

B

Front End Web UI Development for Backend Developers

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Agenda

- Introduction
- What is Bootstrap?
- A look inside Bootstrap
- Bootstrap Grid System
- Bootstrap Tables
- Bootstrap Forms
- Bootstrap Components
- Datatables
- Putting it all together with PHP

Introduction

Jose Acosta - Midcore Solutions

- 20 Years of development experience on IBM i.
- Web development experience using PHP, .Net (#C) and Javascript.
- PHP Batch Jobs on IBM i.
- BI Reporting experience using Cognos, MS SSRS and Power BI.
- I'm also speaker at the Magic User Group Conference.

What is Bootstrap?



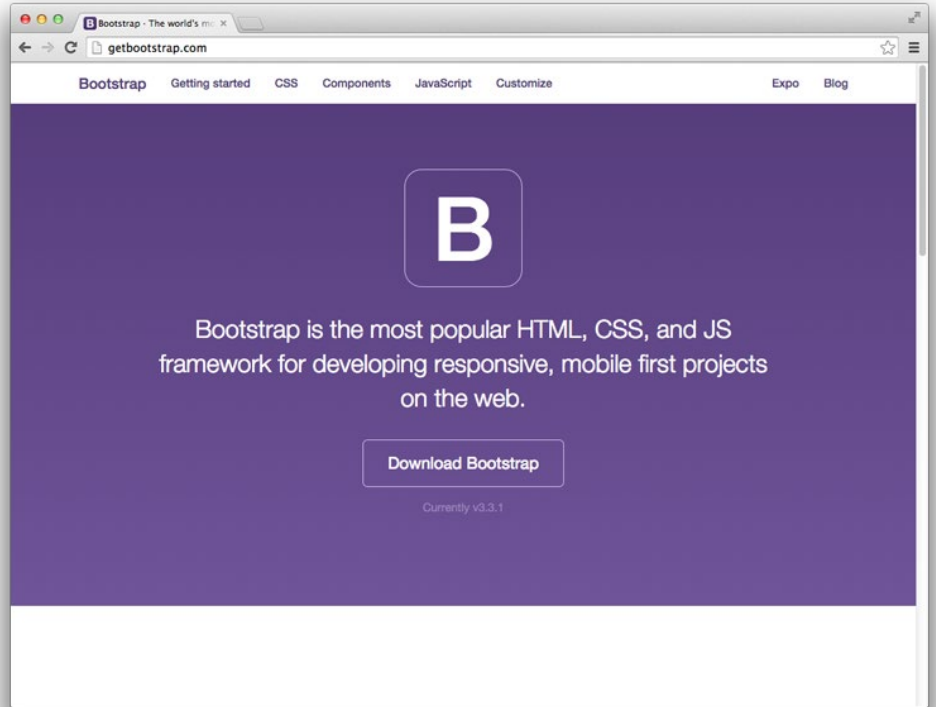
Bootstrap

- Has been around since August 2011 and was part of the responsive design movement.
- Is considered a CSS framework. You can build HTML templates without ever touching CSS.
- Bootstrap is a free and open-source tool collection for creating responsive websites and web applications.
- Allows for faster and easier web-development.
- Bootstrap 4 is the latest release and most significant release.
- Bootstrap 5 is set to be release this year.
 - Set to drop JQuery in favor of vanilla JavaScript

What's Inside Bootstrap?

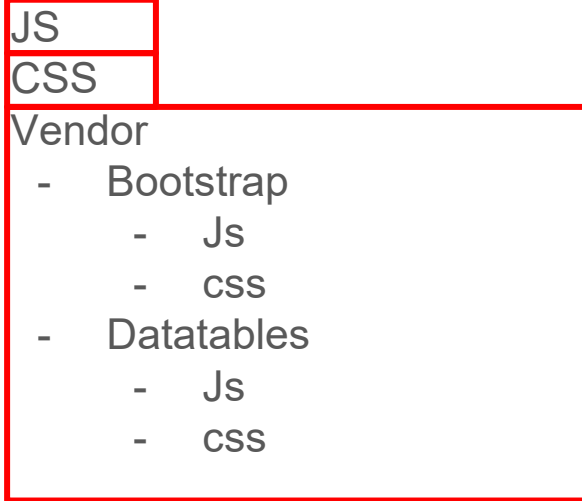
Bootstrap Download Page

[Download · Bootstrap v4.5](#)



Downloaded Bootstrap Folder Structure

Typical custom folder structure if you download Bootstrap:



Bootstrap Starter Template

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css" integrity="sha384-9aI1
```

Copy

```

    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVB
```

```

    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaE
```

```

    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-0gVRvuATP1z7JjHLkuOU7)
  </body>
</html>
```

Bootstrap Starter Template - Meta Tags

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/

    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVB
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaE
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-0gVRvuATP1z7JjHLkuOU7)
  </body>
</html>
```

Responsive meta tags for Bootstrap mobile first approach.

Bootstrap Starter Template - Stylesheets

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
```

Contains stylesheets to support Bootstrap layouts and UI.

