

Yuan 的 HTTP Echo Server

Yuan Chiu chyuaner@gmail.com

主要核心功能

本專案是提供CDN Edge層級的http
回音鸚鵡伺服器

你對我發出Request，我的伺服器就
會把我從你這邊接到的資訊：

- 以什麼網址字串
- 帶了什麼Post Body
- 帶了什麼Request Header

一五一實的以ResponseBody方式回
應給你。

同時也可以當作MyIP查詢使用，會顯
示在「Host」區塊。

Yuan 的 HTTP Echo Server

GET https://echo.yuaner.tw/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all

Method	GET
BaseUrl	https://echo.yuaner.tw
OriginalUrl	/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all
Protocol	https

URL Params	URL Query	Host
1. assets	• ref: tablericons	• IP: 2001:b400:e2c2:c865:d68b:4031:6d82:80f3
2. text	• utm_source: tablericons-mainsite	• hostname: echo.yuaner.tw
3. dict	• utm_medium: partner	• Colo: SJC
4. textpar.html	• utm_campaign: 250k-more-icons	• Country: TW
	• tab: all	• City: Kaohsiung
		• Continent: AS
		• Latitude: 22.61626
		• Longitude: 120.31333
		• Region: Tako
		• Region Code: KHH
		• Timezone: Asia/Taipei

Key	Value
accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
accept-encoding	gzip, br
accept-language	zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3
cf-connecting-ip	2001:b400:e2c2:c865:d68b:4031:6d82:80f3
cf-ipcountry	TW
cf-ray	9a6201217b0cf94b
cfvisitor	{"scheme":"https"}
connection	Keep-Alive



專案特色

在CDN Edge層級直接提供完整服務

傳統後端架構圖 (以我習慣的PHP為例)

公網 → CDN快取 → Reverse Proxy(管理vhost) → Nginx → php-fpm → 我的專案

CDN層級**直接服務**架構圖

公網 → CDN直接服務

理論上極致效能低延遲

The screenshot shows the Postman application interface. At the top, the title bar says "Post Request - My Workspace". The menu bar includes "Edit", "View", "Help", "Home", "Workspaces", "API Network", "Search Postman", "Invite", "Upgrade", "Save", "Share", and "local - PHP Simple Lo...". The main area shows a "POST Post Request" with the URL "https://echo.yuaner.tw/config/assets/aaa.html?key=valuea&echo_code=400". The "Params" tab is selected, showing query parameters: key (valuea), echo_code (400). Below this is a table for "Query Params" with columns: Key, Value, Description, and Bulk Edit. The "Body" tab is selected, showing the JSON request body:

```
1 {  
2   "request": {  
3     "params": [  
4       "config",  
5       "assets",  
6       "aaa.html"  
7     ],  
8     "query": {  
9       "key": "valuea",  
10      "echo_code": "400"  
11    },  
12    "cookies": {},  
13    "cookiesRaw": "",  
14    "body": {  
15      "description": "A Minecraft Server",  
16      "version": {  
17        "protocol": 767  
18      }  
19    },  
20    "bodyRaw": "{\n      \"description\": \"A Minecraft Server\",\\n      \"version\": {\n        \"protocol\": 767\\n      }\n    }",  
21    "headers": {  
22      "aaaaaaaaaaaaaa": "aaaaa",  
23      "accept": "*/*",  
24      "accept-encoding": "gzip, br",  
25      "cache-control": "no-cache",  
26      "cf-connecting-ip": "2001:ba400:e2c2:f6aa:b514:4f58:231e:6131",  
27      "cf-ipcountry": "TW",  
28      "cf-ray": "9a79e70e9d46f005",  
29    }  
30  }  
31}
```

The response status is "400 Bad Request" with "208 ms" and "2.78 KB" details. The "Test Results" tab is also visible.

