

Fundamentos de la Web

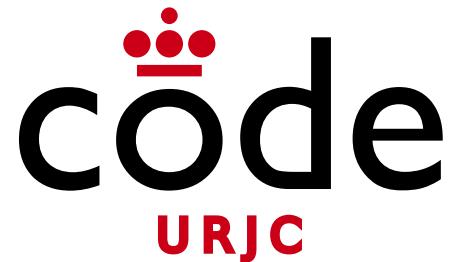
Bloque II: Tecnologías de cliente web

Tema 2.3: Bootstrap



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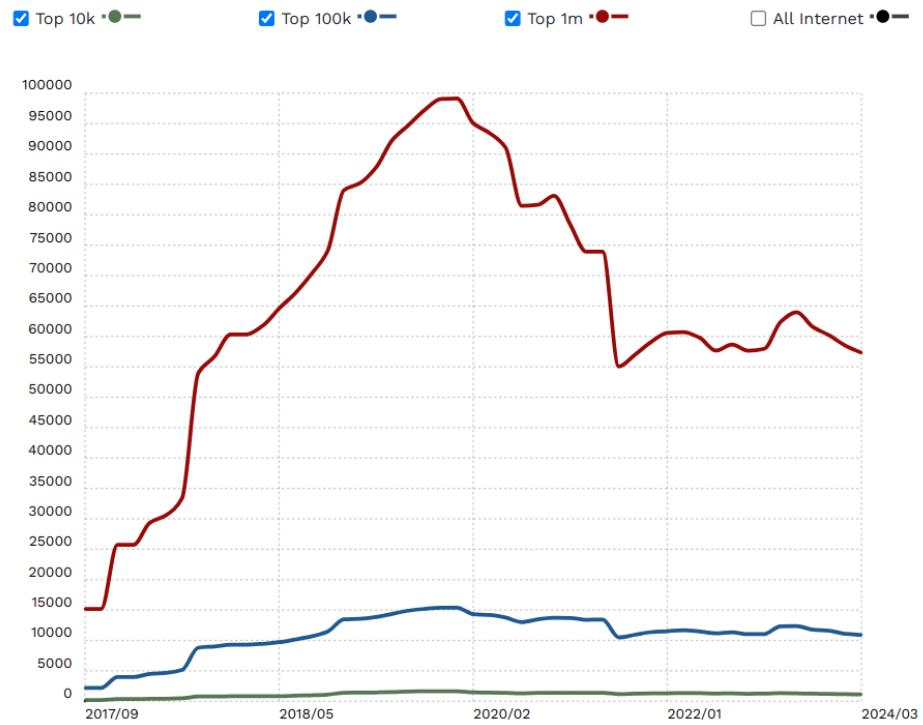
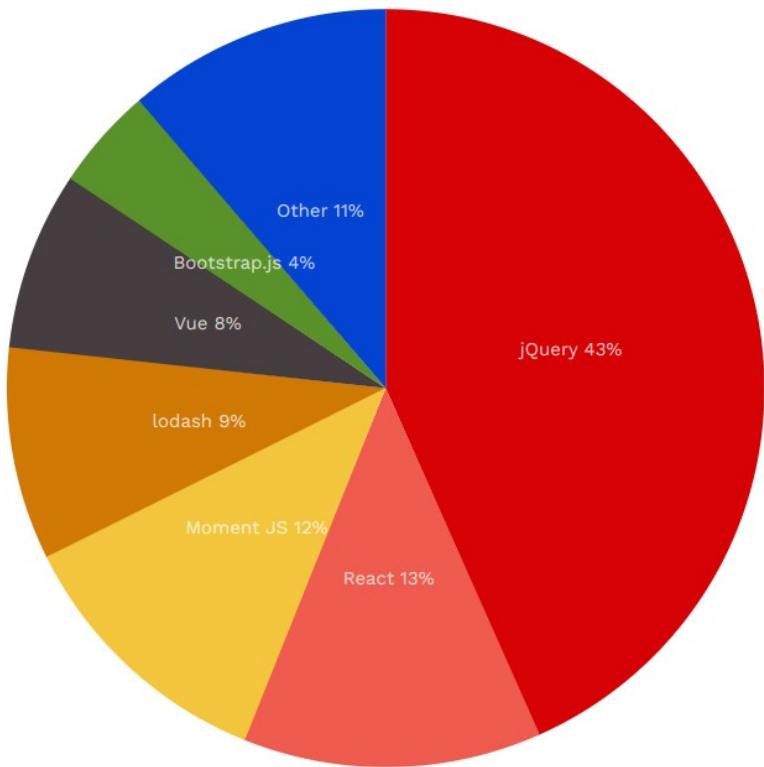
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Definición

- Bootstrap es un *framework* de software libre (licencia MIT) para el diseño del lado cliente de aplicaciones web
- Fue creado en 2011 por desarrolladores de Twitter con el objetivo de fomentar la coherencia de las herramientas internas de la compañía
- Ventajas de Bootstrap:
 - Fácil de usar
 - Permite la creación de aplicaciones web adaptables (*responsive*)
 - Orientado a dispositivos móviles en primer lugar (*mobile-first*)
 - Proporciona compatibilidad entre los principales navegadores (Chrome, Firefox, Internet Explorer, Safari y Opera)

Definición



Más de **2.212.000** páginas a nivel mundial utilizan Bootstrap

<https://trends.builtwith.com/javascript/javascript-library/>

<https://trends.builtwith.com/websitelist/Bootstrap.js>

<https://trends.builtwith.com/javascript/Bootstrap.js>

Definición

- La versión actual (septiembre de 2024): 5.3.3
- Una forma de usar Bootstrap es enlazando de la CDN (Content Delivery Network): <http://www.bootstrapcdncdn.com/>
- Para usar Bootstrap en nuestra página web insertamos las siguientes etiquetas:

Importamos el fichero
bootstrap.min.css, que incluye todas las reglas de estilo de Boostrap

```
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">  
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
```

Importamos el fichero
bootstrap.bundle.min.js, que incluye código JavaScript que aporta interactividad con *algunos* componentes

¿Qué nos ofrece Bootstrap?

- Layout
 - Containers
 - Grid
- Contenido
 - Tipografía
 - Tablas
 - Imágenes
- Formularios
- Componentes
 - Botones
 - Iconos
 - Etiquetas
 - Barras de progreso
 - Paginación
 - Listas
 - Navegación

Layout: Containers

```
<!DOCTYPE html>
<html lang="en">

<head>
<title>Bootstrap Example</title>
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1">
<link href="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/css/bootstrap.min.css" rel="stylesheet">
<script src="https://cdn.jsdelivr.net/npm/bootstrap@5.3.3/dist/js/bootstrap.bundle.min.js"></script>
</head>

<body>
<div class="container">
<h1>My First Bootstrap Page</h1>
<p>This is some text.</p>
</div>
</body>

</html>
```

Para que la página se ajuste al ancho de pantalla del cliente



container es el elemento más básico de Boostrap. Están pensados para agrupar elementos y trabajar con el sistema de grid de Boostrap

Layout: Grid

- En Bootstrap la disposición de elementos dentro de una página (*layout*) se posiciona mediante una cuadrícula (**grid**)
- Esta cuadrícula se organiza en base a **filas y columnas**
 - Las filas (*rows*) deben ir contenidas siempre en un contenedor, que puede ser de dos tipos:
 - class="container"** : ancho fijo
 - class="container-fluid"** : ancho total
 - Las columnas (*cols*) van dentro de las filas