```
    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css" integrity="sha384-9aIi
```

```

  <title>Hello, world!</title>
</head>
<body>
  <h1>Hello, world!</h1>

  <!-- Optional JavaScript -->
  <!-- jQuery first, then Popper.js, then Bootstrap JS -->
  <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVB
```

```

  <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHaF
```

```

  <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-0gVRvuATP1z7JjHLkuOU7)
</body>
</html>
```

Bootstrap Starter Template - Javascripts

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/

    <title>Hello, world!</title>
  </head>
  <body>
    <h1>Hello, world!</h1>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVB
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft+2mJbHa
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-OgVRvuATP1z7JjHLkuOU7)
  </body>
</html>
```

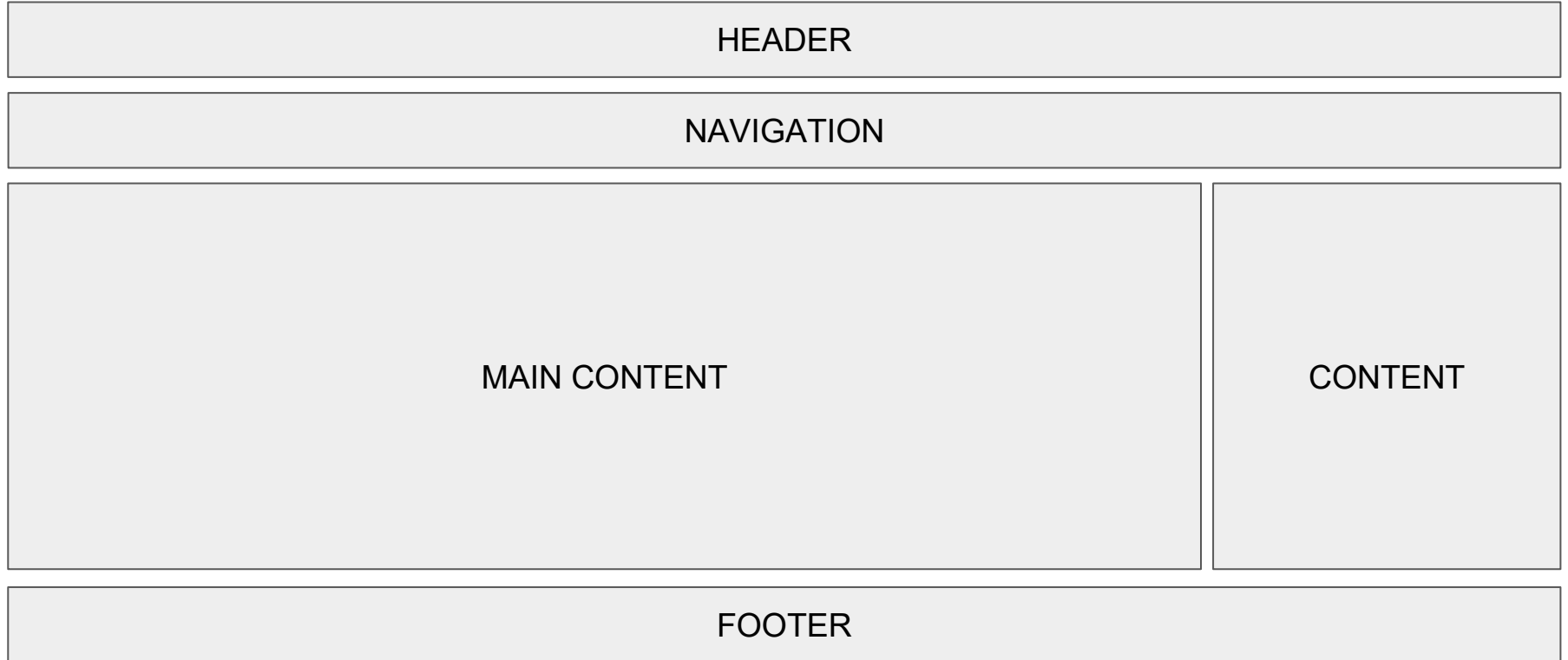
Contains javascripts necessary to support Bootstrap layouts, UI and components.

Bootstrap Starter Template - Output

Hello, world!