JSON格式作為預設 Response Body輸出

基本上以 `ealen/echo-server` 專案為基礎，重新撰寫復刻核心功能

分為三大塊：

- request
- http
- host

可用於 Postman、Paw、Insomnia、Hoppscotch 等 HTTP API 調試客戶端使用

 有設計精美的網頁UI界面

Yuan 的 HTTP Echo Server

GET https://echo.yuaner.tw/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all

Method	GET
BaseUrl	https://echo.yuaner.tw
OriginalUrl	/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all
Protocol	https

URL Params

- 1. assets
- 2. text
- 3. dict
- 4. textpar.html

URL Query

- **ref:** tablericons
- **utm_source:** tablericons-mainsite
- **utm_medium:** partner
- **utm_campaign:** 250k-more-icons
- **tab:** all

Host

- IP: 2001:b400:e2c2:c865:d68b:4031:6d82:80f3
- hostname: echo.yuaner.tw
- Colo: SJC
- Country: TW
- City: Kaohsiung
- Continent: AS
- Latitude: 22.61626
- Longitude: 120.31333
- Region: Takao
- Region Code: KHH
- Timezone: Asia/Taipei

Header

Key	Value
accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
accept-encoding	gzip, br
accept-language	zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3
cf-connecting-ip	2001:b400:e2c2:c865:d68b:4031:6d82:80f3
cf-ipcountry	TW
cf-ray	9a6201217b0cf94b
cfvisitor	{"scheme":"https"}
connection	Keep-Alive

清楚明瞭的HTTP Method

網址列顏色會根據 GET, POST, PUT, DELETE改變顏色

GET <https://echo.yuaner.tw/config/assets/aaa.html?key=valuea>

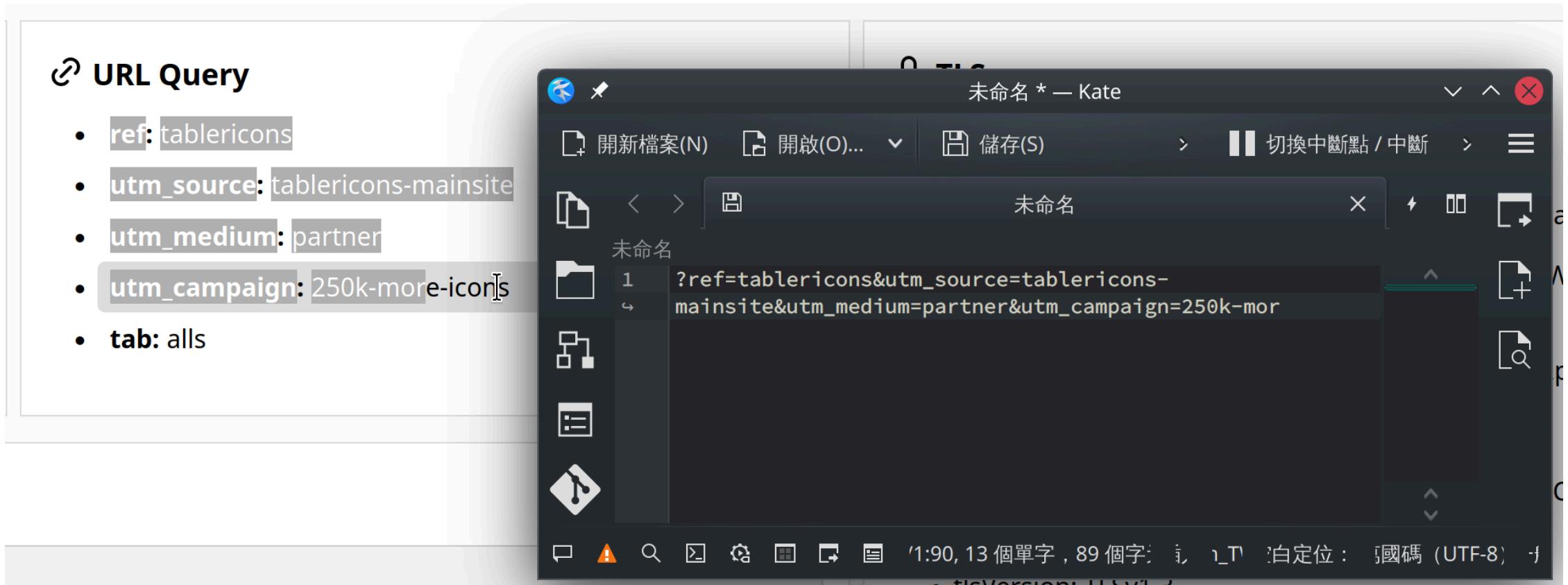
POST <https://echo.yuaner.tw/config/assets/aaa.html?key=valuea>

