

# El framework Bootstrap

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# INDICE

- Introducción a bootstrap
- Conceptos básicos de bootstrap
- Formularios y componentes en bootstrap
- Guia para el diseño de formularios

# Bootstrap

<https://getbootstrap.com/docs/5.1/getting-started/introduction/>

- Bootstrap es un framework de código abierto para construir frontends de webs responsivas. Última versión oficial Bootstrap 5.3.x
- Un diseño responsivo permite visualizar el contenido de la web con diferentes dispositivos (dif. tamaños de pantalla).



# Para usar Bootstrap I

<https://getbootstrap.com/docs/5.1/getting-started/introduction/> - starter-template

```
<!doctype html>
<html lang="en">
  <head>
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1">
    <link href="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/css/bootstrap.min.css"
      rel="stylesheet" integrity="sha384-
BmE4kWBq78iYhFldvKuhfTAU6auU8tT94WrHftjDbrCEXSU1oBoqyl2QvZ6jIW3" crossorigin="anonymous">
    <link href="styles.css" rel="stylesheet">
    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>
    <script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.1.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-ka7Sk0GlN4gmtz2MlQnikT1wXgYsOg+OMhuP+IlRH9sENBO0LRn5q+8nbTov4+1p"
crossorigin="anonymous"></script>
  </body>
</html>
```

Primero el css de bootstrap y despues nuestros  
css (ver siguiente transp.)

Al final para evitar errores y no ralentizar la  
carga de la página.

# Para usar Bootstrap II

Ejemplos de orden de inclusion: primero css de bootstrap, después nuestros css

Ejemplo: Si el orden es correcto: nuestra propiedad *margin* prevalece

```
body {  
  margin: 1rem 1rem;  
}  
  
body {  
  margin: 0;  
  font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, "Helvetica Neue", Arial, "Noto Sans", sans-serif, "Apple Color Emoji", "Segoe UI Emoji", "Segoe UI Symbol", "Noto Color Emoji";  
}
```

Ejemplo. Si el orden es incorrecto: prevalece el *margin* de bootstrap.

```
body {  
  margin: 0;  
  font-family: -apple-system, BlinkMacSystemFont, "Segoe UI", Roboto, "Helvetica Neue", Arial, "Noto Sans", sans-serif, "Apple Color Emoji", "Segoe UI Emoji", "Segoe UI Symbol", "Noto Color Emoji";  
  font-size: 1rem;  
  font-weight: 400;  
  line-height: 1.5;  
  color: #212529;  
  text-align: left;  
  background-color: #fff;  
}  
  
body {  
  margin: 1rem 1rem;  
}
```

# Conceptos básicos de Bootstrap

- Breakpoints
- Contenedores
- Filas
- Columnas

# Breakpoints

Indican cuando se adapta el diseño segun el tamaño del dispositivo

Los breakpoints **afectan a ese punto de interrupción y todos los que están por encima de él**. Visualizo en columnas (por encima del breakpoint) o apilado (por debajo del breakpoint).

	<b>Extra small (&lt;576px)</b>	<b>Small (≥576px)</b>	<b>Medium (≥768px)</b>	<b>Large (≥992px)</b>	<b>Extra Large (≥1200px)</b>	<b>XXL (≥1400px)</b>
<b>Class prefix</b>	<code>.col-</code>	<code>.col-sm-</code>	<code>.col-md-</code>	<code>.col-lg-</code>	<code>.col-xl-</code>	<code>.col-xxl-</code>

Por ejemplo: `col-sm` se aplica a sm (small) y todos los que hay por encima (medium, large, extra large, xxl)



[https://www.w3schools.com/bootstrap5/bootstrap\\_grid\\_examples.php](https://www.w3schools.com/bootstrap5/bootstrap_grid_examples.php)

# Grid de bootstrap

<https://getbootstrap.com/docs/5.0/layout/grid/>

El grid de Bootstrap utiliza contenedores, filas y columnas para diseñar y alinear el contenido. **Se permiten hasta 12 columnas.** Se divide el contenedor en filas y cada fila en columnas.

```
<div class="container">
  <div class="row">
    <div class="col-sm">One of three columns</div>
    <div class="col-sm">One of three columns</div>
    <div class="col-sm">One of three columns</div>
  </div>
</div>
```

One of three columns	One of three columns	One of three columns
----------------------	----------------------	----------------------



