

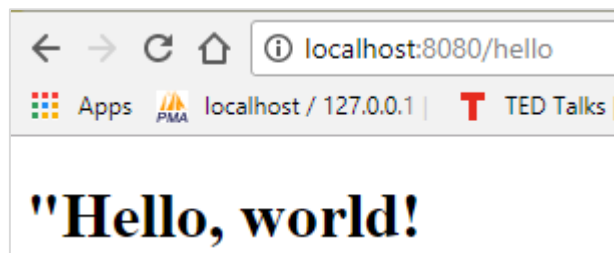


```
Dashboard PageController.java
package com.example.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

@Controller
public class PageController {

    @RequestMapping("/hello")
    public String index ()
    {
        return "hello";
    }
}
```



1. Ganti baris tersebut menjadi `@RequestMapping("/hello123")`  
Pertanyaan: Apakah compile error?

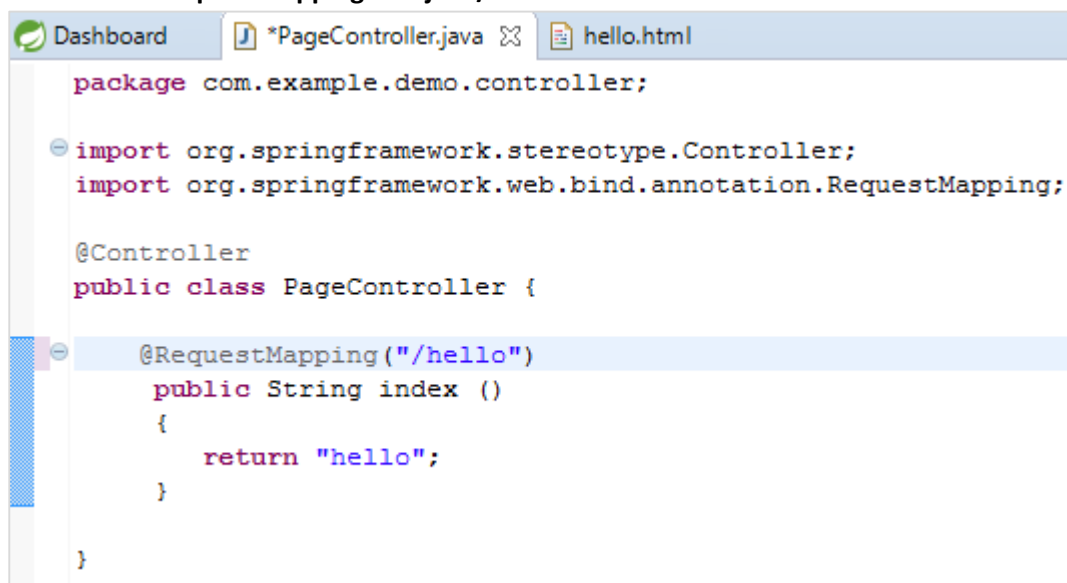
Tidak

```
2018-02-24 13:53:44.013 INFO 5532 --- [ restartedMain] com.example.demo.HelloWorldApplication
2018-02-24 13:53:44.013 INFO 5532 --- [ restartedMain] com.example.demo.HelloWorldApplication
2018-02-24 13:53:44.307 INFO 5532 --- [ restartedMain] ationConfigEmbeddedWebApplicationContext
2018-02-24 13:53:45.776 INFO 5532 --- [ restartedMain] s.b.c.e.t.TomcatEmbeddedServletContainer
2018-02-24 13:53:45.821 INFO 5532 --- [ restartedMain] o.apache.catalina.core.StandardService
2018-02-24 13:53:45.821 INFO 5532 --- [ restartedMain] org.apache.catalina.core.StandardEngine
2018-02-24 13:53:46.071 INFO 5532 --- [ost-startStop-1] o.a.c.c.C.[Tomcat].[localhost].[/]
2018-02-24 13:53:46.071 INFO 5532 --- [ost-startStop-1] o.s.web.context.ContextLoader
2018-02-24 13:53:46.383 INFO 5532 --- [ost-startStop-1] o.s.b.w.servlet.ServletRegistrationBean
2018-02-24 13:53:46.383 INFO 5532 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean
2018-02-24 13:53:46.383 INFO 5532 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean
2018-02-24 13:53:46.383 INFO 5532 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean
2018-02-24 13:53:46.383 INFO 5532 --- [ost-startStop-1] o.s.b.w.servlet.FilterRegistrationBean
2018-02-24 13:53:46.743 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerAdapter
2018-02-24 13:53:46.805 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping
2018-02-24 13:53:46.813 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping
2018-02-24 13:53:46.813 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping
2018-02-24 13:53:46.844 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping
2018-02-24 13:53:46.844 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping
2018-02-24 13:53:46.891 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping
2018-02-24 13:53:47.344 INFO 5532 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer
2018-02-24 13:53:47.407 INFO 5532 --- [ restartedMain] o.s.j.e.a.AnnotationMBeanExporter
2018-02-24 13:53:47.485 INFO 5532 --- [ restartedMain] s.b.c.e.t.TomcatEmbeddedServletContainer
2018-02-24 13:53:47.501 INFO 5532 --- [ restartedMain] com.example.demo.HelloWorldApplication
```

