

Top ten tweaks for the Interactive Grid

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Interactive Grid

The "basics"

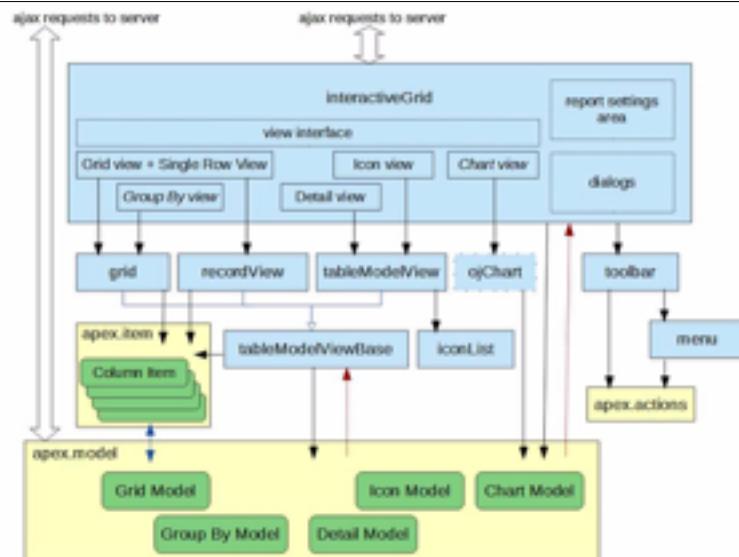


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Basic IG

Employee	Name	Job	Hire Date	Rate	Comm	Dept
7839	KING	PRESIDENT	17-NOV-81	5000	-	10
7866	BLAKE	MANAGER	01-MAR-81	2950	-	30
7782	CLARK	MANAGER	18-JUN-81	2450	-	10
7898	JONES	MANAGER	03-APR-81	2975	-	20
7788	SCOTT	ANALYST	09-OCT-81	3000	-	20
7862	FORD	ANALYST	03-OCT-81	3000	-	20
7899	MARTIN	CLERK	17-OCT-81	800	-	30
7486	ALLEN	SALESMAN	20-FEB-81	1600	300	30
7501	WARD	SALESMAN	22-FEB-81	1250	300	30
7686	MARTIN	SALESMAN	28-SEP-81	1250	1400	30
7684	TURNER	SALESMAN	08-SEP-81	1500	0	30
7876	ADAMS	CLERK	23-JAN-81	1150	-	20
7890	JAMES	CLERK	09-OCT-81	950	-	20
7894	MILLER	CLERK	23-JAN-81	1000	-	10

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1. Tweak the Toolbar

Remove "Finder Drop Down"

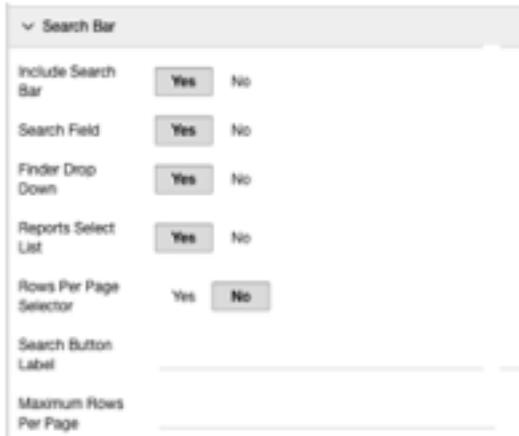


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Tweaking the Interactive Grid - 12 October 2017

Declarative settings for an IR



Search Bar
Include Search Bar: Yes No
Search Field: Yes No
Finder Drop Down: Yes No
Reports Select List: Yes No
Rows Per Page Selector: Yes No
Search Button Label:
Maximum Rows Per Page:

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Declarative settings for an IG

