Basics of Bootstrap

Session 1

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:

Go to homepage of getbootstrap.com	Click the 'Download Bootstrap' button	Select the option from download page – Download bootstrap, download source, and download Sass

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	CSS	Components	JavaScript Plugins
• Basic grid structure • Simple layouts • Background • Link Styles	• Global CSS settings • Advanced Grid System • Basic HTML elements styles	• Styles for reusable components • Alerts, tabs, and page headers	• 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	Fluid
• Preset width of viewport • Does not change the width • Easy to use and personalize • Width in pixels • *.container* class in \<div\> tag	• 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:

  - Using *.js files

  - Using bootstrap.js or bootstrap.min.js files

- Two ways of using JavaScript plugins:

  - Data attributes

  - JavaScript

Bootstrap with JavaScript (2-2)

Events

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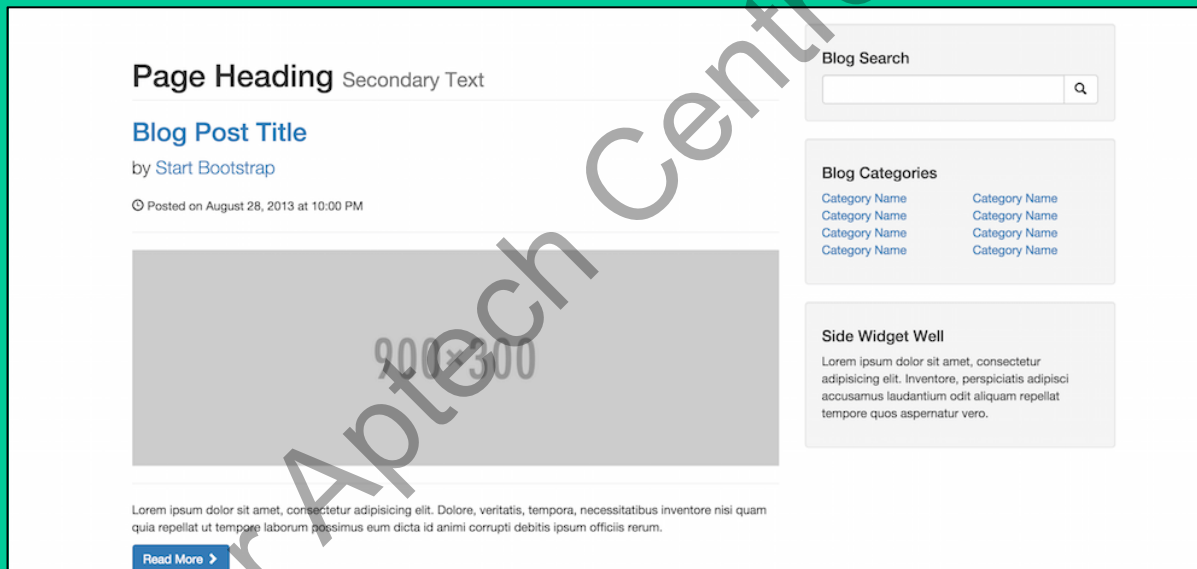- Infinitive form and past participle form

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.