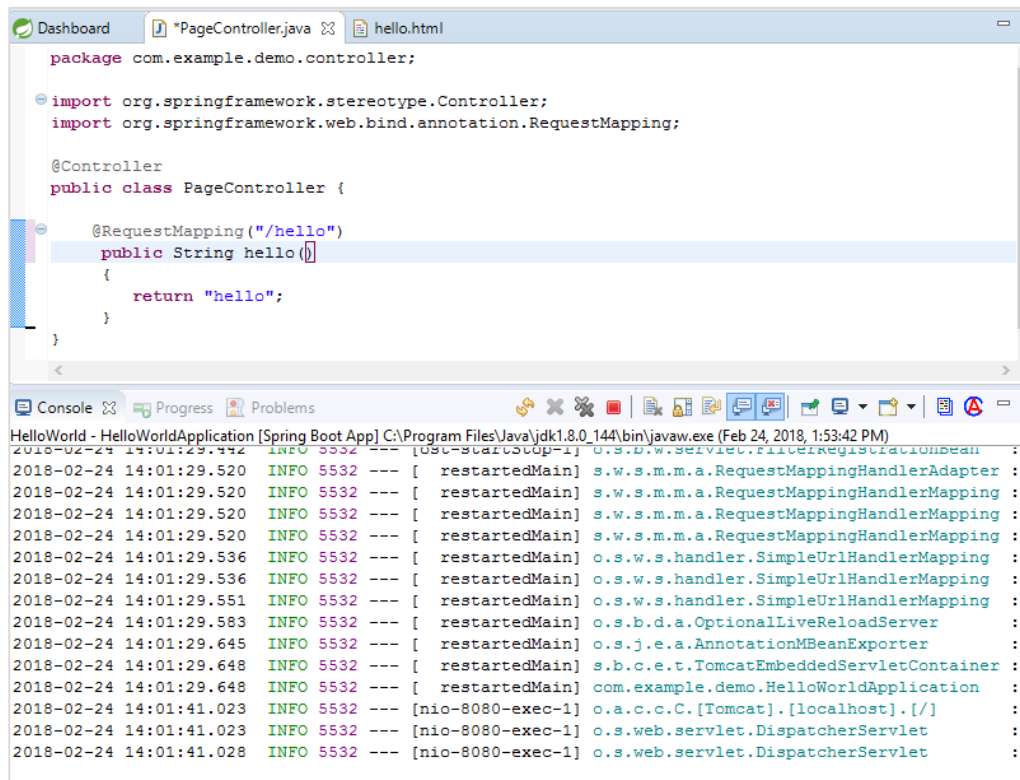
Jika tidak, stop Spring Boot yang sedang berjalan,  
run kembali dan buka localhost:8080/hello apa yang terjadi?  
Error, karena @requestmapping yang dimaksud adalah /hello123 sedangkan url yang  
dipanggil adalah /hello