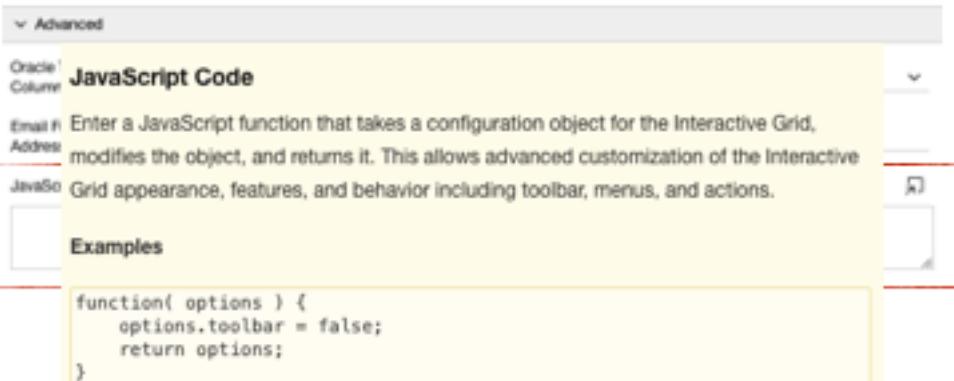


Search Bar
Include Search Bar: Yes No
Search Field: Yes No
Finder Drop Down: Yes No
Reports Select List: Yes No
Rows Per Page Selector: Yes No
Search Button Label: Yes No
Maximum Rows Per Page:

Toolbar
Show: Yes No
Buttons: Reset, Save
Add Button Label:
Enable Users To
Save Public Report: Yes No
Download: Yes No

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JavaScript Configuration



Advanced

JavaScript Code

Enter a JavaScript function that takes a configuration object for the Interactive Grid, modifies the object, and returns it. This allows advanced customization of the Interactive Grid appearance, features, and behavior including toolbar, menus, and actions.

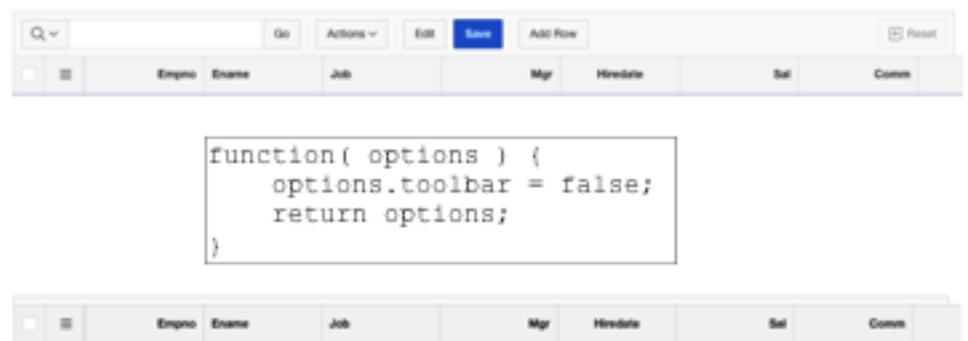
Examples

```
function( options ) {
    options.toolbar = false;
    return options;
}
```

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JavaScript Configuration



Q, Go, Actions, Edit, Save, Add Row, Reset

	Empno	Ename	Job	Mgr	Hiredate	Sal	Comm

```
function( options ) {
    options.toolbar = false;
    return options;
}
```

	Empno	Ename	Job	Mgr	Hiredate	Sal	Comm

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“toolbar” is just one of the options

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Disable “Finder Drop Down”

✓ Search Bar

Include Search Bar

Search Field

Filter Order

Group By

Records Selected

Load

Rows Per Page Selector

Search Button Label

Maximum Rows Per Page

Q Go

▼ toolbarButtons: Array(7)

 ▼ R1

 ▼ controls1: Array(3)

 ▼ R2

 icon: "icon-search"

 isDefault: true

 id: "column_filter_button"

 labelKey: "AFER.36.SELECT_COLUMNS_TO_SEARCH"

 ▶ menu: Element Array(0), actionContext: {}, idPrefix: "emp_lg_toolbar"

 ▶ type: "MENU"

 ▶ __proto__: Object

 ▼ R3

 extensions: "search"

 id: "search_field"

 type: "TEXT"

 ▶ __proto__: Object

 ▼ R4

 action: "search"

 type: "BUTTON"

 ▶ __proto__: Object

 length: 3

 ▶ __proto__: Array(0)

 groupTogether: true

 id: "search"

 ▶ __proto__: Object

 ▶ R5 (id: "reports", controls1: Array(3))

 ▶ R6 (id: "views", controls1: Array(1))

 ▶ R7 (id: "actions1", controls1: Array(1))

 ▶ R8 (id: "actions2", controls1: Array(0))

