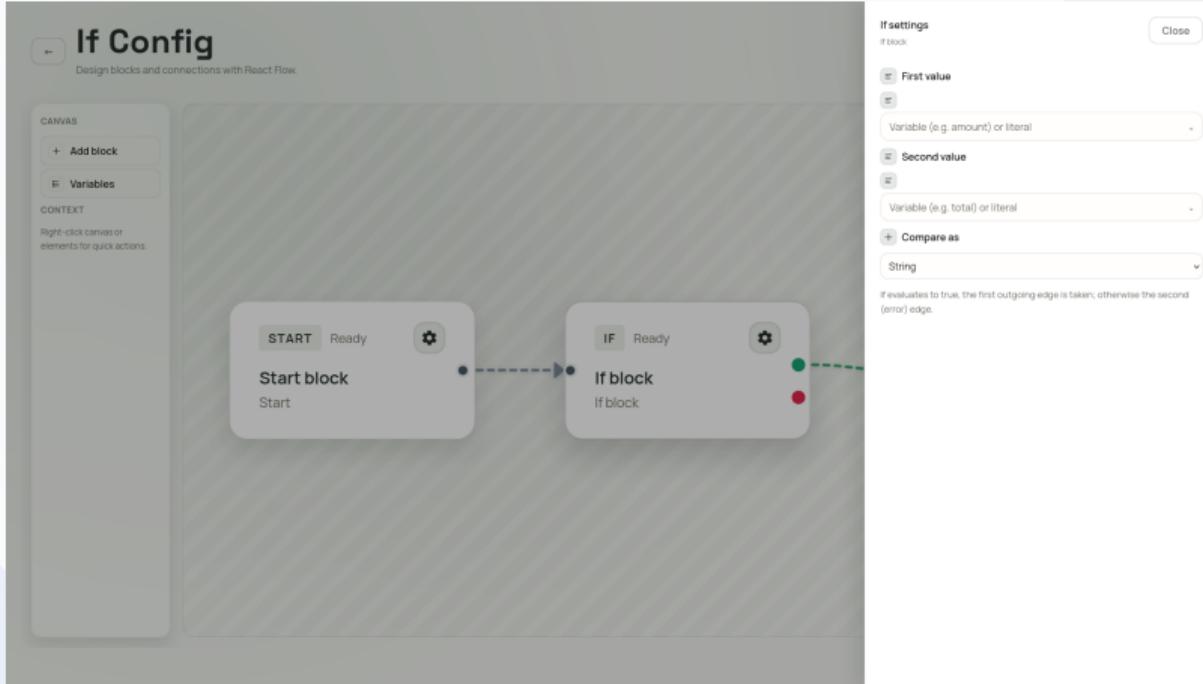
The screenshot shows the Flowforge Workflow Studio interface. On the left, a sidebar menu includes 'Workflows' (selected), 'Blocks', 'Executions', and 'Scheduler'. The main area is titled 'Workflow projects' and contains the following sections:

- Create new workflow:** A form to enter a 'Workflow name' (e.g. Customer onboarding) with a 'Create' button.
- Import / Export:** A section for importing a workflow from a JSON file. It includes a 'Choose file' button and a note that it imports as "Imported Flow" (id 5). There is also an 'EXPORT' section for exporting a workflow.
- Existing workflows:** A list of imported workflows:
 - Imported Flow** (ID: 5): Buttons for 'Open' and 'More'.
 - Demo Flow** (ID: 1): Buttons for 'Open' and 'More'.
 - Data Sync** (ID: 2): Buttons for 'Open' and 'More'.

At the bottom left, a note says 'Connected to local API proxy (api)'.

