

國立臺灣科技大學資訊工程系

110 學年度第1 學期專題研究

總報告

CMS 物聯網裝置管理系統

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一、動機

本專題是與盛翔科技股份有限公司(Centron Design) (<https://www.centron.tw>) 合作，改善其現有產品的設備管理系統和應用程式，名為CMS (Content Management System)。因為現有的CMS系統缺乏部分功能，操作畫面也較為陽春，因此，本專題對此系統進行(1)修改操作畫面、數據顯示 (2)增加新的管理功能，使操作畫面更整潔，功能更齊全，使用者體驗更好。

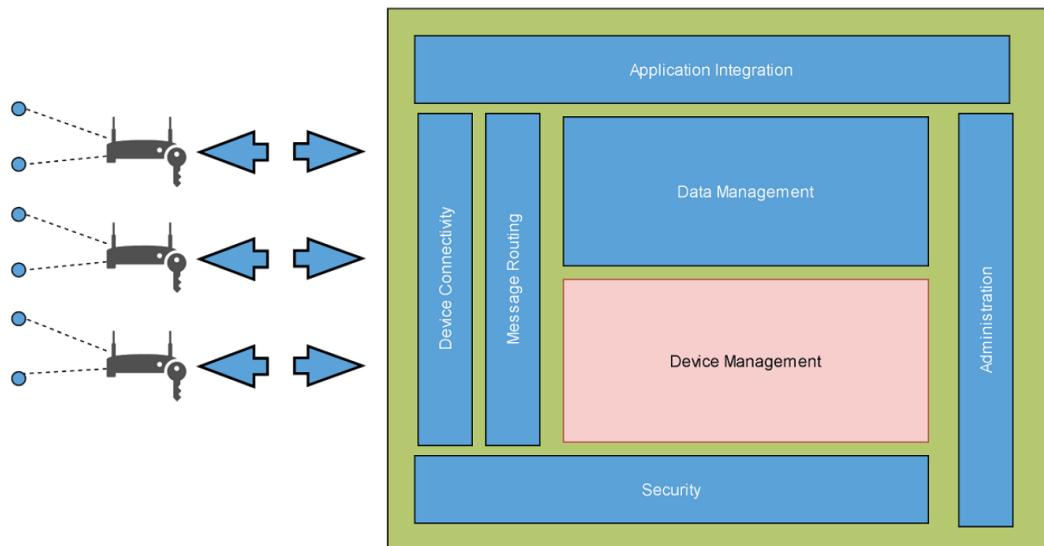
二、簡介

此設備管理系統的開發是基於Eclipse Kapua。Eclipse Kapua是Eclipse IoT開源項目下的一個模組化物聯網雲端平台，用於管理和整合設備及其數據，適用於任何物聯網應用的物聯網服務平台。

主要分為四個部分：

- (1)連接:通過 MQTT和其他協議將IoT設備連接到Kapua
- (2)管理:管理設備應用程序、配置和資源啟動遠程管理
- (3)儲存和分析:儲存IoT設備發布的數據，以便快速分析和可視化到儀表板中
- (4)整合:通過靈活的訊息傳送路徑和REST API將Kapua服務和IT應用程序整合

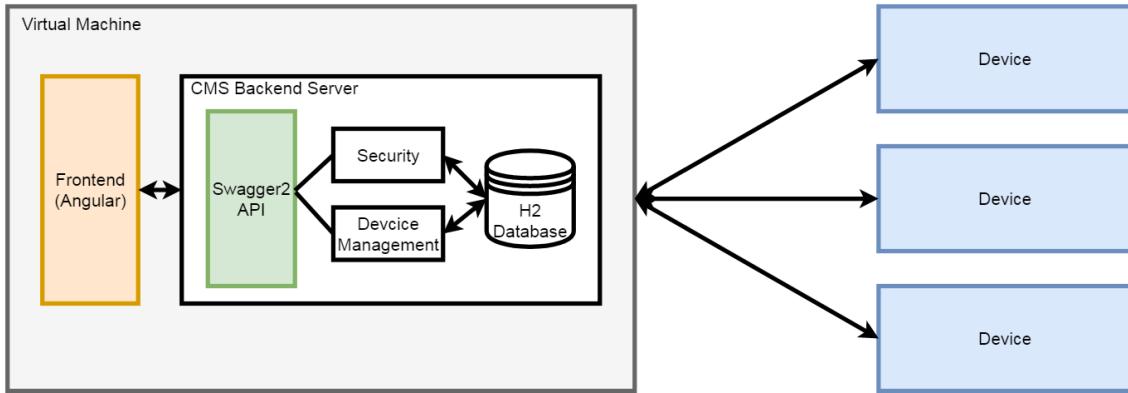
整個Kapua的架構圖如下：



因此這套CMS系統是把設備當成物聯網裝置來進行管理，而本專題所開發的部分是專注在設備管理的模組，開發時所需要的技能如下：

- 語言:HTML、CSS、TypeScript、Java
- 前端:Angular框架
- 後端:Java Transaction API、Eclipse Kapua、Apache Maven、H2 Database
- 其他:Vagrant(用於伺服器虛擬機的建立)

如下圖所示，前後端程式碼開發完後，使用Vagrant將程式碼整合至虛擬機裡面，以方便伺服器的發行與部署。



本系統擁有以下特色：

- 使用隱藏式選單，避免佔用版面
- 建立儀表板(資料總覽)，將設備的重要數據使用圖形與捲軸表示，更為清楚
- 明確規範各帳號與設備的使用權限
- 使用群組功能，可以輕鬆管理子帳號或設備
- 新增訊息頁面，可用於各帳號與設備之間的訊息傳遞

三、新增與修改項目

[前端新增與修改項目]

1. 使用card顯示重要訊息
2. 使用按鈕轉跳詳細頁面
3. 新增dashboard頁面，內容包含：
 - device數量
 - 啟動中的device數量
 - device的種類
 - app啟動時間
 - 所有device的event(由新到舊)
4. 新增app repository頁面
 - 統一安裝app在device或group上
 - 顯示app的圖片
5. 新增message頁面
 - 獨立出message功能

[後端新增與修改項目]

1. API

- deviceTypeNumbe:回傳該scopeId底下一共有多少種類的device
- deviceTypeList:回傳該scopeId底下所有device種類名稱以及數量
- sortedEvents:回傳該scopeId底下所有event，並依照時間排序
- bundles:修改其格式，新增<runningTime>欄位
- addDeviceNotification:給予scopeId以及notification的必要資訊，新增一筆資料在資料庫
- getDeviceNotificationList:回傳該scopeId底下所有device notification的列表

