What is Thymeleaf?

- Thymeleaf is a Java templating engine

www.thymeleaf.org

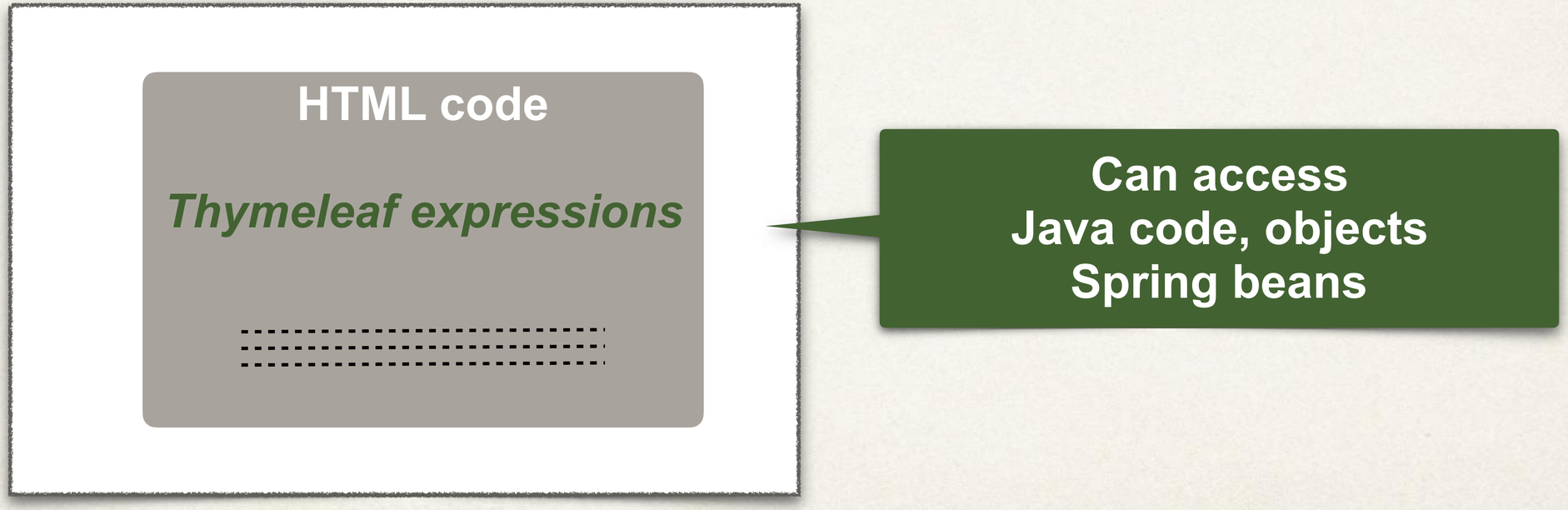
- Commonly used to generate the HTML views for

Separate project
Unrelated to spring.io

- However, it is a general purpose templating engine
  - Can use Thymeleaf outside of web apps (more on this later)

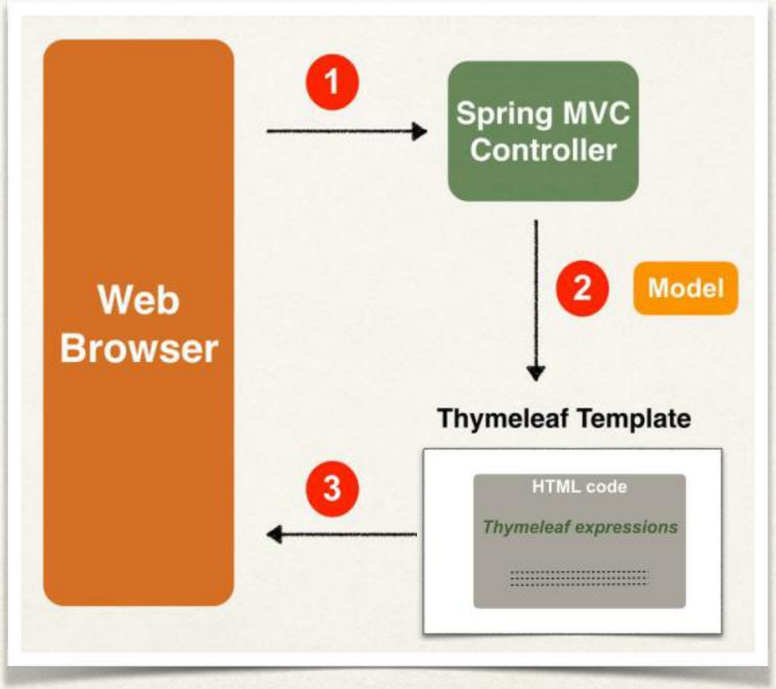
What is a Thymeleaf template?

- Can be an HTML page with some Thymeleaf expressions
- Include dynamic content from Thymeleaf expressions



Where is the Thymeleaf template processed?

- In a web app, Thymeleaf is processed on the server
- Results included in HTML returned to browser

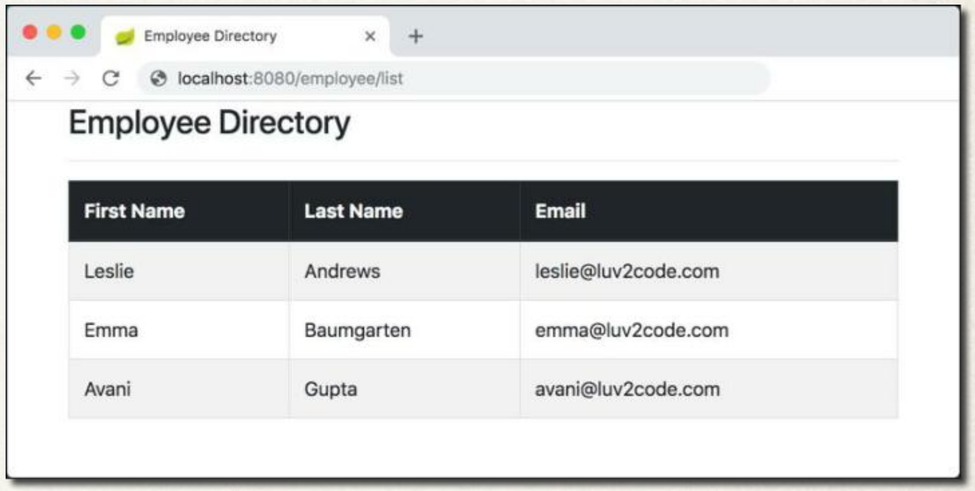


Hmmm …

This sounds similar to JSP …

Thymeleaf vs JSP

- Yes, Thymeleaf is similar to JSP
  - Can be used for web view templates

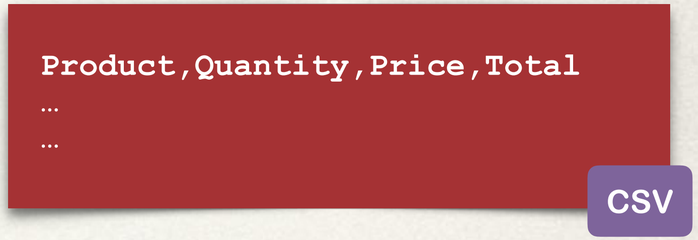


- One key difference
  - JSP can only be used in a web environment
  - Thymeleaf can be used in web OR non-web environments

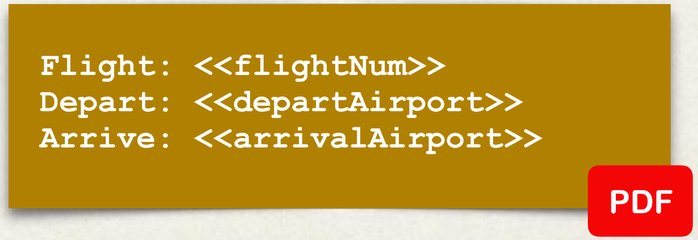
Thymeleaf Use Cases (non-web)

- Email Template
  - When student signs up for a course then send welcome email

- CSV Template
  - Generate a monthly report as CSV then upload to Google drive



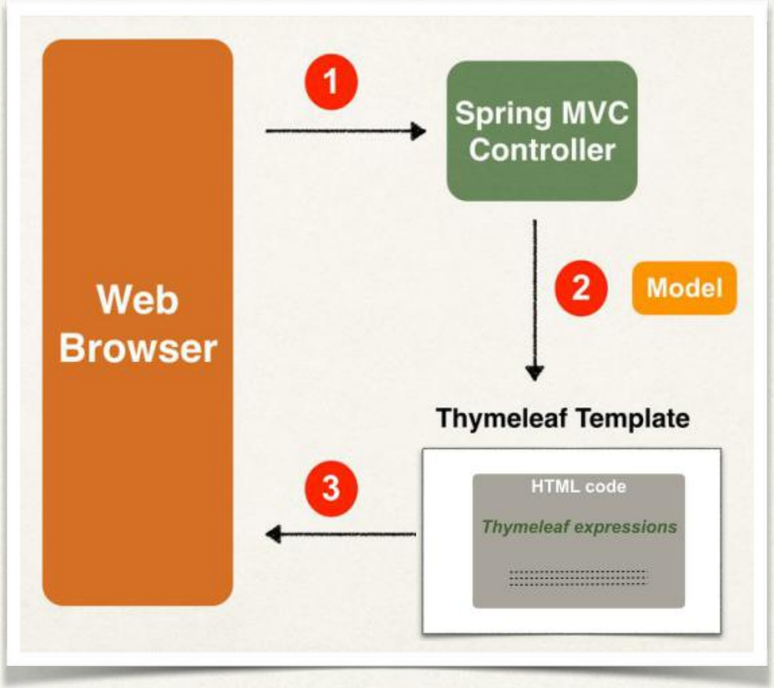
- PDF Template
  - Generate a travel confirmation PDF then send via email



FAQ: Should I use JSP or Thymeleaf?

- Depends on your project requirements
- If you only need web views you can go either way
- If you need a general purpose template engine (non-web) use Thymeleaf
- If you want to **impress your interviewer**, mention Thymeleaf … LOL!

Thymeleaf Demo



Output

Time on the server is Sun Jan 06 17:00:40 EST 2019

Development Process

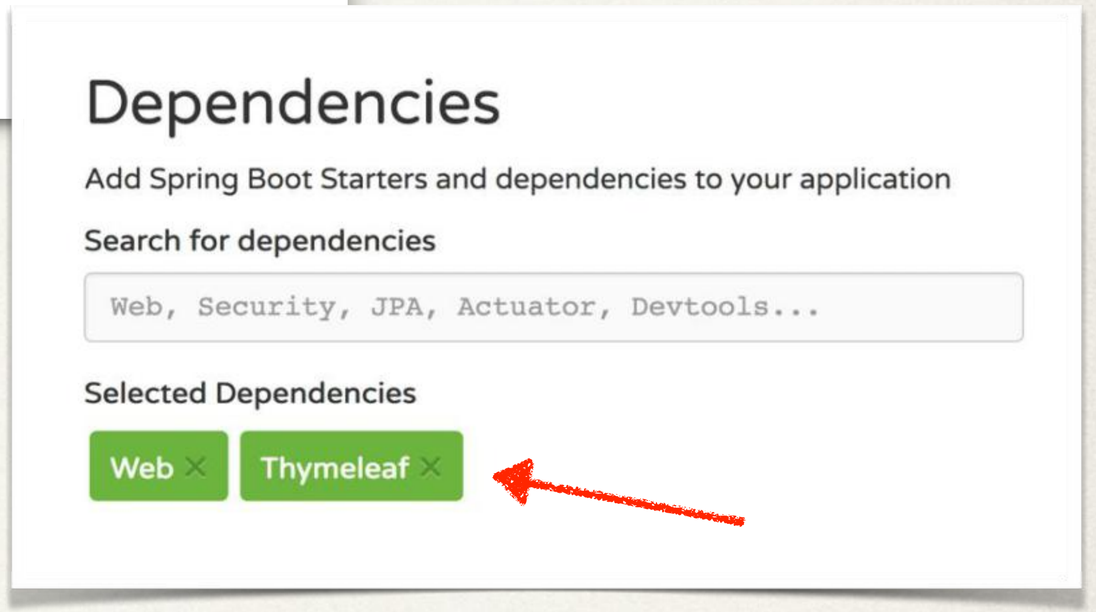
1. Add Thymeleaf to Maven POM file

2. Develop Spring MVC Controller

3. Create Thymeleaf template

Step 1: Add Thymeleaf to Maven pom file

```
<dependency>
   <groupId>org.springframework.boot</groupId>
   <artifactId>spring-boot-starter-thymeleaf</artifactId>
</dependency>
```

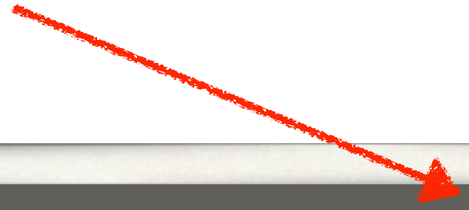


Based on this,
Spring Boot will auto configure to use Thymeleaf templates

Step 2: Develop Spring MVC Controller

File: DemoController.java

```
@Controller
public class DemoController {

  @GetMapping("/")
  public String sayHello(Model theModel) {

    theModel.addAttribute("theDate", new java.util.Date());

    return "helloworld";
  }
}
```



src/main/resources/templates/helloworld.html

Where to place Thymeleaf template?

