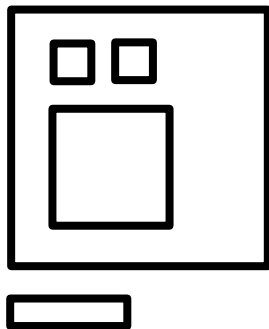


JavaScript

JS

HTML



Structural
Estructura

CSS



Presentational
Presentación

JavaScript



Behavioral
Comportamiento



JavaScript

Lenguaje de programación que permite crear
páginas web dinámicas

JavaScript

- Dialecto de **ECMAScript** por Netscape.
 - Imperativo, estructurado, orientado a objetos y a eventos.
 - **Interpretado** (no compila), su evaluación se realiza en **tiempo de ejecución**.
 - **Tipado dinámico** y Objetual (casi todo es un objeto).
 - Prototipado (usa prototipos en vez de clases para el uso de herencia).
- Util, práctico y disponible en **cualquier navegador**.
- Permite mejoras en la **interfaz de usuario** y sitios web dinámicos.
- Posibilita el uso de **librerías** y **frameworks** (jquery, angular, backbone, react).
- Uso principal del **lado del cliente** (frontend), el framework mas usado del **lado del servidor** es **Node.js**.

```
<!DOCTYPE html>
<html>
  <head>
    <script>
      var length = 16; // Number
      var lastName = "Johnson"; // String
      var cars = ["Saab", "Volvo", "BMW"]; // Array
      var obj = { firstName: "John", lastName: "Doe" }; // Object

      var x; // Now x is undefined
      var x = 5; // Now x is a Number
      var x = "John"; // Now x is a String
    </script>
  </head>
  <body>
  </body>
</html>
```

=	x = y	x = y
+=	x += y	x = x + y
- =	x -= y	x = x - y
*=	x *= y	x = x * y
/=	x /= y	x = x / y
%=	x %= y	x = x % y

&&	logical and
	logical or
!	logical not

+	Addition
-	Subtraction
*	Multiplication
/	Division
%	Modulus
++	Increment
--	Decrement

==	equal to
===	equal value and equal type
!=	not equal
!==	not equal value or not equal type
>	greater than
<	less than
>=	greater than or equal to
<=	less than or equal to
?	ternary operator

Given that $x = 5$, the table below explains the comparison operators:

Operator	Description	Comparing	Returns
==	equal to	$x == 8$	false
		$x == 5$	true
		$x == "5"$	true
===	equal value and equal type	$x === 5$	true
		$x === "5"$	false
!=	not equal	$x != 8$	true
!==	not equal value or not equal type	$x !== 5$	false
		$x !== "5"$	true
		$x !== 8$	true
>	greater than	$x > 8$	false
<	less than	$x < 8$	true
>=	greater than or equal to	$x >= 8$	false
<=	less than or equal to	$x <= 8$	true

- Al comparar una **cadena** con un **número**, JavaScript **convertirá** la cadena en un **número** para hacer la comparación.
- Una cadena **vacía** se convierte en **0**.
- Una cadena **no numérica** se convierte en **NaN**, que siempre es **falsa**.

Comparing	Returns
<code>2 < 12</code>	<code>true</code>
<code>2 < "12"</code>	<code>true</code>
<code>2 < "John"</code>	<code>false</code>
<code>2 > "John"</code>	<code>false</code>
<code>2 == "John"</code>	<code>false</code>
<code>"2" < "12"</code>	<code>false</code>
<code>"2" > "12"</code>	<code>true</code>
<code>"2" == "12"</code>	<code>false</code>


```
<!DOCTYPE html>
<html>
  <head>
    <script>
      function myFunction(x, y) {
        var r;
        r = functionSum(x, y);
        alert(r);
      }
      function functionSum(x, y) {
        var z, h = "R";
        z = x + y;
        return (h + z);
      }
      var s = functionSum(4, 3);
    </script>
  </head>
  <body>
    <button onclick="myFunction(5,6)"> Click me </button>
  </body>
</html>
```

