

CrossUI Cookbook

Getting Started Guide

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Preface

CrossUI is a Cross-Browser JavaScript framework with cutting-edge functionality for rich web application.

CrossUI RAD Tools enables developers to rapidly develop and package the exactly same code and UI into Web Apps, Native Desktop Apps for Windows, OS X, Linux and UNIX on 32-bit and 64-bit architectures as well as Mobile Apps for iPhone, iPad, Windows Phone, webOS, BlackBerry, and Android devices. With this powerful RAD Tool, developers can build cross-platform applications just like what they do in VB or Delphi.

Develop Once, Deploy Anywhere!

Features & Resources:

1. Rich client-side API, works with any backend or static HTML pages.
2. Web services (JSON/XML/SOAP) can be directly bound.
3. More than 40 common components, including Tabs, Dialog, TreeGrid, TimeLine and many other web GUI components.
4. Wide cross-browser compatibility, IE6+, firefox1.5+, opera9+, safari3+ and Google Chrome.
5. Full API Documentation with tons of samples.
6. Ever Increasing Code Snippets.
7. PHP/C #/JAVA Back-end service codes are available.
8. CrossUI is Open Source under LGPL3 license;
9. CrossUI RAD (commercial license) can reduce development time significantly.

This guide focuses on CrossUI Framework itself, and contains some info about CrossUI RAD Tools. In this guide book, all the examples will be demoed in browsers. But those examples are cross-platform; you can package them with CrossUI RAD Tools, and deploy them anywhere.

If you have any good suggestions, you can contact me at [linb\[at\]crossui.com](mailto:linb[at]crossui.com).

Go to <http://www.crossui.com/Forum> for the more information.

Chapter 1. Preparation

First of all, note that all instances of this tutorial are based on CrossUI version 1.0. Therefore, our first task is to download the 1.0 release package, and to establish the local environment.

1.1. Download the package

CrossUI framework zip package can be downloaded from

<http://www.crossui.com/download.html> or
<https://github.com/linb/crossui> .

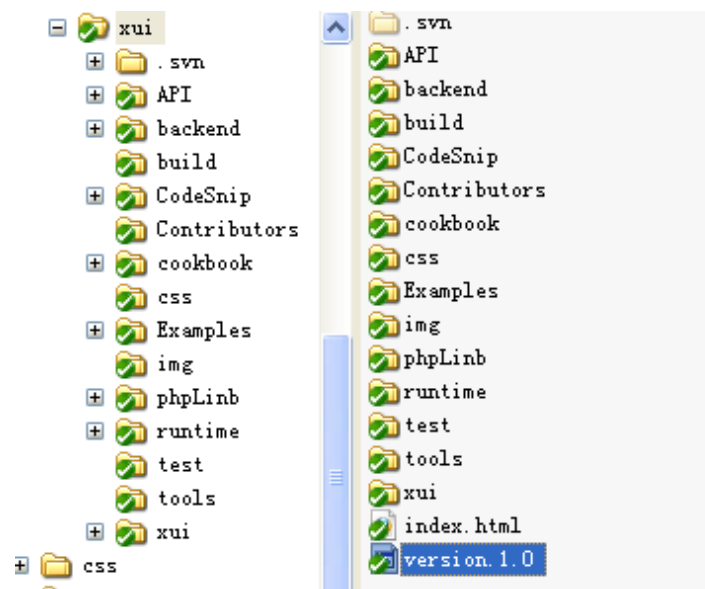
It's the latest stable version, but not the latest code. I suggest you get the latest code from our SVN.

For those who are not familiar with SVN, should learn how to use SVN first. After all, a lot of open-source projects use SVN to manage code. SVN requires a client program to connect to what is called a "repository" where the files are stored. On commonly used SVN client is called TortoiseSVN, which is freely available. Other clients exist, but TortoiseSVN is recommended due to its simplicity of use.

Version 1.4 repository URL: <https://github.com/linb/CrossUI/tree/master/xui1.4> .

1.2. The package folder

If you downloaded package from Google group, extract the package to a local folder. If you fetch the code from SVN, does not need to extract.

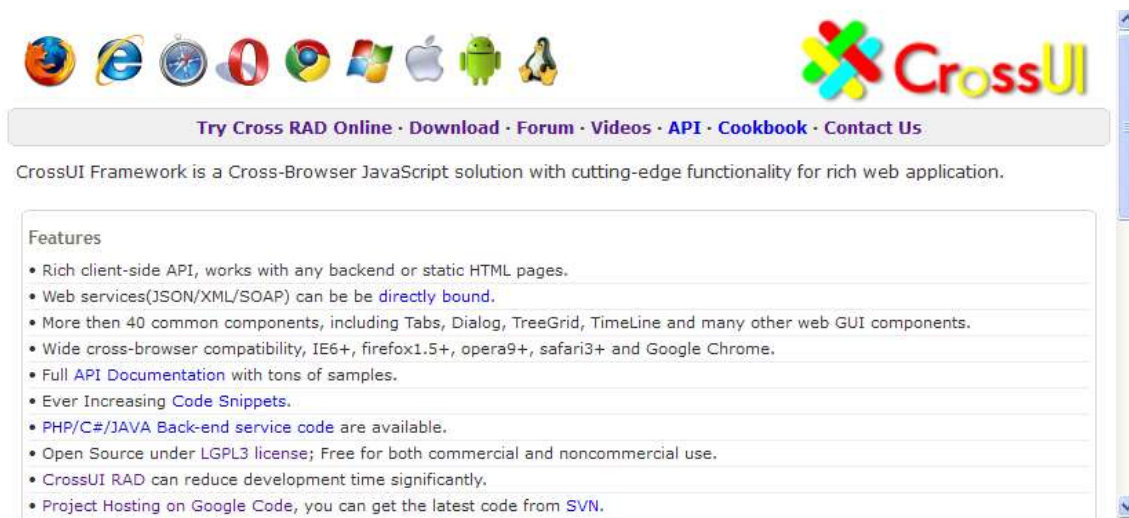


The contents of the package folder

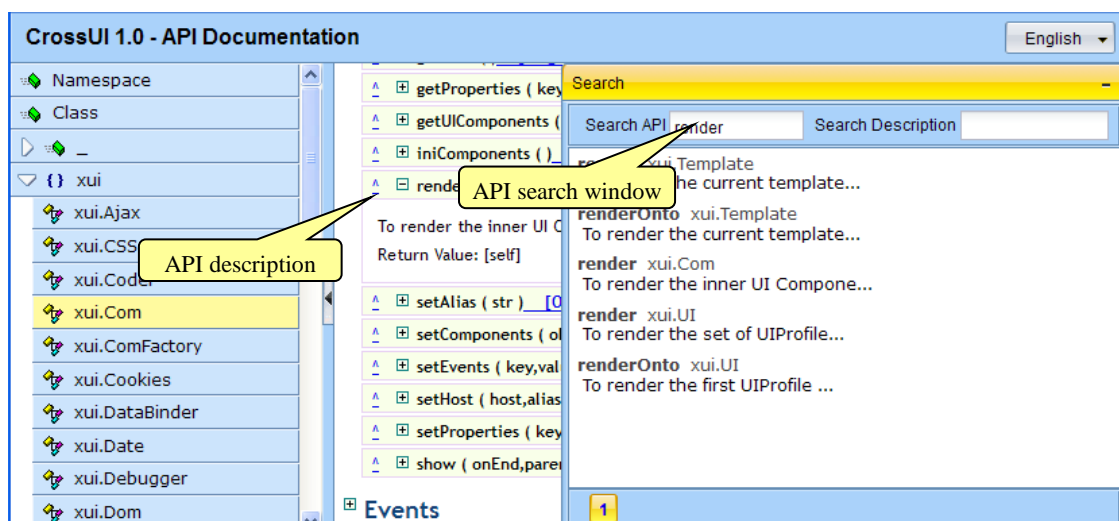
By default, most of the examples in the package can be run in local disk directly, but a small number of examples need php background environment, or MySQL database. In this case, you need to prepare Apache server (version 2 and above), php (version 5 and above) and MySQL (version 5 and above). And, copy the package to apache web directory.

1.3. Glance at examples and API

If your Apache/php environment works well, after you copied the package folder to Apache's web directory (this tutorial assumes that your root directory is <http://localhost/CrossUI/>), you should be able to open the page with your browser: <http://localhost/CrossUI/>.



You can browse <http://localhost/CrossUI/Examples/> for examples, and <http://localhost/CrossUI/API/> for API Documentation.



A simple glance at API is strongly recommended. Learn about how to search a specific API,

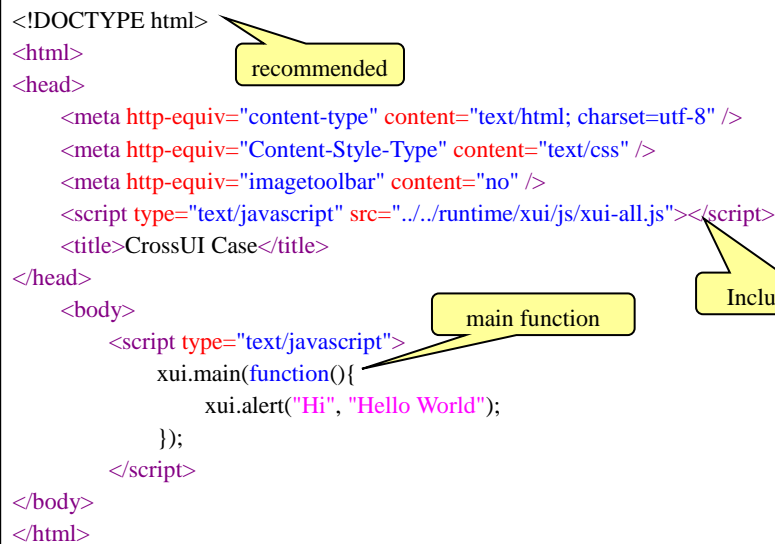
and how to run the inner code snippet.

Chapter 2. Hello World

2.1. The first application

As many would expect or not expect, the first example is "Hello World".

Now, create a new folder “mycases” in the package folder (again, this tutorial assumes that your root directory is <http://localhost/CrossUI/>), add a sub folder “chapter1” in it, and create a file named “helloworld.html” in “chapter1”. Enter the following code:



```

<!DOCTYPE html>
<html>
<head>
  <meta http-equiv="content-type" content="text/html; charset=utf-8" />
  <meta http-equiv="Content-Style-Type" content="text/css" />
  <meta http-equiv="imagetoolbar" content="no" />
  <script type="text/javascript" src="../../runtime/xui/js/xui-all.js"></script>
  <title>CrossUI Case</title>
</head>
<body>
  <script type="text/javascript">
    xui.main(function(){
      xui.alert("Hi", "Hello World");
    });
  </script>
</body>
</html>

```

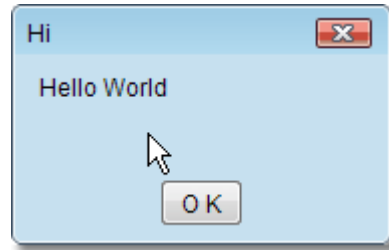
[chapter1/helloworld.html](#)

You can find all the source code for each example in this tutorial in the zip package. The CrossUI Cookbook Zip Package with examples can be downloaded from

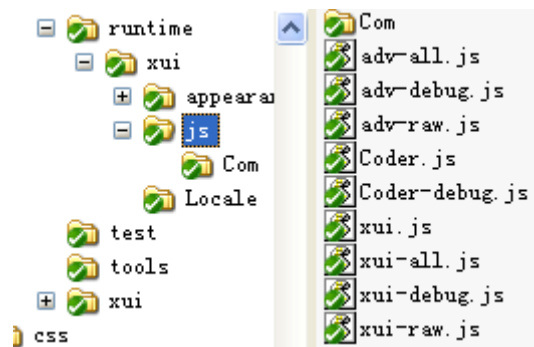
<http://www.crossui.com/download.html> .

You can double-click the helloworld.html to open the file.

Or open URL <http://localhost/CrossUI/chapter1/helloworld.html> in your browser (Firefox or chrome is recommended here). And you can see the following result:



File “xui-all.js” contains all standard controls (Button, Input, CombInput, Tabs, TreeBar, and TreeGrid etc.). This file can be found in “runtime/js” folder.



2.2. Render onto a html node

“Just replace DIVs with your controls.” A project manager said. "Our web page engineer is responsible to design an html file including a DIV with a unique ID, and JavaScript engineer is responsible to build an advanced UI control, and replace that DIV."

The following example in file `chapter1/renderonto.html`:

```

<!DOCTYPE html>
<html>
<head>
  <meta http-equiv="content-type" content="text/html; charset=utf-8" />
  <meta http-equiv="Content-Style-Type" content="text/css" />
  <meta http-equiv="imagetoolbar" content="no" />
  <script type="text/javascript" src="../../runtime/xui/js/xui-debug.js"></script>
  <title>CrossUI Case</title>
</head>
<body>
  <div id="grid" style="position:absolute;left:100px;top:100px;width:300px;height:200px;"></div>
  <script type="text/javascript">
    xui.main(function(){
      var grid = new xui.UI.TreeGrid();
      grid.setGridHandlerCaption('grid')
      .setRowNumbered(true)
      .setHeader(['col 1','col 2','col 3'])
      .setRows([
        ['a1','a2','a3'],
        ['b1','b2','b3'],
        ['c1','c2','c3'],
        ['d1','d2','d3'],
        ['e1','e2','e3'],
        ['f1','f2','f3']
      ]);
      grid.renderOnto('grid');
    });
  </script>
</body>
</html>

```

The DIV with id "grid"

Sets grid caption

Show line number

Sets columns

Sets rows

Render onto that DIV

chapter1/renderonto.html

The result is:

grid	col 1	col 2	col 3
1	a1	a2	a3
2	b1	b2	b3
3	c1	c2	c3
4	d1	d2	d3
5	e1	e2	e3
6	f1	f2	f3

There are two ways to get the same result; codes were in renderonto2.html and renderonto3.html.

renderonto2.html :

```
xui.main(function(){
  (new xui.UI.TreeGrid({
    gridHandlerCaption:'grid',
    rowNumbered:true,
    header:['col 1','col 2','col 3'],
    rows:[['a1','a2','a3'],['b1','b2','b3'],['c1','c2','c3'],
           ['d1','d2','d3'],['e1','e2','e3'],['f1','f2','f3']]
  })).renderOnto('grid');
});
```

Gives properties directly

chapter1/renderonto2.html

renderonto3.html :

```
xui.main(function(){
  xui.create('TreeGrid',{
    gridHandlerCaption:'grid',
    rowNumbered:true,
    header:['col 1','col 2','col 3'],
    rows:[['a1','a2','a3'],['b1','b2','b3'],['c1','c2','c3'],
           ['d1','d2','d3'],['e1','e2','e3'],['f1','f2','f3']]
  })).renderOnto('grid');
});
```

Using xui.create

chapter1/renderonto3.html

These three approaches generated the same result. You can use any of those in your project according to your habits. But the first approach (using new and setXX) is recommended.

2.3. Do it in CrossUI RAD Tools

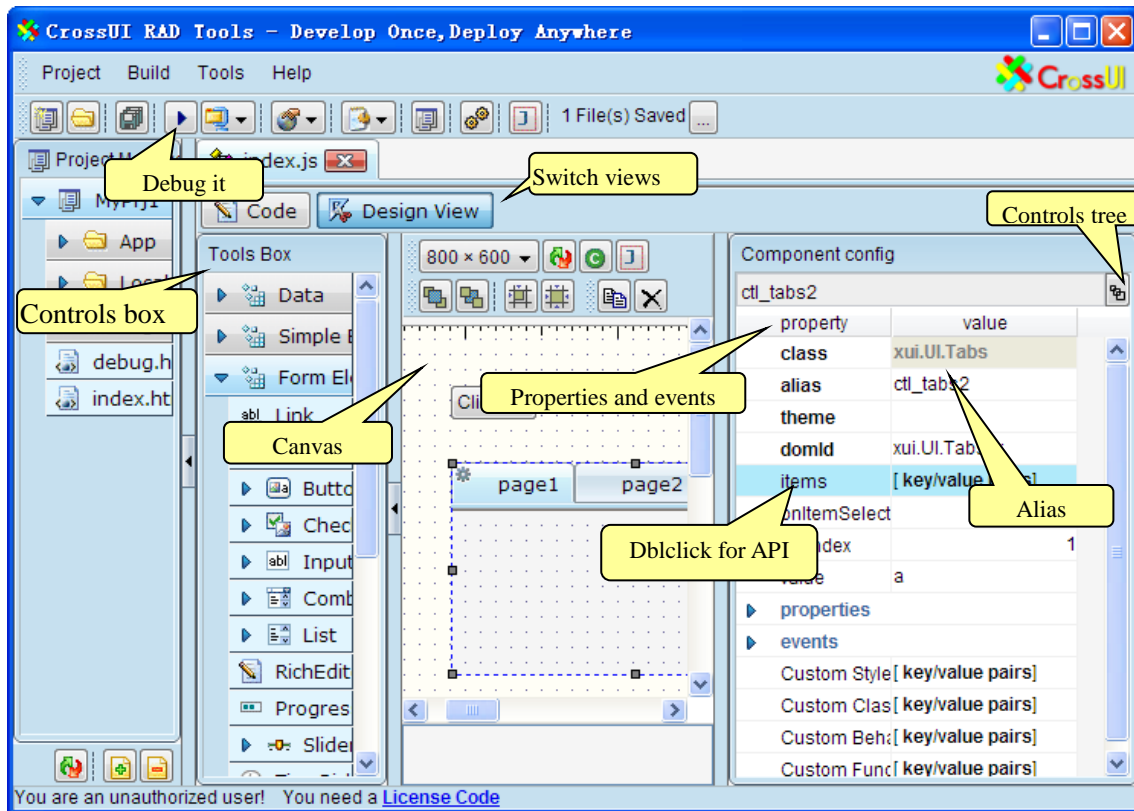
CrossUI RAD can reduce development time significantly, especially on UI layout.

There are two types of designer in CrossUI: online version and desktop version. Desktop version is integrated with many advanced features: document management, package, deployment, and so on.

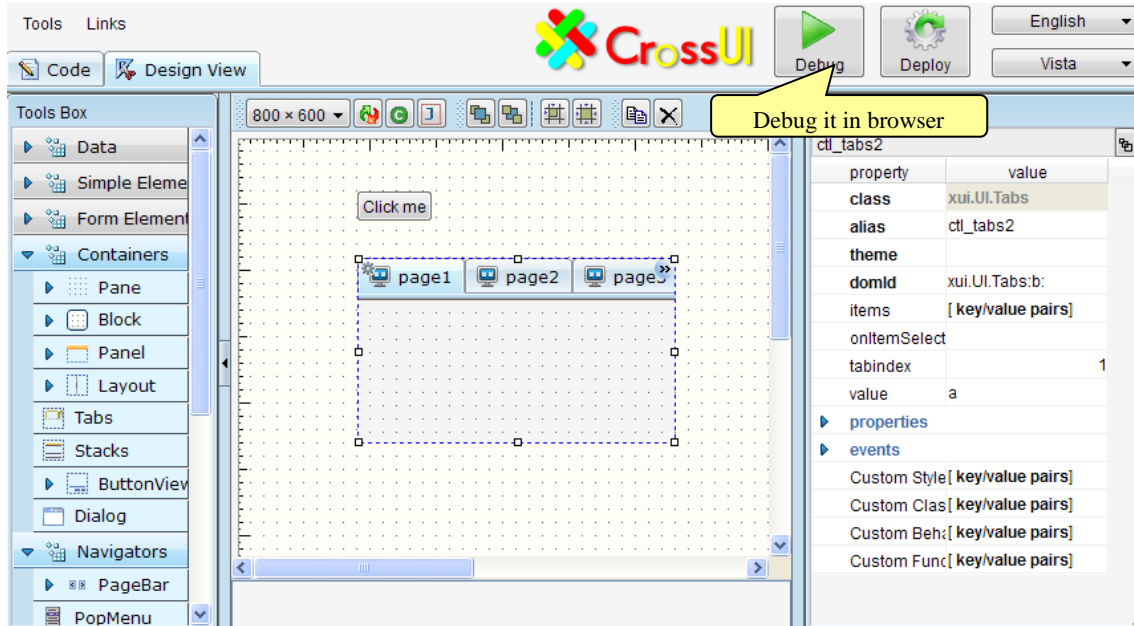
In order to do the following exercises, you need to download CrossUI RAD Tools desktop version from <http://www.crossui.com/download.html>.

If you don't want to download that, you can go to <http://www.crossui.com/RAD/Builder.html>, and do the following exercises online.

RAD Tools desktop:

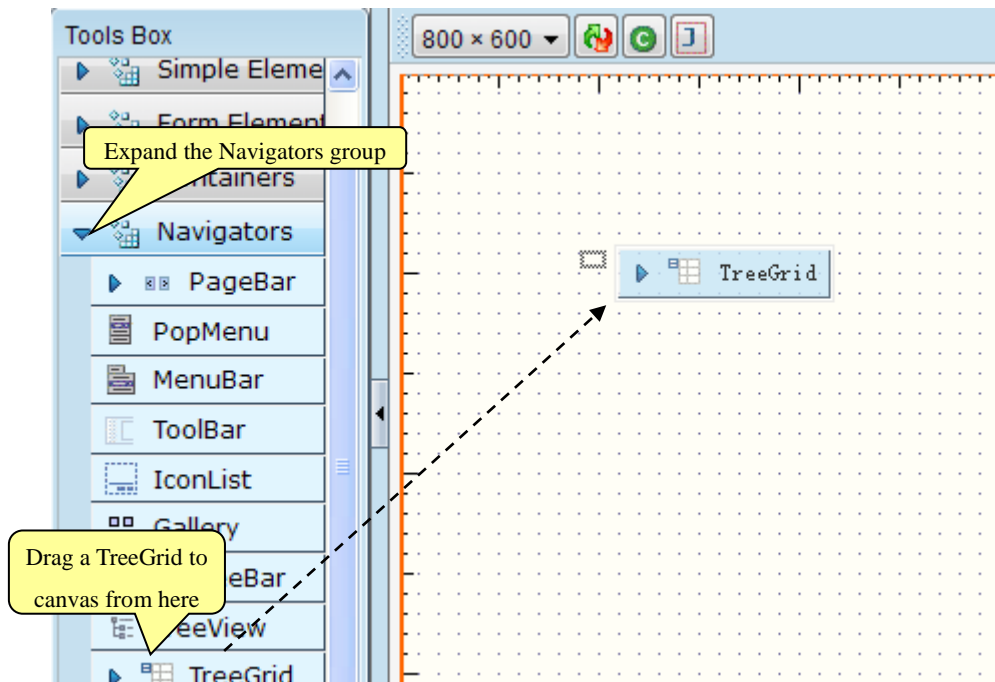


RAD Tools online:

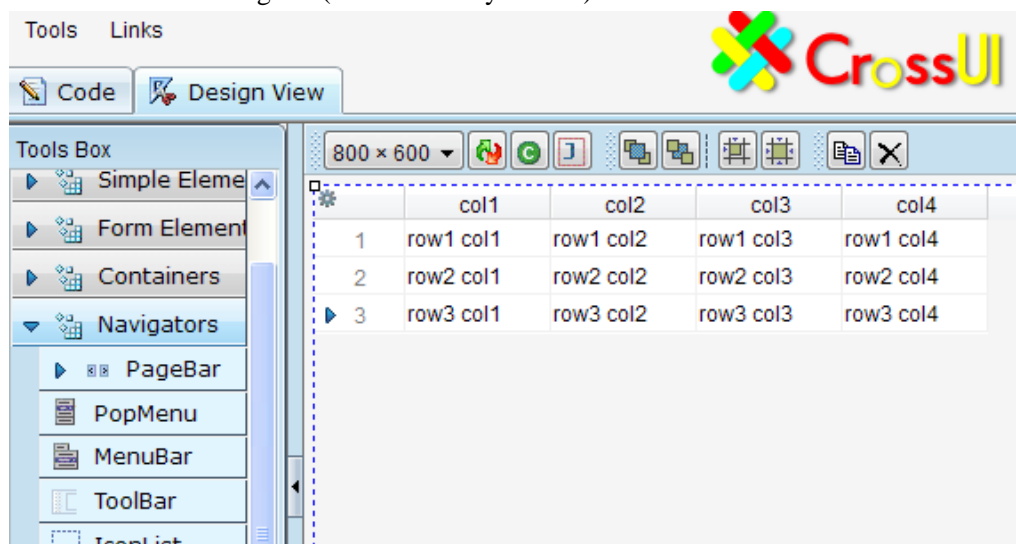


Now, we are trying to create the previous section's grid example in RAD Tools Designer.

1. Open the navigators group in "Tools Box", and drag the "TreeGrid" control to the Canvas area.

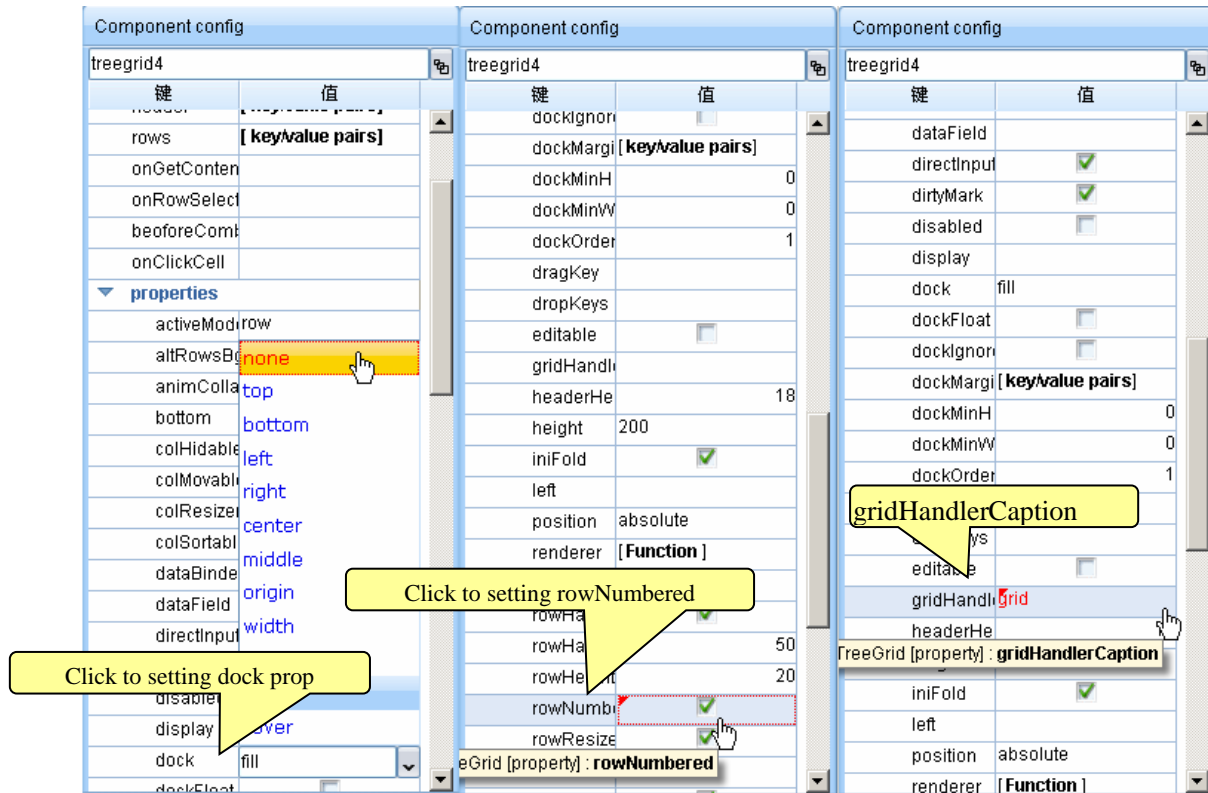


2. Click to select the “treegrid” (It’s selected by default)

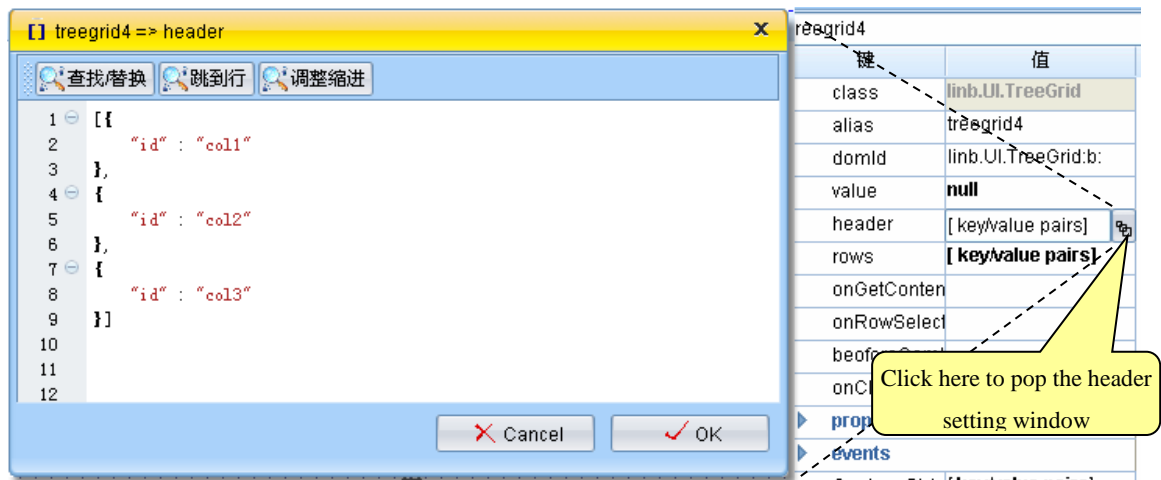


3. Sets this grid’s properties according to the following picture.

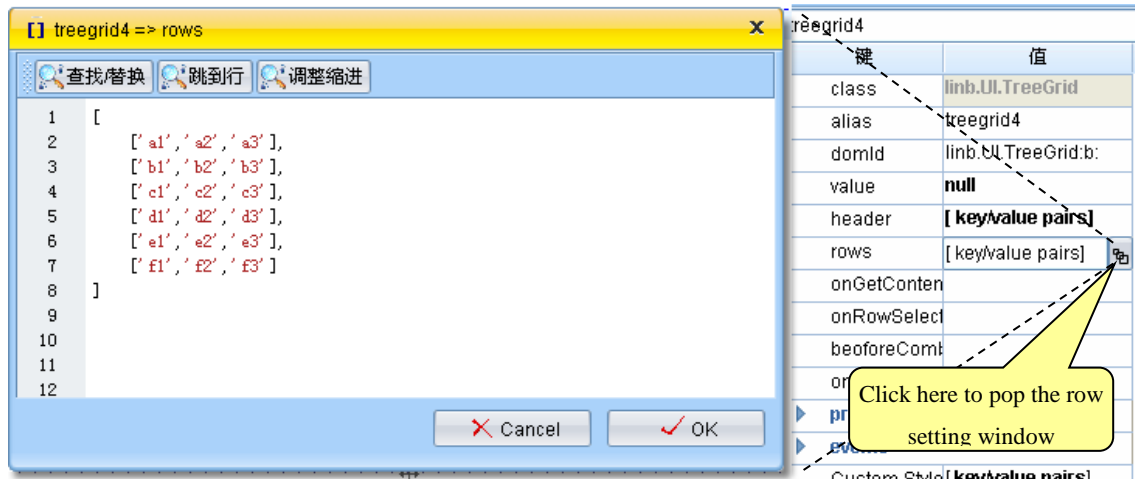
- Sets dock to ‘none’;
- Sets rowNumbered to false;
- Sets gridHandlerCapion to ‘grid’.