Kembalikan RequestMapping menjadi /hello



2. Ganti nama method index() dengan nama method hello()  
Pertanyaan: Apakah compile error?  
Tidak



The screenshot shows an IDE with a Java file named `PageController.java` and a web browser window. The Java code defines a `PageController` class with a `hello()` method that returns "hello". The console output shows the application starting successfully on port 8080.

```
package com.example.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

@Controller
public class PageController {

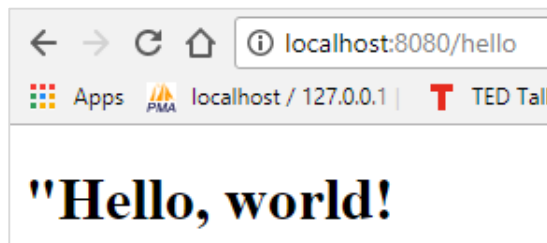
    @RequestMapping("/hello")
    public String hello()
    {
        return "hello";
    }
}
```

Console Output:

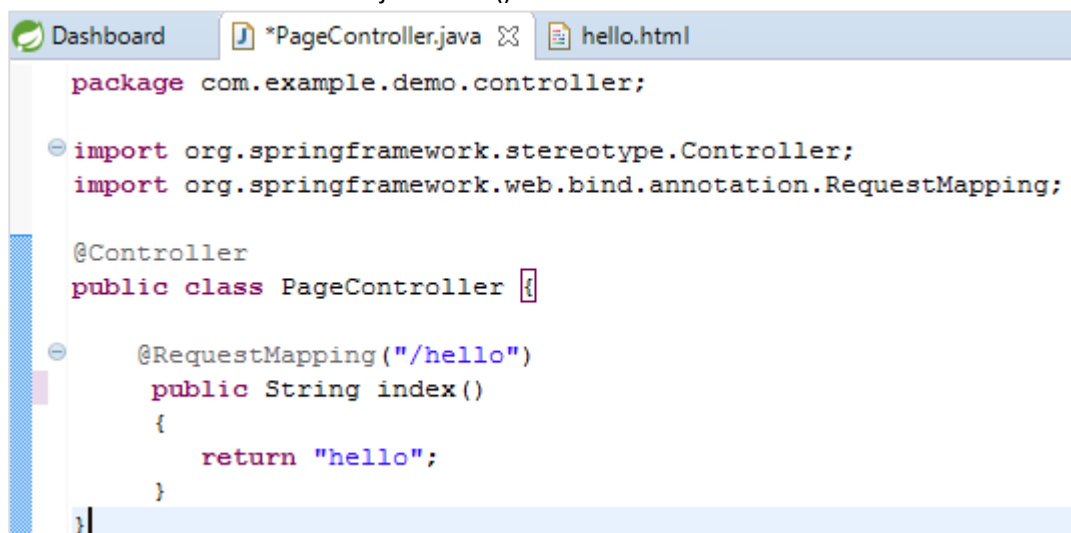
```
HelloWorld - HelloWorldApplication [Spring Boot App] C:\Program Files\Java\jdk1.8.0_144\bin\javaw.exe (Feb 24, 2018, 1:53:42 PM)
2018-02-24 14:01:29.442 INFO 5532 --- [ost-startup-1] o.s.b.w.s.ServletContextInitializerBeans :
2018-02-24 14:01:29.520 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerAdapter :
2018-02-24 14:01:29.520 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping :
2018-02-24 14:01:29.520 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping :
2018-02-24 14:01:29.520 INFO 5532 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping :
2018-02-24 14:01:29.536 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping :
2018-02-24 14:01:29.536 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping :
2018-02-24 14:01:29.551 INFO 5532 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping :
2018-02-24 14:01:29.583 INFO 5532 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer :
2018-02-24 14:01:29.645 INFO 5532 --- [ restartedMain] o.s.j.e.a.AnnotationMBeanExporter :
2018-02-24 14:01:29.648 INFO 5532 --- [ restartedMain] s.b.c.e.t.TomcatEmbeddedServletContainer :
2018-02-24 14:01:29.648 INFO 5532 --- [ restartedMain] com.example.demo.HelloWorldApplication :
2018-02-24 14:01:41.023 INFO 5532 --- [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] :
2018-02-24 14:01:41.023 INFO 5532 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet :
2018-02-24 14:01:41.028 INFO 5532 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet :
```

Jika tidak, Stop Spring Boot yang sedang berjalan, run kembali dan buka localhost:8080/hello  
Apakah page hello sebelumnya masih muncul?

Masih



Kembalikan nama method menjadi index()



The screenshot shows the IDE with the `PageController.java` file. The `hello()` method has been renamed to `index()`.

