M 🛐 🛆 🗋 🖬

無痛連結 Google Workspace, REST APIs(進階)



Sr. Full-Stack Engineer

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111 年網路技術推廣研討會

在會議中 有任何疑問時

- 1. 請點擊 Meet 右上角的即時「問與答」功 能提出您的問題!
- 2. 大家可以點擊互動按讚,我們將會優先 回答按讚數較多的問題!

2 (1)		
	分組討論室 分為數個討論群組	
/	問與答 方便使用者提問	
	意見調查 迅速掌握目標對象的看法	



為了確保 會議品質



20	
2	投放這場會議
0	白板 開啟 Jam
۲	錄製會議
88	變更版面配置
53	全螢幕
++	套用視覺效果
CC	字幕 關閉
4	使用電話收發音訊
	回報問題
0	檢舉違規情形
R	疑難排解與說明
()	設定

變更版面配置 × 系統會記住你選取的版面配置,以供日後的會議使用

○ 自動	t
○ 圖塊	
○ 聚光燈	
(回)欄	
並排顯示 無法變更這個版面配置的圖均	8數量



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擁有6年以上的全端工程師之經驗。

現任職 CloudMile 萬里雲開發團隊資深全端工程師, 幫助多家大型企業如金融業、製造業、半導體業、零售業用戶在 CloudMile Goolgle 雲端生態圈建立雲端搬遷之解決方案、數據中台建置解決方案以及GWS 相關服務應用 ex. AppSheet

Google Workspace for Developer
Google Apps Script
Google AppSheet
GCP Data Platform Solution
Full-Stack Development
Devops Solution











01Google Sheet 做為資料庫 結合 AppScript 發布網頁(實作)



How to implement the full process

- 1. Get data from Google Sheets.
- 2. Prepare a simple script for deploying html.
- 3. Prepare a html for rendering the website.

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Get data from Google Sheets





Prepare a simple script for deploying html file

- doGet
- doPost





How to generate the html template?

使用 Web engine, 後端在產製 HTML 時, 會透過計算, 將其轉換成 HTML, 再回傳至瀏覽器端

- Standard scriptlets (<? ... ?>)
- Printing scriptlets (<?= ... ?>)





Standard vs Printing Scriptlets





Rendering data from Google Sheets

Files	AĴZ +	5 ♂	Execution log
Gmail.cs.g		12	
Calander.g		13	
Drive as		15	.openByUrl('https://docs.google.com/spreadsheets/d/1TF0QAZYCdRsAjnNYY6nRzKpi5siFU-AS-ziItUk0STk/edit#gid=0')
- Drive.gs		16	.getActiveSheet()
► PropertySe	rvice.gs	17	.getDataRange()
Sheet.gs		18	.getValues(); ?>
- MySQL.gs		20	var data = getData(); ?
WebGSite.	IS	21 22	<thead class="thead-dark"></thead>
Index.html		23	for (var i = 0; i < 1; i++) { ?
Form html		24	<2 for (upp i = 0; i = dete[i]]ereth; iu) (2;
Formation		25	<pre><? for (var j = 0; j < data[i].length; j++) { ?> <<? to compare the scope = "col"><<? to compare the scope = "col"><<? to compare the scope = "col"><<? to compare the scope = "col"><</pre>
demo.htm	_	27	} ?
Libraries	+	28 29	
Services	+	30 31	
Colordan		32	for (var i = 1; i < data.length; i++) { ?
Calendar		33	
		34	<pre></pre>
		36	} ?
		37	
		38	} ?



••	🧝 script.google.com/a/macros/m × +	×
$\leftrightarrow \rightarrow G$	script.google.com/a/macros/mile.cloud/s/AKfycbyOXN7Qwcf5zv_siHKOvO39vyOY9I-uFmCu8pMUPpA/dev?authuser=0	🖞 🖈 🐚 🗯 🖬 📳 🕄
A	В	
1	2 3	

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Let's go with Apps Script!