4. Sets header and rows

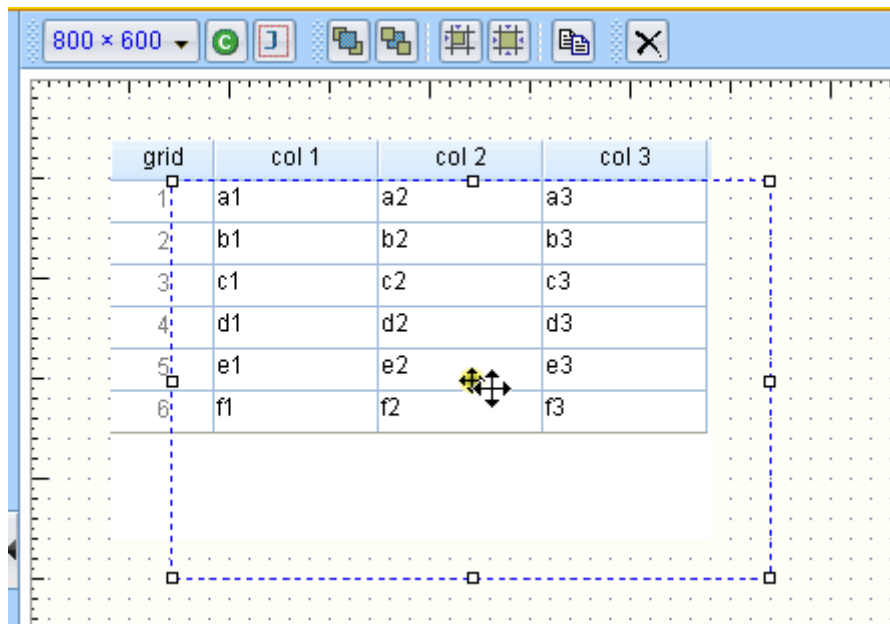


Sets header data



Sets rows data

- Click to select the grid, adjust its position and size



- Now, switch to “Code” view



```

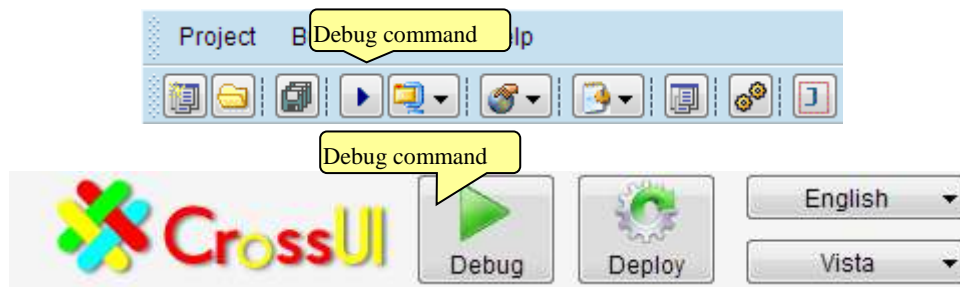
1  Class('App', 'xui.Com',{
2      Instance:{
3          initComponents:function(){
4              // [[Code created by CrossUI RAD Tools
5              var host=this, children=[], append=function(child){children.push(child
6
7              append((new xui.UI.TreeGrid)
8                  .setHost(host,"treegrid4")
9                  .setDock("none")
10                 .setLeft(60)
11                 .setTop(50)
12                 .setRowNumbered(true)
13                 .setGridHandlerCaption("grid")
14                 .setHeader([{"id":"col 1", "width":80, "type":"label", "caption":":
15                 .setRows([{"cells":[{"value":"a1"}, {"value":"a2"}, {"value":"a3"}
16             ]);
17
18             return children;
19             // ]]Code created by CrossUI RAD Tools
20         }
21     }
22 });
23
24

```

Code created by CrossUI RAD Tools

Above code is serialized by CrossUI RAD. Header data and rows data will not look the same as your setting.

7. Click “Debug” Button to open the test window, you will see the same result with section 2.2.



8. Copy the code from this test page, and paste to a new file designer.grid.html.

```

<!DOCTYPE html>
<html>
<head>
  <meta http-equiv="content-type" content="text/html; charset=utf-8" />
  <meta http-equiv="Content-Style-Type" content="text/css" />
  <meta http-equiv="imagetoolbar" content="no" />
  <title>Web application powered by XUI framework</title>
</head>
<body>
  <div id='loading'></div>
  ../../runtime/loading.gif alt="Loading..." /></div>
  <script type="text/javascript" src="../../runtime/xui/js/xui-all.js"></script>
  <script type="text/javascript">
    Class('App', 'xui.Module', {
      Instance: {
        initComponents:function(){
          // [[code created by CrossUI RAD Tools
          var host=this, children=[], append=function(child){children.push(child.get(0))};

          append((new xui.UI.TreeGrid)
            .host(host,"treegrid4")
            .setDock("none")
            .setLeft(60)
            .setTop(50)
            .setRowNumbered(true)
            .setGridHandlerCaption("grid")
            .setHeader([{"id":"col 1", "width":80, "type":"label", "caption":"col 1"}, {"id":"col 2",
"width":80, "type":"label", "caption":"col 2"}, {"id":"col 3", "width":80, "type":"label", "caption":"col 3"}])
            .setRows([{"cells":[{"value":"a1"}, {"value":"a2"}, {"value":"a3"}], "id":"j"},
{"cells":[{"value":"b1"}, {"value":"b2"}, {"value":"b3"}], "id":"k"}, {"cells":[{"value":"c1"}, {"value":"c2"},
{"value":"c3"}], "id":"l"}, {"cells":[{"value":"d1"}, {"value":"d2"}, {"value":"d3"}], "id":"m"}, {"cells":[{"value":"e1"},
{"value":"e2"}, {"value":"e3"}], "id":"n"}, {"cells":[{"value":"f1"}, {"value":"f2"}, {"value":"f3"}], "id":"o"}])
          );

          return children;
          // ]]code created by CrossUI RAD Tools
        }
      }
    });
    xui.Module.load('App', function(){
      xui('loading').remove();
    });
  </script>
</body>
</html>

```

Showing a loading picture

Include lib file in body

Class created by CrossUI RAD.
You can save this part of code to **App/js/index.js**

Load UI in asynchronous mode
If no App Class in memory, by default, CrossUI framewok will load the Class from **App/js/index.js** file .

chapter1/designer.grid.html

2.4. Application loading process

In section 2.3, we put all html and JavaScript code in a single file. For a bigger application, it's not a wise solution. A real application may be include dozens of classes. For a developer, maintaining each class in a separate file is always a must.

OK. Let's separate "designer.grid.html" into two files → designer.grid.standard.html, and App/js/index.js.

designer.grid.standard.html is:

```
<!DOCTYPE html>
<html>
<head>
  <meta http-equiv="content-type" content="text/html; charset=utf-8" />
  <meta http-equiv="Content-Style-Type" content="text/CSS" />
  <meta http-equiv="imagetoolbar" content="no" />
  <title>Web application powered by XUI framework</title>
</head>
<body>
  <div id='loading'><img src='../runtime/loading.gif' alt="Loading..." /></div>
  <script type="text/javascript" src='../runtime/xui/js/xui-all.js'></script>
  <script type="text/javascript">
    xui.Module.load('App', function(){
      xui('loading').remove();
    });
  </script>
</body>
</html>
```

Load App class from App/js/index.js asynchronously

At last, remove loading picture

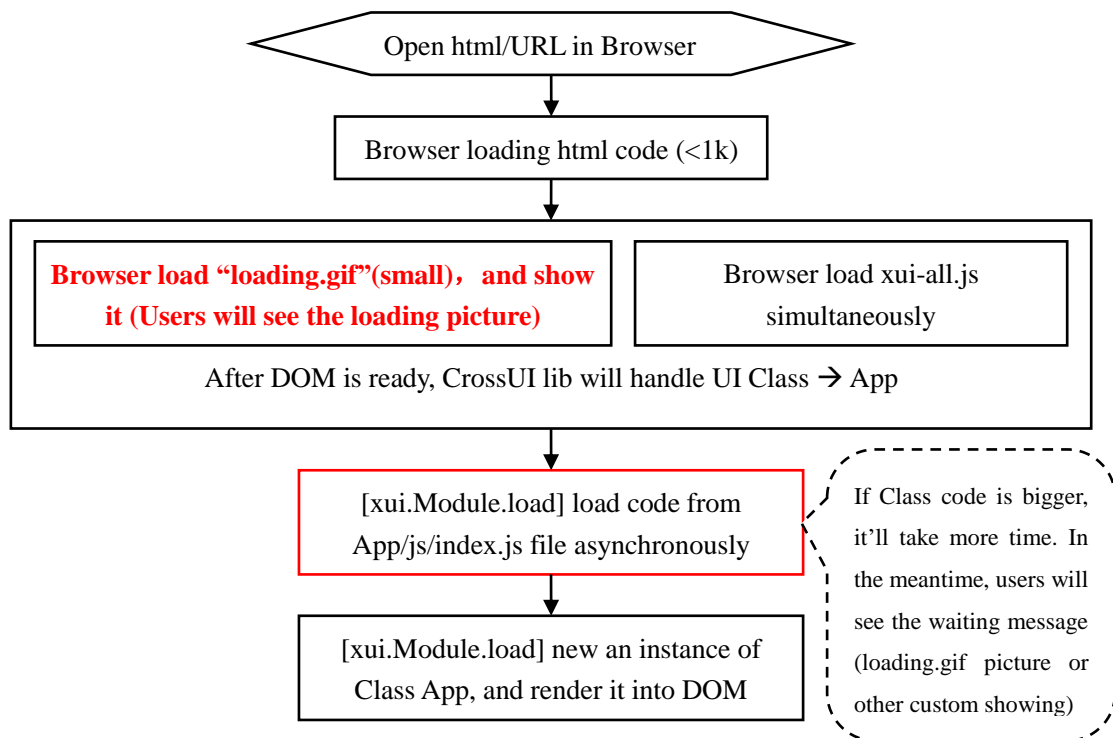
chapter1/designer.grid.standard.html

App/js/index.js is:

```
Class('App', 'xui.Module',{
  Instance:{
    initComponents:function(){
      // [[code created by CrossUI RAD Tools
      var host=this, children=[], append=function(child){children.push(child.get(0))};
      append((new xui.UI.TreeGrid)
        .host(host,"treegrid4")
        .setDock("none")
        .setLeft(60)
        .setTop(50)
        .setRowNumbered(true)
        .setGridHandlerCaption("grid")
        .setHeader([{"id":"col 1", "width":80, "type":"label", "caption":"col 1"}, {"id":"col 2", "width":80,
"type":"label", "caption":"col 2"}, {"id":"col 3", "width":80, "type":"label", "caption":"col 3"}])
        .setRows([{"cells":[{"value":"a1"}, {"value":"a2"}, {"value":"a3"}], "id":"j"}, {"cells":[{"value":"b1"},
"value":"b2"}, {"value":"b3"}], "id":"k"}, {"cells":[{"value":"c1"}, {"value":"c2"}, {"value":"c3"}], "id":"l"},
{"cells":[{"value":"d1"}, {"value":"d2"}, {"value":"d3"}], "id":"m"}, {"cells":[{"value":"e1"}, {"value":"e2"},
"value":"e3"}], "id":"n"}, {"cells":[{"value":"f1"}, {"value":"f2"}, {"value":"f3"}], "id":"o"}])
      );
      return children;
      // ]]code created by CrossUI RAD Tools
    }
  }
});
```

chapter1/App/js/index.js

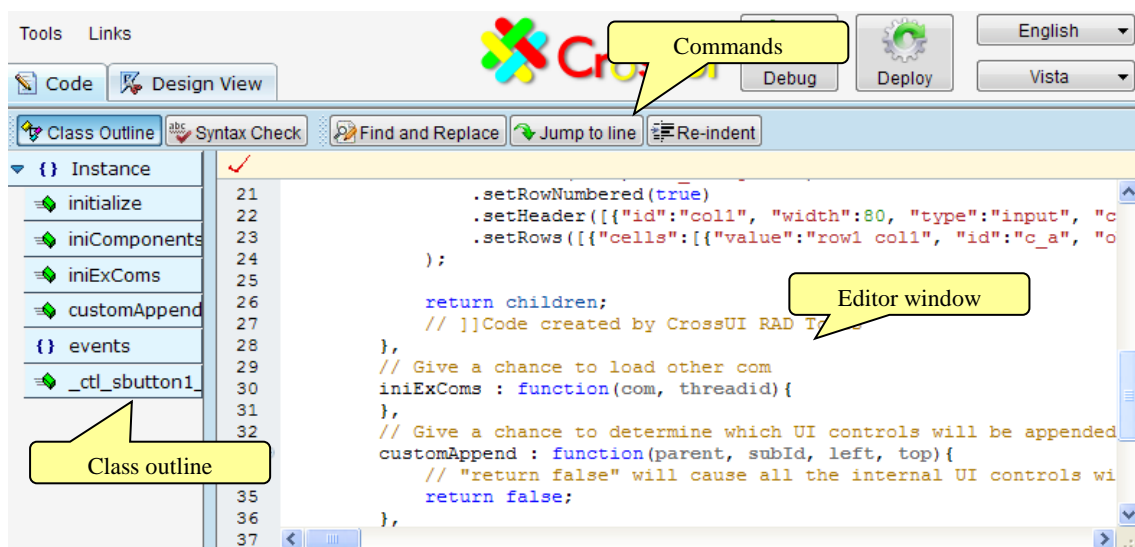
When we open **designer.grid.standard.html** in Browser, the loading process will be:



2.5. Code Editor

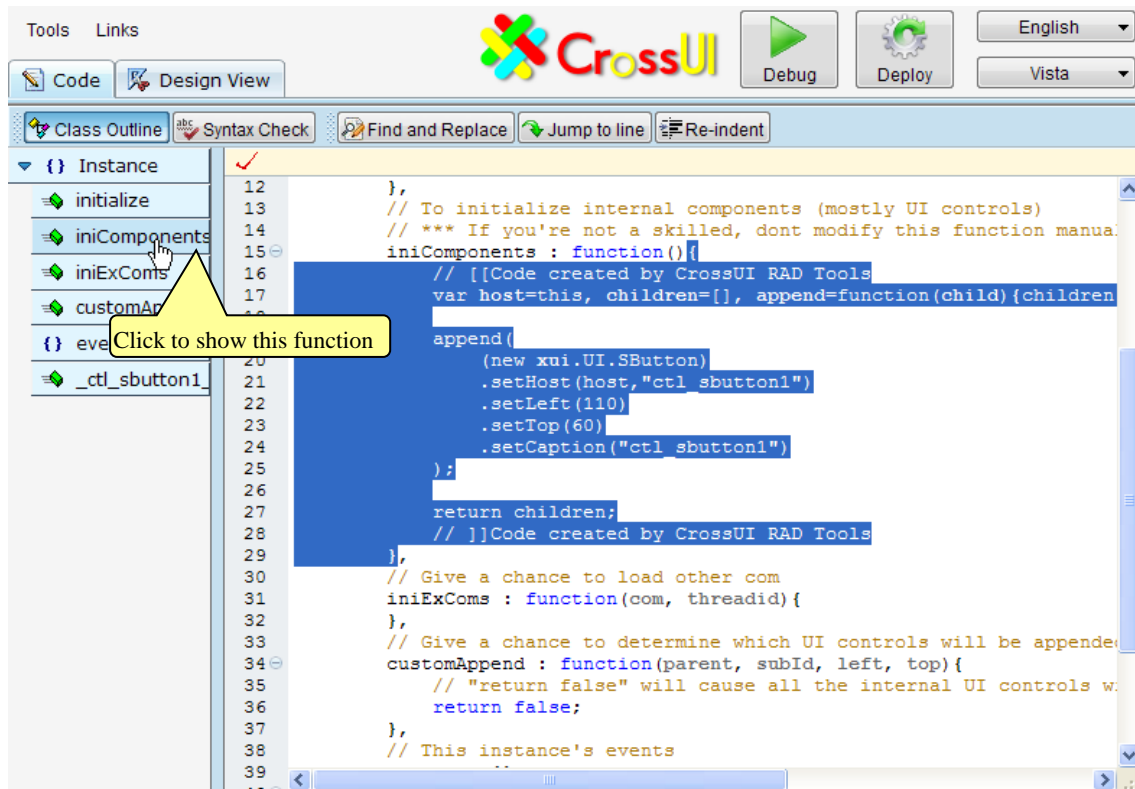
By the way, if you use CrossUI RAD online, in order to get better performance, Firefox and Chrome are recommended here.

There are two views in Builder: "Design view" and "Code" view. In the online version, the default view is "Design view". Click "Code" tab to switch to "Code" view.



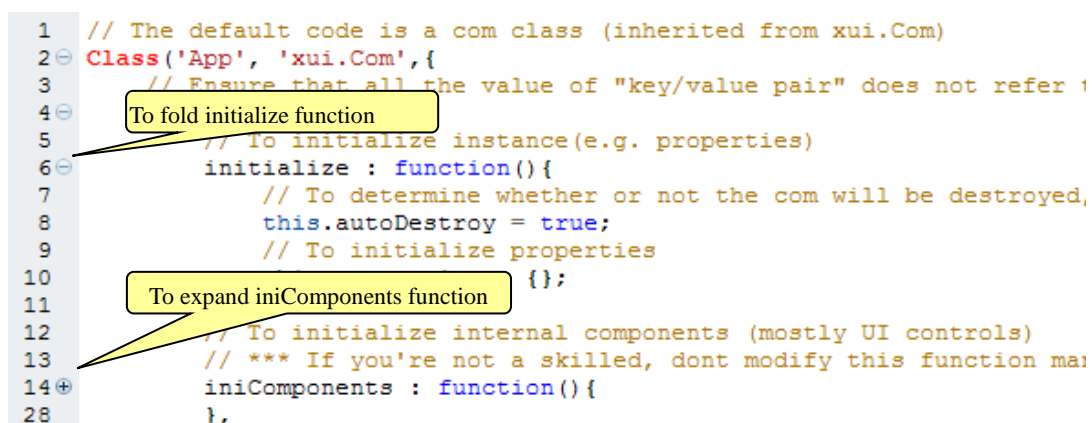
2.5.1. Highlight code from Outline window

“Class Outline” is located in the left side of “Code” view. By clicking any member or method name in “Class Outline”, RAD Tools will highlight its code in “Editor window”, and scroll “Editor window” to show the code.



2.5.2. Code Folding

To make your code view more clear to read and understand, CrossUI RAD lets you fold certain parts of it. Click the left side “plus” or “minus” will fold or expand the block code.



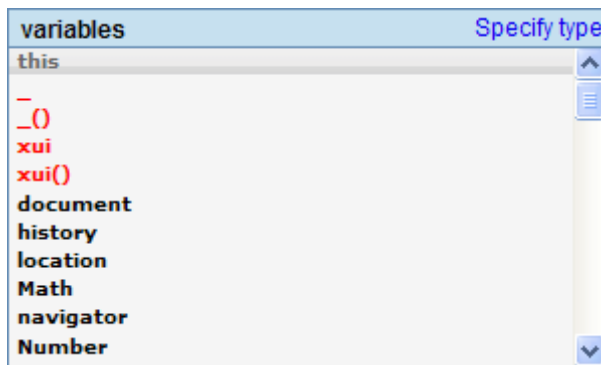
Note: Due to some browser’s poor performance, please try not to frequent collapse or expand the

large body function or object.

2.5.3. Code Intellisense

Three types Code Intellisense are supported.

- When context does not recognize the input string;
- Type dot after a recognizable variable
- When dbclick a recognizable variable



Keyboard actions for Code Intellisense pop Window:

- “up”: Focus to next item in code list
- “down”: Focus to previous item in code list
- “enter”: Select the current focused item, and input to editor window
- “esc”: Close the pop window
- Other visible chars: Find and focus the first matched item


2.5.3.1. When context doesn't recognize the input string

When you input a string, if editor doesn't recognize this string, it will pop a list window including local variables, global variables, global functions and JavaScript reserved keywords. In the below picture, type 't' will trigger editor to pop a list window, “this” is the default focused item.

```

1 // The default code is a com class (inherited from xui.Com)
2 Class('App', 'xui.Com',{
3   // Ensure that all the value of "key/value pair" does not
4   Instance:{
5     // To initialize instance(e.g. properties)
6     initialize : function(){
7       // To determine whether or not the com will be de
8       this.autoDestroy = true;
9       // To initialize properties
10      this.properties = {};
11      t
12    },
13    // To
14    // **
15    iniCo
29  },
30    // Gi
31    iniEx document
32  },
33    // Gi
34  custo Math
35    /
36    r navigator
37    Number

```

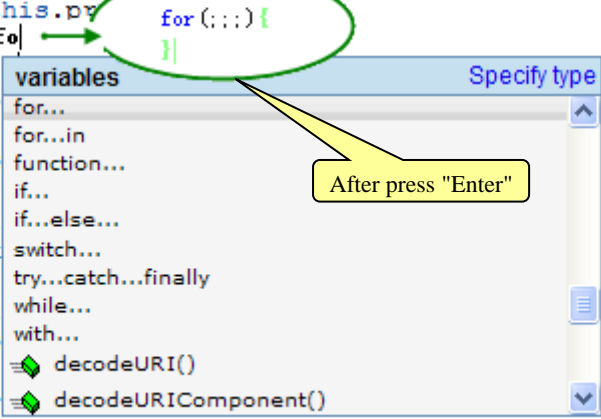


If the input string is “fo”, the “for loop statement” will be the default focused item.

```

1 // The default code is a com class (inherited from xui.Com)
2 Class('App', 'xui.Com',{
3   // Ensure that all the value of "key/value pair" does not
4   Instance:{
5     // To initialize instance(e.g. properties)
6     initialize : function(){
7       // To determine whether or not the com will be de
8       this.autoDestroy = true;
9       // To initialize properties
10      this.pr
11      fo
12    },
13    // To
14    // **
15    iniCo
29  },
30    // Gi
31    iniEx switch...
32  },
33    // Gi
34  custo
35    /
36    r
37

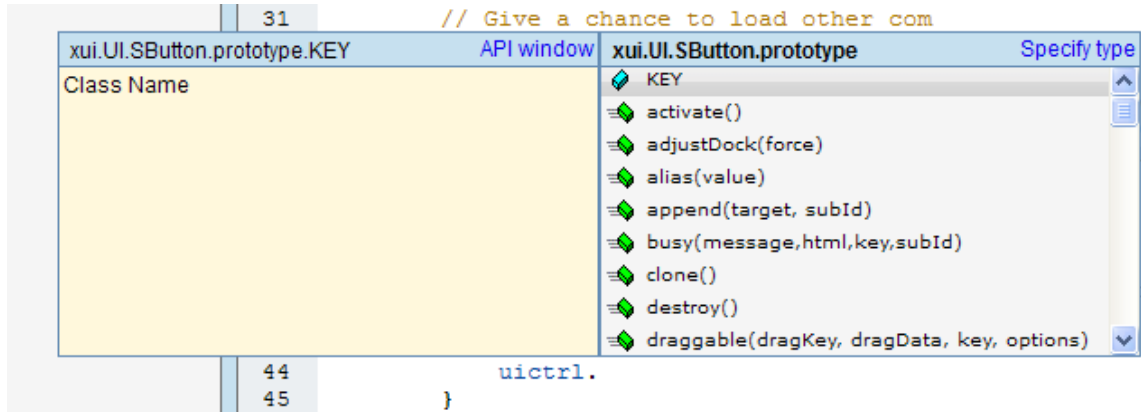
```



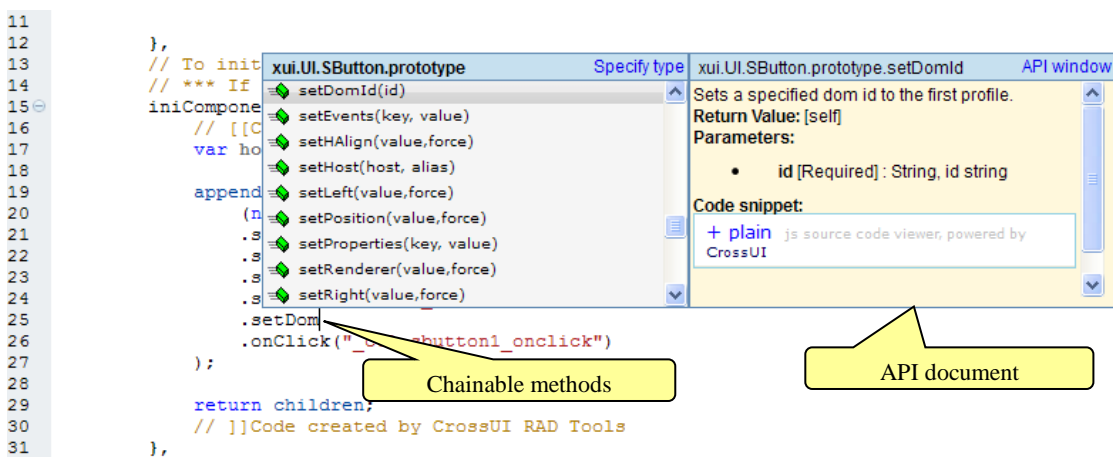
In this case, "Enter" keypress will cause “for loop statement” code to be inserted into the editor automatically.

2.5.3.2. Type dot after a recognizable variable

After an editor recognizable variable, if you type char “.”, editor will pop an available members and functions list for the variable.

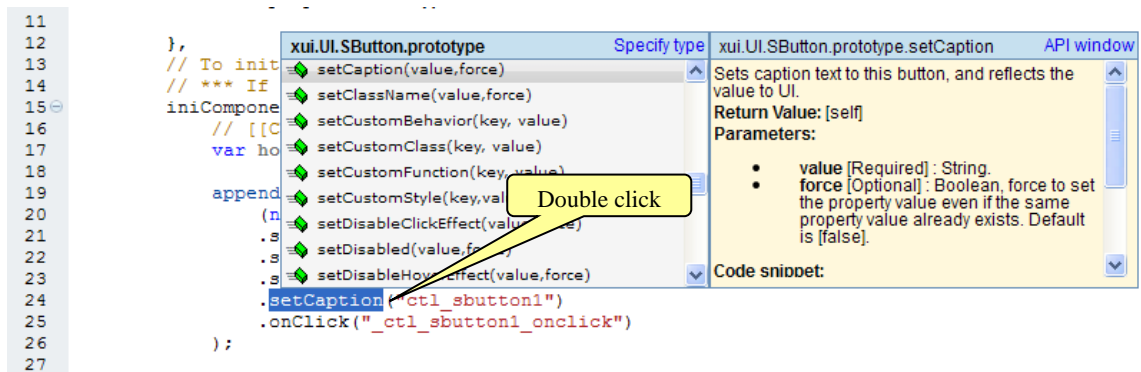


Chainable methods can show Code Intellisense window too.



2.5.3.3. When use dbclick

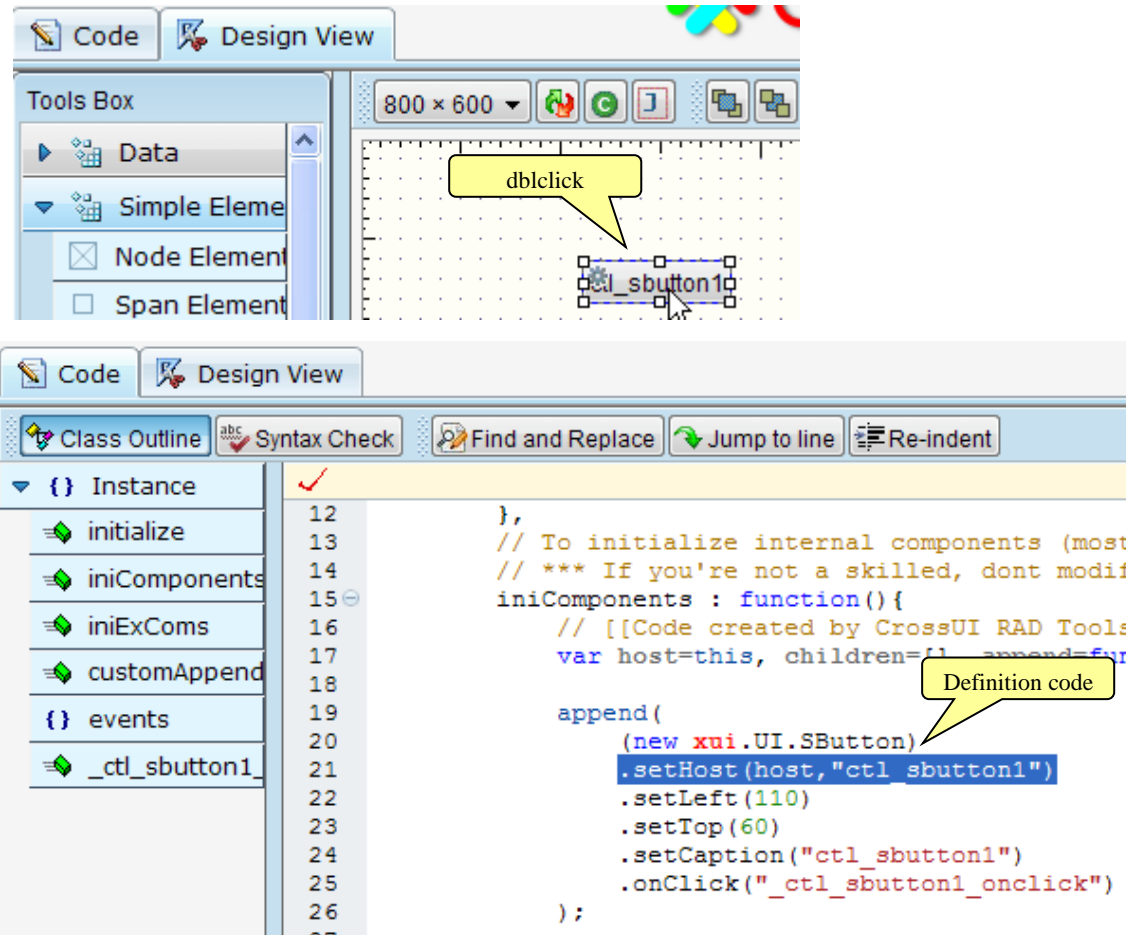
Double click one variable string will trigger editor to pop the Code Intellisense window.