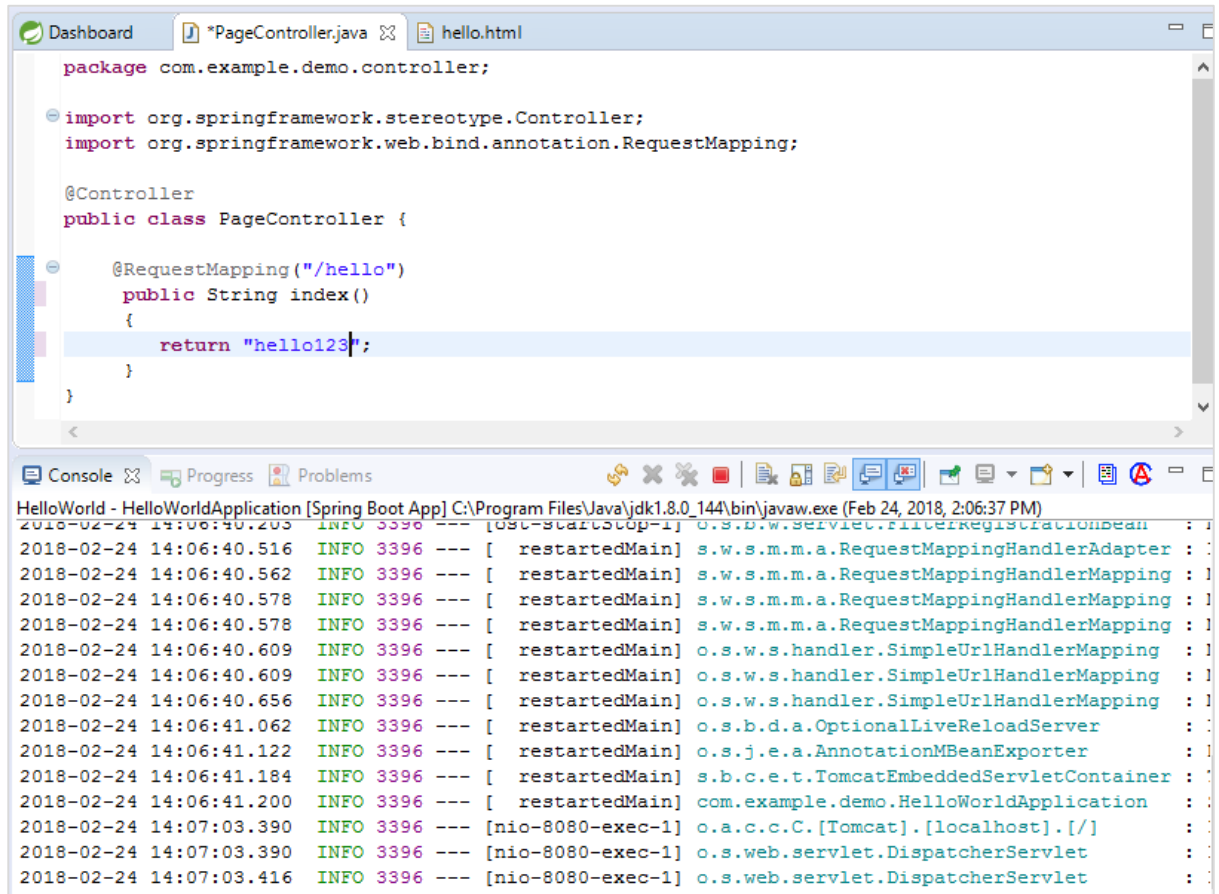
```
package com.example.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

@Controller
public class PageController {

    @RequestMapping("/hello")
    public String index()
    {
        return "hello";
    }
}
```

3. Ganti string return type menjadi return "hello123";



```
package com.example.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

@Controller
public class PageController {

    @RequestMapping("/hello")
    public String index()
    {
        return "hello123";
    }
}
```

Console: HelloWorld - HelloWorldApplication [Spring Boot App] C:\Program Files\Java\jdk1.8.0\_144\bin\javaw.exe (Feb 24, 2018, 2:06:37 PM)

