

物聯網實務 HW10

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日期:2023/11/22

Exercise 10-1

Create a project



Firebase Demo Day is here! [Watch demos](#) of how to build and grow AI-powered, full stack apps using the best of Google.

Make your app the best it can be

Firebase is an app development platform that helps you build and grow apps and games users love. Backed by Google and trusted by millions of businesses around the world.



Get started

Try demo

Watch video


Create a project



首先，請輸入專案名稱[?]

專案名稱

AloTdemo

 aiotdemo-f60d9

繼續

Analytics

× 建立專案(步驟 3 之 2)

適用於 Firebase 專案的 Google Analytics (分析)

Google Analytics (分析) 是免費且無使用限制的數據分析解決方案，能讓你在 Firebase Crashlytics、雲端通訊、應用程式內通訊、遠端設定、A/B 測試和 Cloud Functions 中執行指定目標和查看報表等動作。

Google Analytics (分析) 可讓你運用下列功能：

-  A/B 測試 
-  以事件為基礎的 Cloud Functions 觸發 
條件
-  所有 Firebase 產品中的使用者區隔和指 
定目標功能
-  沒有使用限制的免費報表 
-  不受當機影響的使用者 


 啟用這項專案的 Google Analytics (分析) 功能
建議做法

上一部分


繼續

× 建立專案(步驟 3 之 3)

設定 Google Analytics (分析)

選取或建立 Google Analytics (分析) 帳戶 

 Default Account for Firebase 

自動在這個帳戶中建立新資源 

建立專案時，系統會在您選定的 Google Analytics (分析) 帳戶中建立新的 Google Analytics (分析) 資源，並將該資源連結至您的 Firebase 專案。連結完成後，資料就能在產品之間流通。從 Google Analytics (分析) 資源匯出到 Firebase 的資料需符合 Firebase 《服務條款》的規定；而匯入 Google Analytics (分析) 的 Firebase 資料則需符合 Google Analytics (分析) 《服務條款》的規定。
[瞭解詳情](#) 

上一步

建立專案

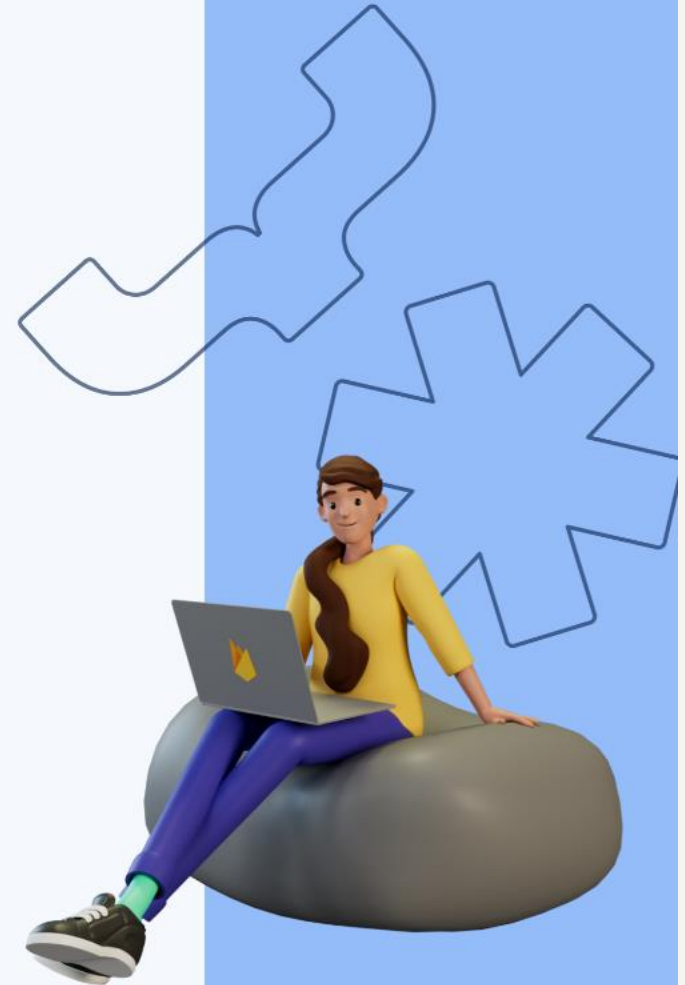
Your new project is ready



AloTdemo

✓ 新專案已準備就緒

繼續



Project Desktop

 **Firebase**

 專案總覽 

產品類別

建構 ^

 Authentication

 App Check

 Firestore Database

 Realtime Database

 Extensions

 Storage

 Hosting

 Functions

Spark
免付費 每月 \$0 美元 升級

AloTdemo ▾

 接收 **Firebase** 新功能、相關研究和活動等最新消息的電子郵件 [立即申請](#) 

AloTdemo Spark 方案

將 **Firebase** 新增至應用程式即可開始使用

 **iOS+**









首先請新增應用程式



Create Database



專案總覽



專案捷徑

Realtime Database

產品類別

建構

發布及監控

數據分析

互動交流

所有產品

Spark
免付費 每月 \$0 美元

升級

AloTdemo



Realtime Database

即時儲存及同步處理資料

建立資料庫



即時資料庫符合你的需求嗎？ [比較不同的資料庫](#)

Set up database

設定資料庫



1

資料庫選項

2

安全性規則

你在位置設定中指定的目的地就是即時資料庫資料的儲存位置。

即時資料庫位置

美國 (us-central1)



取消

下一步

Start in test mode

設定資料庫

資料庫選項

2 安全性規則

定義資料結構後，你必須撰寫規則來保護資料。
[瞭解詳情](#)

☐

以鎖定模式啟動

你的資料會預設為私人資料。系統只會按照你在安全性規則中指定的設定，將讀取/寫入權限授予用戶端。

☒

以測試模式啟動

你的資料預設為公開資料，以便啟用快速設定功能。不過，你必須在 30 天內更新安全性規則，才能長期啟用用戶端讀取/寫入權限。

```
{  "rules": {    ".read": "now < 1703174400000",    // 2023-12-22    ".write": "now < 1703174400000",    // 2023-12-22  }  }
```


!

套用測試模式的預設安全性規則之後，凡是可以參照資料庫的使用者，都能在未來 **30** 天內查看、編輯和刪除資料庫中的所有資料

取消

啟用

即時資料庫

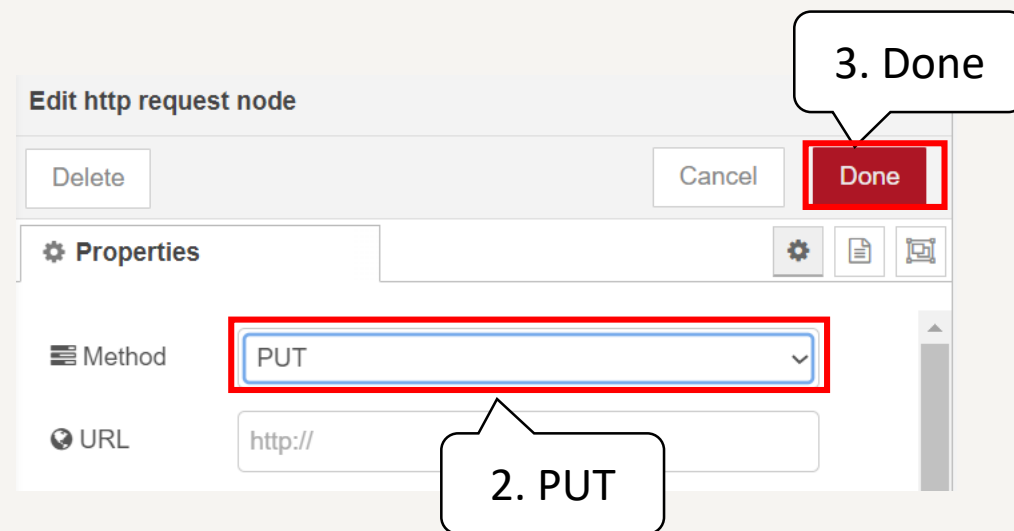
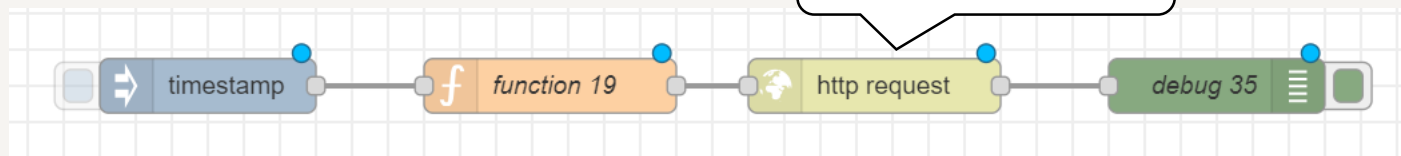
[資料](#)[規則](#)[備份](#)[用量](#) 擴充功能保護 **Realtime Database** 資源，避免遭到帳單詐欺或網路詐騙等濫用行為影響[設定 App Check](#) `https://aiotdemo-f60d9-default-rtdb.firebaseio.com``https://aiotdemo-f60d9-default-rtdb.firebaseio.com/: null` 資料庫位置：美國 (us-central1)