2.5.4. Find the object definition code

In “Design View”, double click a control will cause:

- 1) Switch to “Code” view;
- 2) Highlight the control’s definition code;
- 3) Scroll the definition code to view.

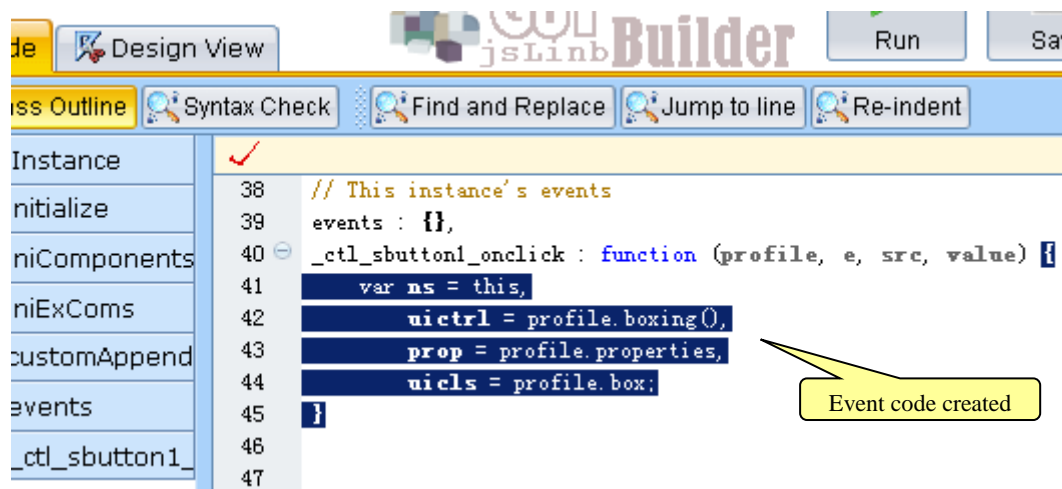
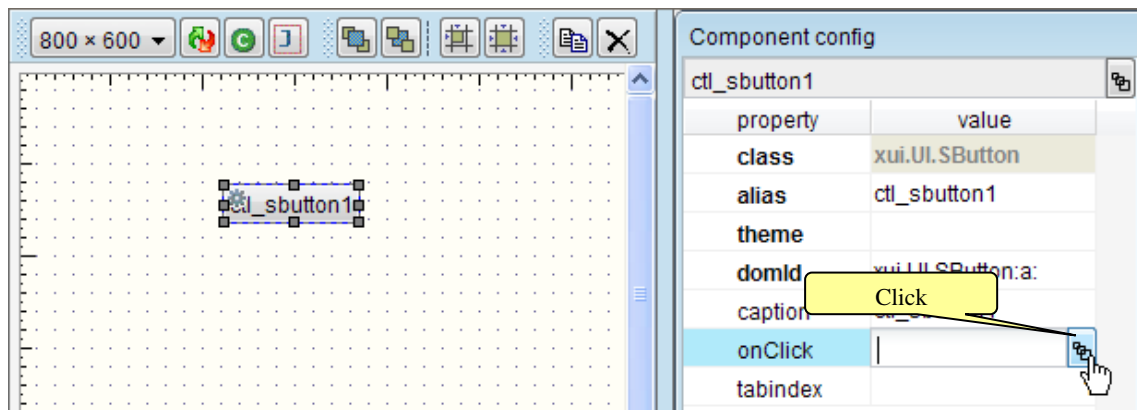


2.5.5. Generate event code automatically

In the “Design View”, select a control; the right side “Component config” window will be refreshed.

Find an event (e.g. onClick event), click its event button will cause:

- 1) Switch to “Code” view;
- 2) Create event code, and insert into the editor;
- 3) Scroll the event code to view.



Chapter 3. Controls Facebook

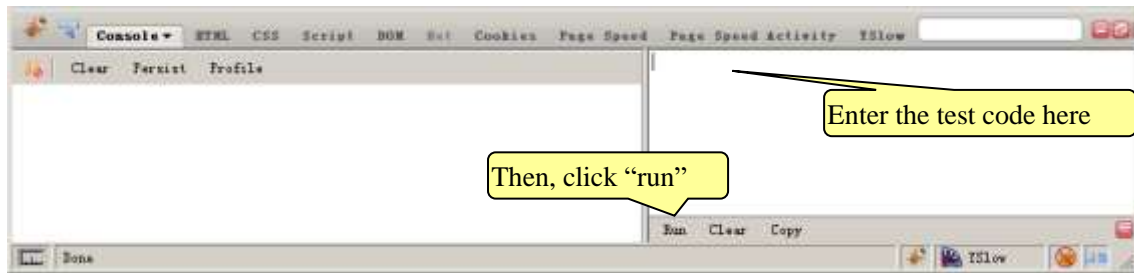
Many beginners are particularly interested in UI controls. In this chapter we'll give a rough look at the basic controls. Since each control has a lot of functions, here is a brief introduction, it is impossible to explain all the functions. You can browse API to understand the specific function of each control in detail!

3.1. Script testing environment

At first, we have to build a testing environment for executing example codes. About Browsers, Firefox is recommended, if Firefox is not preferred, ie8 or chrome is ok too.

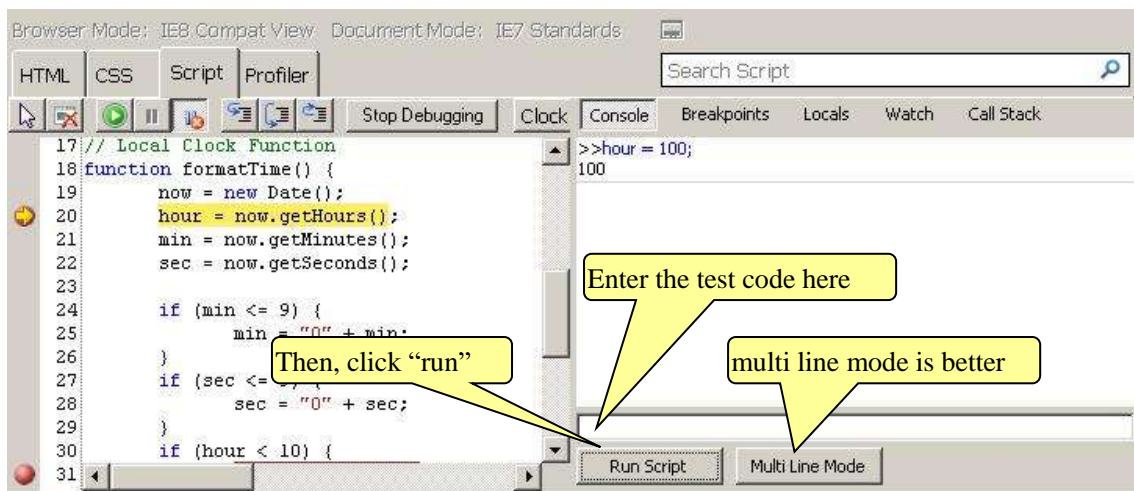
For Firefox:

1. You need Firefox and firebug;
2. Ensure all files and folders in cookbook package including "env.html" are in [cookbook](#) dir;
3. Open URL [cookbook/env.html](#) in Firefox;
4. Open firebug console, switch to the multi-line mode



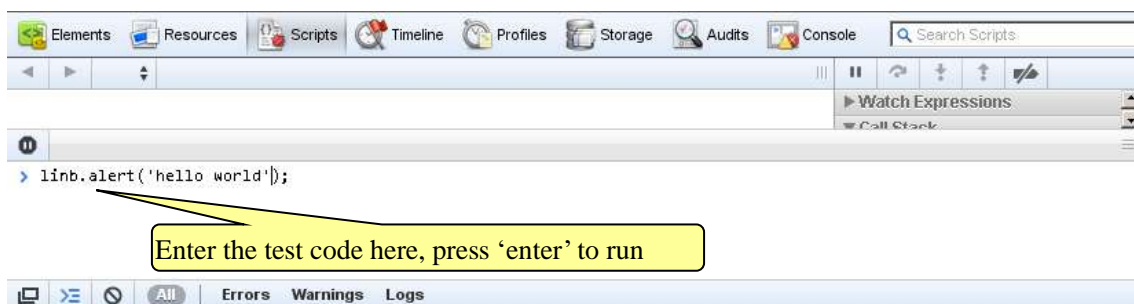
For IE8+:

1. You need IE8;
2. Open URL [cookbook/env.html](#) ;
3. Open developer tools, switch to the multi-line mode

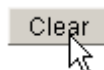


For Chrome:

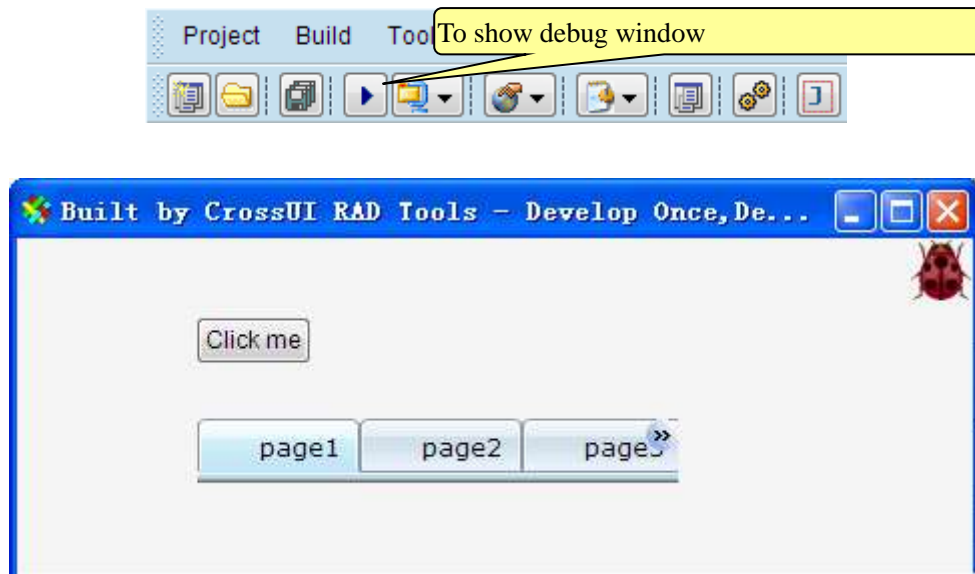
1. You need the latest Chrome;
2. Open URL [cookbook/env.html](#) ;
3. Open developer tools



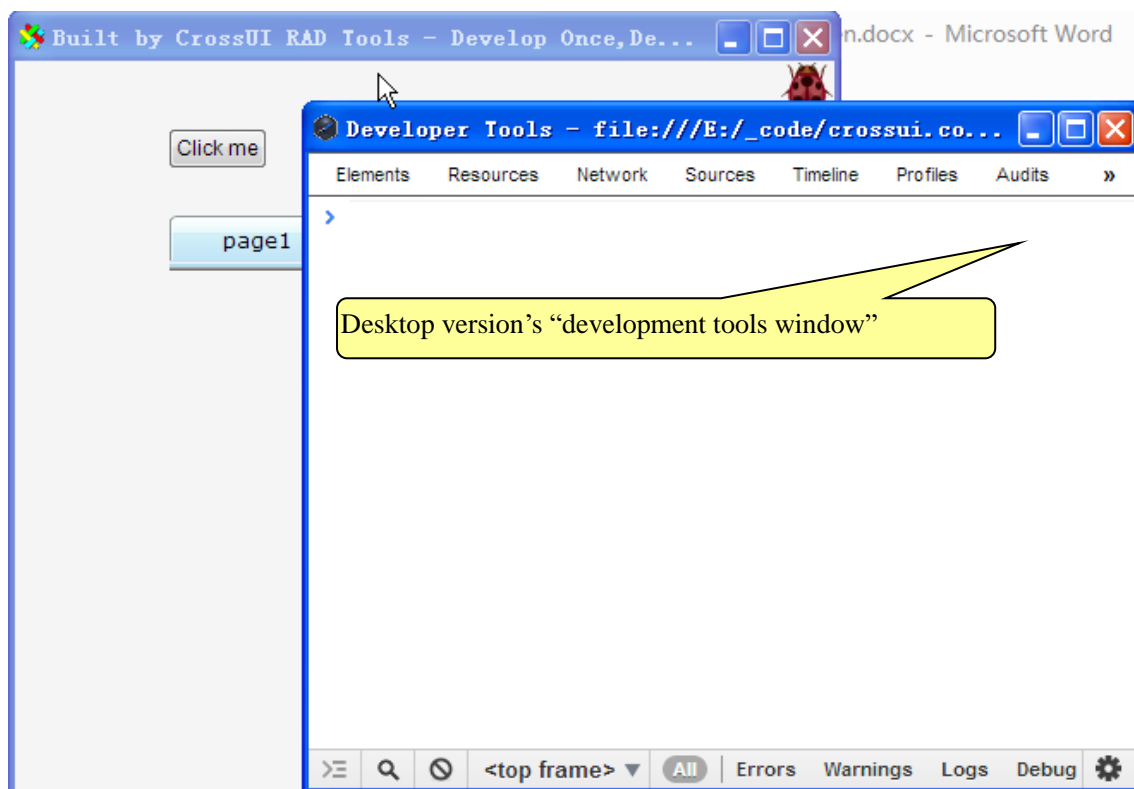
There's a "Clear" button in [cookbook/env.html](#), You can click this button to clean up the current page's DOM. In some cases, you want to clean up both DOM and memory, press 'F5' to refresh your browser.



For CrossUI Desktop version:



You can press [F12] to show the Developer Tools window.



3.2. “Hello world” in env.html

Input the following code into script window, and run it.

```
xui.alert("Hi", "Hello World!");
```

Output:



Click “Clear” button to clean the DOM.

If you are in CrossUI Desktop, execute the following line in console:

```
xui ("body"). empty();
```

3.3. Control creation and runtime update

There are three approaches to create CrossUI control.

```
// Approach 1
xui.create("SButton", {
  caption: "Using xui.create function",
  position: "relative"
}).show();

// Approach 2
(new xui.UI.SButton({
  caption: "Using new and key/value pairs",
  position: "relative"
})).show();

// Approach 3
(new xui.UI.SButton())
.setCaption("Using new and get/set")
.setPosition("relative")
.show();
```

We use new/setXX mode in RAD Tools

The above three approaches will create entirely consistent UI.

You can use setXXX function to update the control after it was rendered into DOM (runtime update).

```

var dlg=xui.create("Dialog", {caption: "runtime "}).show();
_._.asyRun(function(){
    dlg.setCaption("updated");
},500);
_._.asyRun(function(){
    dlg.setMaxBtn(false);
},1000);
_._.asyRun(function(){
    dlg.setStatus("max");
},1500);
_._.asyRun(function(){
    dlg.destroy();
},2000);

```

Annotations:

- Create a Dialog
- To modify caption
- To hide the max button
- To modify status
- To destroy it

3.4. Button related

This section relates to the following controls: xui.UI.Link, xui.UI.SButton, xui.UI.Button, xui.UI.SCheckBox and xui.UI.CheckBox.

3.4.1. onClick event

Input:

```

var btn=new xui.UI.SButton();
btn.setCaption("Click Me");
.btn.onClick(function(){
    xui.alert("Hi", "You are great!");
});
btn.show();

```

Annotations:

- Sets caption
- Adds onClick event

Output:



Input:

```

var btn=new xui.UI.Button();
btn.setCaption("Click Me");
.onClick(function(){
    xui.alert("Hi","You are great!");
});
btn.show();

_.asynRun(function(){
    btn.setHeight(80)
    .setShadow(true)
    .setType("drop")
},1000);

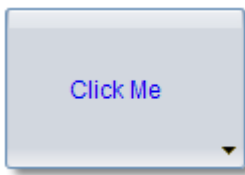
```

Sets caption

Adds onClick event

Execute code after 1 second

Output:



NOTE

xui.UISButton / SLabel / SCheckbox are enough for most cases; Only if you need more complex feature, you should use those complex control: **xui.UI.Button / Label / Checkbox**.

3.4.2. Boolean Controls

There are three controls can represent and modify Boolean value:

Input:

```

var btn= (new xui.UI.Button({position: "relative", caption:"Button", type:"status"})).show();
var scb= (new xui.UI.SCheckBox({position: "relative", caption:" SCheckBox"})).show();
var cb= (new xui.UI.CheckBox({position: "relative", caption:" CheckBox"})).show();

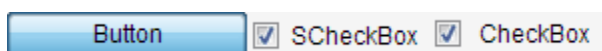
_.asynRun(function(){
    btn.setValue(true,true);
    scb.setValue(true,true);
    cb.setValue(true,true);
},1000);

```

Sets position to 'relative'

Sets values to true after 1 second

Output:



3.4.3. Link Control

You can take `xui.UI.Link` as a simple button.

Input:

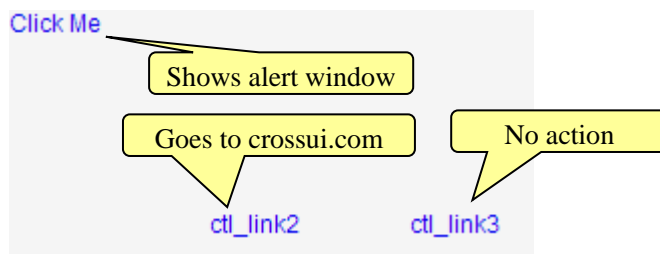
```

var btn=new xui.UI.Link();
btn.setCaption("Click Me");
.onClick(function(){
    xui.alert("Hi","You are great!");
});
btn.show();

// href property
xui.create("Link",{href: http://www.crossui.com, target: "_blank"}).show(null,null,100,100)

// href was disabled when return false
xui.create("Link",{href: "http://www.longboo.com"}).show(null,null,200,100)
.onClick(function(){
    return false;
});

```

Output:

3.5. Label related

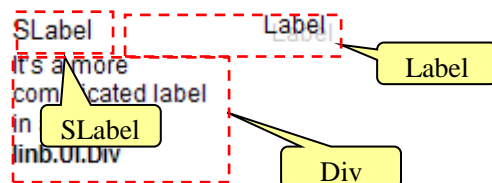
This section relates to the following controls: `xui.UI.SLabel`, `xui.UI.Label` and `xui.UI.Div`. These three controls can be used as “label”, `xui.UI.SLabel` is the simplest one, but it’s enough for most cases; If you need more complex feature like shadow, resizer or border, you should choose `xui.UI.Label`; Or if you want to input more complex html code in the control, `xui.UI.Div` is better.

Input:

```

(new xui.UI.SLabel()).setCaption("SLabel").setPosition("relative").show();
(new xui.UI.Label()).setCaption("Label").setPosition("relative").setShadowText(true).show();
(new xui.UI.Div()).setHtml("It's a more complicated label in a <br /><b>xui.UI.Div</b>")
.setPosition("relative").show();

```

Output:

3.6. Input related

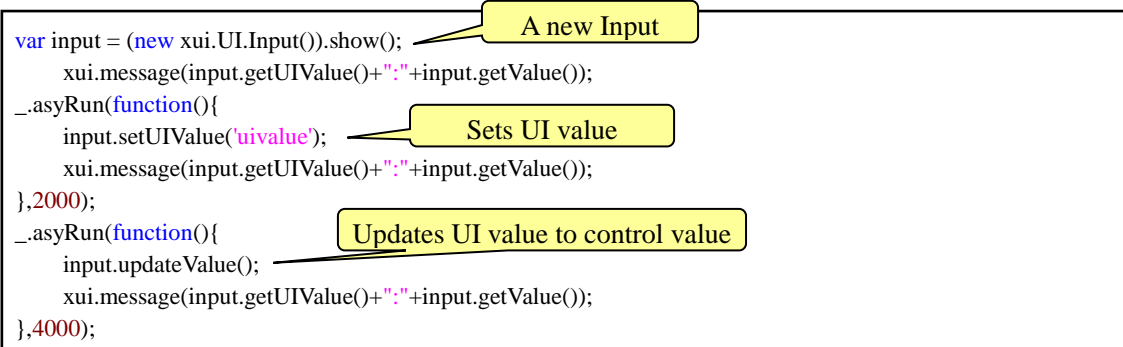
This section relates to the following controls: `xui.UI.Input`, `xui.UI.ComboInput` and `xui.UI.RichEditor`. `xui.UI.ComboInput` is an enhanced version of `xui.UI.Input`, it can input/edit value through a pop window; `xui.UI.RichEditor` is a rich text input/edit control.

3.6.1. setValue/setValue/getUIValue/setUIValue

From the users point of view, value controls (all derived from the `xui.absValue` control) in CrossUI has two values has two values: the “UI value”(getUIValue/setUIValue) and the “control value”(getValue/setValue).

“UI value” does not always equal to “control value”. For example, for an empty input control

1. Keyboard input “**abc**”: “UI value” is “**abc**”, “control value” is **empty**;
2. Calls “updateValue” function: “UI value” is “**abc**”, “control value” is “**abc**”;
3. Calls “setValue(**bcd**)”: “UI value” is “**bcd**”, “control value” is “**bcd**”;
4. Calls “setUIValue(**efg**)”: “UI value” is “**efg**”, “control value” is “**bcd**”;
5. Calls “resetValue(**x**)”: “UI value” is “**x**”, “control value” is “**x**”;



```
var input = (new xui.UI.Input()).show();
xui.message(input.getUIValue()+"."+input.getValue());
_._asyn(function(){
  input.setUIValue('uivalue');
  xui.message(input.getUIValue()+"."+input.getValue());
},2000);
_._asyn(function(){
  input.updateValue();
  xui.message(input.getUIValue()+"."+input.getValue());
},4000);
```

You can go to <http://www.crossui.com/xui/Examples/comb/DataBinder/index.html> for more information about it.

3.6.2. Dirty Mark

If the control’s dirtyMark property is set to true, when “UI value” does not equal to “control value”, a “Dirty Mark” will appear. The “Dirty Mark” will disappear when “UI value” equals to “control value”.



```
var input = (new xui.UI.Input()).show();
_._.asRun(function(){
    input.setUIValue('uivalue');
},1000);
_._.asRun(function(){
    input.updateValue();
    input.setDirtyMark (false);
},2000);
_._.asRun(function(){
    input.setUIValue('uivalue 2');
},3000);
```

Dirty Mark appears

Dirty Mark disappears

If DirtyMark is disabled

Nothing happen

3.6.3. Password Input

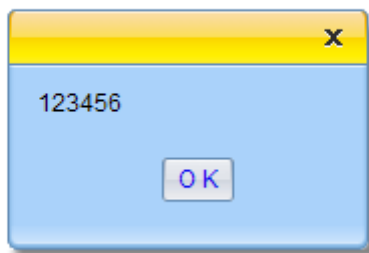
Sets Input's type property to "password".

Input:

```
var input = (new xui.UI.Input({type: 'password'})).show();
_._.asRun(function(){
    input.setUIValue('123456').updateValue();
    xui.pop(input.getValue());
},1000);
```

Sets type

Output:



3.6.4. Multi-lines

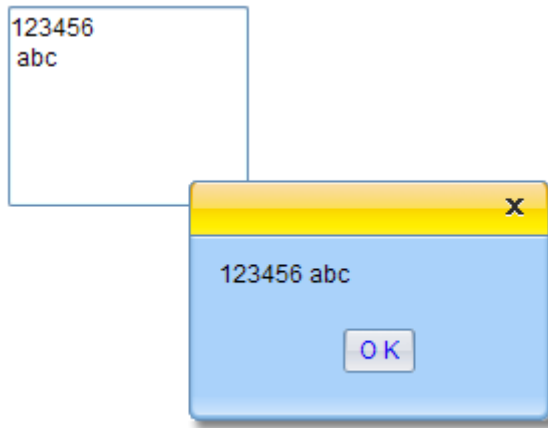
Sets Input's multiLine property to true.

Input:

```
var input = (new xui.UI.Input()).setMultiLines(true).setHeight(100).show();  
_._asyncRun(function(){  
    input.setUIValue('123456 \n abc').updateValue();  
    xui.pop(input.getValue());  
},1000);
```

Sets multiLine to true

Output:



3.6.5. Input validation

3.6.5.1. valueFormat property

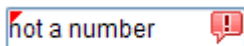
“valueFormat” property represents a regular expression.

Input:

```
var input = (new xui.UI.Input())  
    .setValueFormat("^-?\\d+\\.d*$")  
    .show();
```

Number only

Executes the above code, input some charts, and let it lose the mouse focus, the “Error Mark” will appear.



3.6.5.2. beforeFormatCheck event

Input:

```
var input = (new xui.UI.Input())
    .beforeFormatCheck(function(profile,value){
        if(value!=parseFloat(value).toString())
            return false;
    })
    .show();
```

Number only

In above methods, “beforeFormatCheck” has priority. That means, when "beforeFormatCheck" returns ‘false’, "valueFormat" property will be ignored.

3.6.6. Dynamic input validation

In previous section examples, “Error Mark” appears only when the control loses focus. If you want to a real-time input validation , you need to set dynCheck property to true.

```
var input = (new xui.UI.Input())
    .setDynCheck(true)
    .setValueFormat("^-?\\d\\d*$")
    .show();
```

Sets dynCheck

3.6.7. Error Mark

3.6.7.1. Default Error Mark

The default “Error Mark” is an icon at the right side of Input.



The default Error Icon

3.6.7.2. Validation Tips

There are three tool tips in xui.UI.Input control:

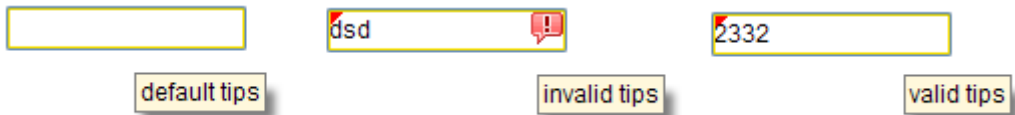
- tips: the default tool tips
- tipsOK: the valid tool tips
- tipsErr: the invalid tool tips

Input:

```
var input = (new xui.UI.Input())
    .setTips("default tips")
    .setTipsErr("invalid tips ")
    .setTipsOK("valid tips")
    .setValueFormat("^-?\d\d*$")
    .show();
```

Sets those tips

Output:



3.6.7.3. Binding Validation

You can bind the validation tips to a xui.UI.Div, xui.UI.SLabel or xui.UI.Span.

Input:

```
var slbl= (new xui.UI.SLabel({position:'relative'})).setCustomStyle({KEY:'padding-left:10px'});
var input = (new xui.UI.Input({position:'relative'}))
    .setValueFormat("^-?\d\d*$")
    .setTipsBinder(slbl)
    .setDynCheck(true)
    .setTips(" default tips")
    .setTipsErr(" invalid tips ")
    .setTipsOK(" valid tips")

input.show();
slbl.show();
```

Sets tipsBinder

Show SLabel here

Output:



3.6.7.4. Custom Error Mark

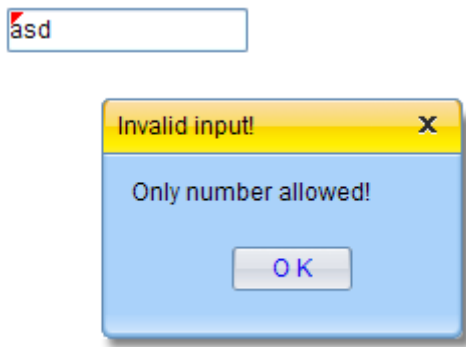
We can custom "Error Mark" in beforeFormatMark event.

Input:

```
var input = (new xui.UI.Input())
    .setValueFormat("^-?\d\d*$")
    .beforeFormatMark(function(profile,err){
        if(err)
            xui.alert("Invalid input!", "Only number allowed!",function(){
                profile.boxing().activate();
            });
        return false;
    }).show();
```

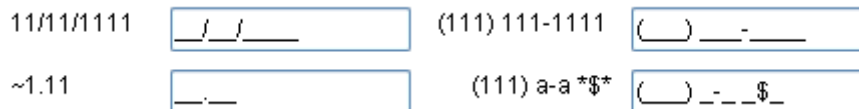
Customs information and aciton

Return false to ignore the default action

Output:

3.6.8. Mask Input

Mask Input examples:



In `chapter2\Input\index.html`

There is a mask property in `xui.UI.Input` control. It's a string. In this string,

- '~' represents [+]
- 'l' represents [0-9]
- 'a' represents [A-Za-z]
- 'u' represents [A-Z]
- 'l' represents [a-z]
- '*' represents [A-Za-z0-9]
- Other visible char represents itself

Input:

```
var input = (new xui.UI.Input())
    .setMask("(111)1111111-11")
    .show();
```

Output:**NOTE**

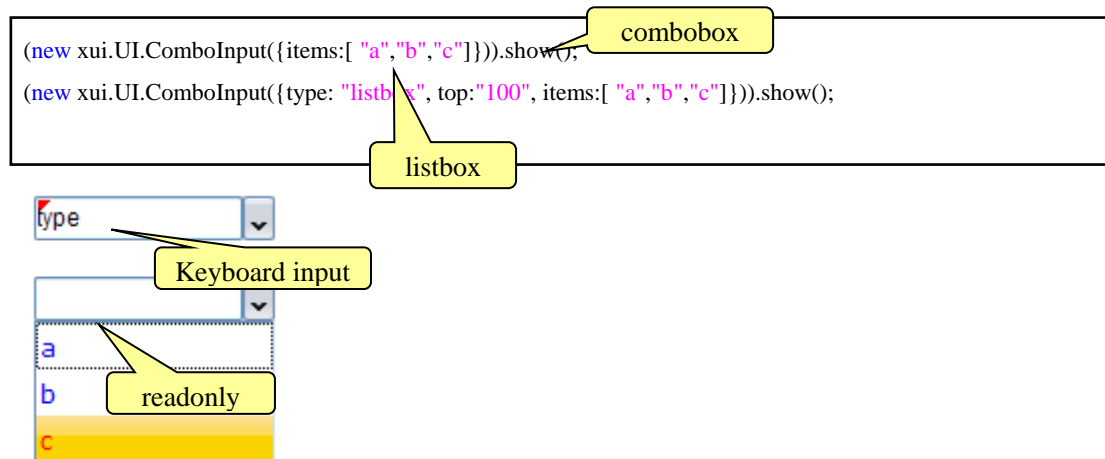
`chapter2\Input\index.html` is an overall example for Input.

3.6.9. xui.UI.ComboInput

xui.UI.ComboInput is an advanced Input.

3.6.9.1. Pop list for selection

When type property was set to “combobox”, “listbox” or “helpinput”, click the command button will trigger to pop a list window for selection.



