

Tutorial 7

Service producer

<http://localhost:8080/rest/student/view/123>

```
{ "npm": "123", "name": "Channek", "gpa": 4.0, "courses": [{ "id_course": "CSC126", "name": "MPKT", "credits": 6, "students": null }] }
```

String parse

```
{
    "npm": "123",
    "name": "Channek",
    "gpa": 4.0,
    "courses": [
        {
            "id_course": "CSC126",
            "name": "MPKT",
            "credits": 6,
            "students": null
        }
    ]
}
```

Latihan

1. **Latihan 1:** Buatlah *service* untuk mengembalikan seluruh student yang ada di basis data. *Service* ini mirip seperti *method* `viewAll` di Web Controller. *Service* tersebut di-mapping ke `"/rest/student/viewall"`. Contoh tampilan keluarannya:

<http://localhost:8080/rest/student/viewall>

```
[ { "npm": "123", "name": "Channek", "gpa": 4.0, "courses": [ { "id_course": "CSC126", "name": "MPKT", "credits": 6, "students": null } ] }, { "npm": "124", "name": "Channek Jr.", "gpa": 3.0, "courses": [ { "id_course": "CSC123", "name": "PSP", "credits": 4, "students": null }, { "id_course": "CSC124", "name": "SDA", "credits": 3, "students": null } ] } ]
```

String parse

```
[
    {
        "npm": "123",
        "name": "Channek",
        "gpa": 4.0,
        "courses": [
            {
                "id_course": "CSC126",
                "name": "MPKT",
                "credits": 6,
                "students": null
            }
        ]
    },
    {
        "npm": "124",
        "name": "Channek Jr.",
        "gpa": 3.0,
        "courses": [
            {
                "id_course": "CSC123",
                "name": "PSP",
                "credits": 4,
                "students": null
            },
            {
                "id_course": "CSC124",
                "name": "SDA",
                "credits": 3,
                "students": null
            }
        ]
    }
]
```

2. **Latihan 2:** Buatlah *service* untuk class *Course*. Buatlah *controller* baru yang terdapat *service* untuk melihat suatu course dengan masukan ID Course (view by ID) dan *service* untuk melihat semua course (view all).

a. Melihat suatu course

- Membuat service dan servicedatabase dari course untuk melakukan pemanggilan method `selectCourse`

```
1 package com.example.service;
2
3 import com.example.model.CourseModel;
4
5 public interface CourseService {
6     CourseModel selectCourse(String id_course);
7 }
~
```

```
1 package com.example.service;
2
3 import org.springframework.beans.factory.annotation.Autowired;
4 import org.springframework.stereotype.Service;
5
6 import com.example.dao.CourseMapper;
7 import com.example.model.CourseModel;
8 import lombok.extern.slf4j.Slf4j;
9
10 @Slf4j
11 @Service
12 public class CourseServiceDatabase implements CourseService {
13     @Autowired
14     private CourseMapper courseMapper;
15
16     @Override
17     public CourseModel selectCourse(String id_course) {
18         log.info("select course with id {}", id_course);
19         return courseMapper.selectCourse(id_course);
20     }
21 }
--
```

- Membuat mapper dari course untuk melakukan pemanggilan query select berdasarkan `id_course`

```
1 package com.example.dao;
2
3 import org.apache.ibatis.annotations.Mapper;
4 import org.apache.ibatis.annotations.Param;
5 import org.apache.ibatis.annotations.Select;
6 import com.example.model.CourseModel;
7
8 @Mapper
9 public interface CourseMapper {
10     @Select("select * from course where id_course = #{id_course}")
11     CourseModel selectCourse(@Param("id_course") String id_course);
12 }
```

- Membuat method controller untuk memanggil object dari `selectCourse`

```
@RequestMapping("/course/view/{id_course}")
public CourseModel view(@PathVariable(value = "id_course") String id_course) {
    CourseModel course = courseService.selectCourse(id_course);
    return course;
}
```

- Hasil: <http://localhost:8080/rest/course/view/CSC123>

```
← → ↺ localhost:8080/rest/course/view/CSC123
{"id_course":"CSC123","name":"PSP","credits":4,"students":null}
```

String parse

```
{
  "id_course": "CSC123",
  "name": "PSP",
  "credits": 4,
  "students": null
}
```

b. Melihat semua course

- Membuat service dan servicedatabase dari semua course untuk melakukan pemanggilan method selectAllCourse

```
public interface CourseService {  
    CourseModel selectCourse(String id_course);  
    List<CourseModel> selectAllCourses();  
}  
  
@Override  
public List<CourseModel> selectAllCourses() {  
    Log.info("select all courses");  
    return courseMapper.selectAllCourses();  
}
```