2. 資料庫

- device_notification_msg:用來儲存notification

3. PIDevice controller(由Klif協助)

- 新增計算APP運作時間的功能，並可將此資訊透過bundle功能傳給server

四、Use Case

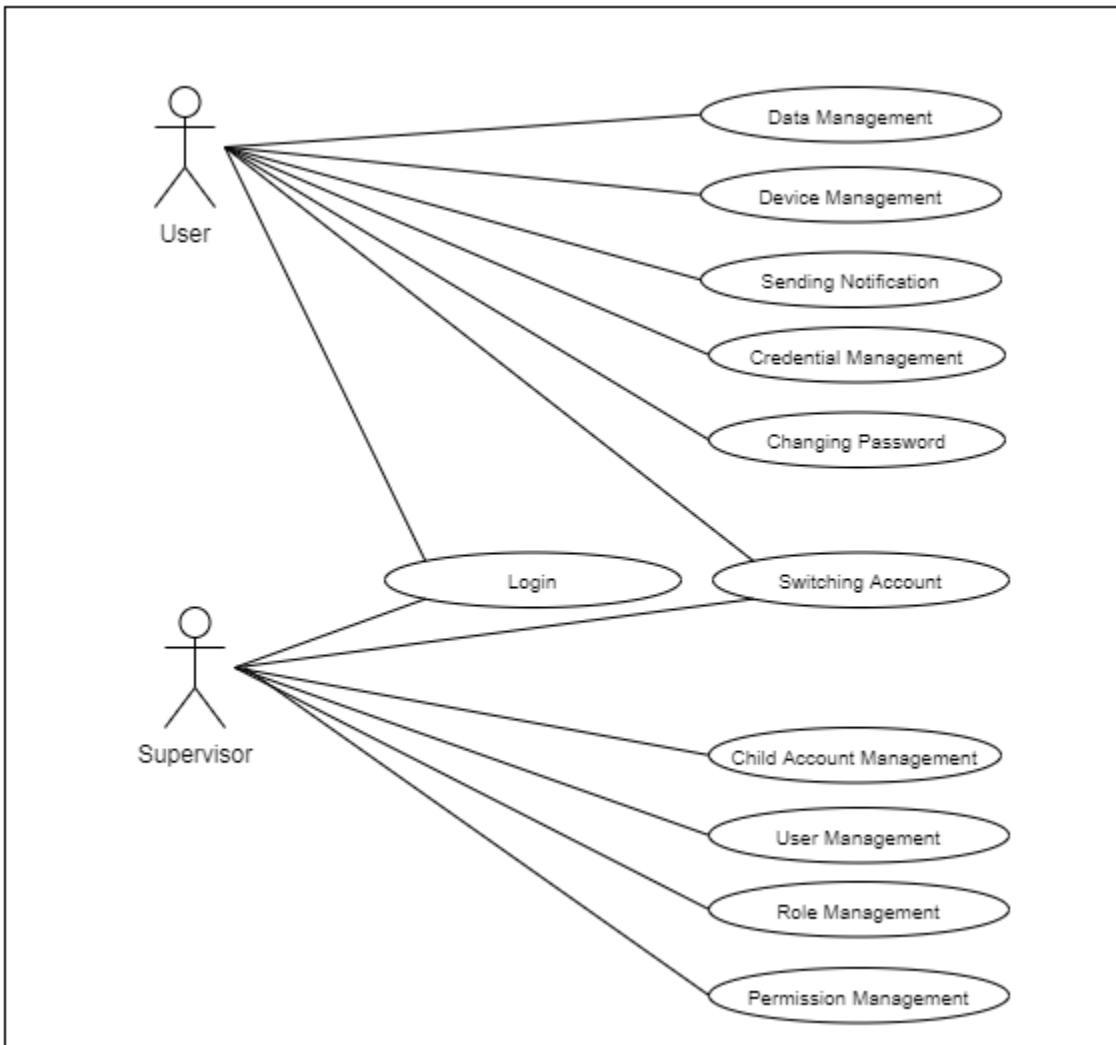
Case總表 & 行為者簡述

(1)User

執行一般device與資料管理，以及傳送notification

(2)Supervisor

執行與其他user相關知操作，包含role以及child account的管理等



CASE1: 登入

1.1 行為者

User, Supervisor

1.2 描述

驗證身分並登入系統

1.3 步驟

(1) 登入後會直接進入dashboard頁面

1.4 例外狀況

(1) 帳號或密碼輸入錯誤

如果帳號或密碼輸入錯誤，上方會跳出錯誤訊息

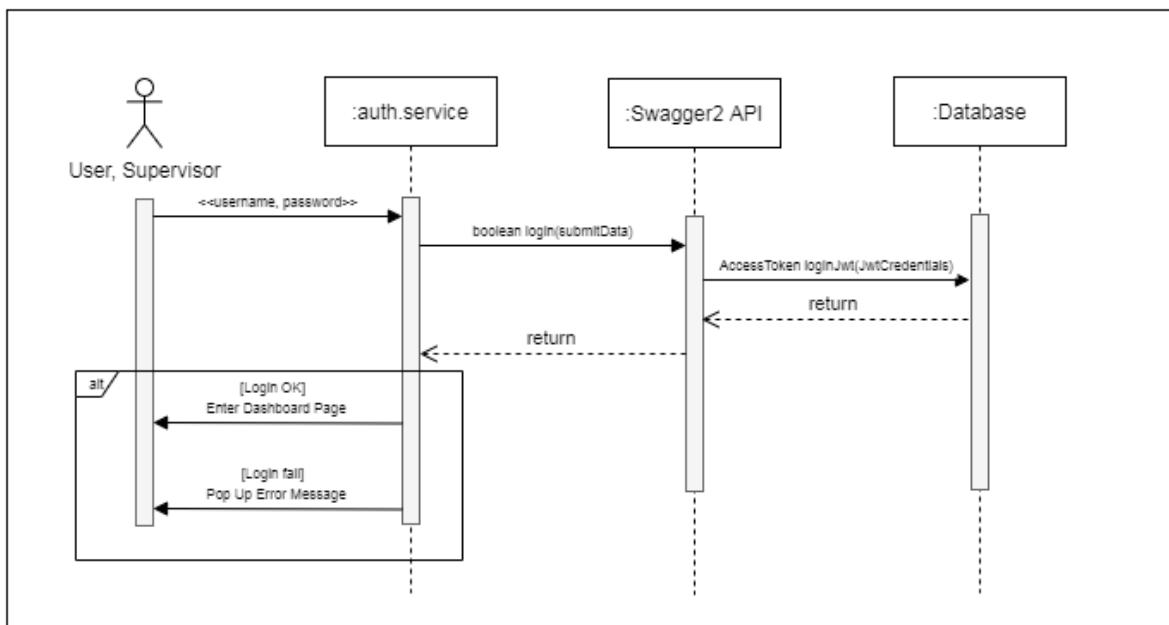
(2) 註冊帳號

如果沒有帳號可以登入可以先註冊一個新的帳號，按下"Go to add account" 進入註冊頁面

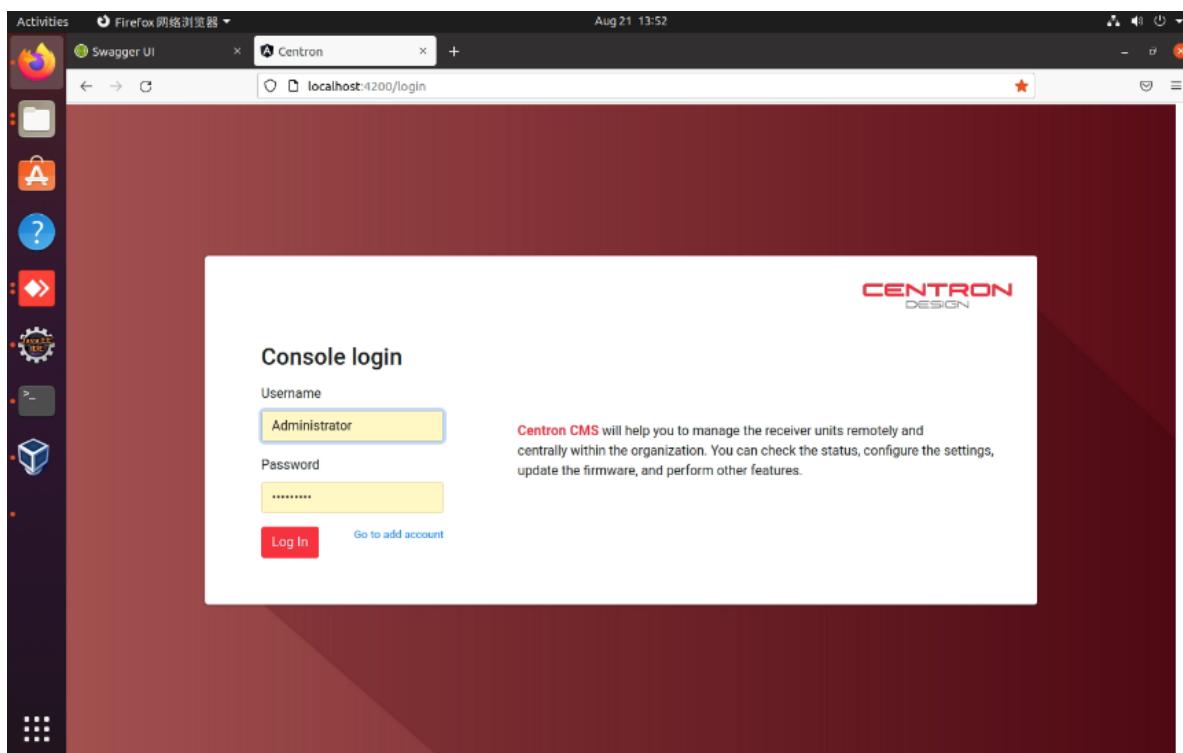
(3) 權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

1.5 圖表



1.6 實際畫面



Case2: 數據總覽

2.1 行為者

User

2.2 描述

User登入系統後，於dashboard的畫面可以看到系統的各種數據

2.3 步驟

(1)由左方sidebar進入dashboard頁面

(2)Dashboard展示了下列數據：

- Device數量
- 使用中device數量
- Device型號與佔比
- App使用時間
- Event列表(由新到舊)

(3)點擊圖表的下方項目，可以隱藏or顯示該項目

2.4 例外狀況

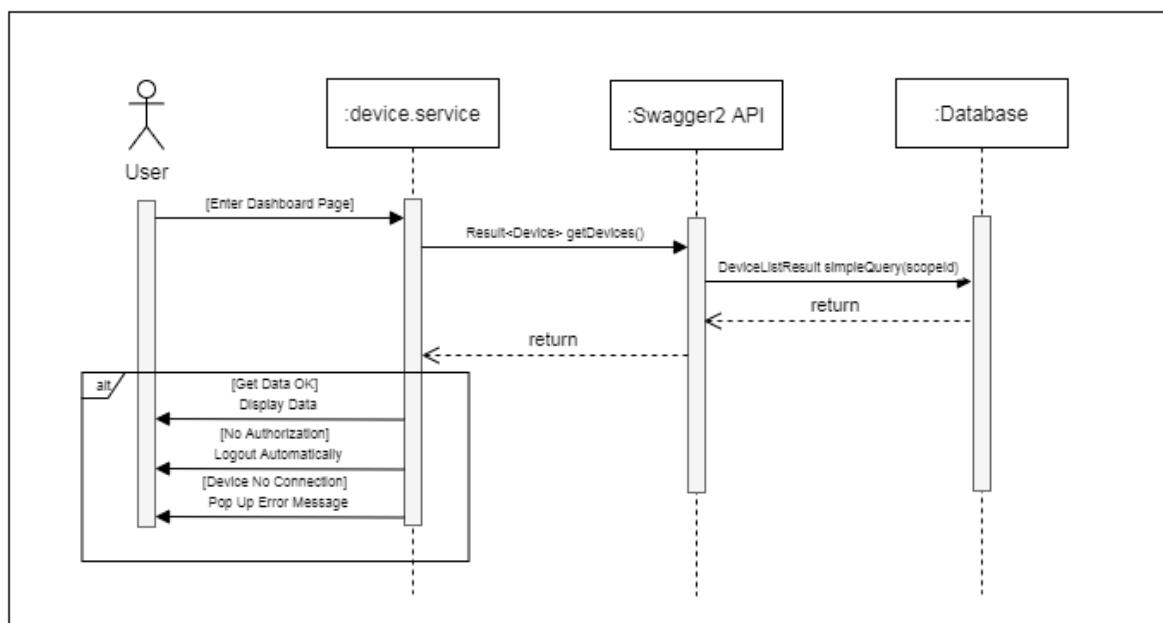
(1)Device未連線

若device未上遠端裝置，會跳出錯誤訊息，告知App Usage無法取得資料

(2)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

2.5 圖表



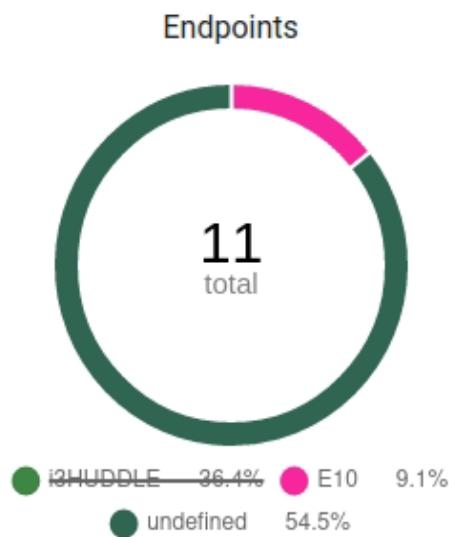
2.6 實際畫面

The screenshot shows a Firefox browser window displaying the Centron Design dashboard at `localhost:4200/dashboard`. The dashboard has a sidebar on the left with various icons. The main area is divided into four cards:

- Devices**: Shows 11 devices.
- Active Devices**: Shows 0 active devices.
- Endpoints**: Shows 11 total endpoints. A donut chart details the distribution: iSHUDDLE (36.4%), undefined (54.5%), and E10 (9.1%).
- App Usage**: Shows a total time of 1:42:28. A donut chart details the usage by application: hello (green), app (dark blue), test (light blue), cool (purple), and others (pink).