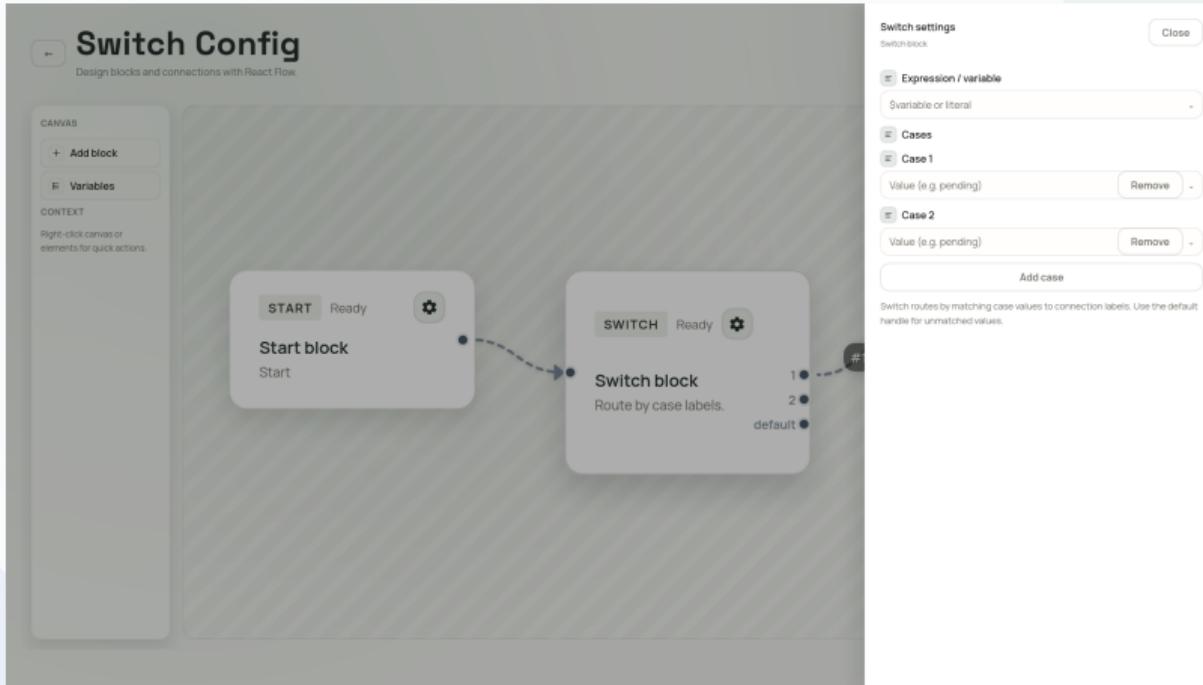
Import workflow z pliku

If block



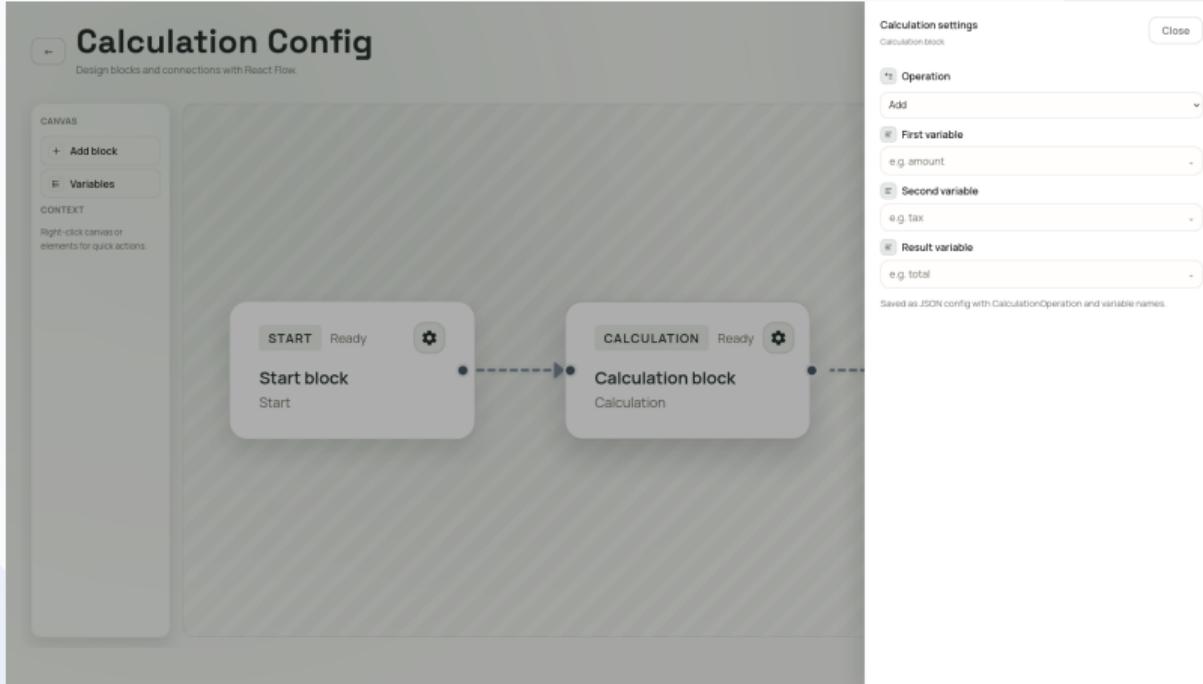
Konfiguracja bloku If

Switch block



Konfiguracja bloku Switch

Calculation block



Konfiguracja bloku Calculation

Text Transform block

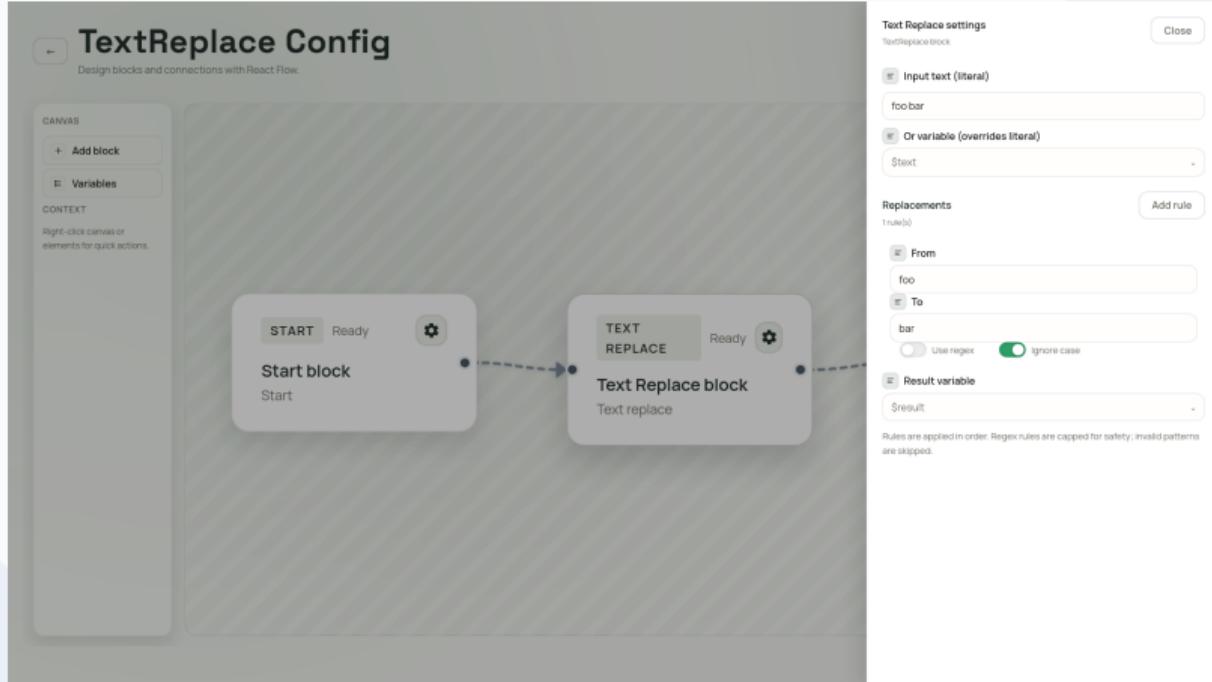
The screenshot shows the 'TextTransform Config' interface. On the left, there's a canvas with a 'Start block' and a 'Text Transform block' connected by a dashed arrow. The 'Text Transform block' has its 'Operation' set to 'Trim'. On the right, a detailed configuration dialog for the 'Text Transform block' is open, showing the settings:

- Operation:** Trim
- Input text (literal):** Sample text
- Or variable (overrides literal):** Stext
- Result variable:** Sresult

A note at the bottom of the dialog states: "Variable input takes priority over literal. Output is stored in the chosen result variable."