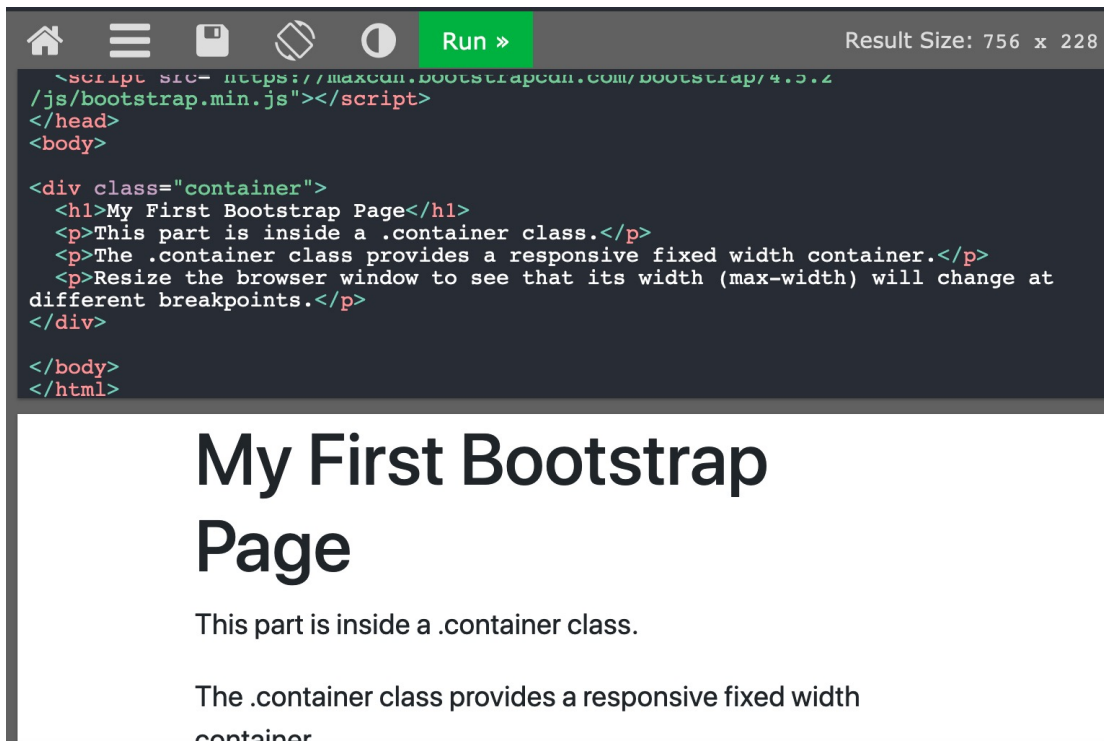
# Bootstrap containers

[https://www.w3schools.com/bootstrap4/bootstrap\\_containers.asp](https://www.w3schools.com/bootstrap4/bootstrap_containers.asp)

## .container vs .container-fluid

Con .container el ancho del contenedor cambiará en diferentes puntos de interrupción

Con .container-fluid abarcará todo el ancho de la pantalla



The screenshot shows a web browser window with a dark toolbar at the top containing icons for home, menu, save, zoom, and a green 'Run »' button. The address bar shows 'Result Size: 756 x 228'. The code editor displays the following HTML:

```
<script src="https://maxcdn.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container">
  <h1>My First Bootstrap Page</h1>
  <p>This part is inside a .container class.</p>
  <p>The .container class provides a responsive fixed width container.</p>
  <p>Resize the browser window to see that its width (max-width) will change at different breakpoints.</p>
</div>

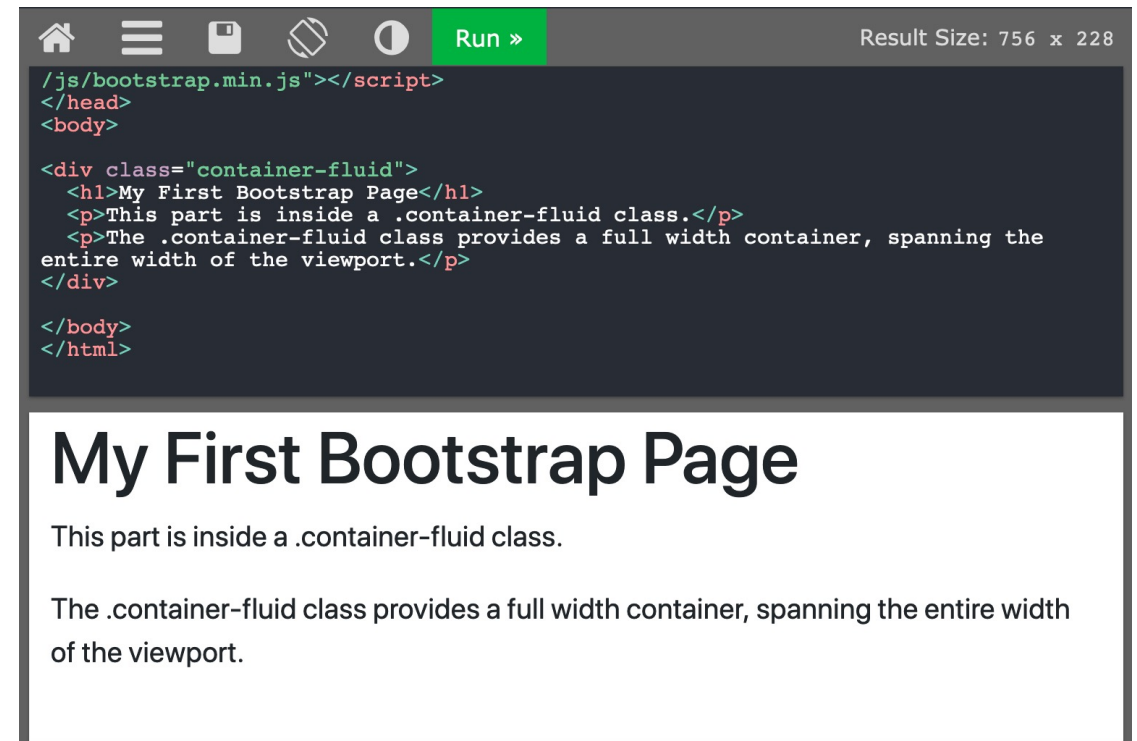
</body>
</html>
```

