



Stadium Matching System - [Bujo](#) Final Demo

```
class Group_12_Bujo {  
    this.member = [陳宥任, 沈宜萱, 林資融, 虞夢筆, 李睿莆, 陳冠鎔];  
}
```

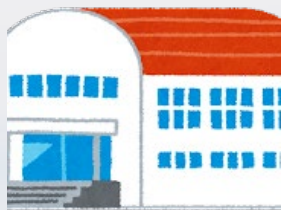


大綱 Outline

- 開發動機 Motivation
- 產品特點 Product Features
- 產品展示 Live Demo
- 系統架構 System Architecture
- 雲原生考量 12-Factors
- 產品測試 Testing
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開發動機 Motivation



同事都還在加班，
下班後找不到球友？

我只有下班後的一個小時可以運動，
怎麼知道附近哪個場館可以預約？



喜歡的球館常常有活動，
希望可以不要錯過！



不知道有沒有程度相近的球友，
可以+1的？

Bujo...

場館預約

尋找球友

管理活動



給這樣的你！

產品特點 Product Features

- 對於愛運動的人，我們提供...
 - **即時線上揪團**運動，不再擔心臨時揪不到球友
 - **搶先預約場地**，不怕下班太晚總是佔不到場
 - 根據個人常選球類或日期關係建立**客製推薦活動功能**
 - **整合活動類別與日期篩選之地圖視覺化功能**，更直覺選擇要前往運動或預約的地點
- 對於場地提供商，我們提供...
 - **一鍵上架**功能，場地隨時提供服務
 - **即時接收使用者反饋**，不需主動派人定期監管，**降低人力成本**