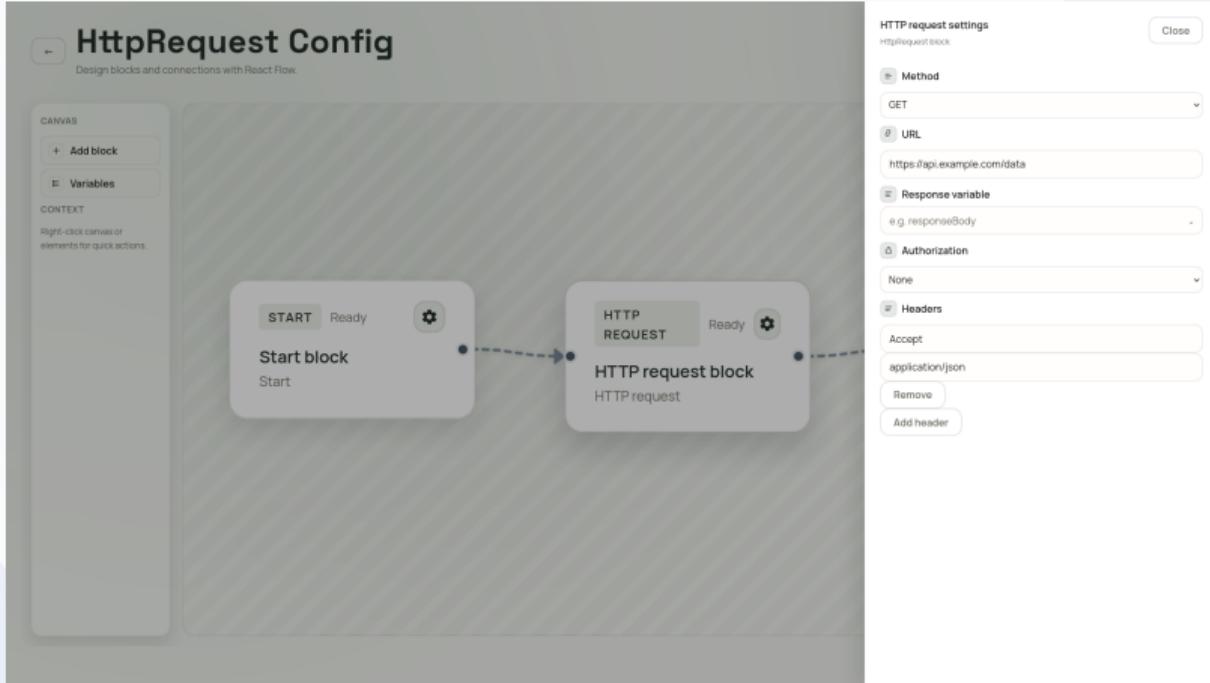
Konfiguracja bloku Text Transform

Text Replace block



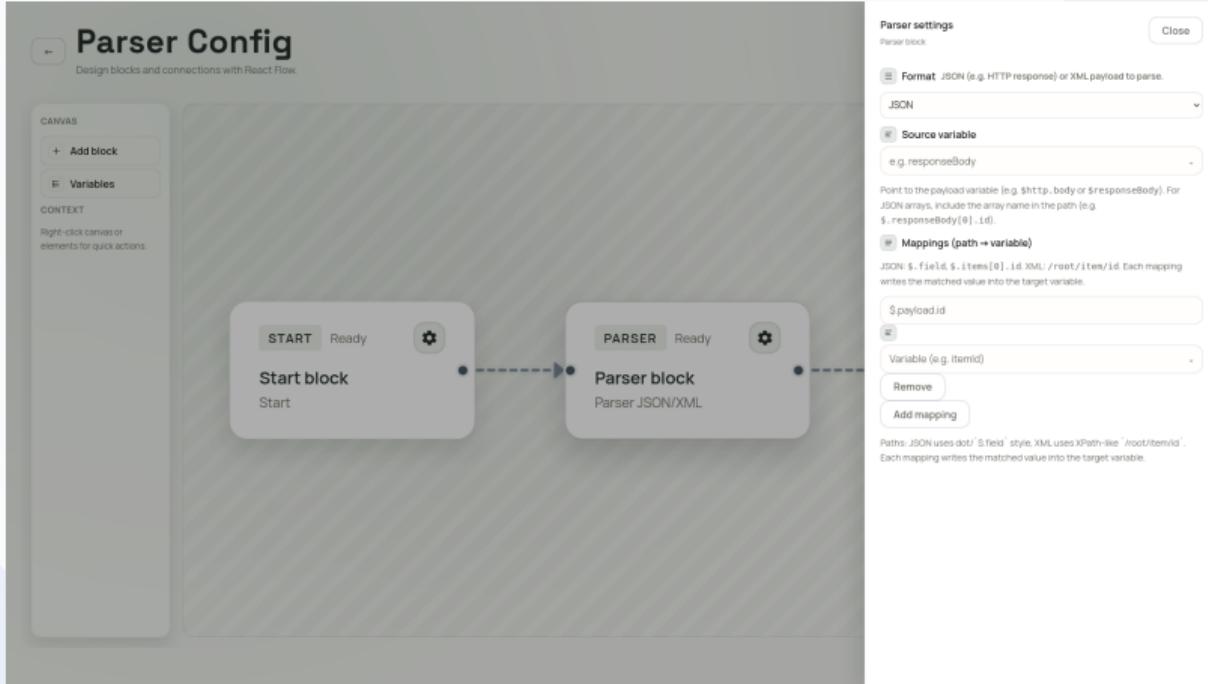
Konfiguracja bloku Text Replace

HTTP request block