Consola | Depuración

```
<!DOCTYPE html>
<html>
  <head>
  </head>
  <body>
    <h1>Web Page</h1>
    <script>
      a = 5;
      b = 6;
      c = a + b;
      console.log(c);
    </script>
  </body>
</html>
```

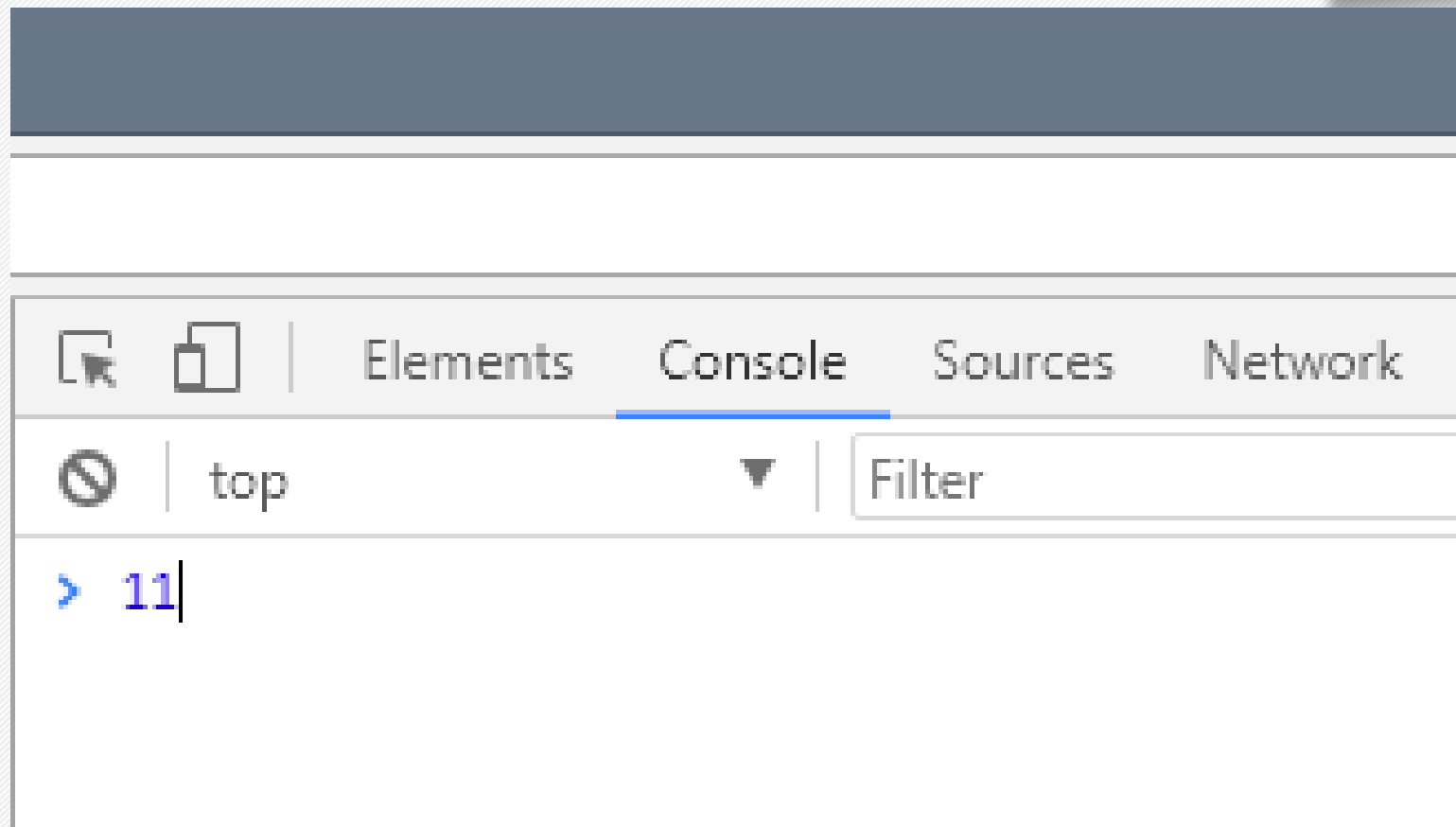


Chart.js

<https://www.chartjs.org/>

```
@model List<UserProducts>
```

```
<canvas id="Chart"></canvas>
```

```
@section scripts {
```

```
<script src="//cdn.jsdelivr.net/npm/chart.js@3.4.1/dist/chart.min.js" type="text/javascript" charset="utf-8"></script>
```

```
<script>
```

```
new Chart( //https://www.chartjs.org/
```

```
document.getElementById('Chart'),
```

```
{
```

```
type: 'doughnut',
```

```
data: {
```

```
labels: ["Item 01", "Item 02", "Item 03"],
```

```
datasets: [{
```

```
label: 'Por producto',
```

```
hoverOffset: 4,
```

```
backgroundColor: ["#f00", "#0f0", "#00f"],
```

```
data: [12, 25, 68]
```

```
}]
```

```