- In Spring Boot, your Thymeleaf template files go in
  - **src/main/resources/templates**

- For web apps, Thymeleaf templates have a **.html** extension

Step 3: Create Thymeleaf template

File: DemoController.java

```
@Controller
public class DemoController {

   @GetMapping("/")
   public String sayHello(Model theModel) {

      theModel.addAttribute("theDate", new java.util.Date());

      return "helloworld";
   }
}
```

1

Thymeleaf accesses "theDate" from the Spring MVC Model

```
<!DOCTYPE HTML>
<html xmlns:th="http://www.thymeleaf.org">
<head> … </head>

<body>
    <p th:text="'Time on the server is ' + ${theDate}" />
</body>

</html>
```

Thymeleaf expression

2

Time on the server is Sun Jan 06 17:00:40 EST 2019

Additional Features

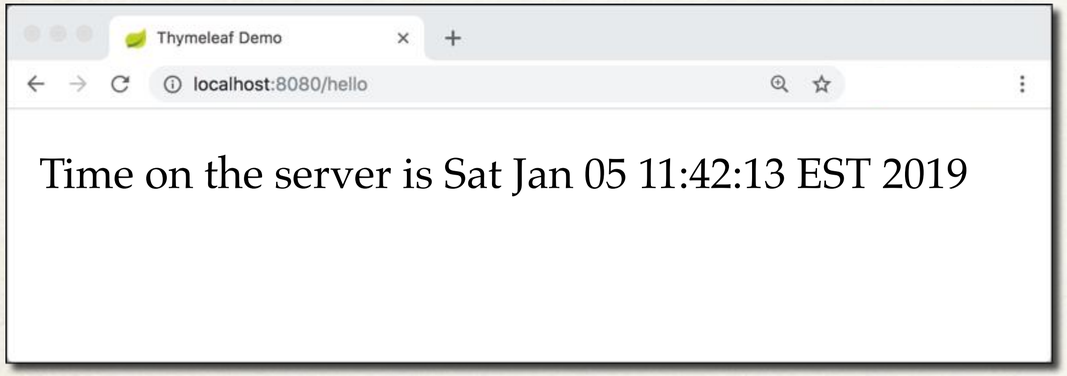
- Looping and conditionals
- CSS and JavaScript integration
- Template layouts and fragments

www.thymeleaf.org

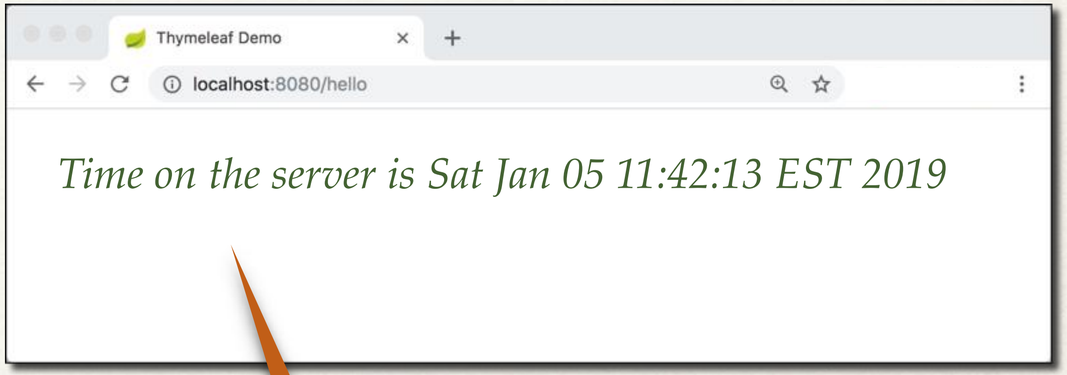
CSS and Thymeleaf

Let's Apply CSS Styles to our Page

Before



After




```
font-style: italic;
color: green;
```

Using CSS with Thymleaf Templates

- You have the option of using
  - Local CSS files as part of your project
  - Referencing remote CSS files

- We'll cover both options in this video

Development Process

1. Create CSS file

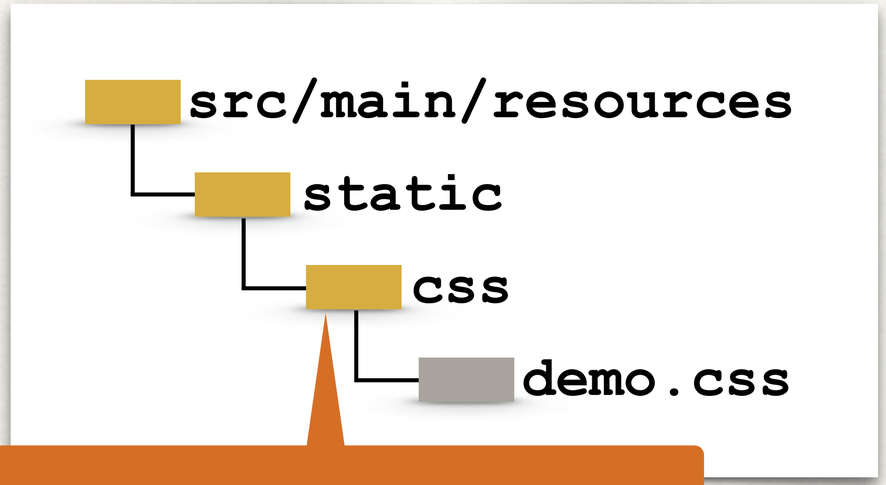
2. Reference CSS in Thymeleaf template

3. Apply CSS style

Step 1: Create CSS file

- Spring Boot will look for static resources in
  - **`src/main/resources/static`**

You can create your own custom sub-directories
`static/css`
`static/images`
`static/js`
etc …



Can be any sub-directory name

File: demo.css

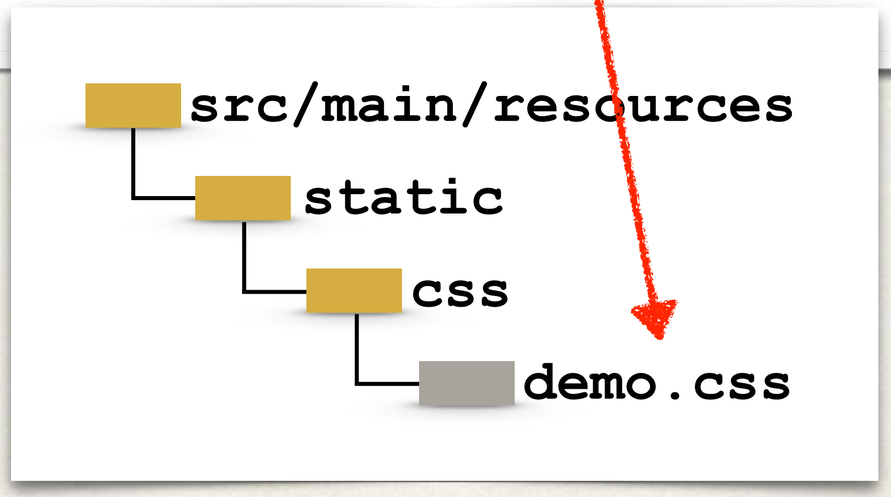
```
.funny {
  font-style: italic;
  color: green;
}
```

Step 2: Reference CSS in Thymeleaf template

File: helloworld.html

```
<head>
  <title>Thymeleaf Demo</title>

  <!-- reference CSS file -->
  <link rel="stylesheet" th:href="@{/css/demo.css}" />

</head>
```

@ symbol
Reference context path of your application (app root)



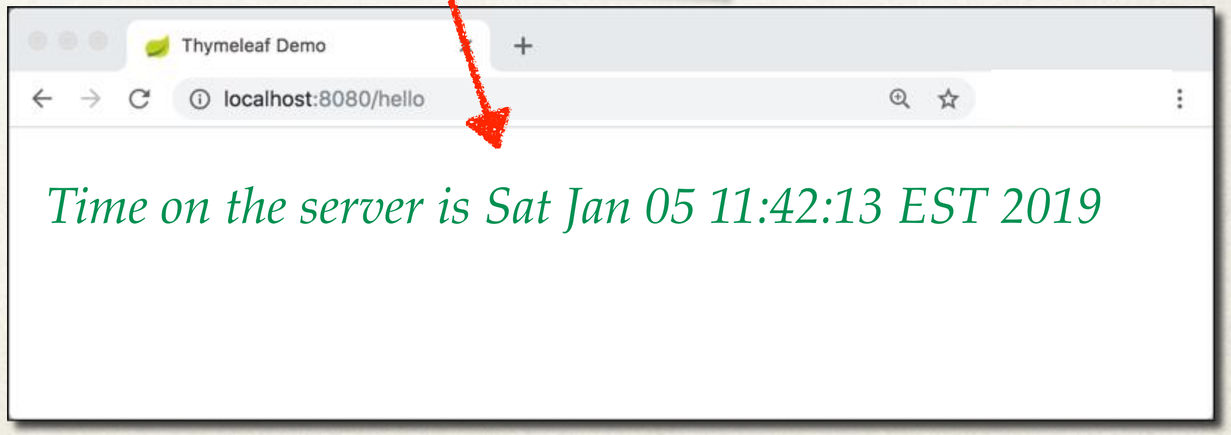
Step 3: Apply CSS

File: helloworld.html

```
<head>
  <title>Thymeleaf Demo</title>

  <!-- reference CSS file -->
  <link rel="stylesheet" th:href="@{/css/demo.css}" />
</head>

<body>
  <p th:text="'Time on the server is ' + ${theDate}" class="funny" />
</body>
```

File: demo.css

```
.funny {
  font-style: italic;
  color: green;
}
```



Other search directories

Spring Boot will search following directories for static resources:

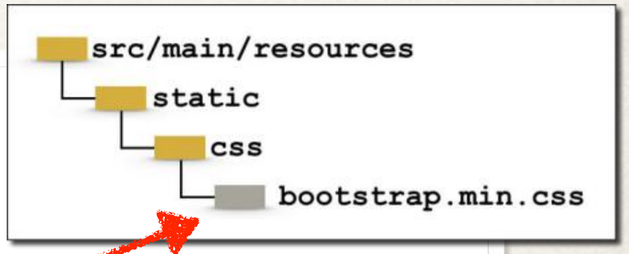
`/src/main/resources`

1. **`/META-INF/resources`**
2. **`/resources`**
3. **`/static`**
4. **`/public`**

Search order: top-down

3rd Party CSS Libraries - Bootstrap

- Local Installation
- Download Bootstrap file(s) and add to **`/static/css`** directory




```
<head>
  … …

  <!-- reference CSS file -->
  <link rel="stylesheet" th:href="@{/css/bootstrap.min.css}" />

</head>
```

3rd Party CSS Libraries - Bootstrap

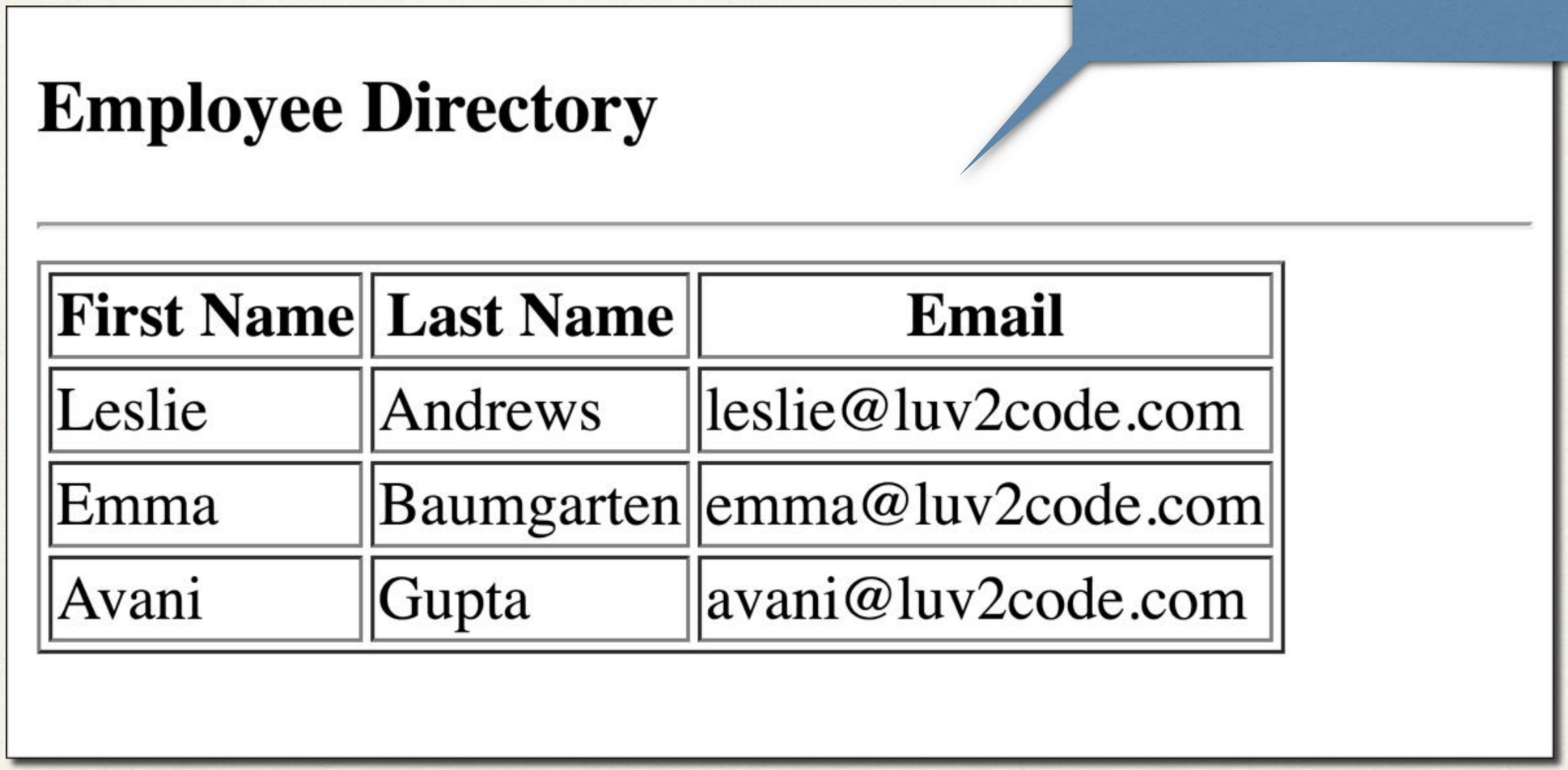
- Remote Files

```
<head>
  … …

  <!-- reference CSS file -->
  <link rel="stylesheet"
        href="https://stackpath.bootstrapcdn.com/bootstrap/4.2.1/css/bootstrap.min.css" />


  … …
</head>
```