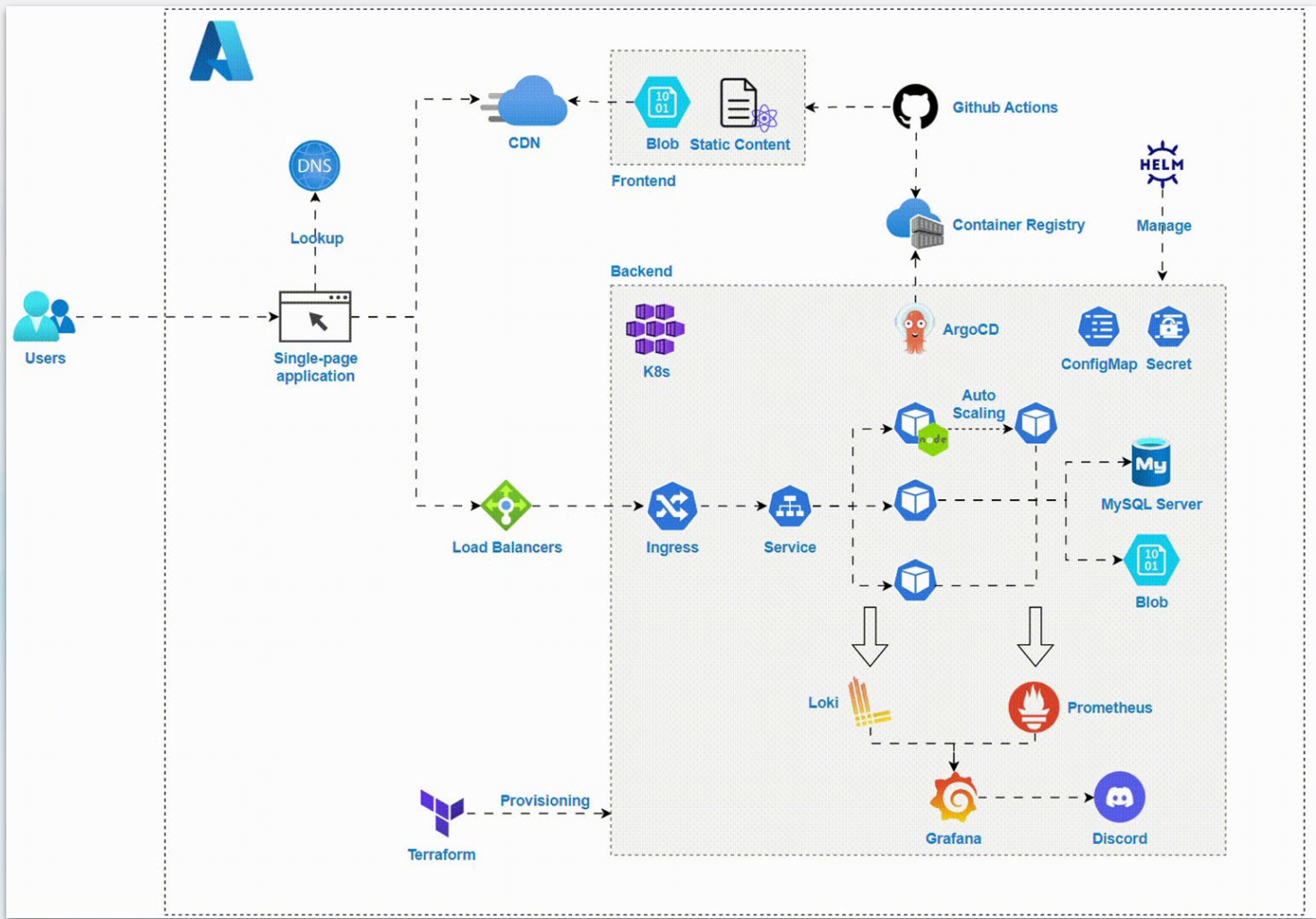


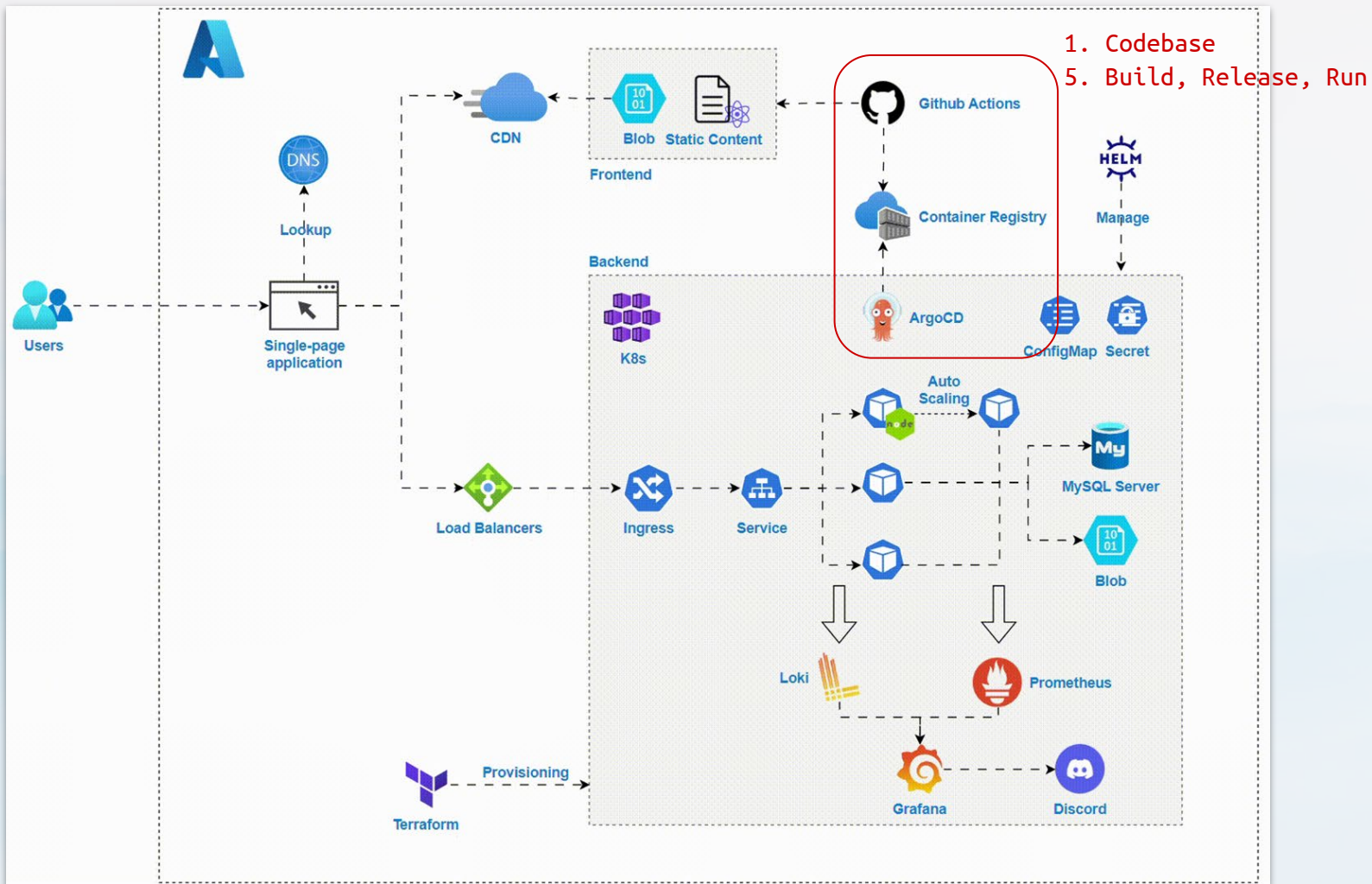
產品展示 Live Demo

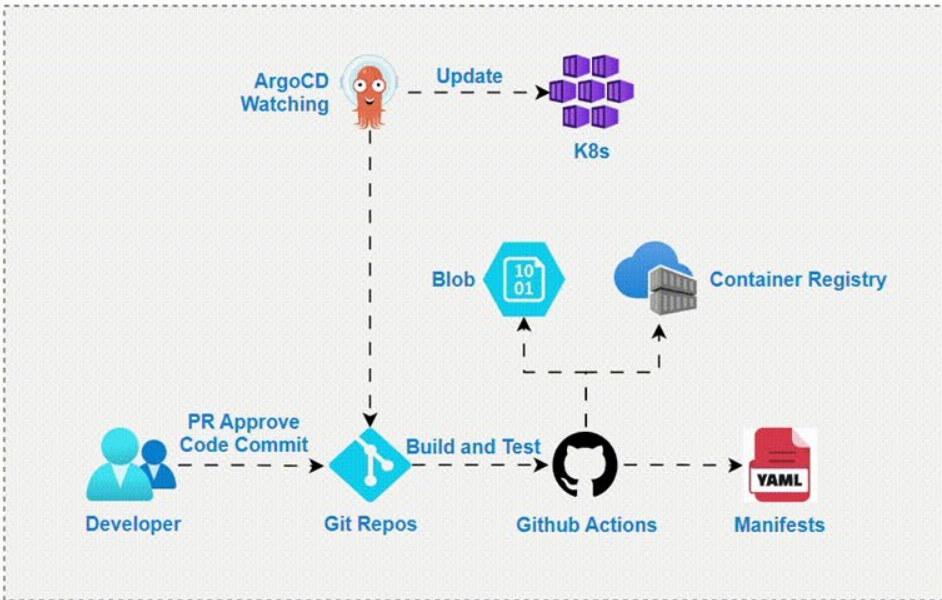


系統架構 System Architecture



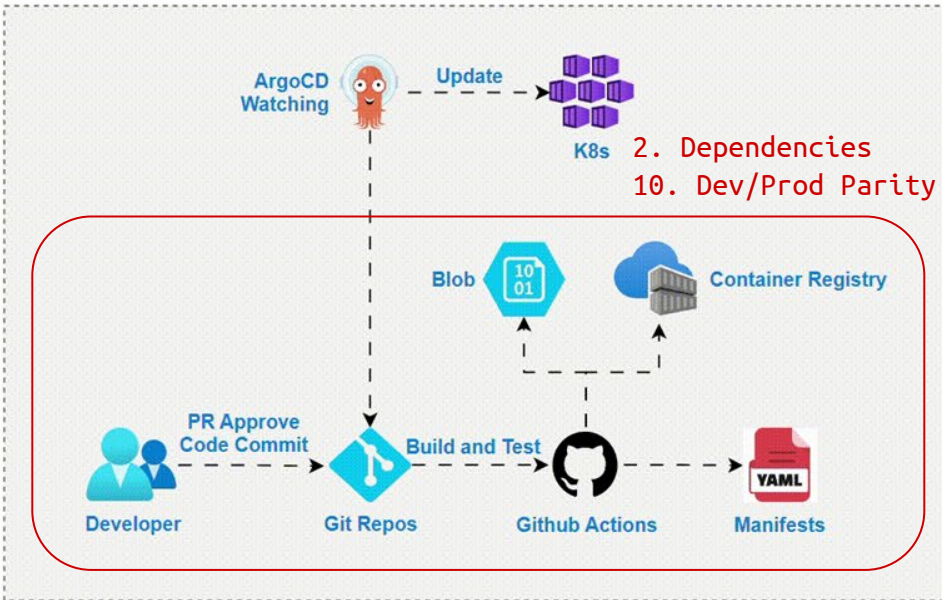




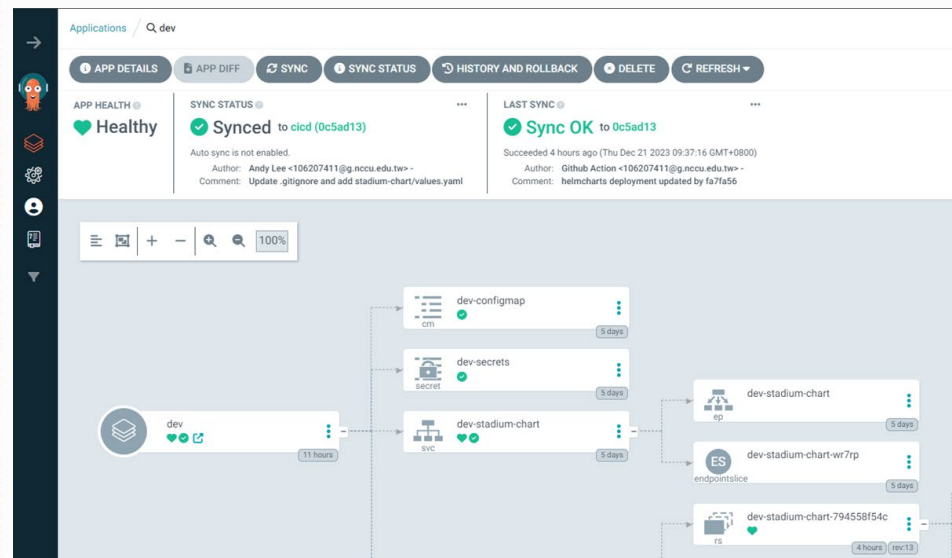


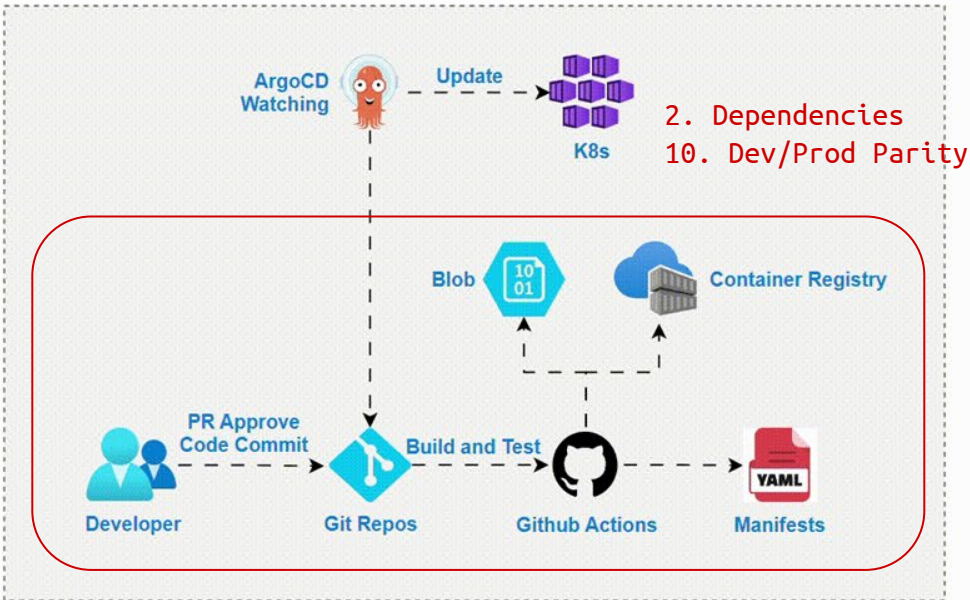
CI/CD





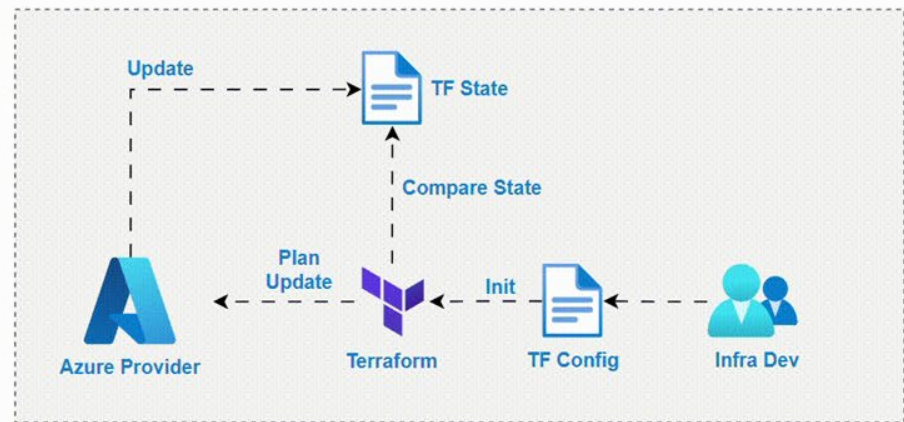
2. Dependencies
10. Dev/Prod Parity





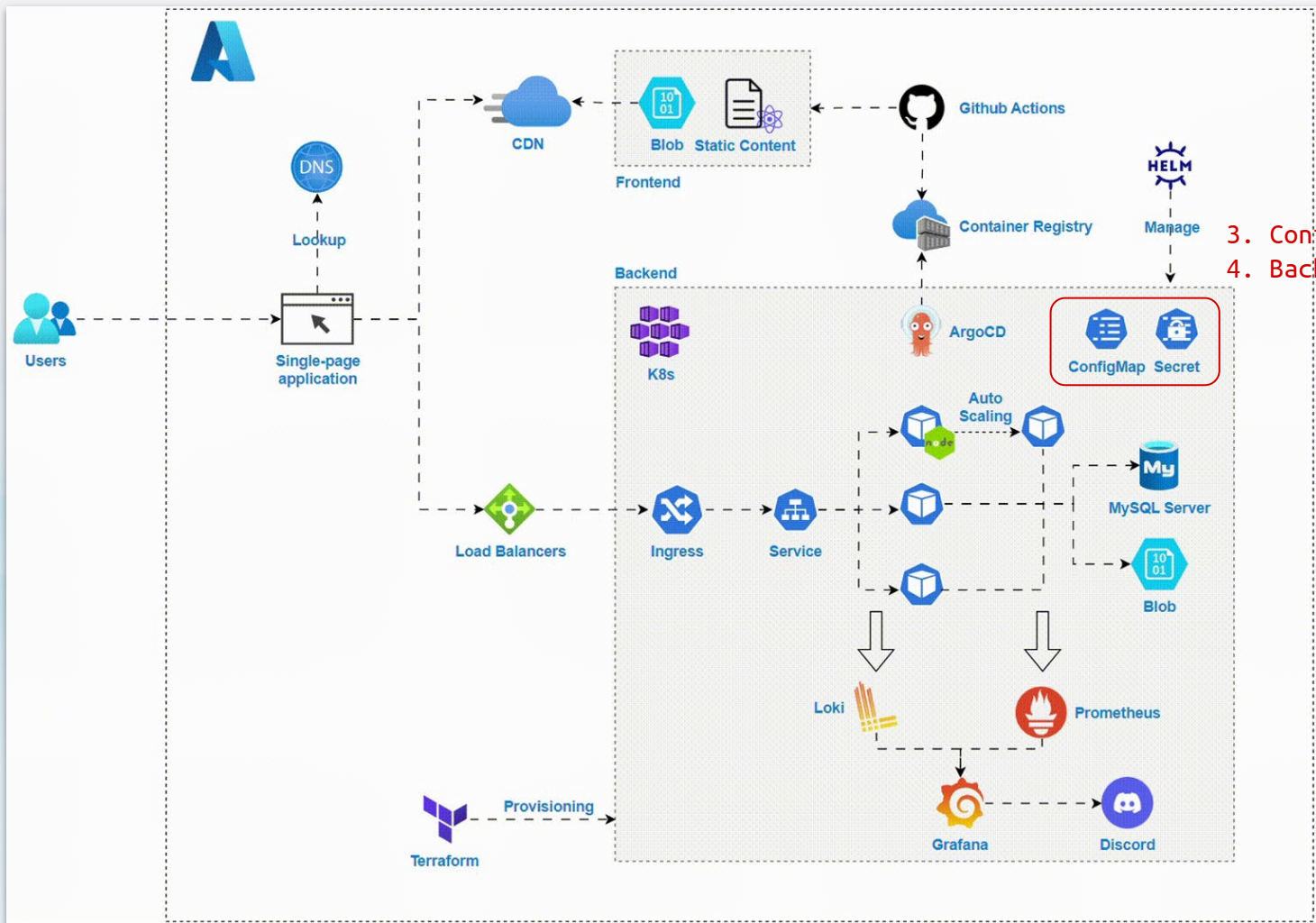
CI/CD

2. Dependencies
10. Dev/Prod Parity



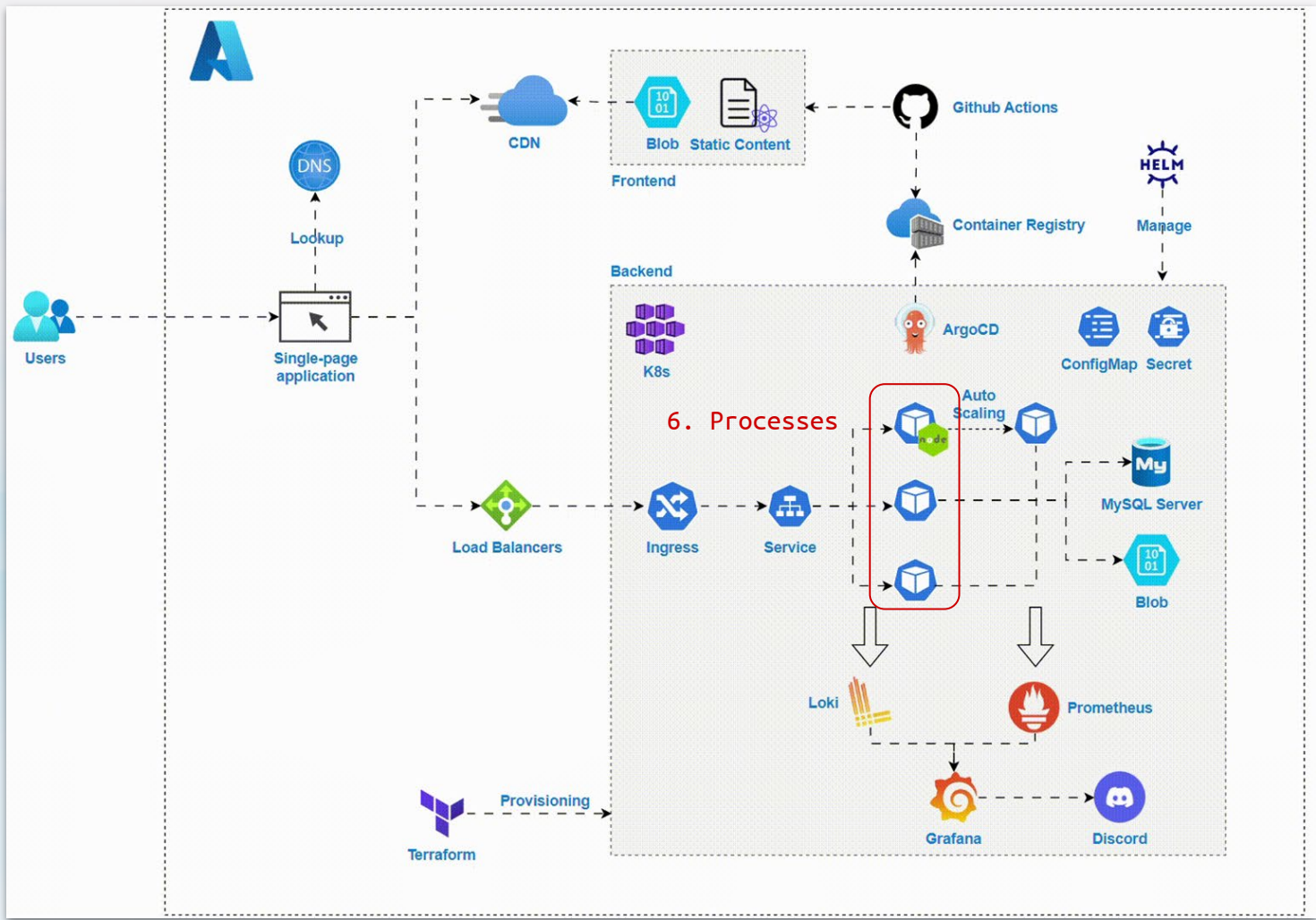
Infra As Code

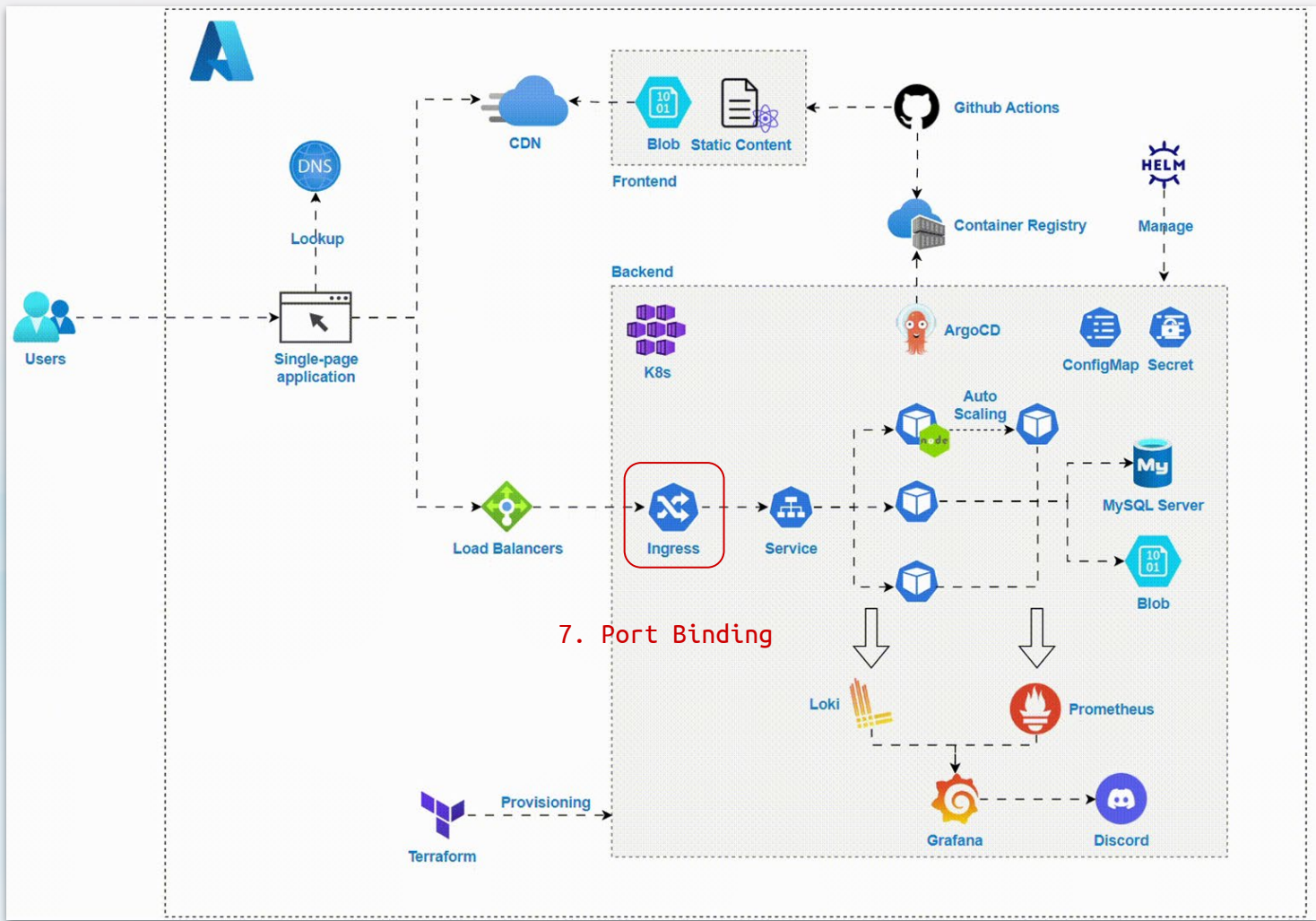


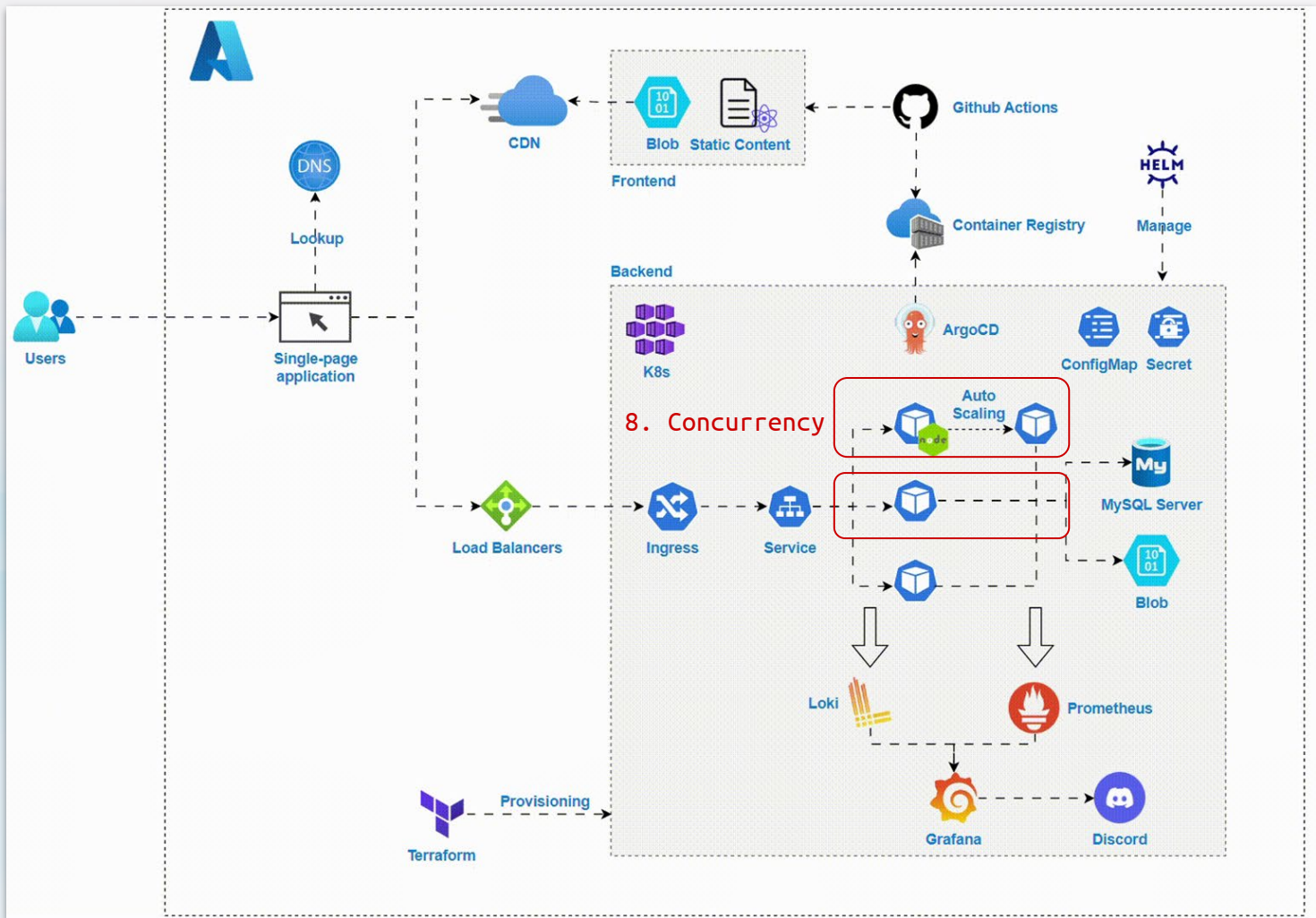


