



Introduction



- DataTables is a plug-in for the jQuery Javascript library.
- It is a highly flexible tool, based upon the foundations of progressive enhancement, and will add advanced interaction controls to any HTML table.
- DataTables has only one dependency jQuery. Being a jQuery plug-in, DataTables makes use of many of the excellent features that jQuery provides, and hooks into the jQuery plug-in system





Show 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
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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
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Name	Position	Office	Age	Start date	Salary
Tiger Nixon	System Architect	Edinburgh	61	2011/04/25	\$320,800
Garrett Winters	Accountant	Tokyo	63	2011/07/25	\$170,750
Ashton Cox	Junior Technical Author	San Francisco	66	2009/01/12	\$86,000
Cedric Kelly	Senior Javascript Developer	Edinburgh	22	2012/03/29	\$433,060
Airi Satou	Accountant	Tokyo	33	2008/11/28	\$162,700
Brielle Williamson	Integration Specialist	New York	61	2012/12/02	\$372,000
Herrod Chandler	Sales Assistant	San Francisco	59	2012/08/06	\$137,500
Rhona Davidson	Integration Specialist	Tokyo	55	2010/10/14	\$327,900
Colleen Hurst	Javascript Developer	San Francisco	39	2009/09/15	\$205,500
Sonya Frost	Software Engineer	Edinburgh	23	2008/12/13	\$103,600
Jena Gaines	Office Manager	London	30	2008/12/19	\$90,560
Quinn Flynn	Support Lead	Edinburgh	22	2013/03/03	\$342,000
Charde Marshall	Regional Director	San Francisco	36	2008/10/16	\$470,600
Haley Kennedy	Senior Marketing Designer	London	43	2012/12/18	\$313,500
Tatyana Fitzpatrick	Regional Director	London	19	2010/03/17	\$385,750
Michael Silva	Marketing Designer	London	66	2012/11/27	\$198,500
Paul Byrd	Chief Financial Officer (CFO)	New York	64	2010/06/09	\$725,000
Gloria Little	Systems Administrator	New York	59	2009/04/10	\$237,500
Bradley Greer	Software Engineer	London	41	2012/10/13	\$132,000
Dai Rios	Personnel Lead	Edinburgh	35	2012/09/26	\$217,500





Feature



- Paging
- Searching
- Ordering
- Scrolling setting
- Processing mode
 - Client-side processing
 - Server-side processing
- Theme and styling
- jQuery event
- Data rendering





Paging



- DataTables can split the rows in tables into individual pages, which is an efficient method of showing a large number of records in a small space. The end user is provided with controls to request the display of different data as the navigate through the data. This feature is enabled by default, but if you wish to disable it, you may do so with this parameter.

```
$('#example').dataTable( {  
    "paging": false  
} );
```





Searching



- This option allows the search abilities of DataTables to be enabled or disabled. Searching in DataTables is "smart" in that it allows the end user to input multiple words (space separated) and will match a row containing those words, even if not in the order that was specified (this allow matching across multiple columns).
- Please be aware that technically the search in DataTables is actually a filter, since it is subtractive, removing data from the data set as the input becomes more complex. It is named "search" here, and else where in the DataTables API for consistency and to ensure there are no conflicts with other methods of a similar name (specific the filter() API method).





- Note that if you wish to use the search abilities of DataTables this must remain true - to remove the default search input box whilst retaining searching abilities (for example you might use the search() method), use the dom option.

```
$ ( '#example' ).dataTable( {  
    "searching": false  
} );
```





Ordering



- If ordering is enabled (ordering), then DataTables will perform a first pass order during initialisation. Using this parameter you can define which column(s) the order is performed upon, and the ordering direction. The order must be an array of arrays, each inner array comprised of two elements:
 - Column index to order upon
 - Direction so order to apply
- This 2D array structure allows a multi-column order to be defined as the initial state should it be required.