Create HTML Tables with Thymeleaf

HTML Tables

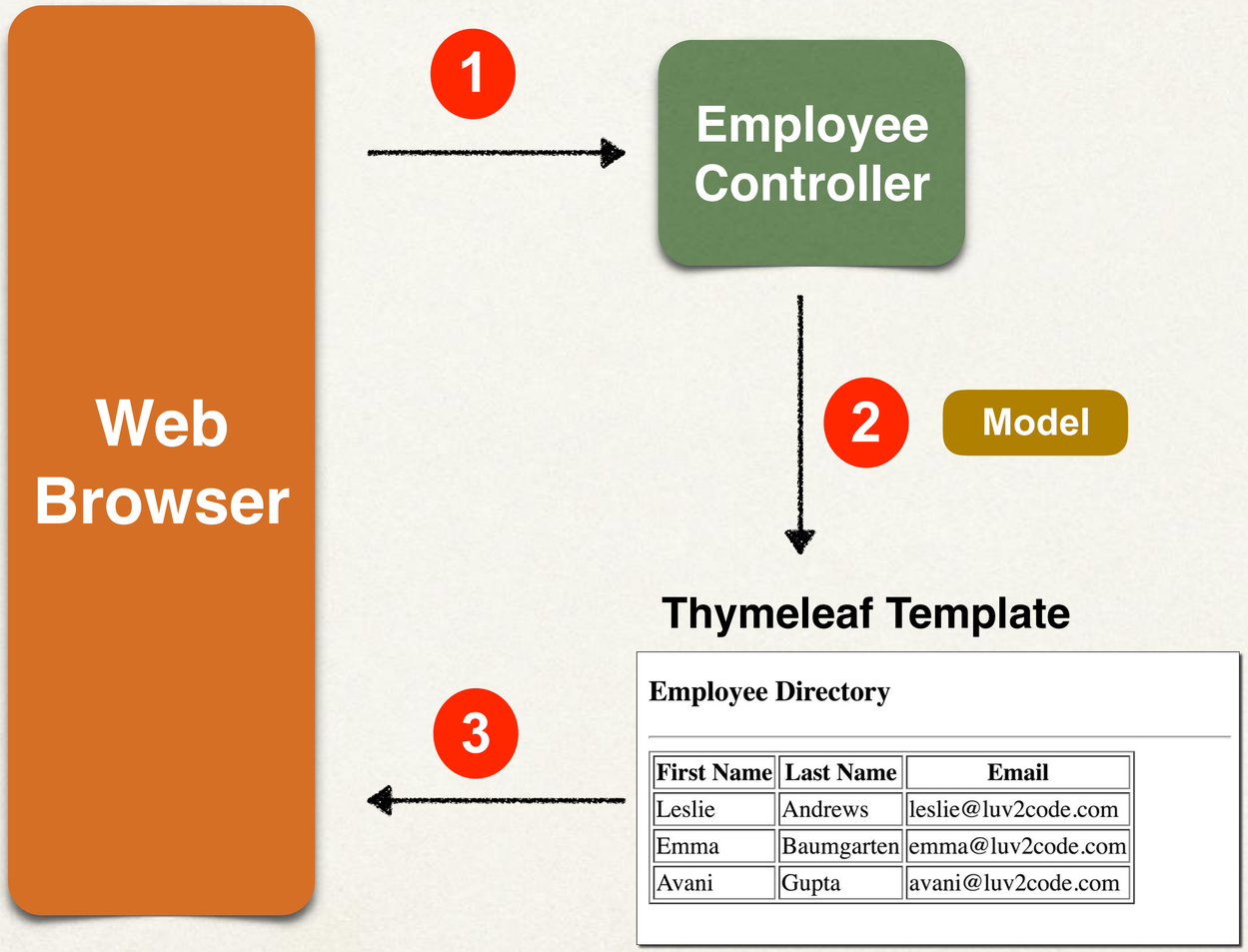
Start with plain table
Will add CSS in later videos



Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Big Picture


Web Browser
1
Employee Controller
2
Model
Thymeleaf Template
3
Employee Directory
First Name
Last Name
Email
Leslie
Andrews
leslie@luv2code.com
Emma
Baumgarten
emma@luv2code.com
Avani
Gupta
avani@luv2code.com

Development Process

1. Create Employee.java

2. Create EmployeeController.java

3. Create Thymeleaf template

Step 1: Create Employee.java

- Regular Java class: fields, constructors, getters / setters

```
public class Employee {

    private int id;
    private String firstName;
    private String lastName;
    private String email;

    public Employee() {

    }

    public Employee(int id, String firstName, String lastName, String email) {
        this.id = id;
        this.firstName = firstName;
        this.lastName = lastName;
        this.email = email;
    }

    public int getId() {
        return id;
    }

    public void setId(int id) {
        this.id = id;
```

Step 2: Create EmployeeController.java

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {

   @GetMapping("/list")
   public String listEmployees(Model theModel) {

      // create employees
      Employee emp1 = new Employee(1, "Leslie", "Andrews", "leslie@luv2code.com");
      Employee emp2 = new Employee(2, "Emma", "Baumgarten", "emma@luv2code.com");
      Employee emp3 = new Employee(3, "Avani", "Gupta", "avani@luv2code.com");
```

Will add database integration later

Step 2: Create EmployeeController.java

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {

   @GetMapping("/list")
   public String listEmployees(Model theModel) {

      // create employees
      Employee emp1 = new Employee(1, "Leslie", "Andrews", "leslie@luv2code.com");
      Employee emp2 = new Employee(2, "Emma", "Baumgarten", "emma@luv2code.com");
      Employee emp3 = new Employee(3, "Avani", "Gupta", "avani@luv2code.com");

      // create the list
      List<Employee> theEmployees = new ArrayList<>();

      // add to the list
      theEmployees.add(emp1);
      theEmployees.add(emp2);
      theEmployees.add(emp3);

      // add to the spring model
      theModel.addAttribute("employees", theEmployees);

      return "list-employees";
   }
}
```

Our Thymleaf template will access this data

`src/main/resources/templates/list-employees.html`

Step 3: Create Thymeleaf template

File: list-employees.html

```
<!DOCTYPE HTML>
<html lang="en" xmlns:th="http://www.thymeleaf.org">
...
<body>

  <h3>Employee Directory</h3>
  <hr>

  <table border="1">

    <!-- Build HTML table based on employees -->

  </table>

</body>

</html>
```

To use Thymeleaf expressions

To Do
Add code to loop over employees

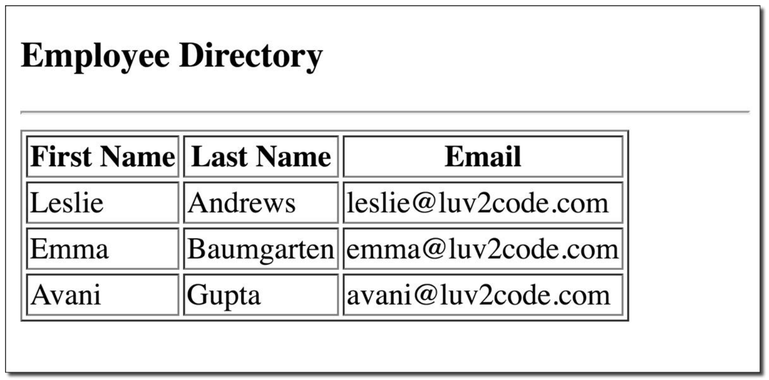
Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Step 3: Create Thymeleaf template

File: list-employees.html

```
<table border="1">
  <thead>
    <tr>
      <th>First Name</th>
      <th>Last Name</th>
      <th>Email</th>
    </tr>
  </thead>
```



Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Step 3: Create Thymeleaf template

File: list-employees.html

```
<table border="1">
  <thead>
    <tr>
      <th>First Name</th>
      <th>Last Name</th>
      <th>Email</th>
    </tr>
  </thead>

  <tbody>
    <tr th:each="tempEmployee : ${employees}">

      <td th:text="${tempEmployee.firstName}" />
      <td th:text="${tempEmployee.lastName}" />
      <td th:text="${tempEmployee.email}" />

    </tr>
  </tbody>
</table>
```

Loop parameter

Loop over list of employees

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {

   @GetMapping("/list")
   public String listEmployees(Model theModel) {

      // create employees
      // create the list
      // add to the list
      … …

      // add to the spring model
      theModel.addAttribute("employees", theEmployees);

      return "list-employees";
   }
}
```

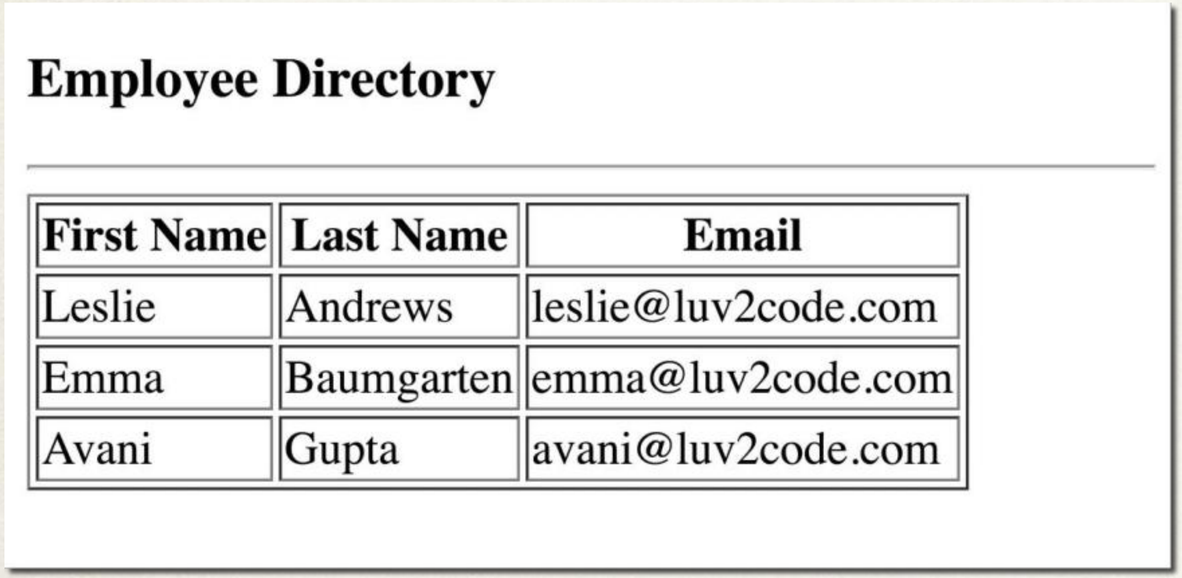
Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Thymeleaf and Bootstrap

Let's Make our Page Beautiful

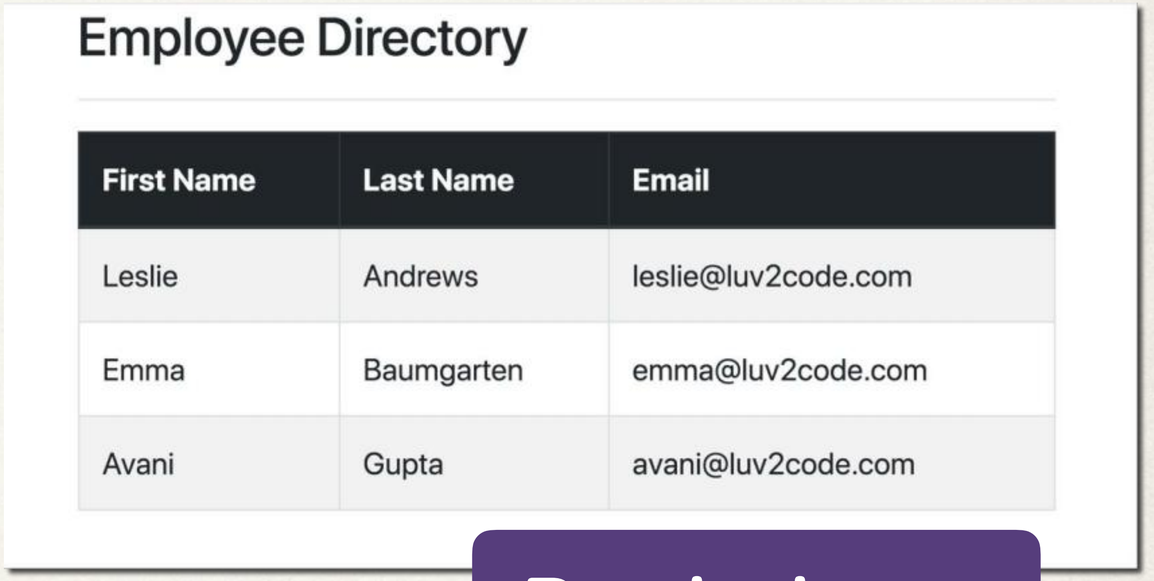
Before



Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

After



Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Bootstrap

Development Process

1. Get links for remote Bootstrap files

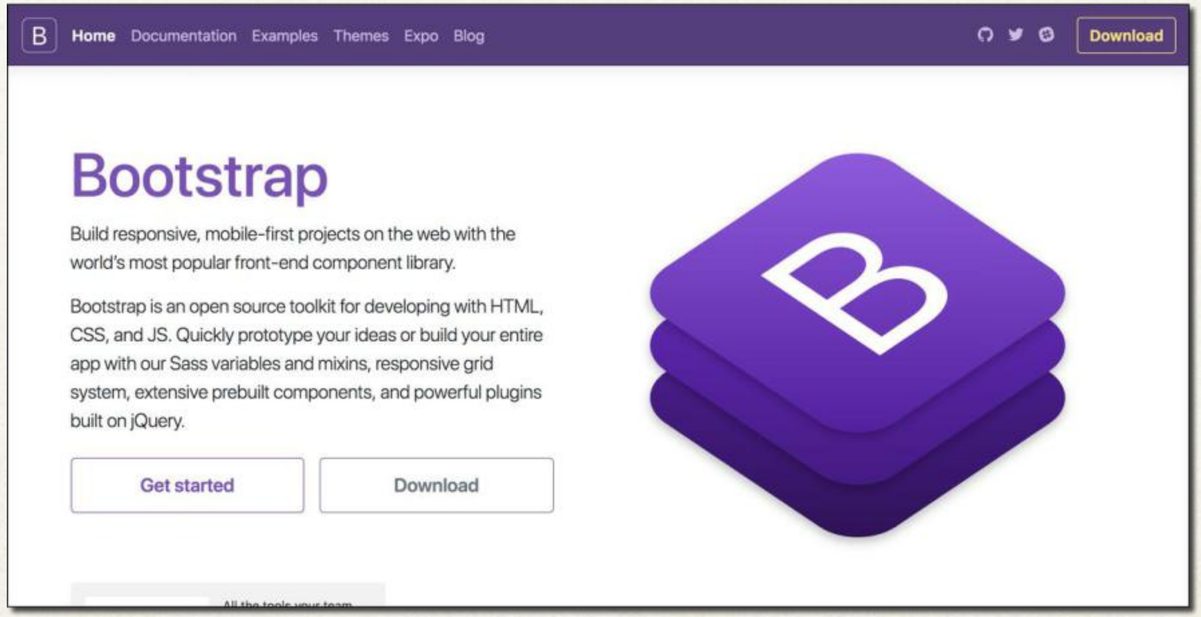
2. Add links in Thymeleaf template

3. Apply Bootstrap CSS styles

Step 1: Get links for remote Bootstrap files

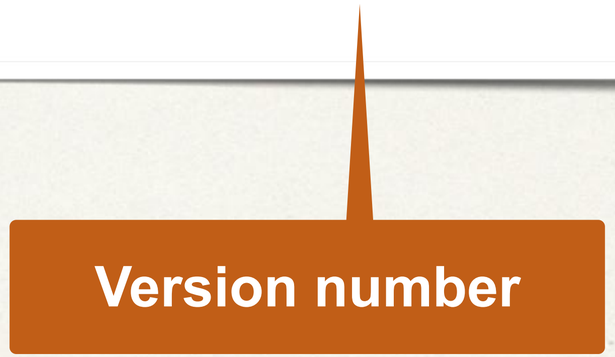
- Visit Bootstrap website: **`www.getbootstrap.com`**

- Website has instructions on how to **Get Started**



Step 2: Add links in Thymeleaf template

