

# 物聯網實務 HW1

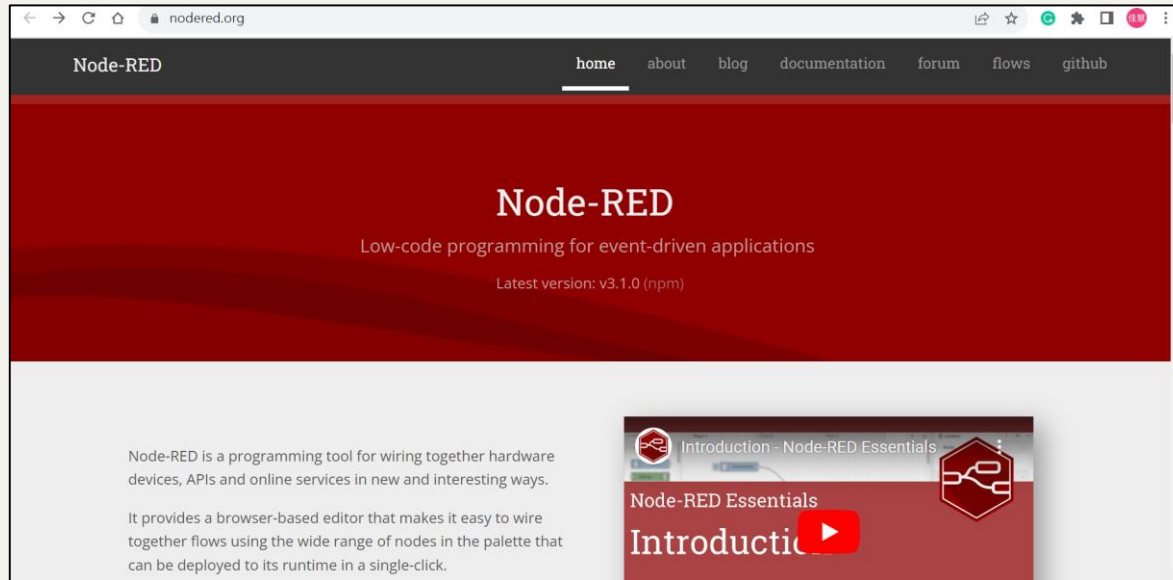
電機碩一 11278008 林佳慧

日期:2023/09/13

# **Homework 1-1**

Create your FlowFuse account


## 1. 到Node-RED網站<https://nodered.org/>



## 2. 下滑點選Flowfuse

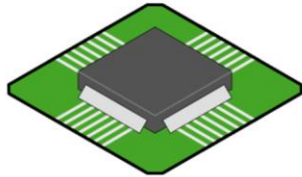
### Get Started

Node-RED is built on Node.js, taking full advantage of its event-driven, non-blocking model. This makes it ideal to run at the edge of the network on low-cost hardware such as the Raspberry Pi as well as in the cloud.



