

11-3 反序列化回應 前端區域請求應用



Ubike串接RESTful Service設計

RESTful Service註冊Resource File，注入Ubike服務位址

透過HttpClient Factory Class建立一個HttpClient物件

建構HttpGet物件，注入服務位址，採用Http Request Method-GET架構

```
//註冊外部自訂的properties
@RestController
@PropertySource("classpath:services.properties")
public class UbikeService {
    //Attribute
    //注入外部定義properties項目 使用SpringEL
    @Value("${outside.ubike.service}")
    private String ubikeService;
    //回應的資訊
    //produces 決定Response Header Content-Type:application/json
    @GetMapping(path="/api/ubike/qry/{area}/rawdata",
        produces="application/json")
    public List<UbikeData> query(@PathVariable("area") String area)
```

```
//2.採用HttpClient對遠端服務提出請求 透過工廠來生產一個HttpClient介面的物
CloseableHttpClient httpClient=HttpClient.createDefault();
//建立一個HttpGet (採用Request Method-GET)
HttpGet httpGet=new HttpGet(ubikeService);
```

HttpClient執行HttpClient獲取CloseableHttpResponse物件

HttpClient執行 execute Method執行HttpGet物件

獲取CloseableHttpResponse物件

- getEntity() Method參照出HttpEntity物件

使用EntityUtils公用類別的toString()讀取出HttpEntity Body字串

擷取出Ubike JsonString內容

```
try {  
    CloseableHttpResponse response=httpClient.execute(httpGet);  
    //取出Http Body  
    HttpEntity body=response.getEntity();  
    //開始讀取回應字串???  
    //使用EntityUtils  
    content=EntityUtils.toString(body);  
}
```

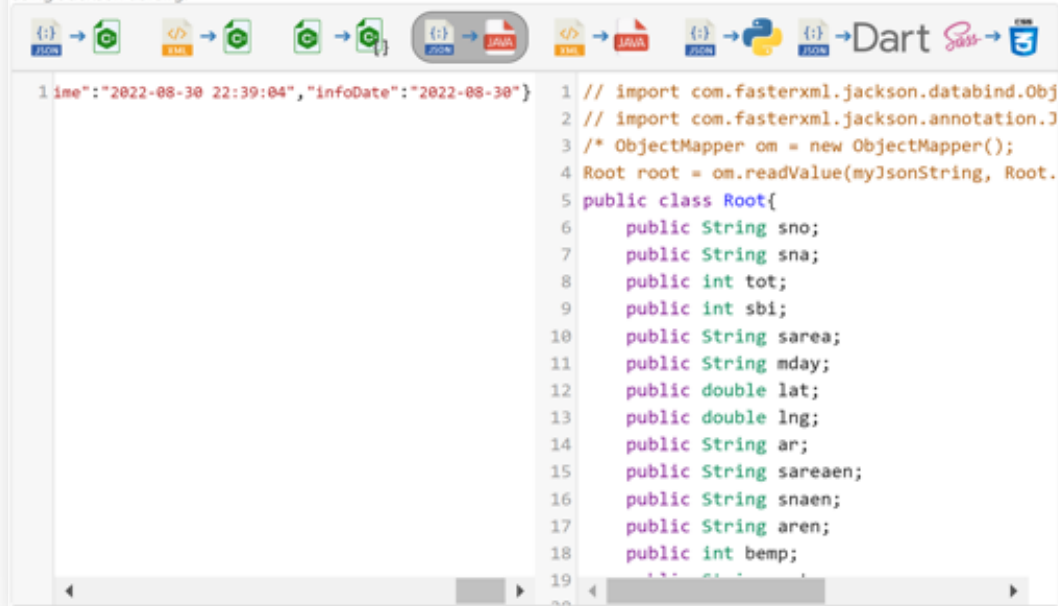
使用工具將Ubike Json字串反轉Entity Class

pom.xml配置Gson API

使用GSON反序列化Json String為陣列物件

Convert JSON to POJO Objects in Java Online

Convert any JSON object to a POJO JAVA class online. Check below panel on how to use this converter and how to deserialize using Jackson library.



```
1 ime": "2022-08-30 22:39:04", "infoDate": "2022-08-30"}
2 // import com.fasterxml.jackson.databind.ObjectMapper;
3 // import com.fasterxml.jackson.annotation.JsonRootName;
4 /* ObjectMapper om = new ObjectMapper();
5 Root root = om.readValue(myJsonString, Root.class);
6 public class Root{
7     public String sno;
8     public String sna;
9     public int tot;
10    public int sbi;
11    public String sarea;
12    public String mday;
13    public double lat;
14    public double lng;
15    public String ar;
16    public String sareaen;
17    public String snaen;
18    public String aren;
19    public int bemp;
```

```
<dependency>
  <groupId>com.google.code.gson</groupId>
  <artifactId>gson</artifactId>
  <version>2.9.0</version>
</dependency>
```

//TODO 反序列化 進行查詢 在回應查詢結果json

```
Gson gson=new Gson();
```

```
UbikeData[] result=gson.fromJson(content,UbikeData[].class);
```

使用List Stream進行區域資料物件查詢

轉換陣列為List物件

透過 Stream進行篩選作業

找出符合區域的Ubike資料

```
//將陣列轉換成List<UbikeData> 取出Stream物件 進行功能化比對與篩選  
List<UbikeData> listData=Arrays.asList(result)  
    query=listData.stream()←  
        .filter(u->u.sarea.equals(area))  
        .collect(Collectors.toList());
```

http://localhost:8080/api/ubike/qry/大安區/rawdata

GET http://localhost:8080/api/ubike/qry/大安區/rawdata

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Query Params

KEY	VALUE	DESCRIPTION

Body Cookies Headers (5) Test Results Status: 200 OK

Pretty Raw Preview Visualize JSON

```
1 {
2   "sno": "500101001",
3   "sna": "YouBike2.0_捷運科技大樓站",
4   "tot": 28,
5   "sbi": 5,
6   "sarea": "大安區",
7   "mday": "2022-09-05 22:50:20"
```

http://localhost:8080/api/ubike/qry/萬華區/rawdata

GET http://localhost:8080/api/ubike/qry/萬華區/rawdata

Params Authorization Headers (6) Body Pre-request Script Tests Settings

Body Cookies Headers (5) Test Results Status: 200 OK

Pretty Raw Preview Visualize JSON

```
23 "sno": "500113002",
24 "sna": "YouBike2.0_寶興長泰街口(西南角)",
25 "tot": 17,
26 "sbi": 12,
27 "sarea": "萬華區",
28 "mday": "2022-09-05 22:47:12",
29 "lat": 25.0216,
30 "lng": 121.49597,
31 "ar": "寶興街/長泰街(西南側)",
32 "sareaen": "Wanhua Dist",
33 "snaen": "YouBike2.0_Baoxing St & Changtai St Intersection (Southwest)",
34 "areaen": "Baoxing St & Changtai St Intersection (Southwest)"
```



總結：11-3 反序列化回應前端區域請求應用

實現Ubike Open Data即時資訊架構，剩下的即是前端UI進行配合實作應用；接下來我們來探討RESTful Service如何整合MSSQL。