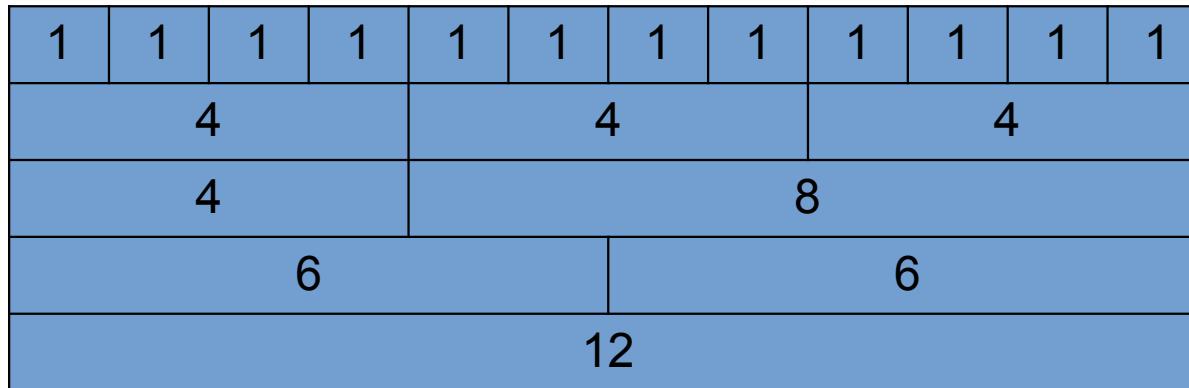
```

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

```

Layout: Grid

- La cuadrícula se divide en 12 columnas:



- La cuadrícula está formada por 4 clases:

- xs: para teléfonos
- sm: para tabletas
- md: para escritorios
- lg: para escritorios grandes

Este sistema es adaptable (*responsive*) en Bootstrap, de modo que se organizará de forma relativa al tamaño de la pantalla

Layout: Grid

- Ejemplo de HTML usando diferentes tamaños de la rejilla de bootstrap

```
<div class="container">
  <div class="row">
    <div class="col-md-1">.col-md-1</div>
    <div class="col-md-1">.col-md-1</div>
  </div>
  <div class="row">
    <div class="col-md-8">.col-md-8</div>
    <div class="col-md-4">.col-md-4</div>
  </div>
  <div class="row">
    <div class="col-md-4">.col-md-4</div>
    <div class="col-md-4">.col-md-4</div>
    <div class="col-md-4">.col-md-4</div>
  </div>
  <div class="row">
    <div class="col-md-6">.col-md-6</div>
    <div class="col-md-6">.col-md-6</div>
  </div>
</div>
```

Layout: Grid

- Ejemplo de HTML usando diferentes tamaños de la rejilla de bootstrap

```
<div class="container">
  <div class="row">
    <div class="col-md-1">.col-md-1</div>
    <div class="col-md-1">.col-md-1</div>
  </div>
  <div class="row">
    <div class="col-md-8">.col-md-8</div>
    <div class="col-md-4">.col-md-4</div>
  </div>
  <div class="row">
    <div class="col-md-4">.col-md-4</div>
    <div class="col-md-4">.col-md-4</div>
    <div class="col-md-4">.col-md-4</div>
  </div>
```

Bootstrap Example													
.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1	.col-md-1		
.col-md-8										.col-md-4			
.col-md-4				.col-md-4				.col-md-4					
.col-md-6						.col-md-6							

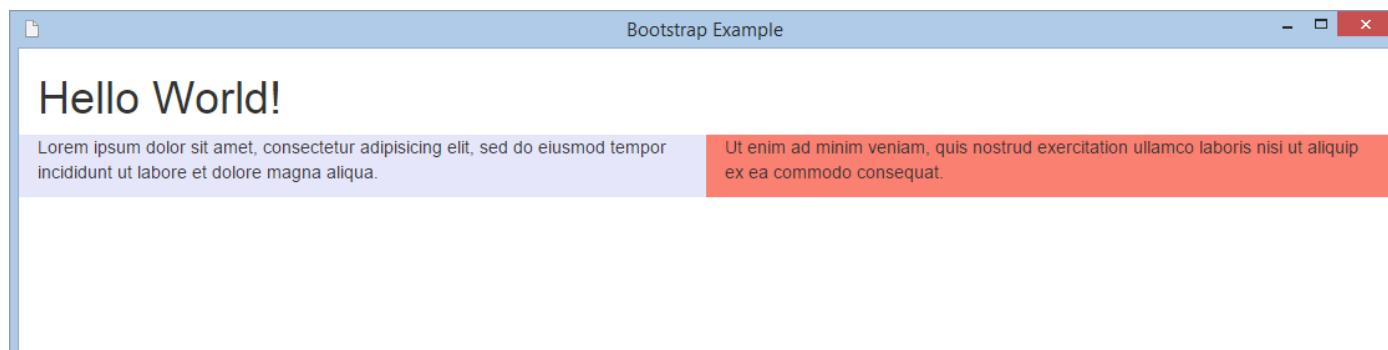
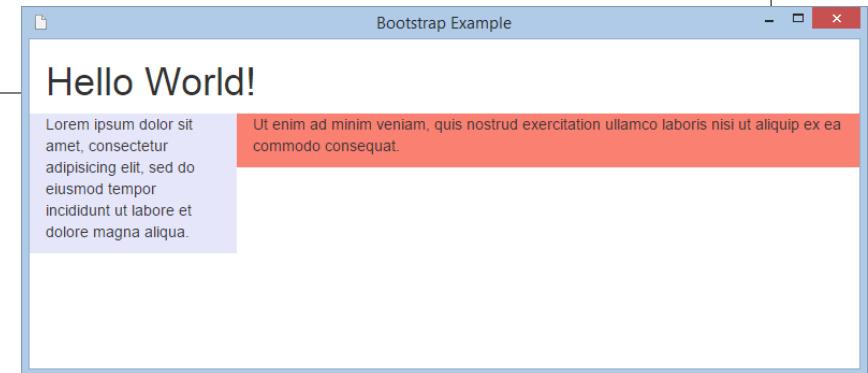
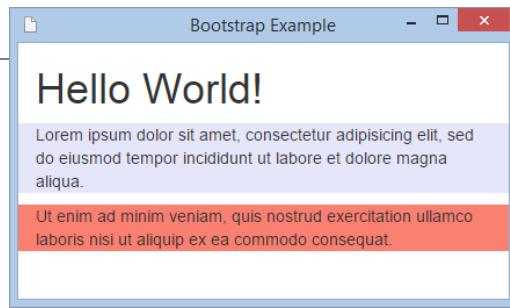
Layout: Grid

```
<div class="container">
  <h1>Hello World!</h1>
  <div class="row">
    <div class="col-6" style="background-color:lavender;">
      <p>Lorem ipsum ...</p>
    </div>
    <div class="col-6" style="background-color:salmon;">
      <p>Ut enim ...</p>
    </div>
  </div>
</div>
```



