

FathGrid

developer documentation

www.fathsoft.com

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Installation

Just add fathgrid.js to your page HEAD section

```
<script src="fathgrid.js"></script>
```

Initialization

First, make sure you have a table with an ID attribute in your HTML:

```
<table id="table1" class="table table-hover table-bordered ">
  <thead class="thead-light"></thead>
  <tbody></tbody>
</table>
```

To initialize FathGrid object in place of a table, use JavaScript code:

```
var t1=FathGrid("table1",{ ...configuration_options });
```

Configuration options

Configuration options is an object set as second parameter to FathGrid initialization call. It can contain the following fields:

<i>Field</i>	<i>Description</i>	<i>Default</i>
size	page size	10
page	page number	1
filterable	allow filters in table header	true
editable	allow editing when clicking on cells	false
pageable	allow paginator	true
sortable	allow sorting by clicking on column headers	true
resizable	allows interactive column resizing	true
restoreColumns	if true, automatically restore column widths from previous session	false
showFooter	show table footer	false
showGroupFooter	show group footer	false
data	data array	[]
rowClass	function (item, idx) which returns string of class names to add to each TR element in table body	
onChange	function to be called whenever cell data is changed	function(item, col, oldval, newval)
groupOn	function (item, index) which returns grouping string	function(item. idx){}

sortBy	array of column indices for fixed filter	[]
columns	array of column configuration objects	[]
serverURL	templated URL to retrieve JSON data from	null
prepareData	custom async function which converts received JSON object into data array	async (json)=> json
loading	message to show while loading data	'Loading...'
rtl	set to true for right-to-left languages	false
selectColumns	allow hiding/showing columns	false
onInitFilter	function which is called when filter row is created. Useful for customizing appearance of filter controls	function(tr_element){}
onInitTable	function which is called when table body is rendered. Useful for customizing appearance	function(tbody_element){}
onInitInput	function called after table cell editor is initialized. Function parameters are: - item : data item - idx : column index - el : TD cell element in which input is located	function(data_item, column_index, TDElement){}
template	Templated HTML string for grid wrapper element. Use this to insert custom HTML between grid elements.	{tools}{info}{graph}{table}{pager}
graphType	graph type - line, bar, pie, etc.	line
graphValues	function which returns an object to initialize data graph	{ title: 'Graph Title', labels: ['Jan','Feb','Mar',...],

		values: [100,200,300,...] }
showGraph	if set to true, table toolbar includes interactive graphing designer	true
showGrouping	if set to true, table toolbar includes grouping designer	true
showTableTotal	when data grouping / aggregation is active, this option controls if table total row is generated	false
showGroupHeader	control if group header row is shown	true
showGroupRows	show/hide data rows in grouped data	true
fetchOptions	set options object for data fetching from server	headers: {'Accept': 'application/json'}
filterParamPrefix	add prefix for URL params when fetching data from server. Eg. "filter." causes data to be retrieved from server with <url>?filter.column=value	empty
pageNumberBase	some API points expect page numbering to start from 0, this option sets first page number for URL page param when retrieving data from server	1
inputClass	Class string to add to input elements within grid	Empty string

Column configuration options

Column configuration object can contain the following fields:

Field	Description	Default
name	field name	
visible	if false, hide this column	true

filter	list-of-values for filter or null to automatically create list from table data	undefined
value	function(item) which returns text to display in column	
width	width in pixel units, if value is number. To use other units, use string value with units suffix eg. '10rem'.	auto
html	function(item) which return HTML for column cell	
header	text to show in column header	
footer	function(items, element) which returns text to display in footer cell	
groupFooter	expression or a function(items) which returns grouping value	
editable	allow cell editing when clicked	false
type	HTML input type for cell editor	text
pattern	HTML validation pattern for input element	
title	input title or a message to show when editing	
listOfValues	array of values to choose from when editing cell value	
class	column class string. Useful to add text-alignment to the column	
filterInputClass	class string for input element in column filter	

Grid data

Table data can be loaded from:

1. Inline HTML table
2. Dynamic JavaScript array
3. Server-side API endpoint

Inline data

Simply put data in table HTML in TBODY TR TD elements:

```

<table id="table1" class="table table-hover table-bordered ">
  <thead class="thead-light">
    <tr><th>Code</th><th>Description</th><th>Qty</th><th>Price</th></tr>

  </thead>
  <tbody>
    <tr><td>100</td><td>first description</td><td>1</td><td>30</td></tr>
    <tr><td>200</td><td>other description</td><td>2</td><td>20</td></tr>
    <tr><td>300</td><td>some text</td><td>3</td><td>10</td></tr>
  </tbody>
</table>