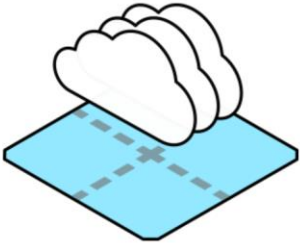
Run locally

- Getting started
- Docker



On a device

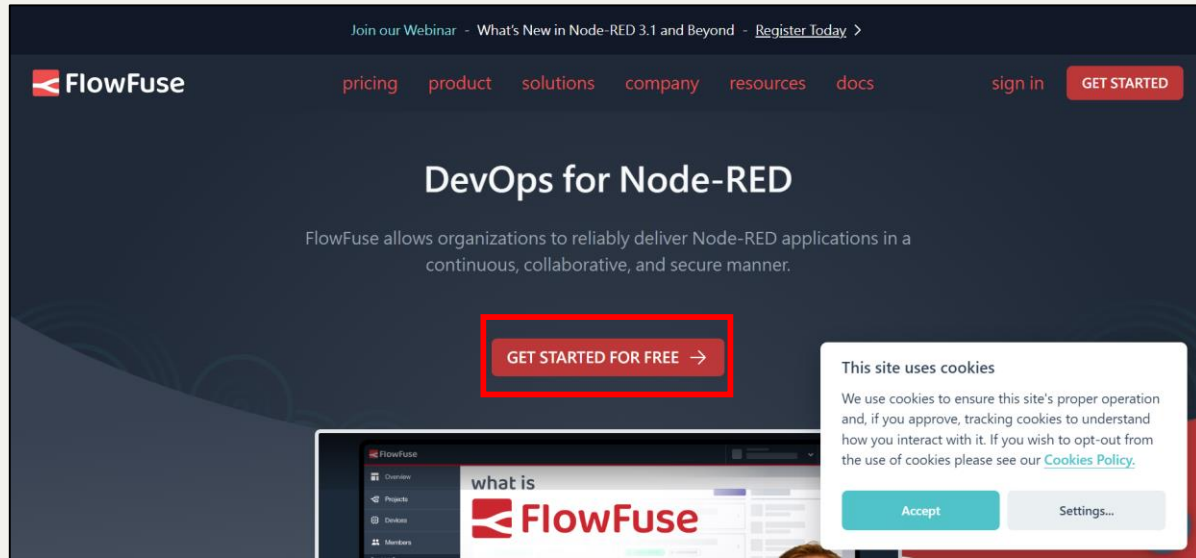
- Raspberry Pi
- BeagleBone Black
- Interacting with Arduino
- Android



In the cloud

- FlowFuse
- Amazon Web Services
- Microsoft Azure

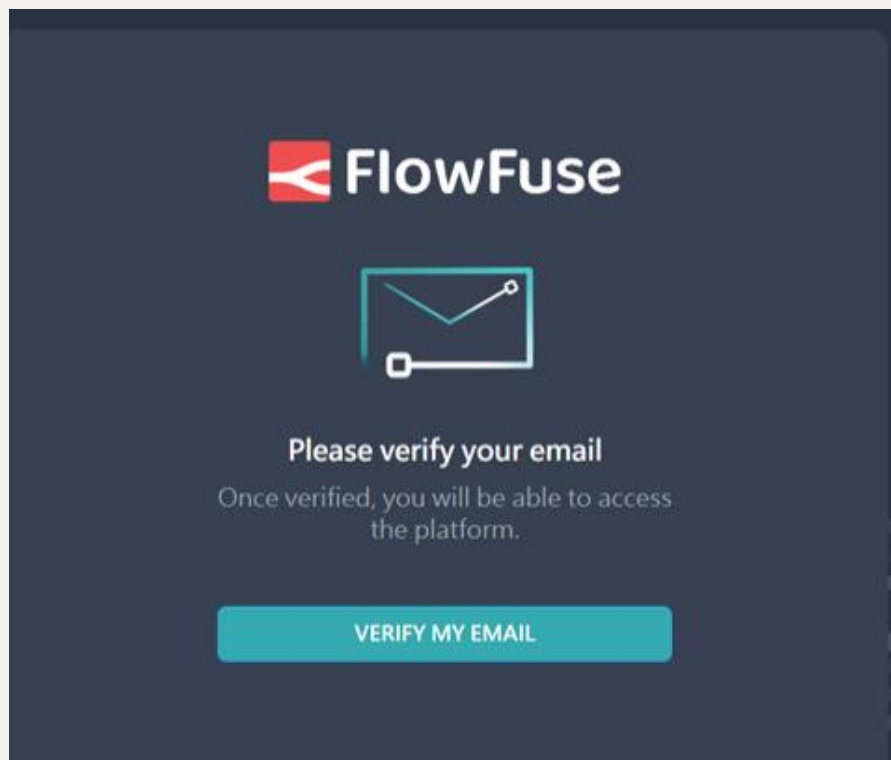
### 3. FlowFuse網站<https://flowfuse.com/> 點選GET STARTED FOR FREE