Setup the rules and Publish

```
1 {  
2   "rules": {  
3     ".read": true,  
4     ".write": true,  
5   }  
6 }
```

Copy reference url

 [https://\[\]firebaseio.com](https://[]firebaseio.com)



Your url

```
msg.url="https://aiotdemo-f60d9-default-rtdb.firebaseio.com/fireblog/users.json";  
msg.payload={"alanisawesome": {"name": "Alan Turing", "birthday": "June 23, 1912"}};  
return msg;
```



Change -> Deploy -> Trigger

```
msg.url="https://aiotdemo-f60d9-default-rtdb.firebaseio.com/fireblog/11278008.json";  
msg.payload={"alanisawesome": {"name": "Linda", "birthday": "June 23, 2001"}};  
return msg;
```

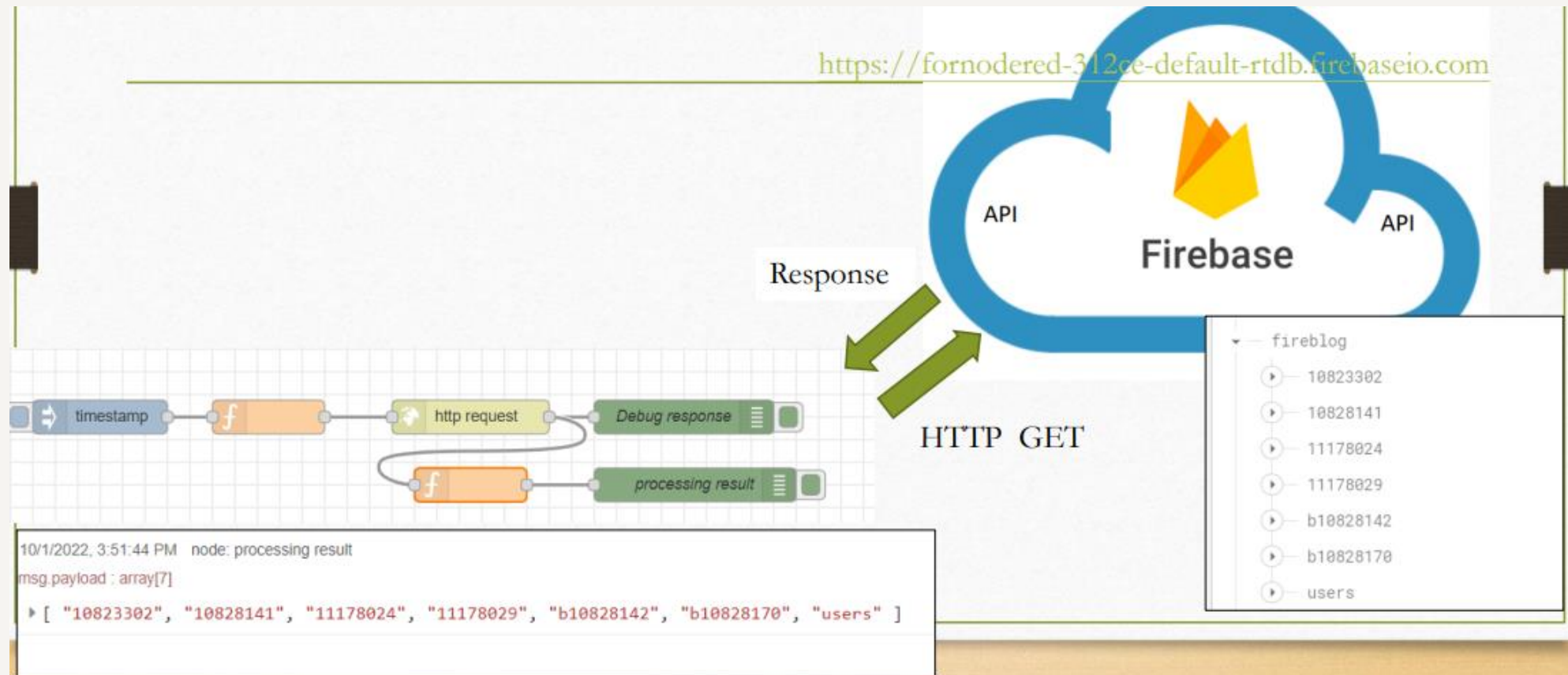
Student ID

Name

```
▼ — fireblog  
  ▼ — 11278008  
    ▼ — alanisawesome  
      birthday: "June 23, 2001"  
      name: "Linda"
```

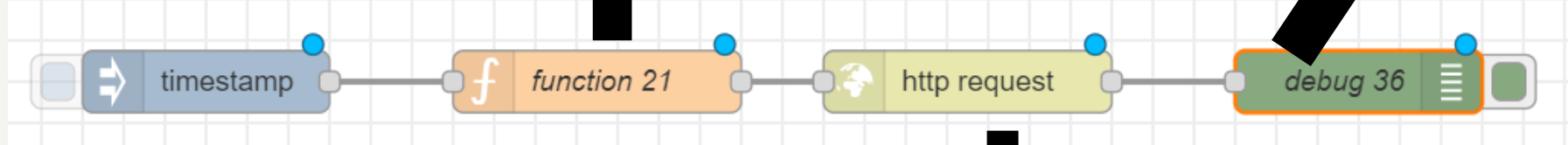
```
▼ — users  
  ▼ — alanisawesome  
    birthday: "June 23, 1912"  
    name: "Alan Turing"
```

Exercise 10-2



http GET

```
msg.url = "https://fornodered-312ce-default-  
rtbd.firebaseio.com/fireblog.json";  
return msg;
```



Edit debug node

Delete Cancel Done

⚙ Properties

Output ▼ msg. payload

To ☒ debug window

☐ system console

☐ node status (32 characters)

2023/11/22 下午3:45:30 node: debug 36
msg.payload : string[683]

```
{  
  "10823302": {  
    "alanisawesome": {  
      "birthday": "June 23, 1912",  
      "name": "YEN-CHEN CHI"  
    }  
  },  
  "10828141": {  
    "10828141": {  
      "birthday": "July 05, 2001",  
      "name": "Roro Tsai"  
    }  
  },  
  "11178024": {  
    "alanisawesome": {  
      "birthday": "June 23, 1912",  
      "name": "wen"  
    }  
  },  
  "11178029": {  
    "alanisawesome": {  
      "birthday": "Jan 14, 1999",  
      "name": "JihChieh"  
    }  
  },  
  "b10828142": {  
    "alanisawesome": {  
      "birthday": "DEC 16, 2000",  
      "name": "YANCHIYOU"  
    }  
  },  
  "b10828170": {  
    "alanisawesome": {  
      "birthday": "december 25, 2000",  
      "name": "wengletian"  
    }  
  },  
  "lyp": {  
    "alanisawesome": {  
      "birthday": "June 23, 1912",  
      "name": "Alan Turing"  
    }  
  },  
  "lyp1": {  
    "alanisawesome": {  
      "birthday": "June 23, 1912",  
      "name": "Alan Turing"  
    }  
  },  
  "users": {  
    "alanisawesome": {  
      "birthday": "June 23, 1912",  
      "name": "Alan Turing"  
    }  
  }  
}
```