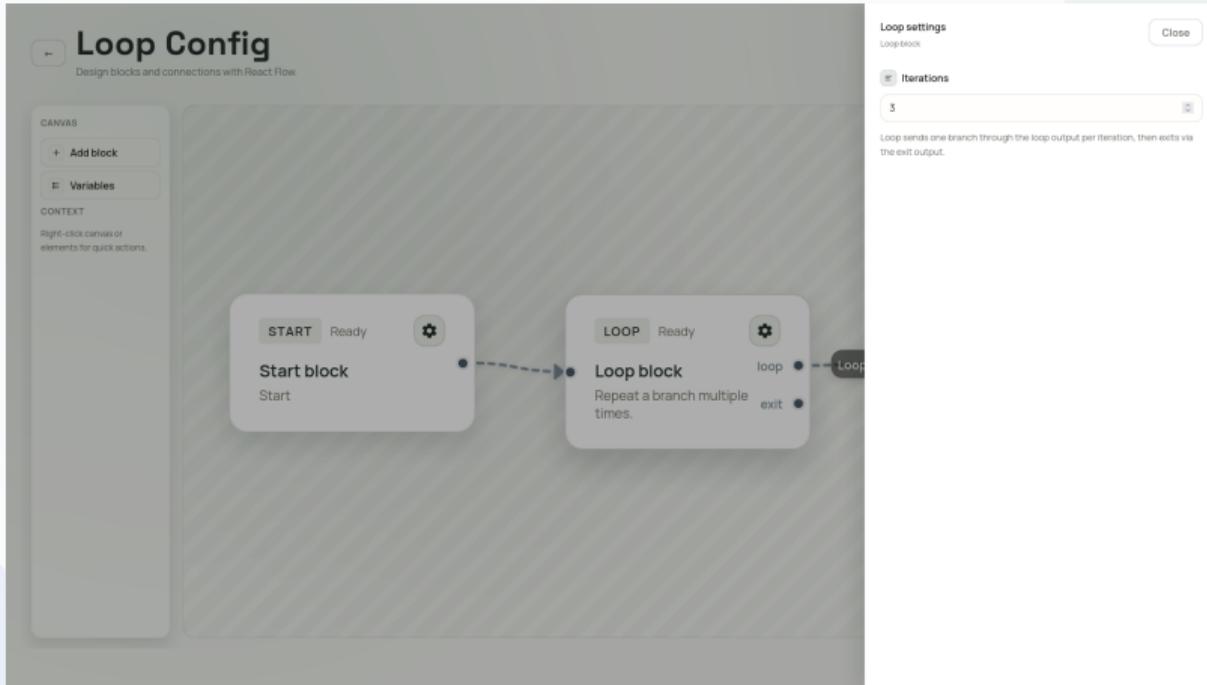
Konfiguracja bloku HTTP request

Parser block



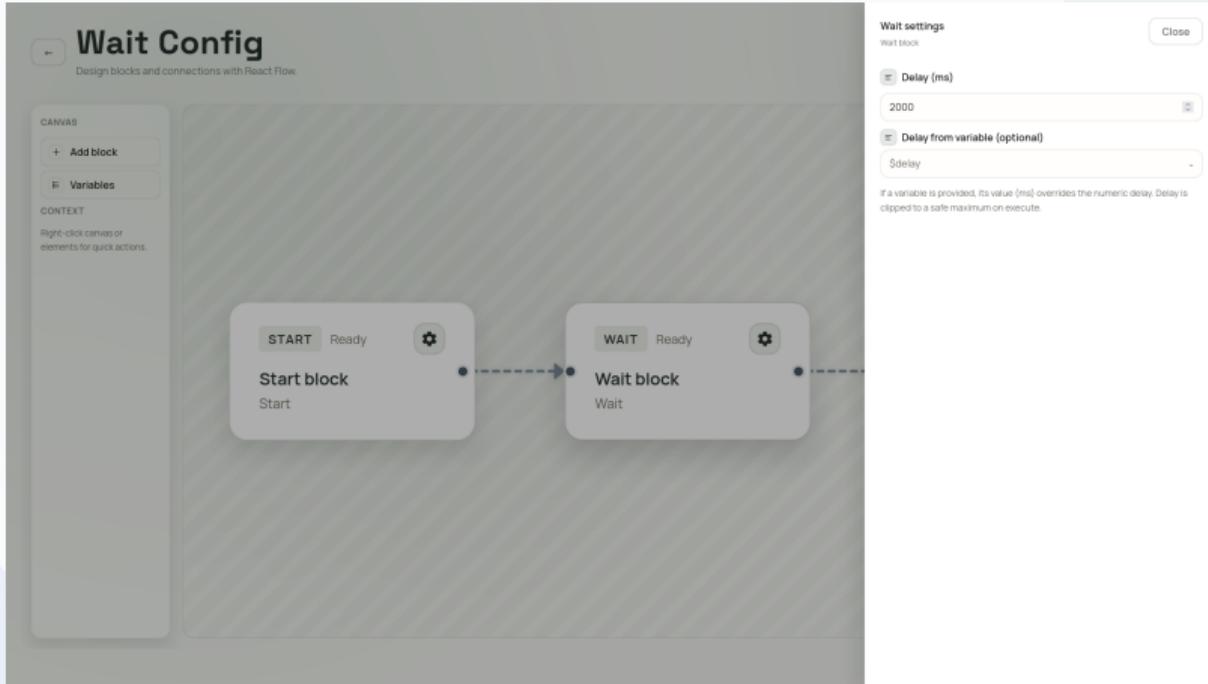
Konfiguracja bloku Parser

Loop block



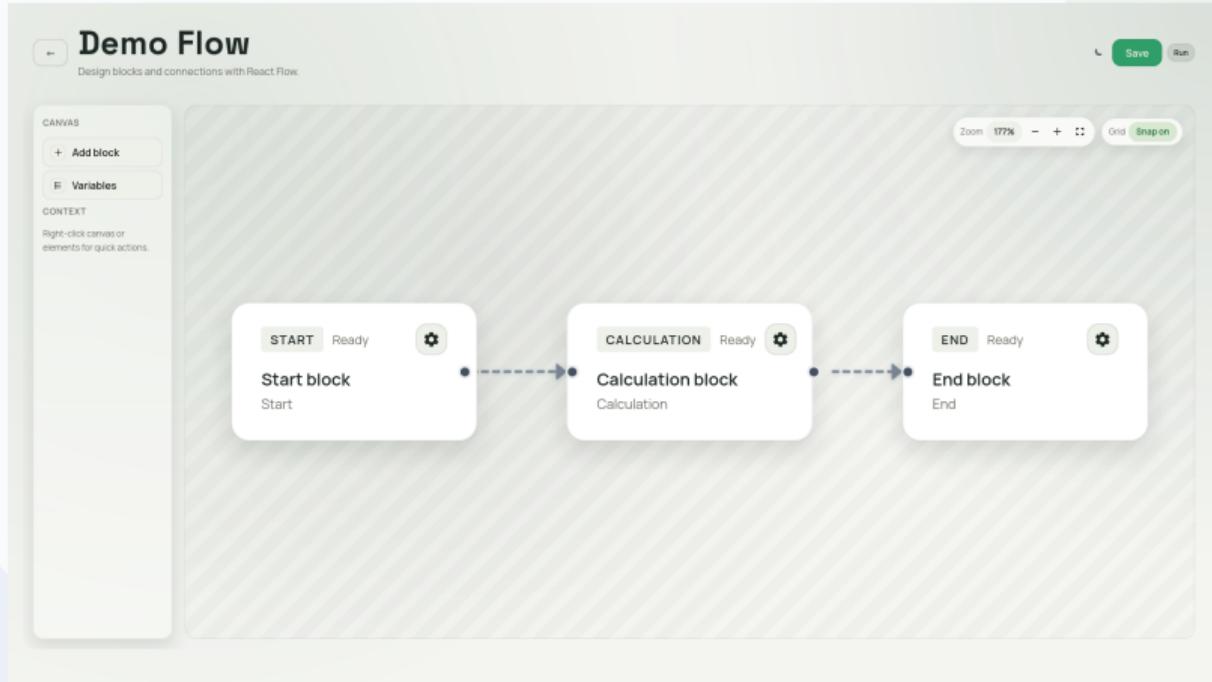