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Disable “Finder Drop Down”



```
function( options ) {
    var $ = apex.jQuery,
        toolbarData = $.apex.interactiveGrid.copyDefaultToolbar(),
        toolbarGroup = toolbarData.toolbarFind("search");
    // toolbarGroup points to "search" object, containing "controls" array
    // remove first element from that array
    toolbarGroup.controls.shift();
    // pass back the modified object
    options.toolbarData = toolbarData;
    return options;
}
```

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2. Tweak the Toolbar

Add a button on the Search Bar



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Tweaking the Interactive Grid - 12 October 2017

Add a button on the Search Bar - IR

Page 8: Employees IR
Pre-Rendering
Regions
Content Body
Employees IR
Columns
Attributes
Region Buttons
BarButton
Post-Rendering

The screenshot shows the 'Identification' tab of the button configuration. The 'Button Name' is set to 'BarButton', the 'Label' is 'Button on the bar', and the 'Sequence' is 10. The 'Region' is set to 'Employees IR'. The 'Button Position' is set to 'Right of Interactive Report Search Bar', which is highlighted with a red border. Below the configuration pane, the page preview shows the search bar with the newly added button.

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Add a button on the Search Bar - IG

```
function( options ) {
  var $ = apex.jQuery,
    toolbarData = $.apex.interactiveGrid.copyDefaultToolbar(),
    toolbarGroup = toolbarData.toolbarFind("actions3");
  // toolbarGroup is "actions3" object, with the "Add Row" button
  // add an element to that array
  toolbarGroup.controls.push({ type : "BUTTON"
    , action : "my-custom-action"
    , label : "My Button"
    , icon : "fa fa-user-secret"
    , iconBeforeLabel : true
  });
  // pass back the modified object
  options.toolbarData = toolbarData;
  return options;
}
```

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Add a button on the Search Bar - IG (alt.)

```
function( options ) {
  var $ = apex.jQuery,
    toolbarData = $.apex.interactiveGrid.copyDefaultToolbar(),
    toolbarGroup = { id : "myToolBarGroup"
      , controls : [ { type : "BUTTON"
        , action : "my-custom-action"
        , label : "My Button"
        , icon : "fa fa-user-secret"
        , iconBeforeLabel : true
      }]
    };
  // toolbarGroup is my new created object
  toolbarData.push( toolbarGroup );
  // pass back the modified object
  options.toolbarData = toolbarData;
}
```

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3. Tweak the Action Menu

Remove default functions



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Declarative settings for an IR

The Actions Menu is displayed with several items visible:

- Actions Menu
- Include Actions Menu
- Filter
- Select Columns
- Rows Per Page
- Sort
- Control Break
- Highlight
- Compute
- Aggregate
- User
- Group By
- Post
- Formatter
- Save Report
- Save Public Report
- Save Public Report Authorization
- Reset
- Help
- Subscription
- Download

The Actions menu is shown again, but the 'Data' option under 'Actions' is highlighted with a yellow circle.

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Declarative settings for an IG

The Actions Menu for an Interactive Grid shows the following declarative settings:

- Toolbar
 - Show: Yes (selected)
 - Buttons: Reset (selected), Save (selected)
 - Add Button Label: _____
 - Enable Users To: _____
- Save Public Report: Yes (selected)
- Download: Yes (selected)

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Remove default Actions

```
function(options) {
  options.initActions = function(actions) {
    actions.hide("show-columns-dialog");
    actions.hide("show-control-break-dialog");
    actions.hide("show-aggregate-dialog");
    actions.hide("show-help-dialog");
    actions.hide("show-sort-dialog");
    actions.hide("refresh");
    // actions.hide("show-filter-dialog");
    // actions.hide("show-flashback-dialog");
    // actions.hide("show-highlight-dialog");
    actions.disable("chart-view");
  }
  return options;
}
```

The Actions menu shows the 'Data' submenu, which now lacks the 'Flashback' item, indicating it has been removed.

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Remove default Actions (features)

```
function(options) {
  // Disable Filter / Flashback as "features"
  options.features = options.features || {};
  options.features.filter = false;
  options.features.flashback = false;
  return options;
}
```

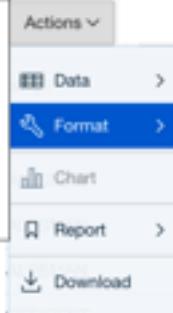
The Actions menu shows the 'Data' submenu, which now includes the 'Flashback' item, indicating it has been restored.