3.6.9.2. combobox, listbox and helpinput

There's an items property in xui.UI.ComboInput (And all list related controls have this property too). Usually, we set items as a simple single layer array (like ["ia", "ib", "ic"]). Framework will convert this simple array to inner format:



- 1) combobox: Not readonly. The pop List shows “caption”; Input box shows “caption”; getValue returns “caption”.
- 2) listbox: Readonly. The pop List shows “caption”; Input box shows “caption”; getValue

returns “**id**”.

- 3) helpinput: Not readonly. The pop List shows “**caption**”; Input box shows “**id**”; getValue returns “**id**”.

Input:

```
var items=[
  {
    id : "id1",
    caption : "caption1"
  },{
    id : "id2",
    caption : "caption2"
  },{
    id : "id3",
    caption : "caption3"
  }
];
xui.create('ComboInput',{position:'relative',items:items}).show();
xui.create('ComboInput',{position:'relative',items:items,type:'listbox'}).show();
xui.create('ComboInput',{position:'relative',items:items,type:'helpinput'}).show();
```

Output:



3.6.9.3. Date Picker

Sets type property to “date”.

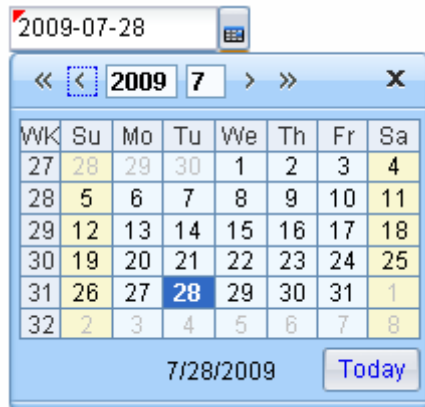
Input:

```
var ctrl=xui.create('ComboInput')
.setType('date')
.setValue(new Date)
.show();

_.asRun(function(){
  alert("The value is a timestamp string:"+ctrl.getValue());
  alert("You can convert it to date object:"+new Date(parseInt(ctrl.getValue())));
});
```

Date object or timestamp string

Output:



3.6.9.4. Time Picker

Sets type property to “time”.

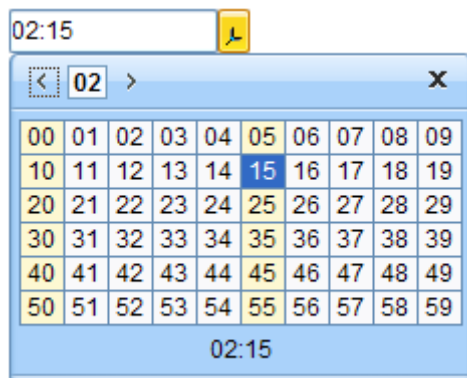
Input:

```
var ctrl=xui.create('ComboInput')
  .setType('time')
  .setValue('2:15')
  .show();

xui.alert("The value is a string : "+ctrl.getValue());
```

Sets string

Output:



3.6.9.5. Color Picker

Sets type property to “color”.

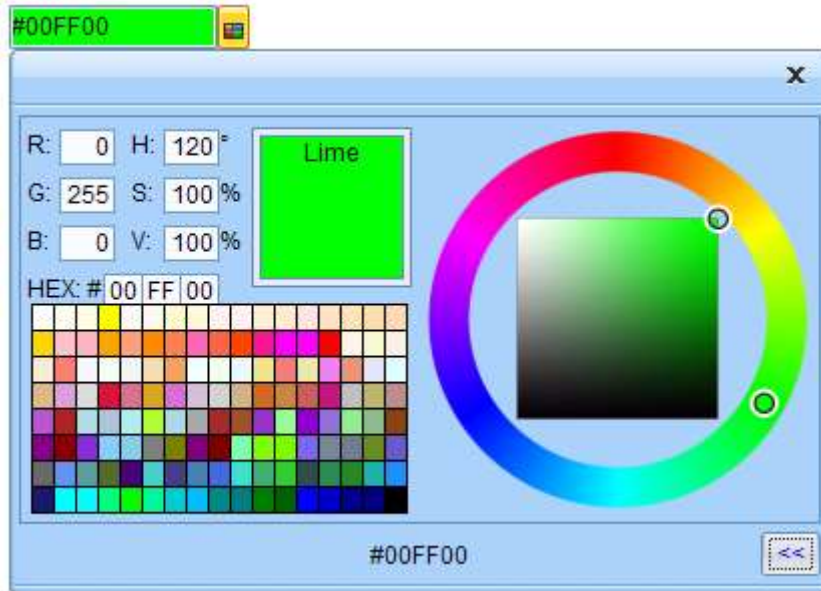
Input:

```
var ctrl=xui.create('ComboInput')
.setType('color')
.setValue('#00ff00')
.show();

xui.alert("The value is a string : "+ctrl.getValue());
```

Sets string

Output:



3.6.9.6. File Picker

Sets type property to “upload”.

Input:

```
var ctrl=xui.create('ComboInput')
.setType('file')
.show();
```

Output:



Note: use getUploadObj function to get the file’s handler

```
ctrl.getUploadObj()
```

3.6.9.7. Getter

Sets type property to “getter”.

Input:

```
var ctrl=xui.create('ComboInput')
.setType('getter')
.beforeComboPop(function(profile){
    profile.boxing().setUIValue(_id())
})
.show();
```

Sets value in beforeComboPop event

Output:



3.6.9.8. Custom Pop Window

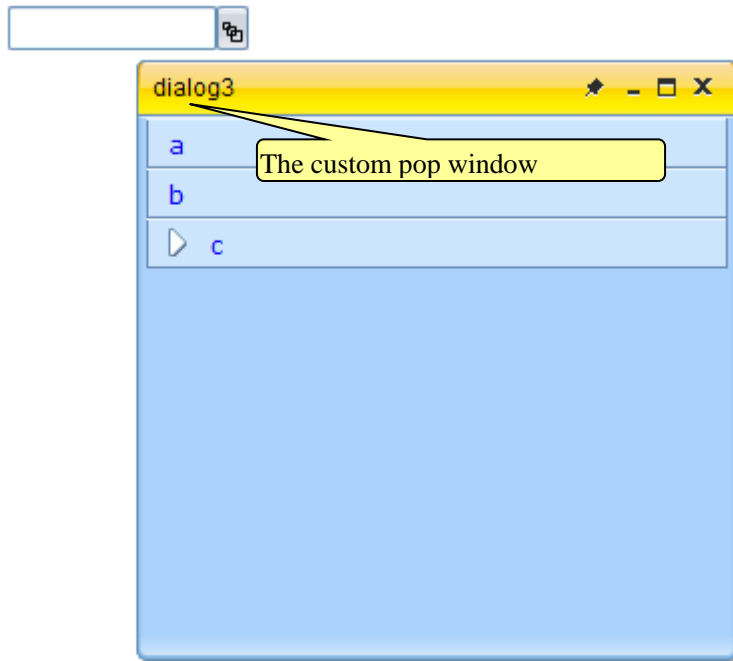
Sets type property to “cmdbox”, or “popbox”.

Input:

```
var ctrl=xui.create('ComboInput')
.setType('popbox')
.beforeComboPop(function(profile){
    var dlg=new xui.UI.Dialog, tb;
    dlg.append(tb=new xui.UI.TreeBar({items:["a","b",{id:"c",sub:["c1","c2","c3"]}]}));
    tb.onItemSelected(function(profile,item){
        ctrl.setUIValue(item.id);
        dlg.destroy();
    });
    dlg.show(null,true,100,100)
})
.show();
```

Shows custom pop window in beforeComboPop event

Output:



3.6.9.9. Command Buttons

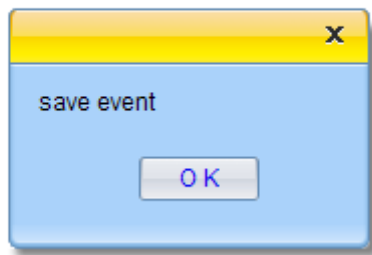
You can use `commandBtn` property to add an command button into `ComboInput` control. The following types are available for `commandBtn` property:

- “none”: no command button
- “save”: It’s a save button
- “add” : It’s a add button
- “remove” : It’s a remove button
- “delete” : It’s a delete button
- “custom” : custom button (sets `imageClass` or `imagePos` to custom it)

Input:

```
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('none').show();
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('save').onCommand(function(){ xui.alert('save event'); }).show();
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('add').onCommand(function(){ xui.alert('add event'); }).show();
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('remove').onCommand(function(){ xui.alert('remove event'); }).show();
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('delete').onCommand(function(){ xui.alert('delete event'); }).show();
(new xui.UI.ComboInput).setPosition('relative').setCommandBtn('save').onCommand(function(){ xui.alert('save event'); }).show();
```

Output:



NOTE

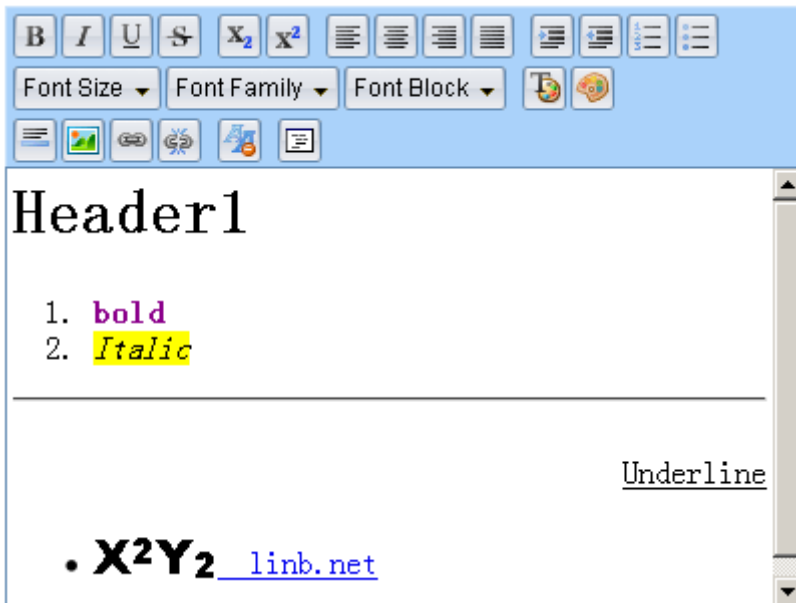
`chapter2\ComboInput\index.html` is an overall example for `ComboInput`.

3.6.10. RichEditor

Input:

```
(new xui.UI.RichEditor()).show();
```

Output:



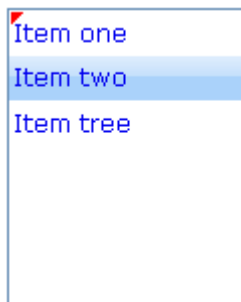
3.7. List related

This section relates to the following controls: xui.UI.List, xui.UI.RadioBox and xui.UIIconList and xui.UI.Gallery.

3.7.1. A Simple one

```
xui.create("List")
.setItems(["Item one", "Item two", "Item tree"])
.onItemSelected(function(profile, item){
    xui.message(item.id);
})
.show();
```

onItemSelected event



3.7.2. A little bit complicated

```

var renderer=function(o){
    return '<span style="width:40px">'+o.col1+'</span>' + ' <span style="width:60px">'+o.col2+'</span>' +
    '<span style="width:40px">'+o.col3+'</span>';
};

xui.create("List")
.setWidth(160)
.setItems([[
    {
        id:"a",
        col1:'Name',
        col2:'Gender',
        col3:'Age',
        renderer:renderer,
        itemStyle:'border-bottom:solid 1px #C8E1FA;font-weight:bold;'
    },
    {
        id:"b",
        col1:'Jack',
        col2:'Male',
        col3:'23',
        renderer:renderer
    },
    {
        id:"c",
        col1:'Jenny',
        col2:'Female',
        col3:'32',
        renderer:renderer
    }
]])
.beforeUIValueSet(function (profile, ov, nv){
    return nv!="a"
})
.show();

```

Diagram annotations:

- Gives a render function**: Points to the `renderer` function definition.
- Extra variables**: Points to the `col1`, `col2`, and `col3` properties in the first item of the `items` array.
- For the header item**: Points to the `itemStyle` property in the first item of the `items` array.


Result:

Name	Gender	Age
Jack	Male	23
Jenny	Female	32

Diagram annotation: **A Grid List** points to the table structure.

The above special render function applies to any control's caption property (e.g. `xui.UI.Button`, `xui.UI.Label`); and any control's sub item caption property (e.g. `xui.UI.List`, `xui.UI.TreeBar`).

```
xui.create("SCheckBox")
.setCaption("caption")
.setRenderer(function(prop){return prop.caption+" "+this.key})
.show();
```

 caption+xui.UI.SCheckBox

3.7.3. RadioBox

xui.UI.RadioBox is derived from xui.UI.List.

Input:

```
xui.create("RadioBox")
.setItems(["a","b","c"])
.onItemSelected(function(profile,item){
    xui.message(item.id);
})
.show();
```

Output:



3.7.4. IconList and Gallery

Both are derived from xui.UI.List.

Input:

```
xui.create("IconList")
.setItems([{id:'a',image:'img/a.gif'}, {id:'b',image:'img/b.gif'}, {id:'c',image:'img/c.gif'}])
.onItemSelected(function(profile,item){
    xui.message(item.id);
})
.show();
```

Output:



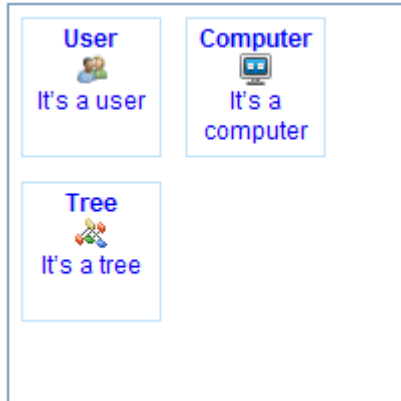
Input:


```

xui.create("Gallery")
.setItemWidth(64).setItemHeight(64)
.setItems([
  {id:'a',image:'img/a.gif',caption:'User',comment:'It's a user'},
  {id:'b',image:'img/b.gif',caption:'Computer',comment:'It's a computer'},
  {id:'c',image:'img/c.gif',caption:'Tree',comment:'It's a tree'}
])
.onItemSelected(function(profile,item){
  xui.message(item.id);
})
.show();

```

Item's height

Output:

3.7.5. Item selection

You can use “**setUIValue**” function to select an item in List, or use “**fireItemClickEvent**” function to get the same result. “fireItemClickEvent” function will trigger “onItemSelected” event, “setUIValue” won’t.

```

var ctrl=xui.create("List")
.setItems(["Item one", "Item two", "Item tree"])
.onItemSelected(function(profile,item){
  xui.message(item.id);
})
.show();

_.asynRun(function(){
  ctrl.fireItemClickEvent("Item two");
},1000);

_.asynRun(function(){
  ctrl.setUIValue("Item one");
},2000);

```

Trigger onItemSelected event

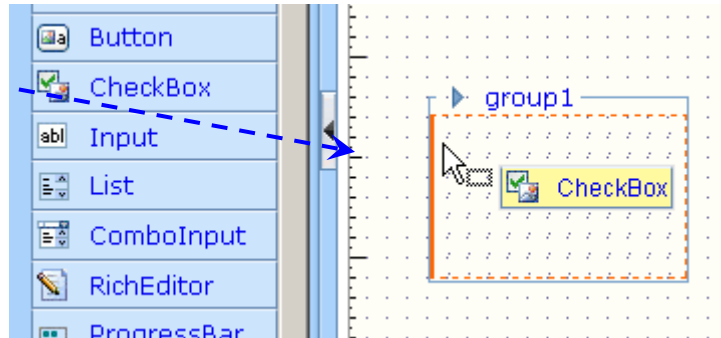
3.7.6. Container related

This section relates to the following controls: xui.UI.Group, xui.UI.Pane, xui.UI.Panel,

`xui.UI.Block`.

`xui.UI.Dialog`, `xui.UI.Layout` and `xui.UI.Tabs /Stacks/ButtonViews` are container controls too, we will give examples of these controls in separate sections.

Container is those controls that can have child controls. In CrossUI RAD Designer, you can drag a child control and drop it into a container control. Just like this,



Input 1:

```
(new xui.UI.Group)
.append(new xui.UI.SButton)
.show();
```

append

Input 2:

```
var con = new xui.UI.Group;
con.show();
(new xui.UI.SButton).show(con);
```

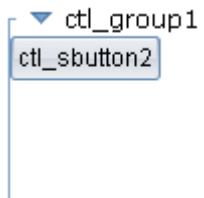
show

Input 3:

```
xui.create({
  key:"xui.UI.Group",
  children:[[{key:"xui.UI.SButton"}]]
}).show();
```

In children object

Output:



3.7.7. Pane and Panel

`xui.UI.Pane` is a single node control. It's derived from `xui.UI.Div`. `xui.UI.Panel` has a border and a

title bar.

Input:

```
(new xui.UI.Pane)
.append(new xui.UI.SButton)
.show()
```

You can't see output, It's transparent

Input:

```
(new xui.UI.Panel)
.setDock("none")
.append(new xui.UI.SButton)
.show()
```

Sets dock to 'none'

Output:

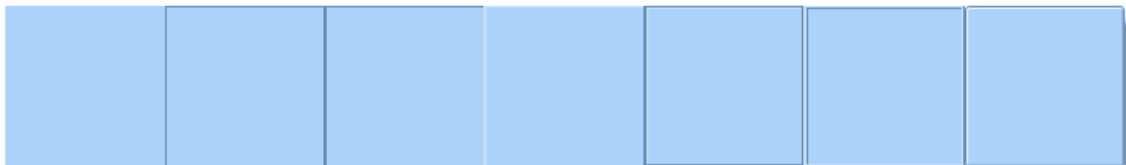


3.7.8. Block

Input:

```
xui.create("Block",{position:'relative',borderType:'none'}).show()
xui.create("Block",{position:'relative',borderType:'flat'}).show()
xui.create("Block",{position:'relative',borderType:'inset'}).show()
xui.create("Block",{position:'relative',borderType:'outset'}).show()
xui.create("Block",{position:'relative',borderType:'groove'}).show()
xui.create("Block",{position:'relative',borderType:'ridge'}).show()
xui.create("Block",{position:'relative',borderType:'none',border:true,shadow:true,resizer:true}).show()
```

Output:

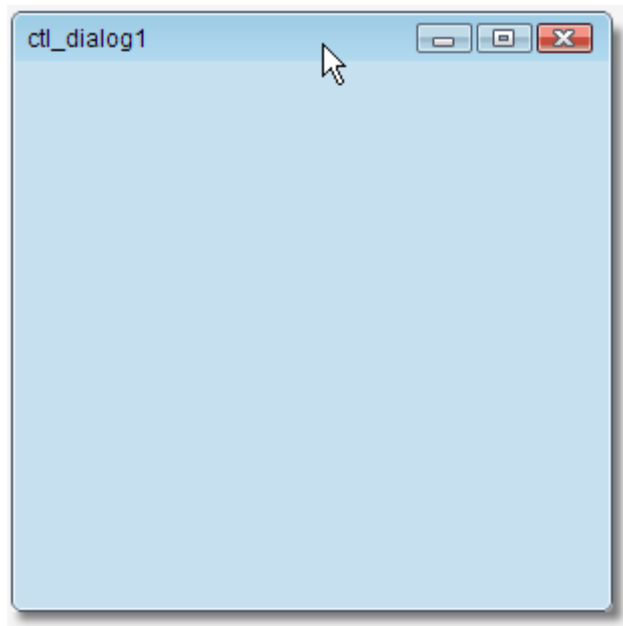


3.8. Dialog related

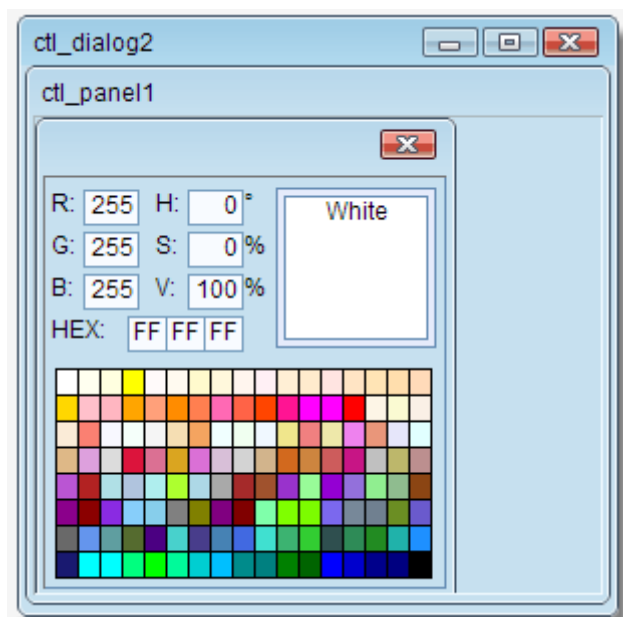
3.8.1. Normal state

Input:

```
(new xui.UI.Dialog).show()
```

Output:**Input:**

```
var dlg = (new xui.UI.Dialog).show();  
var panel;  
_._asRun(function(){  
    dlg.append(panel=new xui.UI.Panel)  
},1000);  
_._asRun(function(){  
    panel.append(new xui.UI.ColorPicker)  
},2000);
```

Output:

3.8.2. Min and Max status

Input:

```
var dlg = (new xui.UI.Dialog). setStatus("min").show();
_._.asynRun(function(){
    dlg.setStatus("normal");
},1000);
_._.asynRun(function(){
    dlg.setStatus("max");
},2000);
```

Output:



3.8.3. Modal Mode

Input:

```
var dlg = (new xui.UI.Dialog).show();
dlg.append(panel=new xui.UI.SButton({
    caption: "Pop a modal dialog"
}),
{onClick:function(){
    xui.create("Dialog",{
        width:200,
        height:100,
        html:"The second modal dialog"
    }).showModal(dlg);
}}
))

(new xui.UI.Dialog)
.setHtml("The first modal dialog")
.show(null,true);
```

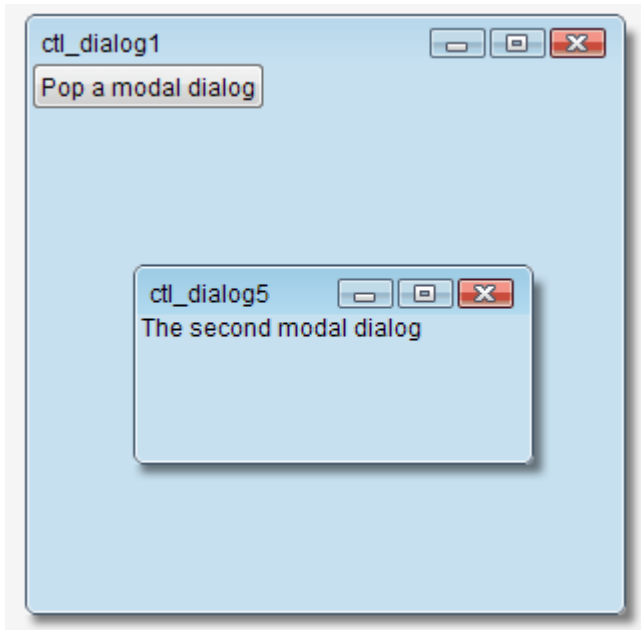
Sets caption

onClick event

Parent is dlg

Parent is html body

Output:



3.9. Layout Control

Input:

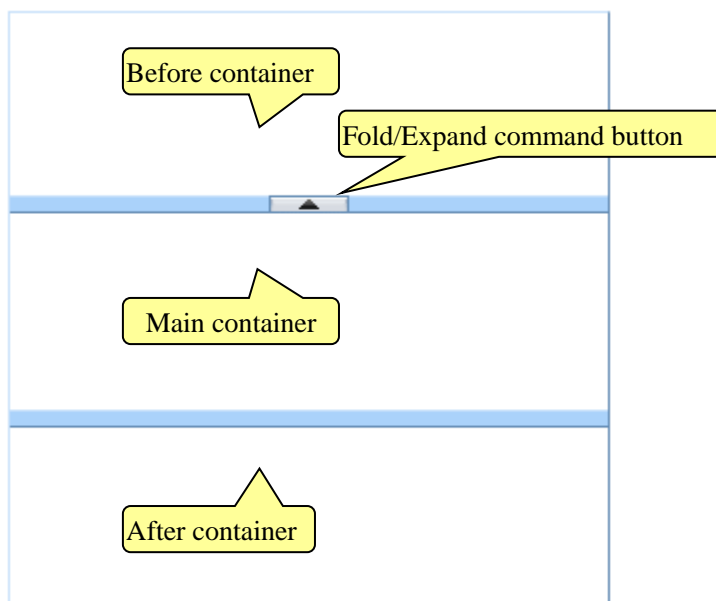
```
var block=xui.create("Block").setWidth(300).setHeight(300);
var layout=xui.create("Layout",{items:[
  {id:'before',
    pos:'before',
    size:100,
    cmd:true
  },{id:'after',pos:'after',size:100}
]});
block.append(layout).show();
```

Append into a block

Size to 100

Has a command button

Output:



Input:

```

var block=xui.create("Block").setWidth(400).setHeight(100);
var layout=xui.create("Layout",{items:[
  {id:'before',
    pos:'before',
    size:100,
    cmd:true,
    folded:true,
    max:120,
    min:80},
  {id:'after',
    pos:'after',
    cmd:true,
    locked:true,
    size:50},
  {id:'after2',
    pos:'after',
    size:50}],type: 'horizontal'});
block.append(layout).show();

```

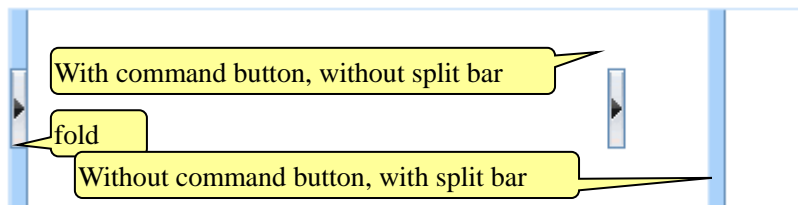
Default status is fold

Max size is 120

Min size is 80

Size locked

horizontal

Output:**NOTE**

chapter2\Layout\index.html is an overall example for Layout.

3.10. Multi-pages Controls

Three multi-pages controls: xui.UI.Tabs, xui.UI.Stacks and xui.UI.ButtonViews.

Input:

```

var block=xui.create("Block").setWidth(400).setHeight(100);
var pages=xui.create("Tabs",{
  items:["page1","page2","page3"],
  value:"page2"
});
block.append(pages).show();

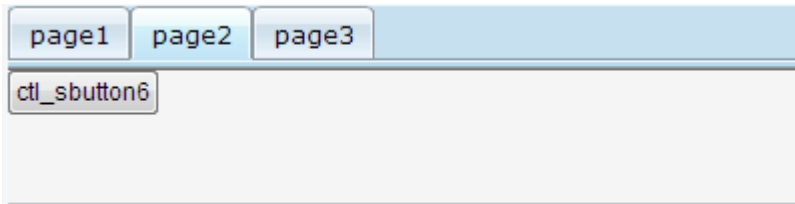
_._asynRun(function(){
  pages.append(new xui.UI.SButton,"page2")
},1000);

```

Annotations:

- 3 pages (points to items array)
- The default page (points to value: "page2")
- Append to a block (points to block.append(pages))
- Adds a SButton to 2th page (points to pages.append(new xui.UI.SButton, "page2"))

Output:



3.10.1. noPanel property

For xui.UI.Tabs and xui.UI.ButtonViews, when “noPanel” property was set to true, they no longer are the container control. So, don’t append any children control to tabs in this case.

Input:

```

var block=xui.create("Block").setWidth(400).setHeight(300).show();
var items=["page1","page2","page3"];
xui.create("Tabs",{
  items:items,
  value:"page2",
  position:'relative',
  width:'auto',
  height:'auto',
  dock:'none',
  noPanel:true
}).show(block);

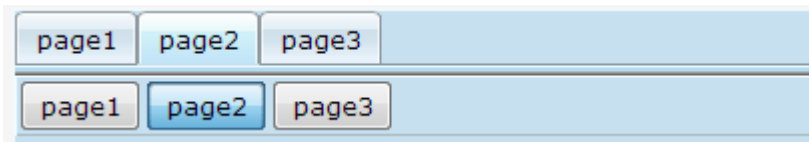
xui.create("ButtonViews",{
  items:items,
  value:"page2",
  position:'relative',
  width:'auto',
  height:32,
  barSize:30,
  dock:'none',
  noPanel:true
}).show(block);

```

Annotations:

- Set position to 'relative' (points to position:'relative')
- Auto width (points to width:'auto')
- Auto height (points to height:'auto')
- No container (points to noPanel:true in Tabs)
- Set height to buttonview (points to height:32 in ButtonViews)
- No container (points to noPanel:true in ButtonViews)

Output:

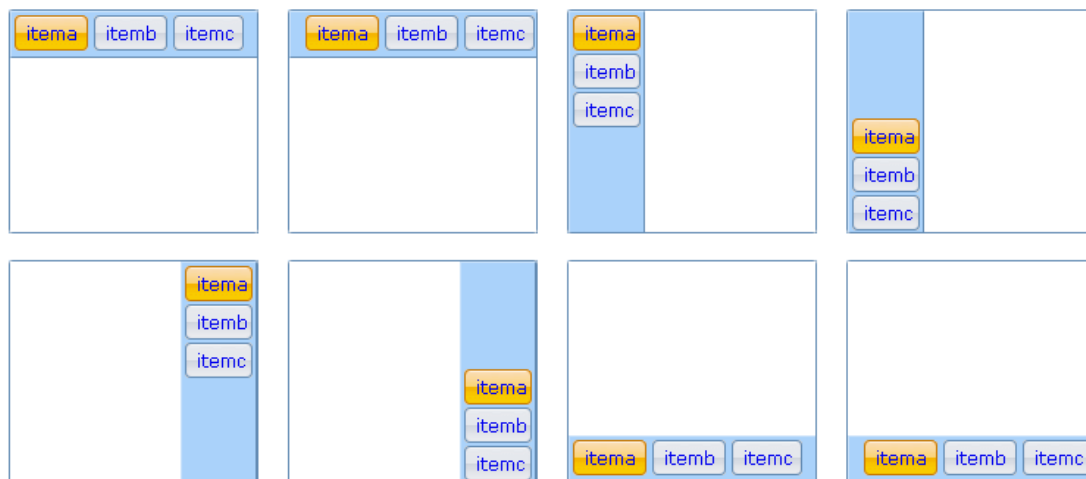


3.10.2. ButtonViews types

There are three properties used to define the ButtonViews' layout:

- **barLocation**: Used to set the location of the command button bar.
In 'top', 'bottom', 'left', 'right'.
- **barHAlign**: Used to set command buttons horizontal alignment
In 'left', 'right'. Only for **barLocation** is 'top' or 'bottom'
- **barVAlign**: Used to set command buttons vertical alignment
In 'left', 'right'. Only for **barLocation** is 'left' or 'right'

The below picture shows all the eight possible ButtonViews layouts:



In `chapter2\ButtonViews\index.html`

NOTE

`chapter2\ButtonViews\index.html` is an overall example for ButtonViews.

