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Bootstrap

Introduction to Bootstrap

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Lesson Objectives

- Introduction to Bootstrap
- Why Bootstrap?
- Bootstrap Advantages
- LESS Introduction
- Creating Bootstrap page



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1.1: Introduction

Bootstrap Introduction

- Bootstrap is a open source, responsive design framework to build static websites and dynamic web applications.
- Bootstrap is the most popular HTML, CSS, and JS framework for developing responsive, mobile first projects on the web.
- We can design the front end for a website with a little knowledge of HTML and CSS.
- Bootstrap 3 has been re-build to have a mobile-first approach
- Bootstrap was developed by Mark Otto and Jacob Thornton at Twitter. It was released as an open source product in August 2011 on GitHub.
- getbootstrap.com is the Official Website of Twitter Bootstrap.

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Mobile first approach uses the grid system in particular is to layout designs first on small screens, such as those that come on a mobile phone and then it can be scaled up the size of those designs to larger and larger environments.

Prior to Bootstrap 3 It doesn't support mobile first approach and as a optional feature it supports Responsive web design.

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1.1: Introduction

Why Bootstrap?

- We can design the front end for a website with a little knowledge of HTML and CSS. i.e. Developers can easily create professional WebPages like a web designers
- Bootstrap's responsive design adjusts to Desktops, Tablets and Mobiles
- Bootstrap provides scaffolding feature by providing a basic structure with Grid System, link styles, background.
- Provides a clean and uniform solution for building an interface for developers.
- Bootstrap contains a dozen built-in reusable components and to provide iconography, dropdowns, navigation, alerts, popovers, and much more
- It also provides custom jQuery plugins
- It is supported by all popular browsers.

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1.1: Introduction

Bootstrap Advantages

- **Cross-browser support:** Bootstrap works on all the latest desktop and mobile browsers. While older browsers may display Bootstrap differently with respect to styles, it is still fully functional in legacy browsers such as Internet Explorer 8.
- **Easy to customize:** Bootstrap is easy to customize, especially with the use of LESS.
- **Encourages using LESS:** Bootstrap is written in LESS, a dynamic style sheet language that is compiled into CSS, which gives it a lot of flexibility. We can take advantage of this if we use LESS to write your styles.

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Less is a CSS pre-processor, meaning that it extends the CSS language, adding features that allow variables, mixins, functions and many other techniques that allow us to make CSS more maintainable, themable and extendable.

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1.1: Introduction

Bootstrap Advantages

- **Supports useful jQuery plugins:** Bootstrap comes with many useful jQuery plugins that can come handy in many situations. Many custom jQuery plugins available: There is a wide range of jQuery plugins that extend Bootstrap, for example, X-editable, Wysihtml5, and the jQuery File Upload.
- **Mobile-first:** Bootstrap has been mobile-first since Version 3.0. This means that the grid starts out stacked and is floated using media queries when the screen width grows.

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1.1: Introduction

Less Introduction

- LESS is a dynamic style sheet language that is compiled into CSS.
- LESS compiler written in JavaScript and is quite fast compared to its alternatives, SASS and Stylus.
- LESS comes with a wide range of useful features that are not available in traditional CSS, such as variables, mixins, nested rules, functions, and operators.
- The easiest way to compile LESS files is to install Node.js and use its package manager NPM to install RECESS.
- We can also compile LESS online via <http://lesstester.com>

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We can install RECESS by running the following command:

npm install -g recess

This will install RECESS globally on your system. Now that you have RECESS installed, its time to create your first LESS file. Create a new folder named less in the project root and then create a file named styles.less in it. Add the following code to your newly created file:

```
@font-family: Arial;
@text-color: red;
body {
    font-family: @font-family;
    color: @text-color;
}
```

To compile the file, navigate to your project root and run the following command:

recess styles.less --compile > styles.css

You can also compress the style by running RECESS with the --compress option in the following way:

recess styles.less --compress > styles.css

This will produce the following output:

body{font-family:Arial;color:#foo}

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Demo

➤ **Online LESS Compiler using lesstester.com**



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WinLess is a Windows GUI for LESS.js we can download it from winless.org

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1.1: Introduction

What's new in Bootstrap 3?

