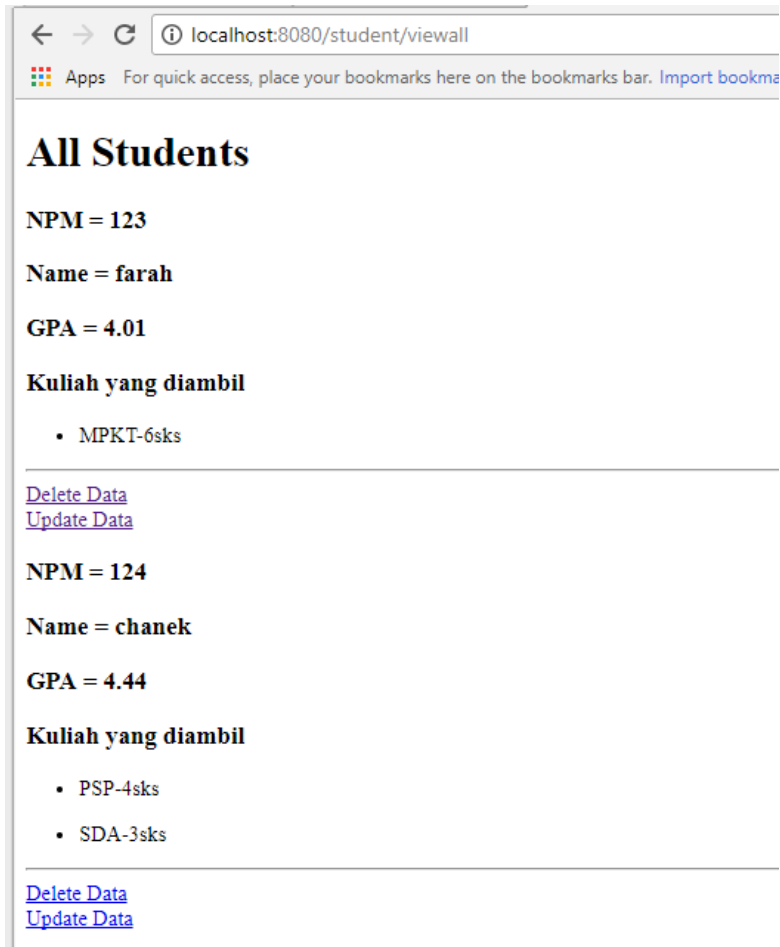


TUTORIAL

- Thymeleaf

1. Apakah value yang dihasilkan dari `${iterationStatus.odd}`?

```
<div th:each="student, iterationStatus: ${students}" th:class="${iterationStatus.odd}? 'odd'">
  <h3 th:text="'NPM = ' + ${student.npm}">Student NPM</h3>
  <h3 th:text="'Name = ' + ${student.name}">Student Name</h3>
  <h3 th:text="'GPA = ' + ${student.gpa}">Student GPA</h3>
```



2. Mengapa condition di dalam th:unless sama dengan di dalam th:if? Jelaskan jawaban Anda

```
<h3 th:if="${student.gpa}>=3.49}">Cum Laude!</h3>  
<h3 th:unless="${student.gpa}>=3.49}">Sangat Memuaskan!</h3>
```

All Students	
NPM = 123	
Name = farah	
GPA = 4.01	
Cum Laude!	
Kuliah yang diambil	
	<ul style="list-style-type: none">• MPKT-6sks
Delete Data	
Update Data	
NPM = 124	
Name = chanek	
GPA = 4.44	
Cum Laude!	
Kuliah yang diambil	
	<ul style="list-style-type: none">• PSP-4sks• SDA-3sks
Delete Data	

- ⇒ Menambahkan data pada index ganjil
3. Coba ubah condition pada th:unless=\${student.gpa}>=3.49} menjadi th:unless=\${student.gpa}<=3.48}, lalu run kembali aplikasi Anda dan mengakses halaman yang sama. Apakah terjadi error? Jika iya, kenapa? Jelaskan alasan Anda. Jika tidak error, apakah hasilnya sesuai?
- ⇒ Condition th:if student.gpa>=3.49 mencetak cumlaude, sama dengan th:unless gpa>=3.49 dimana sama-sama melakukan kondisi paling tidak 3.49;

Whitelabel Error Page

This application has no explicit mapping for /error, so you are seeing this as a fallback.

Sun Oct 15 16:26:40 ICT 2017

There was an unexpected error (type=Internal Server Error, status=500).