Bootstrap Grid System

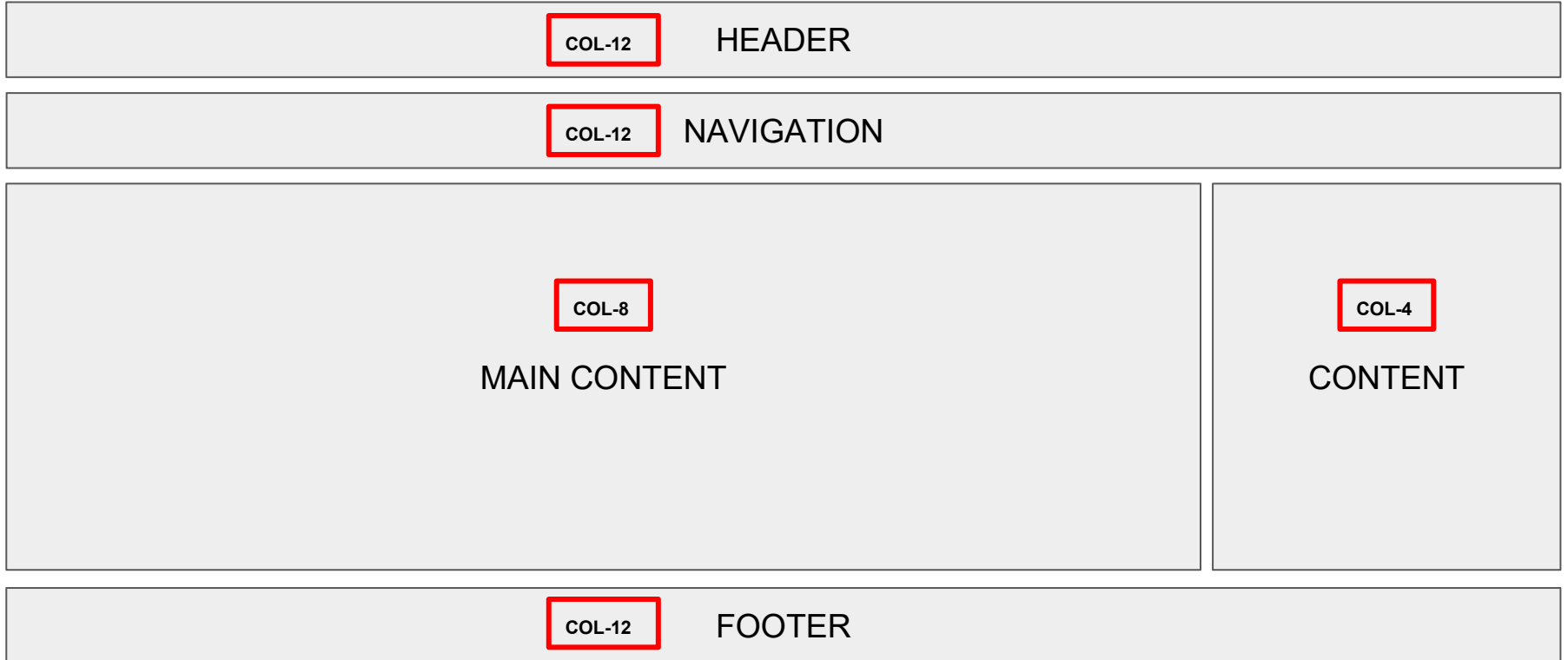
Layout Example - 1



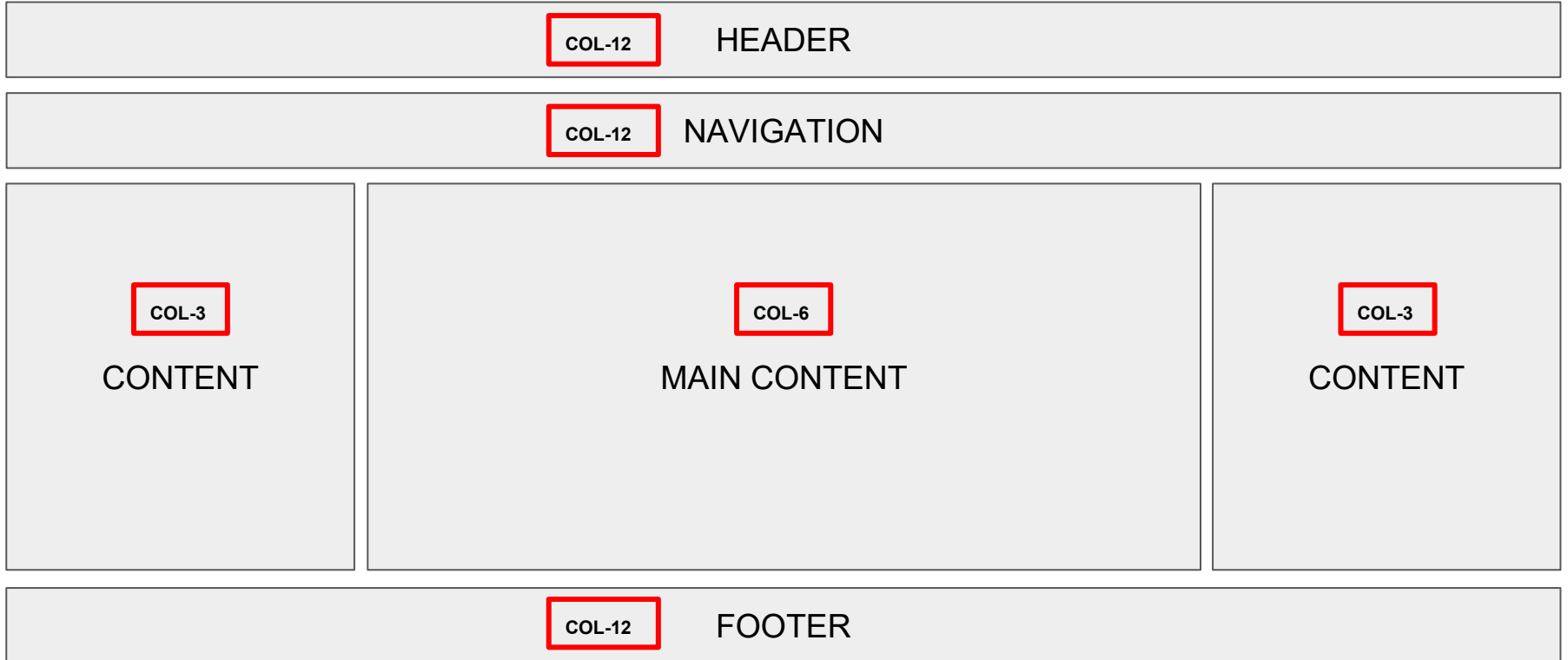
12 Columns equals 100% page width

| COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 | COL-1 |
|-------|-------|-------|-------|-------|--------------|-------|-------|-------|-------|---------|-------|
| | | | | | HEADER | | | | | | |
| | | | | | NAVIGATION | | | | | | |
| | | | | | MAIN CONTENT | | | | | CONTENT | |
| | | | | | FOOTER | | | | | | |