- Mobile-first approach
- Single(responsive) grid system
- Dropping support for IE7 and FF 3.6
- Supporting IE 8 and higher
- Font icons, instead of old PNG image sprites

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1.1: Introduction

Mobile First Strategy

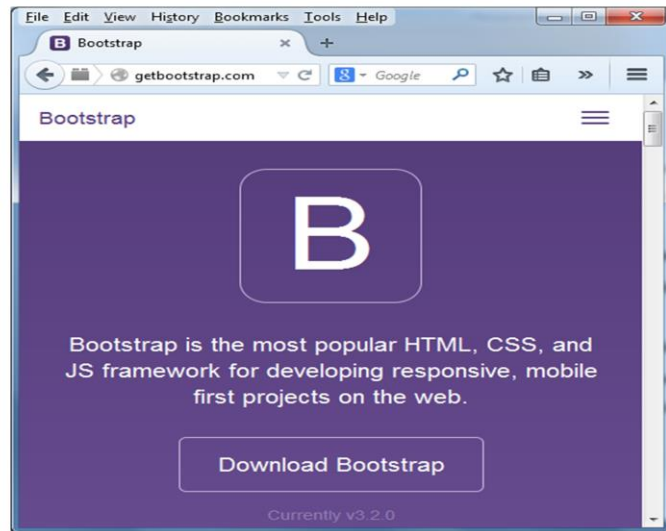
- **Bootstrap 3 is mobile first** in the sense that the code for Bootstrap starts by targeting smaller screens like mobile devices, tablets, and then "expands" components and grids for larger screens such as laptops, desktops.
- **Following points need to be considered for mobile first strategy**
 - **Content** : Determine what is most important.
 - **Layout** : Design to smaller widths first. i.e. Base CSS address mobile device first. media queries address for tablet and desktops
 - **Progressive Enhancement** : Add elements as screen size increases

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1.2: Getting Started with Bootstrap

Bootstrap home page



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1.2: Getting Started with Bootstrap

Downloading Bootstrap

- **We can work with Bootstrap using two ways**
 - By downloading compiled and minified CSS, JavaScript, and fonts.
 - By using CDN links.
- **We can also download Bootstrap source code includes the precompiled CSS, JavaScript, and font assets, along with source Less, JavaScript, and documentation.**
- **We can also customize Bootstrap's components, Less variables, and jQuery plugins to get our own version by clicking customize link (getbootstrap.com/customize)**

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1.2: Getting Started with Bootstrap

Bootstrap pre-compiled folder structure

```
bootstrap/  
├── css/  
│   ├── bootstrap.css  
│   ├── bootstrap.min.css  
│   ├── bootstrap-theme.css  
│   └── bootstrap-theme.min.css  
├── js/  
│   ├── bootstrap.js  
│   └── bootstrap.min.js  
└── fonts/  
    ├── glyphicons-halflings-regular.eot  
    ├── glyphicons-halflings-regular.svg  
    ├── glyphicons-halflings-regular.ttf  
    └── glyphicons-halflings-regular.woff
```

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Bootstrap source code – Folder Structure

```
bootstrap/  
├── less/  
├── js/  
├── fonts/  
├── dist/  
│   ├── css/  
│   ├── js/  
│   └── fonts/  
├── docs/  
└── examples/
```

The less/, js/, and fonts/ are the source code for CSS, JS, and icon fonts (respectively).

The dist/ folder includes everything listed in the precompiled download section above.

The docs/ folder includes the source code for documentation, and examples/ of Bootstrap usage

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1.2: Getting Started with Bootstrap

Bootstrap Global Styles

- **Bootstrap provides us the following default styles to webpage which is included in the bootstrap.css file.**
- margin has been removed from the body, and content will snug up to the edges of the browser window.
 - background-color: white is applied to the body
 - Bootstrap is using the @baseFontFamily, @baseFontSize, and @baseLineHeight attributes as our typographic base. This allows the height of headings and other content around the site to maintain a similar line height.
 - Bootstrap sets the global link color via @linkColor and applies link underlines only on :hover

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1.2: Getting Started with Bootstrap

Responsive Design

- To turn on the responsive features of Bootstrap, we need to add a <meta> tag to the <head> of your web page.
- It represents mobile specific meta data.

```
<!DOCTYPE html>
<html lang="en">
<head>
<title>Creating Sample website</title>
  <!-- Mobile Specific Meta -->
  <meta name="viewport" content="width=device-width, initial-scale=1,
maximum-scale=1">
  <!-- Latest compiled and minified CSS -->
  <link href="../../bootstrap-3.2.0-dist/css/bootstrap.min.css" rel="stylesheet">
</head>
<body></body>
</html>
```

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1.2: Getting Started with Bootstrap

Bootstrap basic template

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta http-equiv="X-UA-Compatible" content="IE=edge">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <title>Bootstrap Basic Template</title>

    <!-- Bootstrap -->
    <link href="css/bootstrap.min.css" rel="stylesheet">
  </head>
  <body>
    <h1>Hello, IGATE!</h1>

    <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
    <script src="jquery.min.js"></script>
    <!-- Include all compiled plugins (below), or include individual files as needed -->
    <script src="js/bootstrap.min.js"></script>
  </body>
</html>
```

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Demo

➤ Basics



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Summary

- Using bootstrap we can design the front end for a website with a little knowledge of HTML and CSS.
- Bootstrap is supported by all popular browsers
- Bootstrap 3 has been re-build to have a mobile-first approach.
- LESS is a dynamic style sheet language that is compiled into CSS



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