```
<head>
    …
    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/x.y.z/css/bootstrap.min.css" …>
    …
</head>
```



Step 3: Apply CSS

Bootstrap CSS style

Bootstrap CSS styles

```
<body>
  <div class="container">

    <h3>Employee Directory</h3>
    <hr>

    <table class="table table-bordered table-striped">
      <thead class="thead-dark">
        <tr>
          <th>First Name</th>
          <th>Last Name</th>
          <th>Email</th>
        </tr>
      </thead>
      … …
    </table>

  </div>
</body>
```

Employee Directory

First Name	Last Name	Email
Leslie	Andrews	leslie@luv2code.com
Emma	Baumgarten	emma@luv2code.com
Avani	Gupta	avani@luv2code.com

Thymeleaf CRUD - Real Time Project

Application Requirements

From the Boss

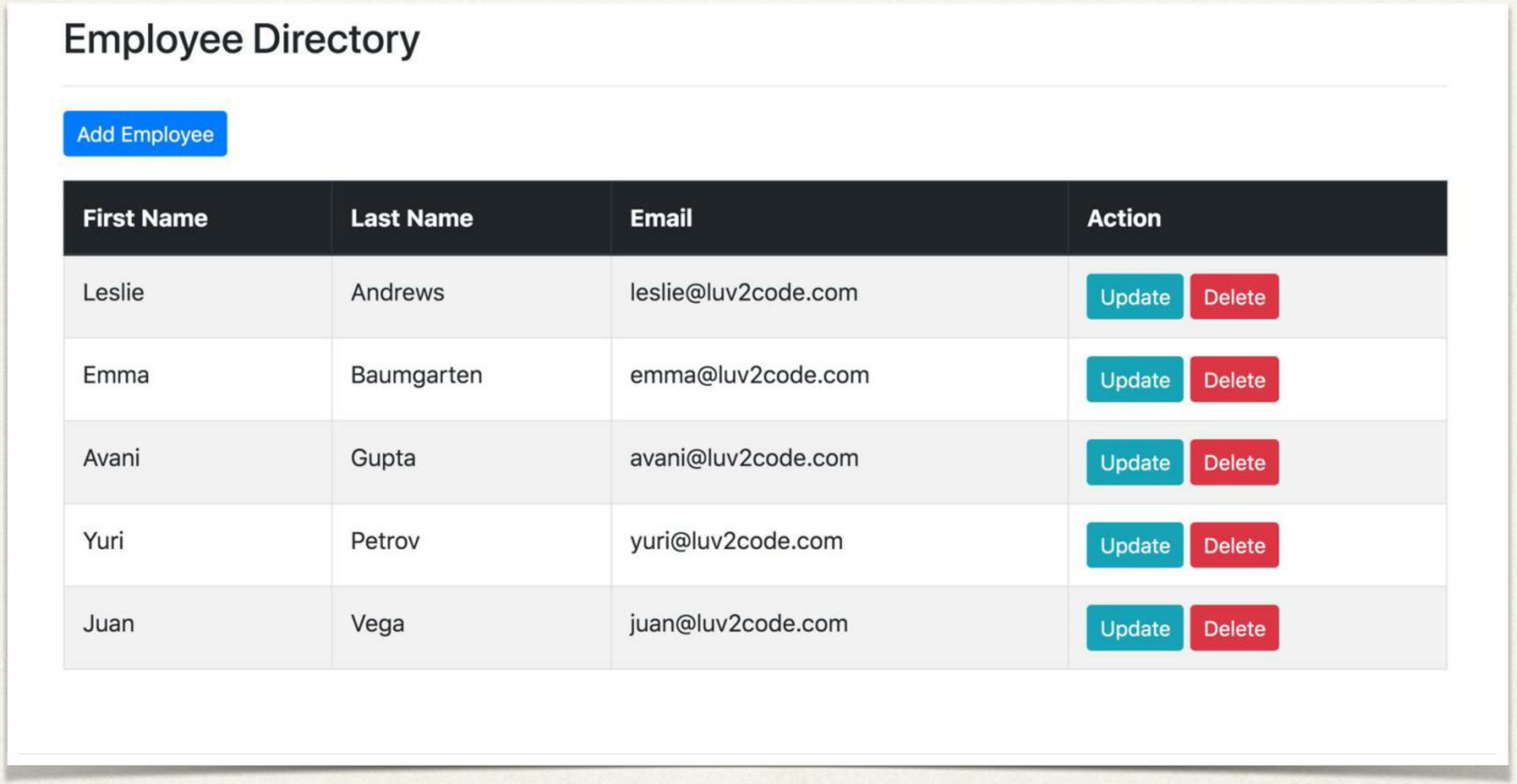
Create a Web UI for the Employee Directory

Users should be able to
- Get a list of employees
- Add a new employee
- Update an employee
- Delete an employee

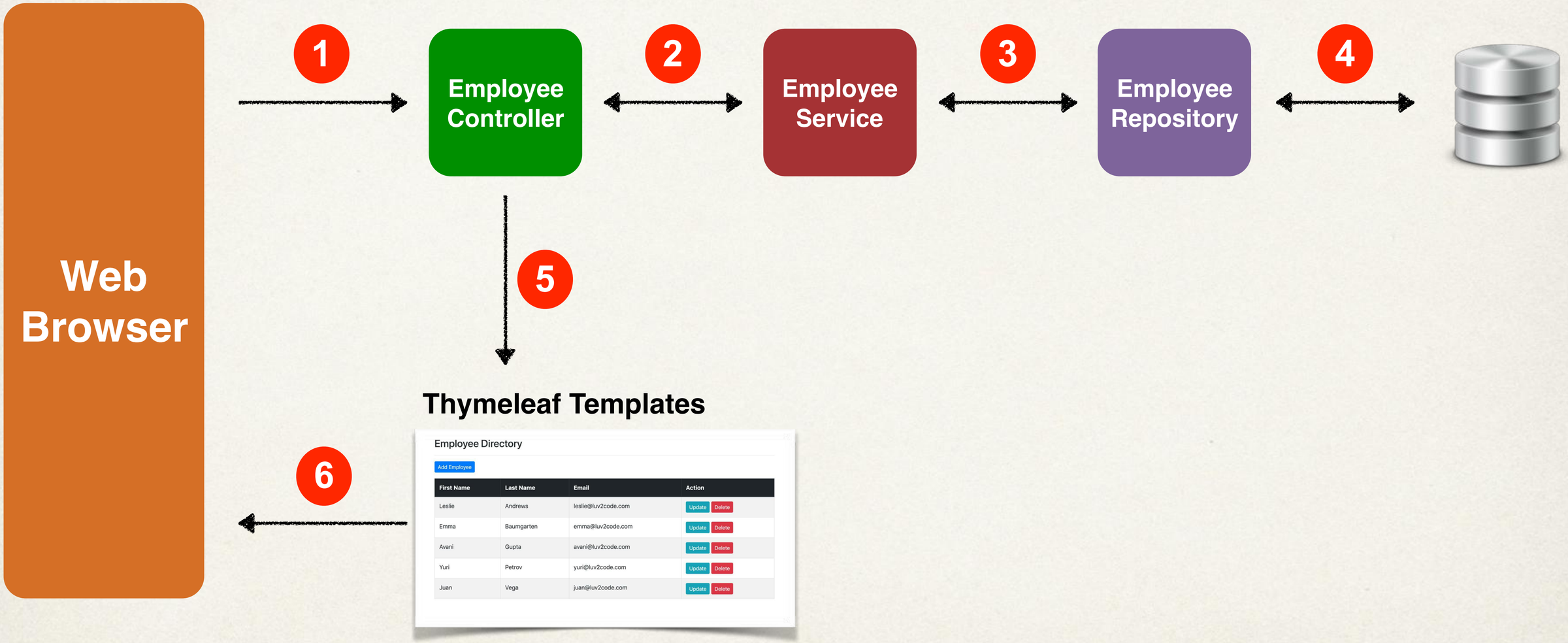
Thymeleaf + Spring Boot

Real-Time Project

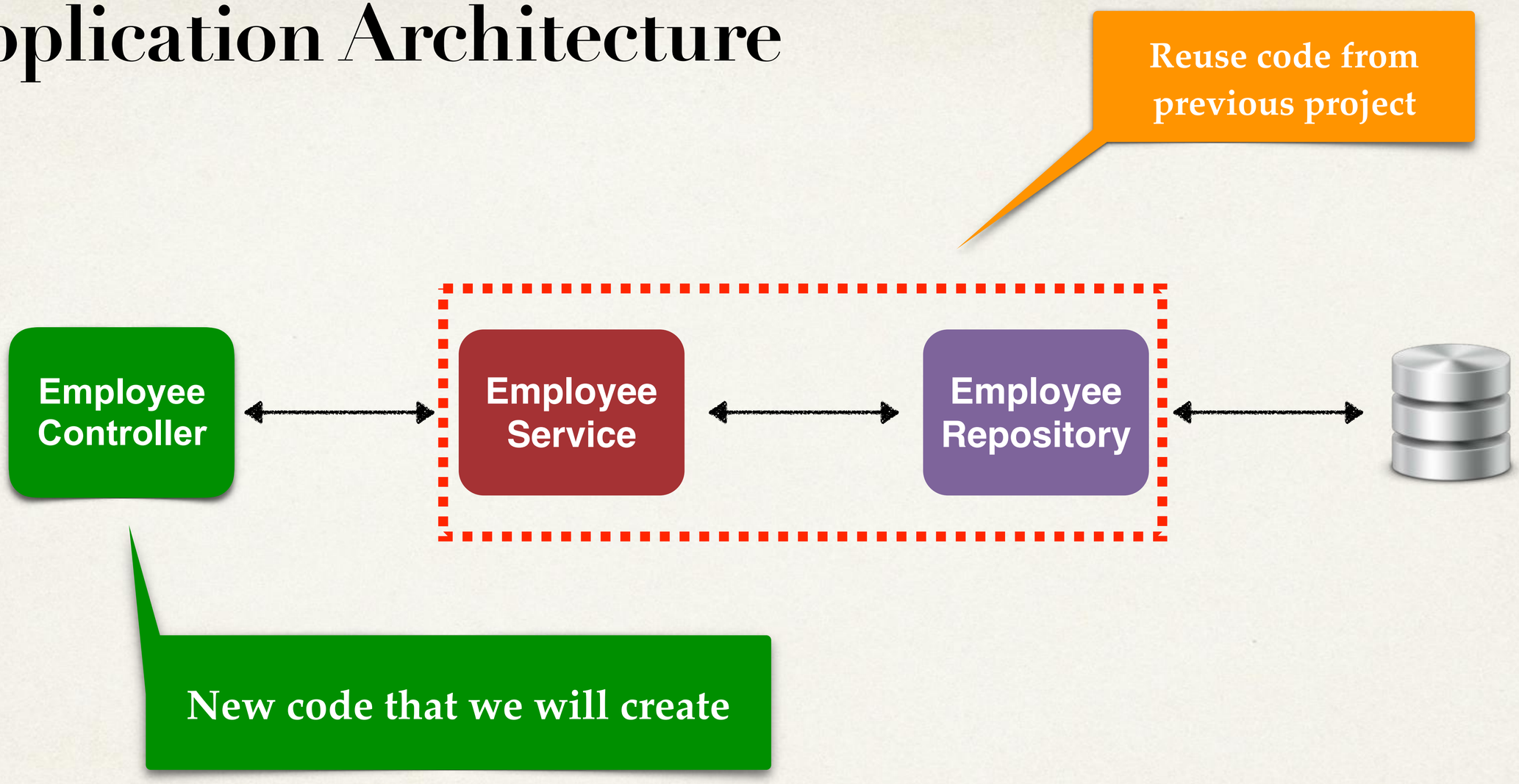
Thymeleaf + Spring Boot



Big Picture


Web Browser
1
Employee Controller
2
Employee Service
3
Employee Repository
4
5
Thymeleaf Templates
6
Employee Directory
Add Employee
First Name
Last Name
Email
Action
Leslie
Andrews
leslie@luv2code.com
Emma
Baumgarten
emma@luv2code.com
Avani
Gupta
avani@luv2code.com
Yuri
Petrov
yuri@luv2code.com
Juan
Vega
juan@luv2code.com
Update
Delete

Application Architecture



Project Set Up

- We will extend our existing Employee project and add DB integration

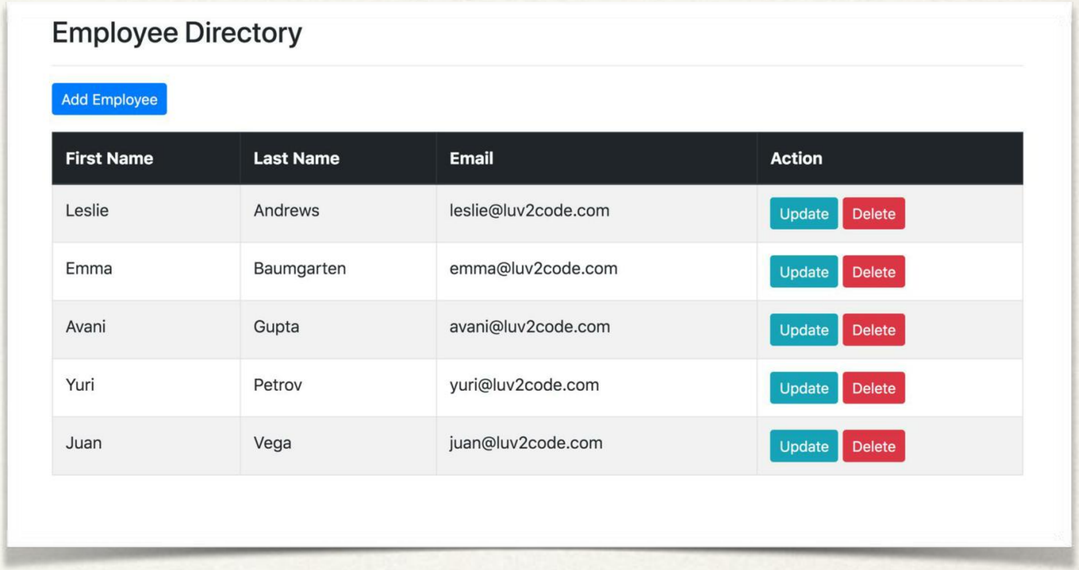
- Add **`EmployeeService`**, **`EmployeeRepository`** and **`Employee`** entity
  - Available in one of our previous projects
  - We created all of this code already from scratch … so we'll just copy/paste it

- Allows us to focus on creating **`EmployeeController`** and Thymeleaf templates

Development Process - Big Picture

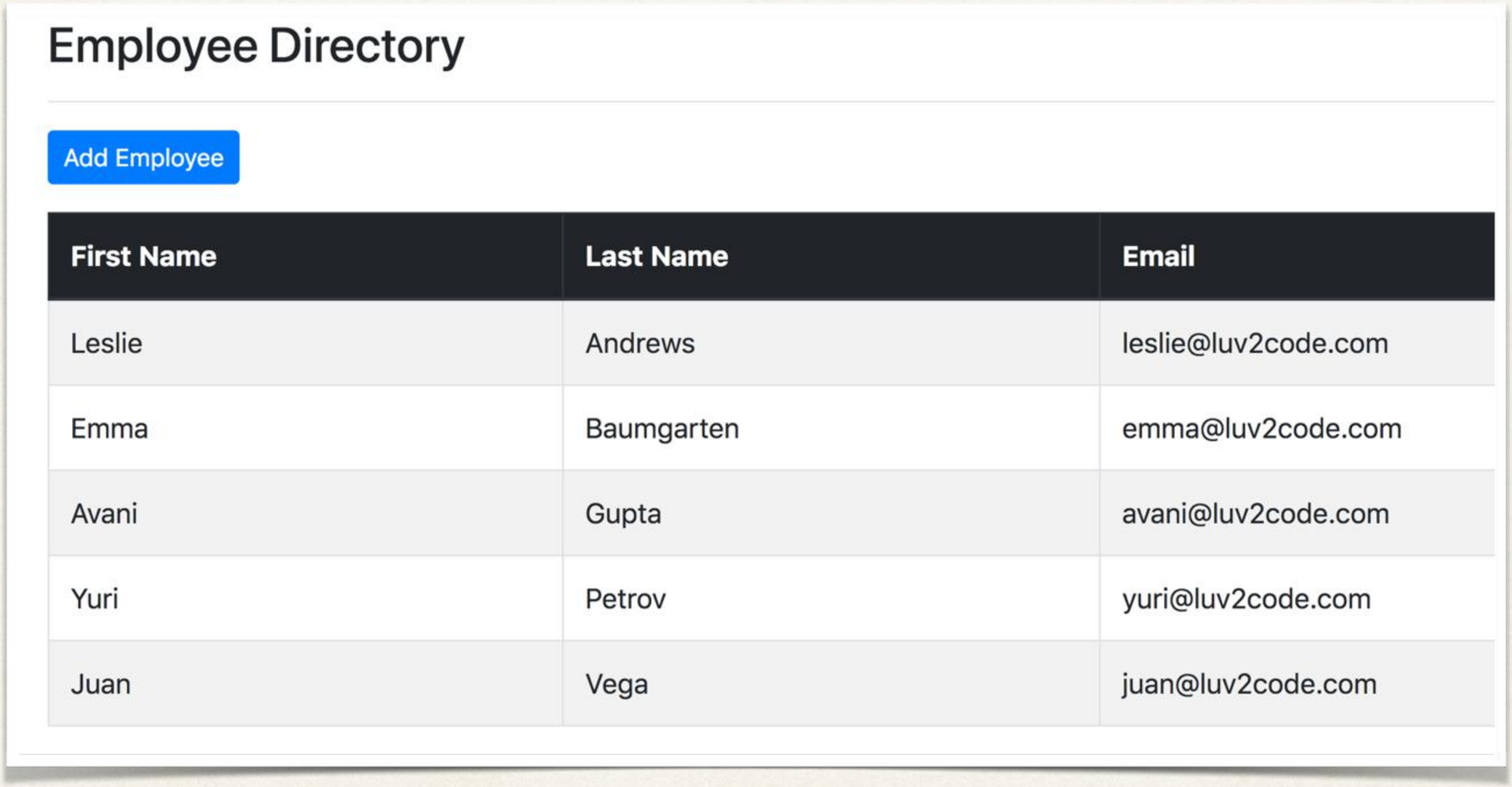
Step-By-Step

1. Get list of employees
2. Add a new employee
3. Update an existing employee
4. Delete an existing employee



Thymeleaf - Add Employee

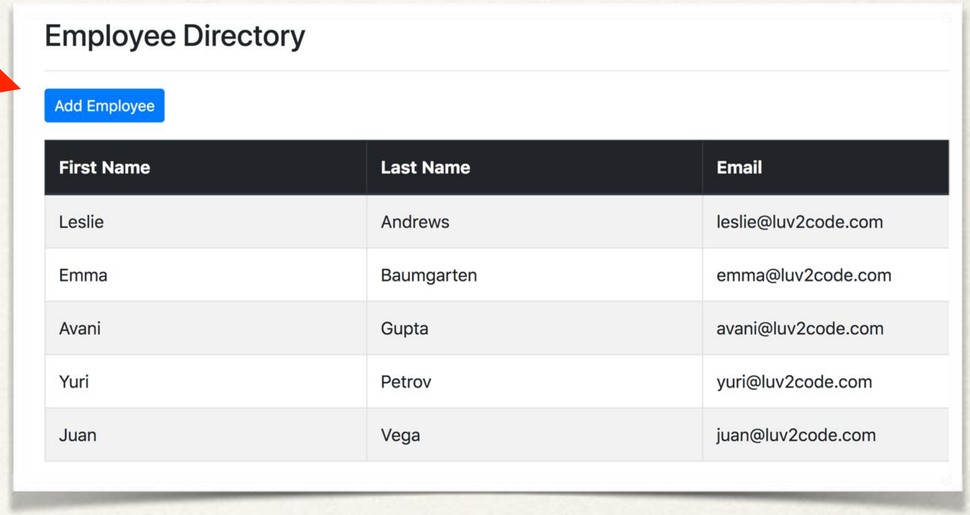
Add Employee - DEMO



Add Employee

Step-By-Step

1. New **Add Employee** button for list-employees.html

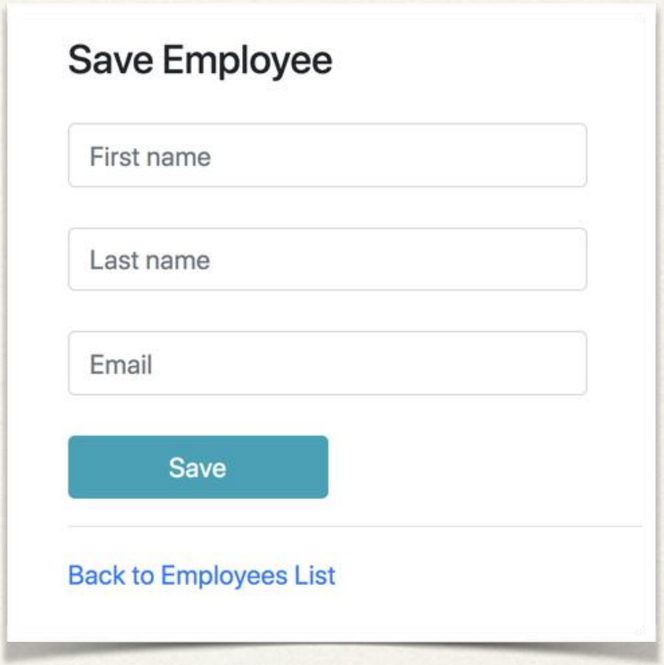


Add Employee

Step-By-Step

1. New **Add Employee** button for list-employees.html

2. Create HTML form for new employee



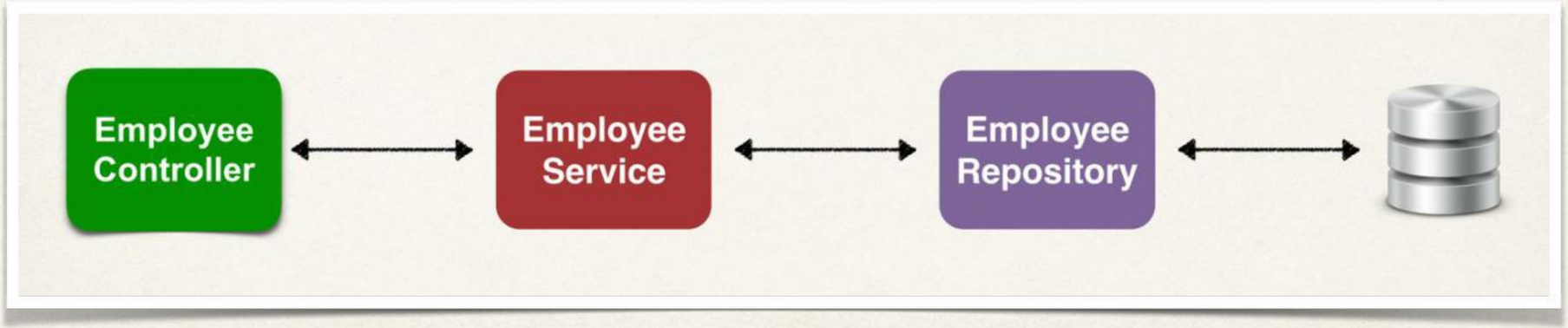
Add Employee

Step-By-Step

1. New **Add Employee** button for list-employees.html

2. Create HTML form for new employee

3. Process form data to save employee



Step 1: New "Add Employee" button

- **Add Employee** button will href link to
  - request mapping ***`/employees/showFormForAdd`***

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```
<a th:href="@{/employees/showFormForAdd}">
  Add Employee
</a>
```