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Remove default Actions (Grid View features)

```
function( options ) {
    // Disable Highlight "feature" of the Grid View
    options.views = options.views || {};
    options.views.grid = options.views.grid || {};
    options.views.grid.features =
        options.views.grid.features || {};
    options.views.grid.features.highlight = false;
    return options;
}
```



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4. Tweak the Action Menu

Add an Action to a Toolbar Button



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Add a button on the Search Bar - IG

```
function( options ) {
    var $ = apex.jQuery,
        toolbarData = $.apex.interactiveGrid.copyDefaultToolbar(),
        toolbarGroup = { id : "myToolBarGroup",
            controls : [ { type : "BUTTON",
                action : "my-custom-action",
                label : "My Button",
                icon : "fa fa-user-secret",
                iconBeforeLabel : true
            } ]
        };

    // toolbarGroup is my new created object
    toolbarData.push( toolbarGroup );
    // pass back the modified object
    options.toolbarData = toolbarData;
}
```

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Link Action to Button

```
function( options ) {
    ...
    options.initActions = function( actions ){
        actions.add(
            { name : "my-custom-action"
            , action : function( event, element ) {
                apex.event.trigger( element, "my-custom-action" );
            }
        );
    }
    return options;
}
```

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5. Modify Column Headings

Remove sorting, hiding, aggregate etc.



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Remove column header features

Ename	Job
ADAMS	MANAGER
ALLEN	ANALYST
BLAKE	ANALYST
CLARK	CLERK
FORD	SALESMAN

Filter...

MANAGER

ADAMS MANAGER

ALLEN ANALYST

BLAKE ANALYST

CLARK CLERK

FORD SALESMAN

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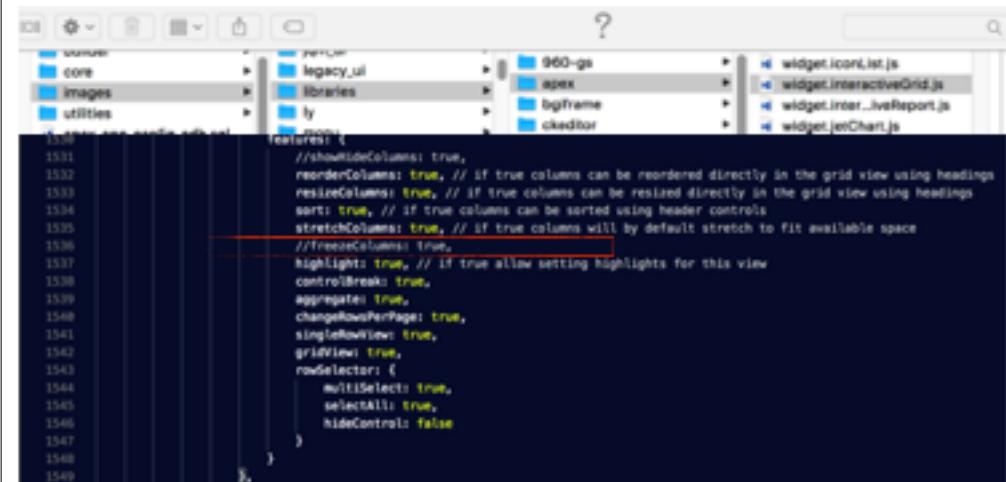
Remove column header features - region level

```
function( options ){
    options.views = options.views || {};
    options.views.grid = options.views.grid || {};
    options.views.grid.features = options.views.grid.features|| [];

    options.views.grid.features.reorderColumns = false;
    options.views.grid.features.resizeColumns = false;
    options.views.grid.features.sort = false;
    return options;
}
```

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Where to find all these options?