Edit http request node

Delete Cancel Done

⚙ Properties

Method GET

URL http://

Observe the data

New document 1

```
1 {"10823302":{"alanisawesome":{"birthday":"June 23, 1912","name":"YEN-CHEN CHI"}}, "10828141":{"10828141":{"birthday":"July 05, 2001","name":"Roro Tsai"}}, "11178024":{"alanisawesome":{"birthday":"June 23,1912","name":"wen"}}, "11178029":{"alanisawesome":{"birthday":"Jan 14, 1999","name":"JihChieh"}}, "b10828142":{"alanisawesome":{"birthday":"DEC 16, 2000","name":"YANCHIYOU"}}, "b10828170":{"alanisawesome":{"birthday":"december 25, 2000","name":"wengletian"}}, "lyp":{"alanisawesome":{"birthday":"June 23, 1912","name":"Alan Turing"}}, "lyp1":{"alanisawesome":{"birthday":"June 23, 1912","name":"Alan Turing"}}, "users":{"alanisawesome":{"birthday":"June 23, 1912","name":"Alan Turing"}}
```

Copy

Transform

Differences

☐ Compare

Line: 1 Column: 684

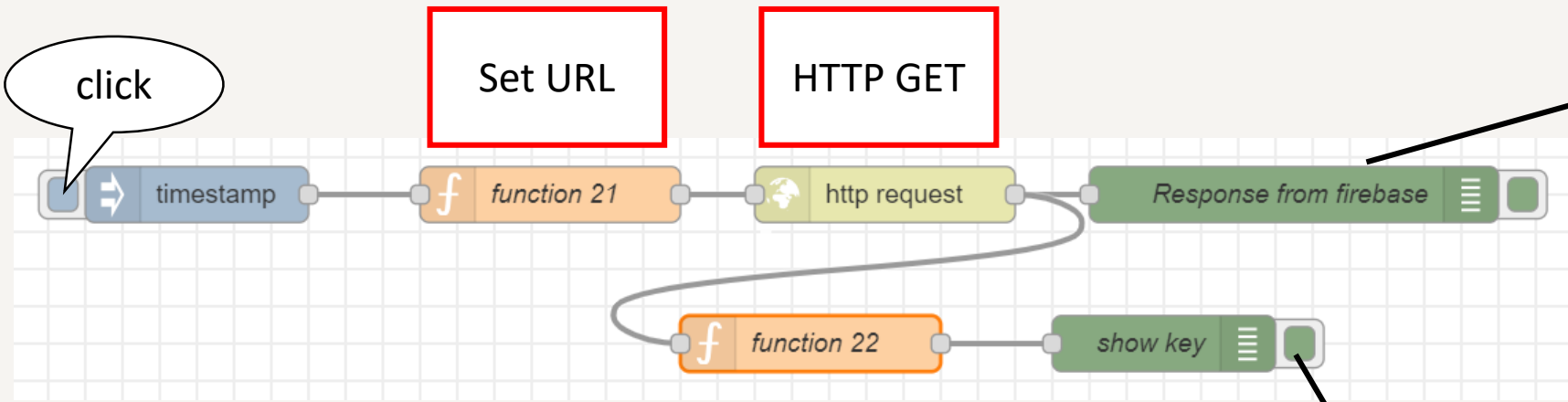
Do you want to format the JSON?

Format No thanks

New document 2

```
> {
  10823302 : {
    alanisawesome : {
      birthday : June 23, 1912
      name : YEN-CHEN CHI
    }
  }
  10828141 : {
    10828141 : {
      birthday : July 05, 2001
      name : Roro Tsai
    }
  }
  11178024 : {
    alanisawesome : {
      birthday : June 23,1912
      name : wen
    }
  }
  11178029 : {
    alanisawesome : {
      birthday : Jan 14, 1999
      name : JihChieh
    }
  }
  b10828142 : {
    alanisawesome : {
      birthday : DEC 16, 2000
      name : YANCHIYOU
    }
  }
  b10828170 : {
    alanisawesome : {
      birthday : december 25, 2000
      name : wengletian
    }
  }
  lyp : {
    alanisawesome : {
      birthday : June 23, 1912
      name : Alan Turing
    }
  }
  lyp1 : {
    alanisawesome : {
      birthday : June 23, 1912
      name : Alan Turing
    }
  }
  users : {
    alanisawesome : {
      birthday : June 23, 1912
      name : Alan Turing
    }
  }
}
```

click



```
var result= msg.payload;  
var obj=JSON.parse(result);  
msg.payload=Object.keys(obj);  
return msg;
```

Processing the response

msg.payload : string[683]

```
"{"10823302":{"alanisawesome":  
{"birthday":"June 23, 1912","name":"YEN-  
CHEN CHI"}}, "10828141":{"10828141":  
{"birthday":"July 05, 2001","name":"Roro  
Tsai"}}, "11178024":{"alanisawesome":  
{"birthday":"June  
23,1912","name":"wen"}}, "11178029":  
{"alanisawesome":{"birthday":"Jan 14,  
1999","name":"JihChieh"}}, "b10828142":  
{"alanisawesome":{"birthday":"DEC 16,  
2000","name":"YANCHIYOU"}}, "b10828170":  
{"alanisawesome":{"birthday":"december  
25, 2000","name":"wengletian"}}, "lyp":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}, "lyp1":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}, "users":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}}"
```

2023/11/22 下午3:49:56 node: show key

msg.payload : array[9]

```
▶ [ "10823302", "10828141", "11178024",  
"11178029", "b10828142", "b10828170",  
"lyp", "lyp1", "users" ]
```

Exercise 10-3

Node-Red module for interacting with Firebase

Sign in with **GitHub**

node-red-contrib-firebase 1.1.1

Node-Red module for interacting with Firebase

```
npm install node-red-contrib-firebase
```

npm v1.1.1

downloads 223/month

node-red nodes for interacting with **Firebase**.

The goal of this project is to provide an elegant GUI that allows you to interact with your Firebase data using Node-Red.

As a side benefit, these nodes should be a natural complement to the data explorer interface offered by the Firebase Forge and a faster/easier to use tool than diving straight into the programming libraries offered for all of the **Firebase supported platforms**.

Node Info

Version: 1.1.1

Updated 6 years, 2 months ago

License: MIT

Rating: 1.0 ★ 1 👤

[View on npm](#)

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Accept

Settings...

Deploy

Edit

View

Arrange

Import

Export

Search flows

Configuration nodes

Flows

Subflows

Groups

Manage palette

Settings

Keyboard shortcuts

Node-RED website

v3.1.0

User Settings

View

Nodes

Install

Close

Node-RED Community catalogue

sort:

4727

node-red-contrib-firebase

node-red-contrib-firebase

Node-Red module for interacting with Firebase

1.1.1

6 years, 2 months ago

install

node-red-contrib-firebase-admin

A node-red module that wraps the server-side admin SDK of firebase, firestore, et.c.

1.1.17

3 years, 10 months ago

install

node-red-contrib-firebase-data

The simplest of simple nodes with firebase

0.0.11

3 years, 2 months ago

install

node-red-contrib-firebase-messaging

Communicate with google firebase realtime database. These nodes use the new firebase-admin API and service account json is used for authentication.

0.4.2

3 years, 11 months ago

install

Installing 'node-red-contrib-firebase'

Before installing, please read the node's documentation. Some nodes have dependencies that cannot be automatically resolved and can require a restart of Node-RED.

Cancel

Open node information

Install

User Settings

close

Close

View

Nodes

Install

Palette

Node-RED Community catalogue

sort:

Keyboard

Environment

node-red-contrib-firebase

7 / 4727

node-red-contrib-firebase

Node-Red module for interacting with Firebase

1.1.1 6 years, 2 months ago

installed

node-red-contrib-firebase-admin

A node-red module that wraps the server-side admin SDK of firebase, firestore, et.c.

1.1.17 3 years, 10 months ago

install

node-red-contrib-firebase-data

The simplest of simple nodes with firebase

0.0.11 3 years, 2 months ago

install

node-red-contrib-firebase-messaging

Communicate with google firebase realtime database. These nodes use the new firebase-admin API and service account json is used for authentication.