### 4. 註冊帳號

The screenshot shows the FlowFuse registration page. It features a dark background with a subtle pattern. The FlowFuse logo is at the top right. The main heading is 'Get Started Faster with Node-RED and FlowForge'. Below this, there are two sections: 'Quick to start.' with a clock icon and 'No Credit Card Required' with a credit card icon. The registration form on the right includes fields for USERNAME (Linda), FULL NAME (jia-hui lin), E-MAIL ADDRESS (gt1278008@cycu.edu.tw), and PASSWORD (\*\*\*\*\*). There are checkboxes for BUSINESS NEEDS, PERSONAL USE, EDUCATIONAL USE, and OTHER. A checkbox for 'I ACCEPT THE FLOWFUSE TERMS & CONDITIONS.' is checked. A 'SIGN UP' button is at the bottom of the form. A link for 'Already registered? Log in here' is also present.

## 5. Please verify your email address



Hello jia-hui lin,

Welcome to FlowFuse. We hope you enjoy your free trial for your first 30 days with us.

To get started, log in to FlowFuse and begin creating Node-RED flows in your first application.

You can also invite other users to join your team to collaborate on your applications.

Your 30 day trial gives you full access to your new Starter team, where you can have up to two Node-RED instances and two devices.

Once the trial ends, you will need to add your credit card details to keep using. But don't worry - we'll remind you when the trial is nearing its end.

We hope you enjoy the FlowFuse experience.

Cheers!

Your friendly FlowFuse Team

30天免費

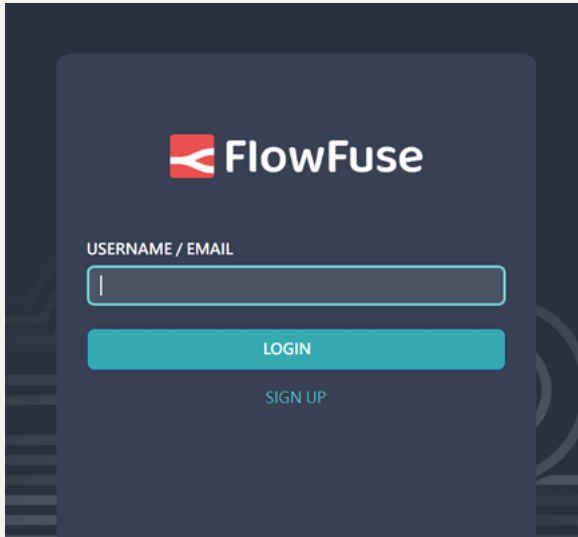
Hello, **jia-hui lin**,

Use the link below to verify your email address.