},
```

```
options: {
```

```
responsive: true, aspectRatio: 2, maintainAspectRatio: true
```

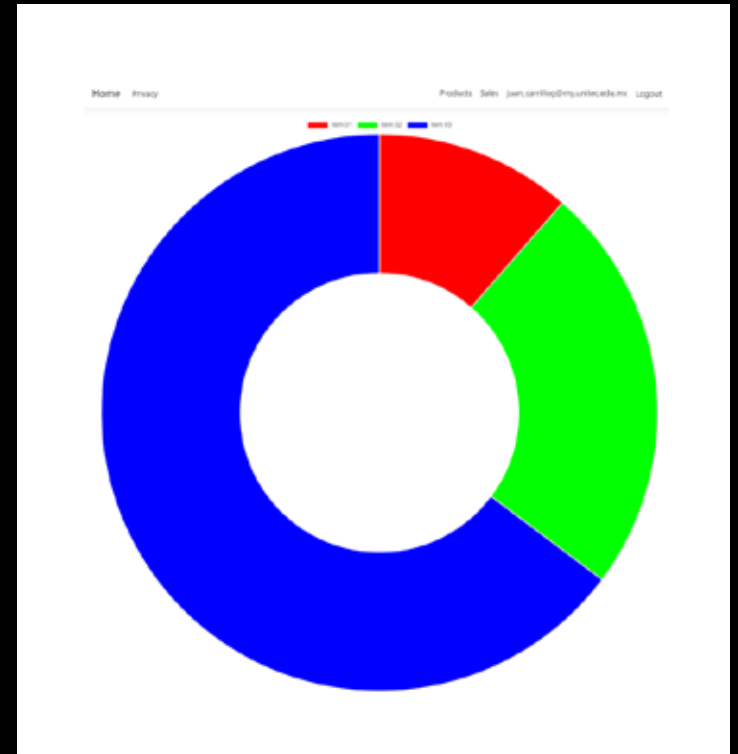
```
}
```

```
}
```

```
);
```

```
</script>
```

```
}
```



```
@model List<UserProducts>
```

```
<canvas id="Chart"></canvas>
```

```
@section scripts {
```

```
<script src="//cdn.jsdelivr.net/npm/chart.js@3.4.1/dist/chart.min.js" type="text/javascript" charset="utf-8"></script>
```

```
<script>
```

```
new Chart( //https://www.chartjs.org/
```

```
document.getElementById('Chart'),
```

```
{
```

```
type: 'doughnut',
```

```
data: {
```

```
labels: ["Item 01", "Item 02", "Item 03"],
```

```
datasets: [{
```

```
label: 'Por producto',
```

```
hoverOffset: 4,
```

```
backgroundColor: interpolateColors(3),
```

```
data: [12, 25, 68]
```

```
}]
```

```
},
```

```
options: {
```

```
responsive: true, aspectRatio: 2, maintainAspectRatio: true
```