```

Dynamic data

Configuration option “data” allows setting data from JS array:

```

var demodata=[
  ['100','Service title 100', 2, 134],
  ['120','Some stuff', 10, 160],
  ['310','Goods', 5, 2000],
];
var t1=FathGrid("table1",{
  data: demodata
});

```

Server-side data

To load data from server, set **serverURL** configuration option to string template:

```

t1=FathGrid("table1",{
  serverURL:'https://jsonplaceholder.typicode.com/posts?_page=${page}&_limit=${size}&_sort=${sort}&_order=${order}&q=${search}&${filters}',

```

note that URL string has these placeholders:

- \${size} replaced with page size setting
- \${page} page number (1,2,3...)
- \${sort} sort field names
- \${order} order of sort, “asc” or “desc” for sort fields
- \${search} search term (if any)
- \${filters} replaced with filter name/value pairs (eg: name=test&price=1)

API

FathGrid object has the following methods:

Method	Parameters	Description
--------	------------	-------------

getData		returns read-only copy of table data
setData	data :array	sets new data
export	format : 'txt', 'csv', 'xls','pdf'... filename : downloaded file name	downloads data-export file
render		re-draws the table
sort	column_index : 1-based column desc : true for descending order multi : true for multicolumn sort	sort data by field
getSort		returns array of field indices by which data is sorted
setSort	new_sort : array of column indices	sets sort fields
filter	column_index : column value : filter value	sets data filtering
getFilter		returns current filter
editCell	rownum : 1-based row index col : 1-based column index	starts editor in cell
search	q : search term	sets instant search term
getSelectedItem		returns data item from currently selected row
deleteRow	rownum : 1-based row index	deletes a row
insertRow	rownum : 1-based row index item : new item data	insert new row
setServerURL	url : string	set new server URL
wrapperEl		returns FathGrid wrapper HTML Element
selectRow	rownum : 1-based row index	selects specified row
showSubgrid	subgrid : details FathGrid html : custom HTML to add before sub-grid	insert sub grid below currently selected row

saveConfig	none	returns JSON string with all customizable parameters, page size, sorting, grouping, graph, etc.
loadConfig	objConfig	JSON object created with previous call to saveConfig . It loads new configuration and paging, sorting, grouping options and refresh the table.

How to...

Display calculated columns

See column configuration **value** and **html** options.

Example which calculates “item total” from “qty” and “price” columns on each row:

```
var t1=FathGrid("table1",{
...
columns:[
{
  header:'Item Total',
  editable:false,
  value:(x)=>`${parseFloat(x.qty)|0}*parseFloat(x.price|0)).toFixed(2)}`,
  ...
}
```

Group by expression

See **groupOn** and **showGroupFooter** configuration options.

Example:

```
//grouping
sortBy:[1],//group on first column
groupOn:item=>`${item[0]}`, //group expression
showGroupFooter:true,

selectColumns:true,
columns:[
  {visible:false}, //invisible grouping column
  {
    groupFooter:(data)=>`${data.length} songs`,
  },
],
```


Add column footer

See **footer** column configuration option.

Example which adds footer with total sum for “item total” column:

```
var t1=FathGrid("table1",{
  ...
  columns:[
    {
      header:'Item Total',
      editable:false,
      value:(x)=>`${x.qty*x.price}`,
      footer:(data,el)=>
        data.map(x=>(x.qty*x.price)).reduce((x,s)=>x+s,0).toFixed(2)
    },
    ...
  ]
})
```

Change appearance of some rows

See **rowClass** config option.

Example from songs.html sample page:

```
t1=FathGrid("table1",{
  ...
  rowClass: (item,idx)=>
    item[3]=='The Beatles'?
      'table-info' :
    (item[3]=="The Rolling Stones"?
      'table-warning':
      ''
    ),
  ...
})
```

Editing

If config.editable is true, call **editCell(row,col)** API function to start editor.

Shift+arrow keys move editor across table. Columns with **editable=false** option set are skipped.

Insert new row

Call **insertRow** API function.

Delete row

Call **deleteRow** API function.

Show sub-grid

First, create second FathGrid object which will hold sub-grid data, then, call **showSubgrid** on main grid to insert details grid under currently selected row.