Exception parsing document: template="viewall", line 14 - column 38

⇒ Terjadi error, karena

Karena perintah tersebut adalah unless sedangkan kondisinya memakai <= bukan >=

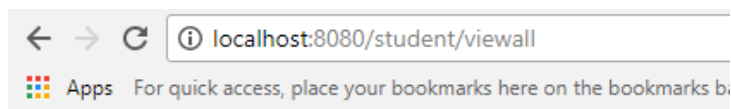
4. Tuliskan cara lain Anda dengan penulisan conditional expression yang berbeda untuk mendapatkan hasil yang sama seperti gambar di atas. Hint: Gunakan ternary operator.

```
<h3 th:text="${student.gpa}>=3.49?'Cum Laude!':'Sangat Memuaskan!'"></h3>
```

Hasil:

(IPK untuk chanek diupdate jadi 3.48 biar terlihat hasil perbedaannya)

Farah Agia Ramadhina
1506731580
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All Students

NPM = 123

Name = farah

GPA = 4.01

Cum Laude!

Kuliah yang diambil

- MPKT-6sks

[Delete Data](#)

[Update Data](#)

NPM = 124

Name = chanek

GPA = 3.48

Sangat Memuaskan!

Kuliah yang diambil

- PSP-4sks
- SDA-3sks

[Delete Data](#)

[Update Data](#)

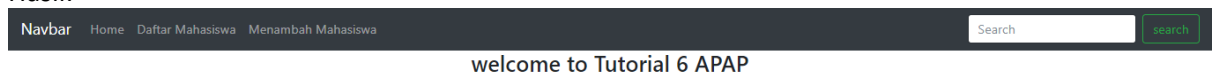
• Static File

Menambahkan bootstrap ke halaman HTML. Menambahkan folder bootstrap ke dalam folder static. Kemudian menyesuaikan *source code* dengan format bootstrap

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
    <title>Index</title>
    <link rel="stylesheet" href="bootstrap/css/bootstrap.min.css"
/>
</head>
<body>
    <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
    <a class="navbar-brand" href="#">Navbar</a>
    <button class="navbar-toggler" type="button" data-
toggle="collapse" data-target="#navbarSupportedContent"
aria-controls="navbarSupportedContent" aria-expanded="false"
aria-label="Toggle navigation">
```

```
<span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse"
  id="navbarSupportedContent">
  <ul class="navbar-nav mr-auto">
    <li class="nav-item">
      <a class="nav-link" href="/">Home</a>
    </li>
    <li class="nav-item">
      <a class="nav-link"
        href="/student/viewall">Daftar Mahasiswa</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/student/add">
        Menambah Mahasiswa</a>
    </li>
  </ul>
  <form class="form-inline my-2 my-lg-0">
    <input class="form-control mr-sm-2" type="text"
      placeholder="Search" aria-label="Search" />
    <button class="btn btn-outline-success my-2 my-sm-0" type="submit">search</button>
  </form>
</div>
</nav>
<center>
  <h3> welcome to Tutorial 6 APAP</h3>
</center>
</body>
</html>
```

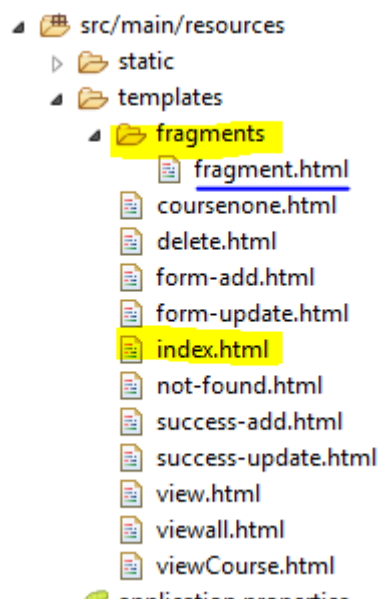
Hasil:



- **Fragment**

Membuat hirarki folder sebagai berikut dan menambahkan **fragment.html** dalam folder **fragments**

Farah Agia Ramadhina
1506731580
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Source code fragment.html

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
    <title>Fragment</title>
</head>
<body>
    <div th:fragment="header">
        <ul>
            <li><a href="">Home</a></li>
            <li><a href="/student/viewall">Daftar
Mahasiswa</a></li>
            <li><a href="/student/add">Menambah
Mahasiswa</a></li>
        </ul>
    </div>

    <div th:fragment="footer">
        <hr/>
        <h4>Mata Kuliah APAP</h4>
    </div>
</body>
</html>
```