您需要先完成以下幾件事:

- A Google Account (登入您的 Google 帳戶) (Google Workspace accounts might require administrator approval)
- 2. A web browser with access to the internet (已連上網路的網頁頁面)
- 3. 開啟「Apps Script」頁面 https://script.google.com/home
- 4. 開啟「練習用程式碼」文件 https://docs.google.com/document/d/1Uv5moXX1P5d9XaNy2Qsdgj6xDfd IIC2JZHT7ULS_ovE/edit



利用 Apps Script 連結外部資料庫 (以 MySQL 為例), 實作 DB 的各項操作

02

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[Recap] Apps Script 有哪些可以儲存資料的方法?

- 1. Properties
- 2. External Database
- 3. Content Service

G Google Workspace Home		Home	Apps Script	All products - Resources -
Overview Guides	Reference	Samples	Support	
⇒ Filter Apps Script dashboard				Home > Google Workspace > Apps Script > Guides Was this helpful?
Explore the development environment	~			* Note: Versions 1.0 and 1.1 of the TLS security protocol are disabled. To establish connections, use TLS 1.2 or higher.
Apps Script runtimes	~			Apps Script can connect to external databases through the JDBC service, a wrapper around the standard Java Database Connectivity technology (7, The JDBC service supports Google Cloud SQL for MySQL (7, MySQL Microsoft SQL Server
Google services and external APIs	~			and Oracle databases.
Types of scripts	~			To update an external database with JDBC, your script must open a connection to the database and then make changes by sending SQL statements.
Extend Google Workspace	~			
Menus, dialogs, and sidebars	~			Google Cloud SQL databases
User interfaces	~			Google Cloud SQL [2] lets you create relational databases that live in Google's cloud. Note that Cloud SQL [2] might incur charges based on your usage.
Store and serve data Script, user, and document properties	^			You can create a Google Cloud SQL instance by following the steps listed in the Cloud SQL quickstart [2].
External databases via JDBC				Creating Google Cloud SQL connections
Content service				There are two wave of actabilishing a connection with a Coopile Claud SOL database using Appe Serint's IDBC particles
Admin management	~			(Recommended) Connecting using Jdbc getCloudSqlConnection(uri)
Convert VBA Macros to Apps	~			Connecting using Jdbc.getConnection(url)
soup	()	67	4	These methods are explained below. Both are valid, but the second method requires you to authorize a set of IP ranges for access to your database





CloudSQL 為 Google Cloud 全託管 的 Database, 可選擇 MySQL, PostgreSQL 或 SQLServer

- Connection Name: jdbc:mysql://{host}:{port}/{db_name}

\$	SQL	Overview	/ EDIT		1 EXPORT	C RESTART	STOP	DELETE					E HELP /	ASSISTANT
PRIM	RY INSTANCE	All instances > ap	pscript-course-c	lemo										
B	Overview	appscript-	course-de	mo										
學	System insights	MySQL 8.0												
aid	Query insights										1 hour 6 h	ours 🗸 1 day	7 days 30 days Custom	-
⋺	Connections	Chart —											€ ~ m	
	Users	CPU ut	lization				• 0						~= 0	
	Databaaaa													
	Databases													
	Backups							o data is available	for the selected time frame.					
	Backups Replicas						A N	o data is available	for the selected time frame.					
III II II	Backups Replicas Operations	UTC+8	12:00 P	M 2:	DO PM	4:00 PM	▲ N4 6:00 PM	o data is available 8:00 PM	for the selected time frame.	5 2:00 AM	4:00 AM	6:00 AM	B:00 AM	
III II	Backups Replicas Operations	UTC+8 → Go to Que	12:00 P y insights for m	M 2: ore in-depth inf	o on queries and	4:00 PM	6:00 PM	o data is available 8:00 PM	for the selected time frame.	5 2:00 ^{AM}	4:00 AM	6:00 AM	B.OD AM	
	Backups Replicas Operations	UTC+8	12:00 P y insights for m	M 2: ore in-depth inf	o on queries and	4:00 PM	€.00PM	o data is available 8:00 PM	for the selected time frame.	5 2:00 AM	4:00 AM	6:00 AM	8-90 AM	
III II	Backups Replicas Operations	utc+8 → Go to Que → Connect	12:00 P y insights for m t to this inst	M 2: ore in-depth inf	oopm o on queries and	4.00 PM	▲ N4 6:00 PM	o data is available BOO PM	10.00 PM Sep	5 2:00 AM	4:00 AM	6.00 AM	BODAM	
	Backups Backups Replicas Operations	UTC+8 → Go to Que → Connec Public IP a	12.00 P y insights for m t to this inst Idress	M 2: ore in-depth inf tance	o on queries and	4.00 PM	6:00 PM	o data is available B.00 PM	10:00 PM Sep	5 2.00AM	4.00 AM	6.00AM	BODAM	
	Backups Backups Replicas Operations	UTC+8 → Go to Que → Connec Public IP ar 35.234	y insights for m t to this inst ldress 51.49	M 2: ore in-depth inf tance	oopm o on queries and	4.00 PM	6:00 PM	o data is available	To the selected time frame.	5 200́АМ	400 AM	6.00 AM	BOD AM SSD storage 100 GB	
	Backups Backups Replicas Operations	UTC+8 → Go to Que → Connect Public IP a 35.234 Connection	1200P y insights for m t to this inst dress 51.49 name	M 2: ore in-depth inf	o on queries and	4:00 PM	6.00 PM	o data is available BOOPM	To the selected time frame.	5 2.00.AM	400 AM ABORN Memory 8 GB	6.00 AM	BODAM SSD storage 100 GB	