Konfiguracja bloku Loop

Wait block



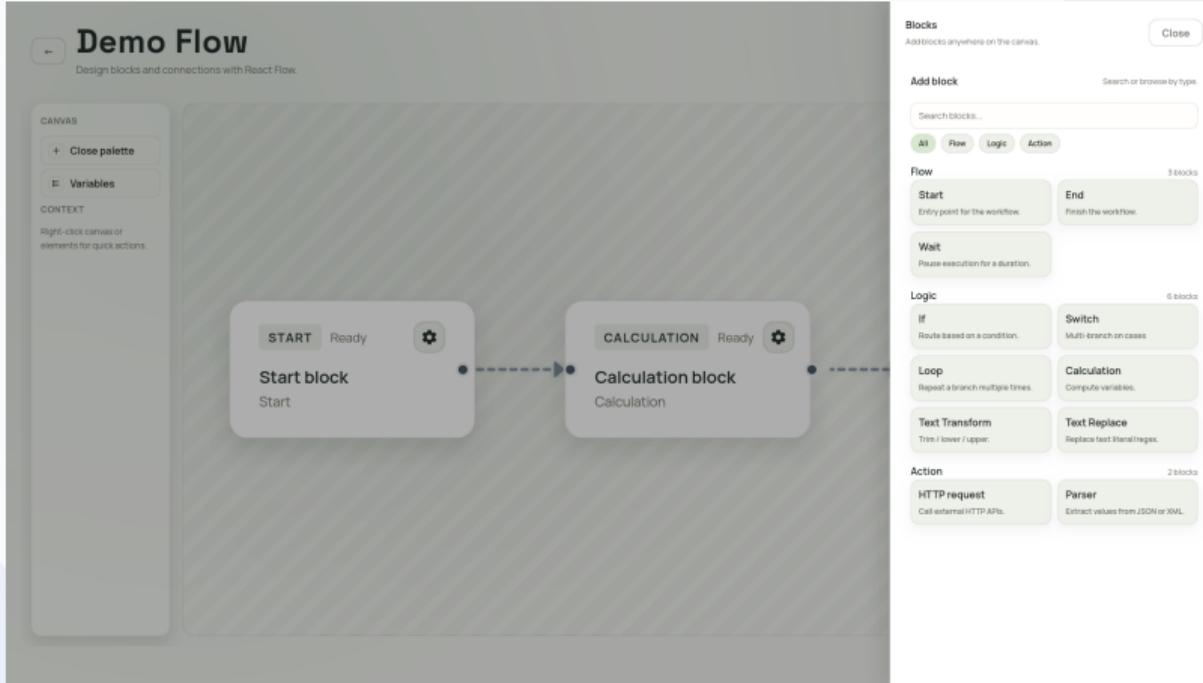
Konfiguracja bloku Wait

Workflow editor



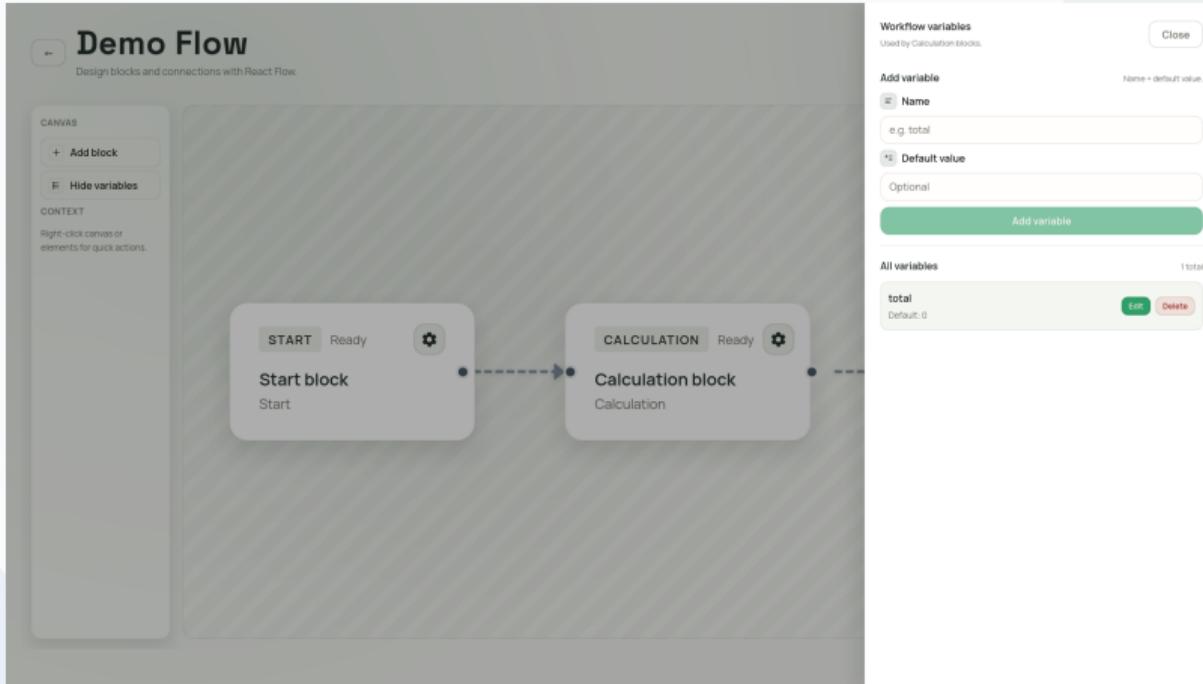
Początkowy widok edytora z blokami Start/End