To the right, there is a sidebar titled "Event" listing the following entries:

Event	Date
DEPLOY-EXECUTE	2021-03-10 09:58:07
BIRTH-CREATE	2021-03-10 09:57:51
DEPLOY-EXECUTE	2021-03-10 09:56:26
BIRTH-CREATE	2021-03-10 09:56:14
DEPLOY-EXECUTE	2021-03-10 09:53:17
BIRTH-CREATE	2021-03-10 09:51:55
DEPLOY-EXECUTE	2021-03-10 09:51:42
DEPLOY-EXECUTE	2021-03-10 09:51:34
DEPLOY-EXECUTE	2021-03-10 09:50:41
BIRTH-CREATE	2021-03-10 09:50:34



Case3:Device管理

3.1 行為者

User

3.2 描述

在device列表與device詳細資料頁面，可進行device的查看/新增/編輯/刪除/搜尋/資訊匯出

3.3 步驟

- (1)由左方sidebar進入device頁面
- (2.a)點擊detail按鈕，即可進入device詳細資訊的頁面

- (2.b)按add -> 輸入必要資訊 -> submit，即完成device新增
- (2.c)擇一device -> 按edit -> 編輯 -> submit，即完成device編輯
- (2.d)擇一device -> 按delete -> submit，即完成device刪除
- (2.e)使用search搜尋特定條件的device
- (2.f)按export to csv -> 匯出成csv檔

3.4 例外狀況

- (1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

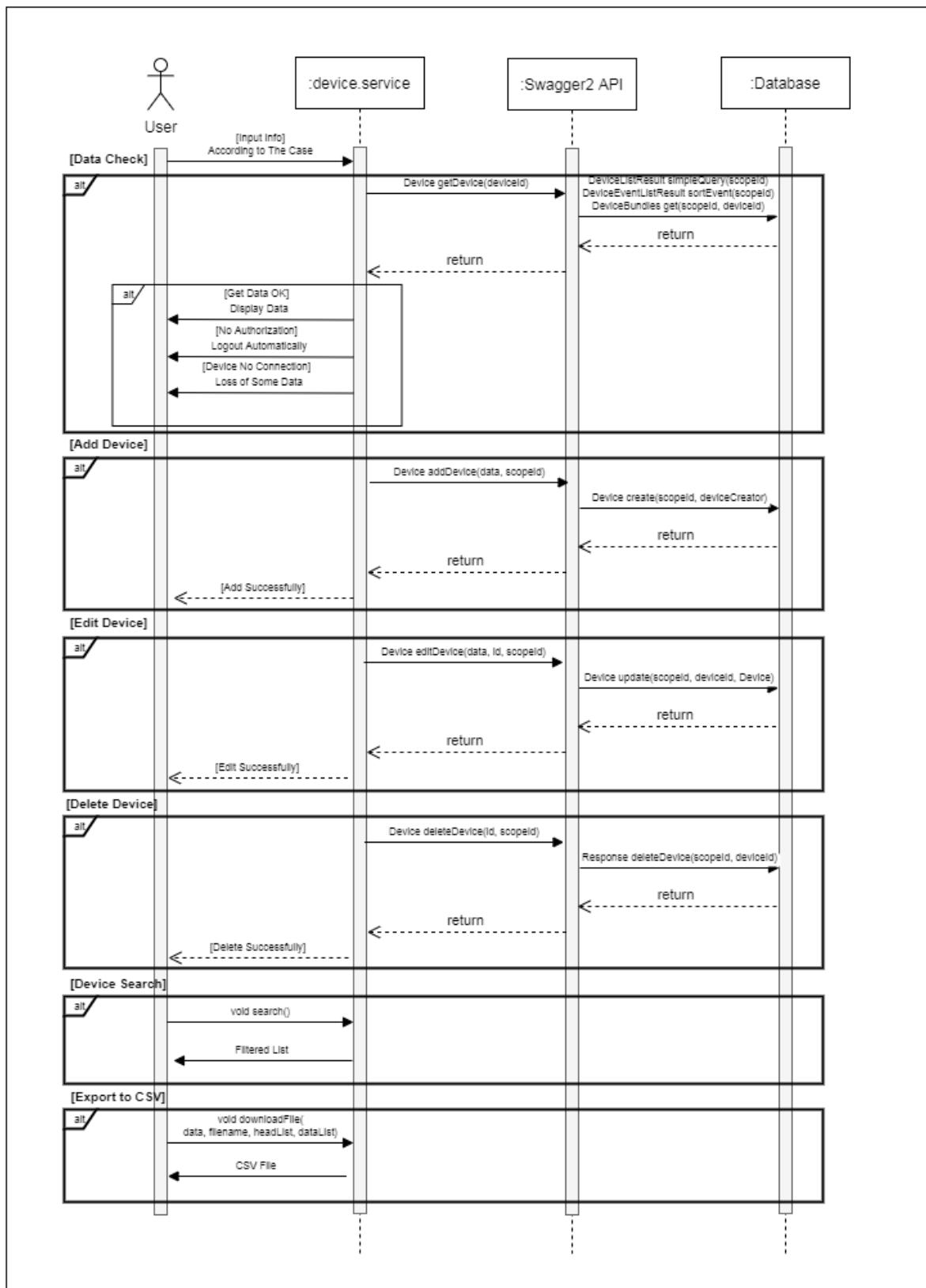
- (2)Device沒登入

在進入device詳細資訊頁面後如果device未連線將有部分資訊無法顯示

- (3)Device斷線

在進入device詳細資訊頁面後如果device斷線將有部分資訊無法顯示，
並顯示錯誤訊息

3.5 圖表



3.6 實際畫面

Activities Firefox 網絡瀏覽器 ▾ Aug 21 14:10

Centron CMS Administrator @ Centron

localhost:4200/devices/devicetable

CENTRON DESIGN

Device

Devices 11 Active Devices 0

Delete Send Message Refresh Search Export to CSV

Status	Display Name	Id	Ip Address	Device Name	Model ID	Detail
	NS1000_KS1	OxbM9eoC4mg	10.10.18.73	NS1000_KS1	i3Huddle	
	NS1000_KS2	LoDjWxWXoLg	10.10.18.73	NS1000_KS2	i3Huddle	
	NS1000_KS3	GvLhfWIX0HB	10.10.18.73	NS1000_KS3	i3Huddle	
V1.10	NS1000_TPE1	BOuVCSGLcRM	10.10.18.73	NS1000_TPE1	i3Huddle	
	SynCast-CT1800-4050	Fgusgi7rOEE	10.10.18.56	SynCast-CT1800-4050	E10	

Items per page: 5 1 - 5 of 11 | < < > > |

Activities Firefox 網絡瀏覽器 ▾ Aug 21 14:13

Centron CMS Administrator @ Centron

localhost:4200/devices/OxbM9eoC4mg/detail

CENTRON DESIGN

NS1000_KS1

Model: i3Huddle
Serial

OS Version: WIN8

App Usage: 1:42:28 total time

hello app test cool others

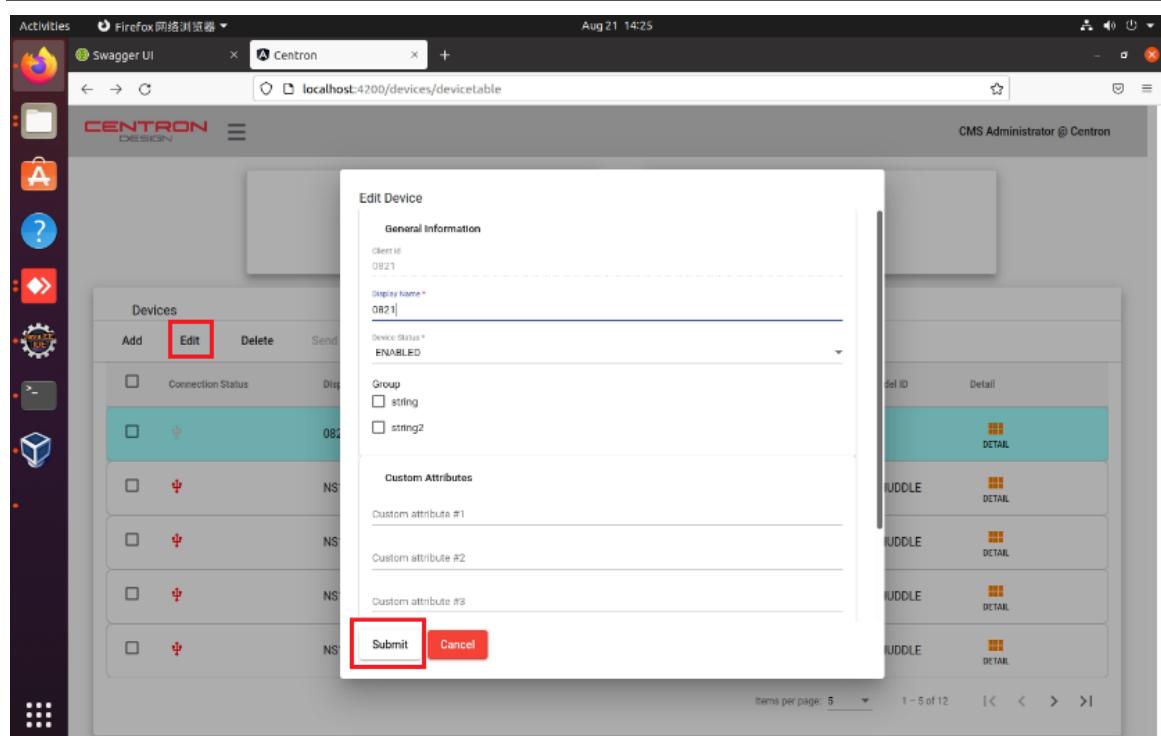
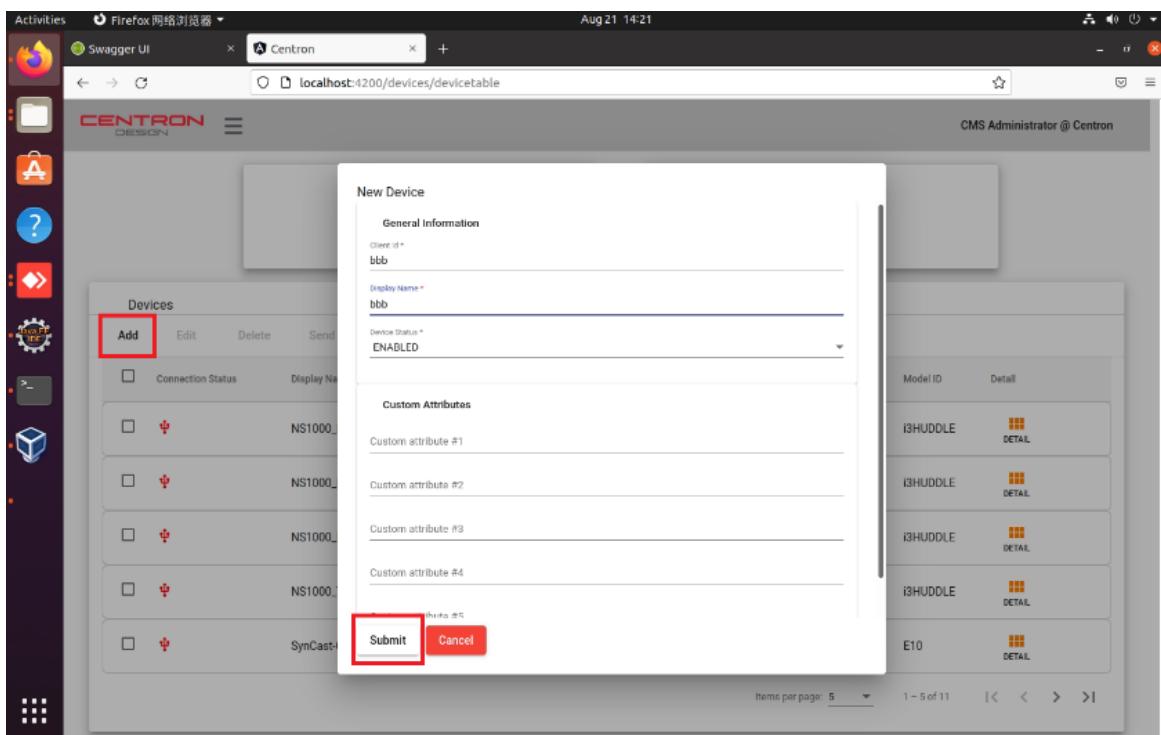
Apps: 0 **Active apps**: 0 **Groups**: 0