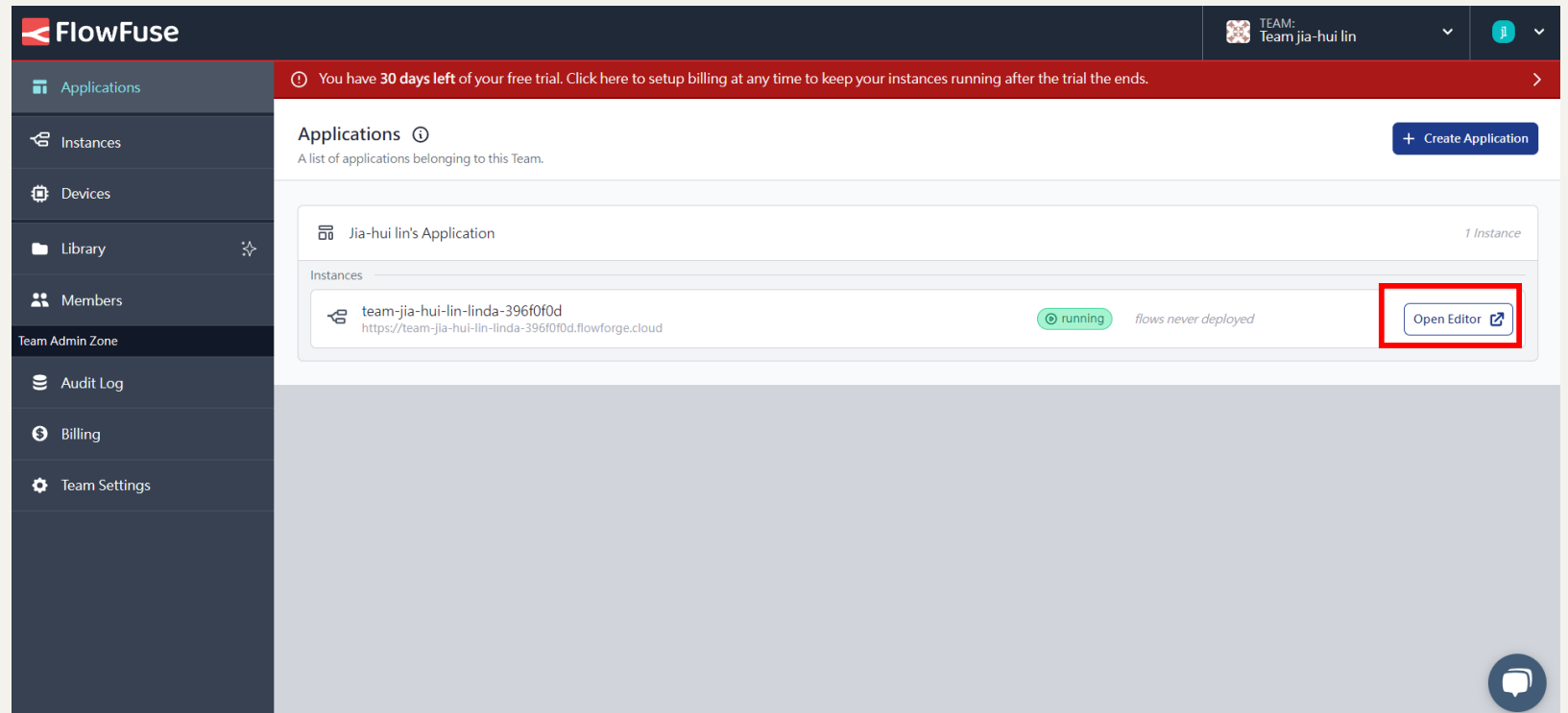
<https://app.flowforge.com/account/verify/eyJhbGciOiJIUzI1NiIsInR5cCI6IkpXVCJ9.eyJzdWIiOiJnMTEyNzgwMDhAY3ljZS5lZHUudHciLCJleHAiOjE2OTUyMjQ>

# **Exercise 1-1**

## 1. Login



## 2. Open Editor



過濾節點

共通

inject

debug

complete

catch

status

link in

link call

link out

comment

功能

流程1

Welcome to Node-RED 3.0!

Let's take a moment to discover the new features in this release.

1/9

Start >

信息

搜尋流程

流程

流程1

子流程

全局配置節點

流程1

流程

"9bff1a52486f6cbc"

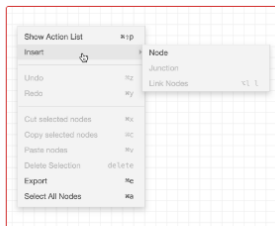
按住 ctrl 的同時點擊節點的埠或後續節點可以快速連接多個節點。



## Context Menu

The editor now has its own context menu when you right-click in the workspace.

This makes many of the built-in actions much easier to access.



