

Web Development

Lecture 16 Bootstrap

<http://getbootstrap.com/>

What is Bootstrap

Bootstrap is a powerful front-end framework for faster and easier web development.

It includes HTML and CSS based design templates for common user interface components like Typography, Forms, Buttons, Tables, Navigations, Dropdowns, Alerts, Modals, Tabs, Accordion, Carousel and many other as well as optional JavaScript extensions.

Bootstrap also gives you ability to create responsive layout with much less efforts.

Origin

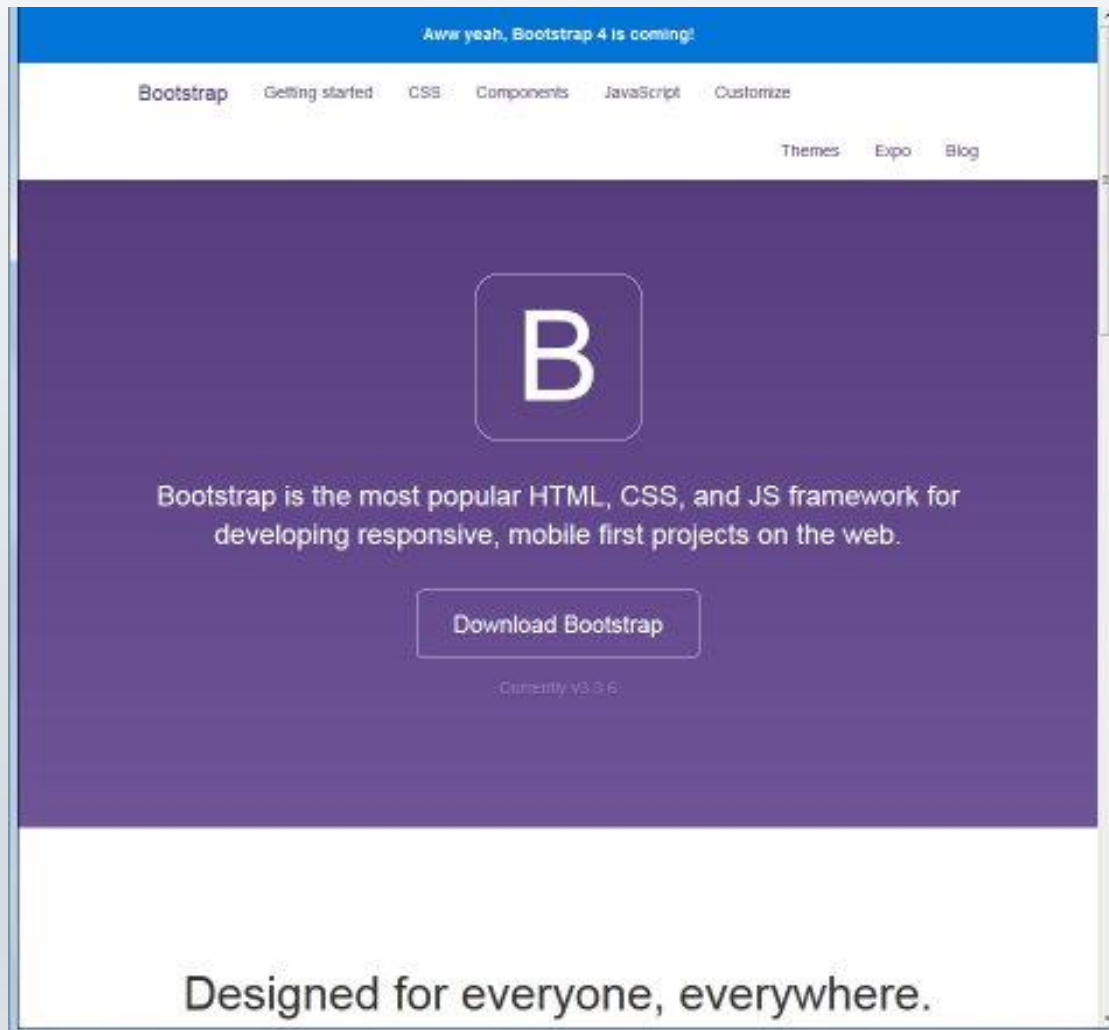
Originally named Twitter Blueprint.

