

a. Ringkasan dari materi yang Anda telah pelajari pada tutorial kali ini

Saya mempelajari bagaimana ...

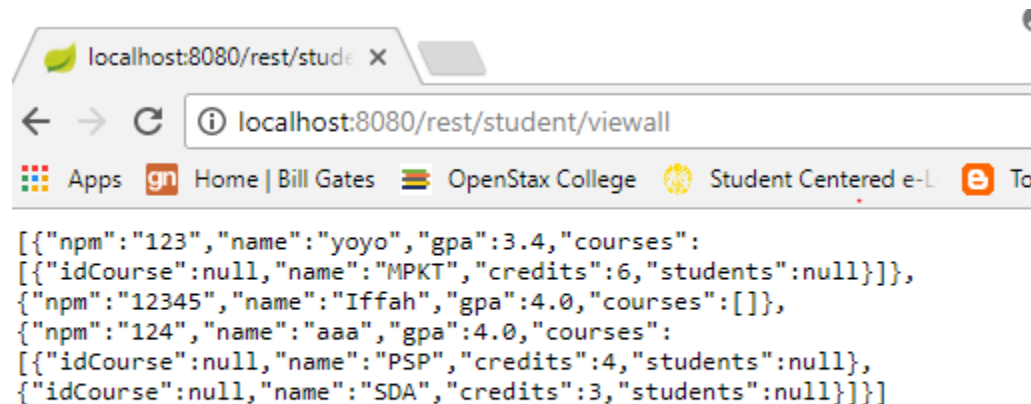
b. Latihan

Latihan 1: Membuat service untuk mengembalikan seluruh student yang ada di basis data.

1. Membuat request mapping /student/viewall
2. Mencari list of students dengan method selectAllStudents dari interface studentService
3. Mereturn object students.

```
@RequestMapping("/student/viewall")  
public List<StudentModel> viewAll (@Model model) {  
  
    List<StudentModel> students = studentService.selectAllStudents ();  
    model.addAttribute ("students", students);  
  
    return students;  
}
```

Hasil dari rest/student/viewall.



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Hasil dari rest/student/viewall dengan JSON parse.

String parse

```
[
  {
    "npm": "123",
    "name": "yoyo",
    "gpa": 3.4,
    "courses": [
      {
        "idCourse": null,
        "name": "MPKT",
        "credits": 6,
        "students": null
      }
    ]
  },
  {
    "npm": "12345",
    "name": "Iffah",
    "gpa": 4.0,
    "courses": [
    ]
  },
  {
    "npm": "124",
    "name": "aaa",
    "gpa": 4.0,
    "courses": [
      {
        "idCourse": null,
        "name": "PSP",
        "credits": 4,
        "students": null
      },
      {
        "idCourse": null,
        "name": "SDA",
        "credits": 3,
        "students": null
      }
    ]
  }
]
```

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Latihan 2: Membuat service untuk Class Course yang terdapat service untuk melihat suatu course dengan memasukkan ID Course (view by ID) dan service untuk melihat semua course (view all).

1. Membuat method selectAllCourses()

```
List<CourseModel> selectAllCourses();

@Select("select * from course")
@Results(value = {
    @Result(property="idCourse", column="id_course"),
    @Result(property="name", column="name"),
    @Result(property="credits", column="credits"),
    @Result(property="students", column="id_course",
        javaType = List.class,
        many=@Many(select="selectStudents"))
})
List<CourseModel> selectAllCourses();

@Override
public List<CourseModel> selectAllCourses() {
    log.info ("select all courses");
    return studentMapper.selectAllCourses ();
}
```

2. Membuat /course/viewall pada StudentController.java

```
@RequestMapping("/course/viewall")
public String courseview (Model model)
{
    List<CourseModel> courses = studentDAO.selectAllCourses ();
    model.addAttribute ("courses", courses);

    return "courseviewall";
}
```

3. Membuat page html courseviewall.html

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```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
  <head>
    <title>View All Courses</title>
  </head>
  <body>
    <h1>All Courses</h1>