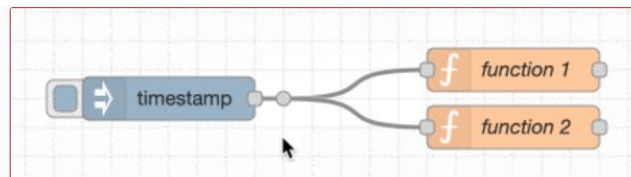
2/9

Next >

## Wire Junctions

To make it easier to route wires around your flows, it is now possible to add junction nodes that give you more control.

Junctions can be added to wires by holding both the Alt key and the Shift key then click and drag the mouse across the wires.



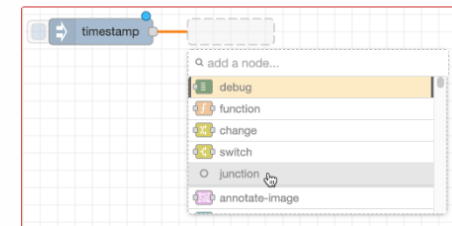
3/9

Next >

## Wire Junctions

Junctions can also be added using the quick-add dialog.

The dialog is opened by holding the Ctrl (or Cmd) key when clicking in the workspace.



4/9

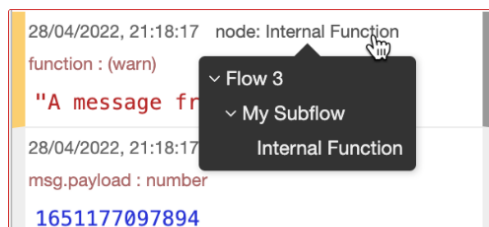
Next >

## Debug Path Tooltip

When hovering over a node name in the Debug sidebar, a new tooltip shows the full location of the node.

This is useful when working with subflows, making it much easier to identify exactly which node generated the message.

Clicking on any item in the list will reveal it in the workspace.



5/9

Next >

## Continuous Search

When searching for things in the editor, a new toolbar in the workspace provides options to quickly jump between the search results.



6/9

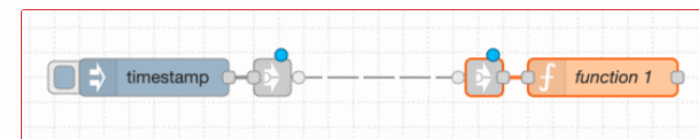
Next >

## New wiring actions

A new action has been added that will replace a wire with a pair of connected Link nodes:

- Split Wire With Link Nodes

Actions can be accessed from the Action List in the main menu.



7/9

Next >

## Default node names

Some nodes have been updated to generate a unique name when new instances are added to the workspace. This applies to `Debug`, `Function` and `Link` nodes.

A new action has also been added to generate default names for the selected nodes:

- `Generate Node Names`

Actions can be accessed from the Action List in the main menu.



## Node Updates

- The `Debug` node can be configured to count messages it receives
- The `Link Call` node can use a message property to dynamically target the link it should call
- The `HTTP Request` node can be preconfigured with HTTP headers





過濾節點

流程1

共通

inject

debug

complete

catch

status

link in

link call

link out

comment

功能

時間戳

信息

搜尋流程

流程

流程1

子流程

全局配置節點

時間戳

節點

"5762a21b73a8f364"

類型

inject

展開

您可以通過點擊 **enter** 來顯示被選中節點的屬性設置畫面。



過濾節點

流程1

+ -

信息

i

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🔍

⚙️

▼

搜尋流程

- ✓ 流程
  - > 📄 流程1
  - > 子流程
  - > 全局配置節點

f function 1

📄 🔍

節點	"c7f4242862833563"
類型	function

展開 ▼

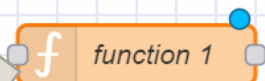
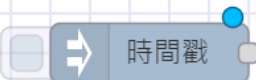
🔄 ✕