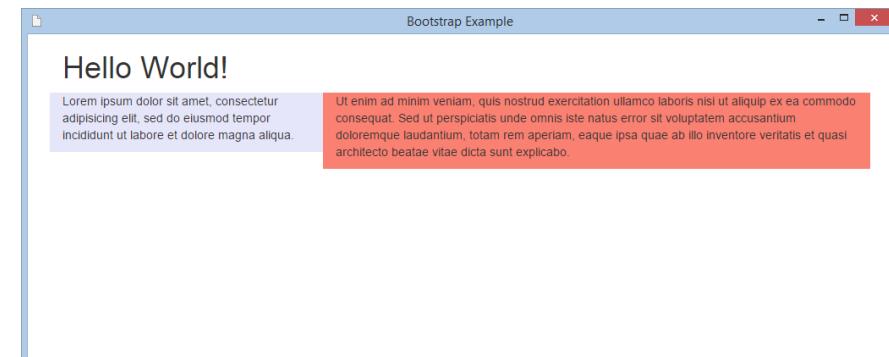
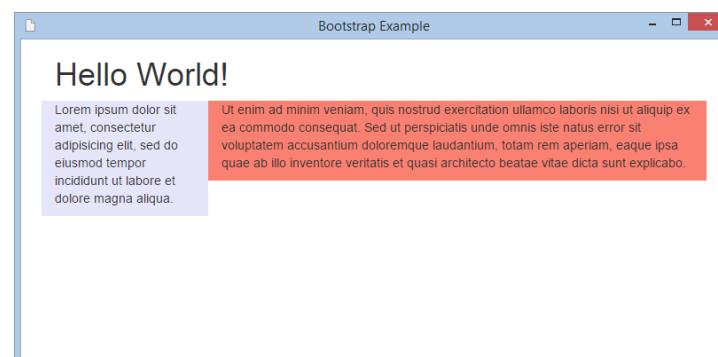
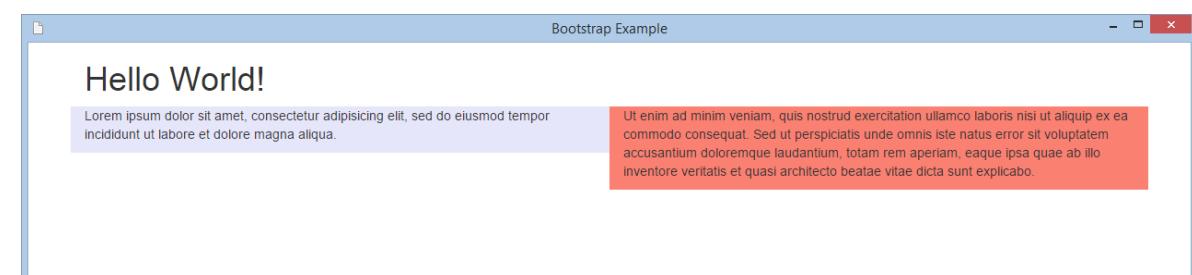
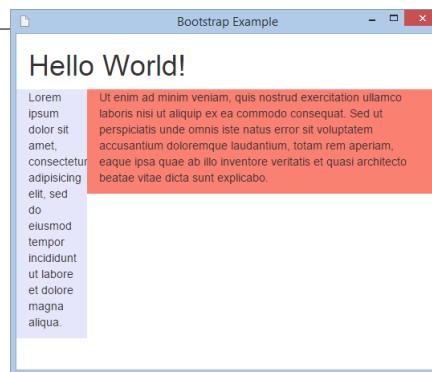
Layout: Grid

```
<div class="container-fluid">
  <h1>Hello World!</h1>
  <div class="row">
    <div class="col-sm-3 col-md-6" style="background-color:lavender;">
      <p>Lorem ipsum ...</p>
    </div>
    <div class="col-sm-9 col-md-6" style="background-color:salmon;">
      <p>Ut enim ...</p>
    </div>
  </div>
</div>
```



Layout: Grid

```
<div class="container">
  <h1>Hello World!</h1>
  <div class="row">
    <div class="col-2 col-sm-3 col-md-4 col-lg-6" style="background-color: lavender;">
      <p>Lorem ipsum ...</p>
    </div>
    <div class="col-10 col-sm-9 col-md-8 col-lg-6" style="background-color: salmon;">
      <p>Ut enim ...</p>
    </div>
  </div>
</div>
```

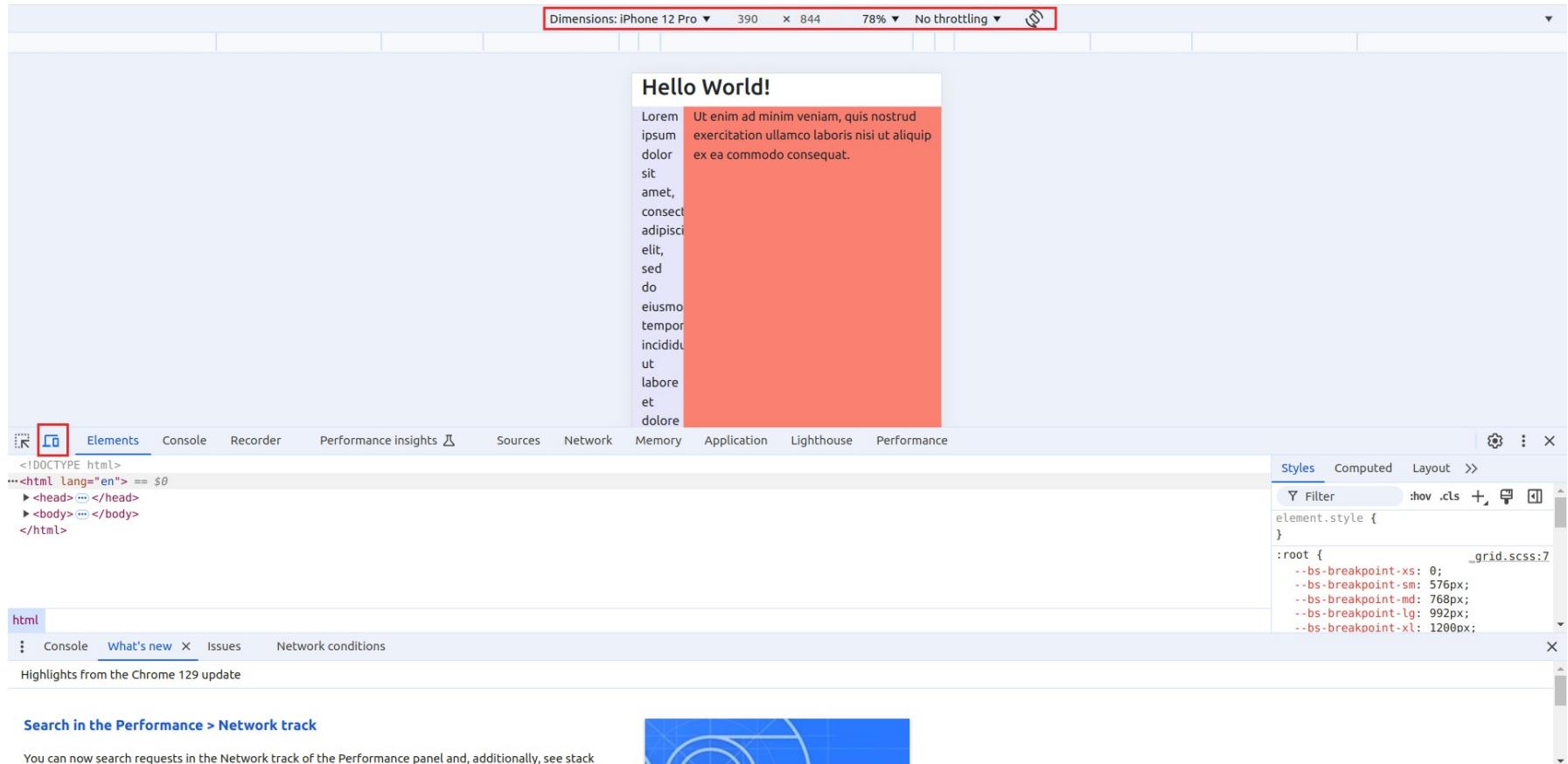


Layout: Grid

- Existen herramientas online para ver nuestra aplicación web en diferentes dispositivos/pantallas:
 - <http://www.infobyip.com/testwebsiteresolution.php>
 - <https://pagespeed.web.dev/>

Layout: Grid

- También se pueden utilizar las herramientas de desarrollo (DevTools) de Google Chrome



The screenshot shows the Google Chrome DevTools interface with the following details:

- Dimensions:** iPhone 12 Pro (390 x 844, 78% zoom, No throttling).
- Elements Panel:** Shows the DOM structure of a page with a red background and white text containing placeholder text (Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat.).
- Console Panel:** Shows highlights from the Chrome 129 update.
- Network Panel:** Shows a search bar for the Network track.
- Styles Panel:** Shows CSS rules applied to the root element, including media queries for breakpoints: xs (0), sm (576px), md (768px), lg (992px), and xl (1200px). The rule is defined in _grid.scss:7.