Palette



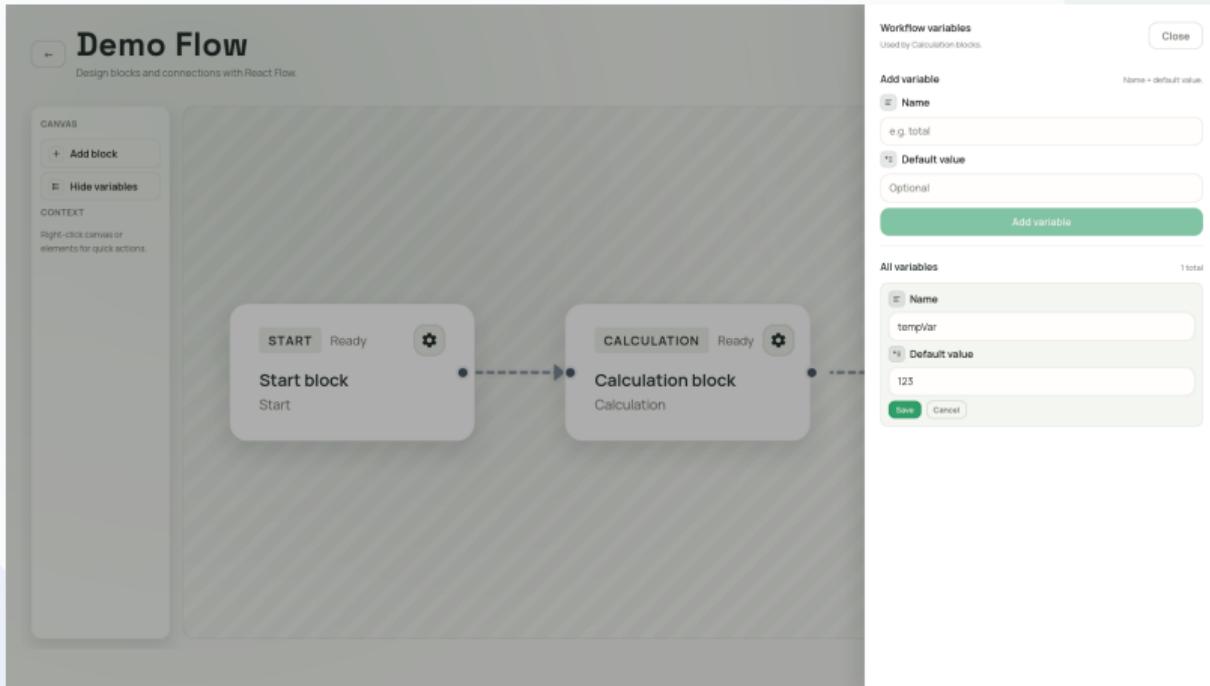
Paleta dodawania bloków

Variables



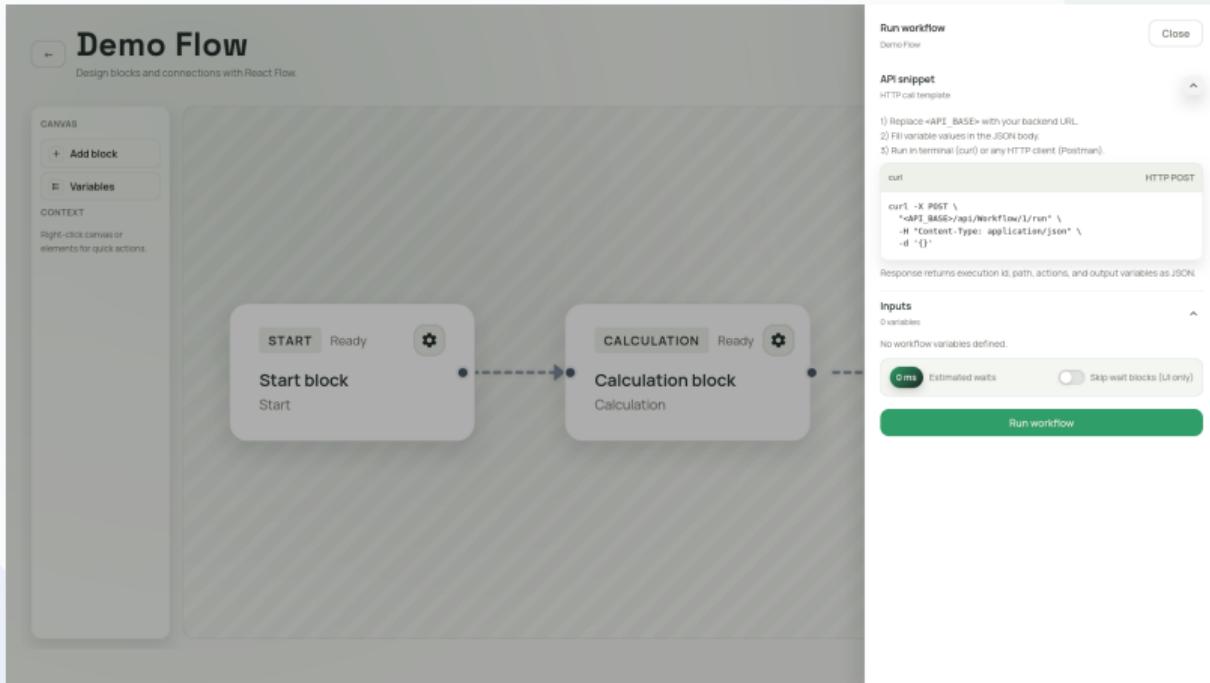
Lista zmiennych (dodawanie)

Variables – edycja



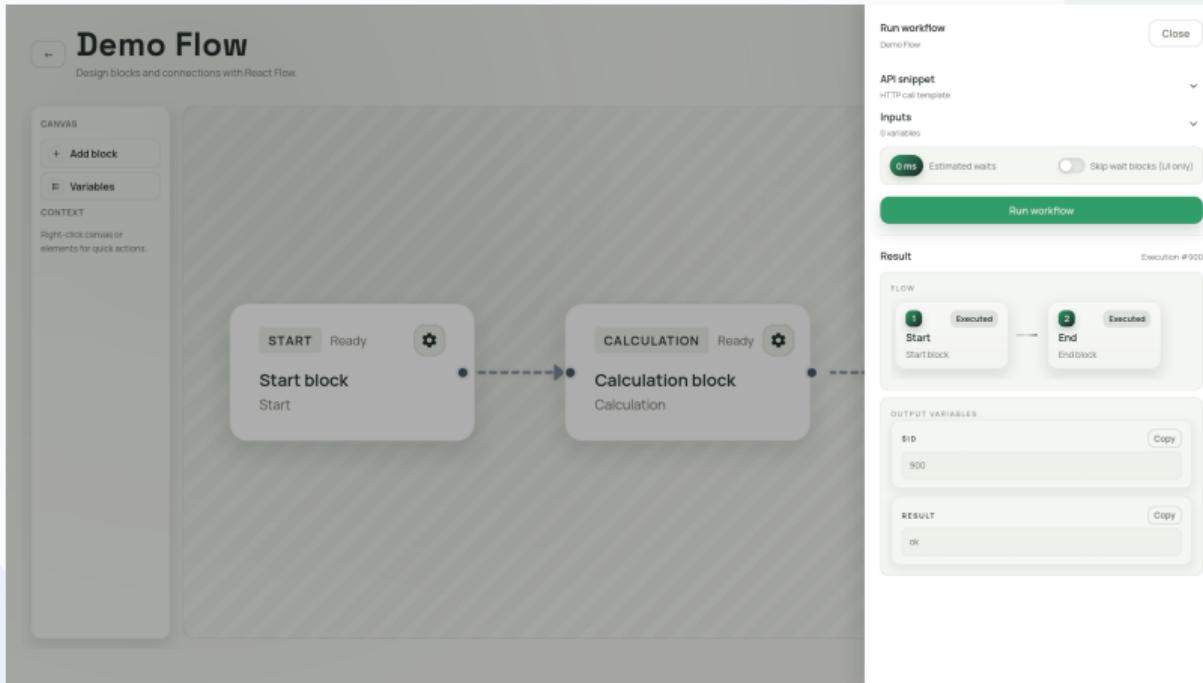
Formularz edycji zmiennej w drawerze

Run – panel danych



Panel Run z rozwiniętymi danymi wejściowymi i snippetem API

Run – wynik uruchomienia



Panel Run po wykonaniu workflow – widoczne wyniki i logi

Executions

The screenshot shows the Flowforge Workflow Studio interface. On the left, there's a sidebar with a logo and navigation links: Workflows, Blocks, Executions (which is selected and highlighted in grey), and Scheduler. Below the sidebar, it says "Connected to local API" and has a "proxy API" button. The main area is titled "Executions" and subtitle "Recent workflow runs and timestamps." It shows a table with two rows of execution details:

Execution	Timestamp	Actions
TextTransform	Executed 2/5/2026, 7:09:48 PM	View details Open workflow
Data Sync	Executed 12/15/2025, 5:15:00 PM	View details Open workflow

At the top right of the main area, there are filters: "2 total" and a "History" button. Below the table, there are search and filter options: "Search by workflow name or id..." dropdown set to "All workflows", "Executed between" date range selector, "Sort" dropdown set to "Newest first", and buttons for "Last 24h", "Last 7 days", and "Last 30 days". There are also "Showing 2", "Reset filters", "Page 1 of 1", "Rows 10", and "Next" buttons.

