

# NTU Cool Interview - Users/Courses API

## 用 Nestjs + TypeScript 寫一個 RESTful API

- 你會很需要的 [nestjs](#) 網站
- 資料的部分不需要連資料庫, 資料存在記憶體上就可以了

### Basic requirements

```
type User {  
  id: number;  
  name: string;  
  email: string;  
}
```

1. everyone can create a user by name and email;
  - a. if email format does not match  `/^@$/`, return Bad Request`
2. everyone can get a user by user id;
  - a. if the user doesn't exist, return Bad Request
3. everyone can query a user by email or name;
  - a. use query string to specify email or name
  - b. if email format does not match  `/^@$/`, return Bad Request`
4. everyone can edit user's name and user's email by user id;
  - a. if the user doesn't exist, return Bad Request
  - b. if email format does not match  `/^@$/`, return Bad Request`
5. everyone can delete a user by user id;
  - a. if the user doesn't exist, return Bad Request

## Bonus requirements

- Courses 的資料是唯讀的

```
type Course {
  id: number;
  name: string;
}

type Enrollment {
  id: number;
  userId: number;
  courseId: number;
  role: 'student' | 'teacher';
}
```

- everyone can query users by course id;
  - if the course doesn't exist, return Bad Request
- everyone can enroll a user to a course by user id, course id and role;
  - if the user, the course or the role doesn't exist, return Bad Request
- everyone can withdraw a user by enrollment id;
  - if the enrollment doesn't exist, return Bad Request
- everyone can get an enrollment by enrollment id;
- everyone can query enrollments by user id, course id or role;
  - use query string to specify user id, course id or role
  - like: ``/?userId=1&role=student``
- everyone can get a course by course id;
  - if the course doesn't exist, return Bad Request
- everyone can query courses by user id ;
  - if the user doesn't exist, return Bad Request

## dataset

```
[
  {
    "id": 1,
    "name": "Nestjs 101"
  },
  {
    "id": 2,
    "name": "成為 Nestjs 大師的路上"
  },
  {
    "id": 3,
    "name": "從零開始的 nestjs 之旅"
  },
  {
    "id": 4,
    "name": "You Don't Know Js"
  },
  {
    "id": 5,
    "name": "I Don't Know Js yet"
  }
]
```

## Advance requirements

- 如果有做 13, 14, 相對應的 1, 4, 5, 7, 8, 的 everyone 會被取代掉

13. only admin `wool` can create, edit, delete a user;

- a. use Bearer Auth token Header and token is `wool`
- b. if token is invalid, return Unauthorized

14. only admin `wool` can create, delete an enrollment;

- a. use Bearer Auth token Header and token is `wool`
- b. if token is invalid, return Unauthorized