0.4.2 3 years, 11 months ago

install

firebase

firebase auth

firebase modify

firebase.once()

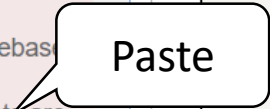
firebase.on()

firebase.onDi sconnect()

- Start by copying the following to your clipboard

```
[{"id":"d42f4c8f.2bd0b","type":"debug","name":"","active":true,"console":"false","complete":"true","x":377,"y":753,"z":"6fed67fe.901298","wires":[]},
{"id":"26e83f77.d917c","type":"catch","name":"","x":231,"y":753,"z":"6fed67fe.901298","wires":[["d42f4c8f.2bd0b"]]},
{"id":"621022ff.9defdc","type":"debug","name":"","active":true,"console":"false","complete":"payload","x":570,"y":593,"z":"6fed67fe.901298","wires":[]},
{"id":"8d94ee64.726b1","type":"comment","name":"firebase.once() example flow","info":"This flow is the same as the\nfirebase.on() example flow, \nexcept that it uses \nfirebase.once(\"value\") to query Firebase\nin the middle of a flow and return a \nresponse synchronously (as opposed to \nstarting a flow whenever the firebase.on()\nevent is triggered).\n\n\nThe inject node begins the flow\nevery 5 seconds and the debug node logs \nthe weather in San Francisco, CA.", "x":120.5,"y":557,"z":"6fed67fe.901298","wires":[]},
{"id":"68921ac1.976de4","type":"firebase.once","name":"","firebaseconfig":"","childpath":"sanfrancisco","eventType":"value","queries":[], "x":345,"y":593,"z":"6fed67fe.901298","wires":[["621022ff.9defdc"]]},
{"id":"1af0fa3.fe50f06","type":"inject","name":"","topic":"","payload":"","payloadType":"date","repeat":"5","crontab":"","once":false,"x":127,"y":593,"z":"6fed67fe.901298","wires":[["68921ac1.976de4"]]}, {"id":"aff728f3.5008d8","type":"firebase.modify","name":"","firebaseconfig":"","childpath":"myHomeTown","method":"set","value":"msg.payload","priority":"","x":518,"y":699,"z":"6fed67fe.901298","wires":[]},
```

Copy



filter nodes

Flow 13

Flow 14

Flow 15

Flow 16

Flow 17

▶ + ▼

debug

i

📄

🔍

⚙️

🗄️

▼

all nodes ▼

🗑️ all ▼

▼ dashboard

button

dropdown

switch

slider

123 numeric

abc text input

📅 date picker

🎨 colour picker

📄 form

text abc

-----CLICK ME AND READ THE INFO PANE-----

firebase.on() example flow

🗄️ /nashville.on("value")

msg.payload

firebase.once() example flow

⏪ timestamp

🗄️ /sanfrancisco.once("value")

msg.payload

firebase modify example flow

⏪ timestamp 1

🔄 set msg.payload

/myHomeTown.set()

! catch: all

msg

⏶ ⏷ 🔍

📖 - ○ +

🖨️

Node-RED

filter nodes

linebot - client

dashboard

button

dropdown

switch

slider

123 numeric

abc text input

date picker

colour picker

form

text

Flow 13

Flow 14

Flow 15

-----CLICK ME AND RE

firebase.on() example flow

/nashville.on("value")

firebase.once() example flow

timestamp

firebase modify example flow

timestamp 1

catch:

Edit firebase.on() node

Delete

Cancel

Done

Properties

Firebase

Add new firebase config...

Child Path

/nashville

>_ Event Type

.on(" value ")

☒ Fire last known data at start?

Queries

+ query

Illegal combination of queries.

Name

Name

Enabled

info

Search flows

Flow 12

/nashville.on("value")

Node

"7f9d00bd.8063"

Type

firebase.on

Module

node-red-contrib-firebase

firebaseconfig

undefined

childpath

"/nashville"

atStart

true

eventType

"value"

queries

[empty]

Switch flow tabs with

ctrl1-[

and

ctrl1-]

The screenshot shows the Node-RED interface with a palette on the left containing three Firebase-related blocks: `firebase.once()`, `firebase.on()`, and `firebase.onDisconnect()`. A tooltip is displayed over the `firebase.on()` block. The tooltip has a dark background and contains the following text:

- firebase.on()**
- Generate messages for Firebase .on() events.
- node-red-contrib-firebase : firebase.on

At the bottom right of the tooltip, there is a red square icon and a magnifying glass icon. A speech bubble points to the red square icon.

可察看更多資訊

Data

 **Firebase**

 專案總覽

專案捷徑

 **Realtime Database**

 App Check


產品類別

建構

發布及監控

數據分析

互動交流

 所有產品

AIoTdemo

即時資料庫

資料

規則

備份

用量

擴充功能

保護 Realtime Database 資源，避免遭到帳單詐欺或網路詐騙等濫用行為影響

設定 App Check

https://aiotdemo-f60d9-default-rtdb.firebaseio.com

您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料

https://aiotdemo-f60d9-default-rtdb.firebaseio.com/

+

fireblog

https://aiotdemo-f60d9-default-rtdb.firebaseio.com

您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料

https://aiotdemo-f60d9-default-rtdb.firebaseio.com/

nashville

d

123


取消

新增

即時資料庫

資料
規則
備份
用量
擴充功能

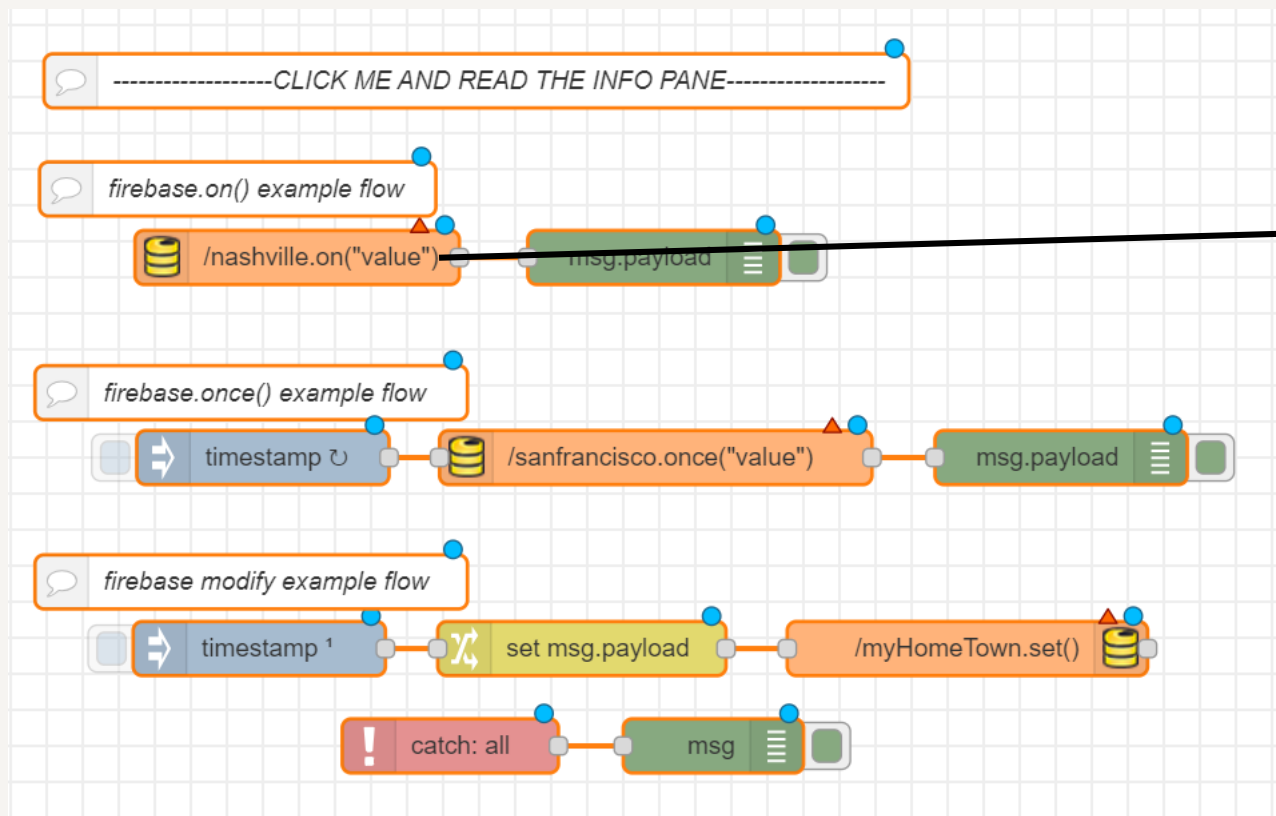
保護 Realtime Database 資源，避免遭到帳單詐欺或網路詐騙等濫用行為影響
設定 App Check
×

https://aiotdemo-f60d9-default-rtdb.firebaseio.com
Paste

您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料
瞭解詳情
關閉
https://aiotdemo-f60d9-default-rtdb.firebaseio.com/

```

fireblog
└── nashville: 0
  
```



資料庫位置：美國 (us-central1)



Edit firebase.on() node

Delete Cancel Done

Properties

Firebase Add new firebase config... 