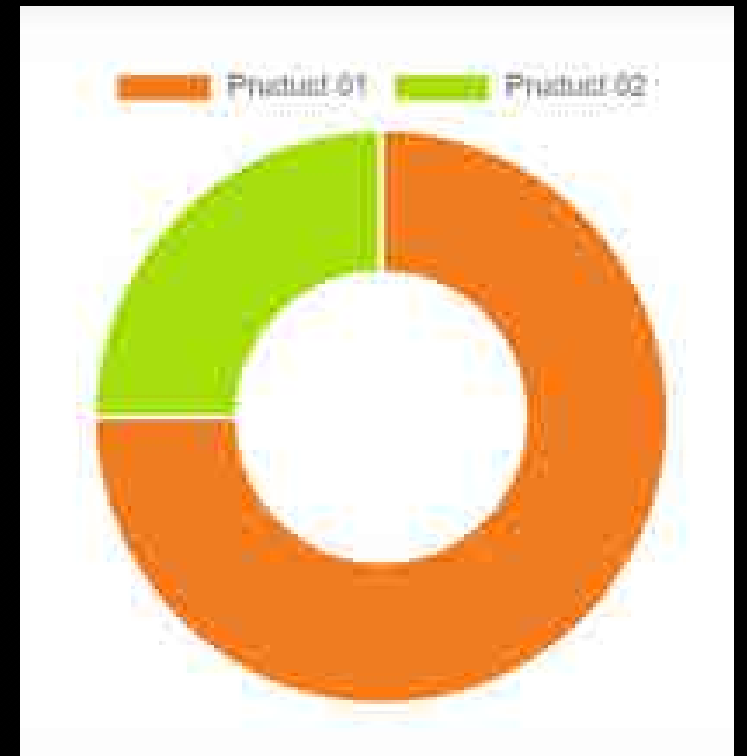
```
}
```

```
}
```

```
);
```

```
</script>
```

```
}
```



```
@model List<UserProducts>
```

```
<canvas id="Chart"></canvas>
```

```
@section scripts {
```

```
<script src="//cdn.jsdelivr.net/npm/chart.js@3.4.1/dist/chart.min.js" type="text/javascript" charset="utf-8"></script>
```

```
<script>
```

```
new Chart( //https://www.chartjs.org/
```

```
document.getElementById('Chart'),
```

```
{
```

```
type: 'doughnut',
```

```
data: {
```

```
labels: [@Html.Raw(string.Join(", ", ViewBag.Chart1Labels))],
```

```
datasets: [{
```

```
label: 'Por producto',
```

```
hoverOffset: 4,
```

```
backgroundColor: interpolateColors(@(((List<string>)ViewBag.Chart1Labels).Count())),
```

```
data: [@string.Join(", ", ViewBag.Chart1Data)
```

```
}]
```

```
},
```

```
options: {
```

```
responsive: true, aspectRatio: 2, maintainAspectRatio: true
```