您可以在設定中選擇顯示或隱藏這些提示。

- 📶 status
- ➡️ link in
- ↔️ link call
- ➡️ link out
- 💬 comment

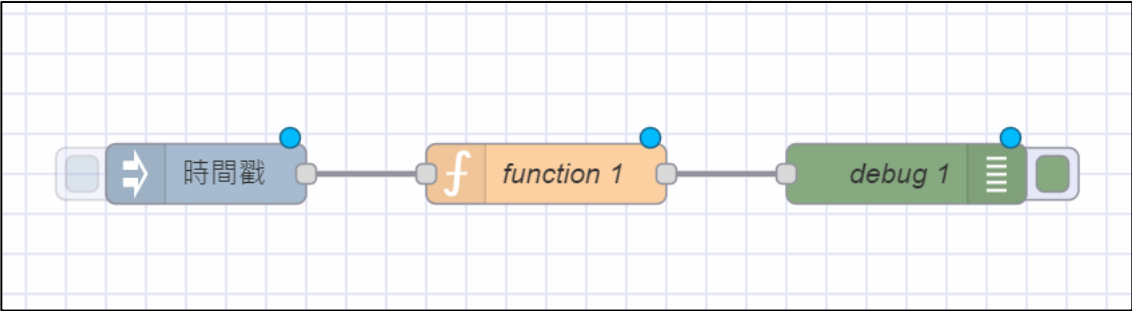
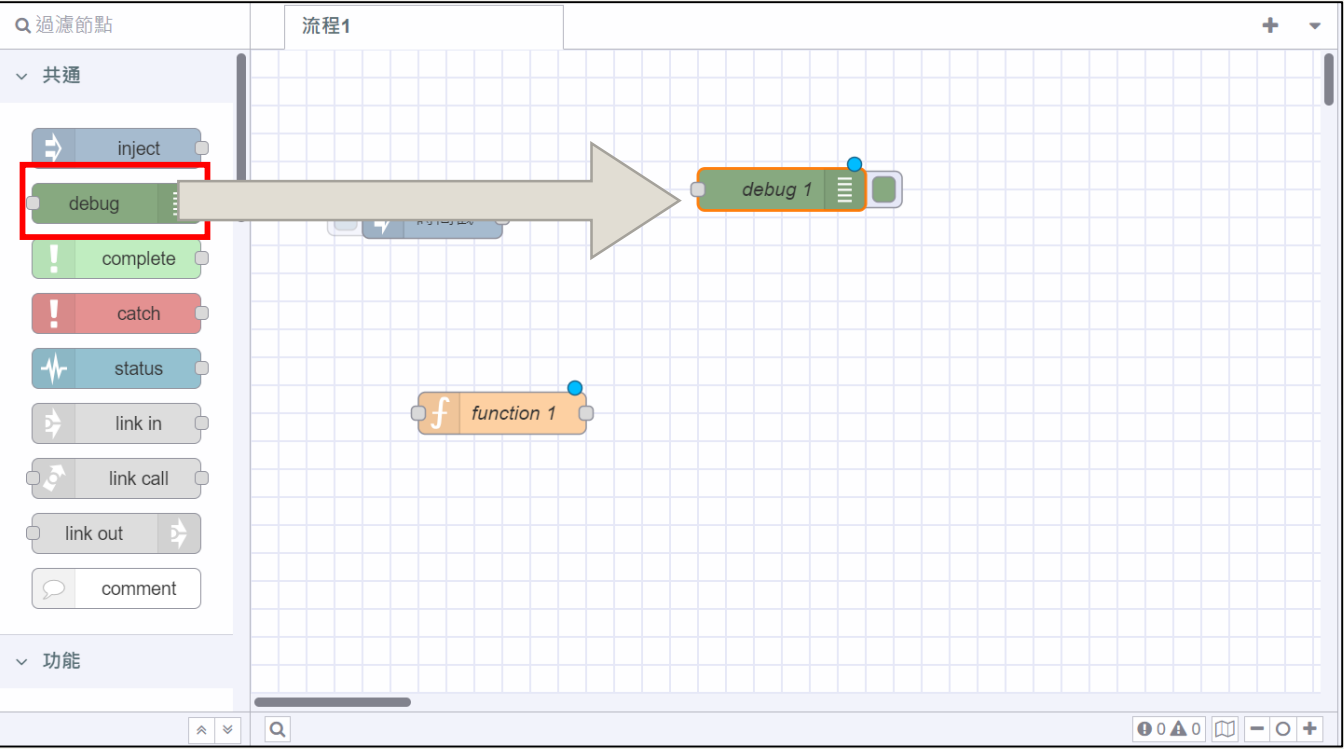
功能