BIRTH- CREATE 2021-03-10 08:00:40
DEPLOY- EXECUTE 2021-03-10 07:12:22
DEPLOY- EXECUTE 2021-03-10 06:59:48
DEPLOY- EXECUTE 2021-03-10 06:59:42
DEPLOY- EXECUTE 2021-03-10 06:59:34
BIRTH- CREATE 2021-03-10 06:59:07
BIRTH- CREATE 2021-03-10 06:39:53
BIRTH- CREATE 2021-03-10 06:35:00
BIRTH- 2021-03-10

Specs & Actions

ONLINE **STORAGE**

LOCK



Firefox 网络浏览器 - localhost:4200/devices/devicetable

Centron CMS Administrator @ Centron

Devices

Active Devices 0

Devices

Add Edit Delete Send Message Refresh Search Export to CSV

警告
確定要刪除此Device?

Submit Cancel

Model ID	Detail
0821	DETAIL
NS1000_KS2	DETAIL
NS1000_KS3	DETAIL
NS1000_TPE1	DETAIL

Items per page: 5 | 1 - 5 of 12 | < > >>

Firefox 网络浏览器 - localhost:4200/devices/devicetable

Centron CMS Administrator @ Centron

Devices

Active Devices 0

Search

Filter by Display Name

Filter by IP

Filter by Device name

Filter by Device Model ID

Group
No Group
No Group
string
string2
0821group

Model ID	Detail
0821	DETAIL
NS1000_KS2	DETAIL
NS1000_KS3	DETAIL
NS1000_TPE1	DETAIL

Items per page: 5 | 1 - 5 of 12 | < > >>

	Standard Client ID	Standard Status	Standard Connection Status	Standard Created On
1	0821	ENABLED	DISCONNECTED	2021-08-21T
2	NS1000_KS1	ENABLED	DISCONNECTED	2021-03-09T
3	NS1000_KS2	ENABLED	DISCONNECTED	2021-03-09T
4	NS1000_KS3	ENABLED	DISCONNECTED	2021-03-09T
5	NS1000_TPE1	ENABLED	DISCONNECTED	2021-01-29T
6	SynCast-CT1800-4050	ENABLED	DISCONNECTED	2021-03-09T
7	TT	ENABLED	DISCONNECTED	2021-03-10T

Case4: 傳送notification

4.1 行為者

User

4.2 描述

發送訊息給一個或多個device

4.3 步驟

4.3.1 選device傳送

- (1)把一個或多個device打勾 -> 按send message -> 輸入標題與內文 -> submit，即完成傳送notification -> 遠端裝置跳出訊息顯示已收到
- (2)若要傳給列表上所有的device，則可以使用全選功能

4.3.2 利用group傳送

- (1)左方sidebar進入group頁面 -> 按add -> 輸入group名稱 -> submit，完成group的建立
- (2)到device頁面 -> detail -> 選擇group頁面 -> 將此device加入至group -> 回到group頁面 -> detail -> 可檢查device是否已加入至group
- (3)回到device頁面 -> 按search -> 由group篩選device -> 後續步驟同「傳訊息給所有device」

4.3.3 利用message頁面傳送

- (1)由左方sidebar進入message 頁面 -> 按add -> 選擇device或group(也可以用名字搜尋) -> submit -> 遠端裝置跳出訊息顯示已收到訊息

4.4 例外狀況

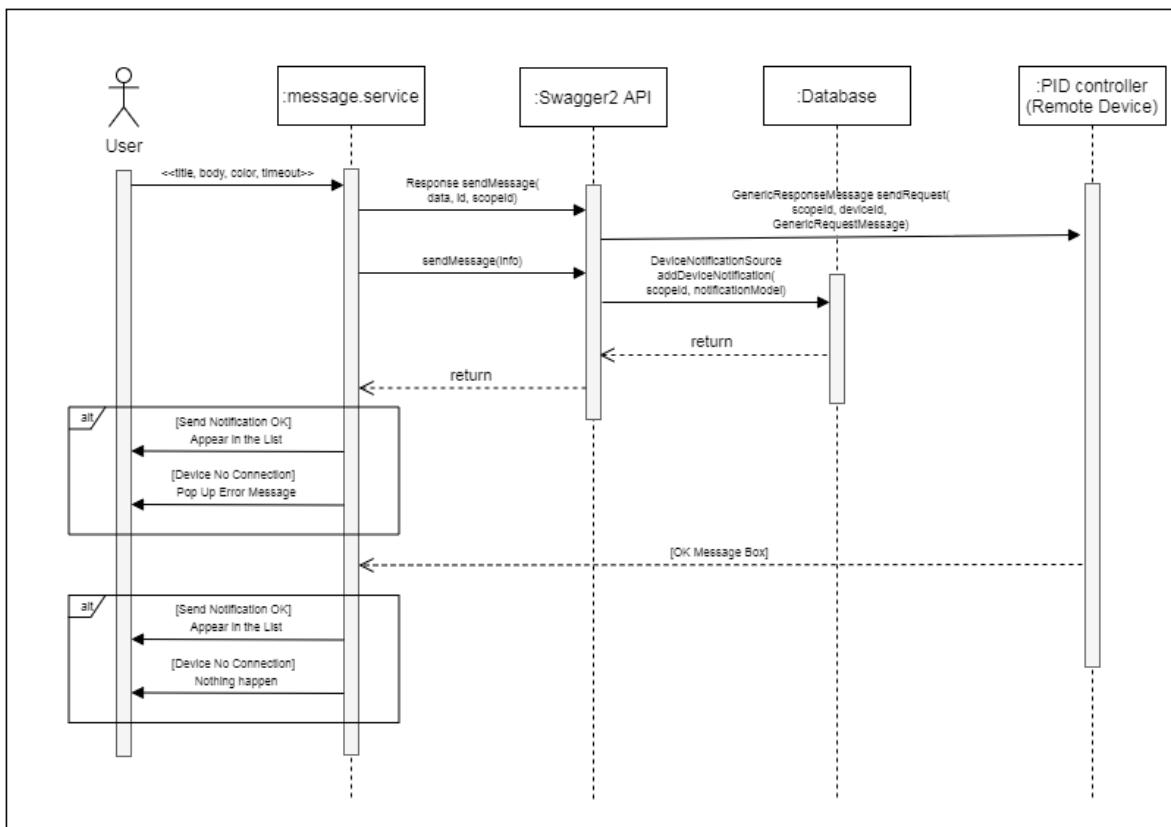
- (1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