Contenido: Tipografía

- Cabeceras
 - Etiquetas **h1** a **h6**

```
<div class="container">
  <h1>h1 Bootstrap heading (36px)</h1>
  <h2>h2 Bootstrap heading (30px)</h2>
  <h3>h3 Bootstrap heading (24px)</h3>
  <h4>h4 Bootstrap heading (18px)</h4>
  <h5>h5 Bootstrap heading (14px)</h5>
  <h6>h6 Bootstrap heading (12px)</h6>
</div>
```

h1 Bootstrap heading (36px)

h2 Bootstrap heading (30px)

h3 Bootstrap heading (24px)

h4 Bootstrap heading (18px)

h5 Bootstrap heading (14px)

h6 Bootstrap heading (12px)

Contenido: Tipografía

- Titulares
 - Clase **display-***:

```
<div class="container">
  <h1 class="display-1">Display 1</h1>
  <h1 class="display-2">Display 2</h1>
  <h1 class="display-3">Display 3</h1>
  <h1 class="display-4">Display 4</h1>
  <h1 class="display-5">Display 5</h1>
  <h1 class="display-6">Display 6</h1>
</div>
```

Display 1
Display 2
Display 3
Display 4
Display 5
Display 6

Contenido: Tipografía

- Efectos de texto
 - Etiquetas mark, abbr, blockquote, footer:

```
<p>Use the mark element to <mark>highlight</mark> text.</p>
<p>The <abbr title="World Health Organization">WHO</abbr> was founded in 1948.</p>
<figure>
  <blockquote class="blockquote">
    <p>For 50 years, WWF has been protecting the future of nature. The world's leading
    conservation Organization, WWF works in 100 countries and is supported by 1.2 million members in the
    United States and close to 5 million globally.</p>
  </blockquote>
  <figcaption class="blockquote-footer">From WWF's website</figcaption>
</figure>
```

Use the mark element to **highlight** text.

The **WHO** was founded in 1948.

For 50 years, WWF has been protecting the future of nature. The world's leading conservation organization, WWF works in 100 countries and is supported by 1.2 million members in the United States and close to 5 million globally.

— From WWF's website

Contenido: Tipografía

- Efectos de color
 - Clases **text-*** y **bg-***:

```
<div class="container">
  <h2>Contextual Colors</h2>
  <p>Use the contextual classes to provide "meaning through colors":</p>
  <p class="text-muted">This text is muted.</p>
  <p class="text-primary">This text is important.</p>
  <p class="text-success">This text indicates success.</p>
  <p class="text-info">This text represents some information.</p>
  <p class="text-warning">This text represents a warning.</p>
  <p class="text-danger">This text represents danger.</p>
  <h2>Contextual Backgrounds</h2>
  <p>Use the contextual background classes to provide "meaning through
  colors":</p>
  <p class="bg-primary">This text is important.</p>
  <p class="bg-success">This text indicates success.</p>
  <p class="bg-info">This text represents some information.</p>
  <p class="bg-warning">This text represents a warning.</p>
  <p class="bg-danger">This text represents danger.</p>
</div>
```

Contextual Colors

Use the contextual classes to provide "meaning through colors":

This text is muted.

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Contextual Backgrounds

Use the contextual background classes to provide "meaning through colors":

This text is important.

This text indicates success.

This text represents some information.

This text represents a warning.

This text represents danger.

Contenido: Tipografía

- Efectos de código
 - Etiquetas **kbd** y **pre**:

```
<p>Use <kbd>ctrl + p</kbd> to open the Print dialog box.</p>
```

```
<p>For multiple lines of code, use the pre element:</p>
<pre>
```

Text in a pre element
is displayed in a fixed-width
font, and it preserves
both spaces and
line breaks.

```
</pre>
```

Use **ctrl + p** to open the Print dialog box.

For multiple lines of code, use the pre element:

```
Text in a pre element  
is displayed in a fixed-width  
font, and it preserves  
both spaces and  
line breaks.
```

- Más efectos de texto:

http://www.w3schools.com/bootstrap/bootstrap_ref_css_text.asp

Contenido: Tablas

- Tabla básica
 - Clase **table**:

Basic Table

The .table class adds basic styling (light padding and only horizontal dividers) to a table:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```

<h2>Basic Table</h2>
<p>The .table class adds basic styling (light
padding and only horizontal dividers) to a
table:</p>
<table class="table">
  <thead>
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>John</td>
      <td>Doe</td>
      <td>john@example.com</td>
    </tr>
    <tr>
      <td>Mary</td>
      <td>Moe</td>
      <td>mary@example.com</td>
    </tr>
    <tr>
      <td>July</td>
      <td>Dooley</td>
      <td>july@example.com</td>
    </tr>
  </tbody>
</table>

```

Contenido: Tablas

- Tabla estilo cebra
 - Clase **table-striped**:

Striped Rows

The `.table-striped` class adds zebra-stripes to a table:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```

<h2>Striped Rows</h2>
<p>The .table-striped class adds zebra-
stripes to a table:</p>
<table class="table table-striped">
  <thead>
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>John</td>
      <td>Doe</td>
      <td>john@example.com</td>
    </tr>
    <tr>
      <td>Mary</td>
      <td>Moe</td>
      <td>mary@example.com</td>
    </tr>
    <tr>
      <td>July</td>
      <td>Dooley</td>
      <td>july@example.com</td>
    </tr>
  </tbody>
</table>

```

Contenido: Tablas

- Tabla estilo con borde
 - Clase **table-bordered**:

Bordered Table

The `.table-bordered` class adds borders to a table:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```

<h2>Bordered Table</h2>
<p>The .table-bordered class adds borders to
a table:</p>
<table class="table table-bordered">
  <thead>
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>John</td>
      <td>Doe</td>
      <td>john@example.com</td>
    </tr>
    <tr>
      <td>Mary</td>
      <td>Moe</td>
      <td>mary@example.com</td>
    </tr>
    <tr>
      <td>July</td>
      <td>Dooley</td>
      <td>july@example.com</td>
    </tr>
  </tbody>
</table>

```

Contenido: Tablas

- Tabla con efecto *roll-over*
 - Clase **table-hover**:

Hover Rows

The `.table-hover` class enables a hover state on table rows:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```

<h2>Hover Rows</h2>
<p>The .table-hover class enables a hover state on table rows:</p>
<table class="table table-hover">
  <thead>
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>John</td>
      <td>Doe</td>
      <td>john@example.com</td>
    <tr>
      <td>Mary</td>
      <td>Moe</td>
      <td>mary@example.com</td>
    <tr>
      <td>July</td>
      <td>Dooley</td>
      <td>july@example.com</td>
    </tr>
  </tbody>
</table>

```

Contenido: Tablas

- Tabla condensada
 - Clase **table-condensed**:

Condensed Table

The `.table-condensed` class makes a table more compact by cutting cell padding in half:

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```

<h2>Condensed Table</h2>
<p>The .table-condensed class makes a table more compact by cutting cell padding in half:</p>
<table class="table table-condensed">
    <thead>
        <tr>
            <th>Firstname</th>
            <th>Lastname</th>
            <th>Email</th>
        </tr>
    </thead>
    <tbody>
        <tr>
            <td>John</td>
            <td>Doe</td>
            <td>john@example.com</td>
        </tr>
        <tr>
            <td>Mary</td>
            <td>Moe</td>
            <td>mary@example.com</td>
        </tr>
        <tr>
            <td>July</td>
            <td>Dooley</td>
            <td>july@example.com</td>
        </tr>
    </tbody>
</table>

```

Contenido: Tablas

- Tabla con color de fondo
 - Clases de fila **table-success**, **table-danger** e **table-info**:

Contextual Classes

Contextual classes can be used to color table rows or table cells. The classes that can be used are: .active, .success, .info, .warning, and .danger.

Firstname	Lastname	Email
John	Doe	john@example.com
Mary	Moe	mary@example.com
July	Dooley	july@example.com