Add Employee

Step 1: New "Add Employee" button

- **Add Employee** bu
  - request mapping

@ symbol
Reference context path of your application
(app root)

```
<a th:href="@{/employees/showFormForAdd}">
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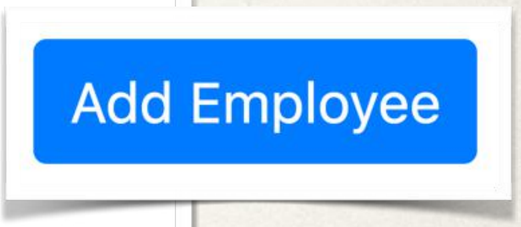
Add Employee

Apply Bootstrap styles

Step 1: New "Add Employee" button

- **Add Employee** button will href link to
  - request mapping ***/employees/showFormForAdd***

```
<a th:href="@{/employees/showFormForAdd}"
 class="btn btn-primary btn-sm mb-3">
 Add Employee
</a>
```



Apply Bootstrap styles

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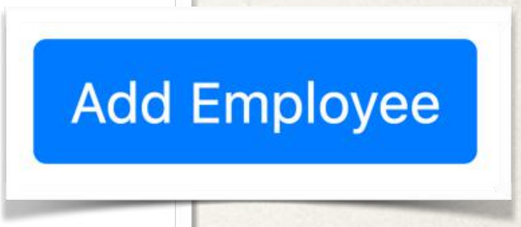

Apply Bootstrap styles

Button
Button Primary
Button Small
Margin Bottom, 3 pixels

Step 1: New "Add Employee" button

- **Add Employee** button will href link to
  - requ

Docs on Bootstrap styles: www.getbootstrap.com

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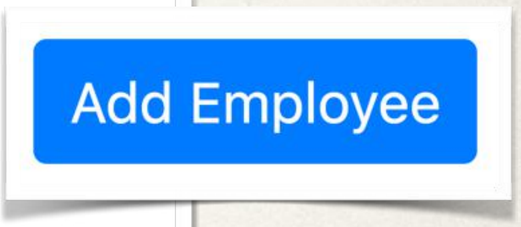

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Button Primary
Button Small
Margin Bottom, 3 pixels

Step 1: New "Add Employee" button

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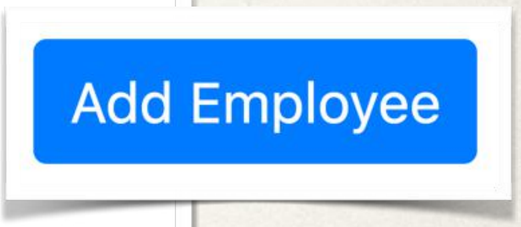

Step 1: New "Add Employee" button

- **Add Employee** button will href li
  - request mapping ***/employees/***

TODO:
Add controller request mapping for
`/employees/showFormForAdd`

```
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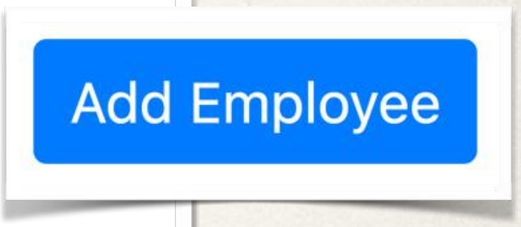
 class="btn btn-primary btn-sm mb-3">
 Add Employee
</a>
```



Showing Form

In your Spring Controller

- Before you show the form, you must add a ***model attribute***

- This is an object that will hold form data for the ***data binding***

Controller code to show form

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {

  @GetMapping("/showFormForAdd")
  public String showFormForAdd(Model theModel) {

    // create model attribute to bind form data
    Employee theEmployee = new Employee();

    theModel.addAttribute("employee", theEmployee);

    return "employees/employee-form";
  }
  ...
}
```

Our Thymleaf template will access this data for binding form data

src/main/resources/templates/employees/employee-form.html

Thymeleaf and Spring MVC Data Binding

- Thymeleaf has special expressions for binding Spring MVC form data
- Automatically setting / retrieving data from a Java object

Thymeleaf Expressions

- Thymeleaf expressions can help you build the HTML form :-)

Expression	Description
`th:action`	Location to send form data
`th:object`	Reference to model attribute
`th:field`	Bind input field to a property on model attribute
more ….	*See - **www.luv2code.com/thymeleaf-create-form***

Step 2: Create HTML form for new employee

Empty place holder
Thymeleaf will handle real work

Real work
Send form data to
/employees/save

```
<form action="#" th:action="@{/employees/save}"
      th:object="${employee}" method="POST">


</form>
```