Child Path /nashville

>_ Event Type .on(" value ")

☒ Fire last known data at start?

Queries + query

Illegal combination of queries.

Name Name

<https://xxxxxxxxce-default-rtdb.firebaseio.com/>

Edit firebase.on() node > Add new firebase config config node

Cancel Add

⚙ Properties

🔥 Firebase https:// your-firebase.firebaseio.com/

🛡 Auth Type

None

None

Anonymous

Email

JSON Web Token

Custom Token Generated with Secret



Edit firebase.on() node > Add new firebase config config node

Cancel Add

⚙ Properties

🔥 Firebase https:// aiotdemo-f60d9-de.firebaseio.com/

🛡 Auth Type

None

Edit firebase.on() node

Delete

Cancel

Done

⚙ Properties



🗄 Firebase

https://aiotdemo-f60d9-default-rtdb.firek ▼



🏠 Child Path

/nashville

>_ Event Type

.on(" value ▼ ")

☒ Fire last known data at start?

🔍 Queries

+ query

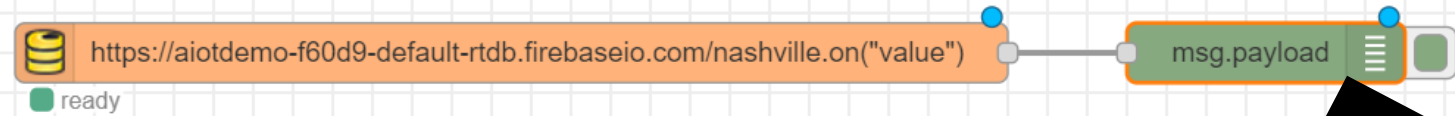
Illegal combination of queries.

🏷 Name

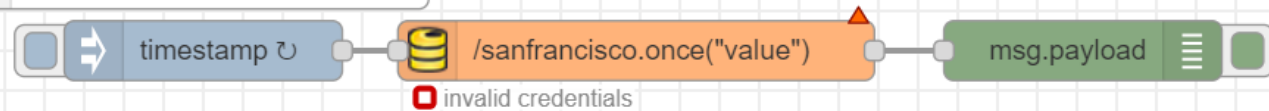
Name

-----CLICK ME AND READ THE INFO PANE-----

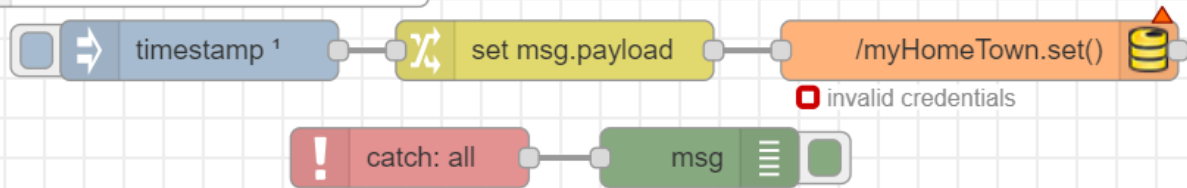
firebase.on() example flow



firebase.once() example flow



firebase modify example flow



<https://aiotdemo-f60d9-default-rtdb.firebaseio.com>

複製參考網址

您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料

`https://aiotdemo-f60d9-default-rtdb.firebaseio.com/`

fireblog

nashville: 1

debug

all nodes


all


2023/11/22 下午4:24:34 node: e3f4c139.1c0b4

msg.payload : number

1

Add

 <https://aiotdemo-f60d9-default-rtdb.firebaseio.com>


 您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>  

 fireblog

nashville: 1

 <https://aiotdemo-f60d9-default-rtdb.firebaseio.com>

 您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>

sanfrancisco

0

123

×

取消

新增

 fireblog

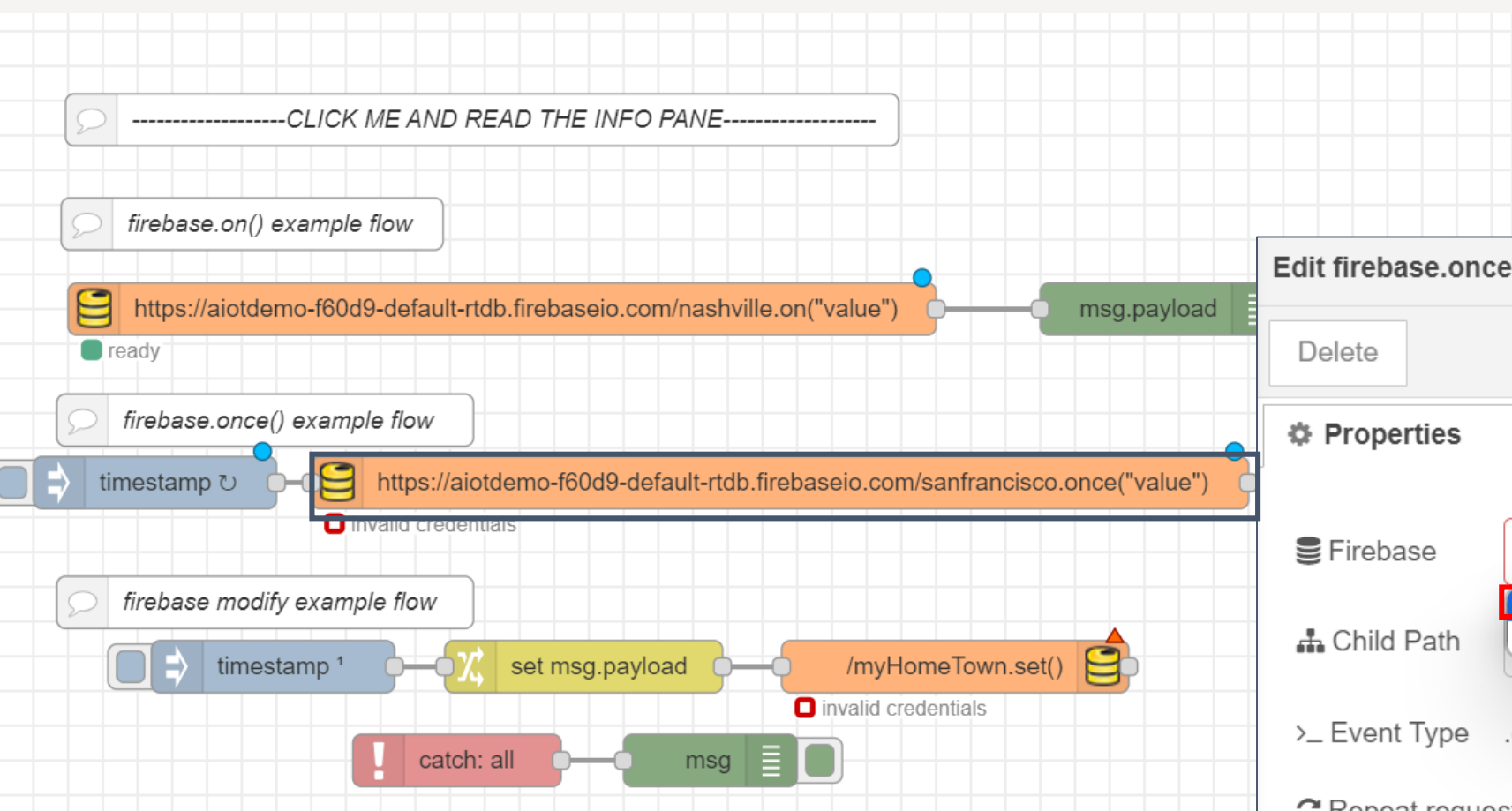
nashville: 1

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>

 fireblog

nashville: 1

sanfrancisco: 0



Edit firebase.once() node

Delete

Cancel

Done

Properties

Firebase

Add new firebase config...