PUT <https://echo.yuaner.tw/config/assets/aaa.html?key=valuea>

DELETE <https://echo.yuaner.tw/config/assets/aaa.html?key=valuea>

顏色挑選有特別與Swagger、API Doc對齊

網址文字友善複製



有特別為「URL Params」、「URL Query」區塊特別設計友善文字複製。界面乍看下是ul li項目清單，但圈選文字後，會直接複製成可直接貼上網址列的字串

RWD手機友善 與 Dark Mode配色

RWD手機友善

HTTP Header

accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
accept-encoding	gzip, br
accept-language	zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3
cf-connecting-ip	2001:b400:e2c2:f6aa:b514:4f58:231e:6131
cf-ipcountry	TW
cf-ray	9a7a6e2dcfb5dc0d

Dark Mode配色

Yuan 的 HTTP Echo Server

GET https://echo.yuaner.tw/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=alls

BaseUrl	https://echo.yuaner.tw
OriginalUrl	/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=alls
Protocol	HTTP/2

URL Params

- 1. assets
- 2. text
- 3. dict
- 4. textparhtml

URL Query

- ref: tablericons
- utm_source: tablericons-mainsite
- utm_medium: partner
- utm_campaign: 250k-more-icons
- tab: alls

TLS

- tlsCipher: AEAD-AES128-GCM-SHA256
- tlsClientCiphersSha1: LnbVHP1R8ay/dUs ahfir53h8aw4=
- tlsClientExtensionsSha1Le: l41A6hAf8CFQa n+yuADUWHCIneg=
- tlsClientExtensionsSha1Le: //MhjMRn06 +Eij53CchZp/zi/yQ=
- tlsClientHelloLength: 1826
- tlsClientRandom: MSQocOjYZ/ck6QgAZx hX9BKL+nCfLpkBDs0uF9/Qm4w=
- tlsVersion: TLSv1.3

HTTP Header

Key	Value
accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
accept-encoding	gzip, br
accept-language	zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3
cf-connecting-ip	2001:b400:e2c2:f6aa:b514:4f58:231e:6131
cf-ipcountry	TW
cf-ray	9a7a6e2dcfb5dc0d
cfvisitor	{"scheme": "https"}

Host

- IP: 2001:b400:e2c2:f6aa:b514:4f58:231e:6131
- hostname: echo.yuaner.tw

網頁界面仍有提供Raw Response Body

模擬本後端的JSON模式原始輸出，方便切換客戶端比對使用

The screenshot shows a browser's developer tools Network tab with several requests listed. One request is expanded to show its raw response body. The response body is a JSON object containing various headers and parameters. A callout box highlights specific fields from the JSON object.