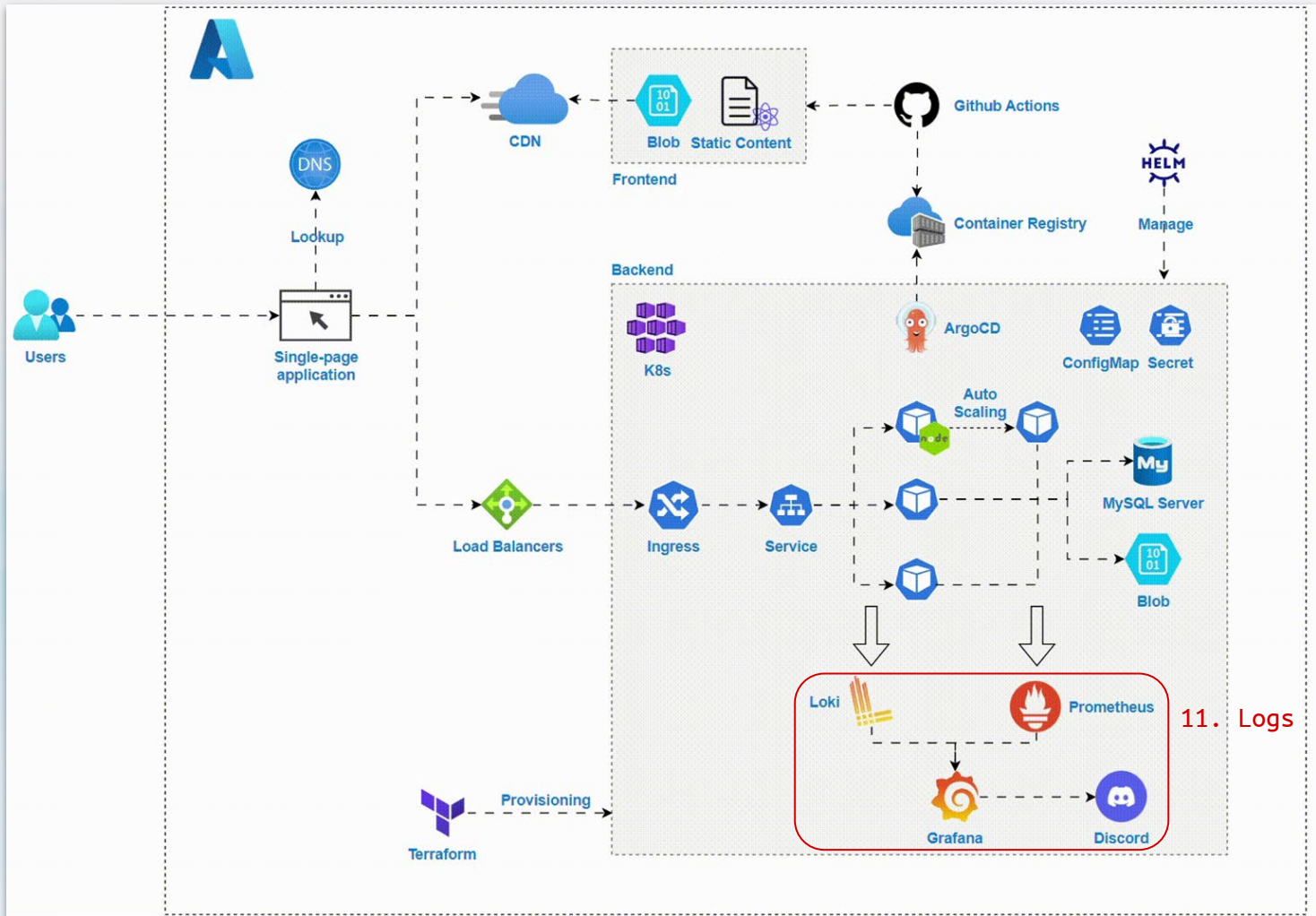
3. Config
4. Backing Services











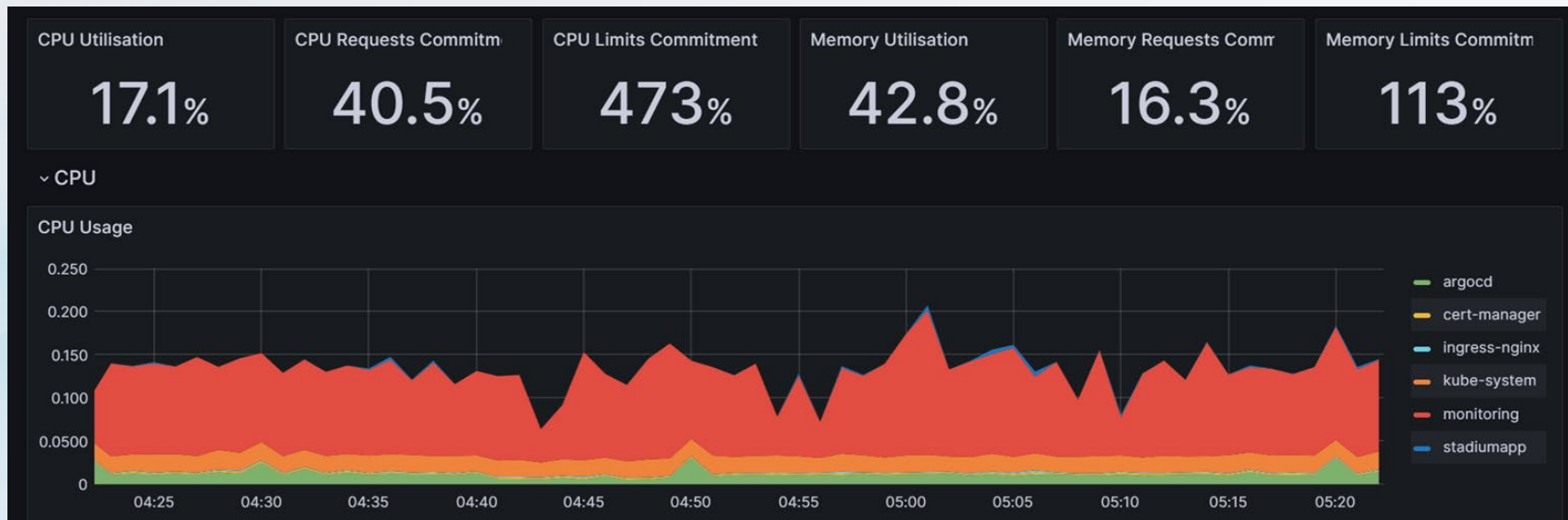
Logs

Stadium logs ⓘ

```
> 2023-12-21 13:22:26.582 {  
    "client_ip": "1.200.50.171",  
    "level": "info",  
    "message": "GET / 304 - - 166.21 ms",  
    "method": "GET",  
    "response_time": "166.21",  
    "status": 304,  
    "timestamp": "12/21/2023, 1:22:26 PM",  
    "url": "/"  
}  
  
> 2023-12-21 13:22:25.252 {  
    "client_ip": "1.200.50.171",  
    "level": "info",  
    "message": "GET /badminton/16/2023-12-21/ 304 - - 475.43 ms",  
    "method": "GET",  
    "response_time": "475.43",  
    "status": 304,  