```
<h2>Contextual Classes</h2>
<p>Contextual classes can be used to color table rows or table cells. The classes that can be used are: .active, .success, .info, .warning, and .danger.</p>
<table class="table table-condensed">
  <thead>
    <tr>
      <th>Firstname</th>
      <th>Lastname</th>
      <th>Email</th>
    </tr>
  </thead>
  <tbody>
    <tr class="table-success">
      <td>John</td>
      <td>Doe</td>
      <td>john@example.com</td>
    </tr>
    <tr class="table-danger">
      <td>Mary</td>
      <td>Moe</td>
      <td>mary@example.com</td>
    </tr>
    <tr class="table-info">
      <td>July</td>
      <td>Dooley</td>
      <td>july@example.com</td>
    </tr>
  </tbody>
</table>
```

Contenido: Imágenes

- Bordes redondeados
 - Clase rounded:

Rounded Corners

The .rounded class adds rounded corners to an image:



```
<h2>Rounded Corners</h2>
<p>The .rounded class adds rounded corners to
an image:</p>

```

Contenido: Imágenes

- Imagen circular
 - Clase rounded-circle:

Rounded Image

The .rounded-circle class adds rounded corners to an image:



```
<h2>Rounded Image</h2>
<p>The .rounded-circle class adds rounded corners to an image:</p>

</body>
```

Contenido: Imágenes

- Miniatura
 - Clase `img-thumbnail`:

Thumbnail

The `.img-thumbnail` class adds rounded corners to an image:



```
<h2>Thumbnail</h2>
<p>The .img-thumbnail class adds rounded corners to an image:</p>

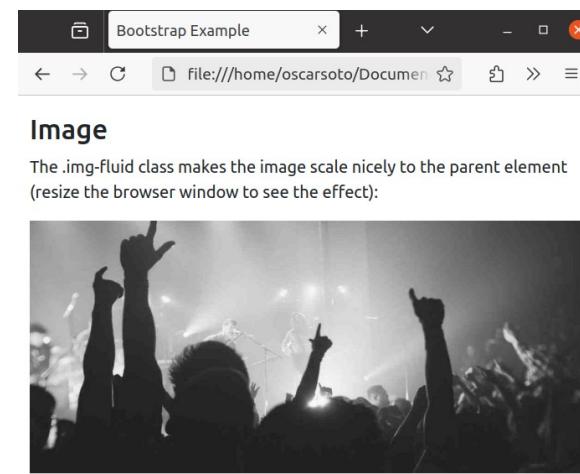
```

Contenido: Imágenes

- Imagen adaptable
 - Clase **img-fluid**:

```

<h2>Image</h2>
<p>The .img-fluid class makes the image scale nicely to
the parent element (resize the browser window to see the
effect):</p>
<img class="img-fluid" src=
"https://www.w3schools.com/bootstrap5/ny.jpg" alt="New
York" width="1100" height="500">
```



Componentes: Botones

- Estilos de botones
 - Clases **btn**, **btn-default**, **btn-primary**, **btn-success**, **btn-info**, **btn-warning**, **btn-danger**, **btn-link**:

```
<h2>Button Styles</h2>
<button type="button" class="btn btn-default">Default</button>
<button type="button" class="btn btn-primary">Primary</button>
<button type="button" class="btn btn-success">Success</button>
<button type="button" class="btn btn-info">Info</button>
<button type="button" class="btn btn-warning">Warning</button>
<button type="button" class="btn btn-danger">Danger</button>
<button type="button" class="btn btn-link">Link</button>
```

Button Styles

Default

Primary

Success

Info

Warning

Danger

Link

Componentes: Botones

- Etiquetas usadas para botones
 - Las clases `btn` y `btn-*` se pueden asociar a las etiquetas `a`, `button`, `input type="button"`, `input type="submit"`:

```
<h2>Button Tags</h2>
<a href="#" class="btn btn-primary" role="button">Link Button</a>
<button type="button" class="btn btn-primary">Button</button>
<input type="button" class="btn btn-primary" value="Input Button">
<input type="submit" class="btn btn-primary" value="Submit Button">
```

Button Tags

Link Button

Button

Input Button

Submit Button

Componentes: Botones

- Tamaño de botones
 - Clases **btn-lg**, **btn-md**, **btn-sm**:

```
<h2>Button Sizes</h2>
<button type="button" class="btn btn-primary btn-lg">Large</button>
<button type="button" class="btn btn-primary btn-md">Medium</button>
<button type="button" class="btn btn-primary btn-sm">Small</button>
```

Button Sizes

Large

Medium

Small

Componentes: Botones

- Estado de botones
 - Clases **active**, **disabled**:

```
<h2>Button States</h2>
<button type="button" class="btn btn-primary">Primary Button</button>
<button type="button" class="btn btn-primary active">Active Primary</button>
<button type="button" class="btn btn-primary disabled">Disabled Primary</button>
```

Button States

Primary Button

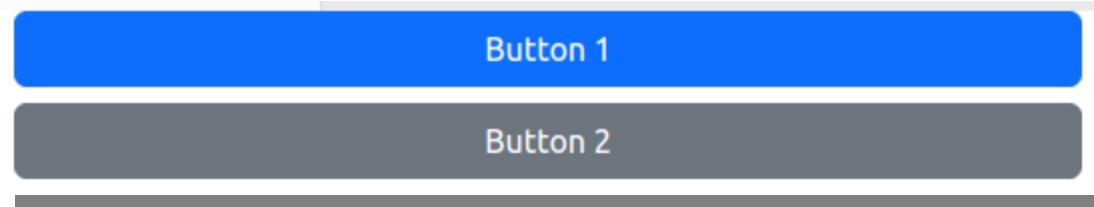
Active Primary

Disabled Primary

Componentes: Botones

- Botones tamaño bloque
 - Clase **d-grid** (y **gap-2** para la separación entre los botones):

```
<div class="d-grid gap-2">
  <button class="btn btn-primary" type="button">Button 1</button>
  <button class="btn btn-secondary" type="button">Button 2</button>
</div>
```



Componentes: Botones

- Grupos de botones
 - Clases **btn-group** y **btn-group-vertical**:

```
<h2>Button Group</h2>
<div class="btn-group">
<button type="button" class="btn btn-primary">Apple</button>
<button type="button" class="btn btn-primary">Samsung</button>
<button type="button" class="btn btn-primary">Sony</button>
</div>
```

Button Group



Apple Samsung Sony

```
<h2>Vertical Button Group</h2>
<div class="btn-group-vertical">
<button type="button" class="btn btn-primary">Apple</button>
<button type="button" class="btn btn-primary">Samsung</button>
<button type="button" class="btn btn-primary">Sony</button>
</div>
```

Vertical Button Group



Apple
Samsung
Sony

Componentes: Botones

- Tamaño del grupos de botones
 - Clases **btn-group-lg** y **btn-group-xs**:

```
<h2>Button Groups - Set Sizes</h2>
<p>Add class .btn-group-* to size all buttons in a button group.</p>
<h3>Large Buttons:</h3>
<div class="btn-group btn-group-lg">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <button type="button" class="btn btn-primary">Sony</button>
</div>
<h3>Extra Small Buttons:</h3>
<div class="btn-group btn-group-xs">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <button type="button" class="btn btn-primary">Sony</button>
</div>
```

Large Buttons:

Apple Samsung Sony

Extra Small Buttons:

Apple Samsung Sony

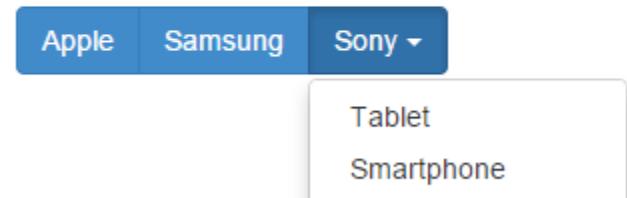
Componentes: Botones

- Botones anidados
 - Clases **dropdown-toggle** y **dropdown**:

```
<h2>Nesting Button Groups</h2>
<p>Nest button groups to create drop down menus:</p>
<div class="btn-group">
  <button type="button" class="btn btn-primary">Apple</button>
  <button type="button" class="btn btn-primary">Samsung</button>
  <div class="btn-group">
    <button type="button" class="btn btn-primary dropdown-toggle" data-bs-toggle="dropdown">
      Sony <span class="caret"></span>
    </button>
    <ul class="dropdown-menu" role="menu">
      <li><a class="dropdown-item" href="#">Tablet</a></li>
      <li><a class="dropdown-item" href="#">Smartphone</a></li>
    </ul>
  </div>
</div>
```

Nesting Button Groups

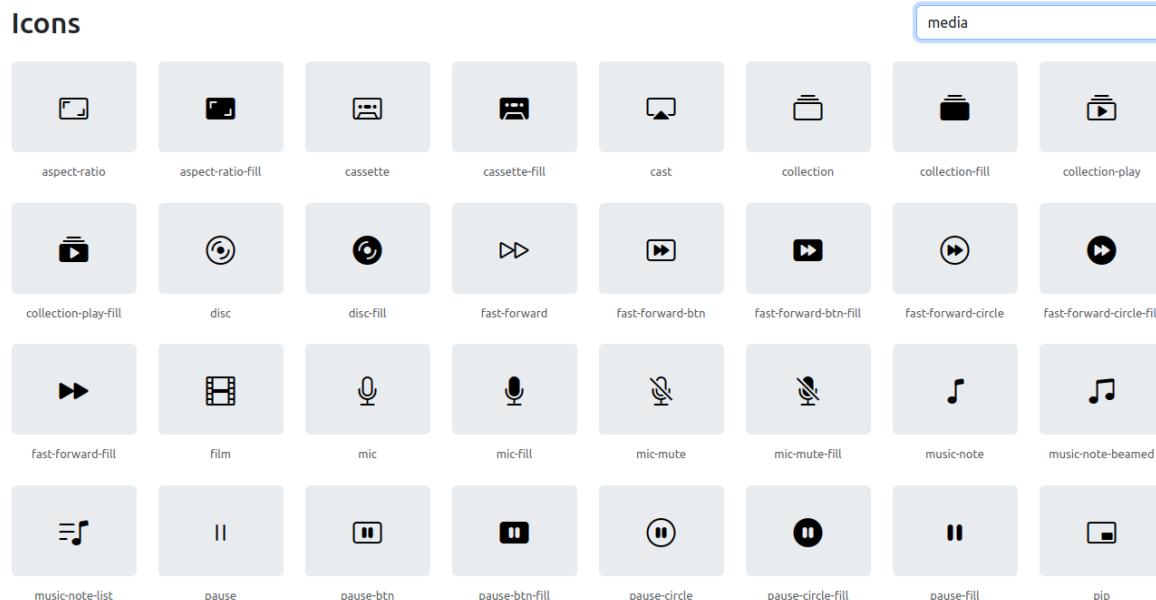
Nest button groups to create drop down menus:



Componentes: Iconos

- Bootstrap proporciona 1800 iconos libres
- Se pueden insertar iconos en texto, botones, formularios, etc
- Es necesario importarlos aparte:

```
<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/bootstrap-icons@1.11.3/font/bootstrap-icons.min.css">
```



Componentes: Iconos

- Se insertan las clases utilizando `bi bi-*`

```
<h2>Bootstrap icons examples</h2>
<p>Envelope icon: <i class="bi bi-envelope"></i> </p>
<p>Envelope icon as a link:
<a href="#"><i class="bi bi-envelope"></i></a>
</p>
<p>Search icon: <i class="bi bi-search"></i>
<p>Search icon on a button:
<button type="button" class="btn btn-default">
  <i class="bi bi-search"></i> Search
</button>
</p>
<p>Search icon on a styled button:
<button type="button" class="btn btn-info">
  <i class="bi bi-search"></i> Search
</button>
</p>
<p>Print icon: <i class="bi bi-printer"></i></p>
<p>Print icon on a styled link button:
<a href="#" class="btn btn-success btn-lg">
  <i class="bi bi-printer"></i> Print
</a>
</p>
```

Bootstrap icons examples

Envelope icon: 

Envelope icon as a link: 

Search icon: 

Search icon on a button:  Search

Search icon on a styled button:  Search

Print icon: 

Print icon on a styled link button:  Print

Componentes: Etiquetas

- Etiquetas de colores
 - Clase badge

```
<h1>Example heading <span class="badge bg-primary">New</span></h1>
<h2>Example heading <span class="badge bg-secondary">New</span></h2>
<h3>Example heading <span class="badge bg-success">New</span></h3>
<h4>Example heading <span class="badge bg-danger">New</span></h4>
<h5>Example heading <span class="badge bg-warning">New</span></h5>
<h6>Example heading <span class="badge bg-info">New</span></h6>
```



Componentes: Etiquetas

- Indicadores numéricos
 - Clase badge

```
<h2>Badges on Buttons</h2>
<button type="button" class="btn btn-primary">Primary <span class="badge">7</span></button>
<button type="button" class="btn btn-success">Success <span class="badge">3</span></button>
<button type="button" class="btn btn-danger">Danger <span class="badge">5</span></button>

<h2>Badges on Buttons - Light style</h2>
<button type="button" class="btn btn-primary">Primary<span class="badge badge text-bg-light">7</span></button>
<button type="button" class="btn btn-success">Success<span class="badge badge text-bg-light">3</span></button>
<button type="button" class="btn btn-danger">Danger<span class="badge badge text-bg-light">5</span></button>
```

Badges on Buttons

Primary 7 Success 3 Danger 5

Badges on Buttons - Light style

Primary 7 Success 3 Danger 5

Componentes: Barras de progreso

- Clases `progress` y `progress-bar` en elementos `<div>`:

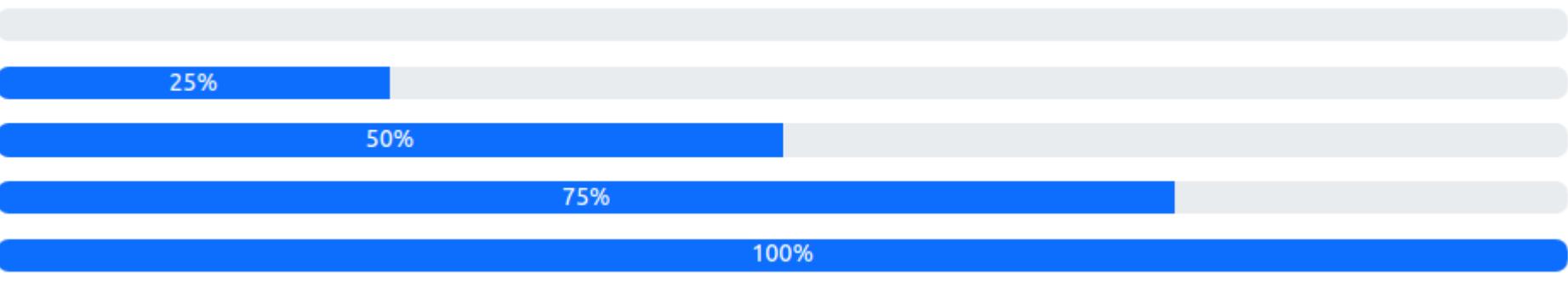
```
<div class="progress" role="progressbar" aria-valuenow="0" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 0%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="25" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 25%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="50" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 50%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="75" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 75%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="100" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 100%"></div>
</div>
```



Componentes: Barras de progreso

- Barra de progreso con texto