Source code fragment.html

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
    <title>Index</title>
</head>
<body>
    <div th:replace="fragments/fragment :: header"></div>
    <h2>Welcome To Tutorial 6 APAP </h2>
    <div th:replace="fragments/fragment :: footer"></div>
</body>
</html>
```

Hasil:

- [Home](#)
- [Daftar Mahasiswa](#)
- [Menambah Mahasiswa](#)

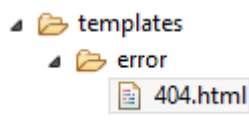
Welcome To Tutorial 6 APAP

Mata Kuliah APAP

5. Apa yang dimaksud dengan `th:replace="fragments/fragment :: header"` dan `th:replace="fragments/fragment :: footer"` pada file `index.html` yang Anda buat?
- ⇒ Maka dari **index.html** akan mengakses **fragment.html** pada folder **fragments** dengan memanggil sub-bagian pada div header dan di bagian lain akan mengakses footer. Maka dari hal yang telah diakses tersebut div yang dibuat akan di-*replace* dengan isi yang ada di **fragment.html**

● Error

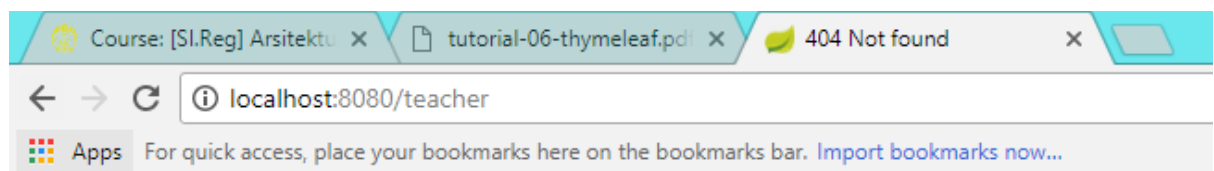
Membuat hirarki folder sebagai berikut



Source code pada 404.html:

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
  <title>404 Not found</title>
</head>
<body>
  <h2>Halaman tidak ditemukan </h2>
</body>
</html>
```

Hasil:



Halaman tidak ditemukan

LATIHAN

- **Membuat DataTables**

Menambahkan datatables dengan mengakses link sebagai berikut di **viewall.html**

```
<link rel="stylesheet"
      href="//cdn.datatables.net/1.10.16/css/jquery.dataTables.min.cs
s"></link>
<script
      src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.
min.js"></script>
<script
      src="//cdn.datatables.net/1.10.16/js/jquery.dataTables.min.js">
</script>
```

⇒ Link di atas adalah untuk mengakses format datatables

Source code yang direvisi dengan menyesuaikan format datatables

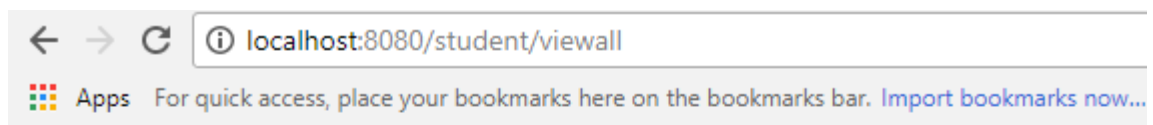
```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head>
<title>View All Students</title>
<link rel="stylesheet"
      href="//cdn.datatables.net/1.10.16/css/jquery.dataTables.min.cs
s"></link>
<script
      src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.1/jquery.
min.js"></script>
<script
      src="//cdn.datatables.net/1.10.16/js/jquery.dataTables.min.js"></scri
pt>
</head>

<body>
  <h1>All Students</h1>
  <table>
    <thead>
      <tr>
        <th>No</th>
        <th>NPM</th>
        <th>Name</th>
        <th>GPA</th>
        <th>Cum laude</th>
        <th>Delete</th>
        <th>Update</th>
      </tr>
    </thead>
    <tbody>
      <tr th:each="student, iterationStatus: ${students}"
          th:class="${iterationStatus.odd}? 'odd'">
        <td th:text="${iterationStatus.count}">No.1</td>
        <td th:text="${student.npm}">Student NPM</td>
        <td th:text="${student.name}">Student Name</td>
        <td th:text="${student.gpa}">Student GPA</td>
```