3.10.3. Page selection

You can use “**setUIValue**” function to select a page, or use “**fireItemClickEvent**” function to get the same result. “**fireItemClickEvent**” function will trigger “**onItemSelected**” event, “**setUIValue**” won't.

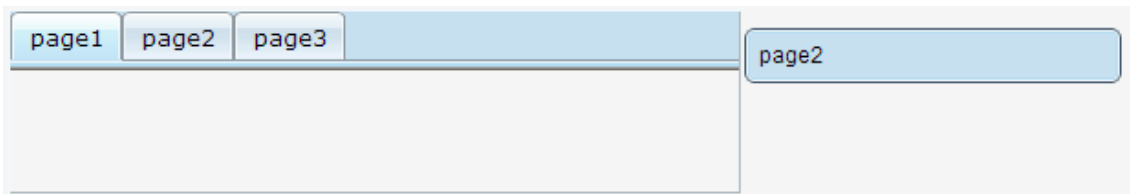
Input:

```
var block=xui.create("Block").setWidth(400).setHeight(100).show();
var pages=xui.create("Tabs",{
  items:["page1","page2","page3"]
})
.onItemSelected(function(profile,item){
  xui.message(item.id);
})
.show(block);

_.asynRun(function(){
  pages.fireItemClickEvent("page2");
},1000);

_.asynRun(function(){
  pages.setUIValue("page1");
},2000);
```

Trigger onItemSelected event

Output:

3.10.4. Pages

3.10.4.1. Close and options Button

Each page can hold a “close” button and a “options” button. Click this button will close the page.

Input:

```

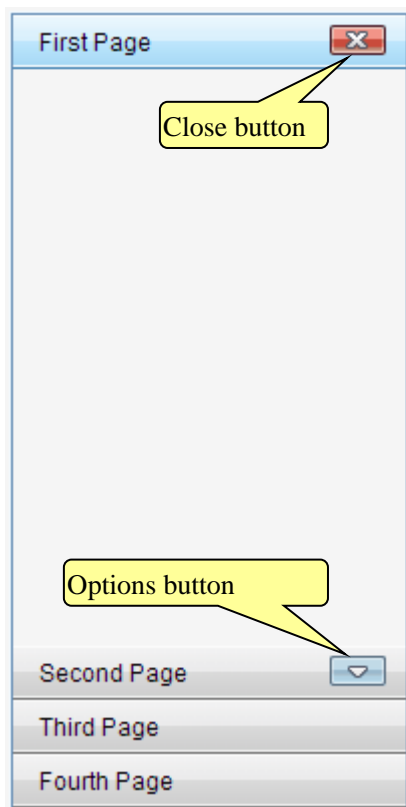
var block=xui.create("Block").setWidth(200).setHeight(400).show(), stacks;
block.append(stacks=new xui.UI.Stacks({
  value:'a',
  items:[{
    id:'a',
    caption:'First Page',
    closeBtn:true
  },{
    id:'b',
    caption:'Second Page',
    optBtn:true
  },{
    id:'c',
    caption:'Third Page'
  },{
    id:'d',
    caption:'Fourth Page'
  }]
}));
stacks.onShowOptions(function(profile,item){
  xui.message(" You clicked "+item.caption)
});

```

Close button

Options button

Click options to trigger onShowOptions event

Output:

Two events can be fired when “close” button was clicked:

- beforePageClose: Fired before user clicked the close button on a page. If returns false, the page won't be closed.
- afterPageClose: Fired after user clicked the close button on a page.

3.10.4.2. Add/Remove Pages

Input:

```

var block=xui.create("Block").setWidth(400).setHeight(100).show(), tabs;
block.append(tabs=new xui.UI.Tabs({
  value:'a',
  items:[{
    id:'a',
    caption:'First Page'
  },{
    id:'b',
    caption:'Second Page'
  }]
}));
_asyRun(function(){
  tabs.insertItems([
    id:'c',
    caption:'Third Page'
  ],{
    id:'d',
    caption:'Fourth Page'
  });
},500);
_asyRun(function(){
  tabs.insertItems('Fifth Page');
},1000);
_asyRun(function(){
  tabs.removeItem('d');
},1500);
_asyRun(function(){
  tabs.removeItem(['b','c']);
},2000);

```

Close button

Adds two pages

Adds one more

Removes this page

Removes two more

3.10.5. Dynamic content loading

3.10.5.1. onIniPanelView

```
var block=xui.create("Block").setWidth(400).setHeight(100).show(),
tabs=new xui.UI.Tabs({
  value:'a',
  items:[{
    id:'a',
    caption:'First Page'
  },{
    id:'b',
    caption:'Second Page'
  },{
    id:'c',
    caption:'Third Page'
  }]
});
tabs.onIniPanelView(function(profile,item){
  profile.boxing().getPanel(item.id).append(new xui.UI.SButton)
});
block.append(tabs);
```

3.10.5.2. beforeUIValueSet/afterUIValueSet

It's a fine-grained mechanism.

```

var block=xui.create("Block").setWidth(400).setHeight(100).show(), tabs;
block.append(tabs=new xui.UI.Tabs({
  value:'a',
  items:[{
    id:'a',
    caption:'First Page'
  },{
    id:'b',
    caption:'Second Page'
  },{
    id:'c',
    caption:'Third Page'
  }]
}));
tabs.beforeUIValueSet(function(profile,ovalue,value){
  if(value=='b')
    return false;
});
tabs.afterUIValueSet(function(profile,ovalue,value){
  if(value=='c'){
    var item=profile.getItemById(value);
    if(!item.$ini){
      profile.boxing().append(new xui.UI.SButton);
      item.$ini=true;
    }
  }
});

```

3.11. Menus and toolbars

3.11.1. Pop Menu

Input:

```

var pm=xui.create('PopupMenu')
.setItems([
  {"id":"itema", "caption":"itema", "tips":"item a"},
  {"type":"split"},
  {"id":"itemb", "type":"checkbox", value:true, "caption":"itemb", "tips":"item b"},
  {"id":"itemc", "caption":"itemc", "type":"checkbox", "tips":"item c"},
  {"id":"itemd", "caption":"itemd", "tips":"item d", sub:[
    {"id":"itemd1", "caption":"itemd1"},
    {"id":"itemd2", "caption":"itemd2"}
  ]},
  {"id":"iteme", "caption":"iteme", "tips":"item d", disabled:true}
])
.onMenuSelected(function(profile,item){
  xui.message(item.id + (item.type=="checkbox"? " : " + item.value:""))
});

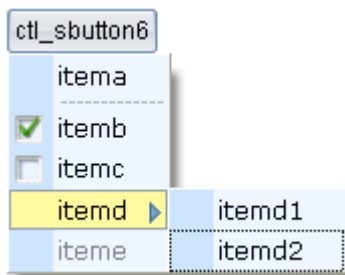
xui.create('SButton')
.onClick(function(profile){
  pm.pop(profile.getRoot())
})
.show();

```

Annotations in the original image:

- Checkbox type**: points to the `"checkbox"` type in the `itemb` and `itemc` objects.
- Sub pop menu**: points to the `sub` array in the `itemd` object.
- event**: points to the `onMenuSelected` function.
- Disabled it**: points to the `disabled:true` property in the `iteme` object.
- For position**: points to the `pm.pop(profile.getRoot())` call.

Output:



3.11.2. MenuBar

Input:

```

var pm=xui.create('MenuBar')
.setItems([
  {
    "id": "file", "caption": "File",
    "sub": [
      {
        "id": "newproject",
        "caption": "New Project"
      },
      {
        "id": "openproject", "caption": "Open Project",
        "add": "Ctrl+Alt+O",
        "image": "img/b.gif",
        "sub": ["option 1", "option 2"]
      },
      {
        "id": "closeproject", "caption": "Close Project"
      }
    ],
    "type": "split",
    {
      "id": "save", "caption": "Save",
      "image": "img/a.gif"
    },
    {
      "id": "saveall", "caption": "Save All",
      "add": "Ctrl+Alt+S",
      "image": "img/c.gif"
    }
  },
  {
    "id": "tools", "caption": "Tools",
    "sub": [
      {
        "id": "command", "caption": "Command Window"
      },
      {
        "id": "spy", "caption": "Components Spy"
      }
    ]
  },
  {
    "id": "build", "caption": "Build",
    disabled: true,
    "sub": [
      {
        "id": "debug",
        "caption": "Debug"
      }
    ]
  }
]).show()

```

Pop menu data

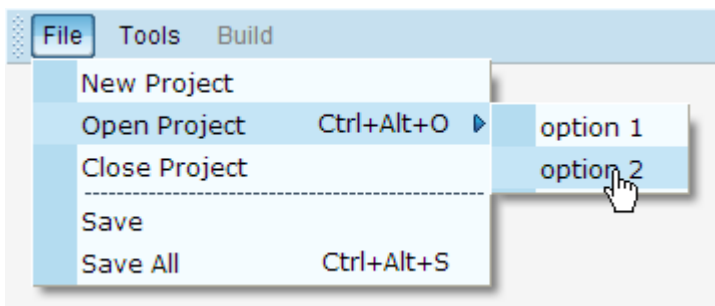
Extra data

Sub pop menu

A split

An icon

Disabled it

Output:

3.11.3. Toolbars

Input:

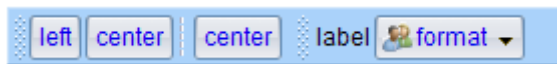

```

xui.create("ToolBar",{items:[{
  "id": "align",
  "sub": [
    {"id": "left","caption": "left"},
    {"id": "center","caption": "center"},
    {type:'split'},
    {"id": "right","caption": "center"}
  ]
},{
  "id": "code",
  "sub": [{
    "id": "format","caption": "format",
    label:"label",
    image:"img/a.gif",
    "dropButton": true
  ]
}]
})
.onClick(function(profile,group,item){
  xui.message(group.id + " : " +item.id)
})
.show();

```

Diagram labels pointing to code elements:

- Button group data (points to "id": "align")
- Button data (points to {"id": "left","caption": "left"})
- A split (points to {type:'split'})
- With a label (points to label:"label")
- With an icon (points to image:"img/a.gif")
- A drop button (points to "dropButton": true)
- Group object (points to the outer {id: "code", sub: [...]})
- Button (points to the inner {"id": "format", ...})

Output:

3.12. TreeBar and TreeView

3.12.1. Three selection mode

All controls derived from xui.UI.absList have three options mode.

3.12.1.1. No-selection

Input:

```

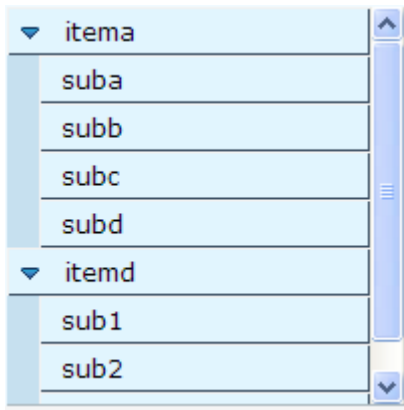
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{items:[{ id : "itema", sub : ["suba","subb","subc","subd"]},
{ id : "itemd", sub : ["sub1","sub2","sub3"]}]})
.setSelMode("none")
.onClick(function(profile,item){
  xui.message(item.id);
}).show(block);

```

Diagram label pointing to code element:

- Sets to 'none' (points to .setSelMode("none"))

Output:



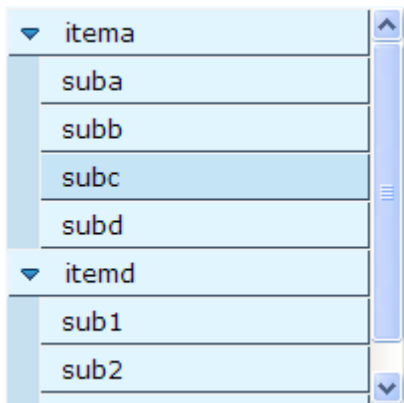
3.12.1.2. Single-selection

Input:

```
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{items:[{ id : "itema", sub : ["suba","subb","subc","subd"]},
{id : "itemd", sub : ["sub1","sub2","sub3"]}]})
.setSelMode("single")
.onItemSelected(function(profile,item){
    xui.message(item.id);
}).show(block);
```

Sets to single

Output:

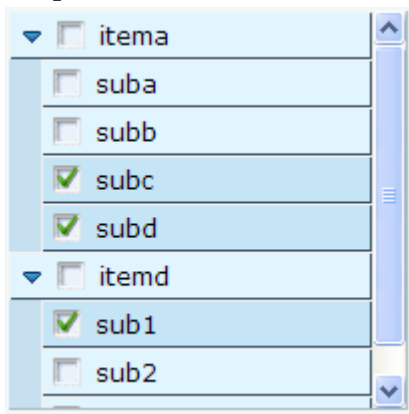


3.12.1.3. Multi-selection

Input:

```
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{items:[{ id : "itema", sub : ["suba","subb","subc","subd"]},
{id : "itemd", sub : ["sub1","sub2","sub3"]}]})
.setSelMode("multi")
.onItemSelected(function(profile,item){
    xui.message(item.id);
}).show(block);
```

Sets to 'multi'

Output:

3.12.2. Group Item

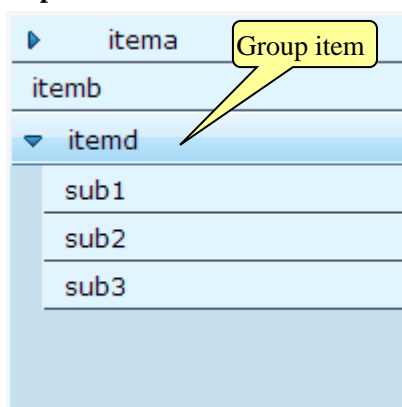
Input:

```
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{items:[{
  id : "itema",
  image : "img/a.gif",
  sub : ["suba","subb","subc","subd"]
},
{id : "itemb"},
{
  id : "itemd",
  group:true,
  sub : ["sub1","sub2","sub3"]
}
]}).show(block);
```

With an icon

Sub items

It's a group

Output:

3.12.3. Expand all nodes by default

Input:

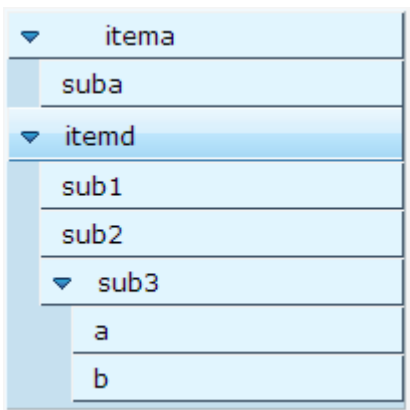
```

var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{
  iniFold:false,
  items:[{
    id : "itema",
    image : "img/a.gif",
    sub : ["suba"]
  },
  {
    id : "itemd",
    group:true,
    sub : ["sub1","sub2",{
      id:"sub3",sub:["a","b"]
    }]
  }
]
}).show(block);

```

Sets iniFold property to false

Output:



3.12.4. Mutex Expand

```

var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{
  singleOpen:true,
  items:[{
    id : "itema",
    image : "img/a.gif",
    sub : ["suba"]
  },
  {
    id : "itemd",
    group:true,
    sub : ["sub1","sub2",{
      id:"sub3",sub:["a","b"]
    }]
  }
]
}).show(block);

```

Mutex Expand

3.12.5. Dynamic Destruction

```
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{
  dynDestory:true,
  items:[{
    id : "itema",
    image : "img/a.gif",
    sub : ["suba"]
  },
  {
    id : "itemd",
    group:true,
    sub : ["sub1","sub2",{
      id:"sub3",sub:["a","b"]
    }]
  }
]
}).show(block);
```

Dynamic Destruction

3.12.6. Dynamically loading

Input:

```
var block=new xui.UI.Block({ width:200,height:200}).show();
xui.create("TreeBar",{
  singleOpen:true,
  dynDestory:true,
  items:[{
    id : "itema",
    sub : true
  },
  {
    id : "itemb",
    sub : true
  }
]
})
.onGetContent(function(profile,item,callback){
  if(item.id=="itema"){
    var rnd=_();
    callback([rnd+"-a",rnd+"-b",rnd+"-c"]);
  }
  if(item.id=="itemb")
    return ["itembsub1","itembsub2","itembsub3"];
})
.show(block);
```

Mutex Expand

Dynamic Destruction

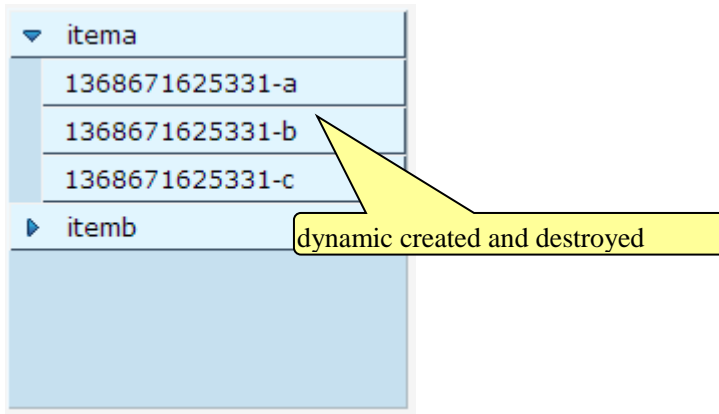
Wants to load children dynamically

Takes time stamp as a random string

Asynchronous or synchronous callback

Can also be returned directly

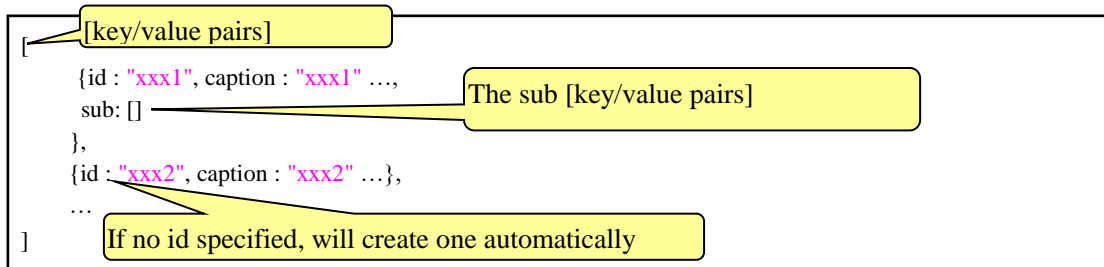
Output:



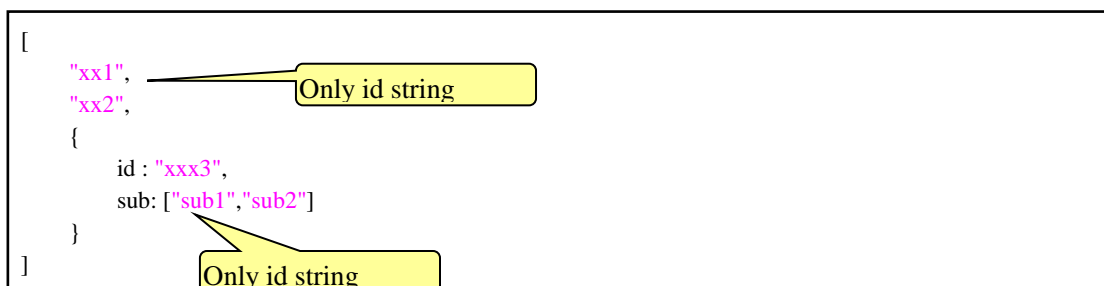
3.13. TreeGrid

3.13.1. Header and Rows

The header property and rows property in TreeGrid are Array of key/value pairs, like,



It can be written as a simplified format,



When call setHeader/setRows, the simplified format can be convert to,

```
[
  {id:"xx1",caption:"xx1"},
  {id:"xx2",caption:"xx2"}
  {
    id : "xxx3", caption : "xxx3",
    sub: [
      {id:"sub1",caption:"sub1"},
      {id:"sub2",caption:"sub2"}
    ]
  }
]
```

3.13.1.1. Sets standard format

```
var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader([
  {id:"col1", caption:"Name"},
  {id:"col2", caption:"Age", width:40}
]).setRows([
  {id:"row1",cells:[{
    value:'Jack',caption:'Jack'
  },{
    value:23,caption:'23'
  }]},
  {id:"row2",cells:[{
    value:'John',caption:'John'
  },{
    value:32,caption:'32'
  }]}
]).show(block);
```

Name	Age
Jack	23
John	32

3.13.1.2. Sets simplified format

```
var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[Jack', 23], [John', 32]])
.show(block);
```

Only id input

Only value input

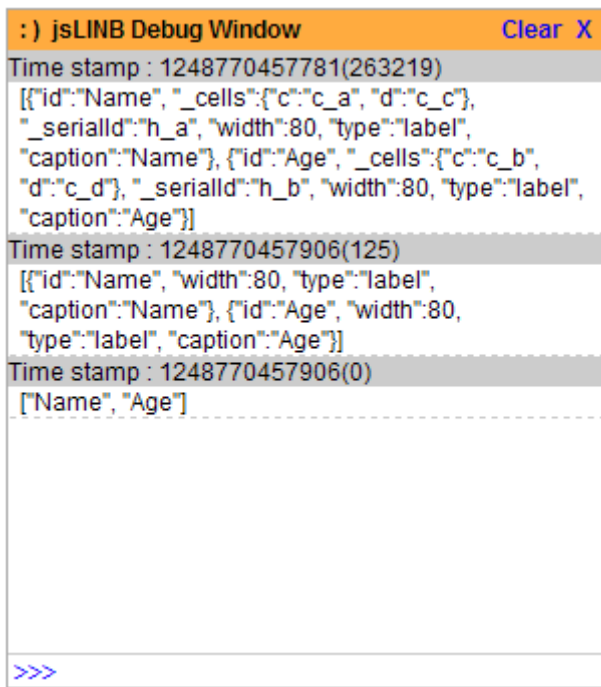
3.13.2. getHeader

Calls getHeader function to return the header data. There are three format,

- getHeader(): returns memory data;
- getHeader("data"): returns the standard format data;
- getHeader("min"): returns the simplified format data;

```
var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[Jack', 23], [John', 32]])
.show(block);
xui.log(tg.getHeader());
xui.log(tg.getHeader("data"));
xui.log(tg.getHeader("min"));
```

Comparing these three formats



3.13.3. getRows

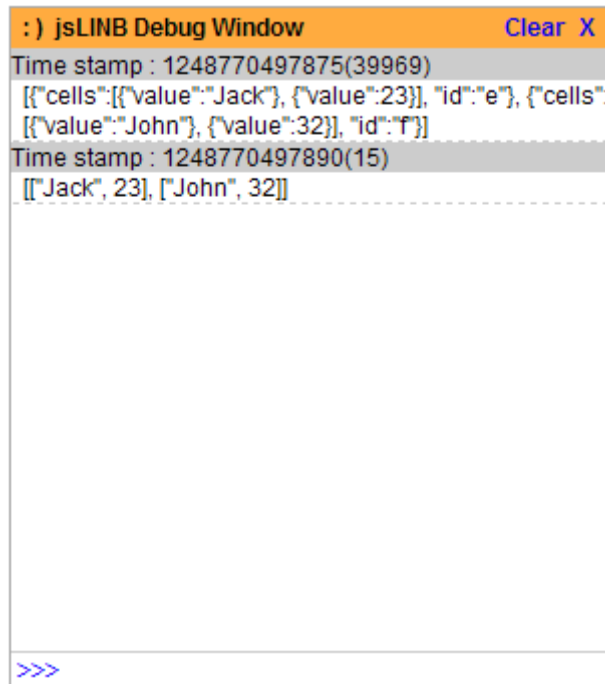
Calls `getRows` function to return the rows data. Similarly, there are three formats,

- `getRows ()`: returns memory data;
- `getRows ("data")`: returns the standard format data;
- `getRows ("min")`: returns the simplified format data;

```
var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.show(block);
xui.log(tg.getRows("data"));
xui.log(tg.getRows("min"));
//console.log(tg.getRows());
```

Comparing these three formats

There is circular reference in memory data,
can't be directly serialized



The rows memory data in firebug:

```

Object cells=[2] id=c _cells=Object _layer=0 _serialId=r_a, Object
cells=[2] id=d _cells=Object _layer=0 _serialId=r_b ]
  
```

+	_cells	Object Name=c_a Age=c_b
	_layer	0
	_pid	undefined
	_rowMarkDisplay	"display:none"
	_serialId	"r_a"
	_tabindex	1
-	cells	[Object value=Jack _row=Object _col=Object _serialId=c_a, Object value=23 _row=Object _col=Object _serialId=c_b 0=Object 1=Object]
	- 0	Object value=Jack _row=Object _col=Object _serialId=c_a
	_\$tips	"Jack"
	_\$value	"Jack"
	+ _col	Object id=Name _cells=Object _serialId=h_a width=80
	+ _row	Object cells=[2] id=a _cells=Object _layer=0 _serialId=r_a
	_serialId	"c_a"
	value	"Jack"
	+ 1	Object value=23 _row=Object _col=Object _serialId=c_b
	id	"a"

3.13.4. Active Modes

There are three active modes for TreeGrid:

- non-active appearance : activeMode is "none";
- the row-active appearance: activeMode is "row" ;
- the cell-active appearance: activeMode is "cell";

3.13.4.1. non-active appearance

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setActiveMode("none")
.show(block)

. afterRowActive (function(profile,row){
    xui.message(row.id);
})
. afterCellActive (function(profile,cell){
    xui.message(cell.value);
})
  
```

No row handler

Sets to 'none'

Does not trigger events

Output:

Name	Age
Jack	23
John	32

3.13.4.2. row-active appearance

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setActiveMode("row")
.show(block)

.afterRowActive (function(profile,row){
    xui.message(row.id);
})
.afterCellActive (function(profile,cell){
    xui.message(cell.value);
})

```

No row handler

Sets to "row"

Will be fired

Name	
Jack	
John	32

non-active appearance

3.13.4.3. cell-active appearance

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setActiveMode("cell")
.show(block)

.afterRowActive (function(profile,row){
    xui.message(row.id);
})
.afterCellActive (function(profile,cell){
    xui.message(cell.value);
})

```

No row handler

Sets to "row"

Will be fired

Name	
Jack	23
John	32

non-active appearance

3.13.5. Selection Mode

There are five selection modes for TreeGrid:

- Non-selection: activeMode is “none”, or selMode is ‘none’
- Single row selection: activeMode is “row”, and selMode is ‘single’
- Multi-rows selection: activeMode is “row”, and selMode is ‘multi’
- Single cell selection: activeMode is “cell”, and selMode is ‘single’
- Multi-cells selection: activeMode is “cell”, and selMode is ‘multi’

3.13.5.1. Non-selection

Input:

```
var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[Jack, 23], [John, 32]])
.setSelMode("none")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});
```

Non-selection

Won't be fired

Output:

Name	Age
Jack	23
John	32

It's active appearance, not the selection

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[Jack, 23], [John, 32]])
.setActiveMode("none")
.setSelMode("none")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});

```

Non-active

Non-selection

Won't be fired

Output:

Name	Age	
Jack	23	
John	32	

Non-active appearance, non-selection

3.13.5.2. Single row selection

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setHeader(["Name", "Age"])
.setRows([[Jack, 23], [John, 32]])
.setSelMode("single")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});

```

Sets to 'single' mode

Will be fired

Output:

Name	Age	
Jack	23	
John	32	

Selection appearance

3.13.5.3. Multi-row selection

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(24)
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setSelMode("multi")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});

```

Row handler's width

Sets to 'multi' mode

Will be fired

Output:

<input type="checkbox"/>	Name	Age
<input checked="" type="checkbox"/>	Jack	23
<input checked="" type="checkbox"/>	John	32

3.13.5.4. Single cell selection

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setActiveMode("cell")
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setSelMode("single")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});

```

Sets to 'cell' mode

Sets to 'single' mode

Output:

Name	Age	
Jack	23	
John	32	

3.13.5.5. Multi-cells selection

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setActiveMode("cell")
.setHeader(["Name", "Age"])
.setRows([[ 'Jack', 23], [ 'John', 32]])
.setSelMode("multi")
.show(block)

.afterUIValueSet(function(profile,ovalue,value){
    xui.message(value);
});

```

Sets to 'multi' mode

Output:

Name	Age	
Jack	23	
John	32	

3.13.6. The Tree Grid

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(20)
.setHeader([
    {id:"col1", caption:"Name"},
    {id:"col2", caption:"Age", width:40}
]).setRows([
    {id:"row1",cells:['Jack',23]},
    {id:"row2",cells:['John',32],
      sub:[{id:"row21",cells:['Tom',24]},
           {id:"row22",cells:['Bob',25]}
    ]
  ])
.show(block)

```

Row header is a must for tree grid

A row has sub rows

Output:

	Name	Age	
	Jack	23	
▼	John	32	
	Tom	24	
	Bob	25	

No Indentation here

Input:

```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(20)
.setGridHandlerCaption("Name")
.setRowHandlerWidth(80)
.setHeader([
  {id:"col2", caption:"Age", width:40}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23]},
  {id:"row2",caption:'John',cells:[32],
    sub:[{id:"row21",caption:'Tom',cells:[24]},
          {id:"row22", caption:'Bob',cells:[25]}
    ]}
  ])
  ]).show(block)

```

Grid handler caption

Row's caption

Output:

Name	Age
Jack	23
John	32
Tom	24
Bob	25

Indentation in row handler

3.13.7. Column config

3.13.7.1. The first column

In order to show the first column, you have to set rowHandler to [true].

Input:

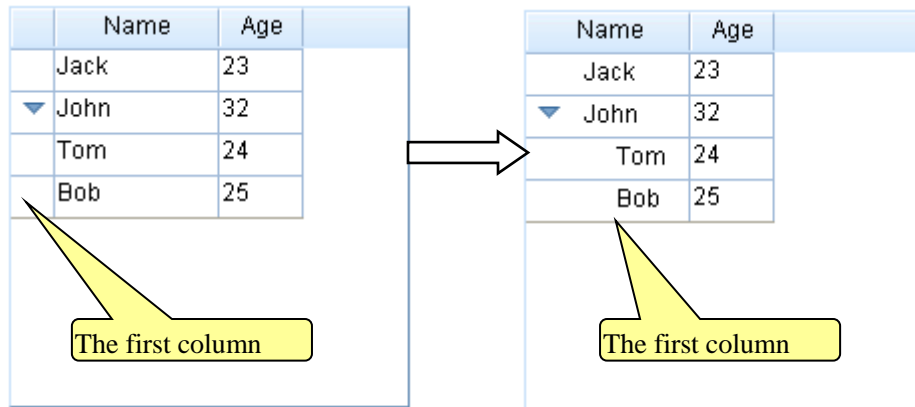
```

var block=new xui.UI.Block({ width:200,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23]},
  {id:"row2",caption:'John',cells:[32],
    sub:[{id:"row21",caption:'Tom',cells:[24]},
          {id:"row22",caption:'Bob',cells:[25]}
    ]}
  ])
  ]).show(block)

```

Sets row handler's width

Output:



上一节中缩进的例子

3.13.7.2. Column width

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Part-time", width:90}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)
._asynRun(function(){
  tg.updateHeader("col2", {width:70});
},1000);
```

The first column's width

Column's width

Modify column width dynamically

Output:

Name	Age	Part-time
Jack	23	true
John	32	false

3.13.7.3. Drag&Drop to modify column width

“colResizer” property in TreeGrid determines whether the column width can be modified with Drag&Drop. Each column can include a “colResizer” property too. The “colResizer” property in column has higher priority than in TreeGrid.