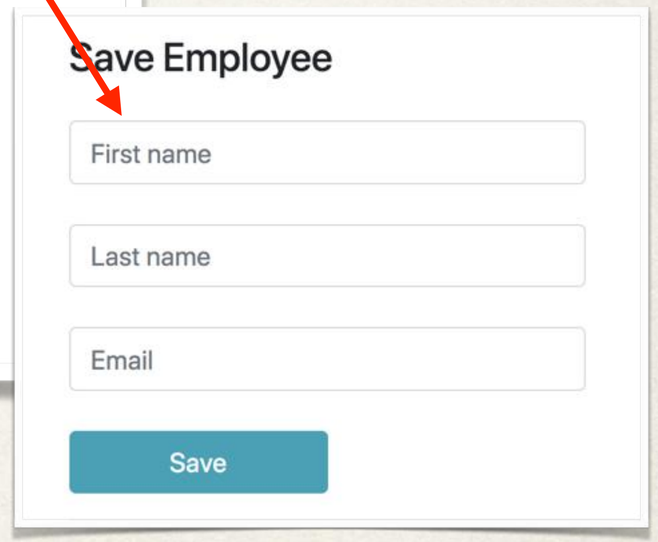
Our model attribute

```
theModel.addAttribute("employee", theEmployee);
```

Step 2: Create HTML form for new employee

```
<form action="#" th:action="@{/employees/save}"
          th:object="${employee}" method="POST">

  <input type="text" th:field="*{firstName}" placeholder="First name">
```



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          th:object="${employee}" method="POST">

  <input type="text" th:field="*{firstName}" placeholder="First name">
```
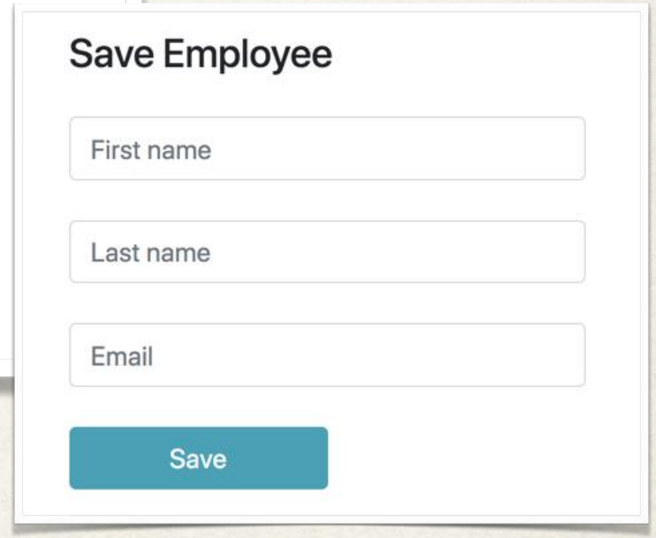

*{...}
Selects property on referenced
th:object



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<form action="#" th:action="@{/employees/save}"
          th:object="${employee}" method="POST">

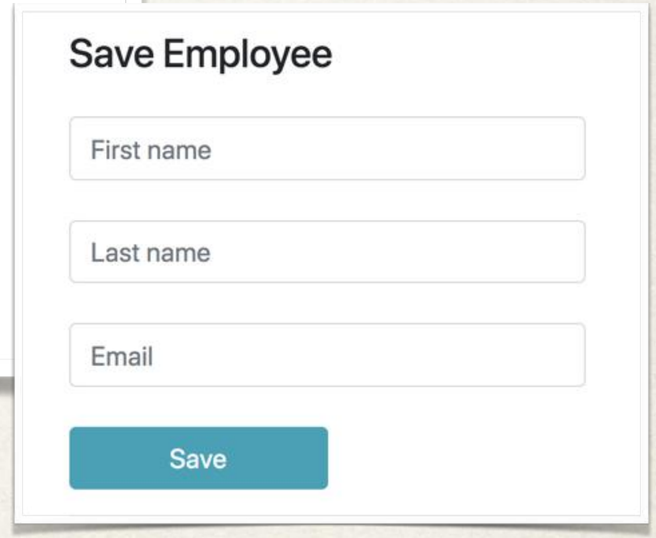
  <input type="text" th:field="*{firstName}" placeholder="First name">


  <input type="text" th:field="*{lastName}" placeholder="Last name">


  <input type="text" th:field="*{email}" placeholder="Email">


  <button type="submit">Save</button>

</form>
```



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  <button type="submit">Save</button>

</form>
```

1

When form is **loaded**, will call:

employee.getFirstName()
...
employee.getLastName

2

When form is **submitted**, will call:

employee.setFirstName(...)
...
employee.setLastName(...)

Step 2: Create HTML form for new employee

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          th:object="${employee}" method="POST">

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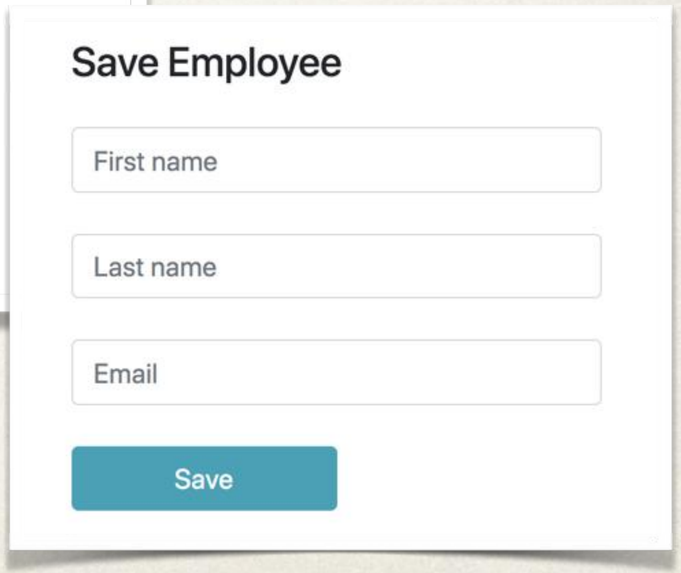
  <button type="submit">Save</button>

</form>
```

Apply Bootstrap styles



Step 2: Create HTML form for new employee

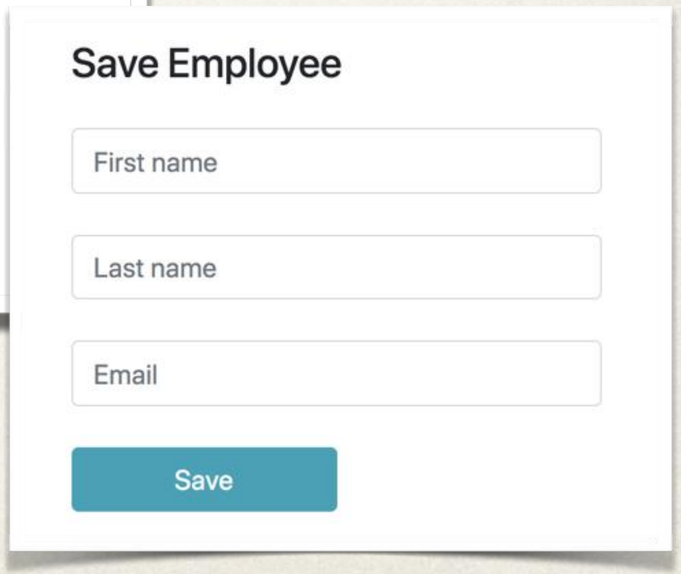
```
<form action="#" th:action="@{/employees/save}"
          th:object="${employee}" method="POST">

  <input type="text" th:field="*{firstName}" placeholder="First name"
         class="form-control mb-4 col-4">




</form>
```

Apply Bootstrap styles



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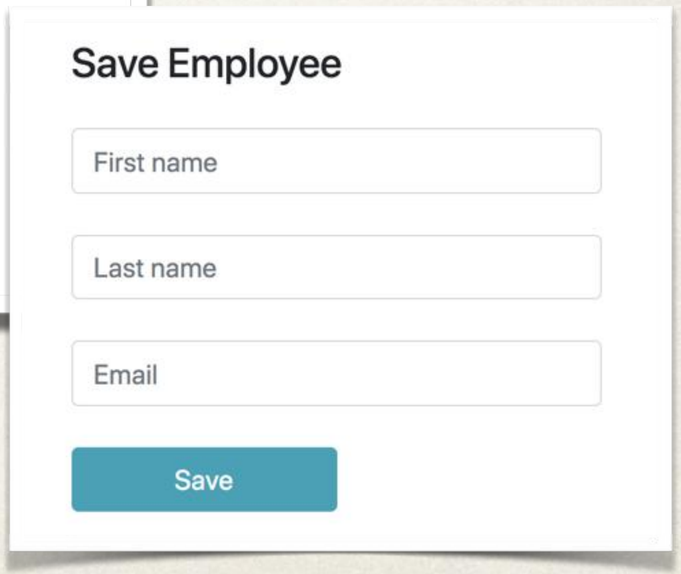

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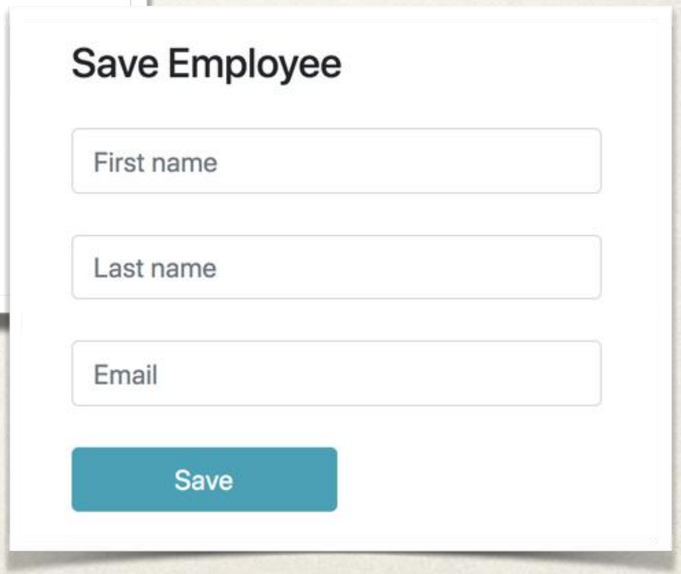
Apply Bootstrap styles

Form control
Margin Bottom, 4 pixels
Column Span 4



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  <input type="text" th:field="*{email}" placeholder="Email"
         class="form-control mb-4 col-4">

  <button type="submit" class="btn btn-info col-2">Save</button>

 </form>
```
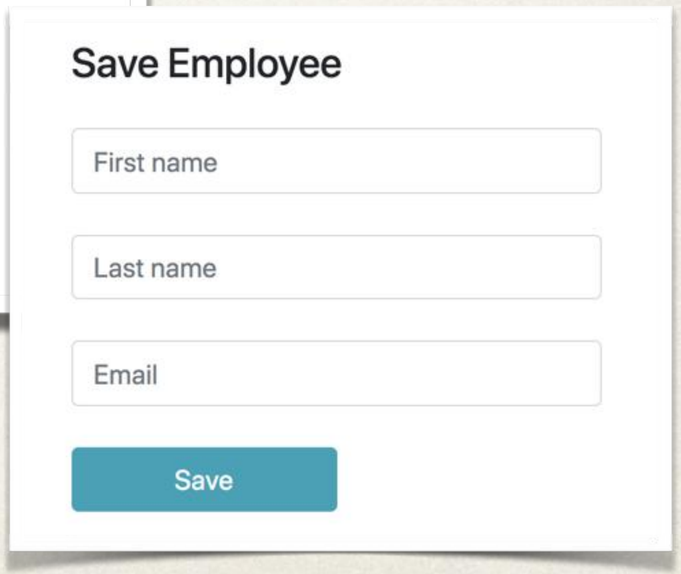

Button
Button Info
Column Span 2

Apply Bootstrap styles



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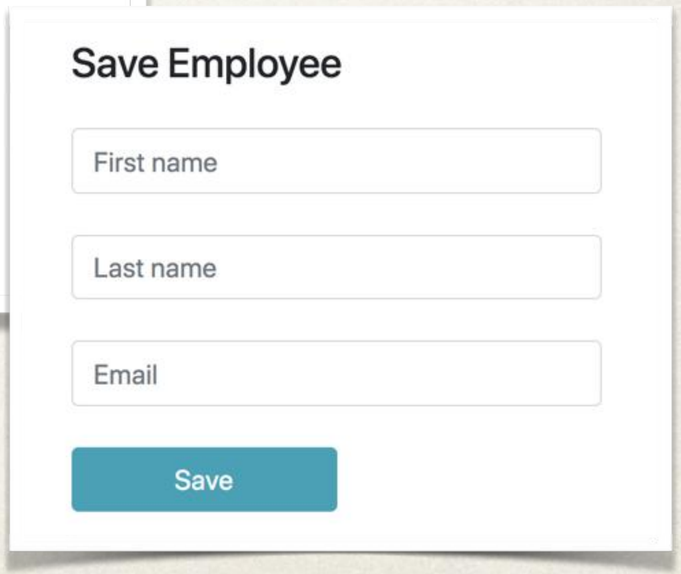

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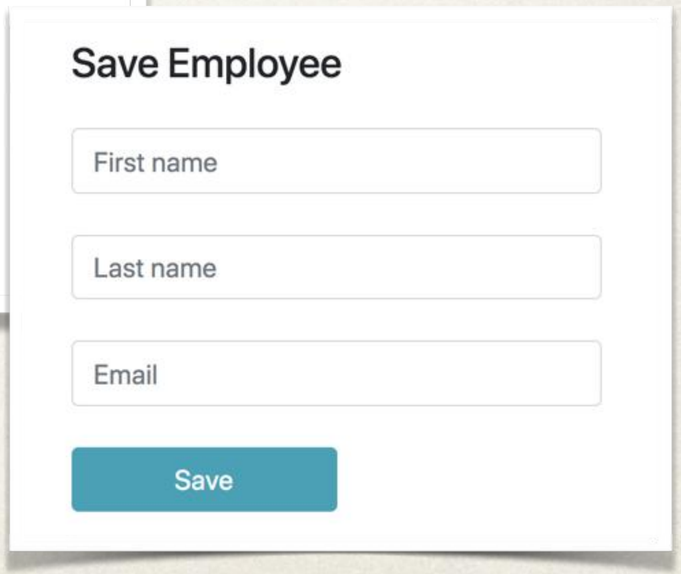
```

TODO:

Add controller request mapping for /employees/save



Step 3: Process form data to save employee

```
@Controller
@RequestMapping("/e
public class Employ

   private EmployeeService employeeService;

   public EmployeeController(EmployeeService theEmployeeService) {
      employeeService = theEmployeeService;
   }
```

