



Chapter 10 (2.1)

Basics of Bootstrap

Objectives

At the end of this session, you will be able to:

- Describe Bootstrap
- Explain the basic concepts of Bootstrap
- Describe the process of setting up Bootstrap
- Outline the file structure and the default source code in Bootstrap
- Use Bootstrap with CSS and JS
- Describe the significance of Bootstrap templates



Introduction (1-2)

- Bootstrap is an open-source framework
- It is easy to use and understand
- It is also known as front-end Framework
- Used to make responsive Websites and Web applications
- It includes JS (JavaScript), CSS (Cascading Style Sheets), and HTML (Hyper Text Mark-up Language).
- It designs variety of components – forms, layout, navigation, and JavaScript Extensions.

Introduction (2-2)

- Bootstrap is:

CSS
Framework

Templating
System

JS Toolkit



Benefits of Bootstrap (1-4)

Easy and Flexible

- It is easy, adaptable and quick to use
- It can be used with CSS, LESS, or SASS (Syntactically Awesome Style Sheets)

100% Responsive Designs

- Adaptive to each Internet-enabled devices – tablets, smartphones, and laptops
- Fluid Grid Layout readjusts dynamically to the screen resolution

Great Grid System

- Implements 12 columns responsive grid
- Supports offset and nested elements



Benefits of Bootstrap (2-4)

Better Development Speed

- It has readymade blocks of code for designing
- Developers are not required to know HTML and CSS coding

Browser Compatibility

- Resolves many cross-browser compatibility issues
- Web applications runs smoothly in Web browsers – Chrome, Safari, IE (Internet Explorer), and Firefox

Customization

- It can be customized by selecting required aspects available on the Bootstrap customize page

Benefits of Bootstrap (3-4)

Consistency

- Mark Otto released first open-source Bootstrap version
- He also described framework expansion through single core concept of merging designers and developers

Big Support

- Web developers can get can kind of help from a big supportive community of Bootstrap
- It is hosted and updated on GitHub with 500 contributors

Bundled JavaScript Components

- A pre-defined set of JS components are used for different functionalities of User Interface components
- Examples – tooltips, alerts, and modal windows

Benefits of Bootstrap (4-4)

Simple Integration

- Bootstrap can be integrated with other frameworks and platforms, also for existing Websites

Extensive Pre-styled Components

- Bootstrap has different pre-styled components for Drop- downs, alerts, and navigation bars



Setting Up Bootstrap

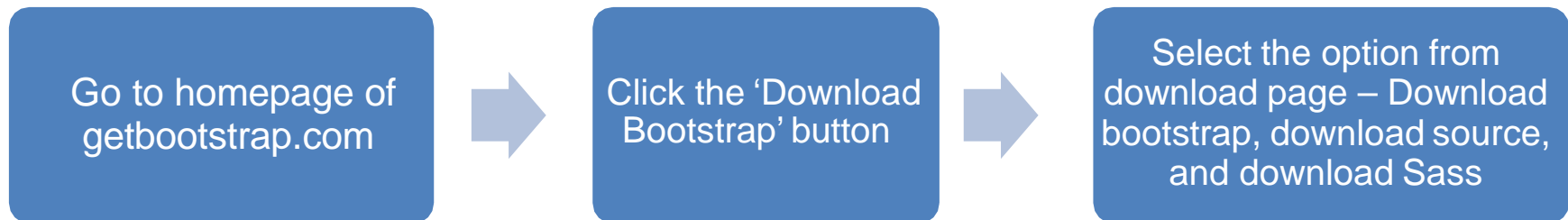
- Easy to download, install, and set up
- Two ways to start:

Download from
getbootstrap.com

Include it from
Content Delivery
Network (CDN)

Download Bootstrap

- Download bootstrap latest version 3.3.7
- Follow the steps to download:





Content Delivery Network (CDN)

- Content Delivery Network (CDN) is a network of distributed servers
- Delivers Webpages or Web content to various user locations
- It is for those developers who do not want to host the framework
- Closer the server, faster the network
- Benefit of fast and quick loads



File Structure and Source Code

- A ZIP file contains the directories and files
- Extracted files are: structured CSS, JavaScript, and font directories
- Web developers uses desired components and plugins by drag-drop on a Webpage
- **Bootstrap.*.maps** contains CSS source maps
- Includes Glyphicon fonts and bootstrap theme (optional)

File Structure of Precompiled Bootstrap Version

```
bootstrap/
+  css/
|  +  bootstrap.css
|  +-- bootstrap.css.map
|  +  bootstrap.min.css
|  +-- bootstrap.min.css.map
|  +-- bootstrap-theme.css
|  +-- bootstrap-theme.css.map
|  +-- bootstrap-theme.min.css
|  +-- bootstrap-theme.min.css.map
+-- js/
|  +-- bootstrap.js
|  +-- bootstrap.min.js
+-- fonts/
+  glyphicons-halflings-regular.eot
+-- glyphicons-halflings-regular.svg
+  glyphicons-halflings-regular.ttf
+  glyphicons-halflings-regular.woff
+  glyphicons-halflings-regular.woff2
```