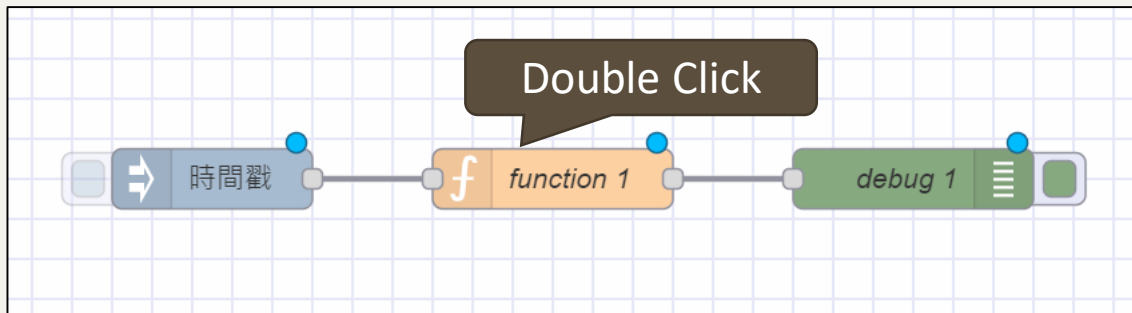
- f function
- ↔️ switch
- ⌘ change
- 📏 range
- { template



⏏️ 🔍

🔍 - +





編輯 function 節點

刪除 取消 完成

屬性

名稱 function 1

Setup 設置 函數 關閉

```
1  
2 return msg;
```

有效



編輯 function 節點

刪除 取消 完成

屬性

名稱 function 1


Setup 設置 函數 關閉


```
1 msg.payload = "hello";  
2 return msg;
```


msg.payload="hello";


?#editor-tab-pr...

# Deploy

 Team-Jia-Hui-Lin-Linda-396f0f0d

 部署

 jl



Q 過濾節點

流程1

部署成功

共通

inject

debug

complete

catch

status

link in

link call

link out

comment

功能

時間戳

function 1

debug 1

信息

搜尋流程

流程












- 流程1
- 子流程
- 全局配置節點

function 1

節點	"c7f4242862833563"
類型	function

展開

您可以將流程的json文字檔拖入編輯方塊或 `ctrl-i` 來導入流程。



# debug window

The screenshot displays the Node.js IDE interface. At the top, the workspace title is `_in-Linda-396f0f0d`. The main canvas, titled `流程1`, shows a workflow with three nodes: a `時間戳` (Timestamp) node, a `function 1` node, and a `debug 1` node. A `Click` event is connected to the `時間戳` node. The `debug 1` node is highlighted with a red box. On the right side, the `除錯窗口` (Debug Console) is open, showing the following output:

```
2023/9/19 上午12:00:44 node: debug 1  
msg.payload : string[5]  
"hello"
```



# Change language to English

The image is a composite of three screenshots from Google Chrome, illustrating the steps to change the interface language to English. The steps are numbered 1 through 4.