2018-02-24 14:06:40.203 INFO 3396 --- [ost-startStop-1] o.s.b.w.s.ServletContextInitializerBeans : ...  
2018-02-24 14:06:40.516 INFO 3396 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerAdapter : ...  
2018-02-24 14:06:40.562 INFO 3396 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping : ...  
2018-02-24 14:06:40.578 INFO 3396 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping : ...  
2018-02-24 14:06:40.578 INFO 3396 --- [ restartedMain] s.w.s.m.m.a.RequestMappingHandlerMapping : ...  
2018-02-24 14:06:40.609 INFO 3396 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping : ...  
2018-02-24 14:06:40.609 INFO 3396 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping : ...  
2018-02-24 14:06:40.656 INFO 3396 --- [ restartedMain] o.s.w.s.handler.SimpleUrlHandlerMapping : ...  
2018-02-24 14:06:41.062 INFO 3396 --- [ restartedMain] o.s.b.d.a.OptionalLiveReloadServer : ...  
2018-02-24 14:06:41.122 INFO 3396 --- [ restartedMain] o.s.j.e.a.AnnotationMBeanExporter : ...  
2018-02-24 14:06:41.184 INFO 3396 --- [ restartedMain] s.b.c.e.t.TomcatEmbeddedServletContainer : ...  
2018-02-24 14:06:41.200 INFO 3396 --- [ restartedMain] com.example.demo.HelloWorldApplication : ...  
2018-02-24 14:07:03.390 INFO 3396 --- [nio-8080-exec-1] o.a.c.c.C.[Tomcat].[localhost].[/] : ...  
2018-02-24 14:07:03.390 INFO 3396 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : ...  
2018-02-24 14:07:03.416 INFO 3396 --- [nio-8080-exec-1] o.s.web.servlet.DispatcherServlet : ...

Pertanyaan: Apakah compile error?

Tidak


Jika tidak, Stop Spring Boot yang sedang berjalan, run kembali dan buka localhost:8080/hello

Apakah page hello sebelumnya masih muncul?

Tidak, karena tidak ada path /hello123 yang dipanggil.



Kembalikan return type menjadi "hello"



```
package com.example.demo.controller;

import org.springframework.stereotype.Controller;
import org.springframework.web.bind.annotation.RequestMapping;

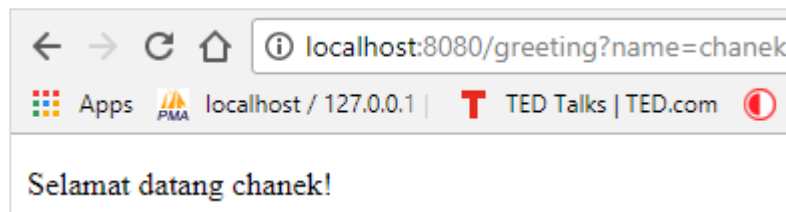
@Controller
public class PageController {

    @RequestMapping("/hello")
    public String index()
    {
        return "hello";
    }
}
```

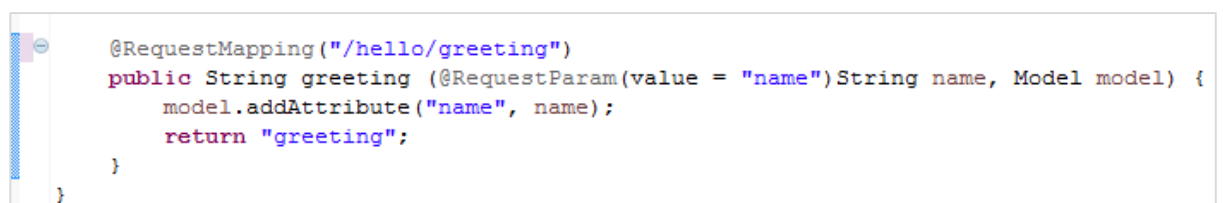
Pertanyaan: Menandakan apakah String yang di-return tersebut?  
Return tersebut memanggil method dengan nama String dan dikirimkan ke file html-nya.