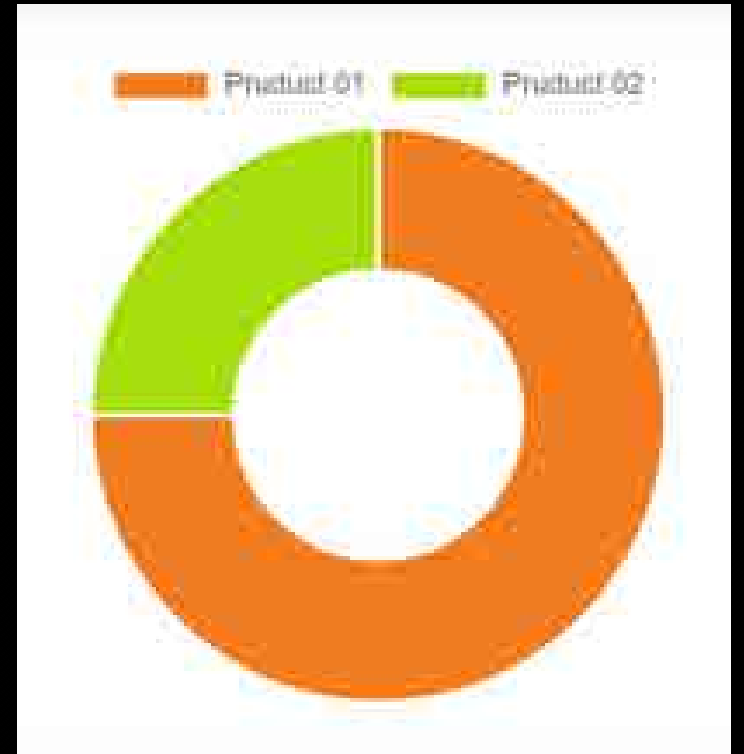
```
}
```

```
}
```

```
);
```

```
</script>
```

```
}
```



```

namespace Presentation.WebApp.Controllers
{
    public class HomeController : Controller
    {
        private readonly EmpleadosDbContext _empleadosDbContext;

        public HomeController(IConfiguration configuration)
        {
            _empleadosDbContext = new EmpleadosDbContext(configuration.GetConnectionString("DefaultConnection"));
        }

        public IActionResult Index()
        {
            var empleados = _empleadosDbContext.List();
            ViewBag.Chart1Labels = empleados
                .GroupBy(x => x.Nombre)
                .Select(x => $"{x.Key} ")
                .ToList();
            ViewBag.Chart1Data = empleados
                .GroupBy(x => x.Nombre)
                .Select(x => $"{x.Count()}")
                .ToList();

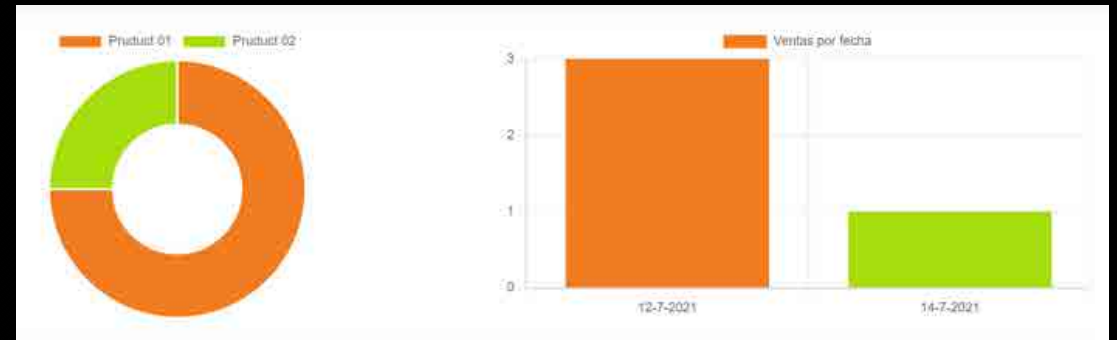
            return View();
        }
    }
}

```

```
@model List<UserProducts>

<div class="row">
  <div class="col">
    <canvas id="Chart1"></canvas>
  </div>
  <div class="col">
    <canvas id="Chart2"></canvas>
  </div>
</div>

@section scripts {
  <script src="//cdn.jsdelivr.net/npm/chart.js@3.4.1/dist/chart.min.js" type="text/javascript" charset="utf-8"></script>
  <script>
    //https://www.chartjs.org/
    new Chart(
      document.getElementById('Chart1'),
      {
        type: 'doughnut',
        data: {
          labels: [@Html.Raw(string.Join(", ", ViewBag.Chart1Labels))],
          datasets: [{
            label: 'Por producto',
            hoverOffset: 4,
            backgroundColor: interpolateColors((((List<string>)ViewBag.Chart1Labels).Count())),
            data: [@string.Join(", ", ViewBag.Chart1Data)]
          }]
        },
        options: {
          responsive: true, aspectRatio: 2, maintainAspectRatio: true
        }
      }
    );
    new Chart(
      document.getElementById('Chart2'),
      {
        type: 'bar',
        data: {
          labels: [@Html.Raw(string.Join(", ", ViewBag.Chart1Labels))],
          datasets: [{
            label: 'Por producto',
            hoverOffset: 4,
            backgroundColor: interpolateColors((((List<string>)ViewBag.Chart1Labels).Count())),
            data: [@string.Join(", ", ViewBag.Chart1Data)]
          }]
        },
        options: {
          responsive: true, aspectRatio: 2, maintainAspectRatio: true, scales: { y: { ticks: { stepSize: 1 } } }
        }
      }
    );
  </script>
}
```





jQuery

Librería de **JavaScript** que simplificar la manera de interactuar con los documentos HTML