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>

Child Path

Add new firebase config...

>_ Event Type .once(" value ")

Repeat request if value is null? ☐

Additional parameters not supported with shallow queries.

Queries + query

Illegal combination of queries.

Name

Name

The workspace contains some nodes that are not properly configured:

- [Flow 17] /myHomeTown.set() (firebase modify)

Are you sure you want to deploy?

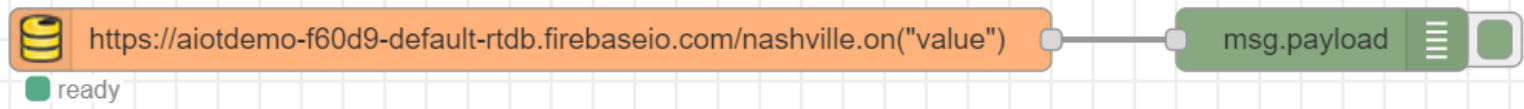
Search for invalid nodes

Cancel

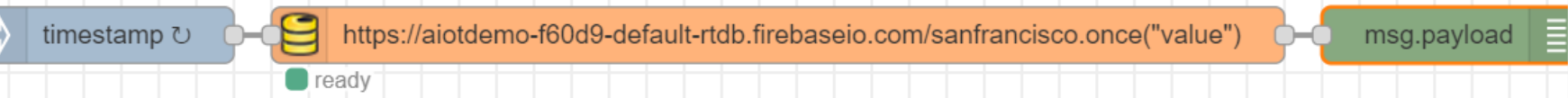
Confirm deploy

-----CLICK ME AND READ THE INFO PANE-----

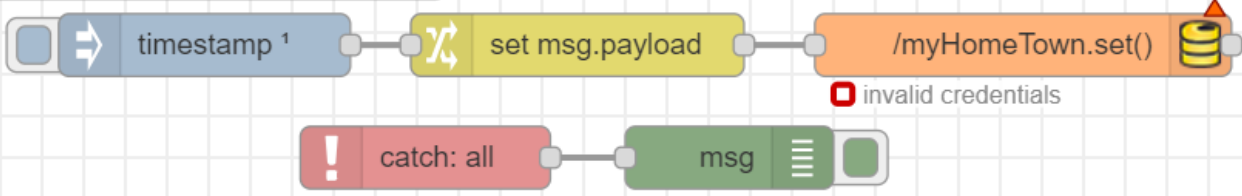
firebase.on() example flow



firebase.once() example flow



firebase modify example flow



all nodes all

msg : string[39]		
"You need to setup Firebase credentials!"		
2023/11/22 下午4:31:12	node: e3f4c139.1c0b4	
msg.payload : number		1
2023/11/22 下午4:31:18	node: 621022ff.9defdc	
msg.payload : number		0
2023/11/22 下午4:31:22	node: 621022ff.9defdc	
msg.payload : number		0
2023/11/22 下午4:31:28	node: 621022ff.9defdc	
msg.payload : number		0
2023/11/22 下午4:31:33	node: 621022ff.9defdc	
msg.payload : number		0
2023/11/22 下午4:31:37	node: 621022ff.9defdc	
msg.payload : number		0

https://aiotdemo-f60d9-default-rtdb.firebaseio.com/

fireblog

nashville:1

sanfrancisco:1

Change the value

-----CLICK ME AND READ THE INFO PANE-----

firebase.on() example flow

https://aiotdemo-f60d9-default-rtdb.firebaseio.com/nashville.on("value")

msg.payload

ready

firebase.once() example flow

timestamp

https://aiotdemo-f60d9-default-rtdb.firebaseio.com/sanfrancisco.once("value")

ready

firebase modify example flow

timestamp 1

set msg.payload

/myHomeTown.set()

invalid credentials

catch: all

msg

all nodes

all

"You need to setup Firebase credentials!"

2023/11/22 下午4:33:31	node: e3f4c139.1c0b4	msg.payload : number
1		
2023/11/22 下午4:33:36	node: 621022ff.9defdc	msg.payload : number
0		
2023/11/22 下午4:33:41	node: 621022ff.9defdc	msg.payload : number
0		
2023/11/22 下午4:33:46	node: 621022ff.9defdc	msg.payload : number
1		
2023/11/22 下午4:33:51	node: 621022ff.9defdc	msg.payload : number
1		
2023/11/22 下午4:33:56	node: 621022ff.9defdc	msg.payload : number
1		
2023/11/22 下午4:34:01	node: 621022ff.9defdc	

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com>

⚠ 您的安全性規則定義為公開，因此任何人都能竊取、修改或刪除資料庫中的資料

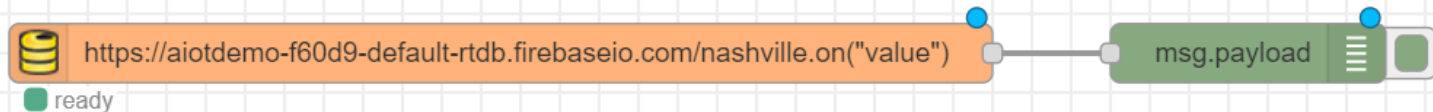
<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>

myHomeTown 0 123 ✕

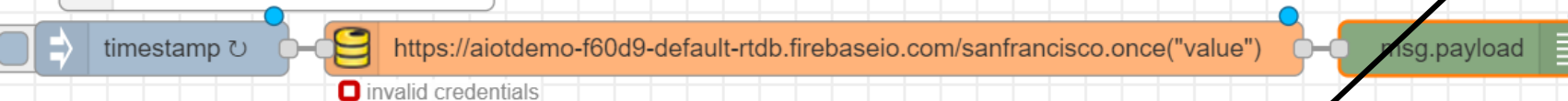
取消 新增

-----CLICK ME AND READ THE INFO PANE-----

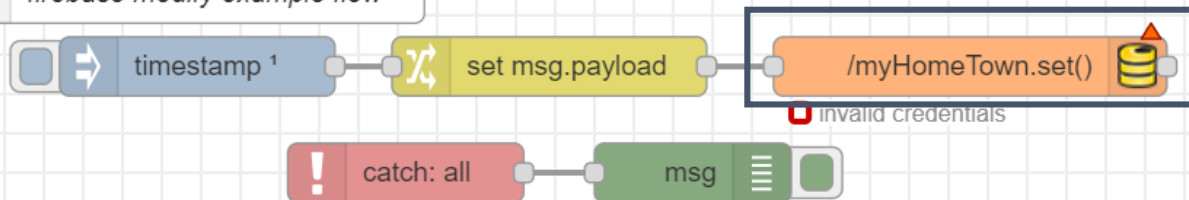
firebase.on() example flow



firebase.once() example flow



firebase modify example flow



Edit firebase modify node

Delete

Cancel

Done

Properties

Firebase

<https://aiotdemo-f60d9-default-rtdb.firebaseio.com/>

Child Path

myHomeTown

>_ Method

set

Value

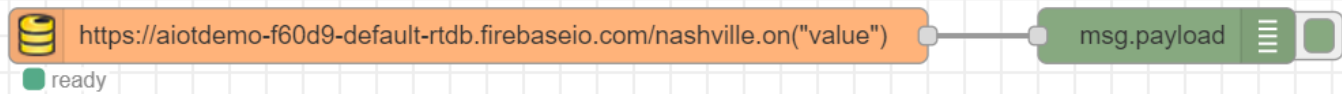
msg.payload

Name

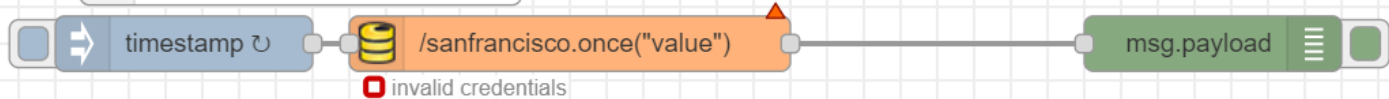
Name

-----CLICK ME AND READ THE INFO PANE-----

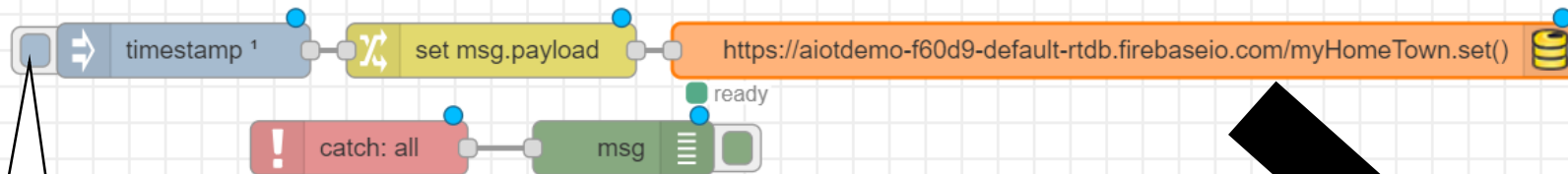
firebase.on() example flow



firebase.once() example flow



firebase modify example flow



Click

all nodes

all

2023/11/22 下午4:38:29 node: 68921ac1.976de4

msg : string[39]

"You need to setup Firebase credentials!"