The rendered page below the code editor has a white background and a dark border. It features a large heading 'My First Bootstrap Page' and two paragraphs of text. The text is contained within a fixed-width box that is centered on the page.

My First Bootstrap Page

This part is inside a .container class.

The .container class provides a responsive fixed width container



The screenshot shows a web browser window with a dark toolbar at the top containing icons for home, menu, save, zoom, and a green 'Run »' button. The address bar shows 'Result Size: 756 x 228'. The code editor displays the following HTML:

```
/js/bootstrap.min.js"></script>
</head>
<body>

<div class="container-fluid">
  <h1>My First Bootstrap Page</h1>
  <p>This part is inside a .container-fluid class.</p>
  <p>The .container-fluid class provides a full width container, spanning the entire width of the viewport.</p>
</div>

</body>
</html>
```

The rendered page below the code editor has a white background and a dark border. It features a large heading 'My First Bootstrap Page' and two paragraphs of text. The text is contained within a box that spans the entire width of the browser viewport.

My First Bootstrap Page

This part is inside a .container-fluid class.

The .container-fluid class provides a full width container, spanning the entire width of the viewport.

# Bootstrap filas

<https://getbootstrap.com/docs/5.0/layout/grid/>

- Filas, se definen con la clase **.row**, tienen que estar dentro de containers (**.container**) y sólo contienen columnas.

```
<div class="container">  
  <div class="row">  
    <div class="col-sm">One of three columns</div>  
    <div class="col-sm">One of three columns</div>  
    <div class="col-sm">One of three columns</div>  
  </div>  
</div>
```

One of three columns	One of three columns	One of three columns
----------------------	----------------------	----------------------

# Bootstrap columnas I

<https://getbootstrap.com/docs/5.0/layout/grid/>

Las columnas se definen con:

- **.col-*<breakpoint>*** (ej. **.col-sm**) se visualiza en columnas sólo para dispositivos con tamaño igual o mayor al ***breakpoint*** definido.

One of three columns	One of three columns	One of three columns
----------------------	----------------------	----------------------

- En dispositivos más pequeños las columnas se ven “apiladas”.

One of three columns
One of three columns
One of three columns

# Bootstrap columnas II

<https://getbootstrap.com/docs/5.0/layout/grid/>

- **.col-<breakpoint>-<tamaño>** (ej. .col-sm-6) donde **<tamaño>** tiene un valor de 1 a 12.

Todas las columnas de una fila suman 12, si no suman 12 queda espacio vacío, si superan el 12 pasan a la siguiente fila.