Las maneras de su invocación son mediante las instrucciones `$()`, o el alias `jQuery()`.

```
$(selector).action();
```

```
document.getElementById("important");  
$("#important");
```

```
document.getElementsByTagName("p");  
$("p");
```

```
document.getElementsByClassName("objects");  
$(".objects");
```

DataTables

<https://datatables.net/>

@model List<Domain. Empleado>

<!--https://datatables.net/-->

<link href="//cdn.datatables.net/1.11.3/css/dataTables.bootstrap5.css" rel="stylesheet" type="text/css">

<table id="myTable" class="table table-striped" style="width: 100%">

<thead>

<tr>

<th>Nombre</th>

<th>Edad</th>

<th>Telefono</th>

</tr>

</thead>

<tbody>

@foreach (var e in Model)

{

<tr>

<td>@e.Nombre</td>

<td>@e.Edad</td>

<td>@e.Telefono</td>

</tr>

}

</tbody>

</table>

@section scripts {

<!--https://datatables.net/-->

<script src="//cdn.datatables.net/1.11.3/js/jquery.dataTables.min.js" type="text/javascript" charset="utf-8"></script>

<script src="//cdn.datatables.net/1.11.3/js/dataTables.bootstrap5.min.js" type="text/javascript" charset="utf-8"></script>

<script>

var table = \$('#myTable').DataTable();

</script>

}

Show 10 entries

Search:

Id ↑↓	UserId ↑↓	UserName ↑↓	ProductId ↑↓	Name ↑↓	Date ↑↓
4b38c325-7dd0-457b-bc1d-c67d7c08f74b	788F60E	juan_carrillog@my.unitec.edu.mx	5481c61	Pruduct 01	7/12/2021 1:43:00 PM
d5cefe16-1e86-4575-adbf-ae865db61e15	788F60E	juan_carrillog@my.unitec.edu.mx	5481c61	Pruduct 01	7/12/2021 7:28:00 PM
ea068b60-4cfe-4ec8-a412-dcb52ab939e7	788F60E	juan_carrillog@my.unitec.edu.mx	0205ca3	Pruduct 02	7/12/2021 2:26:00 PM

Showing 1 to 3 of 3 entries

Previous

1

Next

@model List<Domain. Empleado>

```
<!--https://datatables.net/-->
<link href="//cdn.datatables.net/1.11.3/css/dataTables.bootstrap5.css" rel="stylesheet" type="text/css">
<link href="//cdn.datatables.net/buttons/2.0.1/css/buttons.bootstrap5.min.css" rel="stylesheet" type="text/css">
```

```
<table id="myTable" class="table table-striped" style="width: 100%">
  <thead>
    <tr>
      <th>Nombre</th>
      <th>Edad</th>
      <th>Telefono</th>
    </tr>
  </thead>
  <tbody>
    @foreach (var e in Model)
    {
      <tr>
        <td>@e.Nombre</td>
        <td>@e.Edad</td>
        <td>@e.Telefono</td>
      </tr>
    }
  </tbody>
</table>
```

```
@section scripts {
  <!--https://datatables.net/-->
  <script src="//cdn.datatables.net/1.11.3/js/jquery.dataTables.min.js" type="text/javascript" charset="utf-8"></script>
  <script src="//cdn.datatables.net/1.11.3/js/dataTables.bootstrap5.min.js" type="text/javascript" charset="utf-8"></script>
  <script src="//cdn.datatables.net/buttons/2.0.1/js/dataTables.buttons.min.js" type="text/javascript" charset="utf-8"></script>
  <script src="//cdn.datatables.net/buttons/2.0.1/js/buttons.bootstrap5.min.js" type="text/javascript" charset="utf-8"></script>
  <script src="//cdn.jsdelivr.net/npm/pdfmake/0.1.53/pdfmake.min.js" type="text/javascript" charset="utf-8"></script>
  <script src="//cdn.jsdelivr.net/npm/pdfmake/0.1.53/vfs_fonts.js" type="text/javascript" charset="utf-8"></script>

  <script>
    var table = $('#myTable').DataTable({
      dom: 'Bfrtip',
      buttons: ['excelHtml5', 'pdfHtml5']
    });
  </script>
}
```

