Bootstrap

Introduction to Bootstrap

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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.

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.

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.

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.

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.
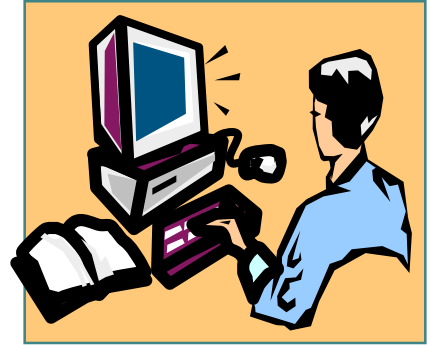
LESS comes with a wide range of useful features that are not available in traditional CSS, such as variables, mixins, nested rules, functions, and operators.

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

Demo

Online LESS Compiler using lesstester.com

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

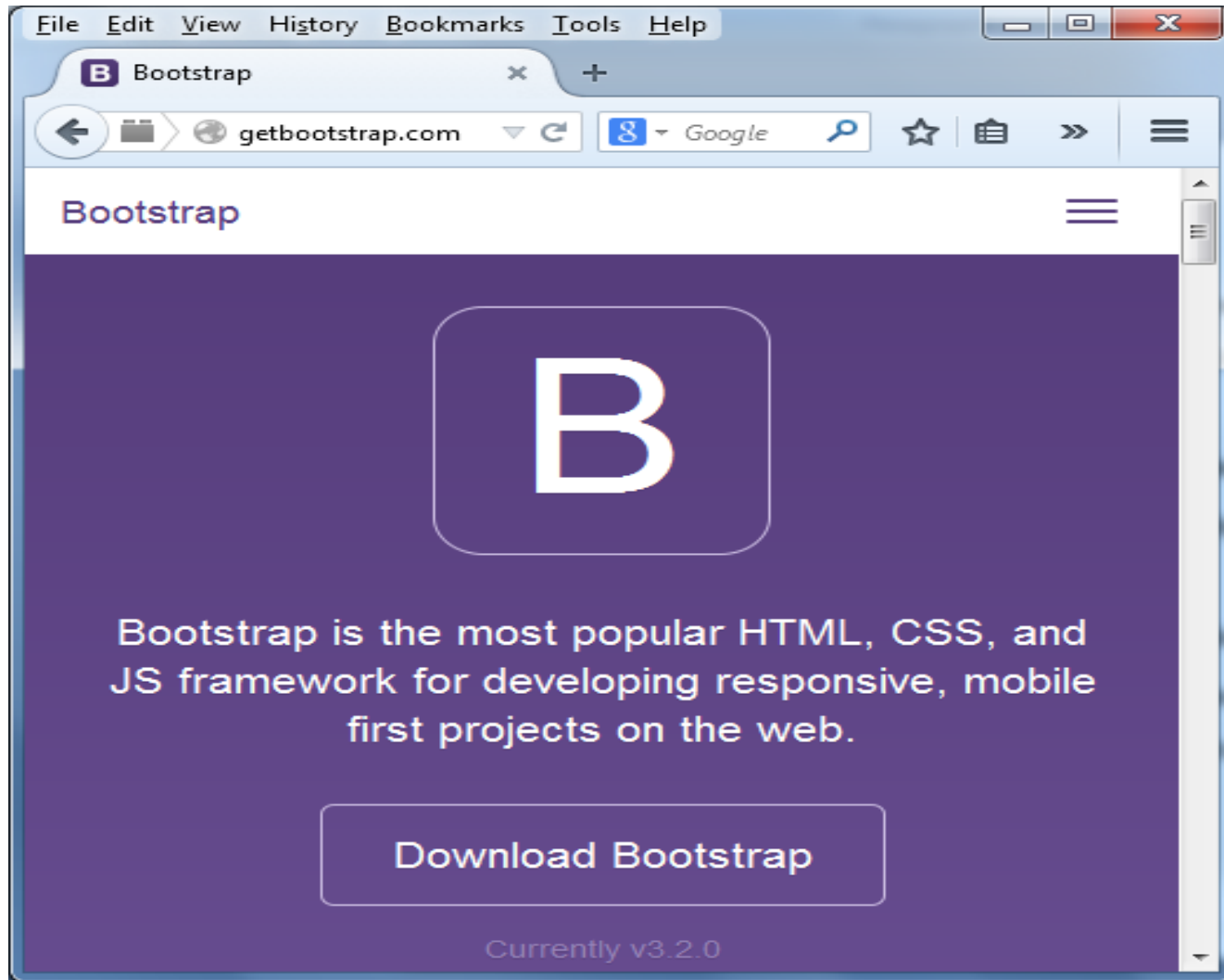Font icons, instead of old PNG image sprites

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

Bootstrap home page

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)

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
```

Bootstrap Global Styles

Bootstrap provides us the following default styles to webpage which is included in 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

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>
```

Bootstrap basic template

```html
<!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>
```
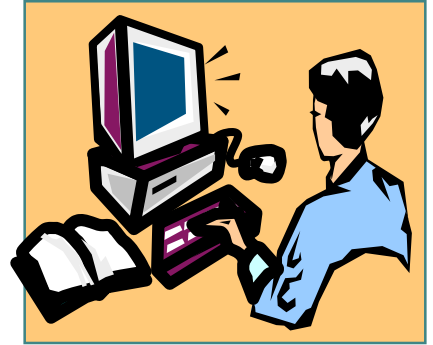
Demo

Basics

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