In CrossUI, "fine-grained Setting has higher priority than coarse-grained" is a base rule.

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColResizer(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Part-time", width:90,colResizer:true}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

coarse-grained setting

fine-grained setting

Output:

Name	Age	Part-time
Jack	23	true
John	32	false

Only this column

3.13.7.4. Drag&Drop to modify column position

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColMovable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Part-time", width:90,colMovable:true}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

coarse-grained setting

fine-grained setting

Output:

Name	Age	Part-time
Jack	23	true
John	32	false

3.13.7.5. Default Sorting

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Part-time", width:90,colSortable:true}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

coarse-grained setting

fine-grained setting

Output:

Name	Age	Part-time <input checked="" type="checkbox"/>	
Jack	23	true	
John	32	false	

Sorting icon

3.13.7.6. Custom Sorting

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Part-time", width:90,sortby:function(x,y){return -1}}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

Custom sorting function

3.13.7.7. Hide columns

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColHidable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, colHidable:true },
  {id:"col2", caption:"Part-time", width:90, colHidable:true}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

Global setting

These 2 columns
can be hidden**Output:**

Name	Age	Part-time
Jack	23	<input checked="" type="checkbox"/>
John	32	<input type="checkbox"/>

3.13.7.8. Setting Cell Types in column header

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Part-time", width:90, type: "checkbox"}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

```

Number

Checkbox type

Output:

Name	Age	Part-time
Jack	23	true
John	32	false

Name	Age	Part-time
Jack	23	<input checked="" type="checkbox"/>
John	32	<input type="checkbox"/>

3.13.7.9. column header style

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Part-time", width:90, type: "checkbox", headerStyle: "font-weight:bold;" }
]).show(block)

```

Sets bold

Output:

Naem	Age	Part-time	
------	-----	-----------	--

3.13.7.10. column header icon

Input:


```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Part-time", width:90, type: "checkbox", renderer: function(h){
    return "<img style='vertical-align:middle' src='img/a.gif'> " + h.caption;
  }}
]).show(block)

```

Renderer function

Output:

Name	Age	 Part-time	
------	-----	---	--

3.13.7.11. Update column header dynamically

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Part-time", width:90, type: "checkbox"}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)

_.asynRun(function(){
  tg.updateHeader('col2','Full-time')
},1000)

_.asynRun(function(){
  tg.updateHeader('col2',{caption:'Part-time', width:40, headerStyle:'font-weight:bold', colResizer:false,
colSortable:false, colMovable:true, colHidable:true})
},2000)
```

Updates caption only

Those properties are updatable

3.13.8. Row config

3.13.8.1. Row height

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Full-time", width:90, type: "checkbox"}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true], height:120},
  {id:"row2",caption:'John',cells:[32, false]}
]).show(block)
```

Sets row height

Output:

Name	Age	Full-time	
Jack	23	<input checked="" type="checkbox"/>	
John	32	<input type="checkbox"/>	

3.13.8.2. Drag&Drop to modify row height

Input:


```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setRowResizer(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40},
  {id:"col2", caption:"Full-time", width:90}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, false],rowResizer:true}
]).show(block)
```

Global disabled rowResizer

This row has rowResizer

Output:

Name	Age	Full-time	
Jack	23	true	
John	32	false	



3.13.8.3. Setting cell type in row

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Part-time", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23, true]},
    {id:"row2",caption:'John',cells:[32, false],type: "label"}
]).show(block)

```

Sets all cells in this row type to 'label'

Output:

Name	Age	Part-time
Jack	23	<input checked="" type="checkbox"/>
John	32	<input type="checkbox"/>

Name	Age	Part-time
Jack	23	<input checked="" type="checkbox"/>
John	32	false

3.13.8.4. Row style

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Full-time", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23, true]},
    {id:"row2",caption:'John',cells:[32, false],rowStyle: "background-color:#00ff00"}
]).show(block)

```

Sets styles

Output:

Name	Age	Full-time
Jack	23	<input checked="" type="checkbox"/>
John	32	<input type="checkbox"/>

3.13.8.5. Row numbers

Input:


```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setRowNumbered(true)
.setGridHandlerCaption("Name")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Full-time", width:90, type: "checkbox", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23]},
    {id:"row2",caption:'John',cells:[32],
      sub:[{id:"row21",caption:'Tom',cells:[24]},
            {id:"row22",caption:'Bob',cells:[25]}
    ]}
]).show(block)

```

To show row numbers

Output:

	Name	Age	Full-time	
1	Jack			
2	John	32	<input type="checkbox"/>	
2.1	Tom	24	<input type="checkbox"/>	
2.2	Bob	25	<input type="checkbox"/>	

Default format line numbers

3.13.8.6. Custom row numbers

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setRowNumbered(true)
.setGridHandlerCaption("姓名")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Full-time", width:90, type: "checkbox", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23]},
    {id:"row2",caption:'John',cells:[32],
      sub:[{id:"row21",caption:'Tom',cells:[24]},
            {id:"row22",caption:'Bob',cells:[25]}
    ]}
])
.setCustomFunction('getNumberedStr',function(no){
    var a=no.split('.');
    a[0]={1:'T',2:'F'}[a[0]];
    return a.join('-')
})
.show(block)

```

Custom function

Output:

Name	Age	Full-time
I Jack	23	<input type="checkbox"/>
▼ II John	32	<input type="checkbox"/>
II-1 Tom	24	<input type="checkbox"/>
II-2 Bob	25	<input type="checkbox"/>

3.13.8.7. Alternate Row Colors

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setAltRowsBg (true)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Full-time", width:90, type: "checkbox"}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23]},
  {id:"row2",caption:'John',cells:[32],
    sub:[{id:"row21",caption:'Tom',cells:[24]},
          {id:"row22",caption:'Bob',cells:[25]}
    ]
  ]
}).show(block)
```

Sets alternate bg color

Output:

Name	Age	Full-time
Jack	23	<input type="checkbox"/>
▼ John	32	<input type="checkbox"/>
Tom	24	<input type="checkbox"/>
Bob	25	<input type="checkbox"/>

3.13.8.8. Group

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Full-time", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23]},
    {id:"row2",caption:'John',cells:[32],group:true,
        sub:[{id:"row21",caption:'Tom',cells:[24]},
            {id:"row22",caption:'Bob',cells:[25]}
        ]
    }
]).show(block)

```

It's a group row

Name	Age	Full-time
Jack	23	
▼ John		
Tom	24	<input type="checkbox"/>
Bob	25	<input type="checkbox"/>

Group row

3.13.8.9. Preview and Summary region

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setGridHandlerCaption("Name")
.setHeader([
    {id:"col1", caption:"Age", width:40, type: "number"},
    {id:"col2", caption:"Full-time", width:90, type: "checkbox"}
]).setRows([
    {id:"row1",caption:'Jack',cells:[23], preview: '<strong>Attention:</strong>',summary: '<em>Jack is the right one</em>' },
    {id:"row2",caption:'John',cells:[32], preview: 'John is OK',
        sub:[{id:"row21",caption:'Tom',cells:[24]},
            {id:"row22",caption:'Bob',cells:[25]}
        ]
    }
]).show(block)

```

preview

summary

Name	Age	Full-time
Attention:		
Jack	23	<input type="checkbox"/>
Jack is at the right one		
John is OK		
▶ John	32	<input type="checkbox"/>

3.13.8.10. Update row dynamically

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80).setGridHandlerCaption("Name")
.setHeader([
{id:"col1", caption:"Age", width:40, type: "number"},{id:"col2", caption:"Full-time", width:90, type:
"checkbox"}
]).setRows([
{id:"row1",caption:'Jack',cells:[23, true]},
{id:"row2",caption:'John',cells:[32,
sub:[{id:"row21",caption:'Tom',cells:[24]},
{id:"row22",caption:'Box',cells:[25]}
]}
]).show(block)

_.asynRun(function(){
tg.updateRow('row2', 'Jerry')
},1000)

_.asynRun(function(){
tg.updateRow('row2',{caption:'Group', height:30, rowStyle:'background-color:#00ff00;', rowResizer:false,
group:true, preview:'preview', summary:'summary'})
},2000)

_.asynRun(function(){
tg.updateRow('row1', {sub:[{ value:"Kate",cells:[24,true]}]})
},3000)
```

Updates row caption only

These properties are updatable

Updates all sub rows

Output:

Name	Age	Full-time
▶ Jack	23	<input checked="" type="checkbox"/>
preview		
▼ Group		
Tom	24	<input type="checkbox"/>
Box	25	<input type="checkbox"/>
summary		

3.13.9. Cell config

3.13.9.1. Cell types

These types are support:

- 'label': readonly text;
- 'button': the button;
- 'input': single line input;
- 'textarea': multi lines input;
- 'number': number only input;
- 'currency': currency only input;
- 'progress': the progress appearance;
- 'combobox': combo input;
- 'listbox': readonly combo input;
- 'getter': for getting data;
- 'helpinput': help data input;
- 'cmdbox': command box input;
- 'popbox': pop box input;
- 'time': time input;
- 'date': date input;
- 'color': color input;

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Full-time", width:90, type: "label"}
]).setRows([
  {id:"row1",caption:'Jack',cells:[23, true]},
  {id:"row2",caption:'John',cells:[32, { value:false, type: "checkbox"}] }
]).show(block)

```

Setting in column header data

Setting in cell (has priority)

Output:

Name	Age	Full-time
Jack	23	true
John	32	<input type="checkbox"/>

3.13.9.2. Cell style

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80)
.setColSortable(false)
.setGridHandlerCaption("Name")
.setHeader([
  {id:"col1", caption:"Age", width:40, type: "number"},
  {id:"col2", caption:"Full-time", width:90, type: "checkbox", cellStyle: "background-color:#00ff00;"}
]).setRows([
  {id:"row1",caption:'Jack', cells:[23, true]},
  {id:"row2",caption:'John', cellStyle: "background-color:#0000ff;",cells:[
    32,
    { value:false, cellStyle: "background-color:#ff0000;"}
  ] }
]).show(block)

```

Output:

Setting in row	Age	Full-time	Setting in column header
Jack	23	<input checked="" type="checkbox"/>	
John	32	<input type="checkbox"/>	Setting in cell

3.13.9.3. Update cell dynamically

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandlerWidth(80).setGridHandlerCaption("Name")
.setHeader([
{id:"col1", caption:"Age", width:40, type: "number"},{id:"col2", caption:"Full-time", width:90, type:
"checkbox"}
]).setRows([
{id:"row1",caption:'Jack',cells:[23, true]},
{id:"row2",caption:'John',cells:[32]}
]).show(block)

_.asRun(function(){
  tg.updateCellByRowCol('row2','col1', 18)
},1000)

_.asRun(function(){
  tg.updateCellByRowCol('row2','col1',{value:18,cellStyle:'background-color:#00ff00;'})
},2000)

_.asRun(function(){
  tg.updateCellByRowCol ('row2','col1', {type:"listbox",value:"20", editorListItems:["20","30","40"],
  editable:true})
},3000)
```

Updates value only

These properties are updatable

Updates cell type

3.13.10. Editable

“editable” property in TreeGrid determines whether the TreeGrid is editable or not . Each column / row / cell has this property too. Those setting follow “Fine-grained priority principle”.

- TreeGrid’s editable =>false; cell’s editable=>true: only this cell is editable
- TreeGrid’s editable =>false; column header’s editable=>true: only this column is editable
- TreeGrid’s editable =>false; row’s editable=>true: only this row is editable
- TreeGrid’s editable =>true; cell’s editable=>true: only this cell is uneditable
- TreeGrid’s editable =>true; column header’s editable=>false: only this column is uneditable
- TreeGrid’s editable =>true; row’s editable=> false: only this row is uneditable

It should be noted that, cells in Row handler are uneditabe; cells with ‘label’ or ‘button’ type are uneditable.

3.13.10.1.Editable TreeGrid

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(true)
.setHeader([
{id:"col1", caption:"Name", width:60, type: 'input'},
{id:"col2", caption:"Age", width:40, type: "number"},
{id:"col3", caption:"Gender", width:40, type: "listbox", editorListItems:[{id:'male',caption:'Male'},{id:'female',
caption:'Female'}]}
]).setRows([
[Jack,23, { value:'male',caption:'Male'}],
[John,25, { value:'female',caption:'Female'}]]
).show(block)
```

Sets editable

List for editor

Value and caption

Output:

Name	Age	Gender	
Jack	23	Male	
John	25	Female	

Name	Age	Gender	
Jack	23	Male	
John	25.00	Female	

Name	Age	Gender	
Jack	23	Male	
John	25	Fen	
		Male	
		Female	

3.13.10.2.Editable column

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(false)
.setHeader([
{id:"col1", caption:"Name", width:60, type: 'input'},
{id:"col2", caption:"Age", width:40, type: "number"},
{id:"col3", caption:"Gender", width:40, type: "listbox",
editorListItems:[{id:'male',caption:'Male'},{id:'female', caption:'Female'}]}
]).setRows([
[Jack,23, { value:'male',caption:'Male'}],
[John,25, { value:'female',caption:'Female'}]]
).show(block)
```

Sets uneditable

This column is editable

Output:

Name	Age	Gender	
Jack	23	Male	
John	25	Fem	
		Male	
		Female	

3.13.10.3. Editable row

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(false)
.setHeader([
{id:"col1", caption:"Name", width:60, type: 'input'},
{id:"col2", caption:"Age", width:40, type: "number"},
{id:"col3", caption:"Gender", width:40, type: "listbox", editorListItems:[{id:'male',caption:'Male'},{id:'female',caption:'Female'}]}
]).setRows([
['Jack',23, { value:'male',caption:'Male'}],
{ cells:['John',25, { value:'female',caption:'Female'}],editable:true}
]).show(block)
```

Sets uneditable

This row is editable

Output:

Name	Age	Gender	
Jack	23	Male	
John	25.00	Female	

3.13.10.4. Editable cell

Input:

```
var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(false)
.setHeader([
{id:"col1", caption:"Name", width:60, type: 'input'},
{id:"col2", caption:"Age", width:40, type: "number"},
{id:"col3", caption:"Gender", width:40, type: "listbox", editorListItems:[{id:'male', caption:'Male'}, {id:'female',caption:'Female'}]}
]).setRows([
['Jack',23, { value:'male', caption:'Male'}],
['John',25, { value:'female', caption:'Female', editable:true } ]
]).show(block)
```

Sets uneditable

Only this cell is editable

Output:

Name	Age	Gender	
Jack	23	Male	
John	25	Fem	
		Male	
		Female	

3.13.10.5. The Editor

When a cell is set to editable, “active this cell” will show a corresponding editor. There are the following editors for different cell types.

- ‘label’: readonly; no editor
- ‘button’: readonly; no editor
- ‘input’: normal xui.UI.Input control
- ‘textarea’: multi lines xui.UI.Input control
- ‘number’: number only xui.UI.Input control
- ‘currency’: currency only xui.UI.Input control
- ‘progress’: xui.UI.ComboInput control, spin
- ‘combobox’: xui.UI.ComboInput control, combobox
- ‘listbox’: xui.UI.ComboInput control, listbox
- ‘getter’: xui.UI.ComboInput control, getter
- ‘helpinput’: xui.UI.ComboInput control, helpinput
- ‘cmdbox’: xui.UI.ComboInput control, cmdbox
- ‘popbox’: xui.UI.ComboInput control, popbox
- ‘time’: xui.UI.ComboInput control, time
- ‘date’: xui.UI.ComboInput control, date
- ‘color’: xui.UI.ComboInput control, color

Input:

```

var block=new xui.UI.Block({ width:300,height:340}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(true)
.setHeader(["Type", "Cell UI"]).setRows([
  { cells:['label',{ type:'label',value:'label'}]},
  { cells:['button',{ type:'button',value:'button'}]},
  { cells:['input',{ type:'input',value:'input'}]},
  { cells:['textarea',{ type:'textarea',value:'textarea'}]},
  { cells:['number',{ type:'number',value:'1.23'}]},
  { cells:['currenty',{ type:'number',value:'21.23'}]},
  { cells:['progress',{ type:'progress',value:'0.85'}]},
  { cells:['combobox',{ type:'combobox',value:'combobox'}]},
  { cells:['listbox',{ type:'listbox',value:'listbox'}]},
  { cells:['getter',{ type:'getter',value:'getter'}]},
  { cells:['helpinput',{ type:'helpinput',value:'helpinput'}]},
  { cells:['cmdbox',{ type:'cmdbox',value:'cmdbox'}]},
  { cells:['popbox',{ type:'popbox',value:'popbox'}]},
  { cells:['time',{ type:'time',value:'12:08'}]},
  { cells:['date',{ type:'date',value:(new Date).getTime()}]},
  { cells:['color',{ type:'color',value:'#00ff00'}]}
]).show(block)

```

Output:

Type	Cell UI
label	label
button	button
input	input
textarea	textarea
number	1.23
progress	85%
combobox	combobox
listbox	listbox
getter	getter
helpinput	helpinput
cmdbox	cmdbox
popbox	popbox
timepicker	12:08
datepicker	7/29/2009
colorpicker	#00FF00

3.13.10.6. Custom the editor**Input:**

```

var block=new xui.UI.Block({ width:300,height:340}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(true)
.setHeader(["Type", "Cell UI "]).setRows([
  { cells:['email',{type:'email',value:'a@b.com'}]},
  { cells:['popwnd',{type:'popwnd',value:'value'}]}
])
.beforeIniEditor(function(profile, cell, cellNode){
  var t=cell.type;
  if(t=='email'){
    var editor = new xui.UI.Input({ valueFormat:"^[[w\\.,-]+@[\\w\\.,-]+\\.\\.[w\\.,-]{2,4}$"});
    return editor;

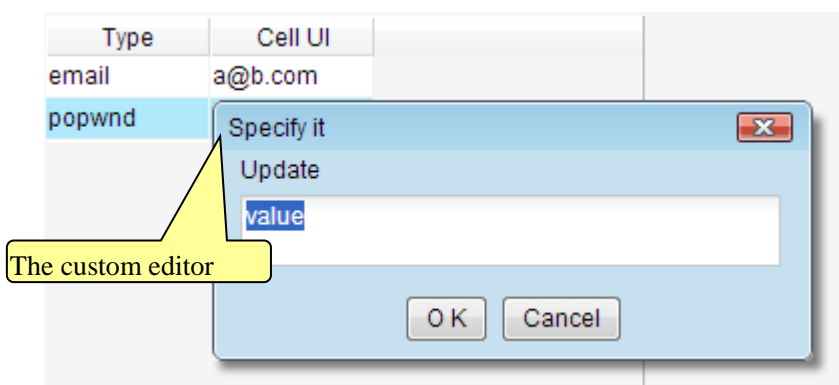
    if(t=='popwnd'){
      var dlg=xui.prompt('Specify it','Update',cell.value, function(value){
        if(cell.value!=value)
          profile.boxing().updateCell(cell, value);
      });
      dlg.getRoot().cssPos(cellNode.offset());
      return false;
    }
  }
}).show(block);

```

Return the custom editor
xui.UI.Input or CombInput

Return false for advanced custom editor

Output:



3.13.11. Add/Remove rows

Input:

```

var block=new xui.UI.Block({ width:240,height:200}).show();
var tg=new xui.UI.TreeGrid;
tg.setRowHandler(false)
.setEditable(true)
.setHeader([
{id:"col1", caption:"Name", width:60, type: 'input'},
{id:"col2", caption:"Age", width:40, type: "number"}
]).setRows([
{id:'row1',cells:['Jack',23]},
{id:'row2',cells:['John',25]}
]).show(block);

```

```

_.asRun(function(){
  tg.insertRows([[]])
},1000);

```

Adds a empty row

```

_.asRun(function(){
  tg.insertRows(["Tom",30])
},2000);

```

Adds a new row

```

_.asRun(function(){
  tg.insertRows([ {id:'row3',cells:['Jerry',19]},['Mark',31]]
},3000);

```

Adds two rows

```

_.asRun(function(){
  tg.removeRows('row1')
},4000);

```

Removes a row by id

```

_.asRun(function(){
  tg.removeRows(['row2','row3'])
},5000);

```

Removes two row by ids

```

_.asRun(function(){
  tg.insertRows([ {id:'row4',cells:['Jack',23]}],null,null,true)
},6000);

```

Adds a row to the top

```

_.asRun(function(){
  tg.insertRows(['John',23],null,'row1',false)
},7000);

```

Adda a row next to 'row1'

NOTE

chapter2/TGDynamic\index.html is an overall example for ThreeGrid
chapter2/TreeGrid.Paging\index.html is another example for multi pages

3.14. Other standard controls

3.14.1. ProgressBar

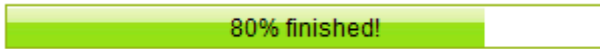
Input:

```
xui.create('ProgressBar')
.setCaptionTpl("{value}% finished!")
.setValue(80)
.show();
```

Sets text display template

percentage

Output:



3.14.2. Slider

Input:

```
xui.create('Slider')
.setPosition('relative')
.setSteps(100)
.setValue("20:50")
.show()

xui.create('Slider')
.setSteps(10)
.setType("vertical")
.setIsRange(false)
.setValue(2)
.setHeight(200)
.show();
```

Sets step to 100

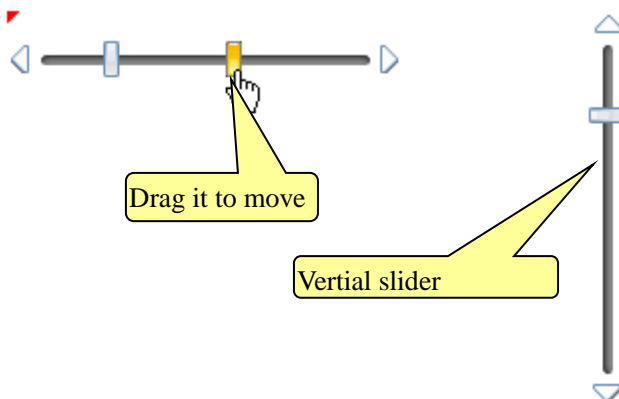
Sets the locations for the two slider

Sets step to 10

Vertical slider

A single slider

Output:



3.14.3. Image

```

xui.create("Image")
.setSrc("img/a.gif")
.afterLoad(function(){
    xui.message("The picture is loaded.");
})
.show();

xui.create("Image")
.setSrc("img/b.gif")
.beforeLoad(function(){
    return false;
})
.show()

```

The image was loaded successful

Cancel loading process

3.14.4. PageBar

Input:

```

var onclick=function(profile,page){
    profile.boxing().setPage(page);
};

// a PageBar
xui.create("PageBar")
.setValue("1:5:12")
.onClick(onclick)
.show();

// another PageBar
xui.create("PageBar")
.setValue("1:5:12")
.setTop(100)
.setCaption("")
.setPrevMark("<<")
.setNextMark(">>")
.setTextTpl("[ * ]")
.onClick(onclick)
.show();

```

Set current page

1.Min page; 2.current page; 3.max page

onClick event

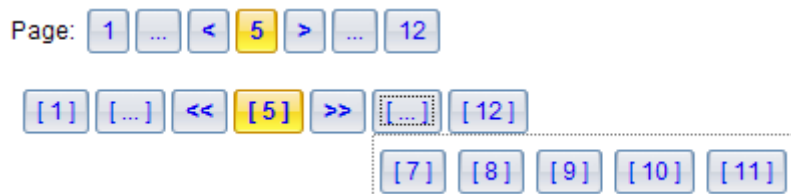
Caption label

Prev command label

Next command label

Page label templates, * is the variable value

Output:



Chapter 4. Data exchanging(Ajax)

CrossUI is a client-side solution, it can work with any backend (php, .Net, Java, python) or static HTML pages. Client-side and backend is completely decoupled. Client-side does not need to care what kind of technique is used in the backend. Client-side sends request to, and gets response from a given backend service(e.g. JSON service, REST service) .

There are three IO class in CrossUI:

- xui.Ajax: An AJAX wrapper for xmlhttp object. It's features:
 - Can only access the same domain by default;
 - Works both synchronous and asynchronous;
 - Works both 'get' and 'post' methods;
 - Returns string.
- xui.SAjax: An AJAX wrapper for "script tag". It's features:
 - Cross domain;
 - Asynchronous only;
 - Cannot post data;
 - Returned content is packaged as javascript's Object
 inb.SAjax send request data includes a "callback" parameter (default is "xui.SAjax.NO_I").

Server's return data must be the following format:

```
xui.SAjax.NO_I (/*JSON*/)
```

- xui.IAjax: An AJAX wrapper for "iframe". It's features:
 - Cross domain;
 - Asynchronous only;
 - Can update file;
 - Works both 'get' and 'post' methods;
 - Returned content is packaged as javascript's Object
 inb.IAjax send request data includes a "callback" parameter (default is "window.name").

Server's return data must be the following format:

```
<script type='text' id='json'>{JSON*}</script>
<script type='text/javascript'>
window.name=document.getElementById('json').innerHTML;
</script>
```

"xui.request" function can choose an appropriate class from xui.Ajax, xui.SAjax or xui.IAjax automatically, according to requested domain, 'GET/POST' method and other information.

NOTE

Examples in this chapter works only as a http url, do not double-click directly to open.

4.1. Fiddler

In order to understand the data exchanges process better, you need a tool like Fiddler to monitor network traffic.

Go to <http://www.fiddler2.com/fiddler2/> to get Fiddler.

Fiddler can configure IE proxy automatically, but if you are in Firefox, chrome or opera, you need to configure the proxy by manual (Fiddler proxy: 127.0.0.1:8888). Of course, you can find some Firefox proxy plug-ins to help you.

4.2. To get the contents of the file

xui.Ajax can get file contents easily.

```

xui.Ajax('data/ajax.js', '23233', function(rsp){
    xui.message(rsp)
},function(errMsg){
    xui.alert(errMsg)
}).start();
  
```

File's uri address

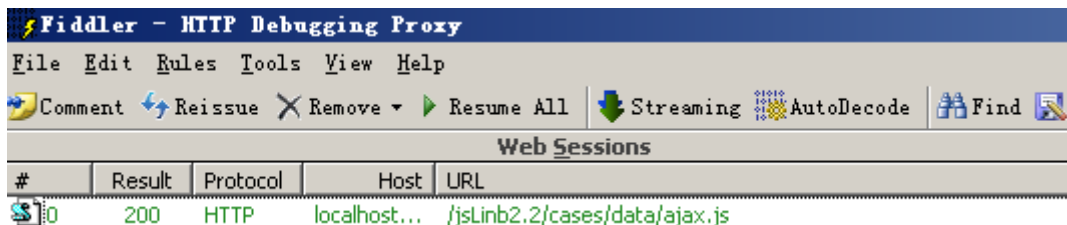
A random string for avoiding browser cache

Callback function for success

Callback function for fail

Start to send request

In Fiddler:



4.3. Synchronous data exchange

Only xui.Ajax support synchronous data exchanging.

```
var url="chapter3/request.php";
xui.Ajax(url, {
    key:'test',
    para:{p1:'para 1'}
},function(rsp){
    xui.log(rsp);
},function(errMsg){
    xui.alert(errMsg)
}, null, {
    asy:false
}).start();
```

Request data

synchronous

In fiddler:

The request:

```
GET /jsLib2.2/cases/chapter3/request.php?%7B%22key%22%3A%22test%22%2C%20%22para%22%3A%7B%22p1%22%3A%22para%201%22%7D%7D HTTP/1.1
```

The response:

Transformer	Headers	TextView	ImageView	HexView	WebView	JSON	Auth	Caching	Privacy	Raw
{"data":[{"p1":"para 1","p2":"server_set","time":"2009-07-23 03:05:39","rand":"03-05-397jaso7bqm0f8op0rw"}]}										

This is an asynchronous request:

```
var url="chapter3/request.php";
xui.Ajax(url, {
    key:'test',
    para:{p1:'para 1'}
},function(rsp){
    xui.log(rsp);
},function(errMsg){
    xui.alert(errMsg)
}).start();
```

4.4. Cross-domain

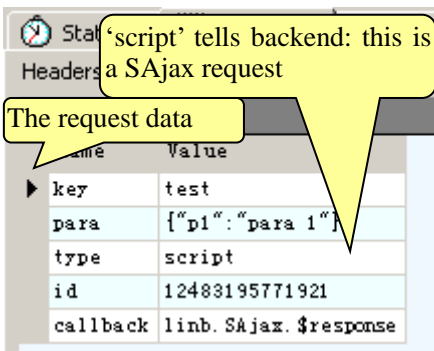
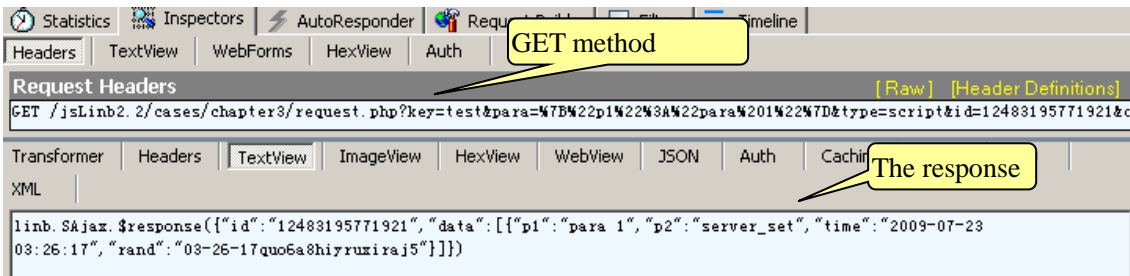
xui.SAjax and xui.IAjax can be used for calling Cross Domain Web Services. But only xui.IAjax can post data and upload file.

4.4.1. To monitor SAjax

Code:

```
var url="chapter3/request.php";
xui.SAjax(url, {
  key:'test',
  para:{p1:'para 1'}
},function(rsp){
  xui.log(rsp);
},function(errMsg){
  xui.alert(errMsg)
}).start();
```

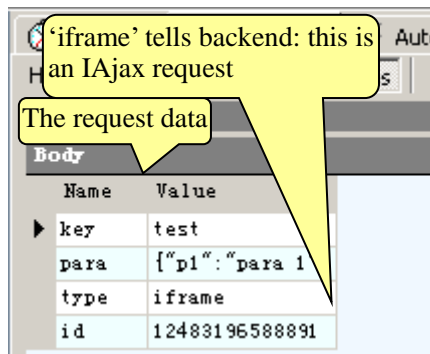
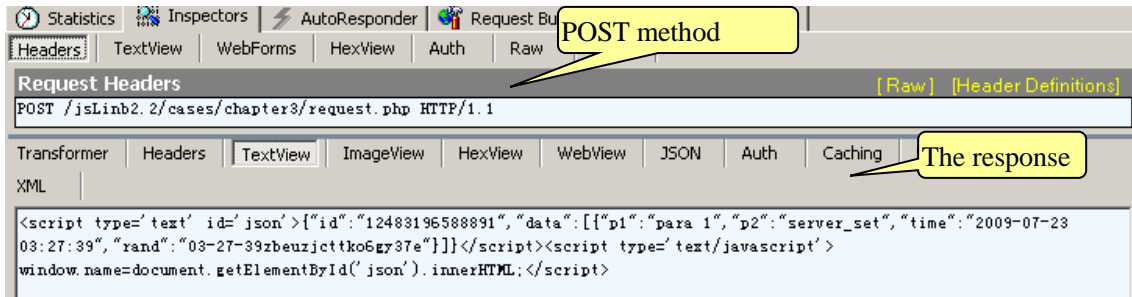
Request data

In Fiddler:**4.4.2. To monitor IAjax****Code:**

```
var url="chapter3/request.php";
xui.IAjax(url, {
  key:'test',
  para:{p1:'para 1'}
},function(rsp){
  xui.log(rsp);
},function(errMsg){
  xui.alert(errMsg)
}).start();
```

Request data

In Fiddler:



By default, IAajax use “POST” method, you can specify method in options.