Excel PDF

Search:

Id	↑↓	UserId	↑↓	UserName	↑↓	ProductId	↑↓	Name	↑↓	Date	↑↓
4b38c325-7dd0-457b-bc1d-c67d7c08f74b		788F60E		juan_carrillog@my.unitec.edu.mx		5481c61		Pruduct 01		7/12/2021 1:43:00 PM	
d5cefe16-1e86-4575-adbf-ae865db61e15		788F60E		juan_carrillog@my.unitec.edu.mx		5481c61		Pruduct 01		7/12/2021 7:28:00 PM	
ea068b60-4cfe-4ec8-a412-dcb52ab939e7		788F60E		juan_carrillog@my.unitec.edu.mx		0205ca3		Pruduct 02		7/12/2021 2:26:00 PM	

Showing 1 to 3 of 3 entries

Previous

1

Next


```
<script>
var table = $('#myTable').DataTable({
  dom: 'Bfrtip',
  buttons: [
    {
      extend: 'excelHtml5',
      autoFilter: true,
      sheetName: 'Ventas'
    },
    {
      extend: 'pdfHtml5',
      orientation: 'landscape',
      pageSize: 'LEGAL'
    },
    'print',
    'colvis'
  ],
  lengthChange: false,
  scrollX: true,
  searchable: false,
  info: false,
  language: {
    "sProcessing": "Procesando...",
    "sLengthMenu": "Mostrar _MENU_ registros",
    "sZeroRecords": "No se encontraron resultados",
    "sEmptyTable": "Ningún dato disponible en esta tabla",
    "sInfo": "Mostrando registros del _START_ al _END_ de un total de _TOTAL_ registros",
    "sInfoEmpty": "Mostrando registros del 0 al 0 de un total de 0 registros",
    "sInfoFiltered": "(filtrado de un total de _MAX_ registros)",
    "sInfoPostFix": "",
    "sSearch": "Buscar: ",
    "sUrl": "",
    "sInfoThousands": " ",
    "sLoadingRecords": "Cargando...",
    "oPaginate": {
      "sFirst": "Primero",
      "sLast": "Último",
      "sNext": "Siguiente",
      "sPrevious": "Anterior"
    },
    "oAria": {
      "sSortAscending": ": Activar para ordenar la columna de manera ascendente",
      "sSortDescending": ": Activar para ordenar la columna de manera descendente"
    }
  }
});
table.buttons().container().appendTo('#btn-toolbar .col-md-6:eq(0)');
</script>
```

Excel PDF

Buscar:

Id ↑↓	UserId ↑↓	UserName ↑↓	ProductId ↑↓	Name ↑↓	Date ↑↓
4b38c325-7dd0-457b-bc1d-c67d7c08f74b	788F60E	juan_carrillog@my.unitec.edu.mx	5481c61	Pruduct 01	7/12/2021 1:43:00 PM
d5cefe16-1e86-4575-adbf-ae865db61e15	788F60E	juan_carrillog@my.unitec.edu.mx	5481c61	Pruduct 01	7/12/2021 7:28:00 PM
ea068b60-4cfe-4ec8-a412-dcb52ab939e7	788F60E	juan_carrillog@my.unitec.edu.mx	0205ca3	Pruduct 02	7/12/2021 2:26:00 PM

Anterior

1

Siguiente