- Membuat mapper dari semua course untuk melakukan pemanggilan query select

```
@Select("select * from course")  
List<CourseModel> selectAllCourses();
```

- Membuat method controller untuk memanggil semua object dari AllCourse

```
@RequestMapping("/course/viewall")  
public List<CourseModel> view() {  
    List<CourseModel> courses = courseService.selectAllCourses();  
    return courses;  
}
```

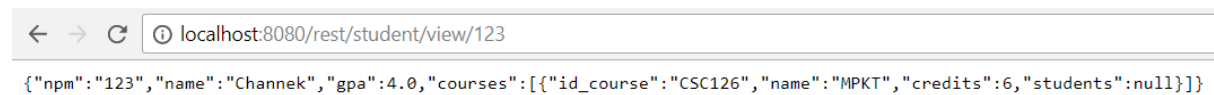
- Hasil: <http://localhost:8080/rest/course/viewall>

localhost:8080/rest/course/viewall
[[{"id_course": "CSC123", "name": "PSP", "credits": 4, "students": null}, {"id_course": "CSC124", "name": "SDA", "credits": 3, "students": null}, {"id_course": "CSC125", "name": "DDP 1", "credits": 4, "students": null}, {"id_course": "CSC126", "name": "MPKT", "credits": 6, "students": null}]

String parse

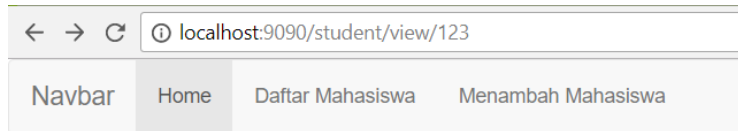
```
[  
  {  
    "id_course": "CSC123",  
    "name": "PSP",  
    "credits": 4,  
    "students": null  
  },  
  {  
    "id_course": "CSC124",  
    "name": "SDA",  
    "credits": 3,  
    "students": null  
  },  
  {  
    "id_course": "CSC125",  
    "name": "DDP 1",  
    "credits": 4,  
    "students": null  
  },  
  {  
    "id_course": "CSC126",  
    "name": "MPKT",  
    "credits": 6,  
    "students": null  
  }  
]
```

<http://localhost:8080/rest/student/view/123>



<http://localhost:9090/student/view/123>

2017-11-02 12:26:40.086 INFO 17268 --- [nio-9090-exec-1] com.example.service.StudentServiceRest : REST - select student with npm 123



NPM = 123

Name = Channek

GPA = 4.0

Kuliah yang diambil

- MPKT-6sks

1. Latihan 3: Implementasikan *service consumer* untuk view all Students dengan melengkapi *method* `selectAllStudents` yang ada di kelas `StudentServiceRest`.

- Membuat method `selectAllStudents` yang implementasi `StudentService` di `StudentServiceRest`

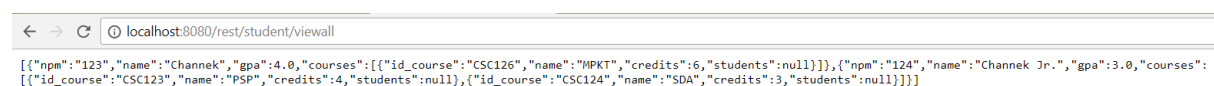
```
@Override
public List<StudentModel> selectAllStudents() {
    log.info("REST - select all students");
    return studentDAO.selectAllStudents();
}
```

- Membuat method yang menerima parameter URL dari producer web service untuk `selectAllStudents`

```
@Override
public List<StudentModel> selectAllStudents() {
    List<StudentModel> students = restTemplate.getForObject("http://localhost:8080/rest/student/viewall", List.class);
    return students;
}
```

- Hasil:

<http://localhost:8080/rest/student/viewall>



Fajar Marseto – 1506724097
Tutorial 7 APAP

<http://localhost:9090/student/viewall>

2017-11-02 14:14:47.580 INFO 13904 --- [nio-9090-exec-5] com.example.service.StudentServiceRest : REST - select all students

← → ↻

localhost:9090/student/viewall

☆ 🌐 ⋮

Navbar

Home

Daftar Mahasiswa

Menambah Mahasiswa

🔍

All Students

No.	NPM	Name	GPA	Cum laude	Delete	Update
1	123	Channek	4.0	Cum Laude!	Delete Data	Update Data
2	124	Channek Jr.	3.0	Sangat Memuaskan!	Delete Data	Update Data