- **.col-<breakpoint>** se reparte por igual para cada columna.

```
<div class="container">
  <div class="row">
    <div class="col-sm-2">One of three columns</div>
    <div class="col-sm-6">One of three columns</div>
    <div class="col-sm-4">One of three columns</div>
  </div>
</div>
```

One of three columns	One of three columns	One of three columns
-------------------------	----------------------	----------------------

# Ejemplo Bootstrap I (básico)

Pantalla pequeña ( $\leq 575$  px)

## Ejemplo de grid

1

2

3

4

5

6

7

8

9

Pantalla mediana o superior  
( $\geq 576$ )

## Ejemplo de grid

1

2

3

4

5

6

7

8

9

10

11

12

Unica columna

Primera columna

Segunda columna

Primera columna

Segunda columna

Tercera columna

# Ejemplo Bootstrap II (anidamiento)

Pantalla pequeña ( $\leq 575$  px)

Pantalla mediana o superior  
( $\geq 576$ )

## Ejemplo de grid

Col 1		Col 2
Col 1	Col 2	
Col 1 1	Col 1 2	Col 2 1
		Col 2 2
		Col 2 3
		Col 2 4

## Ejemplo de grid

Col 1
Col 2
Col 1
Col 1 1
Col 1 2
Col 2
Col 2 1
Col 2 2
Col 2 3
Col 2 4

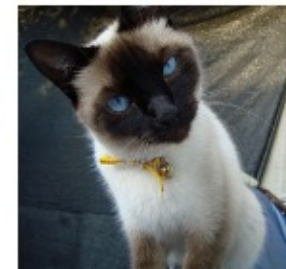
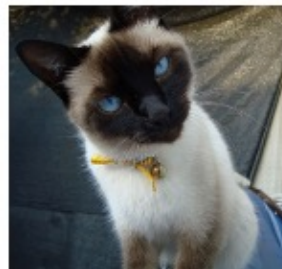
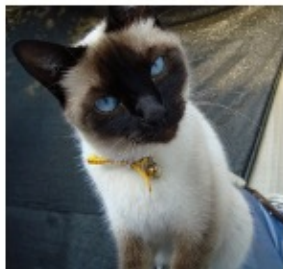
# Imágenes responsivas

<https://getbootstrap.com/docs/5.0/content/images/>

- Se usa la clase **.img-fluid**
- Alineación
  - A la izquierda o la derecha del viewport **.float-left** y **.float-right**
  - Centrada horizontalmente **.mx-auto**

```
  
  

```



# Forms en Bootstrap

<https://getbootstrap.com/docs/5.0/forms/overview/>

## Forms

[View on GitHub](#)

Examples and usage guidelines for form control styles, layout options, and custom components for creating a wide variety of forms.

### Form control

Style textual inputs and textareas with support for multiple states.

### Checks & radios

Use our custom radio buttons and checkboxes in forms for selecting input options.

### Input group

Attach labels and buttons to your inputs for increased semantic value.

### Layout

Create inline, horizontal, or complex grid-based layouts with your forms.

### Select

Improve browser default select elements with a custom initial appearance.

### Range

Replace browser default range inputs with our custom version.

### Floating labels

Create beautifully simple form labels that float over your input fields.

### Validation

Validate your forms with custom or native validation behaviors and styles.



# Forms en Bootstrap

## CONTROLES

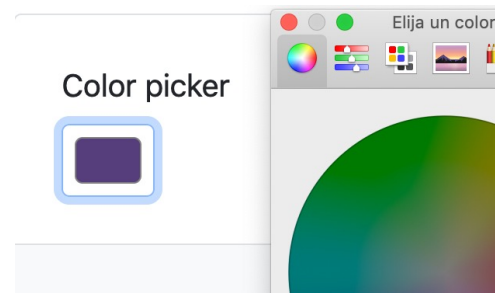
Se asigna estilo con class **.form-control**

<https://getbootstrap.com/docs/5.0/forms/overview/>

Type to search...

San Francisco  
New York  
Seattle  
Los Angeles  
Chicago

```
<input list="cities"
      class="form-control">
<datalist id="cities">
  <option value="San Francisco">
  <option value="New York">
  ....
</datalist>
```



```
<input type="color" class="form-control-color">
```

name@example.com

```
<input type="email" class="form-control">
```

Examinar...

No se ha seleccionado ningún archivo.

```
<input type="file" class="form-control">
```

# Forms en Bootstrap

**form-group** para envolver etiquetas y controles con espacio entre ellos

<https://getbootstrap.com/docs/5.0/forms/overview/>

form-group coloca un margin abajo

```
<form>
  <div class="form-group">
    <label for="exampleFormControlInput1">Email address</label>
    <input type="email" class="form-control"
      id="exampleFormControlInput1"
      placeholder="name@example.com">
  </div>
</form>
```

Email address

name@example.com

# Forms en Bootstrap

`.form-text` para formatear texto debajo de las entradas  
accessibilidad: `aria-describedby` para ayudar a los lectores de pantalla

<https://getbootstrap.com/docs/5.0/forms/overview/>

```
<label for="inputPassword5" class="form-label">Password</label>  
<input type="password" id="inputPassword5" class="form-control" aria-  
describedby="passwordHelpBlock">  
<div id="passwordHelpBlock" class="form-text">
```

Your password must be 8–20 characters long, contain letters and numbers, and must not contain spaces, special characters, or emoji.

```
</div>
```

Password

Your password must be 8–20 characters long, contain letters and numbers, and must not contain spaces, special characters, or emoji.