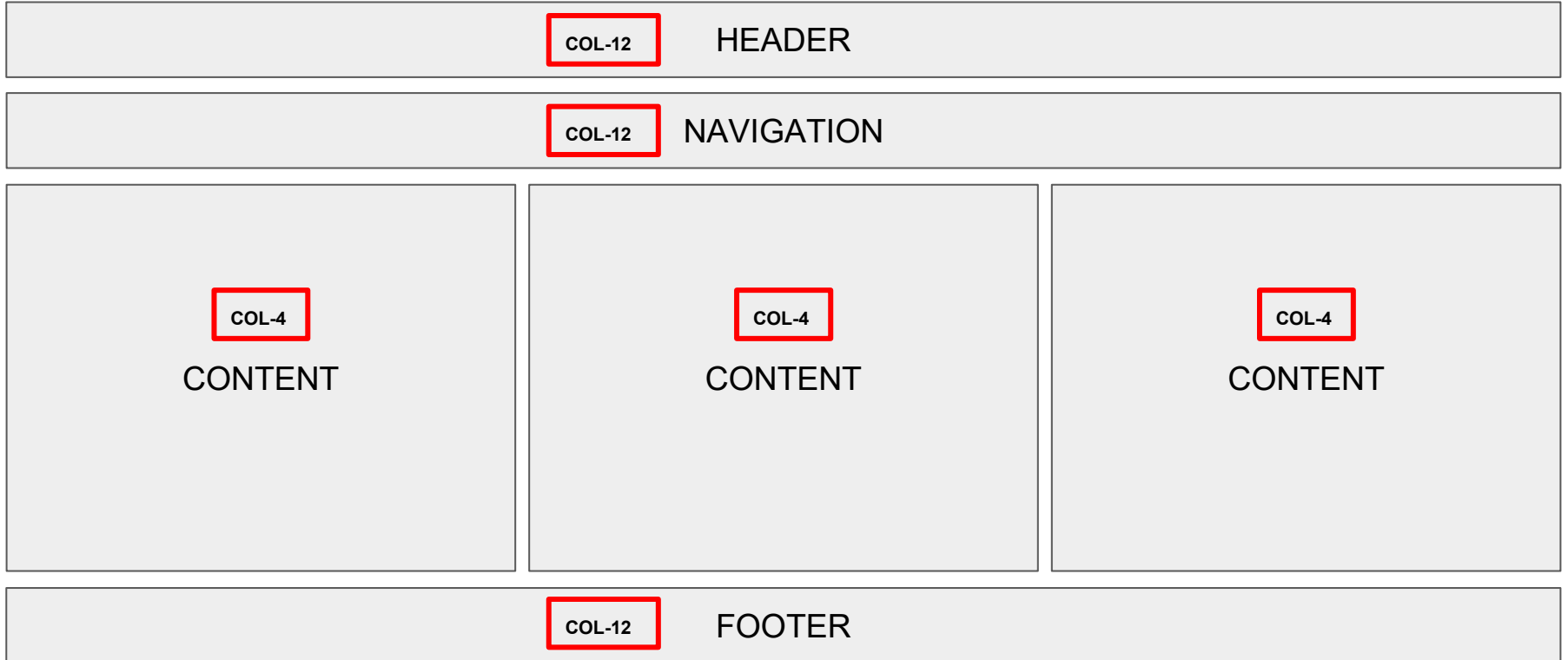
Layout Example - 2



Layout Example - 3



Layout Example - 4



Bootstrap Containers

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

Bootstrap Breakpoints for Devices

| Breakpoints | Pixel Size | Target Device |
|-------------|------------|-------------------------------|
| XS | < 576 px | Portrait Mobile Phones |
| SM | >= 576 px | Landscapes phones |
| MD | >= 768 px | Tablets/Phablets |
| LG | >= 992 px | Small-sized Desktops/Laptops |
| XL | >= 1200 px | Larger-sized Desktops/Laptops |

Bootstrap Containers and Breakpoints - Demo

[Example of Bootstrap Columns and Containers](#)

```
<!-- container examples -->  
<div class="container-sm bg-primary">.container-sm</div>  
<br>  
<div class="container-md bg-primary">.container-md</div>  
<br>  
<div class="container-lg bg-primary">.container-lg</div>  
<br>  
<div class="container-xl bg-primary">.container-xl</div>  
<br>  
<div class="container-fluid bg-primary">.container-fluid</div>
```

Bootstrap Spacing

Bootstrap Spacing

```
<div class = "mt-5"></div>
```

m = Margin
t = Top
5 = 3 rem (root em)

```
<div class = "pt-2"></div>
```

p = Padding
t = Top
2 = .5 rem (root em)

rem

Think of rem as a percentage of a font size.