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Remove column header features - column level

```
function( options ){
  options.features = options.features || {};
  options.features.canHide      = false;
  options.features.controlBreak = false;
  options.features.aggregate   = false;
  //options.features.freeze     = false;
  return options;
}
```

Name	Job
ADAMS	ANALYST
ALLEN	ANALYST
BLAKE	ANALYST
CLARK	ANALYST
FORD	ANALYST

Name	Job
ADAMS	ANALYST
ALLEN	ANALYST
BLAKE	ANALYST
CLARK	ANALYST
FORD	ANALYST

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Reuse settings

- Create JavaScript function (in a static file)

```
function myColumnSettings( options ){
  options.features = options.features || {};
  options.features.canHide      = false;
  options.features.controlBreak = false;
  options.features.aggregate   = false;
  return options;
}
```

- Call the function

```
myColumnSettings
```

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Reuse settings and override

- Call the function

```
function( options ){
  options = myColumnSettings( options );
  options.features.aggregate = true;
  return options;
}
```

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6. Modify Column Headings

Rotate column heading



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Rotate column headings

Rotate heading

<input checked="" type="checkbox"/>	7839	KING	PRESIDENT	-	17-NOV-81	-	5000	10			
<input type="checkbox"/>	7698	BLAKE	MANAGER	7839	01-MAY-81	-	2960	30			

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Rotate column headings

Rotate heading

Q	Go	Actions	Edit	Save	Add Row	Reset

```
.a-GV-header {  
    height: 120px;  
}  
  
.a-GV-w-hdr .a-GV-headerLabel {  
    transform: translateX(25%) rotate(45deg);  
    display: inline-block;  
}
```

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7. Customise tooltips

Show "hidden" columns as a tooltip



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Customise tooltip

Customise tooltip

	Empno	Ename	Job	Mgr	Hiredate	Sal	
<input checked="" type="checkbox"/>	7839	KING	PRESIDENT	-	17-NOV-81	5000	
<input type="checkbox"/>	7698	BLAKE	MANAGER	7839	01-MAY-81	2960	
<input type="checkbox"/>	7782	PING	PRESIDENT 5000	MANAGER	7839	09-JUN-81	2450

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Customise tooltip

Customise tooltip

	Empno	Name	Job	Hire Date	Manager	Dept
1	7839	KING	PRESIDENT	17-MAR-81	NULL	100
2	7844	SCOTT	VACANT	17-MAR-81	NULL	100
3	7876	JONES	MANAGER	22-JUL-81	7839	100

```
function( options ) {
    options.defaultGridViewOptions =
    { tooltip:
        { content: function(callback, model, recordMeta, colMeta, columnDef ) {
            return model.getValue( recordMeta.record, "JOB" ) +
                "<br/>$" + model.getValue( recordMeta.record, "SAL" );
        }
    }
}
return options;
}
```

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8. Modify row menu

Delete and add entries



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Modify row menu

	Empno		Empno
✓	7839	<input checked="" type="checkbox"/>	7839
	7898	<input checked="" type="checkbox"/>	Duplicate Rows
	7782	<input checked="" type="checkbox"/>	Delete Rows
	7566	<input checked="" type="checkbox"/>	Refresh Rows
	7788	<input checked="" type="checkbox"/>	Revert Changes
	7902	<input checked="" type="checkbox"/>	
	7369	<input checked="" type="checkbox"/>	
	7499	<input checked="" type="checkbox"/>	

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Modify row menu

	Empno		Empno
✓	7839	<input checked="" type="checkbox"/>	Duplicate Rows
	7898	<input checked="" type="checkbox"/>	Delete Rows
	7782	<input checked="" type="checkbox"/>	Refresh Rows
	7566	<input checked="" type="checkbox"/>	Revert Changes
	7788	<input checked="" type="checkbox"/>	
	7902	<input checked="" type="checkbox"/>	
	7369	<input checked="" type="checkbox"/>	
	7499	<input checked="" type="checkbox"/>	

```
function(options) {
    options.initActions = function( actions ) {
        actions.remove("single-row-view");
        actions.remove("row-add-row");
        actions.remove("row-duplicate");
        actions.remove("row-delete");
        actions.remove("row-refresh");
        actions.remove("row-revert");

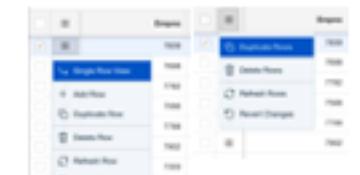
        actions.remove("selection-duplicate");
        actions.remove("selection-delete");
        actions.remove("selection-refresh");
        actions.remove("selection-revert");
    }
    return options;
}
```