```
var url="chapter3/request.php";
xui.IAjax(url, {
  key:'test',
  para:{p1:'para 1'}
},function(rsp){
  xui.log(rsp);
},function(errMsg){
  xui.alert(errMsg)
},null,{
  method: 'get'
}).start();
```

Switch to GET method

4.5. File Upload

Only xui.UI.IAjax can upload file.

This code in this section is in "chapter3/upload/".

4.5.1. Selecting upload file with ComboInput

Sets ComboInput's type property to “file”:

Select your file:

ComboInput

chapter3/upload/index.html

4.5.2. Upload by IAjax

```

Class('App', 'xui.Module',{
  Instance:{
    initComponents:function(){
      // [[code created by CrossUI UI Builder
      var host=this, children=[], append=function(child){children.push(child.get(0));

      append((new xui.UI.SLabel)
        .setHost(host,"slabel1")
        .setLeft(40)
        .setTop(44)
        .setCaption("Select your file: ")
      );

      append((new xui.UI.ComboInput)
        . setHost(host,"upload")
        .setLeft(140)
        .setTop(40)
        .setWidth(140)
        .setReadOnly(true)
        .setType("upload")
        .setValue("Select a file ...")
      );

      append((new xui.UI.SButton)
        . setHost(host,"sbutton3")
        .setLeft(290)
        .setTop(40)
        .setCaption("Upload it")
        .onClick("_sbutton3_onclick")
      );

      return children;
      // ]]code created by CrossUI UI Builder
    },
    _sbutton3_onclick:function (profile, e, src, value) {
      var file=this.upload.getUploadObj();
      if(file){
        xui.IAjax('../request.php',{key:'upload',para:{ },file:file},function(rsp){
          xui.alert(rsp.data.message);
        },function(errMsg){
          xui.alert(errMsg)
        }).start();
      }
    }
  }
});

```

Created by Designer

Upload control

Getting file content

IAjax upload

Successful return

4.6. A request wrapper for real application

In practical applications, you can choose xui.Ajax, xui.SAjax and xui.IAjax according to the

actual situation. Usually, we will wrap a common function or class to handle all data interaction with the backend service. This is an example wrapper. Just for your reference.

```
request=function(service,
  requestData,
  onOK,
  onStart,
  onEnd,
  file
){
  _tryF(onStart);
  xui.observableRun(function(threadid){
    var options;
    if(file){
      requestData.file=file;
      options={method:'post'};
    }
    xui.request(service, requestData, function(rsp){
      if(rsp){
        if(!rsp.error)
          _tryF(onOK, [rsp]);
        else
          xui.pop(_serialize(rsp.error));
      }else{
        xui.pop(_serialize(rsp));
      }
      _tryF(onEnd);
    },function(rsp){
      xui.pop(_serialize(rsp));
      _tryF(onEnd);
    }, threadid,options)
  });
};
```

Service url address

Request data (key/value pairs)

Callback for successful call

File to upload

Callback for onStart and onEnd

Success

Fail

Fail

Fail

4.7. XML Data

If the server returns xml data, we can use xui.XML to convert the XML data into JSON data.

```
xui.Ajax('data/ajax.xml', "", function(rsp){
  alert (rsp)
  var obj = xui.XML.xml2json(xui.XML.parseXML(rsp));
  xui.pop(obj.message);
},function(errMsg){
  xui.alert(errMsg)
}).start();
```

XML to JSON

4.8. An overall example

The following is an overall example for data exchanging.

how to use linb.absIO to interact with service

	get	post	post file	cross domain	
				get	post
linb.Ajax	yes	yes	no	no	no
linb.SAjax	yes	no	no	yes (best for "return big data")	no
linb.IAjax	yes	yes	yes	yes	yes

Request data:

```
{
  key:'test',
  para:{
    p1:'client_set'
  }
}
```

Ajax get and post

use linb.Ajax 'get' use linb.Ajax 'post'

use linb.SAjax SAjax IAjax get and post

use linb.IAjax 'get' use linb.IAjax 'post'

use linb.request function xui.request

Results window

Response data:

```
{"p1":"client_set", "p2":"server_set", "time":"2009-07-23 03:48:55", "rand":"03-48-55hjww63a7kenm3h7wr"}
```

Chapter3/io/index.html

Notice:

You can download PHP/C#/Java/Node.js backend demo code packages from:

<http://www.crossui.com/download.html> .

Chapter 5. Distributed UI

Sometimes, especially in larger applications, we maybe save a large “not frequently used” UI Class into a separate file. This file will not be loaded at the beginning.

When the application needs to show the UI, the program will automatically load code from the "separate file". It is so called "distributed UI". This "distributed UI" file can be in your server, or in different domain remote servers.

5.1. Shows dialog from a remote file

There's a file “Module3.js” in folder “chapter4\distributed\App\js\”, “Module3.js” includes a Class named “App.Module3”. Let's try to call it.

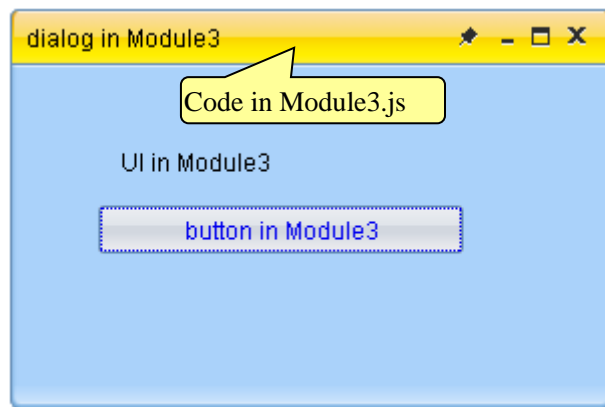
Input:

```
Namespace("App");
xui.include("App.Module3",
  xui.getPath("chapter4/distributed/App/js/", "Module3.js"),
  function(){
    var ins=new App.Module3();
    ins.show();
  },function(){
    xui.alert("fail");
  }
);
```

Annotations:

- Namespace is “App” (points to `Namespace("App");`)
- Dynamic asynchronous remote file loading (points to `xui.include("App.Module3", ...)`)
- Create instance and show it (points to `var ins=new App.Module3(); ins.show();`)

Output:



And try to load code and create UI from a difference domain.


```

Namespace("App");
xui.include("App.Module3",
"",
function(){
    var ins=new App.Module3();
    ins.show();
},function(){
    xui.alert("fail");
}
);

```

A difference domain

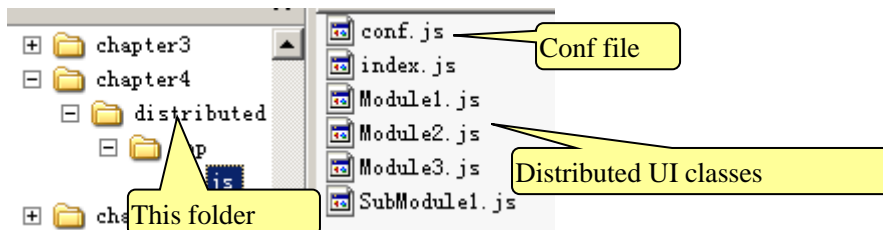
5.2. xui.Module and xui.ModuleFactory

In fact, most of the actual business applications will not load code from a foreign domain. From another perspective, most of "Distributed UI" files are put in the application directory.

In this case, we can use xui.Module and xui.ModuleFactory to load those "distributed UI". In order to use this approach, all those Classes must be derived from the xui.Module, named according to specified rules, and put into the specified directory.

xui.ModuleFactory implements a management mechanism for the xui.Module. It can follow a specified rule (finding file path from the class name) to load code from a remote file.

There's an overall example in "chapter4/distributed", we can browse it for detail.



5.2.1. xui.ModuleFactory config

In conf.js:

```

CONF={ComFactoryProfile:
{
  module1:{
    cls:'App.Module1',
    children:{
      tag_SubModule1:'submodule1'
    }
  },
  submodule1:{
    cls:'App.SubModule1'
  }
}}

```

module1 is an "Aoo.Module1" Class

module1 has a child submodule1

submodule1 is a "Aoo.SubModule1" Class

Loading this configuration to xui.ModuleFactory:

```
xui.ModuleFactory.setProfile(CONF.ComFactoryProfile);
```

5.2.2. xui.Module.Load

In file index.html,

```
xui.Module.load ('App');
```

To load and show the first UI Class

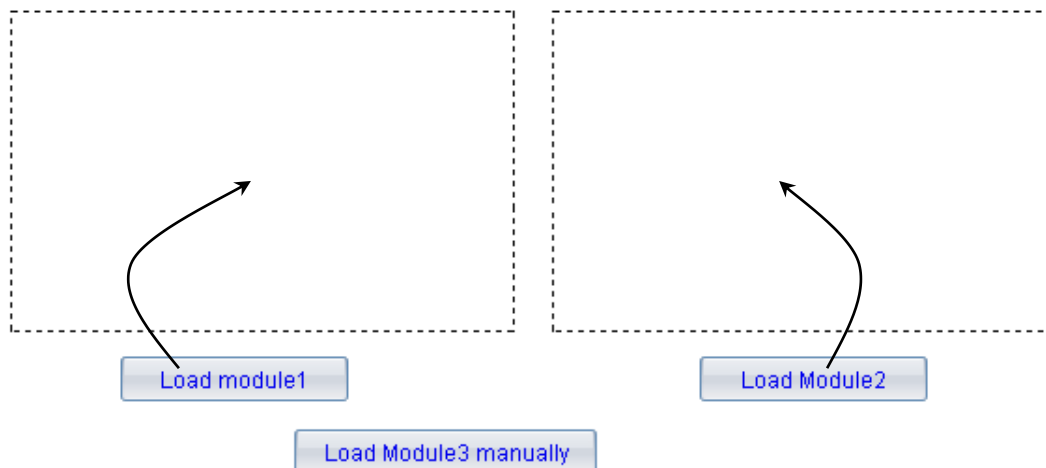
The above code will try to find file named "index.js" from "distributed/App/js/", create an instance (new App), and show the instance to DOM.

`xui.load <=> xui.Module.load`

Output:

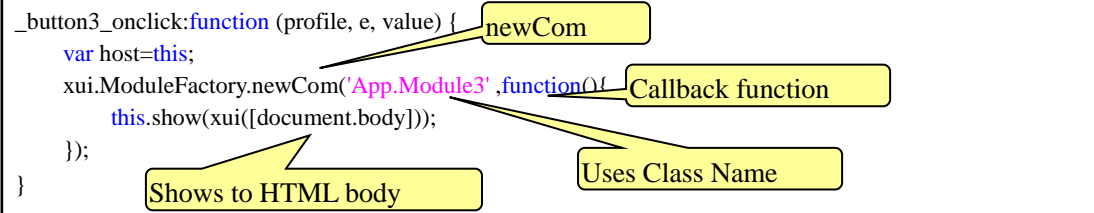
Loading code from outside dynamically!

Get Module code from our file on the fly, and append module UI to the current page



5.2.3. newCom and getCom

In index.js, onClick event for “Load module3 manually” button is:



```

_button3_onclick:function (profile, e, value) {
  var host=this;
  xui.ModuleFactory.newCom('App.Module3',function(){
    this.show(xui([document.body]));
  });
}

```

Annotations for the above code:

- newCom**: Points to the `xui.ModuleFactory.newCom` method call.
- Callback function**: Points to the `function(){ this.show(xui([document.body])); }` argument.
- Shows to HTML body**: Points to the `this.show(xui([document.body]));` line.
- Uses Class Name**: Points to the string `'App.Module3'`.

[xui.ModuleFactory.newCom(“App.Module3”..], will:

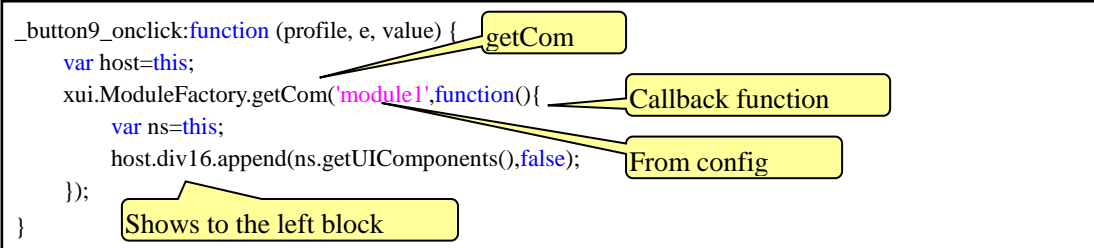
- find file “Module3.js” in “distributed/App/js/”
- load code from file “Module3.js” ;
- create new instance,;
- call the callback function.

xui.newCom <=> xui.ModuleFactory.newCom

xui.getCom <=> xui.ModuleFactory.getCom

Note: newCom use “Class Name” to load code.

onClick event for “Load module1” button is:



```

_button9_onclick:function (profile, e, value) {
  var host=this;
  xui.ModuleFactory.getCom('module1',function(){
    var ns=this;
    host.div16.append(ns.getUIComponents(),false);
  });
}

```

Annotations for the above code:

- getCom**: Points to the `xui.ModuleFactory.getCom` method call.
- Callback function**: Points to the `function(){ var ns=this; host.div16.append(ns.getUIComponents(),false); }` argument.
- From config**: Points to the string `'module1'`.
- Shows to the left block**: Points to the `host.div16.append(ns.getUIComponents(),false);` line.

[xui.ModuleFactory.newCom(“module1”..], will:

- find config from xui.ModuleFactory
- find file “Module1.js” in “distributed/App/js/”
- load code from file “Module1.js” ;
- create new instance,;
- call the callback function.

onClick event for “Load module2” button is:

```

_button10_onclick:function (profile, e, value) {
  var host=this;
  xui.ModuleFactory.getCom('App.Module2',function(){
    var ns=this;
    host.div16.append(ns.getUIComponents(),false);
  });
}

```

Annotations:

- getCom
- Callback function
- Shows to the right block
- "Class Name" works too. No config needed in this case.

By default, the instance created by "getCom" is singleton, and will be cached in inb.ComFactory.

5.2.4. xui.UI.Tag

There's a xui.UI.Tag object in file Module1.js:

```

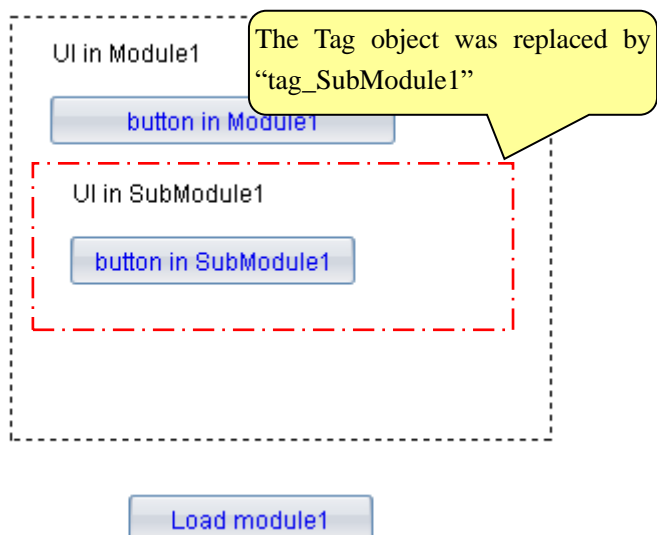
host.panelMain.append((new xui.UI.Tag)
  .host(host,"tag2")
  .setLeft(20)
  .setTop(70)
  .setWidth(218)
  .setHeight(98)
  .setTagKey("tag_SubModule1")
);

```

Annotation:

- Module name in configuration

Here, this Tag object configures size and position properties for module "tag_SubModule1". When the instance of Module1 was created, according to the Tag object's info, system will load the "tag_SubModule1" automatically, and set size and position properties to it. Then, system will replace the Tag object with "tag_SubModule1" object, and destroy the Tag object.



5.2.5. Destroy com

Call com's **destroy()** function to destroy the Class instance;

Call **Class.destroy("class name")** to destroy the Class itself.

If you used "getCom('module name')" to create an com instance, you have to call

“`xui.ModuleFactory.setCom (‘module name’, null)`” to clear that cache.

5.2.6. If com exists in memory

If a com exists in memory already, we can call it directly:

```
xui('body').append(new App.Acom);
```

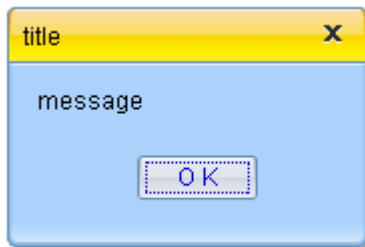
Chapter 6. Some fundamental things

6.1. Pop-up window

6.1.1. alert window

```
xui.alert('title','message',function(){  
    xui.message('You close this window!')  
}, 'OK', 50, 100);
```

Fired after user close the window



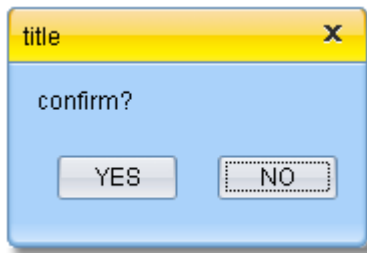
a

6.1.2. confirm window

```
xui.confirm('title','confirm?',function(){  
    xui.message('You confirmed it')  
},  
function(type){  
    xui.message(" You didn't confirm it -" + type)  
}, 'YES', 'NO', 50, 100);
```

Fired when user click “YES”

Fired when user click “NO” or click close button

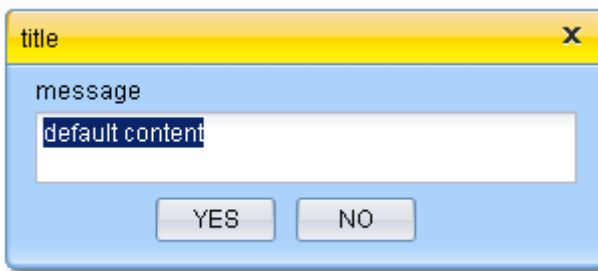


6.1.3. prompt window

```
xui.prompt('title', 'message', 'default content', function(msg){
    xui.message('You input - ' + msg)
}, function(){
    xui.message(" You cancel it")
}, 'YES', 'NO', 50, 100);
```

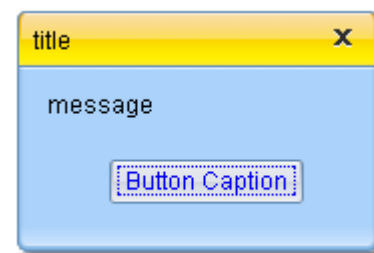
Fired when user click "YES"

Fired when user click "NO" or click close button



6.1.4. pop window

```
xui.pop('title', 'message', 'Button Caption', 50, 100);
```



6.2. Asynchronous execution

6.2.1. asyRun

_.asyRun is a wrapper for javascript setTimeout.

```

_._asyRun(function(arg1,arg2){
    xui.pop("this===xui:"+(this===xui), arg1+":"+arg2)
},
500,
['arg1','arg2'],
xui)

```

Function body

Delay 500 ms

parameters

scope

6.2.2. resetRun

`_._asyRun` is a wrapper for `set timeout` too. But it has an unique id. When you set another function with the same id, the latter will cover the former.

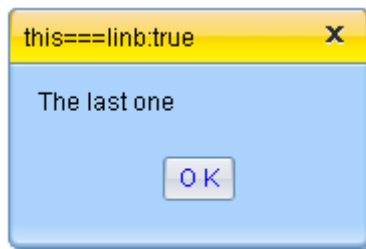
```

_._resetRun('key1',function(arg){
    xui.pop("this===xui:"+(this===xui), arg)
},500,['The previous one'],xui)

_._resetRun('key1',function(arg){
    xui.pop("this===xui:"+(this===xui), arg)
},500,['The last one'],xui)

```

The latter one will be executed



6.3. Skin switcher

6.3.1. Switch skin for whole application

There are three default system skins in CrossUI : default, vista and aqua. You can use `xui.setTheme` to switch the skin.

```

xui.setTheme("vista")

```

Dynamically (no page refresh)

6.3.2. Change skin for a single control

It's a fine-grained mechanism.

```
ctl_button.setTheme("custom")
```

Only for "ctl_button"

In this case, developer needs to define CSS class for this "custom".

6.4. Language switcher

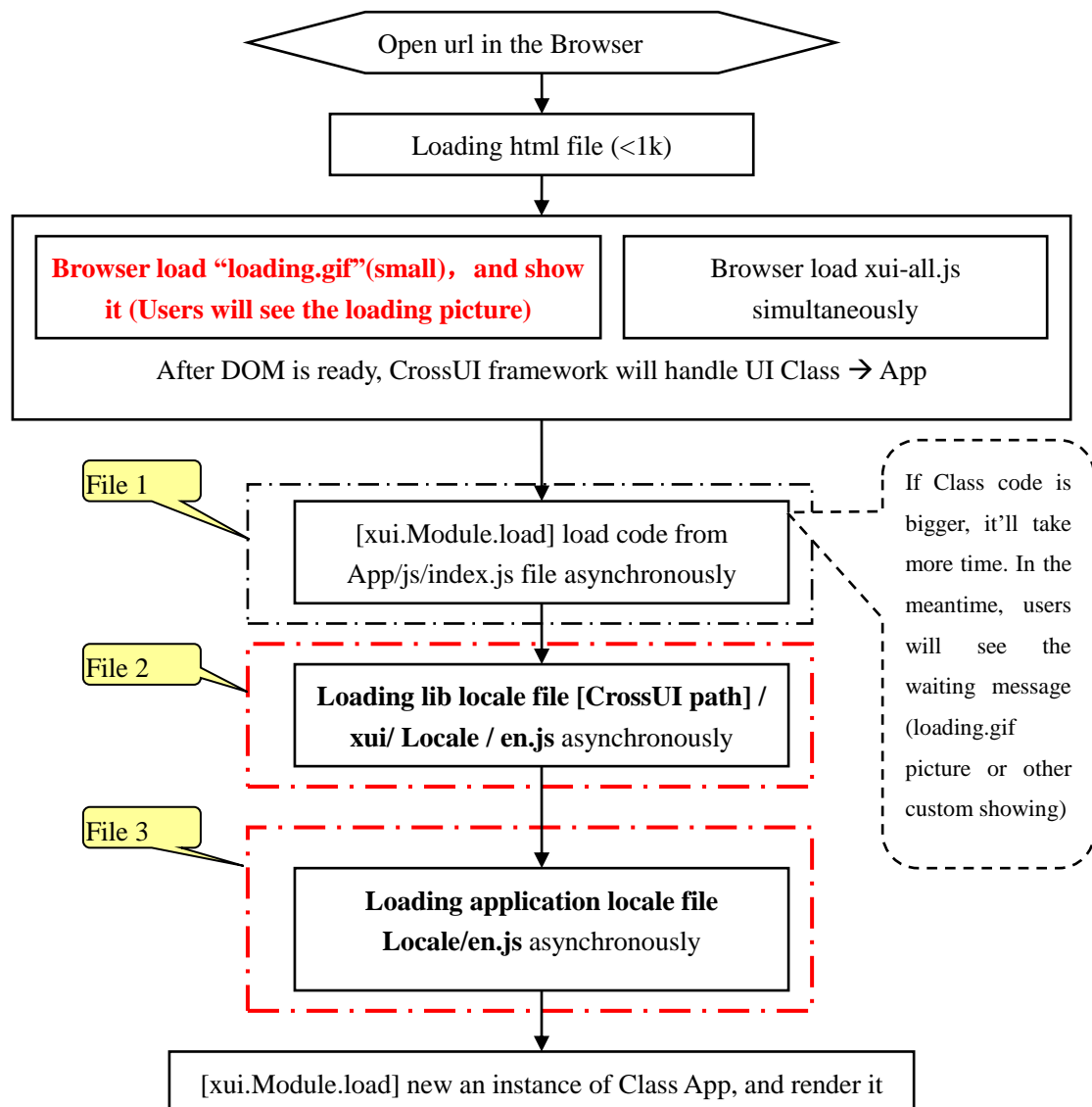
```
xui.alert(xui.getLang())
```

Gets the current locale key

```
xui.setLang("cn");
```

Sets locale, switch locale dynamically (no page refresh)

Example "chapter5\lang" loading process:

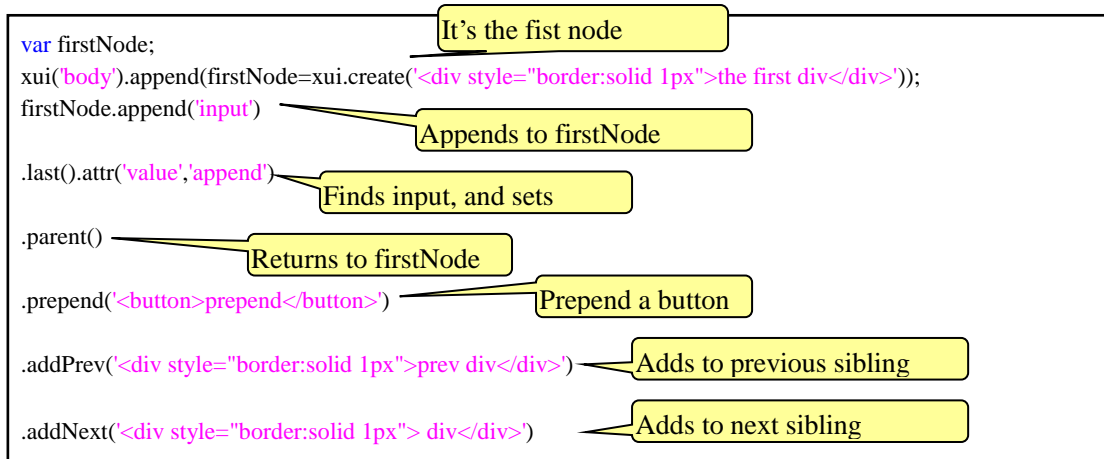


6.5. DOM Manipulation

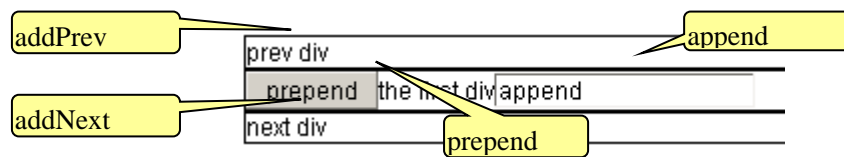
Class “xui.Dom” is a wrapper for cross-browser DOM Manipulation. It can: create / remove elements; manage elements’ attributes; manage elements’ CSS; manage elements’ events.

6.5.1. Node generation and insertion

Input:



output:



6.5.2. Attributes and CSS

Input:

```

var node;
xui('body').append(node=xui.create('div'));

node.html('content<input value="ini">');

_._asRun(function(){
  node.css('border','solid 1px');
},1000);

_._asRun(function(){
  xui.message(node.css('fontSize'))
  node.css({background:'#00ff00',fontSize:'16px'});
},2000);

_._asRun(function(){
  node.attr('style','border:none;font-size:18px;');
},3000);

_._asRun(function(){
  xui.message(node.last().attr('value'))
  node.last().attr('value','updated');
},4000);

```

Sets contents

Updates CSS border

Gets CSS fontSize

Updates fontSize and background

Updates all style

Gets input' value attr

Updated input's value attr

6.5.3. className

There are five function to handle CSS className:

- hasClass: Determines whether a specified class exists or not
- addClass: Adds classes to the current DOM nodes
- removeClass: Removes classes from the current DOM nodes
- replaceClass: Replaces classes for the current DOM nodes
- tagClass: Adds/Removes a tag to all classes of the current DOM nodes

```

var node;
xui('body').append(node=xui.create('div'));

_.asynRun(function(){
  node.addClass("cls1 cls2 cls3");
  xui.message(node.hasClass('cls2'));
  node.text(node.attr('className'));
},1000);

_.asynRun(function(){
  node.removeClass("cls2");
  node.text(node.attr('className'));
},2000);

_.asynRun(function(){
  node.replaceClass(/cls/g,"class");
  node.text(node.attr('className'));
},3000);

_.asynRun(function(){
  node.tagClass("-mouseover",true);
  node.text(node.attr('className'));
},4000);

_.asynRun(function(){
  node.tagClass("-mouseover",false);
  node.text(node.attr('className'));
},6000);

```

Diagram illustrating DOM class and tag manipulation:

- Adds classes**: `node.addClass("cls1 cls2 cls3");`
- Determines whether a class name exists or not**: `xui.message(node.hasClass('cls2'));`
- Removes**: `node.removeClass("cls2");`
- Modifies**: `node.replaceClass(/cls/g,"class");`
- Adds tag**: `node.tagClass("-mouseover",true);`
- Remove tag**: `node.tagClass("-mouseover",false);`

6.5.4. Dom events

There are three groups of event functions are designed for a DOM event in CrossUI: [before-], [on-] and [after-].

- `xui(/**/).onClick([function], 'label')` => adds the [function] to [onclick] group;
- `xui(/**/).onClick([function])` => removes all event functions in [onclick] group, and adds the [function] to [onclick] group;
- `xui(/**/).onClick(null, 'label')` => removes the event function labeled with 'label' from the [onclick] group;
- `xui(/**/).onClick(null)` => removes all event functions in [onclick] group;
- `xui(/**/).onClick(null,null,true)` => removes all event functions in [beforeclick] group, [onclick] group and [afterclick] group;
- `xui(/**/).onClick()` => fire event, executes all event functions in [onclick] group in order. If any of those functions returns [false], the remaining functions will be ignored;
- `xui(/**/).onClick(true)` => fire event, executes all event functions in [beforeclick] group, [onclick] group and [afterclick] group in order;