### Latihan Request Parameter

Kondisi awal

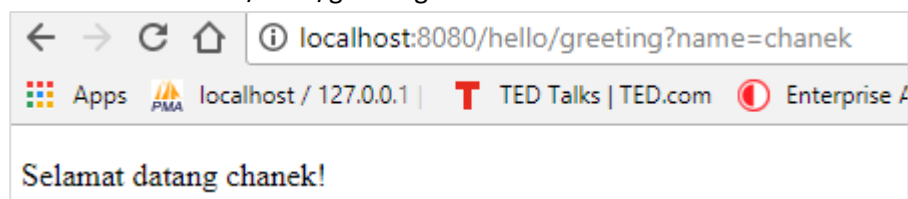


1. Ubah nilai anotasi RequestMapping dari "/greeting" menjadi "/hello/greeting"



```
@RequestMapping("/hello/greeting")
public String greeting (@RequestParam(value = "name")String name, Model model) {
    model.addAttribute("name", name);
    return "greeting";
}
```

Buka localhost:8080/hello/greeting?name=chanek



Pertanyaan: apakah hasilnya?  
Masih sama, dan tidak terjadi kesalahan. Hal itu krena @requestmapping sesuai dengan url yang dipanggil.

## 2. Akses localhost:8080/greeting



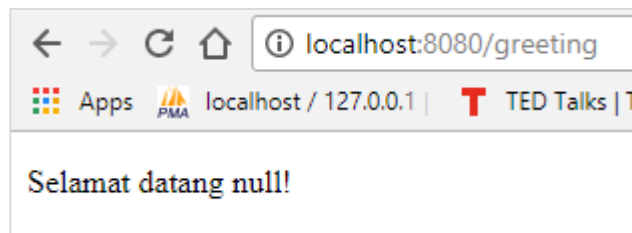
Pertanyaan: Apakah hasilnya?

Error, karena parameter name (hello) tidak disertakan pada url.

Mengubah header method greeting menjadi seperti berikut.

```
@RequestMapping("/hello/greeting")
public String greeting (@RequestParam(value = "name", required = false) String name, Model model) {
    model.addAttribute("name", name);
    return "greeting";
}
```

Stop Spring Boot yang sedang berjalan, run kembali, buka localhost:8080/greeting



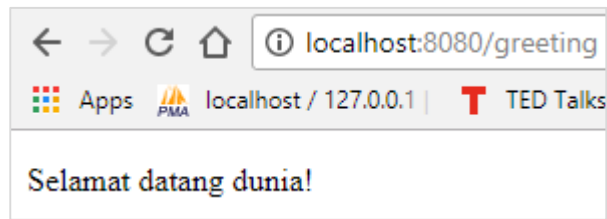
Pertanyaan: Apakah hasilnya?

Tampilan yang muncul adalah "Selamat datang null!" karena sebelumnya telah menambahkan parameter required = false.

## 3. Mengubah method greeting menjadi seperti berikut.

```
@RequestMapping("/greeting")
public String greeting (@RequestParam(value = "name", required = false, defaultValue = "dunia")String name, Model model) {
    model.addAttribute("name", name);
    return "greeting";
}
```

Stop Spring Boot yang sedang berjalan, run kembali, dan buka localhost:8080/greeting.



Pertanyaan: apakah hasilnya?

Tampilan yang muncul adalah tulisan “Selamat datang dunia!” karena value parameter telah ditetapkan yaitu “dunia”

4. Perhatikan bahwa pada berkas greeting.html, tag paragraf yang kita tambahkan adalah sebagai berikut:

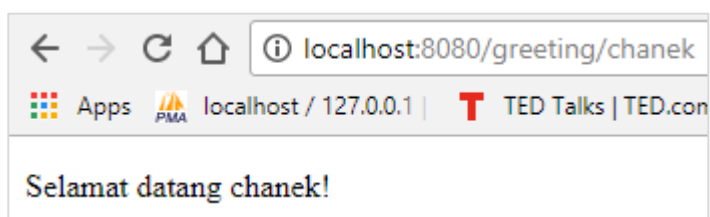
```
<title>Second Page</title>
</head>
<body>
  <p th:text = "'Selamat datang '+${name}+'!'">Sapaan untuk user</p>
</body>
</html>
```

Pertanyaan: Mengapa tulisan “Sapaan untuk user” tidak pernah muncul?

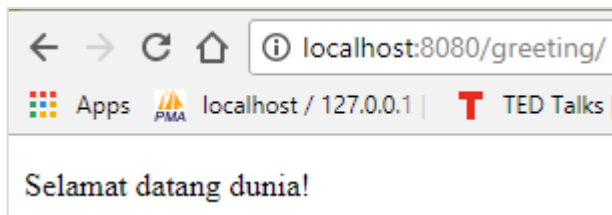
`<p th:text = "'Selamat datang '+${name}+'!'">` merupakan berasal dari thymeleaf sedangkan `·Sapaan untuk user</p>` berasal dari HTML. Menjalankan browser dengan menggunakan springboot dengan template engine thymeleaf sehingga yang akan ditampilkan hanya yang berasal dari thymeleaf sehingga yang akan tampil hanya dari thymeleaf yaitu “Selamat datang dunia!” dan “Sapaan untuk user” dari HTML tidak muncul.