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Modify row menu



```
apex.region("emp").widget()
    .interactiveGrid("getViews").grid
    .rowActionMenu$.menu("option")
    .items.push({type:"action", label:"Hi", icon : "fa fa-hand-paper-o", action:
function(){alert("Hi y'all")}});

apex.region("emp").widget()
    .interactiveGrid("getViews").grid
    .selActionMenu$.menu("option")
    .items.push({type:"action", label:"Hi", icon : "fa fa-thumbs-up", action:
function(){alert("Good work by all selected employees")}});
```

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Modify row menu

The screenshot shows the GitHub repository page for 'Oracle APEX Dynamic Action Plugin - Extend IG Menu'. It displays a list of commits with their authors, commit messages, and timestamps. The commits include initial commits for the plugin and its tests.

Author	Commit Message	Timestamp
marc	Initial Commit - JS Tests	9 months ago
marc	Better Impl. Tests for Plugin Attributes	9 months ago
marc	Initial Commit	9 months ago
marc	Initial Commit	9 months ago
marc	added open badge	9 months ago
marc	corrected previous title	9 months ago
marc	Initial Commit	9 months ago
marc	Initial Commit	9 months ago

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Modify row menu

The screenshot shows the configuration for a dynamic action named 'Extend IG Menu [Plug-in]'. The 'Affected Elements' section is set to 'Region' and 'Region' respectively. The 'Region' dropdown shows 'Modify Row Level Menu'.

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9. Refresh row on change

without a full region refresh



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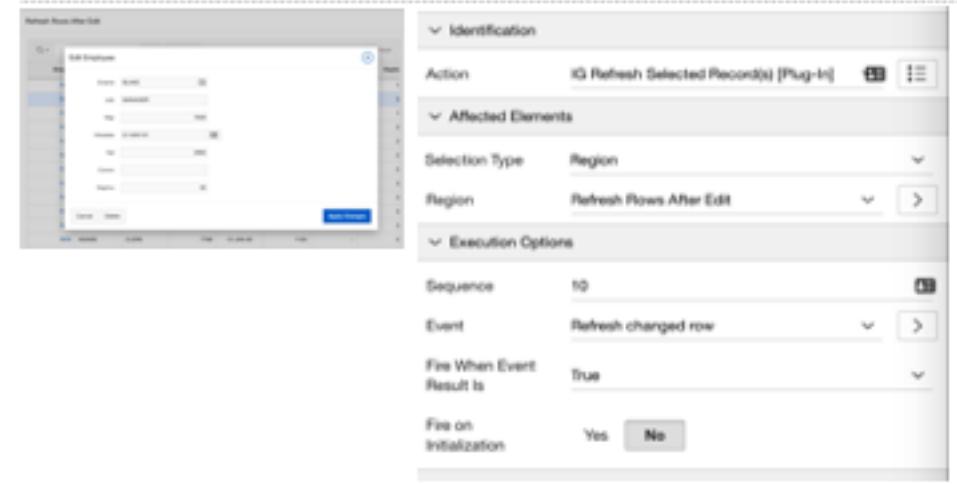
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Refresh (just the) row on change