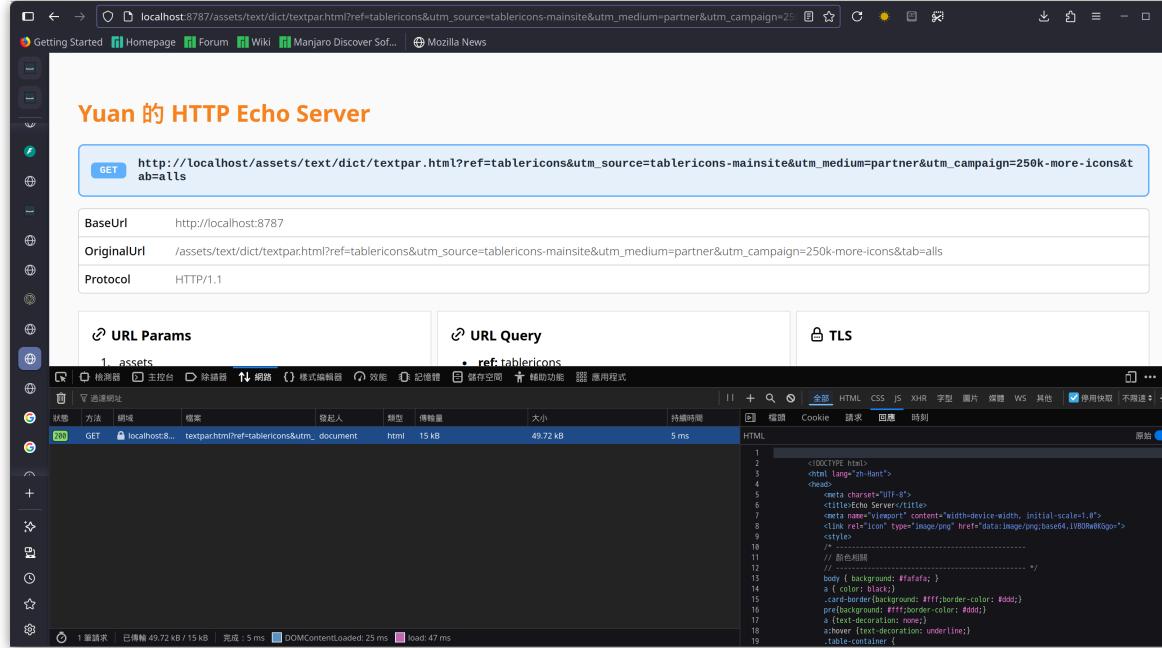
sec-reject-user	: 1
upgrade-insecure-request	1
user-agent	Mozilla/5.0 (X11; Linux x86_64; rv:139.0) Gecko/20100101 Firefox/139.0
x-forwarded-proto	https
x-real-ip	2001:b400:e2c2:f6aa:b514:4f58:231e:6131

As Organization: HiNet Taiwan
Region: Taiwan
Region Code: 04
Timezone: Asia/Taipei

</> Raw Response Body

```
{
  "request": {
    "params": [
      "assets",
      "text",
      "dict",
      "textpar.html"
    ],
    "query": {
      "ref": "tablericons",
      "utm_source": "tablericons-mainsite",
      "utm_medium": "partner",
      "utm_campaign": "250k-more-icons",
      "tab": "alls"
    },
    "cookies": {},
    "cookiesRaw": "",
    "body": {},
    "bodyRaw": "",
    "headers": {
      "accept": "text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8",
      "accept-encoding": "gzip, br",
      "accept-language": "zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3",
      "cf-connecting-ip": "2001:b400:e2c2:f6aa:b514:4f58:231e:6131",
      "cf-ipcountry": "TW",
      "cf-ray": "9a7a6e2dcfb5dc0d",
      "cf-visitor": "{\"scheme\":\"https\"}",
      "connection": "Keep-Alive",
      "host": "echo.yuaner.tw",
      "sec-reject-user": "1"
    }
  }
}
```