```
<div class="progress" role="progressbar" aria-valuenow="0" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 0%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="25" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 25%">25%</div>
</div>
<div class="progress" role="progressbar" aria-valuenow="50" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 50%">50%</div>
</div>
<div class="progress" role="progressbar" aria-valuenow="75" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 75%">75%</div>
</div>
<div class="progress" role="progressbar" aria-valuenow="100" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar" style="width: 100%">100%</div>
</div>
```



25%

50%

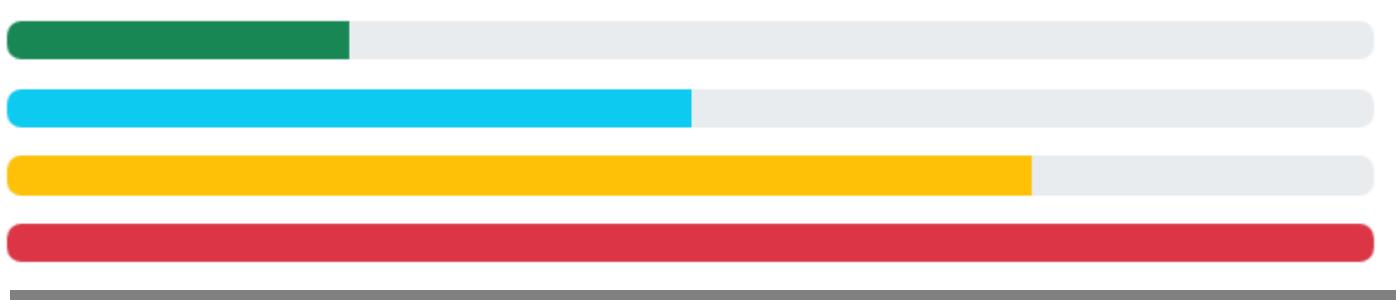
75%

100%

Componentes: Barras de progreso

- Barras de progreso coloreadas: Clase **progress-bar bg-***

```
<div class="progress" role="progressbar" aria-valuenow="25" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar bg-success" style="width: 25%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="50" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar bg-info" style="width: 50%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="75" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar bg-warning" style="width: 75%"></div>
</div>
<div class="progress" role="progressbar" aria-valuenow="100" aria-valuemin="0" aria-valuemax="100">
  <div class="progress-bar bg-danger" style="width: 100%"></div>
</div>
```



Componentes: Barras de progreso

- Barras compuestas
 - Clase **progress-stacked**

```
<div class="progress-stacked">
  <div class="progress" role="progressbar" aria-valuenow="15" aria-valuemin="0" aria-valuemax="100" style="width: 15%">
    <div class="progress-bar"></div>
  </div>
  <div class="progress" role="progressbar" aria-valuenow="30" aria-valuemin="0" aria-valuemax="100" style="width: 30%">
    <div class="progress-bar bg-success"></div>
  </div>
  <div class="progress" role="progressbar" aria-valuenow="20" aria-valuemin="0" aria-valuemax="100" style="width: 20%">
    <div class="progress-bar bg-info"></div>
  </div>
</div>
```



Más opciones: <https://getbootstrap.com/docs/5.3/components/progress/>

Componentes: Paginación

- Clases pagination, page-item, page-link, active, disabled:

```
<nav aria-label="...">
  <ul class="pagination">
    <li class="page-item disabled">
      <a class="page-link">Previous</a>
    </li>
    <li class="page-item"><a class="page-link" href="#">1</a></li>
    <li class="page-item active" aria-current="page">
      <a class="page-link" href="#">2</a>
    </li>
    <li class="page-item"><a class="page-link" href="#">3</a></li>
    <li class="page-item"><a class="page-link" href="#">4</a></li>
    <li class="page-item"><a class="page-link" href="#">5</a></li>
    <li class="page-item">
      <a class="page-link" href="#">Next</a>
    </li>
  </ul>
</nav>
```



Componentes: Listas

- Clases **list-group** y **list-group-item** aplicado a **ul**:

```
<h2>Basic List Group</h2>
<ul class="list-group">
  <li class="list-group-item">First item</li>
  <li class="list-group-item">Second item</li>
  <li class="list-group-item">Third item</li>
</ul>
```

Basic List Group

First item
Second item
Third item

- Clases **list-group** y **list-group-item** aplicado a **div** y **a**:

```
<h2>List Group With a Disabled Item</h2>
<div class="list-group">
  <a href="#" class="list-group-item disabled">First item</a>
  <a href="#" class="list-group-item">Second item</a>
  <a href="#" class="list-group-item">Third item</a>
</div>
```

List Group With a Disabled Item

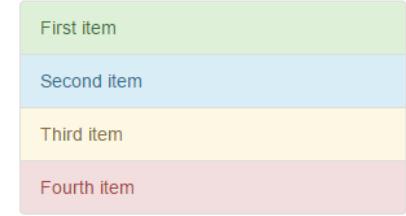
First item
Second item
Third item

Componentes: Listas

- Clases **list-group-item-*** aplicado a **ul**:

```
<h2>List Group With Contextual Classes</h2>
<ul class="list-group">
  <li class="list-group-item list-group-item-success">First item</li>
  <li class="list-group-item list-group-item-info">Second item</li>
  <li class="list-group-item list-group-item-warning">Third item</li>
  <li class="list-group-item list-group-item-danger">Fourth item</li>
</ul>
```

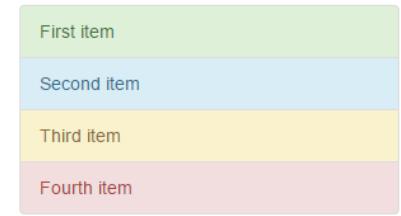
List Group With Contextual Classes



- Clases **list-group-item-*** aplicado a **div** y **a**:

```
<h2>Linked Items With Contextual Classes</h2>
<div class="list-group">
  <a href="#" class="list-group-item list-group-item-success">First item</a>
  <a href="#" class="list-group-item list-group-item-info">Second item</a>
  <a href="#" class="list-group-item list-group-item-warning">Third item</a>
  <a href="#" class="list-group-item list-group-item-danger">Fourth item</a>
</div>
```

Linked Items With Contextual Classes



Componentes: Formularios

- Bootstrap proporciona tres layouts para formularios:
 - Vertical (por defecto)
 - En línea (inline)
 - Horizontal
- Se deben seguir las siguientes reglas:
 - Usar siempre **<form role="form">**
 - Agrupar elementos usando **<div class="form-group">**
 - Usar la clase form-control en elementos de formulario textuales (**input, textarea, select**)

Componentes: Formularios

- Formulario vertical

```
<h2>Vertical (basic) form</h2>
<form role="form">
  <div class="form-group">
    <label for="email">Email:</label>
    <input type="email" class="form-control" id="email" placeholder="Enter email">
  </div>
  <div class="form-group">
    <label for="pwd">Password:</label>
    <input type="password" class="form-control" id="pwd" placeholder="Enter password">
  </div>
  <div class="checkbox">
    <label><input type="checkbox" /> Remember me</label>
  </div>
  <button type="submit" class="btn btn-default">Submit</button>
</form>
```

Vertical (basic) form

Email:

Enter email

Password:

Enter password

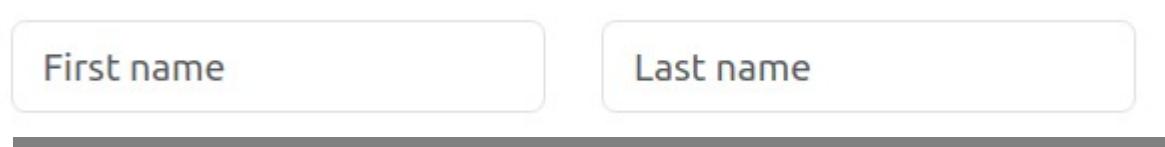
Remember me

Submit

Componentes: Formularios

- Formulario en linea: Usando **row** y **col**

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



Más formularios: <https://getbootstrap.com/docs/5.3/forms/overview/>

Componentes: Navbars

- Pestañas: Clases `navbar`, `navbar-expand`

