WEB PROGRAMMING AND APPLICATIONS (Tutorial 4)

Table of Contents

Introduction	
Bootstrap Containers	2
Bootstrap Grid System	3
Bootstrap Forms	4
Form Layouts	4
Form Validation	5
Bootstrap Input	6
Input	6
Checkboxes	6
Radio Buttons	7
Select List	8
Input Groups	8
Poforoneas	o

Introduction

Bootstrap stands out as the leading CSS Framework utilized in the creation of websites that are responsive and prioritized for mobile devices.

- Bootstrap is a free front-end framework for faster and easier web development
- It incorporates design templates in HTML and CSS for various elements such as typography, forms, buttons, tables, navigation, modals, image carousels, among others, alongside optional JavaScript plugins.
- Additionally, Bootstrap facilitates the creation of responsive designs with great ease. (Responsive web design is about creating web sites which automatically adjust themselves to look good on all devices, from small phones to large desktops.)

Advantages of Bootstrap

- User-friendly: Bootstrap is accessible to anyone with rudimentary understanding of HTML and CSS.
- Bootstrap's CSS is responsive, ensuring seamless display across phones, tablets, and desktops.
- Bootstrap integrates mobile-centric design principles as a fundamental aspect of its framework.
- Cross-browser support: Bootstrap 4 functions seamlessly on contemporary browsers such as Chrome, Firefox, Internet Explorer 10+, Edge, Safari, and Opera.

Bootstrap Containers

Bootstrap 4 requires a containing element to wrap site contents. There are two container classes to choose from:

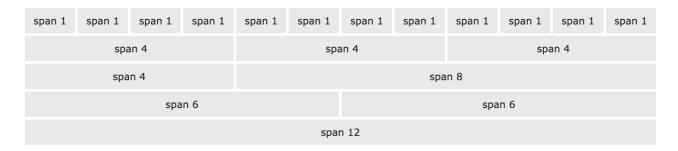
- The .container class provides a responsive fixed width container. Note that its width (max-width) will change on different screen sizes.
- The .container-fluid class provides a full width container, spanning the entire width of the viewport (width is always 100%)

	Extra small <576px	Small ≥576px	Medium ≥768px	Large ≥992px	Extra large ≥1200px
.container	100%	540px	720px	960px	1140px
.container-sm	100%	540px	720px	960px	1140px
.container-md	100%	100%	720px	960px	1140px
.container-lg	100%	100%	100%	960px	1140px
.container-xl	100%	100%	100%	100%	1140px

container-fluid 100% 100% 100% 100% 100%
--

Bootstrap Grid System

Bootstrap's grid system is built with flexbox and allows up to 12 columns across the page. If you do not want to use all 12 columns individually, you can group the columns together to create wider columns:



The Bootstrap 4 grid system has five classes:

- .col- (extra small devices screen width less than 576px)
- .col-sm- (small devices screen width equal to or greater than 576px)
- .col-md- (medium devices screen width equal to or greater than 768px)
- .col-lg- (large devices screen width equal to or greater than 992px)
- .col-xl- (xlarge devices screen width equal to or greater than 1200px)

Basic structure of a Bootstrap 4 grid:

The following example shows how to get two various-width columns starting at tablets and scaling to large extra desktops

.col-sm-8

```
<div class="row">
    <div class="col-sm-4">.col-sm-4</div>
    <div class="col-sm-8">.col-sm-8</div>
</div>
```

Bootstrap Forms

Form Layouts

Bootstrap provides two types of form layouts:

- Stacked (full-width) form
- · Inline form

An example of Stacked form

```
<form action="/action_page.php">
 <div class="form-group">
    <label for="email">Email address:</label>
    <input type="email" class="form-control" placeholder="Enter email" id="email">
 </div>
 <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" placeholder="Enter</pre>
password" id="pwd">
 </div>
 <div class="form-group form-check">
    <label class="form-check-label">
      <input class="form-check-input" type="checkbox"> Remember me
    </label>
 </div>
 <button type="submit" class="btn btn-primary">Submit
</form>
```

Bootstrap 4 Stacked Form

Email:			
Enter en	email		
Password:	d:		
Enter pa	password		
☐ Remem	mber me		
Submit			

An example of Inline form

Bootstrap Inline Form

Email:	Enter email	Password:	Enter password	□ Remember me	Submit
--------	-------------	-----------	----------------	---------------	--------

Form Validation

You can use different validation classes to provide valuable feedback to users. Add either .was-validated or .needs-validation to the <form> element, depending on whether you want to provide validation feedback before or after submitting the form.

You can also add a .valid-feedback or .invalid-feedback message to tell the user explicitly what's missing.

Note that you will also have to add some jQuery code form.checkValidity() to validate the form properly on form submission event (onsubmit).

Bootstrap Input

Bootstrap supports the following form controls:

- Input (all the HTML5 input types: text, password, datetime, datetime-local, date, month, time, week, number, email, url, search, tel, and color)
- textarea
- checkbox
- radio
- select

Input

we use the .form-control class to style inputs with full-width and proper padding

```
<div class="form-group">
    <label for="usr">Name:</label>
    <input type="text" class="form-control" id="usr">
    </div>
<div class="form-group">
        <label for="pwd">Password:</label>
        <input type="password" class="form-control" id="pwd">
        </div>
```

Checkboxes

□ Option 1□ Option 2□ Option 3

```
</div>
<div class="form-check">
 <label class="form-check-label">
   <input type="checkbox" class="form-check-input" value="" disabled>Option 3
 </label>
</div>
Use the .form-check-inline class if you want the checkboxes to appear on the same
line:
 □ Option 1 □ Option 2 □ Option 3
Radio Buttons
 Option 1
 Option 2
 Option 3
<div class="form-check">
 <label class="form-check-label">
   <input type="radio" class="form-check-input" name="optradio">Option 1
 </label>
</div>
<div class="form-check">
 <label class="form-check-label">
   <input type="radio" class="form-check-input" name="optradio">Option 2
 </label>
</div>
<div class="form-check disabled">
 <label class="form-check-label">
   <input type="radio" class="form-check-input" name="optradio" disabled>Option 3
 </label>
</div>
As with checkboxes, use the .form-check-inline class if you want the radio buttons to
appear on the same line:
 ○ Option 1 ○ Option 2 ○ Option 3
```

Select List

```
<div class="form-group">
  <label for="sel1">Select list:</label>
  <select class="form-control" id="sel1">
      <option>1</option>
      <option>2</option>
      <option>3</option>
      <option>4</option>
      </div>
```

Input Groups

The .input-group class is a container to enhance an input by adding an icon, text or a button in front or behind the input field as a "help text".

Use .input-group-prepend to add the help text in front of the input, and .input-group-append to add it behind the input.

At last, add the .input-group-text class to style the specified help text.

Example:

References

 $\frac{https://getbootstrap.com/docs/4.0/getting-started/introduction/}{https://www.w3schools.com/bootstrap4/default.asp}$