2023/11/22 下午4:38:29 node: e3f4c139.1c0b4

msg.payload : number

1

`https://aiotdemo-f60d9-default-rtdb.firebaseio.com/`

fireblog

myHomeTown: "my weather station data..."

nashville: 1

sanfrancisco: 1

Exercise 10-4

Plotly.js

```
<!DOCTYPE html>
<html>
<script src="https://cdn.plot.ly/plotly-latest.min.js"></script>

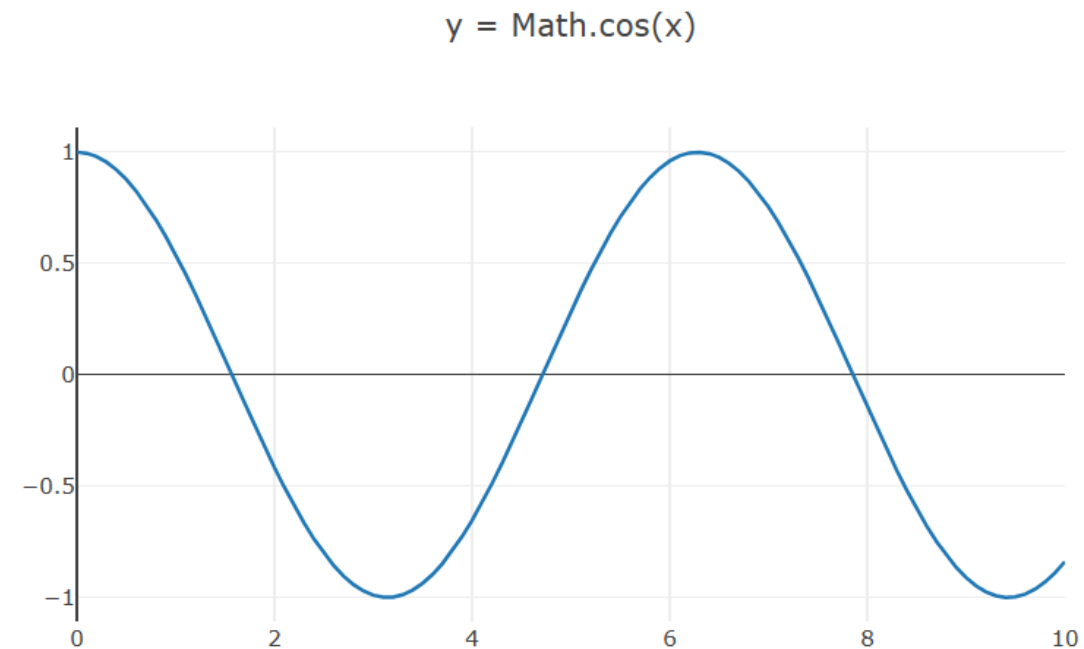
<body>
<div id="myPlot" style="width:100%;max-width:700px"></div>

<script>
let exp = "Math.cos(x)";

// Generate values
const xValues = [];
const yValues = [];
for (let x = 0; x <= 10; x += 0.1) {
  xValues.push(x);
  yValues.push(eval(exp));
}

// Display using Plotly
const data = [{x:xValues, y:yValues, mode:"lines"}];
const layout = {title: "y = " + exp};
Plotly.newPlot("myPlot", data, layout);
</script>

</body>
</html>
```



Homework 10-1

- Try PATCH and POST methods to write data to your database.

<https://firebase.google.com/docs/database/rest/save-data?hl=zh-tw>

PATCH

Edit http request node

Delete

Cancel

Done

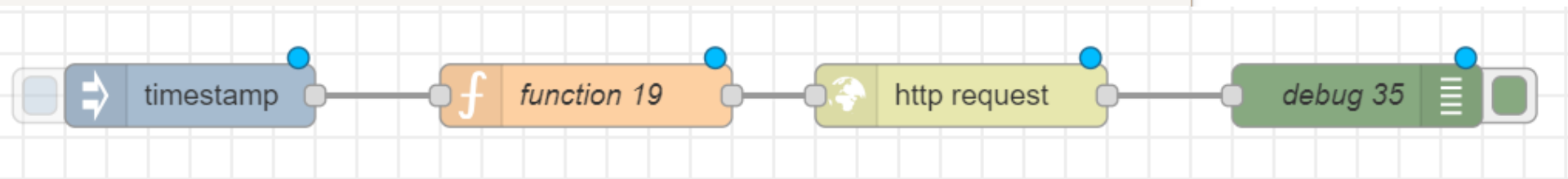
Properties

Method

- set by msg.method -

URL

http://



```
msg.url = "https://aiotdemo-f60d9-default-  
rtbd.firebaseio.com/fireblog/users/alanisawesome.json";  
msg.method = "PATCH";  
msg.payload = { "date_of_birth": "June 23, 1912" };  
return msg;
```

```
▼ — fireblog
  ▼ — users
    ▶ — -Njpw8avFhaNmj_-MRf1
      ▼ — alanisawesome
        ▶ — alanisawesome
          — date_of_birth: "June 23, 1912"
          — nickname: "piglet"
```