Historia wykonania skryptów

Execution details

The screenshot shows the Flowforge execution details interface for run #36. The interface is divided into several sections:

- Overview:** Shows the node type (TextTransform), calculated at 2/5/2020, 7:09:42 PM, and path length 3.
- Inputs:** Variations passed into the run, showing a JSON object: { "input": "2", "output": "4" }.
- Results:** Output variables produced by the workflow, showing two fields: **id** (value 3) and **RESULT** (value test test test).
- Path:** Order of block execution with a quick flow map, showing a sequence from Start block to End block, with a Text Transform block in between.
- Actions:** Detailed execution logs, listing Start block, Text Transform (TextTransform layer -> result), and End block.

At the bottom left, it says "Connected to local API" and "API key: 123456".

Pełne szczegóły przebiegu wykonania

Scheduler

The screenshot shows the Flowforge Workflow Studio interface with the 'Scheduler' tab selected. The main area is titled 'Scheduler' and 'Pianowanie automatycznych uruchomień workflowów'. A large central box is titled 'Nowy harmonogram' (New schedule) with the sub-instruction 'Wybierz workflow / ustaw czas startu oraz interwał.' (Select workflow / set start time and interval). It contains fields for 'Nazwa' (Name), 'Workflow' (Workflow selected: 'np. Nightly ETL'), 'Typ' (Type: 'Interval'), 'Interval (min.)' (Interval (min): '60'), 'Start (UTC)' (Start (UTC) date input: 'mm / dd / yyyy, - : - ') and 'Czas' (Time: 'np. codziennie o 2:00'), and an 'Aktywny' (Active) toggle switch which is turned on. A green 'Dodaj' (Add) button is at the bottom right. Below this is a section titled 'Harmonogramy' (Schedules) with the sub-instruction 'Lista zaplanowanych uruchomień.' (List of scheduled executions). It shows a card for a 'Daily sync' schedule with 'Workflow #1', 'Następny: --', and 'Ostatnie: --'. Buttons for 'Uruchom teraz' (Run now), 'Edytuj' (Edit), and 'Usun' (Delete) are to the right. A note at the bottom left says 'Connected to local API' and 'proxy/api'.

Lista zaplanowanych zadań

Scheduler action – create

The screenshot shows the Flowforge Workflow Studio interface with the 'Scheduler' tab selected. The main area displays a form for creating a new cron job:

- Name:** np. Nightly ETL
- Workflow:** Demo Flow
- Type:** Interval
- Interval [min]:** 65
- Start [UTC]:** mm / dd / yyyy, - : - : -
np. codziennie o 2:00
- Active:**
- Add [Doda]** button

Below this, the 'Harmonograms' section lists existing scheduled runs:

- Nightly build:** Workflow #1, Last run: --, Next run: --
- Daily sync:** Workflow #1, Last run: --, Next run: --

At the bottom left, it says "Connected to local API" and has a "proxy off" button. On the far left, there's a sidebar with "Workflows", "Blocks", "Executions", and "Scheduler".

Tworzenie wpisu schedulera

Scheduler action – edit

The screenshot shows the 'Scheduler' application interface. At the top, there's a navigation bar with links for 'Workflows', 'Blocks', 'Executions', and 'Scheduler'. The 'Scheduler' link is highlighted with a blue background. Below the navigation is a title 'Nowy harmonogram' (New schedule) with a subtitle 'Tworzenie automatycznych harmonogramów zadań' (Creating automatic task schedules). The main form contains fields for 'Nazwa' (Name) set to 'Daily sync updated', 'Workflow' set to 'Demo Row', 'Typ' (Type) set to 'Interval', 'Interval' set to '100', 'Start (UTC)' set to '2020-01-01T00:00:00Z', and 'End (UTC)' set to '2020-12-31T23:59:59Z'. A 'Repeat' switch is turned on. At the bottom right of this form is a green 'Dodać' (Add) button. Below this form is a section titled 'Harmonogramy' (Schedules) with a table showing one entry: 'Nightly build' with 'Workflow' 'Demo Row', 'Type' 'Interval', 'Interval' '100', 'Start (UTC)' '2020-01-01T00:00:00Z', and 'End (UTC)' '2020-12-31T23:59:59Z'. The 'Repeat' switch is also turned on here. At the bottom right of this table is a green 'Zapisz' (Save) button. At the very bottom of the page, there are buttons for 'Komunikat o błędzie' (Error message), 'Zapisz' (Save), 'Wyciągnij' (Extract), 'Usuń' (Delete), and 'Edytuj' (Edit).

Edycja istniejącego wpisu

Blocks

The screenshot shows the Powforge interface with the 'Blocks' tab selected in the sidebar. The main area is titled 'System blocks' and displays a list of available blocks categorized under 'Available blocks'. These blocks are described as being used by the backend. The blocks listed include:

- Start (Start block)
- End (End block)
- Calculation (Calculator block)
- HTTPRequest (HTTP request block)
- Parser (Parser JSON, XML, ...)
- If (Conditional block)
- Switch (Switch based block)
- Loop (Loop block)
- Wait (Wait)
- TextReplace (Text replace)
- TextTransform (Text transform)

Below this, there is a section titled 'Custom blocks' which states 'Editor is coming next.' and 'Custom block editor is not available yet.'

At the bottom left, there is a note 'Connected to local API' and a 'proxy tap' button.

Widok bloków systemowych

Wnioski

- Dostarczono komplet widoków: edytor, akcje workflow, run drawer, execution details, scheduler (light/dark).
- Największe wyzwania: pozycjonowanie bloków na canvasie, spójność motywów, oczekiwanie na pełne załadowanie przed zrzutem.
- Dalszy rozwój: autoryzacja produkcyjna, monitoring runtime, optymalizacja dla bardzo dużych diagramów.