Project: Chatbot Flow Builder

Overview

This project is a chatbot flow builder developed using React and React Flow. It allows users to visually create chatbot message flows by dragging, connecting, and editing nodes. The design ensures the architecture is extensible for future node types and validations.

Tech Stack

- React (Vite)
- React Flow (for visual flow UI)
- Tailwind CSS (styling)
- react-hot-toast (notification system)
- JavaScript

Core Features Implemented

Feature	Description	Status
Text Node	Custom message node with editable label	Implemented
Nodes Panel	Sidebar to drag and drop supported nodes	Implemented
Canvas	Main area for visual flow creation	Implemented
Edges	Connect nodes with flow logic	Implemented
Source Handle	Each node can have only one outgoing edge	Implemented
Target Handle	Each node can accept multiple incoming edges	Implemented

Settings Panel	Allows inline editing of message text	Implemented
Save Button	Validates and confirms flow creation	Implemented
Reset Button	Clears the entire canvas	Implemented
Toast Notifications	Displays validation and save messages	Implemented
Extensibility	Code is modular and ready for future node types	Implemented

Validation Logic

- The Save button validates the chatbot flow using the following rules:
  - At least two nodes must be present
  - Only one node is allowed to have no outgoing connection
- If validation fails, a toast error message is shown
- If the flow is valid, a success toast appears with the flow printed in the console

How to Use

1. Drag a "Text Message" node from the left panel.
2. Drop it onto the canvas area.
3. Connect nodes using the side handles.
4. Click on a node to edit its text from the Settings Panel.
5. Press "Save Changes" to validate the flow.
6. Use "Reset Flow" to clear all nodes and edges.

Folder Structure

```
src/
├── components/
│   ├── FlowCanvas.jsx
│   ├── NodePanel.jsx
```

```
|     ├── SettingsPanel.jsx
|     └── nodes/
|          └── TextNode.jsx
├── App.jsx
├── main.jsx
└── index.css
```

Screenshots:

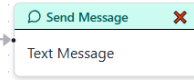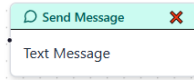**Chatbot Flow Builder**   Reset Flow   Save Changes
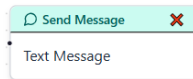
Nodes

Text Message

+
−
[]
🔒
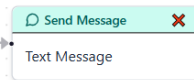
Activate Windows
Go to Settings to activate Windows.

React Flow

Reset Flow   Save Changes
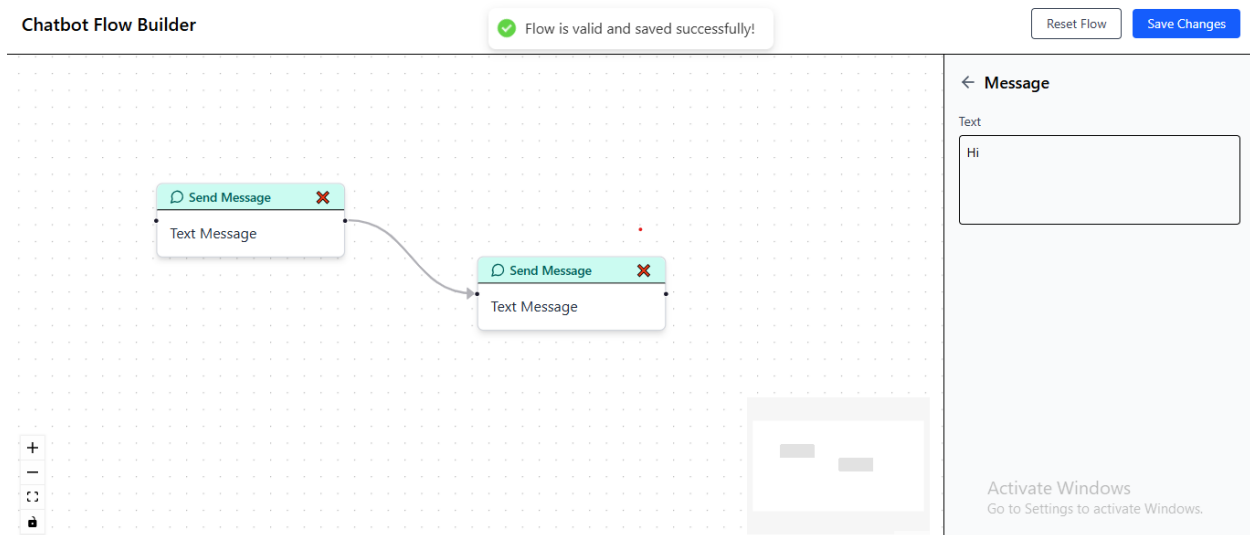
Nodes

Text Message

Send Message   ✖
Text Message

Send Message   ✖
Text Message

+
−
⛶
🔒

React Flow

Reset Flow   Save Changes

Send Message   ✖
Text Message

Send Message   ✖
Text Message

+
−
⛶
🔒

React Flow

← **Message**

Text

Hi

Live Demo

Hosted on: https://chat-bot-flow-builder-orpin.vercel.app/
Source Code: https://github.com/your-username/chatbot-flow-builder

Future Improvements

- Add support for multiple message node types (button node, input node, etc.)
- Enable flow import/export as JSON
- Add undo/redo and zoom features
- Backend integration for saving flows permanently

Conclusion

All requirements from the Chatbot Flow Builder task have been implemented successfully, including node creation, connections, validation, editing, and proper UI behavior using React Flow and toast notifications. The code is modular, clean, and designed for extensibility.