Ordering



```
$( '#example' ).dataTable( {  
    "order": [[ 0, 'asc' ], [ 1, 'asc' ]]  
} );
```

```
$( '#example' ).DataTable( {  
    "order": [[ 3, "desc" ]]  
} );
```





Scrolling setting



- Enable horizontal scrolling. When a table is too wide to fit into a certain layout, or you have a large number of columns in the table, you can enable horizontal (x) scrolling to show the table in a viewport, which can be scrolled.
- This property can be true which will allow the table to scroll horizontally when needed (recommended), or any CSS unit, or a number (in which case it will be treated as a pixel measurement).





Scrolling setting



```
$( '#example' ).dataTable( {  
  "scrollX": true  
} );
```

```
$( '#example' ).dataTable( {  
  "scrollY": "200px"  
} );
```





Processing mode



- There are times when reading data from the DOM is simply too slow or unwieldy, particularly when dealing with many thousands or millions of data rows. To address this DataTables' server-side processing feature provides a method to let all the "heavy lifting" be done by a database engine on the server-side (they are after all highly optimised for exactly this use case!), and then have that information drawn in the user's web-browser. Consequently, you can display tables consisting of millions of rows with ease.



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Processing modes



- Client-side processing - the full data set is loaded up-front and data processing is done in the browser.
- Server-side processing - an Ajax request is made for every table redraw, with only the data required for each display returned. The data processing is performed on the server.





Client-side processing



- Client-side processing is the default operating mode of DataTables as it is easy to use and requires no additional code to be written. In client-side processing mode, the ordering of the data in the table, searching, paging and all other data processing operations that DataTables performs are done in the browser by DataTables itself.

-



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```
1  var data = [  
2      [  
3          "Tiger Nixon",  
4          "System Architect",  
5          "Edinburgh",  
6          "5421",  
7          "2011/04/25",  
8          "$3,120"  
9      ],  
10     [  
11         "Garrett Winters",  
12         "Director",  
13         "Edinburgh",  
14         "8422",  
15         "2011/07/25",  
16         "$5,300"  
17     ]  
18 ]
```

Javascript

And the table initialisation:

```
1  $('#example').DataTable( {  
2      data: data  
3  } );
```

Javascript





Processing mode



- When using server-side processing, DataTables will make an Ajax request to the server for each draw of the information on the page (i.e. when paging, ordering, searching, etc.). DataTables will send a number of variables to the server to allow it to perform the required processing and then return the data in the format required by DataTables.
- Server-side processing is enabled by use of the **serverSide** option, and configured using **ajax**. See below for further information on configuration options.



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Processing mode



```
$( '#example' ).DataTable( {  
    serverSide: true,  
    ajax: '/data-source'  
} );
```

```
$( '#example' ).DataTable( {  
    serverSide: true,  
    ajax: {  
        url: '/data-source',  
        type: 'POST'  
    }  
} );
```





Theme and styling



- It is important to style the DataTables enhanced tables in a manner which suits your design, so the tables fit in seamlessly with the rest of your site / app. To this end, DataTables provides a number of options for styling the tables, from the default DataTables stylesheet which has a number of built-in optional features, to integration with some of the most widely used CSS frameworks available.



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Bootstrap 3



Show entries

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Bootstrap 3



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Bootstrap 4



Show 10 entries

Search:

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Name	Position	Office	Age	Start date	Salary

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Bootstrap 5



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	

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Foundation



Show entries

Search:

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jQuery UI



Show <input type="text" value="10"/> entries		Search: <input type="text"/>			
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jQuery event



- DataTables and its extensions will emit custom DOM events when they perform particular operations, providing the ability to listen for these events and take action on them when they occur, for example updating display information about a table when a table is redrawn.
- The events DataTables emits can all be listened for using the on() method, or the jQuery.on() method with the dt namespace (all events are triggered with the dt namespace to ensure they do not conflict with custom events from other libraries!).

```
$('#myTable').on( 'draw.dt', function () {  
    alert( 'Table redrawn' );  
} );
```



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Data rendering



- Add row
- Remove row
- reload()
- clear()
- draw()
- Orther <https://datatables.net/reference/api/>



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Q & A



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