- 1. 使用 Properties
- 2. 使用 Jdbc Class
- 3. 撰寫 SQL 語法

Files	ĄZ	+	5 2	■ ▷ Run ▷ Debug checkProperties ▼ Execution log
appsscript.json			1	and evistDranatics - DranaticsCouvies estCouvietDranatics();
Gmail cs gs			2	<pre>const scriptProperties = Propertiesservice.getScriptProperties(); const dbUrl = scriptProperties getProperty("dbUrl");</pre>
Offidil.co.go			3	<pre>const root = scriptProperties.getProperty("root");</pre>
Calendar.gs			4	<pre>const rootPwd = scriptProperties.getProperty("password");</pre>
Drive as			5	
Lineige			6	<pre>function checkProperties() {</pre>
PropertyService.gs			7	<pre>console.log(dbUrl)</pre>
Sheet.gs			8	<pre>console.log(root)</pre>
0			9	<pre>console.log(rootPwd)</pre>
MySQL.gs			10	
WebGSite.gs			12	/**
la des letrel			13	* Create a new table in the database.
index.ntml			14	*/ \
Form.html			15	<pre>function createTable() {</pre>
		- 1	16	try {
Libraries		+	17	<pre>var conn = Jdbc.getConnection(dbUrl,root, rootPwd);</pre>
Services		1	18	<pre>conn.createStatement().execute('CREATE TABLE de2 ' +</pre>
Services		1	19	'(guestName VARCHAR(255), content VARCHAR(255), ' +
Calendar			20	<pre>'entryID INI NOT NULL AUTO_INCREMENT, PRIMARY KEY(entryID));');</pre>
Culendar			21	<pre>// TODO(developer) - Handle exception from the APT</pre>
			23	console.log('Failed with an error %s', err.message)
			24	}
			25	}
			26	





```
Step2. 新增資料
```

- 1. 使用 Properties
- 2. 使用 Jdbc Class
- 3. 撰寫 SQL 語法

```
/**
* Write one row of data to a table.
*/
function writeOneRecord() {
 try {
   var conn = Jdbc.getConnection(dbUrl,root, rootPwd);
    const stmt = conn.prepareStatement('INSERT INTO de2 ' +
      '(guestName, content) values (?, ?)');
    stmt.setString(1, 'First Guest');
    stmt.setString(2, 'Hello, world');
    stmt.execute();
    catch (err) {
    // TODO(developer) - Handle exception from the API
    console.log('Failed with an error %s', err.message);
```

