Boot Strapping in HTML

Creating web sites and web applications responsive
www.tutorialspoint.com/bootstrap/

Bootstrap is the most popular HTML, CSS, and JavaScript framework for developing responsive, mobile-first web sites.

Bootstrap is completely free to download and use!

WHAT IS BOOTSTRAP?

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

- Bootstrap includes HTML and CSS based design templates for typography, forms, buttons, tables, navigation, modals, image carousels and many other, as well as optional JavaScript plug-in

- Bootstrap also gives you the ability to easily create responsive designs.

- Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.

Bootstrap Features

- Theme Support
- Responsive
- Grid
- Components
  - Pagination
  - Buttons
  - Modal
- Great Visual Studio support

ADVANTAGES OF BOOTSTRAP

- **Easy to use:** Anybody with just basic knowledge of HTML and CSS can start using Bootstrap.

- **Responsive features:** Bootstrap's responsive CSS adjusts to phones, tablets, and desktops.

- **Mobile-first approach:** In Bootstrap 3, mobile-first styles are part of the core framework.

- **Browser compatibility:** Bootstrap is compatible with all modern browsers (Chrome, Firefox, Internet Explorer, Safari, and Opera).

HOW TO GET BOOTSTRAP?

There are two ways to start using Bootstrap on your own web site.

⊙ Download Bootstrap from getbootstrap.com.

⊙ Include Bootstrap from a CDN

HIGHLY FLEXIBLE

Bootstrap gives the developers the flexibility to develop. Its a CSS framework with predefined classes for layout using its grid system, various CSS components and JavaScript functions.

These are all included and the developer has the flexibility and freedom of using only those classes that are needed in the markup. This makes it highly flexible as only those objects that are needed in the markup are used by the developer leaving the rest.

RESPONSIVE GRID

This is the strongest part of the bootstrap framework. Bootstrap offers a 12 column grid system. The grid system is responsive, that is it adjusts itself depending on the device resolution of the client. These grids have further classes that have been defined in sync with the device resolution that they represent.

These grids have classes xs, sm, md and lg each representing a device resolution. All the developer needs to do is include these classes while defining the visibility of an element in the markup and hence come up with a responsive website. The responsive grid makes developing responsive websites really easy using bootstrap.

COMPREHENSIVE LIST OF COMPONENTS

Bootstrap has all the components you would require for your website. It includes Drop Down Menus, Navigation Bar, Progress Bar, Alerts, Labels, Badges etc.
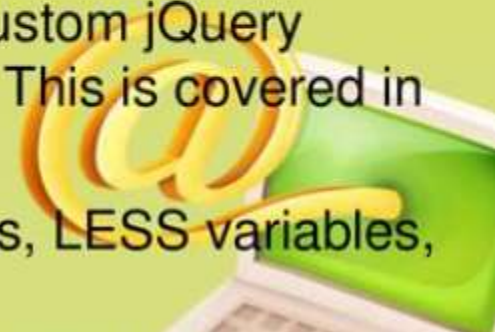
It comprehensively includes all the components you may require and the developer can easily include them in the markup.

This saves a lot of time as the developer would not have to develop these from scratch and worry about cross browser and cross device compatibility. All that is needed to get them working is to include the correct classes in your markup and things would all into place.

Bootstrap Package

- **Scaffolding**: Bootstrap provides a basic structure with Grid System, link styles, background. This is is covered in detail in the section Bootstrap Basic Structure

- **CSS**: Bootstrap comes with feature of global CSS settings, fundamental HTML elements styled and enhanced with extensible classes, and an advanced grid system. This is covered in detail in the section Bootstrap with CSS.

- **Components**: Bootstrap contains over a dozen reusable components built to provide iconography, dropdowns, navigation, alerts, popovers, and much more. This is covered in detail in the section Layout Components.

- **JavaScript** Plugins: Bootstrap contains over a dozen custom jQuery plugins. You can easily include them all, or one by one. This is covered in details in the section Bootstrap Plugins.

- **Customize**: You can customize Bootstrap's components, LESS variables, and jQuery plugins to get your very own version.

Environment Setup

- You can download the latest version of Bootstrap from http://getbootstrap.com/

  - **Download Bootstrap**: Clicking this, you can download the precompiled and minified versions of Bootstrap CSS, JavaScript, and fonts. No documentation or original source code files are included.

  - **Download Source**: Clicking this, you can get the latest Bootstrap LESS and JavaScript source code directly from GitHub.

HTML Setup

```
<!DOCTYPE html>
<html>
    <head><title>Bootstrap 101 Template</title>
        <meta name="viewport" content="width=device-width, initial-scale=1.0">
        <!-- Bootstrap -->
        <link href="css/bootstrap.min.css" rel="stylesheet">
    </head>
    <body>
        <h1>Hello, world!</h1>
    <!-- jQuery (necessary for Bootstrap's JavaScript plugins) -->
        <script src="https://code.jquery.com/jquery.js"></script>
    <!-- Include all compiled plugins (below), or include individual files as needed -->
        <script src="js/bootstrap.min.js"></script>
    </body>
</html>
```

Grid System

- In graphic design, a grid is a structure (usually two-dimensional) made up of a series of intersecting straight (vertical, horizontal) lines used to structure content.

- It is widely used to design layout and content structure in print design.

- In web design, it is a very effective method to create a consistent layout rapidly and effectively using HTML and CSS.

- Grids in web design organize and structure content, makes websites easy to scan and reduces cognitive load on users.

Grid System

- Bootstrap includes a responsive, mobile first fluid grid system that appropriately scales up to 12 columns as the device or viewport size increases.

- Bootstrap 3 is mobile first in the sense that the code for Bootstrap now starts by targeting smaller screens like mobile devices, tablets, and then "expands" components and grids for larger screens such as laptops, desktops.

Mobile First Strategy

- **Content**
  - Determine what is most important.
- **Layout**
  - Design to smaller widths first.
  - Base CSS address mobile device first; media queries address for tablet, desktops.
- **Progressive Enhancement**
  - Add elements as screen size increases.

Basic Grid Structure

```
<div class="container">
    <div class="row">
        <div class="col-*-*"></div>
        <div class="col-*-*"></div>
    </div>
    <div class="row">...</div>
</div>
<div class="container">....
```

```html
<!doctype html>
 <html lang="en">
<head>
<meta charset="utf-8"> <meta name="viewport" content="width=device-width, initial-scale=1">
 <title>Bootstrap demo</title>
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
9ndCyUaIbzAi2FUVXJi0CjmCapSmO7SnpJef0486qhLnuZ2cdeRhO02iuK6FUUVM"
crossorigin="anonymous">
</head>
<body>
<h1>Welcome to Tutorialspoint!</h1>
<script src="https://cdn.jsdelivr.net/npm/@popperjs/core@2.11.8/dist/umd/popper.min.js"
integrity="sha384-I7E8VVD/ismYTF4hNIPjVp/Zjvgyol6VFvRkX/vR+Vc4jQkC+hVqc2pM8ODewa9r"
crossorigin="anonymous"></script>
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.0/dist/js/bootstrap.bundle.min.js"
integrity="sha384-
geWF76RCwLtnZ8qwWowPQNguL3RmwHVBC9FhGdlKrxdiJJigb/j/68SIy3Te4Bkz"
crossorigin="anonymous">
</script>
</body>
</html>
```