    <div th:each="course, iterationStatus: ${courses}">
      <h3 th:text="'No. ' + ${iterationStatus.count}">No. 1</h3>
      <h3 th:text="'Name = ' + ${course.name}"> Name</h3>
      <h3 th:text="'Credit = ' + ${course.credits}"> Credit</h3>
      <h3>Mahasiswa yang mengambil</h3>
      <ul th:each="student, iterationStatus: ${student.students}">
        <li th:text = "${student.npm} + '-' + ${student.name}">
          Nama Kuliah-X SKS
        </li>
      </ul>
    </div>
  </body>
</html>
```

4. Membuat CourseRestController.java pada com.example.rest dan membuat request mapping /course/viewall dan /course/view{id} pada CourseRestController.java

```
@RequestMapping("/course/view/{id}")
public CourseModel viewCoursePath (Model model,
    @PathVariable(value = "id") String id)
{
    CourseModel course = studentService.selectCourse (id);

    if (course != null) {
        model.addAttribute ("course", course);
        return course;
    } else {
        model.addAttribute ("id", id);
        return null;
    }
}

@RequestMapping("/course/viewall")
public List<CourseModel> viewall (Model model)
{
    List<CourseModel> courses = studentService.selectAllCourses ();
    model.addAttribute ("courses", courses);

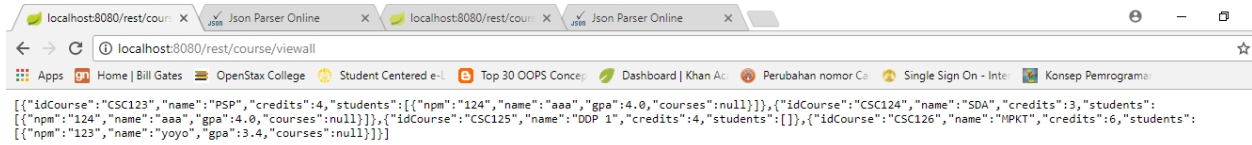
    return courses;
}
```

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Hasil dari rest/course/viewall.



Hasil dari rest/course/viewall dengan JSON parse.

String parse

```
[
  {
    "idCourse": "CSC123",
    "name": "PSP",
    "credits": 4,
    "students": [
      {
        "npm": "124",
        "name": "aaa",
        "gpa": 4.0,
        "courses": null
      }
    ]
  },
  {
    "idCourse": "CSC124",
    "name": "SDA",
    "credits": 3,
    "students": [
      {
        "npm": "124",
        "name": "aaa",
        "gpa": 4.0,
        "courses": null
      }
    ]
  },
  {
    "idCourse": "CSC125",
    "name": "DDP 1",
    "credits": 4,
    "students": []
  },
  {
    "idCourse": "CSC126",
    "name": "MPKT",
    "credits": 6,
    "students": [
      {
        "npm": "123",
        "name": "yoyo",
        "gpa": 3.4,
        "courses": null
      }
    ]
  }
]
```

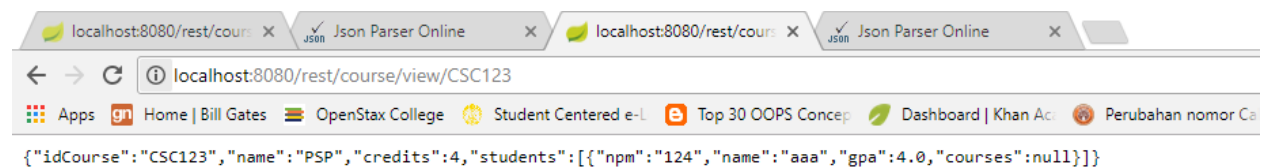
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```
{
  "idCourse": "CSC126",
  "name": "MPKT",
  "credits": 6,
  "students": [
    {
      "npm": "123",
      "name": "yoyo",
      "gpa": 3.4,
      "courses": null
    }
  ]
}
```

Hasil dari rest/course/view/CSC123.



```
{ "idCourse": "CSC123", "name": "PSP", "credits": 4, "students": [ { "npm": "124", "name": "aaa", "gpa": 4.0, "courses": null } ] }
```

Hasil dari rest/course/view/CSC123 dengan JSON parse.

String parse

```
{
  "idCourse": "CSC123",
  "name": "PSP",
  "credits": 4,
  "students": [
    {
      "npm": "124",
      "name": "aaa",
      "gpa": 4.0,
      "courses": null
    }
  ]
}
```

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