Developed by Mark Otto and Jacob Thornton at Twitter.

Before Bootstrap, Twitter used various libraries were used for interface development, which led to inconsistencies and increased maintenance.

Released as an open source project August 2011.

http://getbootstrap.com



Downloading the Bootstrap Files

There are two versions available for download

- Compiled Bootstrap
- Bootstrap source files

The compiled download contains compiled and minified versions of the CSS and JavaScript files as well as icons in font format for faster and easier web development.

The source contain original source files for all CSS and JavaScript, along with a local copy of the documentation.

Understanding the File Structure

Once downloaded the compiled Bootstrap, unzip the compressed folder to see the structure. You'll find the following file structure and contents.

```
bootstrap/  
|— css/  
|   |— bootstrap.css  
|   |— bootstrap.min.css  
|   |— bootstrap-theme.css  
|   |— bootstrap-theme.min.css  
|— js/  
|   |— bootstrap.js  
|   |— bootstrap.min.js  
|— fonts/  
|   |— glyphsicons-halflings-regular.eot  
|   |— glyphsicons-halflings-regular.svg  
|   |— glyphsicons-halflings-regular.ttf  
|   |— glyphsicons-halflings-regular.woff
```

Using downloaded library

```
<!DOCTYPE html>
<html>

<head>
  <meta charset="utf-8">
  <title>Basic Bootstrap Template</title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" type="text/css" href="css/bootstrap.min.css">
  <!-- Optional Bootstrap theme -->
  <link rel="stylesheet" href="css/bootstrap-theme.min.css">
</head>

<body>
  <h1>Hello, world!</h1>
  <script src="js/jquery-1.11.3.min.js"></script>
  <script src="js/bootstrap.min.js"></script>
</body>

</html>
```

They suggest including JavaScript files at the end of the page (but before </body>) to improve the performance.

Using externally hosted version of libraries

```
<!DOCTYPE html>
<html>

<head>
  <meta charset="utf-8">
  <title>Basic Bootstrap Template</title>
  <meta name="viewport" content="width=device-width, initial-scale=1">
  <link rel="stylesheet" type="text/css"
        href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap.min.css">
  <!-- Optional Bootstrap theme -->
  <link rel="stylesheet"
        href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/css/bootstrap-theme.min.css">
</head>
<body>
  <h1>Hello, world!</h1>
  <script src="https://ajax.googleapis.com/ajax/libs/jquery/1.11.3/jquery.min.js"></script>
  <script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.6/js/bootstrap.min.js"></script>
</body>

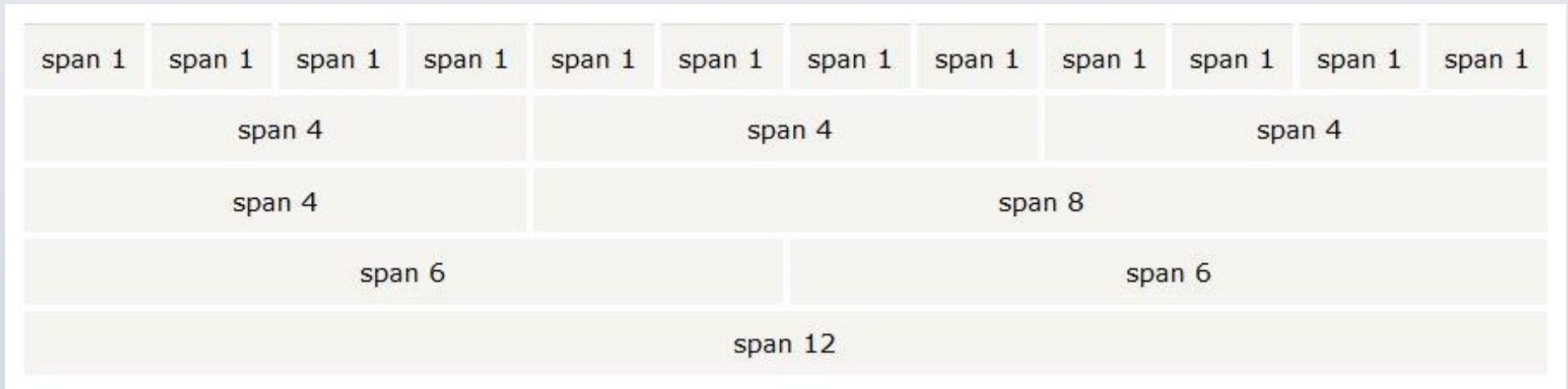
</html>
```


Bootstrap Grid System

Bootstrap's grid system allows up to 12 columns across the page.