# Forms en Bootstrap

SELECTORES  
class `.form-select`

CHECKBOXES Y RADIOBUTTONS  
class `.form-check`

✓Open this select menu

One

Two

Three

```
<select class=".form-select">
```



Default switch checkbox input



Checked switch checkbox input

```
<input type="checkbox" class=".form-switch">
```



## Default checkbox

```
<div class=".form-check">
```

```
  <input class=".form-check-input" type="checkbox" value="" id="flexCheckDefault">
```

```
  <label class=".form-check-label" for="flexCheckDefault"> Default checkbox </label>
```

```
</div>
```

Idem para radiobuttons  
type="radio"

# Forms en Bootstrap

Se pueden crear checkboxes y radio buttons con apariencia de buttons, usando estilos `.btn` en los labels y `.btn-check` en el input



Single toggle

```
<input type="checkbox" class="btn-check" id="btn-check"
autocomplete="off"/>
<label class="btn btn-primary" for="btn-check">
  Single toggle
</label>
```

# Forms layout en Bootstrap

<https://getbootstrap.com/docs/5.0/forms/layout/>

Bootstrap aplica **por defecto verticalmente** los controles (display: block y width: 100%)

Se pueden usar clases para modificar ese diseño por defecto.

En el ejemplo, horizontalmente usando el sistema grid.



A screenshot of a Bootstrap form layout. It consists of two text input fields placed horizontally side-by-side. The first field has the placeholder text "First name" and the second field has the placeholder text "Last name". Both fields are white with a light gray border and rounded corners.

```
<div class="row">  
  <div class="col">  
    <input type="text" class="form-control" placeholder="First name"  
  </div>  
  <div class="col">  
    <input type="text" class="form-control" placeholder="Last name" a  
  </div>  
</div>
```

Copy

# Forms layout en Bootstrap

<https://getbootstrap.com/docs/5.0/forms/layout/>

Ejercicio:  
Usar el  
sistema  
grid para  
diseñar el  
layout del  
form

Email

Password

Address

1234 Main St

Address 2

Apartment, studio, or floor

City

State

Choose... ▾

Zip

☐ Check me out

Sign in

# Diseño de formularios

“Someone who uses your app or website has a particular goal. Often, the one thing standing between the user and their goal is a form. Forms remain **one of the most important types of interactions** for users on the web and in apps. In fact, forms are often considered the final step in the journey of completing their goals. Forms are just a means to an end. Users should be able to complete them quickly and without confusion.”

Nick Babich

Recordad la LECTURA que ya se introdujo en las transparencias de HTML  
Como realizar un diseño adecuado de los formularios:

<https://xd.adobe.com/ideas/principles/web-design/best-practices-form-design/>



# Más sobre Bootstrap: componentes

<https://getbootstrap.com/docs/5.0/components/>

<https://getbootstrap.com/docs/5.0/examples/>

- Alert
- Badge
- Accordion
- Breadcrumb
- Navigation
- Tablas
- Alertas
- Buttons
- Glyphicons
- Labels
- Panels
- Themes y templates
- ...

This is a primary alert—check it out!

This is a secondary alert—check it out!

This is a success alert—check it out!

[Home](#) / [Library](#) / Data

## Example heading **New**

Accordion Item #1



Accordion Item #2



Accordion Item #3



Primary

Secondary

Success

Dark

[Link](#)

# Ejercicio bootstrap (deadline 10 marzo 2023)

- Utiliza bootstrap para hacer responsiva la web de los ejercicios anteriores. Realizarlo en una nueva rama del repositorio.
- Crear un repositorio público para mostrar el resultado final de la web usando [GitHub Pages](#). Dejar el link en un **readme** del repositorio privado de HTML.



# Bibliografia

- Documentación general sobre bootstrap:
  - <https://getbootstrap.com/docs/5.0/getting-started/introduction/>
  - <https://www.w3schools.com/bootstrap4/default.asp>
- Artículo sobre usar frameworks CSS o usar la grid nativa de CSS:
  - <https://www.smashingmagazine.com/2018/11/css-frameworks-css-grid/>