效能考量設計



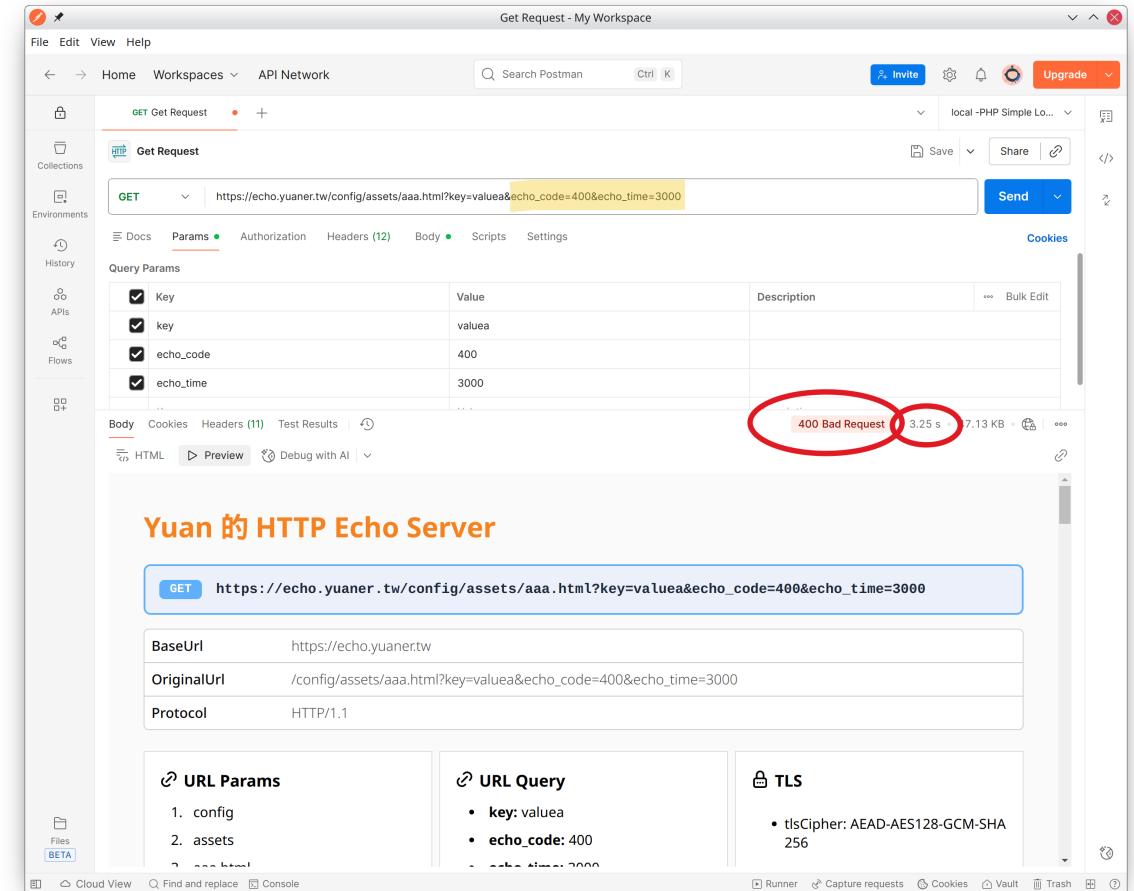
網頁版不會產生額外Request載入其他資源！（如：圖片、CSS、JS等等）

- 所有外部資源如Icons與Syntax Highlight JS都已直接內嵌在單一這個Request。
- 所有圖片都是SVG格式

→ 附加功能

提供 URL Query 參數 來控制以下功能

- echo_code=200 : 控制要回傳的 HTTP Status Code
- echo_time=3000 : 控制伺服器要延遲多久才會送 Response , 模擬較差網路品質狀況使用



➡ 提供其他本地架設方式

本專案雖然是為Cloudflare量身打造的，但也有提供傳統的架設方式

- Docker

```
docker run -p 3000:3000
```

```
chuaner/echo-server
```

- Node直接啟動

```
npm i && npm run start
```

The screenshot shows the GitHub Hub interface with the search bar set to "chuaner/echo-server". The repository page for "chuaner/echo-server" is displayed, featuring a blue icon, the repository name, and a brief description: "提供輕量化的http回音伺服器 (Docker獨立執行版本)". Below the description are two buttons: "ARTIFACT" and "IMAGE". The "ARTIFACT" button is highlighted. The page also shows 0 stars and 91 forks. On the right side, there are sections for "Overview" (selected), "Tags", "Tag summary" (with "master" selected), "Content type" (Image), "Digest" (sha256:1e5421ffd...), "Size" (45.7 MB), and "Last updated" (about 3 hours ago). A command-line box at the bottom shows the command "docker pull chuaner/echo-server:master".

Explore / chuaner / echo-server

hub Explore My Hub

chuaner/echo-server

By chuaner · Updated about 3 hours ago

提供輕量化的http回音伺服器 (Docker獨立執行版本)

ARTIFACT IMAGE

☆0 ↓ 91

Overview Tags

Yuan 的 HTTP Echo Server

<https://github.com/chuaner/cloudflare-echo-server>

本專案是提供CDN Edge層級的http回音鵝伺服器（也提供本機端獨立運作的方式）就如字面上所說的，你對我發出的Request後，我的伺服器就會把我從你這邊接到的資訊：以什麼網址串、帶了什麼Post Body、Request Header，一五一實的以ResponseBody方式回應給你。

同時也可以當作MyIP查詢使用，會顯示在「Host」區塊。

Demo https://echo.yuaner.tw/assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all

Yuan 的 HTTP Echo Server

Method: GET
BaseUrl: https://echo.yuaner.tw
OriginalUrl: /assets/text/dict/textpar.html?ref=tablericons&utm_source=tablericons-mainsite&utm_medium=partner&utm_campaign=250k-more-icons&tab=all
Protocol: http