Bootstrap File Structure

- Bootstrap File Structure has following categories:

Scaffolding

- Basic grid structure
- Simple layouts
- Background
- Link Styles

CSS

- Global CSS settings
- Advanced Grid System
- Basic HTML elements styles

Components

- Styles for reusable components
- Alerts, tabs, and page headers

JavaScript Plugins

- Customs and interactive jQuery plugins
- Modals, tooltips, and popovers



Default Bootstrap Template

- Conversion from HTML file into Bootstrapped file
- Include JQuery library before Bootstrap library
- Template includes following files:

Bootstrap.min.css

Jquery.min.js

Bootstrap.min.js

Html5shiv.min.js

Respond.min.js



MaxCDN Code

<!-- Compiled and minified CSS -->

```
<link rel="stylesheet"  
href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css">
```

<!-- Optional theme -->

```
<link rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap-  
theme.min.css">
```

<!-- Compiled and minified jQuery -->

```
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.2.0/jquery.min.js"></script>
```

<!-- Compiled and minified JavaScript -->

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/js/bootstrap.min.js"></script>
```


Bootstrap with CSS

- Bootstrap 2 had discretionary mobile-friendly styles
- Bootstrap 3 is mobile-friendly entirely
- A container element contains all the Website contents and grid system
- Two types of containers:

Fixed

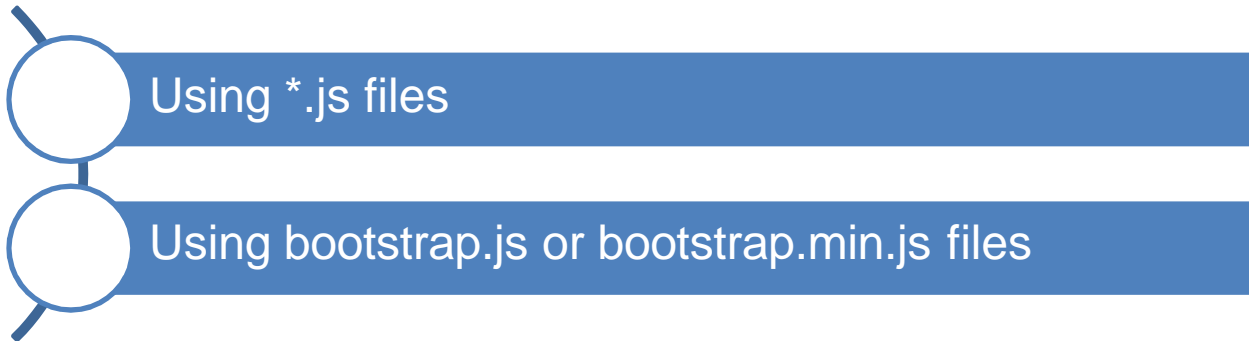
- Preset width of viewport
- Does not change the width
- Easy to use and personalize
- Width in pixels
- *.container* class in `<div>` tag

Fluid

- Covers the width of whole viewport
- Changes the width as per change in the screen size
- Width is in percentage
- *.container-fluid* class in `<div>` tag

Bootstrap with JavaScript (1-2)

- Include JavaScript Plugins by two ways:



- Two ways of using JavaScript plugins:



Bootstrap with JavaScript (2-2)

Events

- Handle distinct actions of plugins
- Infinitive form and past participle form

Transitions

- Include transition.js to apply transition effects
- To achieve sliding and fading effects

Templates in Bootstrap

- A mock Website designed using Bootstrap framework
- Components – JS code, CSS code, HTML pages, fonts, and images
- Used for – e-commerce site, corporate portal, blog, or static page
- Blog Bootstrap template page:





Summary (1-3)

- Bootstrap is an open-source Web framework for quickly developing front-end and responsive applications.
- Bootstrap uses CSS, HTML, JavaScript, and jQuery design interactive Webpages.
- Customization, browser compatibility, fully responsive pages, and an assortment of built-in components are the major benefits of Bootstrap.
- There are two ways to start using Bootstrap namely, downloading its files from getbootstrap.com or including them from a CDN.



Summary (2-3)

- The structure of the precompiled Bootstrap version includes the css, js, and fonts directories offering components and plugins for drag-n-drop usage.
- The basic HTML Bootstrapped template includes **bootstrap.min.css**, **jquery.min.js**, **bootstrap.min.js**, and the jQuery library prior to the Bootstrap library.
- The default Bootstrapped template contains the viewport meta tag to make a Webpage responsive.



Summary (3-3)

- Bootstrap 3 is mobile first, which means the mobile-friendly styles are present throughout the library rather than in isolated files.
- Bootstrap comes with two types of containers namely, fixed width and full width containers.
- There are two ways of using JavaScript plugins namely, through data attributes and via JavaScript.
- Bootstrap template are sample Webpages designed for using the bootstrap framework.

Q & A