Farah Agia Ramadhina
1506731580
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```
<td th:text="${student.gpa}>=3.49?'Cum
Laude!': 'Sangat Memuaskan!'"></td>
<td><a th:href="'/student/delete/' +
${student.npm}">Delete
Data</a></td>
<td><a th:href="'/student/update/' +
${student.npm}">Update
Data</a></td>
</tr>
</tbody>
</table>
</body>
</html>
```

Hasil:

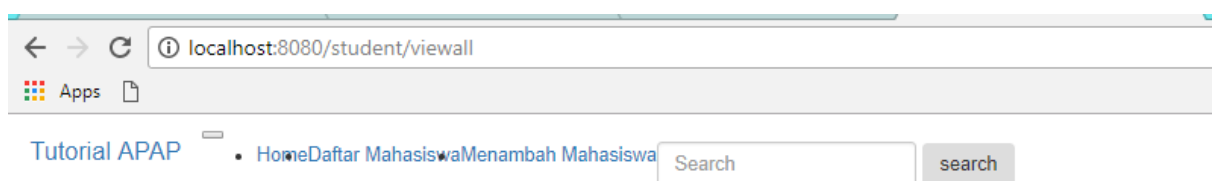


All Students

No	NPM	Name	GPA	Cum laude	Delete	Update
1	123	farah	4.01	Cum Laude!	Delete Data	Update Data
2	124	chanek	3.48	Sangat Memuaskan!	Delete Data	Update Data

• Menambah fragment pada setiap template

Pada view all student

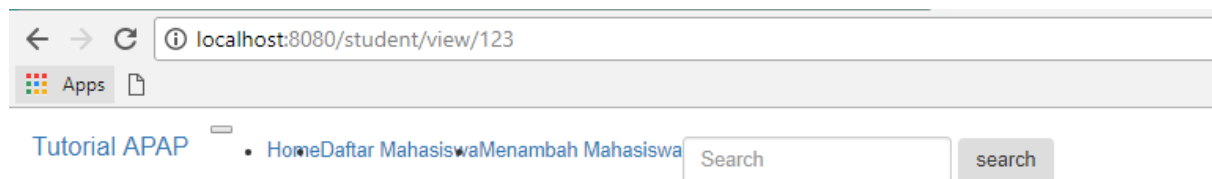


All Students

No	NPM	Name	GPA	Cum laude	Delete	Update
1	123	farah	4.01	Cum Laude!	Delete Data	Update Data
2	124	chanek	3.48	Sangat Memuaskan!	Delete Data	Update Data

Pada view student

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NPM = 123

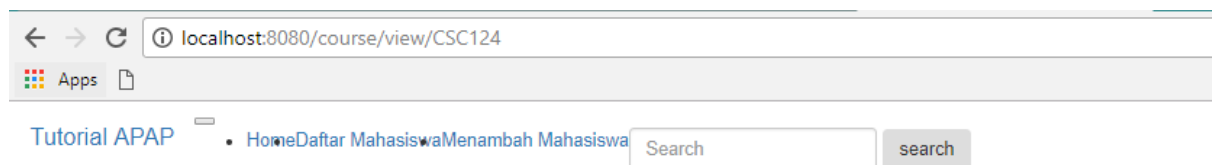
Name = farah

GPA = 4.01

Kuliah yang diambil

- MPKT-6sks

Pada view course



ID = CSC124

Name = SDA

Credits = 3

Mahasiswa yang mengambil

- 124-chanek

Pada fragment akan mengambil header di fragment di setiap

```
<!DOCTYPE html>
<html xmlns:th="http://www.thymeleaf.org">
<head th:fragment="head">
<link rel="stylesheet" href="bootstrap/css/bootstrap.min.css" />
<title th:if="${#httpServletRequest.requestURI == '/'}">Index</title>
<title th:if="${#httpServletRequest.requestURI == '/student/view'}">View
Student by NPM</title>
<title th:if="${#httpServletRequest.requestURI ==
'/student/view/{npm}'}">View Student by NPM</title>
<title th:if="${#httpServletRequest.requestURI == '/student/viewall'}">View
All Student</title>
<title th:if="${#httpServletRequest.requestURI ==
'/course/view/{id_course}'}">View Course by ID</title>
</head>
<body>
<div th:fragment="header">
<nav class="navbar navbar-expand-lg navbar-dark bg-dark">
```

Farah Agia Ramadhina
1506731580
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```
<a class="navbar-brand" href="#">Tutorial APAP</a>
<button class="navbar-toggler" type="button" data-
toggle="collapse"
    data-target="#navbarSupportedContent"
    aria-controls="navbarSupportedContent" aria-
expanded="false"
    aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse"
id="navbarSupportedContent">
    <ul class="navbar-nav mr-auto">
        <li class="nav-item"><a class="nav-link"
href="/">Home</a></li>
        <li class="nav-item"><a class="nav-link"
href="/student/viewall">Daftar
Mahasiswa</a></li>
        <li class="nav-item"><a class="nav-link"
href="/student/add">Menambah
Mahasiswa</a></li>
    </ul>
    <form class="form-inline my-2 my-lg-0">
        <input class="form-control mr-sm-2"
type="text"
        placeholder="Search" aria-
label="Search" />
        <button class="btn btn-outline-success my-2
my-sm-0" type="submit">
search</button>
    </form>
</div>
</nav>
<div th:switch="${#httpServletRequest.requestURI}">
    <center th:case="'/'">
        <h3>Welcome to Tutorial 6 APAP!</h3>
    </center>
    <h3 th:case="'/student/viewall'">All Students</h3>
    <h3 th:case="'/student/view'">Data Mahasiswa</h3>
    <h3 th:case="'/student/view/{npm} '">Data Mahasiswa</h3>
    <h3 th:case="'/student/course/{id_course} '">Data Mata
Kuliah</h3>
    </div>
</div>

    <div th:fragment="footer">
        <hr />
        <h4>Mata Kuliah APAP</h4>
    </div>
</body>
</html>
```