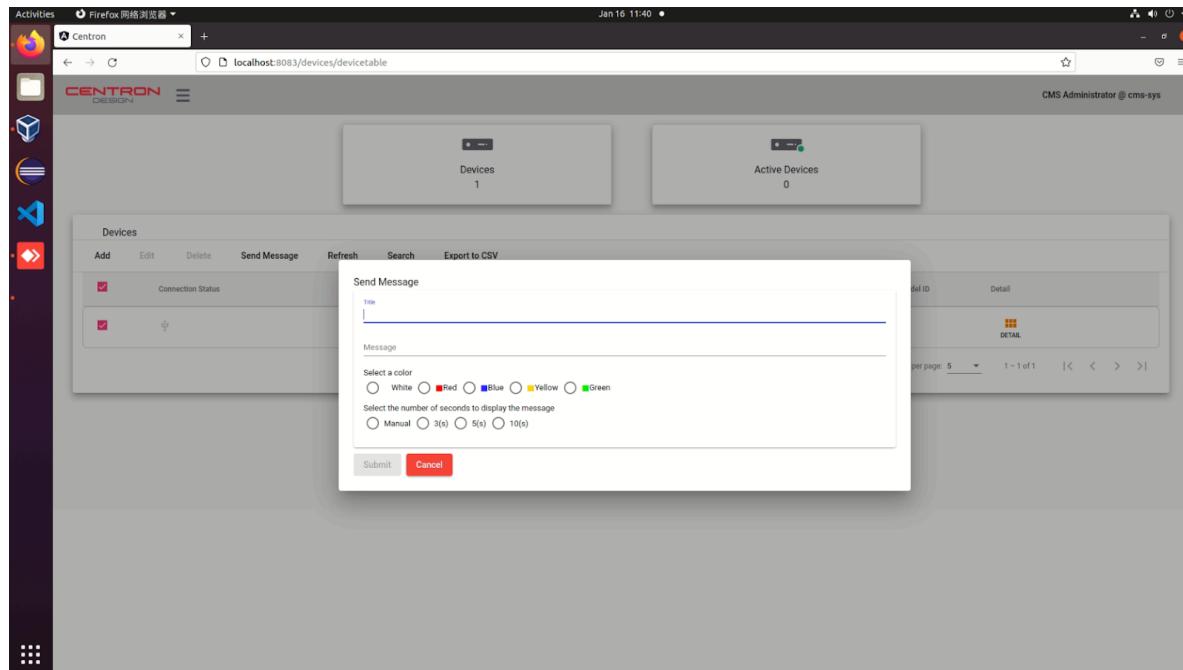
- (2)Device沒登入或斷線

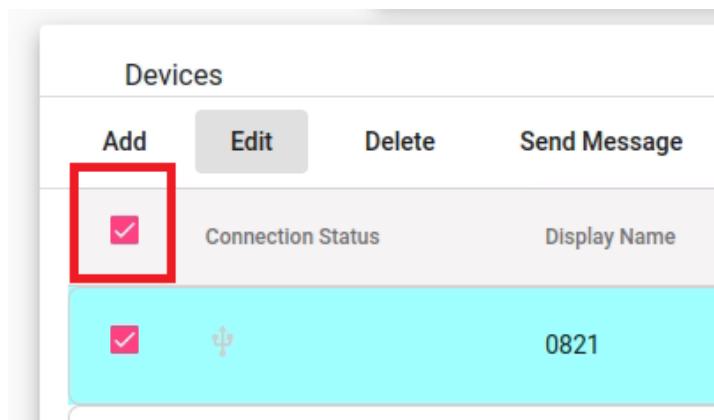
Device如果沒登入或斷線將無法收到notification

4.5 圖表



4.6 實際畫面





The screenshot shows a 'Groups' management interface. On the left, there is a sidebar with various icons. The main area displays a table with columns: 'Group Name', 'Created On', 'Created By', 'Assigned Devices', and 'Actions'. There are two entries: 'string' (Created On: 2021-08-15 12:13:26, Created By: ZBJ_PnTYWNw, Assigned Devices: 1) and 'string2' (Created On: 2021-08-20 09:13:56, Created By: AQ). A modal window titled 'New Group' is open, prompting the user to 'Create a new Group.' with a text input field containing '0821group'. At the bottom of the modal are 'Submit' and 'Cancel' buttons. A red box highlights the 'Submit' button.

Group Name	Created On	Created By	Assigned Devices	Actions
string	2021-08-15 12:13:26	ZBJ_PnTYWNw	1	EDIT
string2	2021-08-20 09:13:56	AQ		EDIT

The screenshot shows a 'Groups' management interface. At the top, there are tabs for 'AppManagement' and 'Groups', with 'Groups' being the active tab and highlighted with a red box. Below the tabs is a 'Refresh' button. The main area displays a table with columns: 'Group Name', 'Created On', 'Created By', and 'Actions'. There are three entries: 'string' (Created On: 2021-08-15 12:13:26, Created By: ZBJ_PnTYWNw, Actions: none), 'string2' (Created On: 2021-08-20 09:13:56, Created By: AQ, Actions: none), and '0821group' (Created On: 2021-08-21 02:42:46, Created By: AQ, Actions: checked). A red box highlights the checked checkbox in the 'Actions' column for the '0821group' entry. At the bottom, there are pagination controls and a message 'Items per page: 5'.

Group Name	Created On	Created By	Actions
string	2021-08-15 12:13:26	ZBJ_PnTYWNw	<input type="checkbox"/>
string2	2021-08-20 09:13:56	AQ	<input type="checkbox"/>
0821group	2021-08-21 02:42:46	AQ	<input checked="" type="checkbox"/>

Activities Firefox 网络浏览器 ▾ Aug 21 14:49

Centron Centron localhost:4200/devices/devicetable CMS Administrator @ Centron

CENTRON DESIGN

Devices 12 Active Devices 0

Search

Filter by Display Name

Filter by IP

Filter by Device name

Filter by Device Model ID

Group
No Group
No Group
string
string2
0821group

Model ID	Detail
0821	DETAIL
NS1000_HDLE	DETAIL

Items per page: 5 1 – 5 of 12 | < < > >|

Activities Firefox 网络浏览器 ▾ Jan 16 11:41

Centron Centron localhost:8083/messages CMS Administrator @ cms-sys

CENTRON DESIGN

Message

Add Refresh search

Subject Sent Date Sent to Device

Send Message

Title

Message

Select a color
 White Red Blue Yellow Green

Select the number of seconds to display the message
 Manual 3(s) 5(s) 10(s)

device or group

search

Submit Cancel

Assigned Devices

Refresh

Client ID	Name
0821	0821

Items per page: 5 1 – 1 of 1 | < < > >|

Case5:User管理

5.1 行為者

Supervisor

5.2 描述

在user列表與user詳細資料頁面，可進行user的查看/新增/編輯/刪除

5.3 步驟

(1)由左方sidebar進入user頁面

(2.a)點detail按鈕 -> 查看

(2.b)點add按鈕 -> 輸入必要資訊 -> submit，即完成user新增

(2.c)點edit按鈕 -> 修改資訊 -> submit，即完成user編輯，可編輯項目有：

- Display name
- Email
- Phone number
- Status
- Expiration date

(2.d)選取一user -> 點delete按鈕 -> submit，即完成user刪除

5.4 例外狀況

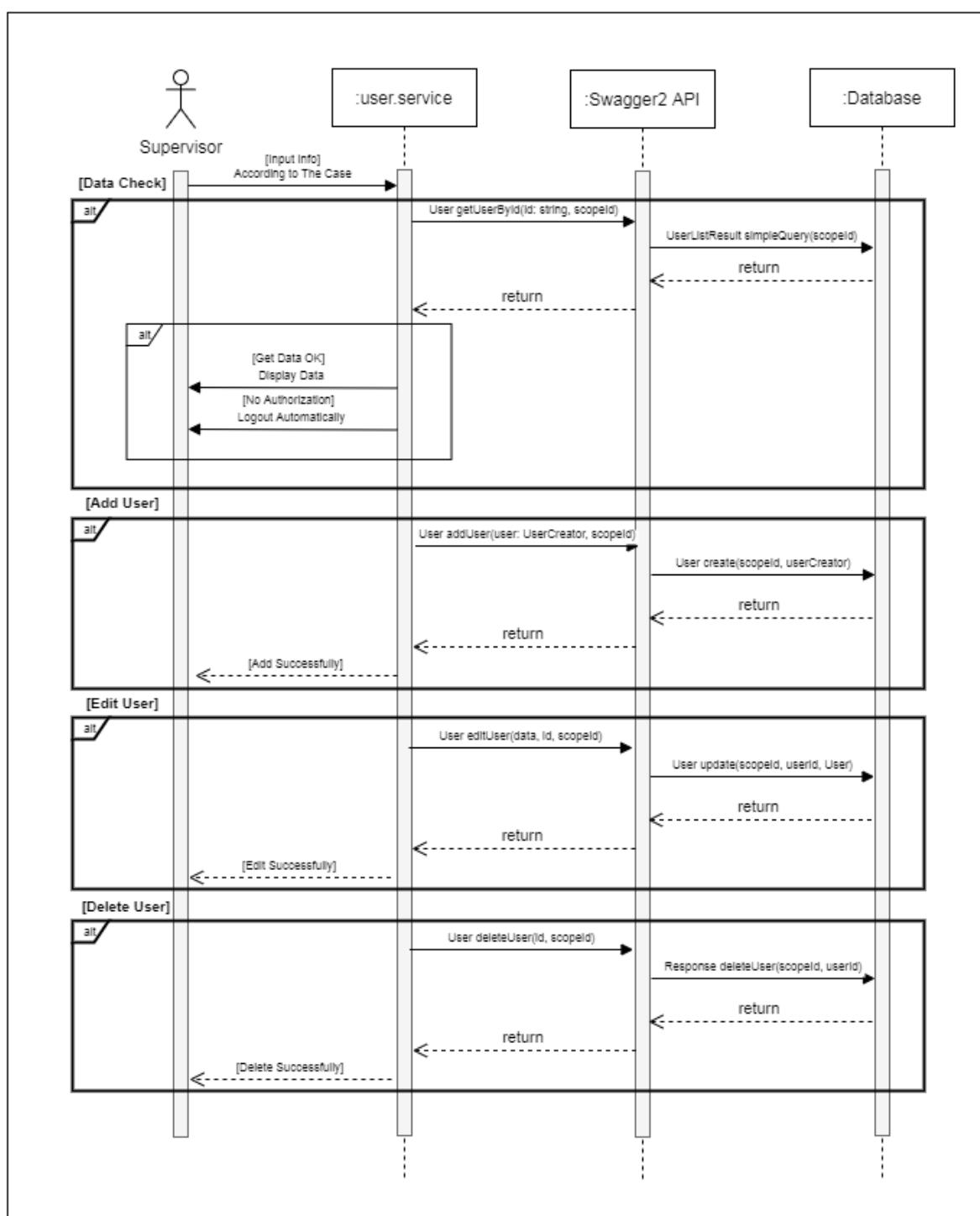
(1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

(2)密碼設定格式錯誤

在新增user或更改密碼時，若設定的密碼格式錯誤，密碼欄會變成紅色以提示使用者

5.5 圖表



5.6 實際畫面

The screenshot displays two screenshots of the Centron CMS Administrator interface, both taken at Aug 21 15:09.