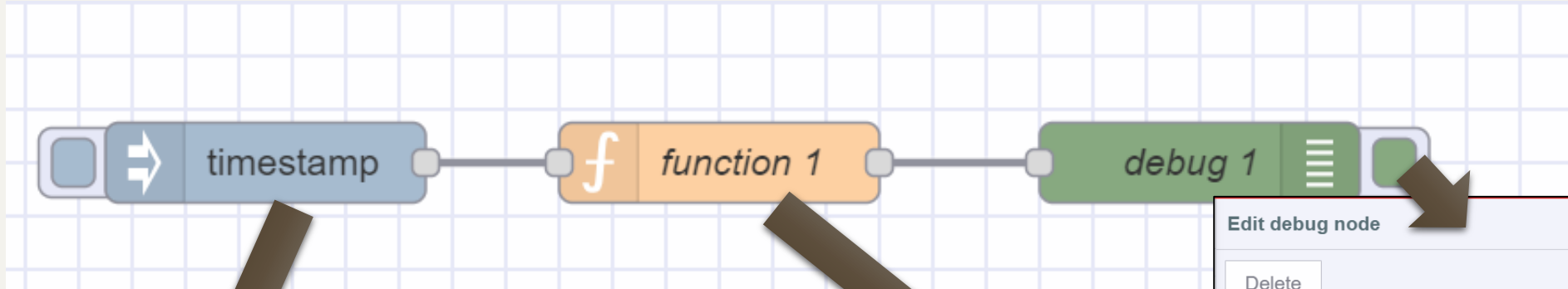
**Step 1:** The Chrome menu is open, and the '設定' (Settings) option is highlighted with a red box and a brown circle labeled '1'.

**Step 2:** The '設定' (Settings) page is open, and the '語言' (Language) option is highlighted with a red box and a brown circle labeled '2'.

**Step 3:** The '語言' (Language) settings page is shown. The list of languages includes '1. 中文 (繁體)' (Chinese (Traditional)), '2. 英文 (美國)' (English (United States)), '3. 中文' (Chinese), and '4. 英文' (English). The '英文 (美國)' option is highlighted with a brown circle labeled '3'. A red box highlights the checkbox '將 Google Chrome 的介面文字設為這種語言' (Set Google Chrome's interface text to this language).

**Step 4:** The '重新啟動' (Restart) button is highlighted with a red box and a brown circle labeled '4'.

The screenshots show the Chrome interface in Chinese (Traditional). The first screenshot shows the Chrome menu with options like '新增分頁' (New tab), '新增視窗' (New window), '新增無痕式視窗' (New incognito window), '記錄' (History), '下載' (Downloads), '書籤' (Bookmarks), 'Google 密碼管理工具' (Google Password Manager), '擴充功能' (Extensions), '縮放' (Zoom), '列印...' (Print...), '投放...' (Cast...), '尋找...' (Find...), '更多工具' (More tools), '編輯' (Edit), '剪下' (Cut), '複製' (Copy), '貼上' (Paste), '設定' (Settings), '說明' (Help), and '結束' (Close). The second screenshot shows the '設定' (Settings) page with options like '你與 Google' (You and Google), '自動填入和密碼' (Autofill and passwords), '隱私權和安全性' (Privacy and security), '效能' (Performance), '外觀' (Appearance), '搜尋引擎' (Search engine), '預設瀏覽器' (Default browser), '起始畫面' (Start page), and '語言' (Language). The third screenshot shows the '語言' (Language) settings page with a list of languages and a '新增語言' (Add language) button. The '英文 (美國)' option is selected, and the '重新啟動' (Restart) button is highlighted.



### Edit inject node

Delete Cancel Done

⚙ Properties

🔑 Name Name

≡ msg. payload

=

▼ timestamp

✕

≡ msg. topic

=

▼ a<sub>z</sub>

✕

### Edit function node

Delete Cancel Done

⚙ Properties

🔑 Name function 1

⚙ Setup On Start On Message On Stop

1

msg.payload = "hello";

2

return msg;

### Edit debug node

Delete Cancel Done

⚙ Properties

≡ Output ▼ msg. payload

🔗 To ☒ debug window

# **Homework 1-2**

Build the flow and run

# Add a debug node