## Latihan Path Variable

Kondisi awal



1. Akses localhost:8080/greeting/



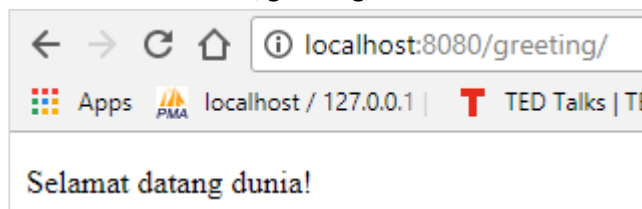
Pertanyaan: Apa hasilnya?

Akan menampilkan tulisan “Selamat datang dunia!”

Ubah method greetingPath menjadi seperti berikut:

```
@RequestMapping("/greeting/{name}")
public String greetingPath (@PathVariable Optional<String> name, Model model) {
    if (name.isPresent()) {
        model.addAttribute("name", name.get());
    } else {
        model.addAttribute("name", "apap");
    }
    return "greeting";
}
```

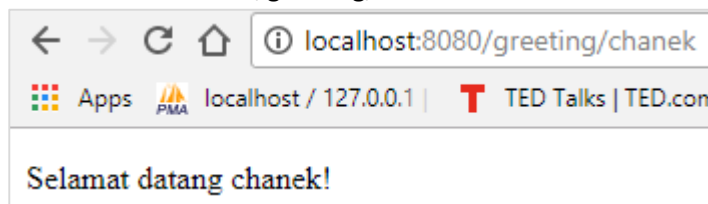
Akses localhost:8080/greeting/



Pertanyaan: Apa hasilnya?

Tampilan yang muncul adalah tulisan “Selamat datang dunia!”

Akses localhost:8080/greeting/chanek



Pertanyaan: Apa hasilnya?

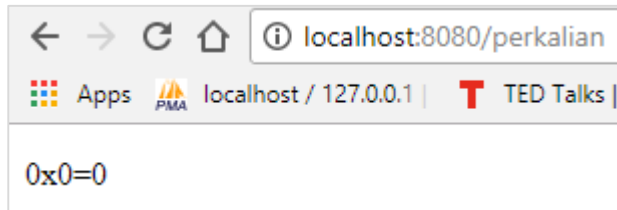
Tampilan yang muncul adalah tulisan “Selamat datang chanek”



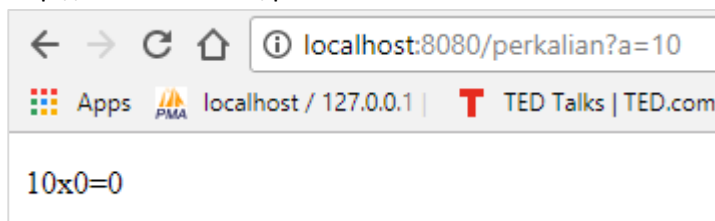
### Latihan

1. Buatlah satu halaman baru untuk melakukan operasi perkalian.
2. Halaman ini menerima 2 buah parameter dari query string yaitu a dan b.
3. Pada view tampilkan hasil perkalian a dan b.
4. Jika a atau b tidak ada, nilai defaultnya 0.
5. Contoh hasil tampilannya

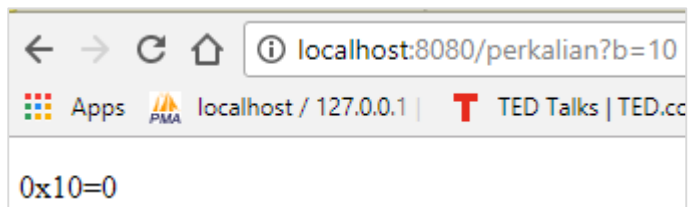
localhost:8080/perkalian



http://localhost:8080/perkalian?a=10



http://localhost:8080/perkalian?b=10



http://localhost:8080/perkalian?a=10&b=10