1px = .1 rem

Example of mt-5 breakdown

m = Property

t = Sides

5 = Size

Bootstrap Spacing - Terms and Values

Properties

m - for classes that set margin
p - for classes that set padding

Sides

t - for classes that set margin-top or padding-top
b - for classes that set margin-bottom or padding-bottom
l - for classes that set margin-left or padding-left
r - for classes that set margin-right or padding-right
x - for classes that set both *-left and *-right
y - for classes that set both *-top and *-bottom

Size

0 - for classes that eliminate the margin or padding by setting it to 0
1 - (by default) for classes that set the margin or padding to \$spacer * .25
2 - (by default) for classes that set the margin or padding to \$spacer * .5
3 - (by default) for classes that set the margin or padding to \$spacer
4 - (by default) for classes that set the margin or padding to \$spacer * 1.5
5 - (by default) for classes that set the margin or padding to \$spacer * 3

Bootstrap Spacing - Demo

```
<!-- column examples -->
<div class="container">
  <div class="row">
    <div class="col-xs-2 col-sm-6 col-md-3 col-lg-4 col-xl-6 mb-5">
      <div class="well bg bg-success">First Column</div>
    </div>
    <div class="col-xs-2 col-sm-6 col-md-3 col-lg-4 col-xl-6">
      <div class="well bg bg-danger">Second Column</div>
    </div>
    <div class="col-xs-2 col-sm-6 col-md-3 col-lg-4 col-xl-6">
      <div class="well bg bg-warning">Third Column</div>
    </div>
    <div class="col-xs-2 col-sm-6 col-md-3 col-lg-4 col-xl-6">
      <div class="well bg bg-primary">Fourth Column</div>
    </div>
  </div>
</div>
```

Bootstrap Tables

Simple Table Layout

```
<table>
```

```
  <thead>
```

```
    <tr>
```

```
      <th>First</th>
```

```
      <th>Last</th>
```

```
    </tr>
```

```
  </thead>
```

```
  <tbody>
```

```
    <tr>
```

```
      <td>Mark</td>
```

```
      <td>Otto</td>
```

```
    </tr>
```

```
    <tr>
```

```
      <td>Larry</td>
```

```
      <td>Bird</td>
```

```
    </tr>
```

```
  </tbody>
```

```
</table>
```

Table Header

Table Rows/Data Cells

Bootstrap Table

```
<table class = "table">
  <thead>
    <tr>
      <th>First</th>
      <th>Last</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Mark</td>
      <td>Otto</td>
    </tr>
    <tr>
      <td>Larry</td>
      <td>Bird</td>
    </tr>
  </tbody>
</table>
```

HTML RESULTS

| First | Last |
|-------|------|
| Mark | Otto |
| Larry | Bird |

Bootstrap Table - Striped

```
<table class = "table table-striped">
  <thead>
    <tr>
      <th>First</th>
      <th>Last</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Mark</td>
      <td>Otto</td>
    </tr>
    <tr>
      <td>Larry</td>
      <td>Bird</td>
    </tr>
  </tbody>
</table>
```

HTML RESULTS

| First | Last |
|-------|------|
| Mark | Otto |
| Larry | Bird |

Bootstrap Table - Hover

```
<table class = "table table-hover">
  <thead>
    <tr>
      <th>First</th>
      <th>Last</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Mark</td>
      <td>Otto</td>
    </tr>
    <tr>
      <td>Larry</td>
      <td>Bird</td>
    </tr>
  </tbody>
</table>
```

HTML RESULTS

| First | Last |
|-------|------|
| Mark | Otto |
| Larry | Bird |

Bootstrap Table - Dark Table

```
<table class = "table table-striped table-dark">
  <thead>
    <tr>
      <th>First</th>
      <th>Last</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>Mark</td>
      <td>Otto</td>
    </tr>
    <tr>
      <td>Larry</td>
      <td>Bird</td>
    </tr>
  </tbody>
</table>
```

HTML RESULTS

| First | Last |
|-------|------|
| Mark | Otto |
| Larry | Bird |

Bootstrap Table - Other Styles

Other Table Styles

Other tables classes...

table table-bordered

table table-borderless

table table-bordered table-dark

Bootstrap Forms

Simple Form Layout

Basic HTML Form without Bootstrap

```
<form>
  <label>Email address</label><br>
  <input type="email"><br>
  <label>Password</label><br>
  <input type="password"><br><br>
  <input type="submit">
</form>
```

Converted Bootstrap Form

```
<form>
  <div class="form-group">
    <label>Email address</label>
    <input type="email" class="form-control">
  </div>
  <div class="form-group">
    <label>Password</label>
    <input type="password" class="form-control">
  </div>
  <button type="submit" class="btn btn-primary">Submit</button>
</form>
```

Form Outputs

Basic HTML Form

Email address

Password

Submit

Bootstrap Form

Email address

Password

Submit

Bootstrap Form Example

[Example of Bootstrap form](#)

Bootstrap Components

Bootstrap Alerts

A simple primary alert—check it out!

A simple secondary alert—check it out!

A simple success alert—check it out!

A simple danger alert—check it out!

A simple warning alert—check it out!

A simple info alert—check it out!

A simple light alert—check it out!

A simple dark alert—check it out!

Bootstrap Alerts

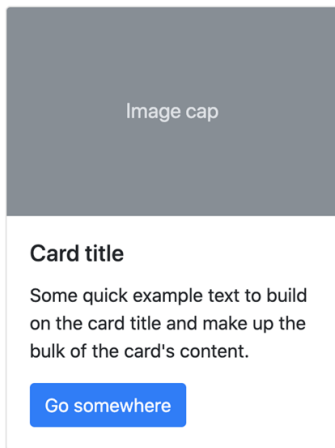
```
<div class="alert alert-primary" role="alert">
  A simple primary alert—check it out!
</div>
<div class="alert alert-secondary" role="alert">
  A simple secondary alert—check it out!
</div>
<div class="alert alert-success" role="alert">
  A simple success alert—check it out!
</div>
<div class="alert alert-danger" role="alert">
  A simple danger alert—check it out!
</div>
<div class="alert alert-warning" role="alert">
  A simple warning alert—check it out!
</div>
<div class="alert alert-info" role="alert">
  A simple info alert—check it out!
</div>
<div class="alert alert-light" role="alert">
  A simple light alert—check it out!
</div>
<div class="alert alert-dark" role="alert">
  A simple dark alert—check it out!
</div>
```