Since only one constructor
`@Autowired` is optional

Constructor injection

Step 3: Process form data to save employee

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {

   private EmployeeService emp

   public EmployeeController(E
      employeeService = theEmp
   }

   @PostMapping("/save")
   public String saveEmployee(@ModelAttribute("employee") Employee theEmployee) {
```

```
<form action="#" th:action="@{/employees/save}"
                 th:object="${employee}" method="POST">
```

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      // save the employee
      employeeService.save(theEmployee);
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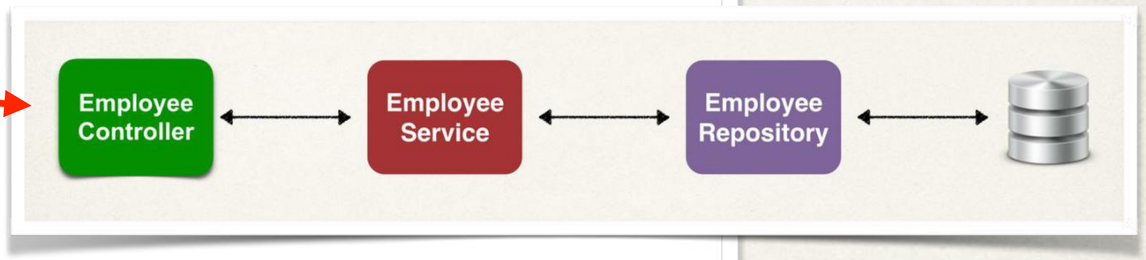

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   public String saveEmployee(@ModelAttribute("employee") Employee theEmployee) {

      // save the employee
      employeeService.save(theEmployee);

      // use a redirect to prevent duplicate submissions
      return "redirect:/employees/list";
   }
   ...
}
```

Redirect to request mapping `/employees/list`

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   ...
}
```

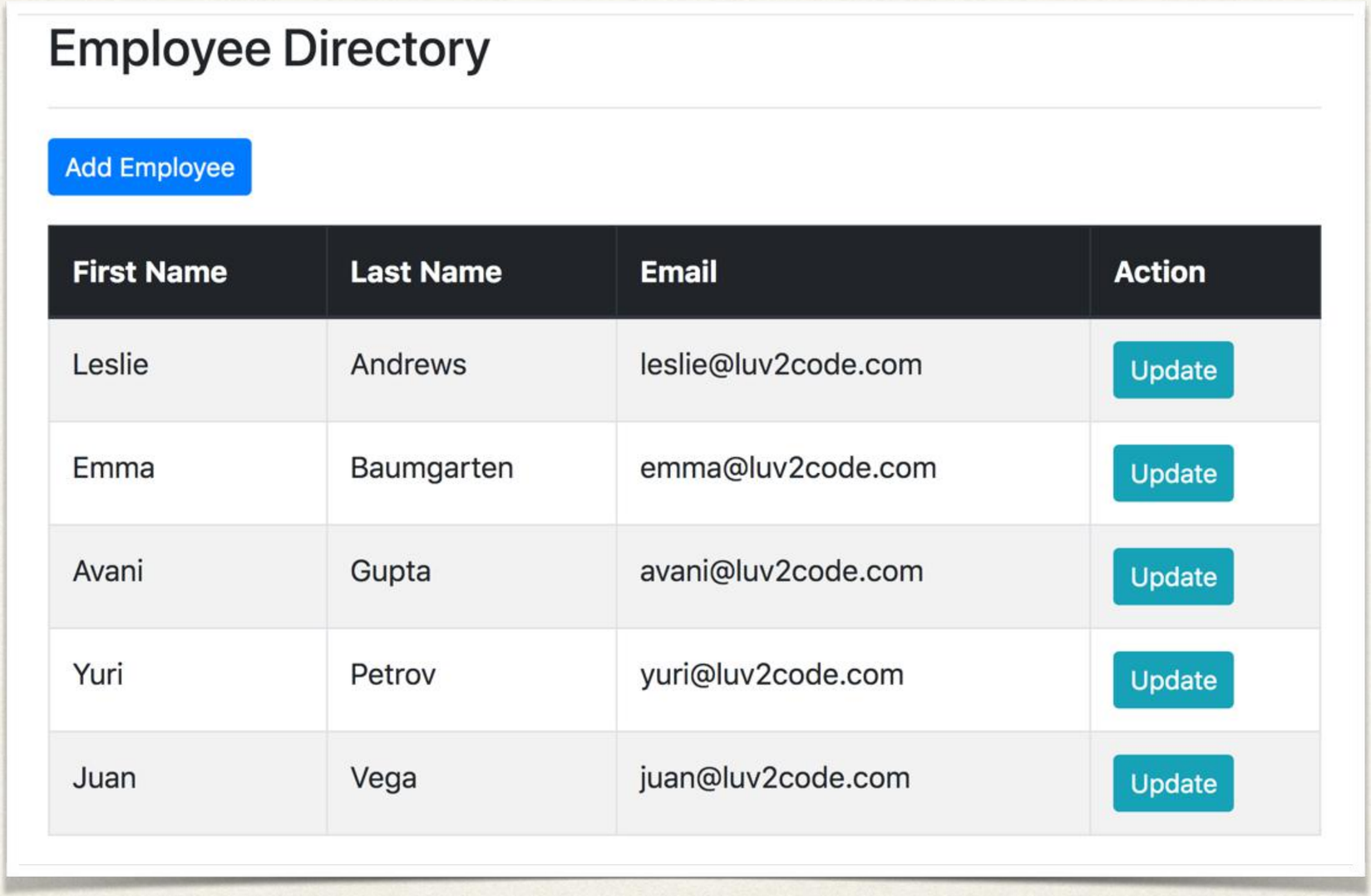
Redirect to request mapping /employees/list

"Post/Redirect/Get" pattern

For more info see www.luv2code.com/post-redirect-get

Thymeleaf - Update Employee

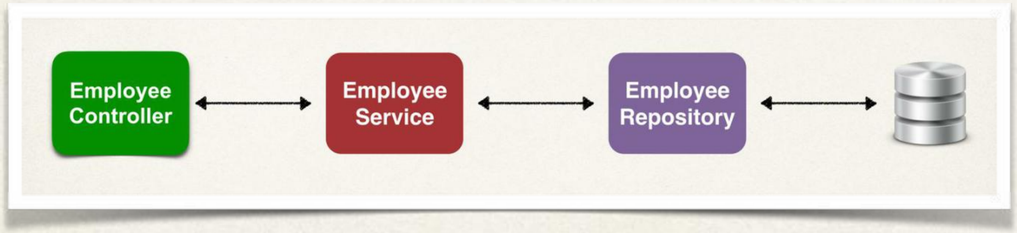
Update Employee - Demo

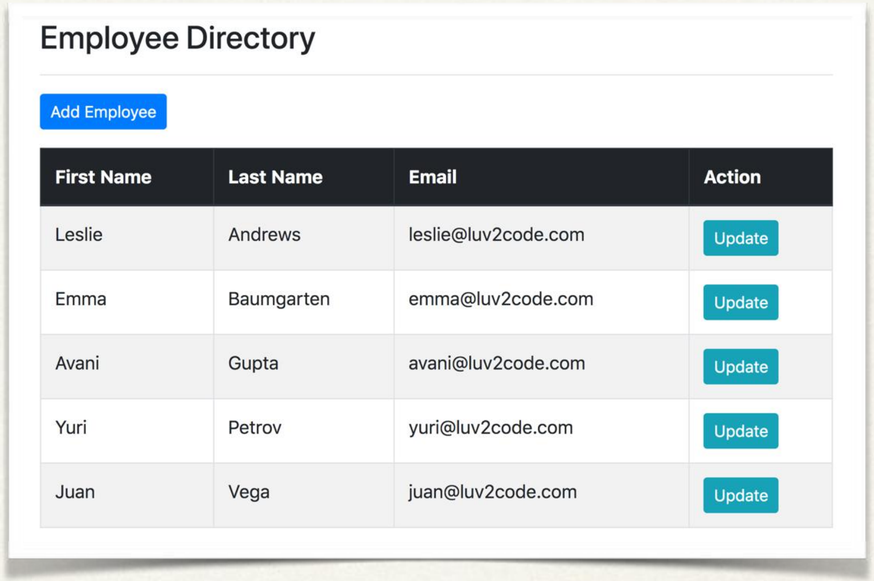


Update Employee

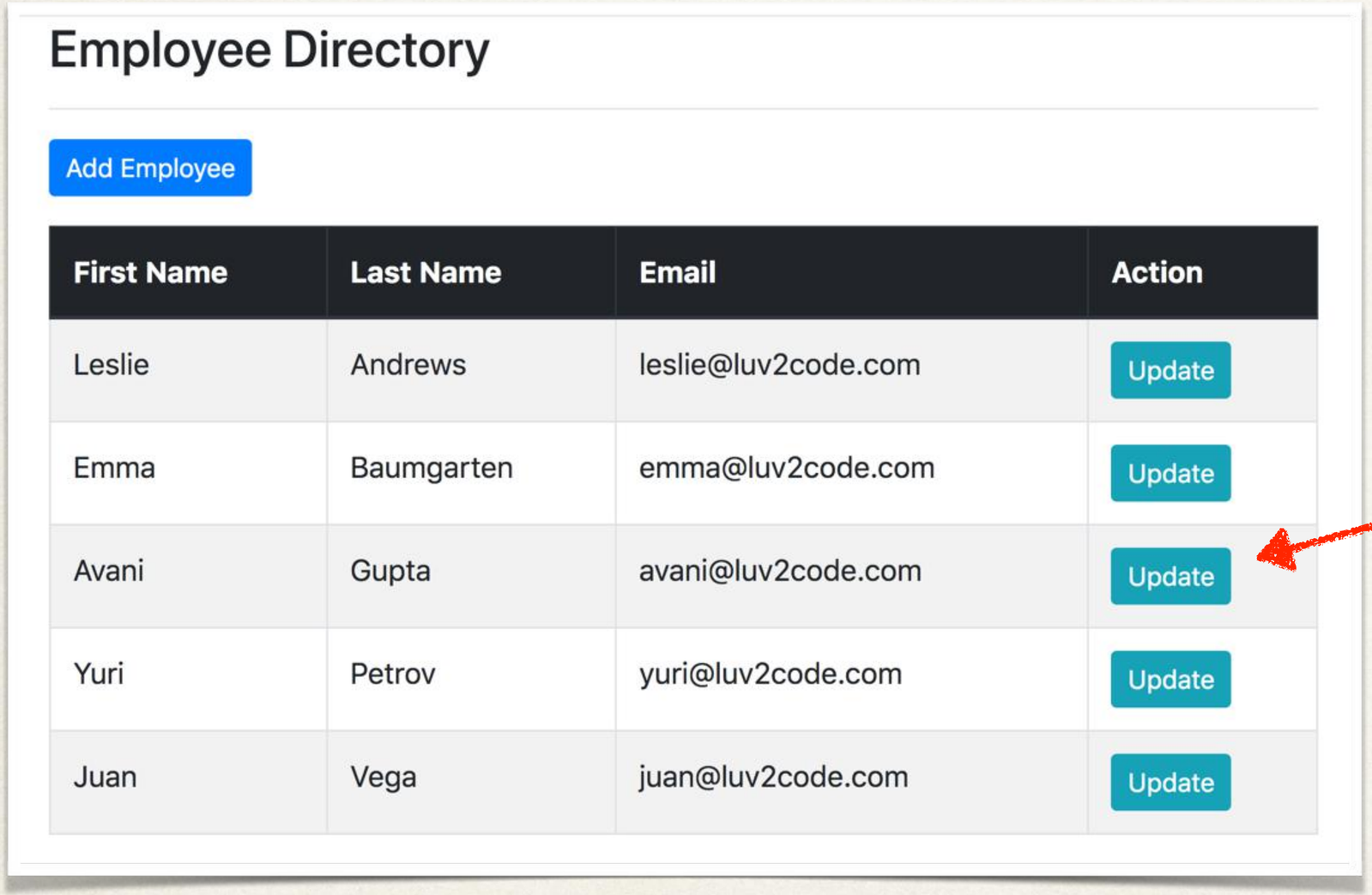
Step-By-Step

1. "Update" button
2. Pre-populate the form
3. Process form data





Step 1: "Update" Button



Each row has an **Update** link

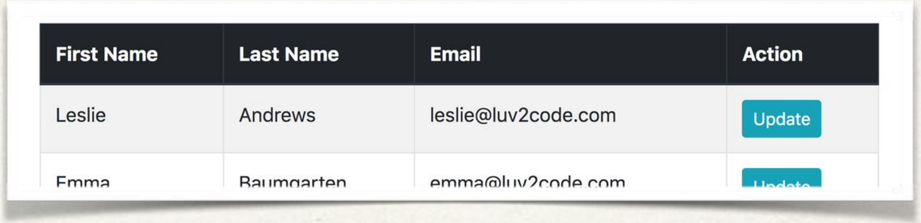
- current employee id embedded in link

When **clicked**

- will load the employee from database
- prepopulate the form

Step 1: "Update" button

- **Update** button includes employee id




```
<tr th:each="tempEmployee : ${employees}">
  ...
  <td>

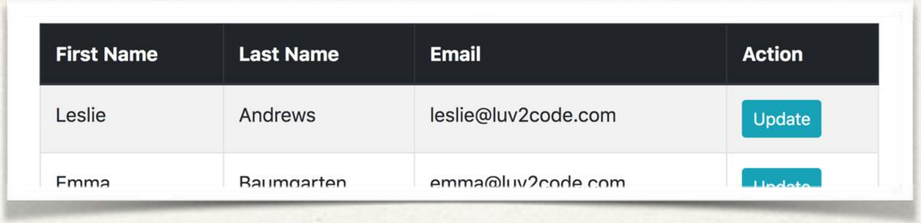
    <a th:href="@{/employees/showFormForUpdate(employeeId=${tempEmployee.id})}"
       class="btn btn-info btn-sm">
      Update
    </a>

  </td>

</tr>
```

Step 1: "Update" button

- **Update** button includes employee id

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  <td>

    <a th:href="@{/employees/showFormForUpdate(employeeId=${tempEmployee.id})}"
       class="btn btn-info btn-sm">
      Update
    </a>

  </td>

</tr>
```
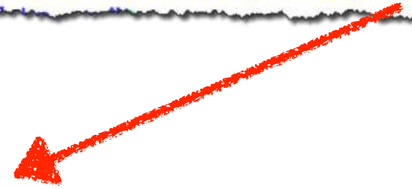

Appends to URL

?employeeId=xxx

Step 2: Pre-populate Form

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {
  ...