Step3. 讀取資料

- 1. 使用 Properties
- 2. 使用 Jdbc Class

(

<>

J

© ■,

3. 撰寫 SQL 語法

Files	Ą̂z +	5 2	▶ Run ▷ Debug checkProperties ▼ Execution log
appsscript.json	-	45	* Read up to 1000 rows of data from the table and log them.
		46	*/
-mail.cs.gs		47	<pre>tunction readFromTable() { tunction readFromTable() {</pre>
Calendar.gs		48	try {
		49	const conin = Jubc.getconnection(dburi, root, rootPwd);
Drive.gs		50	const start = new Date(),
PropertyService.gs		52	stmt_setMayRows(1000):
		53	const results = stmt.executeOuery('SELECT * FROM de2'):
heet.gs		54	<pre>const numCols = results.getMetaData().getColumnCount();</pre>
lySQL.gs	-	55	
		56	<pre>while (results.next()) {</pre>
VebGSite.gs		57	<pre>let rowString = '';</pre>
ndex.html		58	<pre>for (let col = 0; col < numCols; col++) {</pre>
		59	<pre>rowString += results.getString(col + 1) + '\t';</pre>
orm.html		60	}
ibrarios	1. J. J.	61	<pre>console.log(rowString);</pre>
ipraries	Ť	62	<i>Y</i>
ervices	+	63	results.close();
		64	<pre>stmt.close();</pre>
alendar		65	
alenuar		66	<pre>const end = new Date();</pre>
		67	<pre>console.log('Time elapsed: %sms', end - start);</pre>
		68	<pre>} catch (err) {</pre>
		69	// IUDU(developer) - Handle exception from the API
		70	console.log('Falled with an error %s', err.message);
		/ 1	1

03 使用 LINE Notify + Google Apps Script 構建網站監控機器人 (實作)









LINE BOT 是一款能夠透過LINE平台與使用者互動的聊天機器人。它可以協助企業或個人建立與客戶之間 便利的溝通管道,並且自動化處理許多日常業務和服務。

透過Line Bot, 使用者可以輕鬆地查詢商品資訊、訂餐、預約、付款、客服等等, 不需要額外下載 應用程式或 登入網頁, 也不需要等待人工回覆。





Line Notify

LINE Notify 是一個「訊息推播」服務!

LINE 官方提供了一個 LINE Notify 帳號, 它也是一個 LINE chatbot。

只要使用者有訂閱你的 LINE Notify 推播服務,當你發送訊息的時候,使 用者就會透過這個 LINE Notify 帳號收到通知。

因此我們都可以成為服務提供者,發送推播給任何人,而且完全不用任何費用。

5:02 4 .ul হ 99+ **1** LINE Notify Q Ξ = has been generated. "test-1-on-1" has been disconnected. 下午5:01 "test-1-on-1" has been disconnected. 下午5:01 Your personal access token has been generated. test-1-on-1: https://notifybot.line.me/doc/en/ 回應時間1秒!回應碼:200 **LINE Notify** LINE Notify 是一項非常方 LINE Notify 便的服務,用戶可以透過 \odot 輸入訊息 Q The l'm < **Y** → W 0 Q Е R Т U Ρ S D F G н J K L Α Ζ X С v В Ν Μ $\langle \mathbf{X} |$ \odot 123 space return Ŷ

Line Notify + 監控網頁服務是否正常運作

Step1. 產生 Notify Token Step2. 學習如何發送 HTTPS Request Step3. 判斷監控機制 Step4. 發送 Line Notify

Files AZ -▶ Run Ŋ Debug doMonitor ▼ Execution log 5 (i) const token = 'SzjTxv7FSf7KcnwF2schvaoEacZf24B36UE4aglqYvq'; <> appsscript.json 2 const monitors = [Code.gs 3 'https://notify-bot.line.me/doc/en/', +Libraries (1) // 執行監測 +Services E. const limit = 10; // 超過幾毫秒就推播訊息, 1000毫秒 = 1秒 function doMonitor() 63 10 for(let i = 0, len = monitors.length; i < len; i++) {</pre> const url = monitors[i]; const start = new Date().getTime(); const res = UrlFetchApp.fetch(url, { muteHttpExceptions: true }).getResponseCode(); 14 15 // 先檢查回應碼是否為 200 16 if(res === 200) { // 是 200 就計算時間 18 const end = new Date().getTime(); 19 const distance = end - start; 20 if(distance > limit) { sendMessage(url + '\n回應時間 ' + (Math.ceil(distance / 1000)) + ' 秒!回應碼: ' + res) 24 // 不是 200 就發訊息 25 else { sendMessage(url + '\n回應碼異常:' + res) 26