Bootstrap Buttons



```
<button type="button" class="btn btn-primary">Primary</button>  
<button type="button" class="btn btn-secondary">Secondary</button>  
<button type="button" class="btn btn-success">Success</button>  
<button type="button" class="btn btn-danger">Danger</button>  
<button type="button" class="btn btn-warning">Warning</button>  
<button type="button" class="btn btn-info">Info</button>  
<button type="button" class="btn btn-light">Light</button>  
<button type="button" class="btn btn-dark">Dark</button>  
  
<button type="button" class="btn btn-link">Link</button>
```

Bootstrap Cards



```
<div class="card" style="width: 18rem;">  
    
  <div class="card-body">  
    <h5 class="card-title">Card title</h5>  
    <p class="card-text">Some quick example text to build on the card title and make up the bulk of the card's content.</p>  
    <a href="#" class="btn btn-primary">Go somewhere</a>  
  </div>  
</div>
```

Bootstrap Dropdowns

Dropdown button ▾

```
<div class="dropdown">  
  <button class="btn btn-secondary dropdown-toggle" type="button" id="dropdownMenuButton" data-toggle="dropdown" aria-haspopup="t  
    Dropdown button  
  </button>  
  <div class="dropdown-menu" aria-labelledby="dropdownMenuButton">  
    <a class="dropdown-item" href="#">Action</a>  
    <a class="dropdown-item" href="#">Another action</a>  
    <a class="dropdown-item" href="#">Something else here</a>  
  </div>  
</div>
```

Copy

Bootstrap Component Examples

[Bootstrap Component Examples](#)

Bootstrap Examples

More Bootstrap Examples

<https://getbootstrap.com/docs/4.5/examples/>

<https://themes.getbootstrap.com/>

Datatables

Download Datatables

<https://datatables.net/>

The screenshot shows the DataTables website interface. At the top, there are navigation links for 'DataTables', 'Editor', 'Manual', 'Download', and 'Login / Register'. The main heading reads 'Add advanced interaction controls to your HTML tables *the free & easy way*'. Below this, three steps are listed for installation:

- 1 - Include these two files**
 - CSS** `//cdn.datatables.net/1.10.21/css/jquery.c`
 - JS** `//cdn.datatables.net/1.10.21/js/jquery.dc`
- 2 - Call this single function**

```
1 $(document).ready( function () {  
2     $('#myTable').DataTable();  
3 } );
```
- 3 - You get a fully interactive table**

A button labeled 'Full Getting Started Guide' is located below the instructions. To the right, a table is displayed with columns for Name, Position, Office, and Age. The table contains 10 rows of data, including entries like 'Airi Satou' (Accountant, Tokyo) and 'Cedric Kelly' (Senior Javascript Developer, Edinburgh). The table is interactive, with a search bar and pagination controls at the bottom.

| Name | Position | Office | Age |
|--------------------|-------------------------------|---------------|-----|
| Airi Satou | Accountant | Tokyo | |
| Angelica Ramos | Chief Executive Officer (CEO) | London | |
| Ashton Cox | Junior Technical Author | San Francisco | |
| Bradley Greer | Software Engineer | London | |
| Brenden Wagner | Software Engineer | San Francisco | |
| Brielle Williamson | Integration Specialist | New York | |
| Bruno Nash | Software Engineer | London | |
| Caesar Vance | Pre-Sales Support | New York | |
| Cara Stevens | Sales Assistant | New York | |
| Cedric Kelly | Senior Javascript Developer | Edinburgh | |

Pick Datatable Styles and Table Features

| | | | |
|----------------------------------|--------------------|---|----------|
| <input type="radio"/> | DataTables | DataTables' default styling. | v1.10.21 |
| <input type="radio"/> | Bootstrap 3 | One of the most popular styling libraries around. | v3.3.7 |
| <input checked="" type="radio"/> | Bootstrap 4 | The latest iteration of the ever popular Bootstrap framework. | v4.1.1 |
| <input type="radio"/> | Foundation | A modern responsive styling framework. | v6.4.3 |
| <input type="radio"/> | jQuery UI | A collection of Javascript widgets as well as a styling framework. | v1.12.1 |
| <input type="radio"/> | Semantic UI | A styling framework that treats words and classes as exchangeable concepts. | v2.2.13 |

Step 2. Select packages

| | | | |
|----------------------------------|--------------------|---|----------|
| <input type="radio"/> | jQuery 3 | DataTables requires jQuery. Don't select either version if you already have it. | v3.3.1 |
| <input type="radio"/> | jQuery 1 | Use for compatibility with older browsers. jQuery 3 requires IE9+. | v1.12.4 |
| <input type="radio"/> | Bootstrap 4 | Don't select if you already have Bootstrap 4 on your page. | |
| <input checked="" type="radio"/> | DataTables | Enhance HTML tables with advanced interaction controls. | v1.10.21 |
| <input type="radio"/> | Editor | Add full editing controls to your DataTables. Editor is a commercial extension for DataTables, it requires a license to use it for longer than the free trial period. Please create an account or login to be able to include Editor in the package. | v1.9.4 |

Typical HTML Table

```
<table id = "mytableid" >
```

Must have an id

```
<thead>
```

```
<tr>
```

```
<th>Name</th>
```

```
<th>Position</th>
```

```
<th>Office</th>
```

```
<th>Age</th>
```

```
<th>Start date</th>
```

```
<th>Salary</th>
```

```
</tr>
```

```
</thead>
```

```
<tbody>
```

```
<tr>
```

```
<td>Tiger Nixon</td>
```

```
<td>System Architect</td>
```

```
<td>Edinburgh</td>
```

```
<td>61</td>
```

```
<td>2011/04/25</td>
```

```
<td>$320,800</td>
```

```
</tr>
```

```
</tbody>
```

```
</table>
```

Must have table header tags

Convert to Datatable

```
$(document).ready(function() {  
    $('#mytableid').DataTable();  
});
```



Initializes the datatable

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css" integrity="sha384-9aIt2nRpC...