Screenshot 1: User Details

The URL is `localhost:4200/users/ZBJ_PnTYWNw/description`. The page shows the following user information:

Entity	Value
Created On	2021-01-29 10:03:56
Created By	AQ
Modified On	2021-01-29 10:03:56
Modified By	AQ
User	
Status	ENABLED
User Name	centron_adm
Display Name	centron_adm
Email	
Phone Number	
Expiration Date	N/A

To the right, there are three boxes showing associated entities:

- Credentials: 1 item
- Roles: 2 items
- Permissions: 1 item

Screenshot 2: New User Creation

The URL is `localhost:4200/users/usertable`. A modal window titled "New User" is open, showing the "User Information" section. The "User Name" field is highlighted in red, indicating it is required. Other fields include "Password", "Confirm Password", "Display Name", "Email", "Phone Number", and "Status". The status dropdown has "Status" and "Status *" options. At the bottom are "Submit" and "Cancel" buttons.

On the left, a sidebar shows a list of users: centron_adm, centron_broker, centron_broker2, and test. On the right, a "Detail" pane shows four rows, each with a "DETAIL" button.

The screenshots illustrate the user management interface of the Centron system. The top screenshot shows the 'Edit User' dialog for a user named 'test'. The dialog contains fields for 'Display Name', 'Email', 'Phone Number', and 'Status' (set to 'ENABLED'). The bottom screenshot shows a confirmation dialog asking 'Delete the user?' with 'Submit' and 'Cancel' buttons.

Case6:認證管理

6.1 行為者

User

6.2 描述

在每個user的credential頁面可以進行認證的新增/刪除/解鎖

6.3 步驟

- (1)由左方sidebar進入user頁面 -> detail -> credential -> add -> 輸入必要資訊 -> submit，即完成新增

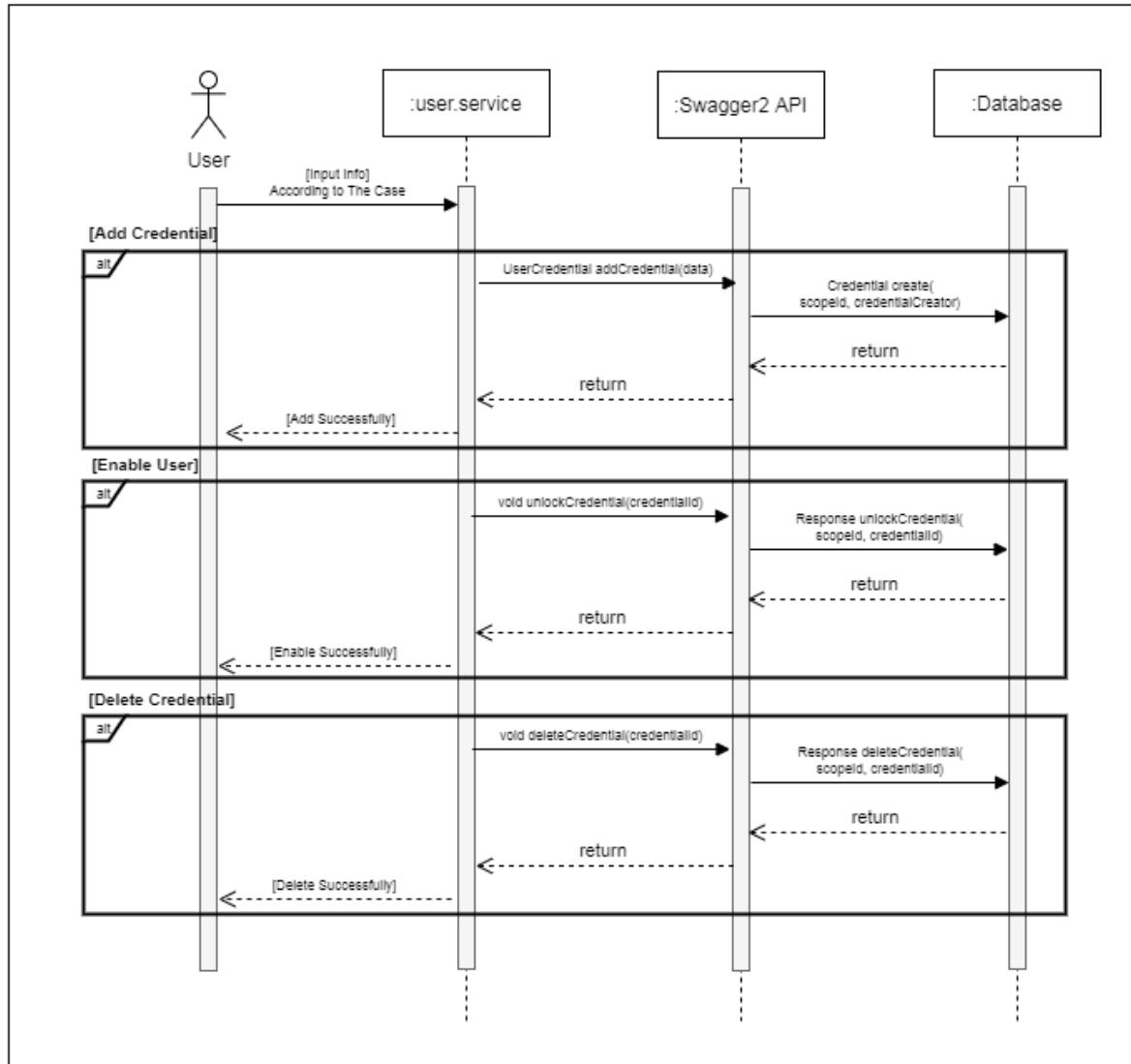
- (2)由左方sidebar進入user頁面 -> detail -> credential -> delete -> submit，即完成刪除
 (3)由左方sidebar進入user頁面 -> detail -> credential -> edit -> enable，即完成解鎖

6.4 例外狀況

- (1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

6.5 圖表



6.6 實際畫面

The screenshot shows a Firefox browser window displaying the Centron CMS Administrator interface at `localhost:4200/users/:JnMH9M1YbO4/credentials`. The title bar indicates the date and time as Aug 21 15:26. A modal dialog titled "New Credentials" is open, prompting the user to create a new credential for the selected user. The modal includes fields for "Username" (0821), "Credential Type" (set to "Password"), "Status" (set to "ENABLED"), and "Expiration Date" (N/A). The background table lists one item: a password credential for user 0821, modified by AQ on Aug 21 2021 at 03:16:40.

Status	Lock Status	Credential Type	Expiration Date	Modified On	Modified By
Normal	Unlocked	Password	N/A	2021-08-21 03:16:40	AQ

Items per page: 5 | 1 - 1 of 1 | < > >>

The screenshot shows the same Firefox browser window and URL. A modal dialog titled "Delete PASSWORD" is displayed, asking if the user is sure they want to delete the selected password. The background table remains the same, showing the single password credential for user 0821.

Delete PASSWORD
Are you sure you want to delete the selected Password?
Submit Cancel

Items per page: 5 | 1 - 1 of 1 | < > >>

Case7:修改密碼

7.1 行為者

User

7.2 描述

修改自己的密碼

7.3 步驟

(1)右上角 -> change password -> 修改密碼

7.4 例外狀況

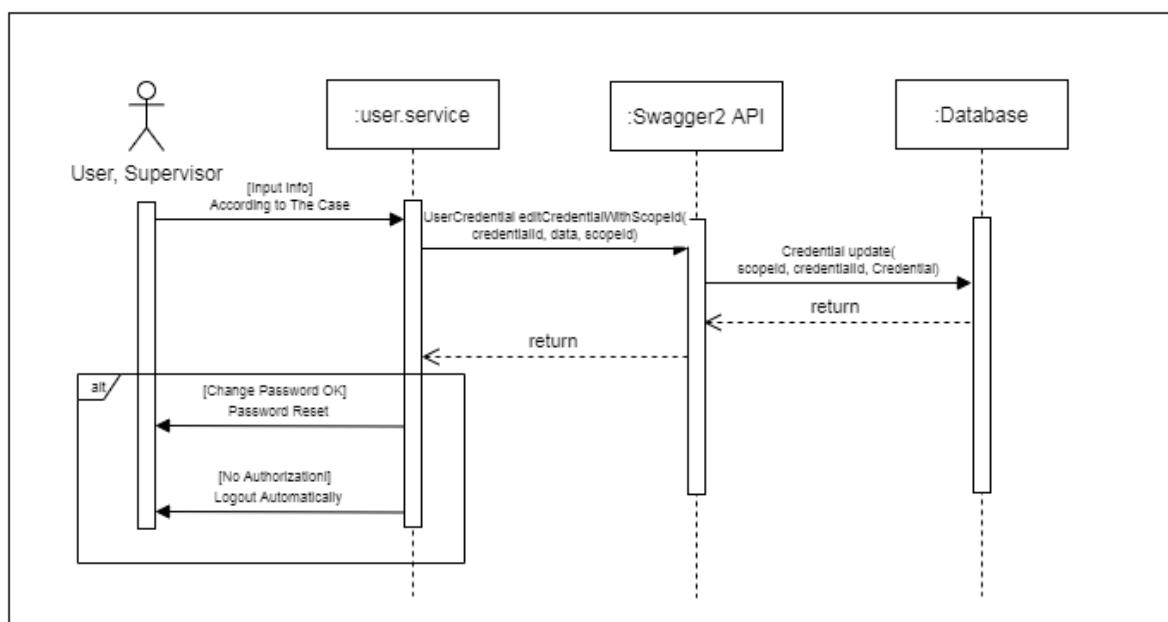
(1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