If you do not want to use all 12 columns individually, you can group the columns together to create wider columns

Bootstrap's grid system is responsive, and the columns will re-arrange automatically depending on the screen size.



Grid Classes

The Bootstrap grid system has four classes:

- xs (for phones)
- sm (for tablets)
- md (for desktops)
- lg (for larger desktops)

The classes above can be combined to create more dynamic and flexible layouts.

Column Layouts

Three Equal Columns

The following example shows how to get a three equal-width columns starting at tablets and scaling to large desktops. On mobile phones, the columns will automatically stack:

```
<div class="row">  
  <div class="col-sm-4">Column One</div>  
  <div class="col-sm-4">Column Two</div>  
  <div class="col-sm-4">Column Three</div>  
</div>
```

Two Unequal Columns

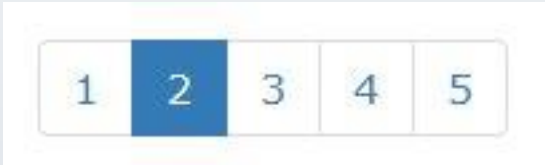
The following example shows how to get two various-width columns starting at tablets and scaling to large desktops:

```
<div class="row">  
  <div class="col-sm-4">Little Column</div>  
  <div class="col-sm-8">Big Column</div>  
</div>
```

Basic Pagination

If you have a web site with lots of pages, you may wish to add some sort of pagination to each page.

A basic pagination in Bootstrap looks like this:



To create a basic pagination, add the **.pagination** class to an `` element:
Add class **.active** to let the user know which page he/she is on:

```
<ul class="pagination">
  <li><a href="#">1</a></li>
  <li class="active"><a href="#">2</a></li>
  <li><a href="#">3</a></li>
  <li><a href="#">4</a></li>
  <li><a href="#">5</a></li>
</ul>
```

Breadcrumbs

Another form for pagination, is breadcrumbs:



Home / Private / Pictures / Vacation

The **.breadcrumb** class indicates the current page's location within a navigational hierarchy:

```
<ul class="breadcrumb">
  <li><a href="#">Home</a></li>
  <li><a href="#">Private</a></li>
  <li><a href="#">Pictures</a></li>
  <li class="active">Vacation</li>
</ul>
```

Dropdown

A dropdown menu is a toggleable menu that allows the user to choose one value from a predefined list:



```
<div class="dropdown">
  <button class="btn btn-primary dropdown-toggle"
          type="button" data-toggle="dropdown">
    Dropdown Example<span class="caret"></span>
  </button>
  <ul class="dropdown-menu">
    <li><a href="#">HTML</a></li>
    <li><a href="#">CSS</a></li>
    <li><a href="#">JavaScript</a></li>
  </ul>
</div>
```