```
<nav class="navbar navbar-expand-lg bg-body-tertiary">
  <div class="container-fluid">
    <a class="navbar-brand" href="#">Navbar</a>
    <div class="collapse navbar-collapse" id="navbarNavDropdown">
      <ul class="navbar-nav">
        <li class="nav-item">
          <a class="nav-link active" aria-current="page" href="#">Home</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Features</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Pricing</a>
        </li>
      </ul>
    </div>
  </div>
</nav>
```



Navbar Home Features Pricing

<https://getbootstrap.com/docs/5.3/components/navbar/>

Personalización

- Personalización del tema de bootstrap
 - En el ejemplo se ha usado el **tema por defecto**
 - Se pueden hacer **temas personalizados**
 - Incluir sólo aquello que se necesita en la página (para reducir el tamaño y el tiempo de descarga)
 - Ajustando colores, diseños, etc...

<https://getbootstrap.com/docs/5.3/customize/overview/#overview>

Personalización

- Personalización del tema de bootstrap
 - Otra forma de personalizar los temas de bootstrap es incluir primero el CSS de bootstrap y luego un CSS en el que se personalizan algunas propiedades

```
<head>
  <link rel="stylesheet" type="text/css" href="css/bootstrap.min.css">
  <link rel="stylesheet" type="text/css" href="css/custom.css">
</head>
```



```
.btn {
  border-radius: 0px;
}
```

Before



After



Alternativas a Bootstrap



Flat UI

Free User Interface Kit

Buttons

Primary Button

Warning Button

Success Button

Inverse Button

Switches

ON

OFF

X

✓

OFF

ON

Tags

Clean

Fresh

Modern

Unique

+

<http://designmodo.github.io/Flat-UI/>

Alternativas a Bootstrap

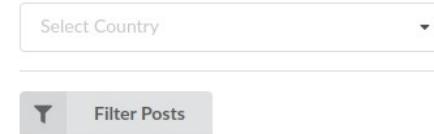
Menu



Card



Dropdown



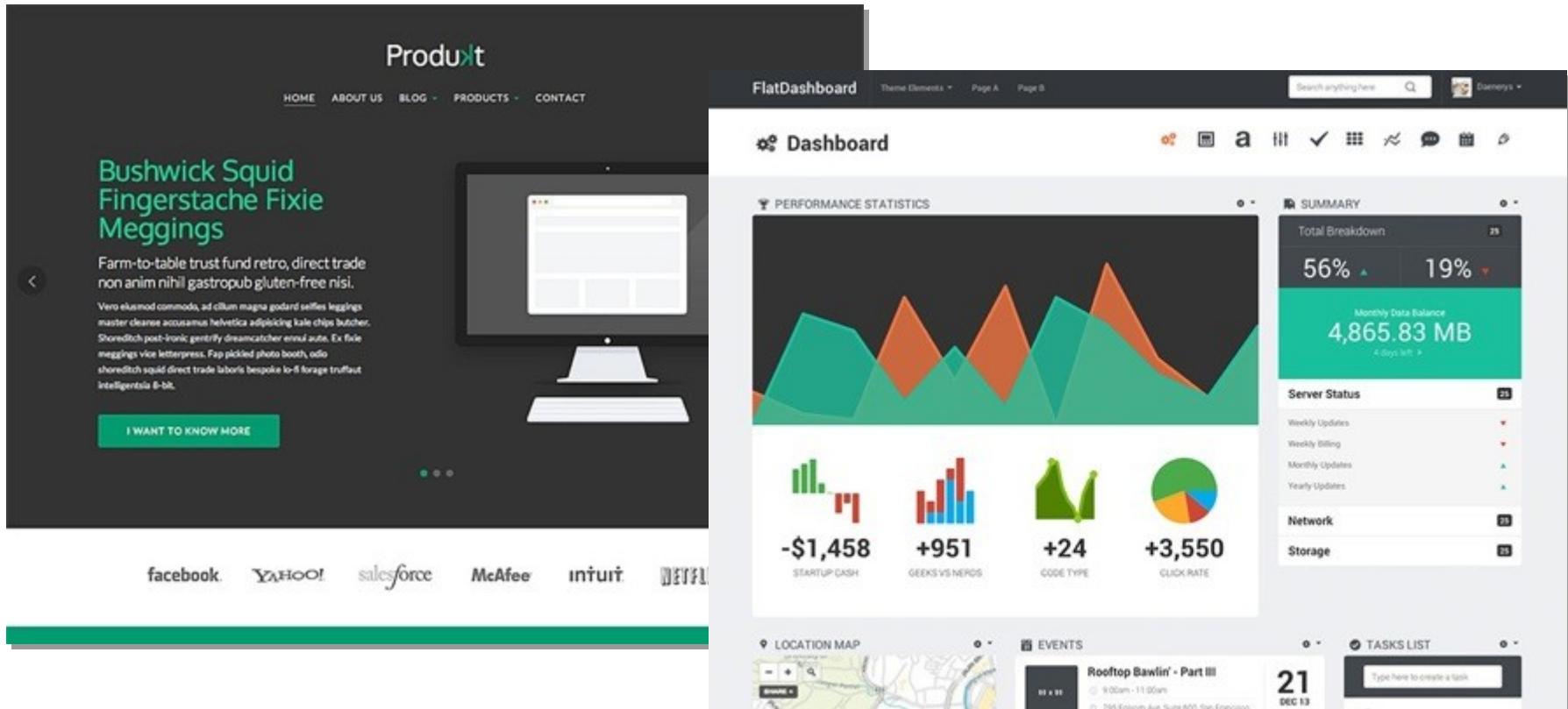
Segment



<https://semantic-ui.com/>

Plantillas de Bootstrap

- Plantillas completas



Plantillas de Bootstrap

- **Plantillas completas**

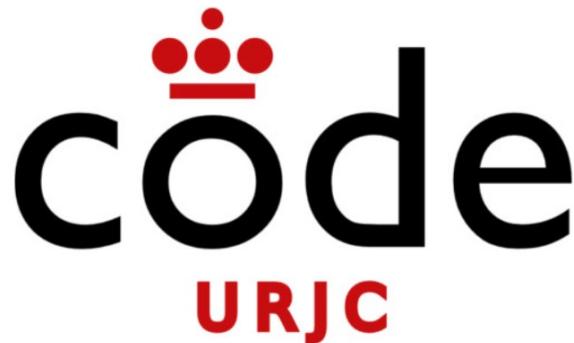
- <https://getbootstrap.com/docs/5.3/examples/>
- <https://wrapbootstrap.com>
- <http://startbootstrap.com>
- <http://bootswatch.com>
- <https://bootstrapmade.com/bootstrap-5-templates/>

Plantillas de Bootstrap

- Ejemplos de sitios hechos con bootstrap
 - <http://expo.getbootstrap.com/>

Ejercicio 1

- Replica la siguiente página web utilizando componentes *Bootstrap*
 - *Url de la imagen:* https://www.codeurjc.es/img/codeurjc_logo.jpg
 - *Será necesario customizar los estilos de Bootstrap*



Bienvenidos

Esta es la página principal de [CodeURJC](#)

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