    <!-- Datatables CSS -->
    <link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/1.10.21/css/jquery.dataTables.min.css"/>
    <link rel="stylesheet" type="text/css" href="https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.1.3/css/bootstrap.css"/>
    <link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/buttons/1.6.2/css/buttons.dataTables.min.css"/>

    <title>Hello, world!</title>
  </head>
  <body class = "py-4">

    <div class = "container">
      <h1 class = "pb-5">DT Table</h1>
      <table id="mytableid" class="table">...
    </div>

    <!-- Optional JavaScript -->
    <!-- jQuery first, then Popper.js, then Bootstrap JS -->
    <script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXd2htPH0lsSSs5nCTpuj/zy4C+0GpamoFVy38MVBNbE+Ibb...
    <script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-06E9RHvbIyZFJoft+2mJbHaEwLdLv...
    <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-0gVRvuATP1z7JjHLku0U7Xw704+...

    <!-- Datatables -->
    <script type="text/javascript" src="https://cdn.datatables.net/1.10.21/js/jquery.dataTables.min.js"></script>
    <script type="text/javascript" src="https://cdn.datatables.net/1.10.21/js/dataTables.bootstrap4.min.js"></script>
    <script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/dataTables.buttons.min.js"></script>
    <script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.flash.min.js"></script>
    <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/jszip/3.1.3/jszip.min.js"></script>
    <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.53/pdfmake.min.js"></script>
    <script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.53/vfs_fonts.js"></script>
    <script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.html5.min.js"></script>
    <script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.print.min.js"></script>
    <script>
      $('#mytableid').DataTable();
    </script>
  </body>
</html>
```

Page Layout with
Datatables and
Bootstrap

Datatable Output

Show 10 entries

Search:

| Name | Position | Office | Age | Start date | Salary |
|--------------------|-------------------------------|---------------|-----|------------|-------------|
| Airi Satou | Accountant | Tokyo | 33 | 2008/11/28 | \$162,700 |
| Angelica Ramos | Chief Executive Officer (CEO) | London | 47 | 2009/10/09 | \$1,200,000 |
| Ashton Cox | Junior Technical Author | San Francisco | 66 | 2009/01/12 | \$86,000 |
| Bradley Greer | Software Engineer | London | 41 | 2012/10/13 | \$132,000 |
| Brenden Wagner | Software Engineer | San Francisco | 28 | 2011/06/07 | \$206,850 |
| Brielle Williamson | Integration Specialist | New York | 61 | 2012/12/02 | \$372,000 |
| Bruno Nash | Software Engineer | London | 38 | 2011/05/03 | \$163,500 |
| Caesar Vance | Pre-Sales Support | New York | 21 | 2011/12/12 | \$106,450 |
| Cara Stevens | Sales Assistant | New York | 46 | 2011/12/06 | \$145,600 |
| Cedric Kelly | Senior Javascript Developer | Edinburgh | 22 | 2012/03/29 | \$433,060 |

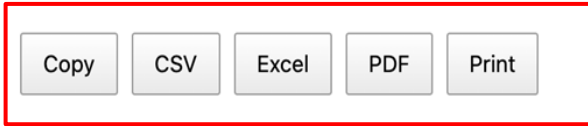
| Name | Position | Office | Age | Start date | Salary |
|------|----------|--------|-----|------------|--------|
|------|----------|--------|-----|------------|--------|

Showing 1 to 10 of 57 entries

Previous 1 2 3 4 5 6 Next

Datatable with Export Buttons

```
$('#mytableid').DataTable({  
  dom: 'Bfrtip',  
  buttons: [  
    'copy', 'csv', 'excel', 'pdf', 'print'  
  ]  
});
```



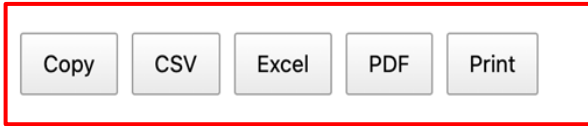
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| Bradley Greer | Software Engineer | London | 41 | 2012/10/13 | \$132,000 |

Datatable with Export Buttons

```
$('#mytableid').DataTable({  
  dom: 'Bfrtip',  
  buttons: [  
    'copy', 'csv', 'excel', 'pdf', 'print'  
  ]  
});
```

[Datatables export example](#)



Search:

| Name | Position | Office | Age | Start date | Salary |
|----------------|-------------------------------|---------------|-----|------------|-------------|
| Airi Satou | Accountant | Tokyo | 33 | 2008/11/28 | \$162,700 |
| Angelica Ramos | Chief Executive Officer (CEO) | London | 47 | 2009/10/09 | \$1,200,000 |
| Ashton Cox | Junior Technical Author | San Francisco | 66 | 2009/01/12 | \$86,000 |
| Bradley Greer | Software Engineer | London | 41 | 2012/10/13 | \$132,000 |

Datatable Scrolling