  @GetMapping("/showFormForUpdate")
  public String showFormForUpdate(@RequestParam("employeeId") int theId,
                                  Model theModel) {

    // get the employee from the service
    Employee theEmployee = employeeService.findById(theId);

    // set employee as a model attribute to pre-populate the form
    theModel.addAttribute("employee", theEmployee);

    // send over to our form
    return "employees/employee-form";
  }

}
```

```
<a th:href="@{/employees/showFormForUpdate(employeeId=${tempEmployee.id})}"
```



Step 2: Pre-populate Form

```
<form action="#" th:action="@{/employees/save}"
          th:object="${employee}" method="POST">

  <!-- Add hidden form field to handle update -->
  <input type="hidden" th:field="*{id}" />

  <input type="text" th:field="*{firstName}"
      class="form-control mb-4 col-4" placeholder="First name">

  <input type="text" th:field="*{lastName}"
      class="form-control mb-4 col-4" placeholder="Last name">

  <input type="text" th:field="*{email}"
      class="form-control mb-4 col-4" placeholder="Email">

  <button type="submit" class="btn btn-info col-2">Save</button>

</form>
```

1

When form is **loaded**, will call:

employee.getFirstName()
...
employee.getLastName

This is how form is pre-populated Thanks to calls to getters

Step 2: Pre-populate Form

```
<form action="#" th:action="@{/employees/save}"
          th:object="${employee}" method="POST">

  <!-- Add hidden form field to handle update -->
  <input type="hidden" th:field="*{id}" />

  <input type="text" th:field="*{firstName}"
      class="form-control mb-4 col-4" placeholder="First name">

  <input type="text" th:field="*{lastName}"
      class="form-control mb-4 col-4" placeho

  <input type="text" th:field="*{email}"
      class="form-control mb-4 col-4" placeho

  <button type="submit" class="btn btn-info c

</form>
```

Hidden form field required for updates

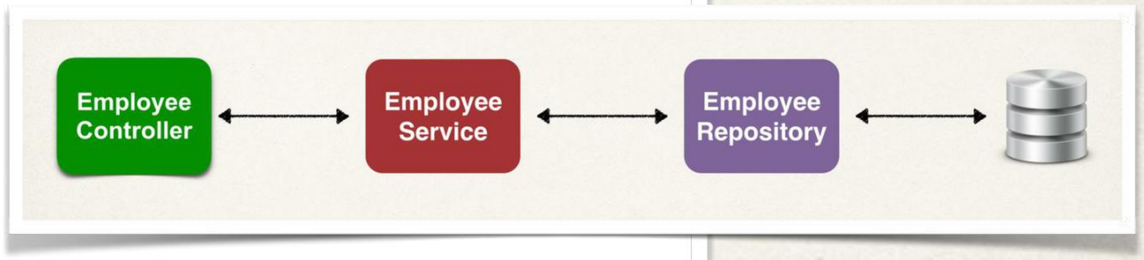
This binds to the model attribute

Tells your app which employee to update

Step 3: Process form data to save employee

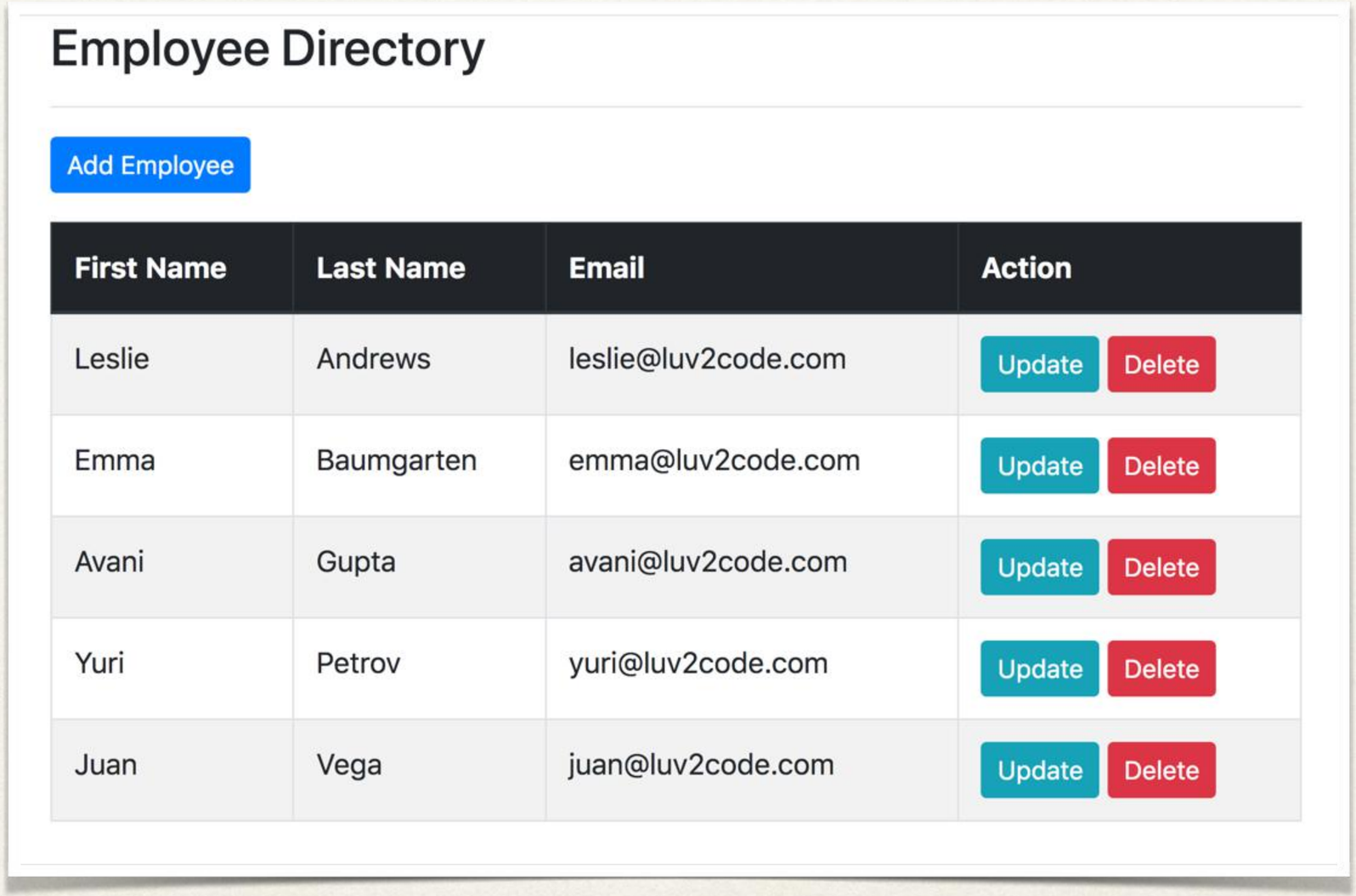
- No need for new code … we can reuse our existing code
- Works the same for add or update :-)

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {
   …

   @PostMapping("/save")
   public String saveEmployee(@ModelAttribute("employee") Employee theEmployee) {

      // save the employee
      employeeService.save(theEmployee);

      // use a redirect to prevent duplicate submissions
      return "redirect:/employees/list";
   }
   …
}
```



Thymeleaf - Delete Employee

Delete Employee - DEMO

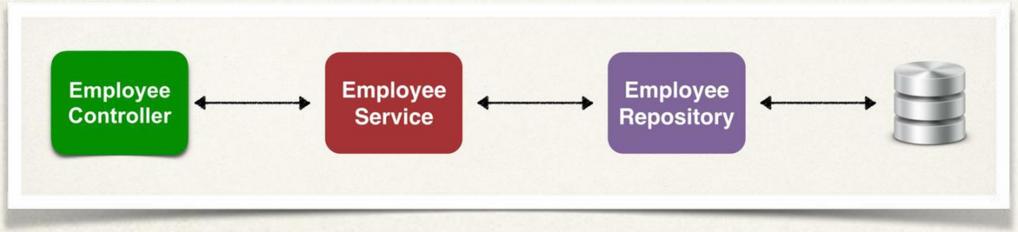


Delete Employee

Step-By-Step

1. Add “Delete” button/link on page

2. Add controller code for “Delete”

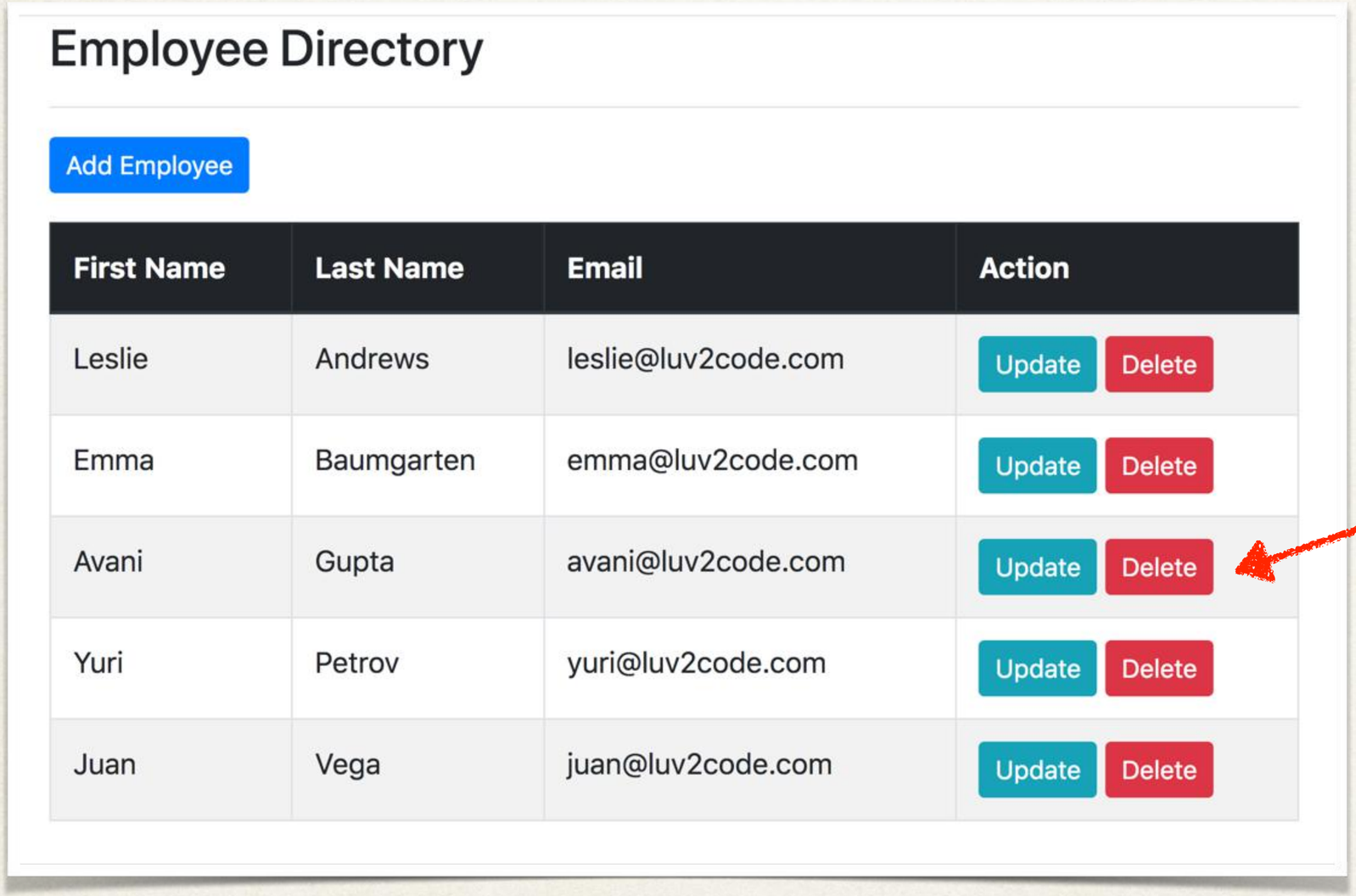


Employee Directory

Add Employee

First Name	Last Name	Email	Action
Leslie	Andrews	leslie@luv2code.com	Update Delete
Emma	Baumgarten	emma@luv2code.com	Update Delete
Avani	Gupta	avani@luv2code.com	Update Delete
Yuri	Petrov	yuri@luv2code.com	Update Delete
Juan	Vega	juan@luv2code.com	Update Delete

Step 1: "Delete" button



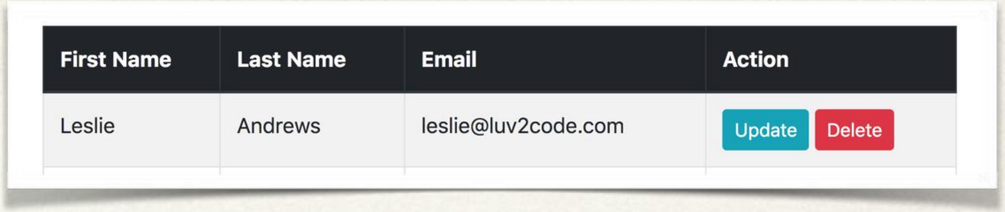
Each row has a **Delete** button/link

- current employee id embedded in link

When **clicked**

- prompt user
- will delete the employee from database

Step 1: "Delete" button



- **Delete** button includes employee id

```
<tr th:each="tempEmployee : ${employees}">
  …
  <td>

    <a th:href="@{/employees/delete(employeeId=${tempEmployee.id})}"
       class="btn btn-danger btn-sm"
       onclick="if (!(confirm('Are you sure you want to delete this employee?'))) return false">
      Delete
    </a>

  </td>

</tr>
```

Appends to URL

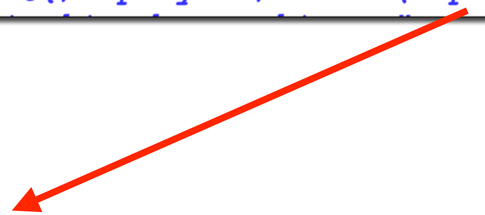
?employeeId=xxx

JavaScript to prompt user before deleting

Step 2: Add controller code for delete

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {
  …

  @GetMapping("/delete")
  public String delete(@RequestParam("employeeId") int theId) {
```

```
<a th:href="@{/employees/delete(employeeId=${tempEmployee.id})}"
```



Step 2: Add controller code for delete

```
@Controller
@RequestMapping("/employees")
public class EmployeeController {
  …

  @GetMapping("/delete")
  public String delete(@RequestParam("employeeId") int theId) {

    // delete the employee
    employeeService.deleteById(theId);

    // redirect to /employees/list
    return "redirect:/employees/list";
  }
  …
}
```