URL Params:

- 1. assets
- 2. text
- 3. dict
- 4. textpar.html

URL Query:

- utm_source: tablericons-mainsite
- utm_medium: partner
- utm_campaign: 250k-more-icons
- tab: all

Host:

- IP: 2001:b400::2:c865:d8b:4031:6d82:80f3
- hostname: echo.yuaner.tw
- City: Kaohsiung
- Country: TW
- Continent: AS
- Latitude: 22.61626
- Longitude: 120.31333
- Region: Taitou
- Region Code: KH
- Timezone: Asia/Taipei

Header:

Key	Value
accept	text/html,application/xhtml+xml,application/xml;q=0.9,*/*;q=0.8
accept-encoding	gzip, br
accept-language	zh-TW,zh;q=0.8,en-US;q=0.5,en;q=0.3
cf-connecting-ip	2001:b400::2:c865:d8b:4031:6d82:80f3
cf-ipcountry	TW
cf-ray	9a6201217b0cf94b
cfvisitor	{"scheme": "https"}



開發心得

本次採用語言

其實我本身比較擅長PHP，但...

- 本次目的就是想減少自有主機依賴，變成要遷就雲端提供商的限制
- Cloudflare Workers基本上就是以NodeJS語言為主
- 本次目的是盡可能減少線路「繞圈」與「轉換」，來換取效能

開發緣由

先前都是使用 ealen/echo-server

雖然已包好Docker，架設簡單、輸出結構簡潔漂亮，但是...

- 只有提供JSON格式回傳
- 需要有自己的主機架設
 - 然後我近期的主機資源很吃緊~~~
- 其他原因，下述...

近期對CDN優化有興趣

我以前使用Cloudflare Worker用途

- 網址搬遷時用白名單Mapping表概念，讓特定舊網址跳轉到新網址
- 短網址直接跳轉
- 偵測客戶端特定國家自動跳轉專用網址

後來發現Workers其實可以做到以下事情

- 拿到客戶端傳來的Request
 - URL Params / Query
 - Request Post Body
 - Request Post Body
- 可以控制Response內容
 - 跳轉導向到特定的網址
 - 改寫 Response Body內容
 - 可以直接輸出指定的字串，也包含整串HTML大字串

 評估下來，本次需求僅用以上功能就足夠了！！！

Cloudflare Worker執行能力有限

- 並不是完整的NodeJS環境，只能執行Cloudflare API名單內的function
- 沒有檔案概念，若需要額外資源檔案，需要另外加掛資源空間
 - 也直接導致很難使用ejs之類的模板框架（遇到底層有使用到 eval 與 fs 就會被拒絕執行）

對策：

- 所有資源全部Hard Code寫死內嵌，整理成JS陣列。
- 不使用模板系統，直接靠func整理HTML字串。
 - 但自己在規劃JS Function時仍然會盡量模組化。

提供其他本地架設方式

開發過程90%都是使用Cloudflare提供的wrangler模擬環境測試

但考量隨時會有獨立架設需求，仍有特別製作 `/src/server.js` 供獨立執行使用

`/src/index.js` 核心主功能流程與Cloudflare Workers直接進入點

`/src/server.js` 獨立執行專用 進入點

- 以NodeJS最原生的node:http為主
 - 本次需求沒有複雜的 router、session...等等，也沒有多頁面需求，不使用express這類框架
- 會銜接回 `/src/index.js`，讓所有功能都與Cloudflare Workers模式對齊
 - Cloudflare專屬功能提供的GeoIP資料則無法使用，需要用替代方式處理GeoIP問題。因為我暫時還沒有常駐用的獨立架設需求，就暫時不處理了。

順便練習Docker建置

搭配 Github Actions 自動更新Docker Hub

後續新專案要不要繼續用Cloudflare Worker？

- Cloudflare也有提供
- 大前提：Cloudflare Workers執行能力有限！！！
 - 本次專案已經用了大量的Wordaround方法（尤其是有不少直接Hard Code寫死）
- 如果是傳統電商需求，100%一定不會考慮！！
- fake img 復刻中

就醬，歡迎交流 😊