    "timestamp": "12/21/2023, 1:22:25 PM",  
    "url": "/badminton/16/2023-12-21/"
```



Metrics (CPU/Memory)



Monitor & Alert - Discord



Grafana 機器人 今天 13:32

1 firing alert(s)

alertname=http-error-alert grafana_folder=Error log alert

The service responded with **HTTP 401 error**

- client IP: **140.112.238.46**
- message: **GET /login 401 - - 0.27 ms**
- service: **dev-stadium-chart**
- pod: **dev-stadium-chart-794558f54c-ckczf**
- timestamp: **12/21/2023, 1:32:05 PM**
- response time: **0.27 ms**
- Silence this alert: http://localhost:3000/alerting/silence/new?alertmanager=grafana&matcher=alertname%3Dhttp-error-alert&matcher=grafana_folder%3DError+log+alert&orgId=1
- View on Grafana: <http://localhost:3000/alerting/grafana/be83406f-41c7-4119-8f92-defee85be274/view?orgId=1>

[FIRING:1] http-error-alert Error log alert



Grafana v10.2.2



產品測試 Tests (Backend)



Unit Test

測試框架 : jest

概念

Mocking: 使用 Jest 的 `jest.mock` 來模擬外部依賴，例如模擬資料庫或其他模塊的行為，使測試更可控。

Test Cases: 測試案例包含了對特定情境的描述，以及預期的結果。

Assertions: 使用 `expect` 斷言庫，確保測試中的條件是正確的。

```
PASS  __tests__/userController.test.js
PASS  __tests__/activityControoler.test.js
PASS  __tests__/stadiumController.test.js
PASS  __tests__/eventController.test.js
```

```
Test Suites: 4 passed, 4 total