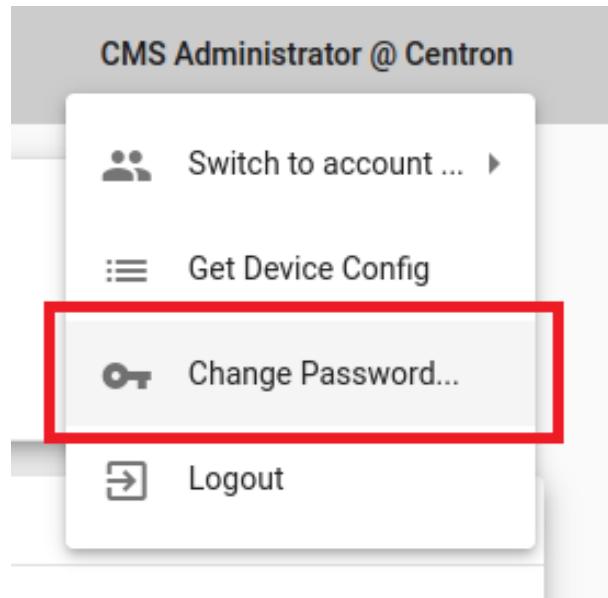
(2)密碼設定格式錯誤

在新增user或更改密碼時，若設定的密碼格式錯誤，密碼欄會變成紅色
以提示user

7.5 圖表



7.6 實際畫面



Case8:User權限管理

8.1 行為者

Supervisor

8.2 描述

Supervisor可以給予/刪除底下user的權限

8.3 步驟

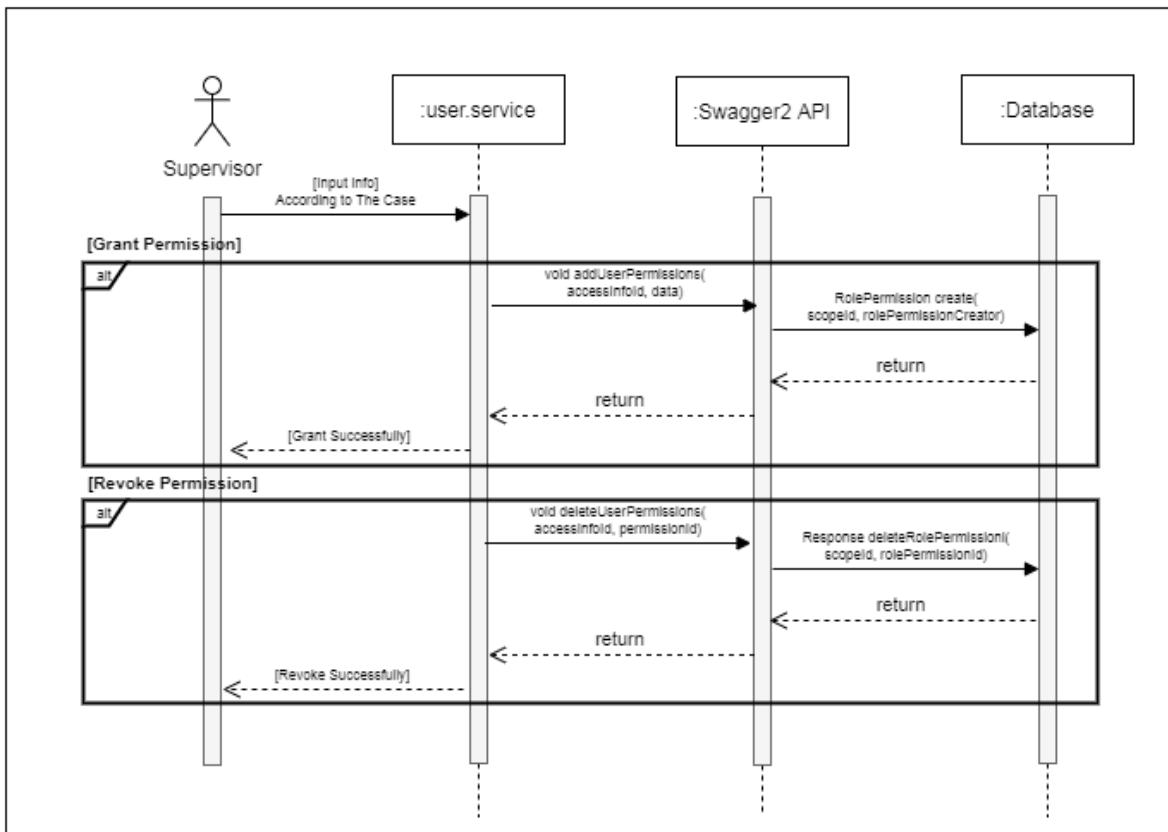
(1)由左方sidebar進入user頁面 -> detail -> permission -> grant/revoke

8.4 例外狀況

(1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

8.5 圖表



Case9:Role管理

9.1 行為者

Supervisor

9.2 描述

進行role的新增/刪除/編輯/指派

9.3 步驟

9.3.1 role管理

- (1)由左方sidebar進入role頁面
- (2.a)add → detail → permission → 設定權限，完成role的新增
- (2.b)選擇一role → edit，完成role的編輯
- (2.c)選擇一role → delete，完成role的刪除
- (3)由左方sidebar進入role頁面 → detail → granted user → 確認已指派的role

9.3.2 指派role

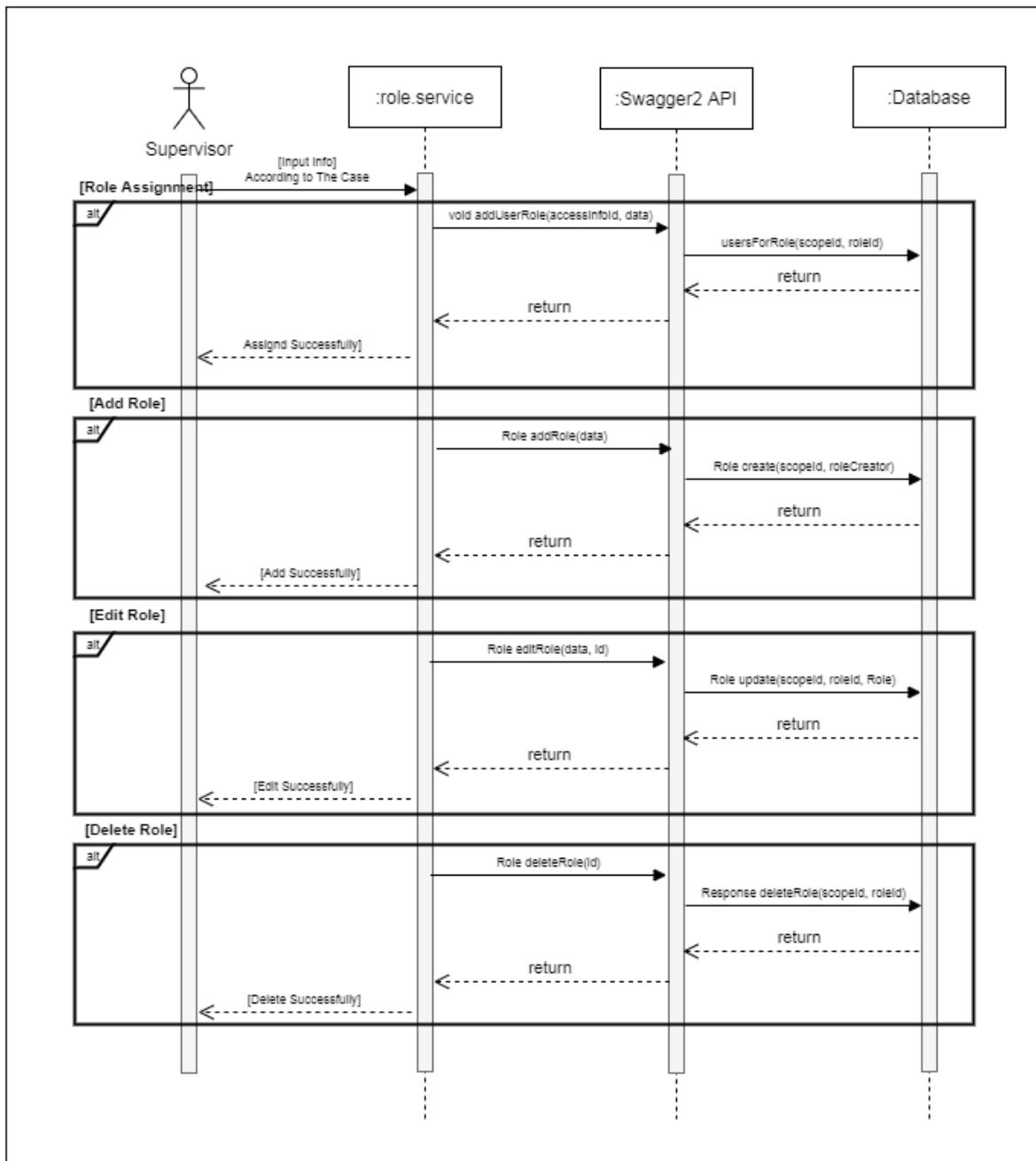
- (1)由左方sidebar進入user頁面
- (2)進入detail → assign，給予role

9.4 例外狀況

- (1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

9.5 圖表



9.6 實際畫面

The screenshot displays two screenshots of the Centron CMS interface, both taken at Aug 21 15:48.

Screenshot 1: Role Permissions

This screenshot shows the 'Permissions' page for a specific role. The URL is `localhost:4200/roles/JzHsMABzglA/permissions`. The table lists one item:

Domain	Action	Target Group	Target Scope Id	Forwardable	Added On	Added By
ALL	ALL	ALL	ALL	No	2021-08-20 10:18:58	AQ

Screenshot 2: User Roles Assignment

This screenshot shows the 'Assign Roles' page for a user. The URL is `localhost:4200/users/JnMH9M1YbO4/roles`. A modal window titled 'Assign Role' is open, showing the 'Role Information' section with a dropdown menu set to 'Thing'. The main table lists one item:

Name	Created On	Created By
test	2021-08-20 10:18:41	AQ

Activities Firefox 网络浏览器 ▾ Aug 21 15:53

Swagger UI x A Centron x +

localhost:4200/roles/-JzHsMABzgiA/users

CENTRON DESIGN CMS Administrator @ Centron

Refresh

Name: centron_adm

0821

Items per page: 5 1 - 2 of 2 | < < > >|

This screenshot shows a user management interface. It displays a single user entry with the name 'centron_adm' and ID '0821'. The interface includes a 'Refresh' button, a 'Name' input field, and a pagination control at the bottom.