```
$('#mytableid').DataTable({  
  "scrollY": "200px",  
  "scrollCollapse": true,  
  "paging": false  
});
```

[Datatables vertical scroll example](#)

Search:

| Name | Position | Office | Age | Start date | Salary |
|----------------|-------------------------------|---------------|-----|------------|-------------|
| Airi Satou | Accountant | Tokyo | 33 | 2008/11/28 | \$162,700 |
| Angelica Ramos | Chief Executive Officer (CEO) | London | 47 | 2009/10/09 | \$1,200,000 |
| Ashton Cox | Junior Technical Author | San Francisco | 66 | 2009/01/12 | \$86,000 |
| Bradley Greer | Software Engineer | London | 41 | 2012/10/13 | \$132,000 |
| Brenden Wagner | Software Engineer | San Francisco | 28 | 2011/06/07 | \$206,850 |

| Name | Position | Office | Age | Start date | Salary |
|------|----------|--------|-----|------------|--------|
|------|----------|--------|-----|------------|--------|

More Datatables Examples

[Additional Datatables Features](#)

Let's put it all together!

PHP Example using Bootstrap and Datatables

Header Tags

```
<!doctype html>
<html lang="en">
  <head>
    <!-- Required meta tags -->
    <meta charset="utf-8">
    <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">

    <!-- Bootstrap CSS -->
    <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap.min.css" integrity="sha384-9aIt2nRpC" />

    <!-- Datatables CSS -->
    <link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/1.10.21/css/jquery.dataTables.min.css" />
    <link rel="stylesheet" type="text/css" href="https://cdnjs.cloudflare.com/ajax/libs/twitter-bootstrap/4.1.3/css/bootstrap.css" />
    <link rel="stylesheet" type="text/css" href="https://cdn.datatables.net/buttons/1.6.2/css/buttons.dataTables.min.css" />

    <title>IBM i Table</title>
  </head>
```

Define Bootstrap and
Datatables style sheets

Footer Tags

```
<!-- Optional JavaScript -->
<!-- jQuery first, then Popper.js, then Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.5.1.slim.min.js" integrity="sha384-DfXdz2htPH0lsSSs5nCTpuj/zy4C+0GpamoFv38MB" ></script>
<script src="https://cdn.jsdelivr.net/npm/popper.js@1.16.0/dist/umd/popper.min.js" integrity="sha384-Q6E9RHvbIyZFJoft42mJbHa" ></script>
<script src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/js/bootstrap.min.js" integrity="sha384-0gVRvuATP1z7Jj" ></script>

<!-- Datatables -->
<script type="text/javascript" src="https://cdn.datatables.net/1.10.21/js/jquery.dataTables.min.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/1.10.21/js/dataTables.bootstrap4.min.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/dataTables.buttons.min.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.flash.min.js"></script>
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/jszip/3.1.3/jszip.min.js"></script>
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.53/pdfmake.min.js"></script>
<script type="text/javascript" src="https://cdnjs.cloudflare.com/ajax/libs/pdfmake/0.1.53/vfs_fonts.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.html5.min.js"></script>
<script type="text/javascript" src="https://cdn.datatables.net/buttons/1.6.2/js/buttons.print.min.js"></script>
</script>
```

```
$('#mytableid').DataTable();
```

```
</script>
```

```
</body>
```

```
</html>
```

Define Bootstrap and Datatables JS, also initialize your table

Body Tag

```
<div class="container">
```

container is define

```
<table id="mytableid" class="table">
```

```
<thead>
```

```
<tr>
```

```
<th>First Name</th>
```

```
<th>Last Name</th>
```

```
<th>Job</th>
```

```
</tr>
```

```
</thead>
```

```
<tbody>
```

```
<?php
```

```
if (!$db = odbc_connect ( "DSN_NAME", "USERID", "PASSWORD" ) )  
    echo 'error!';
```

```
$result = odbc_exec($db, "select * from SAMPLEDB.EMP where FIRSTNAME <> ''");
```

```
while (odbc_fetch_row($result)) {  
    echo "<tr>";  
    echo "<td>" . odbc_result($result, "FIRSTNAME") . "</td>";  
    echo "<td>" . odbc_result($result, "LASTNAME") . "</td>";  
    echo "<td>" . odbc_result($result, "JOB") . "</td>";  
    echo "</tr>";  
}
```

```
odbc_close($db)
```

```
?>
```

```
</tbody>
```

```
</table>
```

```
</div>
```

Define your IBM i ODBC connection

Execute SQL Statement

Iterate through SQL results
and generate table row
tags

Close ODBC Connection

Results of PHP, Datatables and Bootstrap

Show

10

entries

Search:

| First Name | Last Name | Job |
|------------|-----------|----------|
| BRUCE | ADAMSON | DESIGNER |
| CHRISTINE | HAAS | PRES |
| DANIEL | SMITH | CLERK |
| DAVID | BROWN | DESIGNER |
| DELORES | QUINTANA | ANALYST |
| DIAN | HEMMINGER | SALESREP |
| EILEEN | HENDERSON | MANAGER |
| EILEEN | SCHWARTZ | OPERATOR |
| ELIZABETH | PIANKA | DESIGNER |
| ETHEL | SCHNEIDER | OPERATOR |

Showing 1 to 10 of 42 entries

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Contact Information

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www.midcoresolutions.com