demo_for_course_adv



Receive web service notifications on LINE

Link: https://notify-bot.line.me/en/





Link: https://notify-bot.line.me/en/





Link: https://notify-bot.line.me/en/















Step2 產生 HTTPS Requests

Datum

G Google Workspace	Home Apps Script All products - Resources -	Q Search	ę
Overview Guides Reference	Samples Support		
≂ Filter	Detailed documentation		
Utility services • API & database connections	fetch(url)		
 BigQuery 	Makes a request to fetch a URL.		
 JDBC URL Fetch 	This works over HTTP as well as HTTPS.		٦.
Overview UrlFetchApp	// The code below logs the HTML code of the Google home page.	Ф	Ū
Classes HTTPResponse	<pre>var response = UrlFetchApp.fetch("http://www.google.com/"); Logger.log(response.getContentText());</pre>		
 Data usability & optimization HTML & content Script execution & information 	Parameters		
Script project resources	Name Type Description		
 Automation triggers and events Manifest Ouotas & limits 	url String The URL to fetch. The URL can have up to 2,082 characters.		



Step3 判斷監控機制

Apps Script demo_for_course_adv



Deploy 👻

Step4 發送 Notify!

Files AZ +	S C ■ P Run Debug doMonitor ▼ Execution log	5:02 🕇	.ul 🗢 🔳
appsscript.json	15 // 先檢查回應碼是否為 200 16 if(res === 200) {	< 99+ 0 LINE Notify	QEE
Code.gs	17 // 是 200 就計算時間	has been generated.	下午5:01
	<pre>18</pre>	"test-1-on-1" has been disconnected.	下午 5:01
Libraries +	20 if(distance > limit) {	"test-1-on-1" has been disconnected.	TALE
Services +	21 sendMessage(url + '\n回應時間 ' + (Math.ceil(distance / 1000)) + ' 秒!回應碼:' + res 22 }) Your personal access to has been concrated	kon
	<pre>24 // 不是 200 航發訊息 else { sendMessage(url + '\n回應碼異常:' + res) } 26 sendMessage(url + '\n回應碼異常:' + res) 27 } 28 } 29 } 29 } 20 // 發送訊息 function sendMessage(message) { const option = { method: 'post', headers: { Authorization: 'Bearer ' + token }, payload: { message: message } 30 }; </pre>	bot.line.me/doc/en/ 回應時間1秒1回應碼: Line Notify Line Notify 此時E Notify是一項非新了 使的服務,用戶可以透過…) 輸入訊息 I The Q W E R T Y A S D F G F 本 Z X C V E 123 @ space	200 () () () () () () () () () ()

04 LINE Notify + Google Apps Script 構 建 Google Calendar 會議提醒 (實作)



Step1 建立 Apps Script 程式碼







X 4	Apps Script demo_for_course_adv		Deploy 🕶 🛛 🏦 🛞
i	Triggers	Add Trigger for demo_for_course_adv	Showing 0 triggers
\leftrightarrow	+ Add a filter		
C)	Owned by Last run	Choose which function to run Failure notification settings +	Error rate
≡,		calanderEvent Notify me immediately	
(3)		Choose which deployment should run	
		Version 4	
		Select event source	
		From calendar 🗸	
		Enter calendar details	
		Calendar updated	
		Calendar owner email	
		welly.zhang@mile.cloud	
		Cancel Save	
			+ Add Trigger



Step3 確認 Trigger 是否正確

Triggers					Showing 1
+ Add a filter					
Owned by	Last run	Deployment	Event	Function	Error rate
Me	-	Version 4	Calendar - Changed	calanderEvent	



Thank You!