並不會因為增加這項內容而替換所有資料

POST

Edit http request node

Delete

Cancel

Done

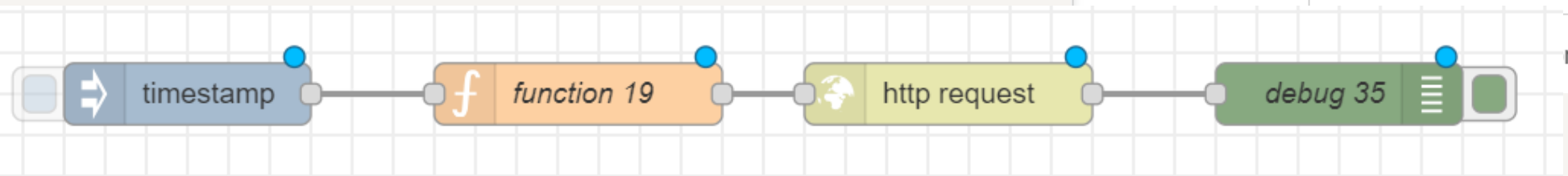
Properties

Method

POST

URL

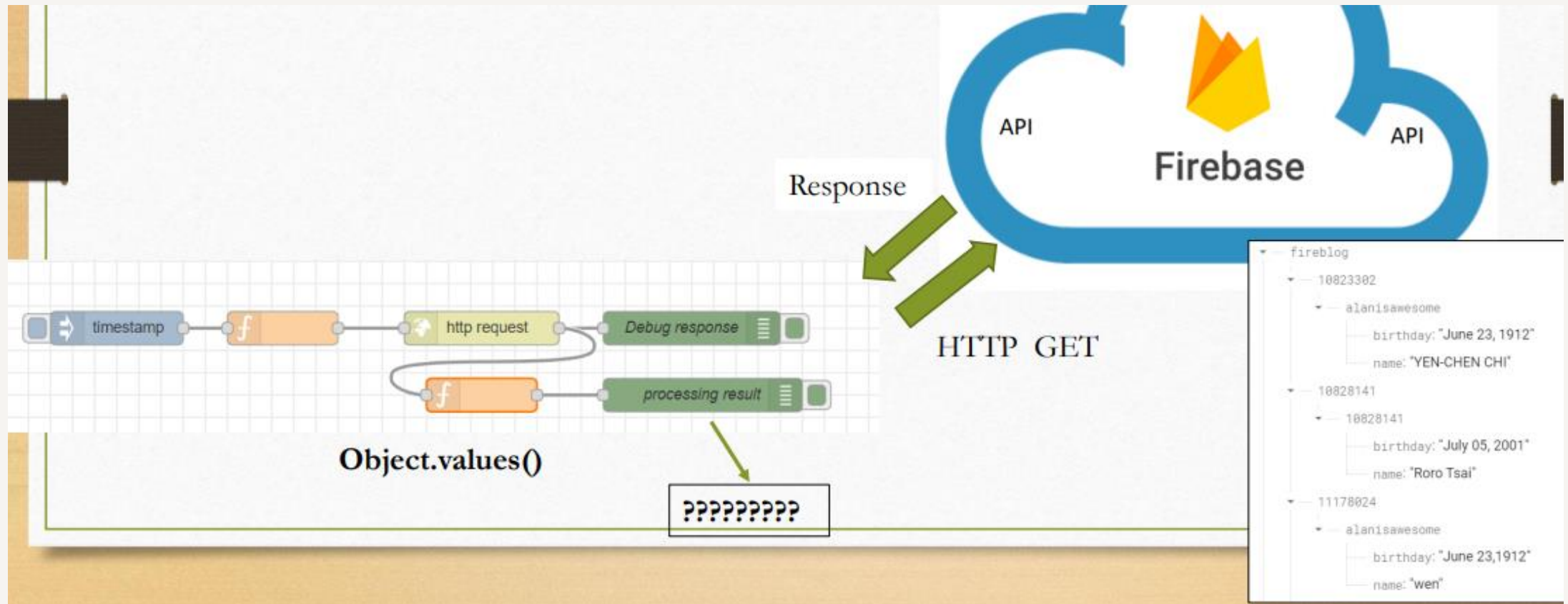
http://



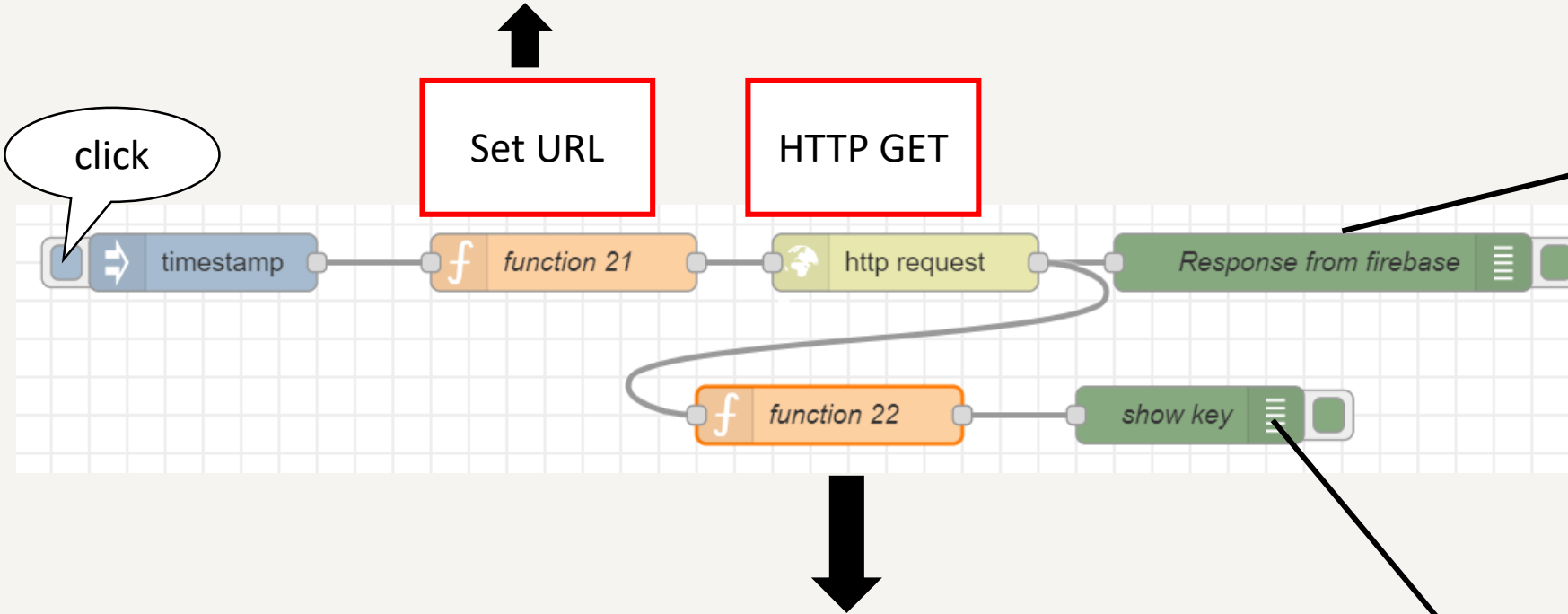
```
msg.url="https://aiotdemo-f60d9-default-  
rtbd.firebaseio.com/fireblog/users.json";  
// msg.method = "PATCH";  
msg.payload={"alanisawesome": {"name":  
"Jackson", "birthday": "August 23, 2001"}}};  
return msg;
```



Homework 10-2




```
msg.url = "https://fornodered-312ce-default-  
rtbd.firebaseio.com/fireblog.json";  
return msg;
```



```
var result= msg.payload;  
var obj=JSON.parse(result);  
msg.payload=Object.values(obj);  
return msg;
```

Processing the response

msg.payload : string[683]

```
{"10823302":{"alanisawesome":  
{"birthday":"June 23, 1912","name":"YEN-CHEN  
CHI"}}, "10828141":{"10828141":  
{"birthday":"July 05, 2001","name":"Roro  
Tsai"}}, "11178024":{"alanisawesome":  
{"birthday":"June  
23,1912","name":"wen"}}, "11178029":  
{"alanisawesome":{"birthday":"Jan 14,  
1999","name":"JihChieh"}}, "b10828142":  
{"alanisawesome":{"birthday":"DEC 16,  
2000","name":"YANCHIYOU"}}, "b10828170":  
{"alanisawesome":{"birthday":"december 25,  
2000","name":"wengletian"}}, "lyp":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}, "lyp1":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}, "users":  
{"alanisawesome":{"birthday":"June 23,  
1912","name":"Alan Turing"}}}"
```

2023/11/22 下午3:52:24 node: show key

msg.payload : array[9]

```
► [ object, object, object, object, object,  
object, object, object, object ]
```


Expand

msg.payload : string[683]

```
"{"10823302":{"alanisawesome":
{"birthday":"June 23, 1912","name":"YEN-CHEN
CHI"}},{"10828141":{"10828141":
{"birthday":"July 05, 2001","name":"Roro
Tsai"}},{"11178024":{"alanisawesome":
{"birthday":"June
23,1912","name":"wen"}},{"11178029":
{"alanisawesome":{"birthday":"Jan 14,
1999","name":"JihChieh"}},{"b10828142":
{"alanisawesome":{"birthday":"DEC 16,
2000","name":"YANCHIYOU"}},{"b10828170":
{"alanisawesome":{"birthday":"december 25,
2000","name":"wengletian"}},{"lyp":
{"alanisawesome":{"birthday":"June 23,
1912","name":"Alan Turing"}},{"lyp1":
{"alanisawesome":{"birthday":"June 23,
1912","name":"Alan Turing"}},{"users":
{"alanisawesome":{"birthday":"June 23,
1912","name":"Alan Turing"}}}"
```

2023/11/22 下午3:52:24 node: show key


msg.payload : array[9]


 [object, object, object, object, object, object, object, object, object]

msg.payload : array[9]

▼ array[9]

 0: object

 1: object

 2: object

▶ 3: object

▶ 4: object

▶ 5: object

▶ 6: object

▶ 7: object

▶ 8: object

2023/11/22 下午3:52:24 node: show key

msg.payload : array[9]

▼ array[9]

▼ 0: object

 alanisawesome: object

birthday: "June 23, 1912"

name: "YEN-CHEN CHI"

▼ 1: object

 10828141: object

birthday: "July 05, 2001"

name: "Roro Tsai"

▼ 2: object

 alanisawesome: object

birthday: "June 23,1912"

name: "wen"

▶ 3: object

▶ 4: object

▶ 5: object