Tests:       21 passed, 21 total
Snapshots:   0 total
Time:        0.446 s, estimated 1 s
```



Example:

1. User:

以 `signup` 函數為例。測試的主要焦點包括**驗證使用者的電子郵件地址、密碼格式是否符合預期**，以及確保在**部分資訊未填寫的情況下是否能正確回報錯誤**。

```
UserController
signup
  ✓ should send a 400 status if required fields are missing (2 ms)
signin
  ✓ should send a 400 status if email is missing
updateProfile
  ✓ should update user profile and return user_id (1 ms)
updatePassword
  ✓ should send a 400 status if old or new password is missing
  ✓ should send a 400 status if the old password does not match
```

2. Stadium:

以 `getStadiumDetails` 函數為例。測試的主要焦點包括**是否能回傳正確全場資訊**以及**發現找不到球場時是否能回傳找不到資訊...**等情況。

```
StadiumController
getStadiumList
  ✓ should return a list of stadiums for a given category (2 ms)
  ✓ should handle errors
getStadiumAvailability
  ✓ should handle errors when fetching availability (1 ms)
getStadiumDetails
  ✓ should return details for a specific stadium
  ✓ should return a 404 if the stadium is not found (1 ms)
  ✓ should handle errors when fetching stadium details
```



Example:

3. Event:

以 `readEvent` 函數為例。測試的主要焦點包括回傳正確的event資訊、以及確保當讀取已經讀過event情況下是否能正確回報錯誤。

```
Event Controller
  getEvent
    ✓ should return events for a valid request (1 ms)
  readEvent
    ✓ should return event data for a valid request
    ✓ should handle "Can not read" and return a 400 status
```

4. Activity:

以 `myActivity` 函數為例。測試的主要焦點主要是在確保在不同status情況，是否能正確回傳對應格式的回應。

```
activitiesController
  getAllActivity
    ✓ should return activities on success (2 ms)
    ✓ should return an error on failure
  getActivity
    ✓ should return activity data for a valid request
  joinActivity
    ✓ should allow a user to join an activity
  myActivity
    ✓ should fetch user activities with status "pending" (1 ms)
    ✓ should fetch user activities with status "finish"
  leaveActivity
    ✓ should allow a user to leave an activity
```



Thanks!!!