Activities Firefox 网络浏览器 ▾ Aug 21 15:56

Swagger UI x A Centron x +

localhost:4200/roles/roletable

CENTRON DESIGN CMS Administrator @ Centron

Roles

Add Edit Delete Refresh

Name	Modified On	Modified By	Detail
Thing	2021-01-29 10:03:53	AQ	DETAIL
Admin	2021-01-29 10:03:54	AQ	DETAIL
test	2021-08-20 10:18:41	AQ	DETAIL

Items per page: 5 1 - 3 of 3 | < < > >|

This screenshot shows a role management interface. It lists three roles: 'Thing', 'Admin', and 'test'. Each role entry includes its creation date ('Modified On'), the user who created it ('Modified By'), and a 'Detail' link. The 'Edit' and 'Delete' buttons are highlighted with red boxes.

Case10:Child account管理

10.1 行為者

Supervisor

10.2 描述

進行child account的查看/新增/刪除/編輯

10.3 步驟

- (1)由左方sidebar進入child account頁面
- (2. a)add -> 輸入資訊 -> submit -> 創建完成
- (2. b)detail -> 查看child account資訊
- (2. c)delete -> submit -> account刪除
- (2. d)edit -> 編輯資訊 -> submit -> 編輯完成
- (3)detail -> account setting -> user service -> 修改max number child user-> 回到detail -> user -> 可以新增user帳號

10.4 例外

- (1)權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

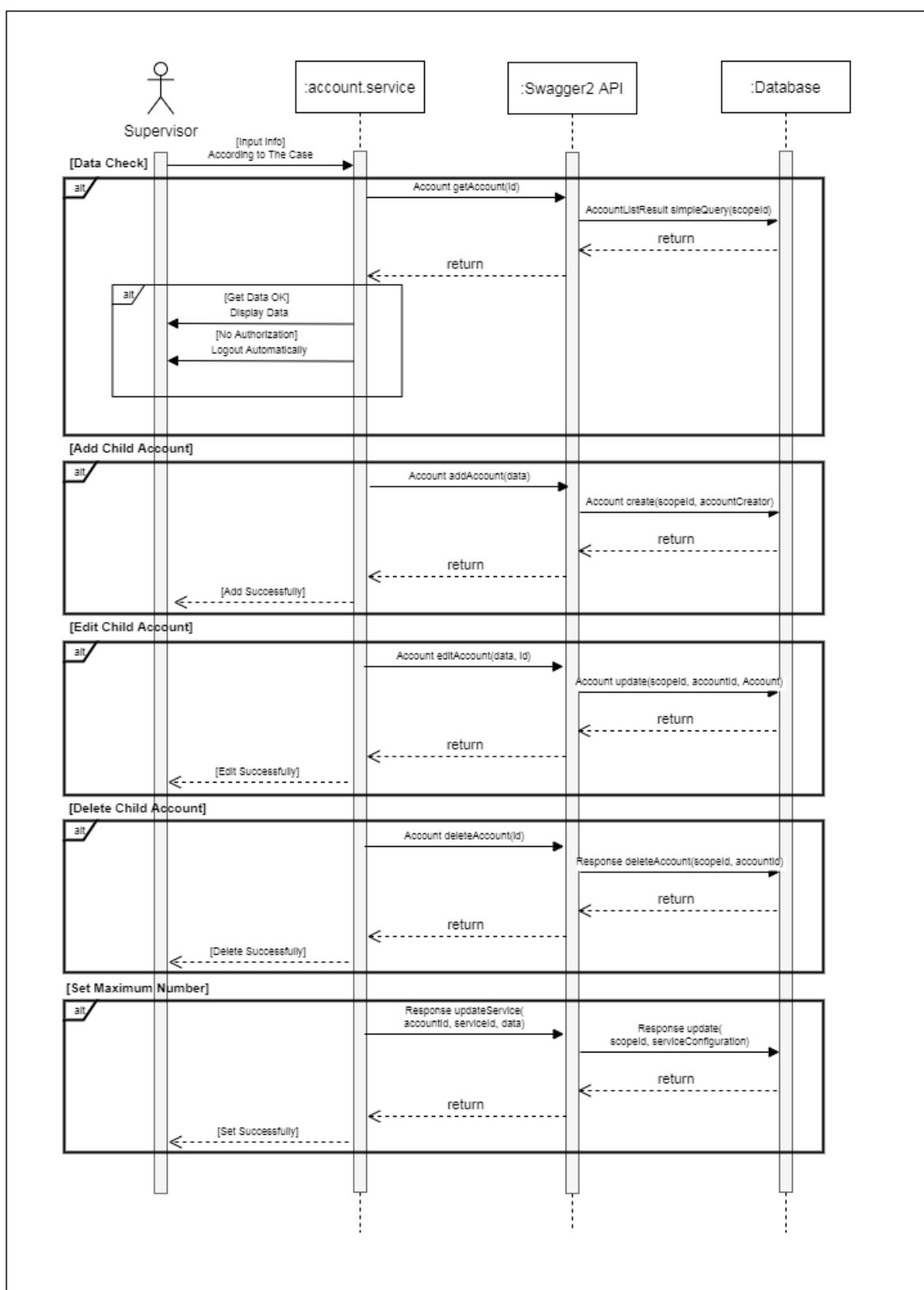
- (2)必填欄位未填

無法按下submit按鈕

- (3)child account的實體數量超過設定值上限

實體(例如:user、group、device...)超過上限就不能再增加了，可以透過detail -> account setting修改實體上限

10.5 圖表



10.6 實際畫面

The screenshots illustrate the user interface for managing child accounts in a CMS system. Both windows show a main dashboard with a 'Child Accounts' table and a central modal dialog for account creation or editing.

New Account Dialog (Top Screenshot):

- Account Information:**
 - Account Name:
 - Expiration Date:
- Organization Information:**
 - Organization Name:
 - Email:
- Primary Contact:**
 - Contact Name:
 - Phone Number:
 - Address 1:
 - Address 2:
 - Zip/Post Code:
 - City:
 - State/Province:
- Buttons:** Submit (gray) and Cancel (red)

Edit Account Dialog (Bottom Screenshot):

- Account Information:**
 - Account Name:
 - Expiration Date:
- Organization Information:**
 - Organization Name:
 - Email:
- Primary Contact:**
 - Contact Name:
 - Phone Number:
 - Address 1:
 - Address 2:
 - Zip/Post Code:
 - City:
 - State/Province:
- Buttons:** Submit (gray) and Cancel (red)

The screenshot shows a Linux desktop environment with a central Firefox browser window. The browser title bar reads "Centron" and the address bar shows "localhost:8083/childAccounts/accountable". The main content area is titled "CENTRON DESIGN" and "Child Accounts". It lists a single account entry:

Account Name	Organization Name	Organization Email	ID	Action
aaa	aaa	aai@mail.com	CevPJD6T9Y	DETAIL

Below the table, there are pagination controls: "Items per page: 5" and "1 - 1 of 1". A modal dialog box is centered over the page, containing the text "確定要刪除此帳號?" with "Submit" and "Cancel" buttons.

*在 infiniteChildAccounts 欄位, true 為同意生成無限個 User, false 則反之

The screenshot shows a Linux desktop environment with a central Firefox browser window. The browser title bar reads "Centron" and the address bar shows "localhost:8083/childAccounts/CevPJD6T9Y/settings". The main content area is titled "CENTRON DESIGN" and "AccountService". On the left, a sidebar lists various services: AccountService, CredentialService, GroupService, RoleService, DeviceRegistryService, DeviceConnectionService, MessageStoreService, TagService, and UserService. The "AccountService" section contains configuration fields:

This is the configuration for the kapua AccountService.

infiniteChildAccounts true false
Whether to allow infinite child accounts for this account.

maxNumberChildAccounts Maximum number of child accounts that are allowed to be created for this account.

CASE11: 切換帳號

11.1 行為者

User, Supervisor

11.2 描述

切換當前所使用的帳號

11.3 步驟

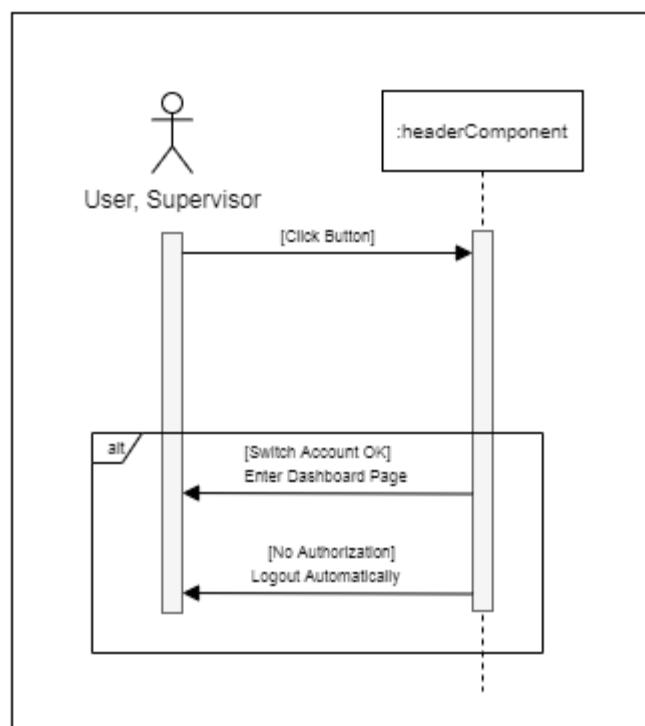
(1) 按右上角 switch to account -> 選想要的帳號

11.4 例外狀況

(1) 權限不夠被強制登出

缺少必要的權限將會被強制登出並跳出錯誤訊息

11.5 圖表



11.6 實際畫面

The screenshot shows a Firefox browser window displaying the Centron Design dashboard at `localhost:8083/dashboard`. The dashboard features several data cards:

- Devices**: Shows 1 device.
- Active Devices**: Shows 0 active devices.
- Endpoints**: Shows 1 total endpoint. A purple donut chart indicates 100.0% (purple) and 0.0% (white).
- App Usage**: Shows 0:0:0 total time. An orange donut chart indicates no data (orange).

In the top right corner, there is a user account menu for "CMS Administrator @ cms-sys". The "Your account" section is highlighted with a red box, showing the user name "aaaa". Other options in the menu include "Switch to account ...", "Get Device Config", "Change Password...", and "Logout".