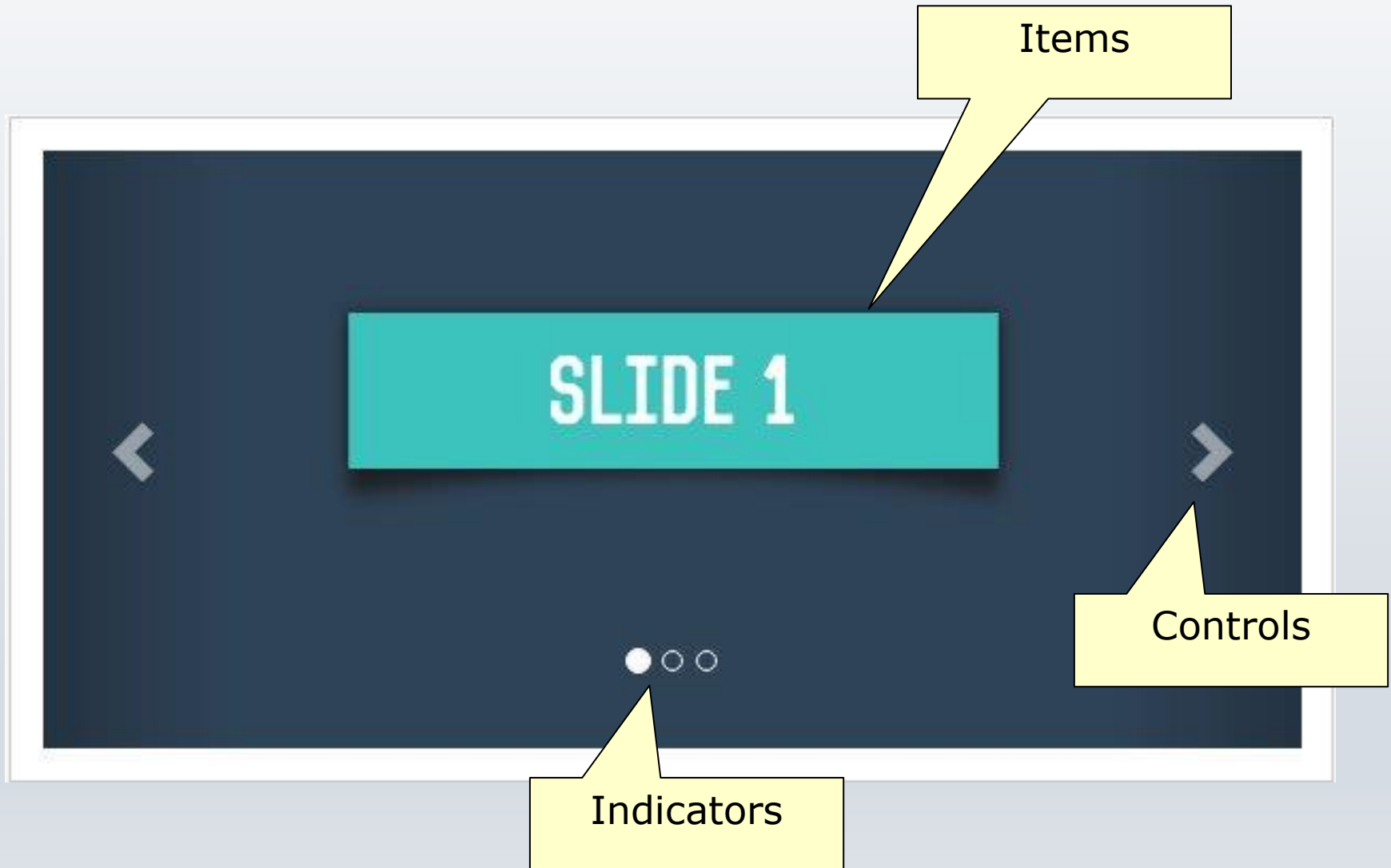
The `.dropdown` class indicates a dropdown menu.

To open the dropdown menu, use a button or a link with a class of `.dropdown-toggle` and the `data-toggle="dropdown"` attribute.

The `.caret` class creates a caret arrow icon, which indicates that the button is a dropdown.

Add the `.dropdown-menu` class to a `` element to actually build the dropdown menu.

Carousel



Carousel

```
<div id="myCarousel" class="carousel slide" data-ride="carousel">
  <!-- Carousel indicators -->
  <ol class="carousel-indicators">
    <li data-target="#myCarousel" data-slide-to="0" class="active"></li>
    <li data-target="#myCarousel" data-slide-to="1"></li>
    <li data-target="#myCarousel" data-slide-to="2"></li>
  </ol>
  <!-- Wrapper for carousel items -->
  <div class="carousel-inner">
    <div class="item active">
      
    </div>
    <div class="item">
      
    </div>
    <div class="item">
      
    </div>
  </div>
  <!-- Carousel controls -->
  <a class="carousel-control left" href="#myCarousel" data-slide="prev">
    <span class="glyphicon glyphicon-chevron-left"></span>
  </a>
  <a class="carousel-control right" href="#myCarousel" data-slide="next">
    <span class="glyphicon glyphicon-chevron-right"></span>
  </a>
</div>
```


Scrollspy

See

<http://www.tutorialrepublic.com/codelab.php?topic=bootstrap&file=scrollspy>

Tutorials

Code Republic

<http://www.tutorialrepublic.com/twitter-bootstrap-tutorial/>

W3Schools

<http://www.w3schools.com/bootstrap/default.asp>