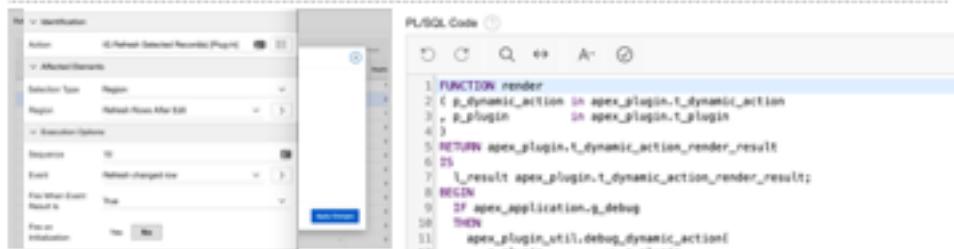
49

Refresh (just the) row on change



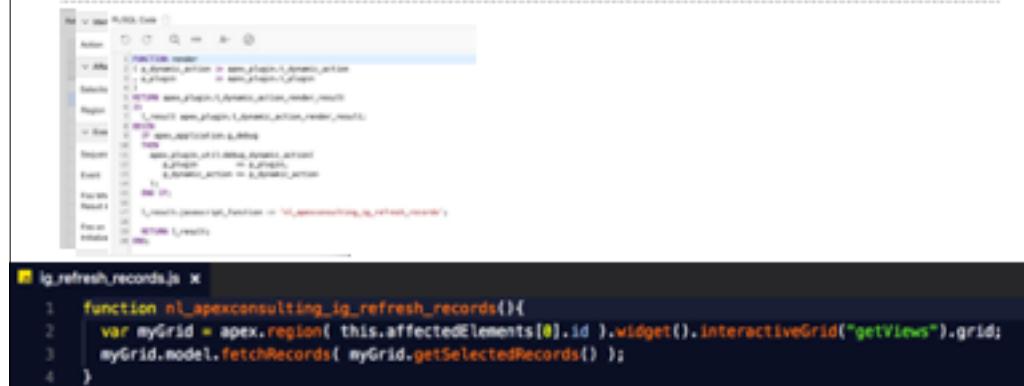
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Refresh (just the) row on change



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Refresh (just the) row on change



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10. Refresh upon delete

without a full region refresh



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Refresh upon delete

Empno	Ename	Job	Mgr	Hiredate	Sal	Comm	Deptno
7839	KXMARTIN	SALESMAN	7898	28-SEP-81	1250	1400	30
Edit Employee							
	Ename	KXMARTIN					
	Job	SALESMAN					
	Mgr	7898					
	Hiredate	28-SEP-81					
	Sal	1250					
	Comm	1400					
	Deptno	30					
Cancel		Delete	Apply Changes				
7840	MLLNER	CLERK	7782	23-JAN-80	1300		10

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Refresh upon delete

```
ig.refresh_records.js x
1  function nl_apexconsulting_ig_refresh_records(){
2    var myGrid = apex.region( this.affectedElements[0].id ).widget().interactiveGrid("getViews").grid;
3    myGrid.model.fetchRecords( myGrid.getSelectedRecords() );
4  }

var records, recordId, iMode,
currentViewImpl = apex.region('emp').widget().interactiveGrid("getViews", "grid");
records = currentViewImpl.getSelectedRecords();

currentViewImpl.model.fetchRecords(records, function(err){
  if (err) {
    apex.message.clearErrors();
    recordId = currentViewImpl.model.getRecordId(records[0]);
    iMode = currentViewImpl.model.getRecordMetadata(recordId);
    iMode.canDelete = true;
    currentViewImpl.model.setOption('editable', true);
    currentViewImpl.model.deleteRecords(records);
    currentViewImpl.model.clearChanges();
  }
});
```

Refresh upon delete

A screenshot of the Oracle APEX configuration interface. It shows a 'Process Builder' step with the following details:

- Identification:** Name: Refresh changed or deleted row
- Execution Options:** Sequence: 10
- When:**
 - Event: Dialog Closed
 - Selection Type: Region
 - Region: Refresh Rows After Delete

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Top ten

1. Remove objects from the standard Toolbar
2. Add objects to the standard Toolbar
3. Remove / disable standard Actions
4. Add your own Actions
5. Modify column functions
6. Modify column headings
7. Customise tooltips
8. Modify row level menu
9. Refresh (just the) row on change
10. Remove (just the) row on delete



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Links to resources

- <http://hardlikesoftware.com/weblog/2016/06/08/interactive-grid-under-the-hood/>
- <http://hardlikesoftware.com/weblog/2017/01/06/interactive-grid-column-widths/>
- <http://hardlikesoftware.com/weblog/2017/01/18/how-to-hack-apex-interactive-grid-part-1/>
- <http://hardlikesoftware.com/weblog/2017/01/24/how-to-hack-apex-interactive-grid-part-2/>
- <http://hardlikesoftware.com/weblog/2017/02/20/how-to-hack-apex-interactive-grid-part-3/>
- <http://hardlikesoftware.com/weblog/2017/03/31/how-to-hack-apex-interactive-grid-part-4/>
- <http://hardlikesoftware.com/weblog/2017/07/10/apex-interactive-grid-cookbook/>
- <https://github.com/mgoricki/orclapex-ig-cheat-sheet>
- https://github.com/Dani3ISun/apex-plugin-extend_ig_menu

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Q & A

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