```

var node;
xui('body').append(node=xui.create("<button>click me</button>"));

node.onClick(function(){
    alert('onClick');
    return false;
})
node.beforeClick(function(){
    alert('beforeClick');
})
node.afterClick(function(){
    alert('afterClick');
});
node.onClick(true);

_$.asynRun(function(){
    node.onClick(null);
    node.onClick(true);
},2000);

```

Adds a onClick event

Adds a beforeClick event

Adds an afterClick event

Fires all click events. Since onClick returns false, afterClick will not be fired.

Removes onClick event;

Fires all click events. Since onClick was removed, afterClick will be fired this time.

6.5.5. Node Drag&Drop

Input:

```

var btn,div;
xui('body').append(btn=xui.create("<button>drag me</button>"))
.append(div=xui.create("<div style='position:absolute;left:100px;top:100px;border:solid 1px;width:150px; height:150px;display:block;'> drop here </div>"))

btn.draggable(true,{dragType:'icon','dragkey','dragdata'},
div.droppable(true,'dragkey')
.onDrop(function(){
    xui.alert(xui.DragDrop.getProfile().dragData);
}));

```

Sets draggable

Sets droppable

onDrop event

Output:

drag me



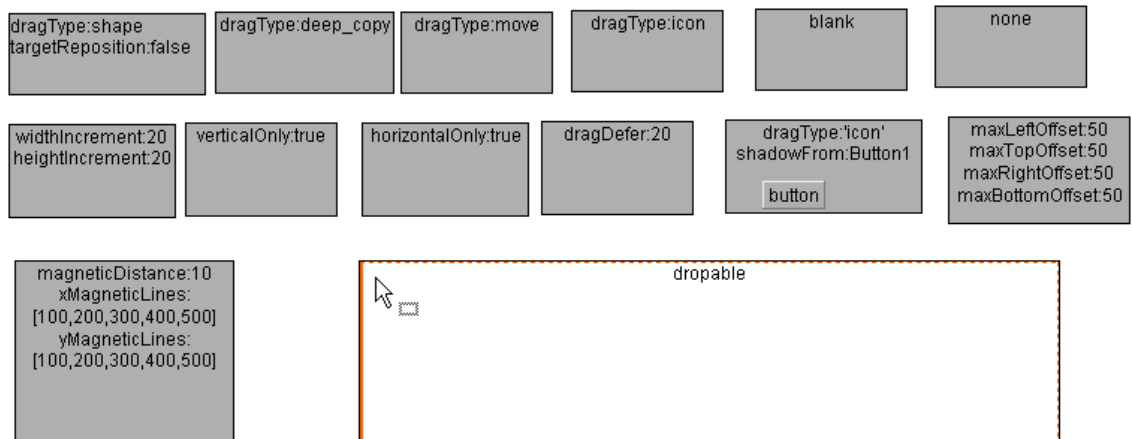
6.5.5.1. Drag&Drop profile

The “draggable” function’s second parameter is Drag&Drop profile object. It’s a key/value pairs. In dragging process, the Drag&Drop profile object can be got by `xui.DragDrop.getProfile()`. The profile object:

- `dragType`: ‘move’, ‘copy’, ‘deep_copy’, ‘shape’, ‘icon’, ‘blank’ or ‘none’, Default is ‘shape’;
- `shadowFrom`: DOM element or xui.Dom Object. It’s valid when `dragType`==‘icon’;
- `targetReposition`: Boolean, does dd reset the target position, Default is [true];
- `dragIcon`: String, the drag icon image path, Default is [`xui.ini.path`+‘ondrag.gif’];
- `magneticDistance`: Number, the magnetic distance, Default is 0;
- `xMagneticLines`: Array of Number, the magnetic line values in horizontal dir, Default is [];
- `yMagneticLines`: Array of Number, the magnetic line values in vertical dir, Default is [];
- `widthIncrement`: Number, the width increment in horizontal dir, Default is 0;
- `heightIncrement`: Number, the height increment in vertical dir, Default is 0;
- `dragDefer`: Number, when [`xui.DragDrop.startDrag`] is called, the real drag action will be triggered after [`document.onmousemove`] runs [`dragDefer`] times, Default is 0;
- `horizontalOnly`: Boolean, drag horizontal dir only, Default is [false];
- `verticalOnly`: Boolean, drag vertical dir only, Default is [false];
- `maxBottomOffset`: Number, the offset between [the restricted bottom] and [the current mouse Y], for mouse restricted region, Default is [null];
- `maxLeftOffset`: Number, the offset between [the restricted left] and [the current mouse X], for mouse restricted region, Default is [null];
- `maxRightOffset`: Number, the offset between [the restricted right] and [the current mouse X], for mouse restricted region, Default is [null];
- `maxTopOffset`: Number, the offset between [the restricted top] and [the current mouse Y], for mouse restricted region, Default is [null];
- `targetNode`: DOM element or xui.Dom Object, the drag target node;
- `targetCSS`: Number, the drag target node’s CSS key/value Object, Default is [null];
- `dragKey`: String, the drag key, Default is [null];
- `dragData`: Object, the drag data, Default is [null];
- `targetLeft`: Number, the drag target node’s CSS left, Default is [null];
- `targetTop`: Number, the drag target node’s CSS top, Default is [null];
- `targetWidth`: Number, the drag target node’s CSS width, Default is [null];
- `targetHeight`: Number, the drag target node’s CSS height, Default is [null];
- `targetOffsetParent`: xui.Dom Object, the drag target node offsetParent node, Default is [null];
- `dragCursor`: ‘none’, ‘move’, ‘link’, or ‘add’, the drag cursor key; [readonly]
- `x`: Number, current X value of mouse; [readonly]
- `y`: Number, current Y value of mouse; [readonly]
- `ox`: Number, original X value of mouse; [readonly]
- `oy`: Number, original Y value of mouse; [readonly]
- `curPos`: {left: Number, top: Number}, current CSS pos of the dragging node [readonly]
- `offset`: {x: Number, y: Number}, offset from now to origin [readonly]

- `isWorking`: Boolean, is dd working or not? [readonly]
- `restrictedLeft`: Number, the calculated restricted left value; [readonly]
- `restrictedRight`: Number, the calculated restricted right value; [readonly]
- `restrictedTop`: Number, the calculated restricted top value; [readonly]
- `restrictedBottom`: Number, the calculated restricted bottom value; [readonly]
- `proxyNode`: xui.Dom Object, the proxy Object; [readonly]
- `dropElement`: String, the target drop element DOM id. [readonly]

There is an DD overall example in **chapter3/dd/ddProfile.html**.



6.5.5.2. Events in Drag&Drop

For that node in dragging,

- `onDragbegin`
- `onDrag`
- `onDragstop`

For that droppable node,

- `onDragenter`
- `onDragleave`
- `onDragover`
- `onDrop`

Input:


```
var tpl=new xui.Template;
tpl.setTemplate("<div [event]>{con}</div>")
//tpl.setTemplate({root:"<div [event]>{con}</div>"})
.setProperties({
  con:'click me'
})
.setEvents({
  root:{
    onClick:function(){
      xui.alert('Hi');
    }
  }
})
.show()
```

For event

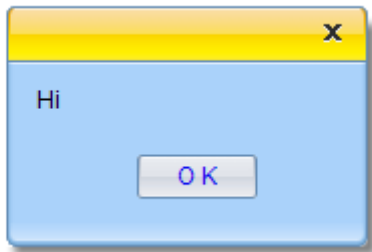
Sets template

Sets properties

Sets events

Output:

click me



6.6.2. example 2

Input:

On sale products	
\$ 18.99 product #0 product #0 is on sale now!	
\$ 23.99 product #1 product #1 is	product #0 product #0 is on sale now!
\$ 23.99 product #2 product #2 is on sale now!	

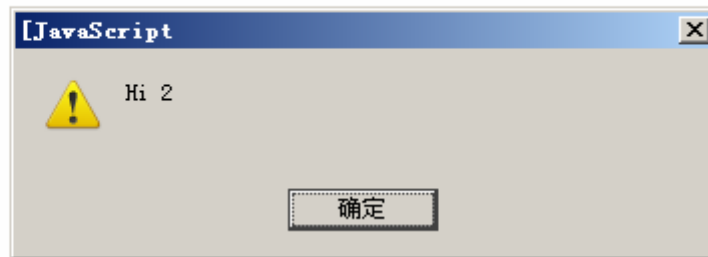
“chapter5\SButton” is an example for creating a xui.UI.SButton like control based on xui.Template.

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Template SButton 1

Template SButton 2

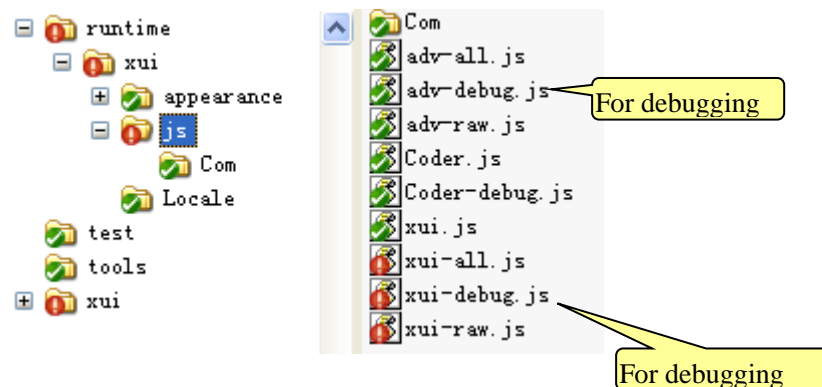
Template SButton 3



6.7. About Debugging

6.7.1. The code package for debugging

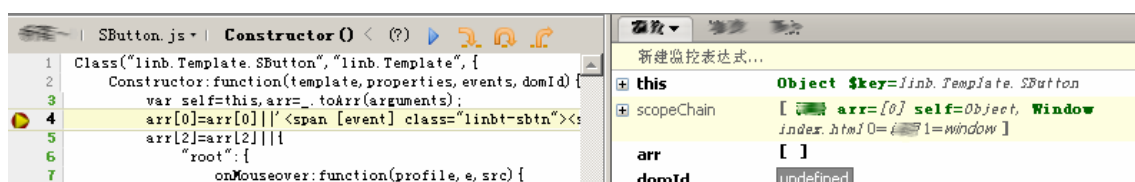
In folder “runtime/xui/js/”, All files ending with “-debug.js” are for debugging purpose.



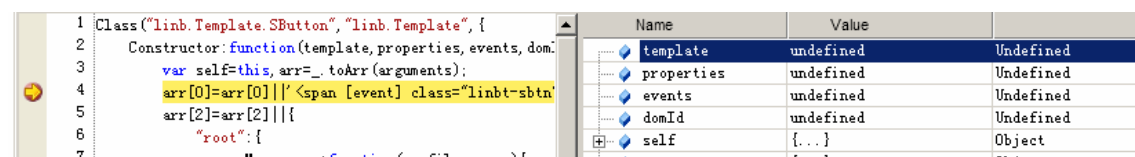
6.7.2. Debugging Tools

You can use Firebug in Firefox, developer tool in IE8, chrome or opera10 to debug JavaScript.

FireBug:



Developer Tools in IE8:



6.7.3. Monitor Tools

CrossUI has a variable monitor tools. You can call `xui.log("xxx")` to show the monitor window:



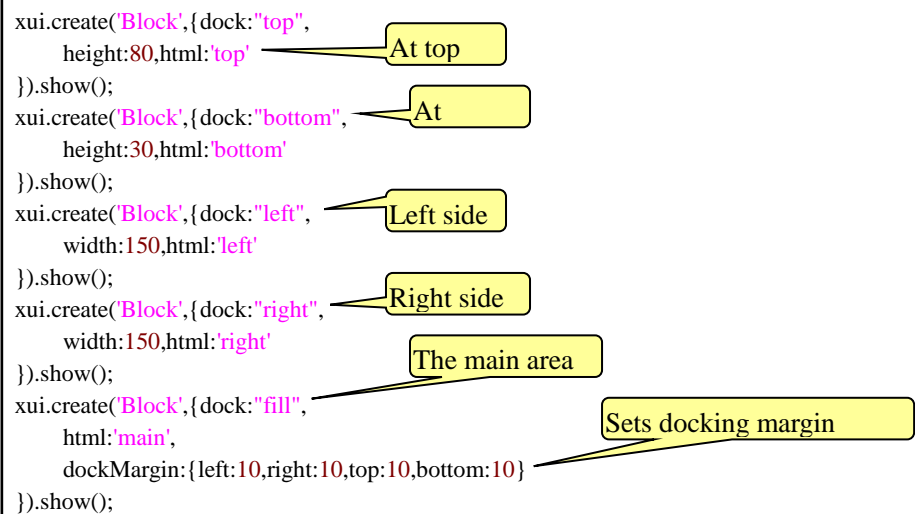
Chapter 7. Some typical issues

7.1. Layout

7.1.1. Docking

Input:

```
xui.create('Block',{ dock:"top",  
    height:80,html:'top' }  
).show();  
xui.create('Block',{ dock:"bottom",  
    height:30,html:'bottom' }  
).show();  
xui.create('Block',{ dock:"left",  
    width:150,html:'left' }  
).show();  
xui.create('Block',{ dock:"right",  
    width:150,html:'right' }  
).show();  
xui.create('Block',{ dock:"fill",  
    html:'main',  
    dockMargin:{ left:10,right:10,top:10,bottom:10 } }  
).show();
```



Output:



7.1.2. xui.UI.Layout

Input:

```
var layout1=xui.create('Layout',{type:'vertical',
  items:[{
    pos:'before',
    id:'top',
    size:80
  },{
    pos:'after',
    id:'bottom',
    size:30
  }]
}).show();

xui.create('Layout',{type:'horizontal',
  items:[{
    pos:'before',
    id:'top',
    size:150
  },{
    pos:'after',
    id:'bottom',
    size:150
  }]
}).show(layout1);
```

Vertical layout

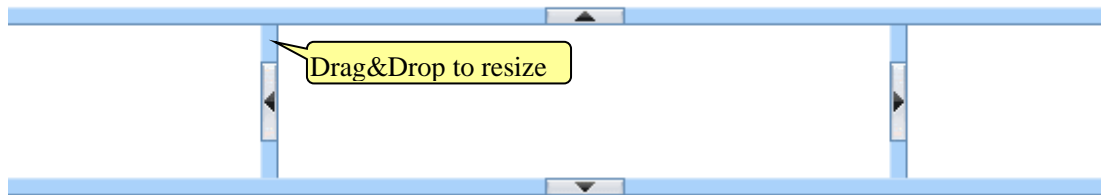
At top

At bottom

Horizontal layout

Left side

Right side



7.1.3. Relative Layout

Input:

```

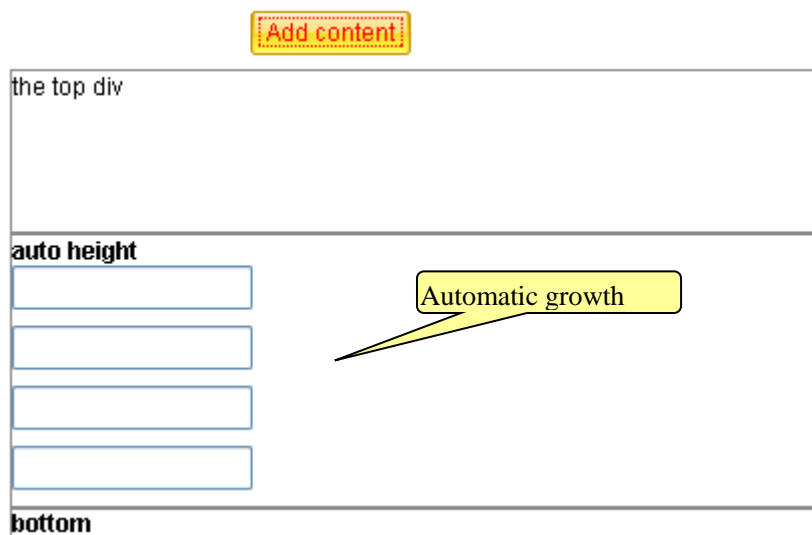
xui.create('Pane',{position:'relative',
    width:"auto",height:80,html:"the top div"
})
.setCustomStyle({"KEY":"border:solid 1px #888"})
.show()

var pane=xui.create('Pane',{position:'relative',
    width:"auto",height:"auto",
    html:"<strong>auto height</strong>"
})
.setCustomStyle({"KEY":"border:solid 1px #888"})
.show()

xui.create('Pane',{position:'relative',
    width:"auto",height:100,
    html:"<strong>bottom</strong>"
})
.setCustomStyle({"KEY":"border:solid 1px #888"})
.show()

xui.create("SButton")
.setLeft(140)
.setTop(30)
.setCaption("Add content")
.onClick(function(){
    pane.append(xui.create("Pane").setPosition("relative").setHeight(30).append("Input"))
})
.show()

```

Output:

7.2. UI Control's Drag&Drop

7.2.1. Drag&Drop control among containers

Input:

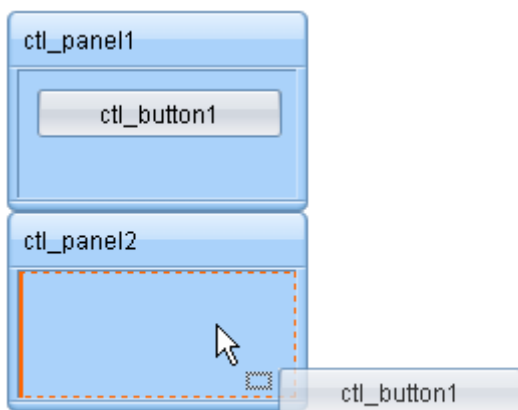
```
var panel1=xui.create('Panel',{position:'relative', dock:'none',width:150}).show();
var panel2=xui.create('Panel',{position:'relative', dock:'none',width:150}).show();
var btn=xui.create('Button',{left:10,top:10}).show(panel1);
var onDrop=function (profile, e, node, key, data) {
    var dd = xui.DragDrop.getProfile(), data = dd.dragData;
    if(data){
        var btn=xui.getObject(data);
        profile.boxing().append(btn.boxing());
    }
};
btn.draggable('iAny',btn.get(0).getId(),null,{shadowFrom:btn.getRoot()});
panel1.setDropKeys('iAny').onDrop(onDrop);
panel2.setDropKeys('iAny').onDrop(onDrop);
```

Sets onDrop function

Sets draggable

Sets droppable

Output:



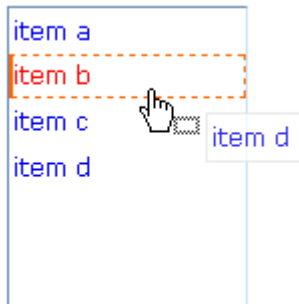
7.2.2. List sorting 1

Input:

```
xui.create("List",{
    items:["item a","item b","item c","item d"]
})
.setDragKey("list")
.setDropKeys("list")
.show()
```

Sets drag key and drop keys.

Output:



7.2.3. List sorting 2

Input:

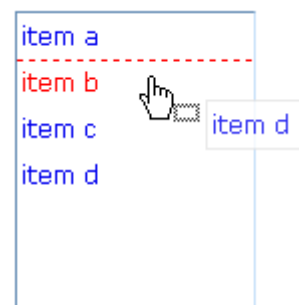
```
xui.create("List",{
  items:["item a","item b","item c","item d"]
})
.setDragKey("list")
.setDropKeys("list")
.onDropMarkShow(function(profile,e,src,key,data,item){
  if(item){
    xui.DragDrop.setDragIcon('move');
    xui.DragDrop.setDropFace(null);
    profile.getSubNodeById('ITEM',item.id).css('borderTop','dashed 1px');
    return false;
  }
})
.onDropMarkClear(function(profile,e,src,key,data,item){
  if(item){
    xui.DragDrop.setDragIcon('none');
    profile.getSubNodeById('ITEM',item.id).css('borderTop','');
    return false;
  }
})
.show()
```

Sets drag key and drop keys

Custom appearance

Restores appearance

Output:



7.3. Form

7.3.1. Form 1

Input:

```

Class.destroy('App');
Class('App', 'xui.Module',{
  Instance:{
    initComponents:function(){
      // [[code created by CrossUI UI Builder
      var host=this, children=[], append=function(child){children.push(child.get(0))};
      append((new xui.UI.SLabel)
        .setHost(host,"slabel1").setLeft(80).setTop(60).setWidth(44).setCaption("Name:") );
      append((new xui.UI.SLabel)
        .setHost(host,"slabel2").setLeft(80).setTop(90).setCaption("Age:").setWidth(44));
      append((new xui.UI.Input)
        .setHost(host,"iName").setLeft(130).setTop(60).setValueFormat("[^.*]").setValue("Jack"));
      append((new xui.UI.ComboInput)
        .setHost(host,"iAge").setLeft(130).setTop(90).setType("spin").setIncrement(1).setMin(20).s
etMax(60).setValue("35"));
      append((new xui.UI.SCheckBox)
        .setHost(host,"cFull").setLeft(130).setTop(130).setCaption("Full time"));
      append((new xui.UI.SButton)
        .setHost(host,"submit").setLeft(130).setTop(170).setCaption("SUBMIT").onClick("_submit
_onclick"));
      return children;
      // ]]code created by CrossUI UI Builder
    },
    _submit_onclick:function (profile, e, src, value) {
      if(!this.iName.checkValid()){
        xui.alert('You must specify Name');
        return;
      }
      var name=this.iName.updateValue().getValue(), age=this.iAge.updateValue().getValue(),
        full=this.cFull.updateValue().getValue();
      xui.alert(_.serialize({name:name,age:age,full:full}))
    }
  }
});
(new App).show();

```

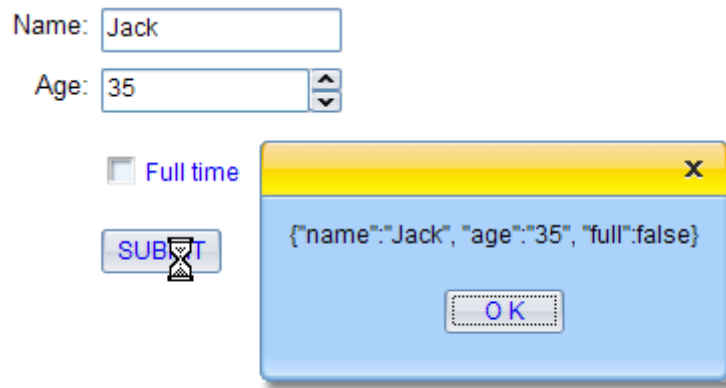
Code created by Designer

event

Form validation

Collects data

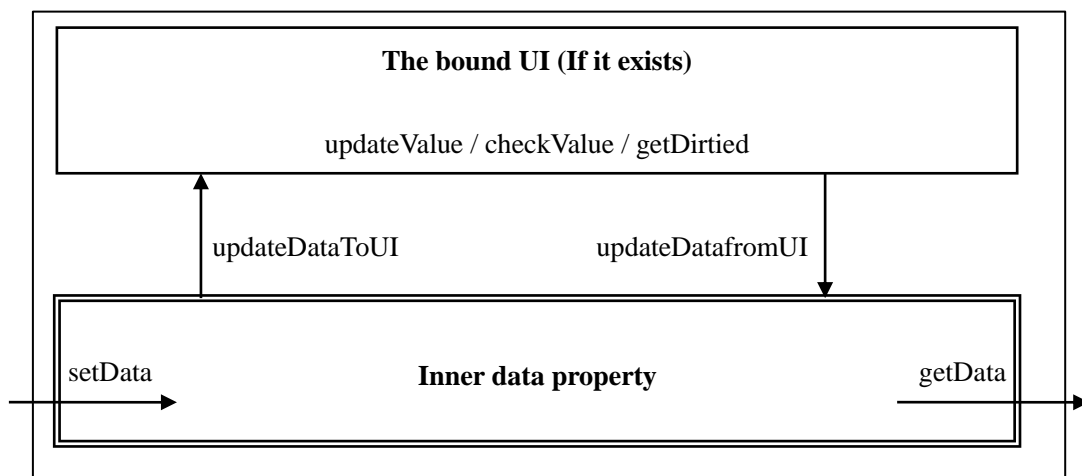
Output:



7.3.2. DataBinder

There are two types of data in DataBinder:

1. The inner data property:
 - `setData` function: to get the inner data property;
 - `getData` function: to set the inner data property;
2. The bound UI controls (if it exists):
 - `updateValue` function: to update the bound UI controls "UI value" to inner value, and removed dirty marks;
 - `checkValue` function: to check the bound UI controls;
 - `getDirtied` function: to get the dirtied values from the bound UI controls;
 - `updateDataToUI` function: to update the inner data to the bound UI controls;
 - `updateDatafromUI` function: to update the inner data from the bound UI controls;



Input:

```

Class.destroy('App');
Class('App', 'xui.Module',{
  Instance:{
    initComponents:function(){
      // [[code created by CrossUI UI Builder
      var host=this, children=[], append=function(child){ children.push(child);
      append((new xui.DataBinder).setHost(host,"binder").setName("binder"));
      append((new xui.UI.SLabel)
        .setHost(host,"slabel1").setLeft(80).setTop(60).setCaption("Name:"));
      append((new xui.UI.SLabel)
        .setHost(host,"slabel2").setLeft(80).setTop(90).setCaption("Age:").setWidth(44));
      append((new xui.UI.Input) .setDataBinder("binder").setDataField("name")
        .setHost(host,"iName").setLeft(130).setTop(60).setValueFormat("[^.*]").setValue("Jack"));
      append((new xui.UI.ComboInput) .setDataBinder("binder").setDataField("age")
        .setHost(host,"iAge").setLeft(130).setTop(90).setType("spin").setIncrement(1).setMin(20).setMax(60).setValue("35"));
      append((new xui.UI.SCheckBox) .setDataBinder("binder").setDataField("isfull")
        .setHost(host,"cFull").setLeft(130).setTop(130).setCaption("Full time"));
      append((new xui.UI.SButton)
        .setHost(host,"submit").setLeft(130).setTop(170).setCaption("SUBMIT").onClick("_submit_onclick"));
      return children;
      // ]]code created by CrossUI UI Builder
    },
    _submit_onclick:function (profile, e, src, value) {
      if(!this.binder.checkValid()){
        xui.alert("One or some invalid fields exists!");
        return;
      }
      this.binder.updateDataFromUI();
      xui.alert(_serialize(this.binder.getData()))
    }
  }
});
(new App).show();

```

Code created by Designer

Adds a DataBinder, sets name property

Sets dataBinder and dataField to each control

Form validation

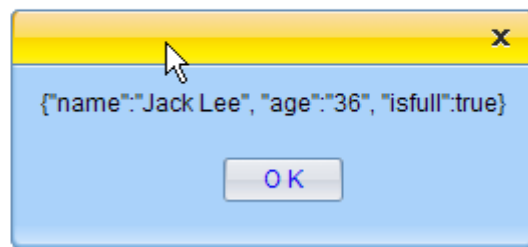
Collects data


Output:

Name:

Age:

☒ Full time



Name: 

Age:

☒ Full time

One or some invalid fields exists!

7.4. Custom UI Styles

7.4.1. Custom one instance only - 1

Input:

```
xui.CSS.remove("id","my_css");
xui.CSS.addStyleSheet(".xui-sbutton-custom-focus{ font-weight:bold;color:#ff0000;}", "my_css");

(new xui.UI.SButton)
.setCaption("Use setCustomClass ")
.setTheme ("custom")
.show();
```

Theme key words

Sets theme to this instance

Adds CSS. You should put those into a CSS file in your real application

Output:

Use setCustomStyle

7.4.2. Custom one instance only - 2

Input:

```
(new xui.UI.SButton)
.setCaption("Use setCustomStyle")
.setCustomStyle({
  FOCUS:"font-weight:bold;color:#ff0000;"
})
.show();
```

Custom FOCUS node style

Output:

Use setCustomStyle

7.4.3. Custom one instance only - 3

Input:

```
xui.CSS.remove("id","my_css");
xui.CSS.addStyleSheet(".my-class{font-weight:bold;color:#ff0000;}", "my_css");

(new xui.UI.SButton)
.setCaption("Use setCustomClass ")
.setCustomClass({
  FOCUS:"my-class"
})
.show();
```

Adds CSS. You should put those into a CSS file in your real application

Custom FOCUS node className

Output:

Use setCustomClass

7.4.4. Custom one instance only - 4

Input:

```
xui.CSS.remove("id","my_css");
xui.CSS.addStyleSheet("#myctrl1 .xui-sbutton-focus{font-weight:bold;color:#ff0000;}", "my_css");

(new xui.UI.SButton)
.setCaption("Use domId")
.setDomId("myctrl1")
.show();
```

Adds CSS. You should put those into a CSS file in your real application

Gives a domId

Output:

Use domId

7.4.5. Custom one instance only - 5

Input:

```
(new xui.UI.SButton)
.setCaption("Use getSubNode and css ")
.onRender(function(profile){
  profile.getSubNode('FOCUS').css({
    fontWeight:'bold',
    color:'#ff0000'
  });
})
.show();
```

After it was rendered into DOM

Output:

Use `getSubNode` and `css`

7.4.6. Custom one instance only - 6

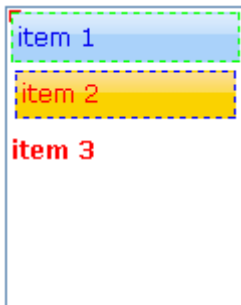
Input:

```
xui.CSS.remove("id","my_css");
xui.CSS.addStyleSheet(".my-listitem{ font-weight:bold;color:#ff0000;}", "my_css");

xui.create('List',{items:[{
  id:"item 1",
  itemStyle:"border:dashed 1px #00ff00;margin:4px;"
},{
  id:"item 2",
  itemStyle:"border:dashed 1px #0000ff;margin:4px;"
},{
  id:"item 3",
  itemClass:"my-listitem"
}]}).show()
```

Adds CSS. You should put those into a CSS file in your real application

Output:



7.4.7. Custom style for an UI Class

Input:

```
xui.CSS.remove("id","my_css");
xui.CSS.addStyleSheet(".xui-sbutton-focus{ font-weight:bold;color:#ff0000;}", "my_css");

(new xui.UI.SButton({position:'relative'})).show();
(new xui.UI.SButton({position:'relative'})).show();
(new xui.UI.SButton({position:'relative'})).show();
(new xui.UI.SButton({position:'relative'})).show();
(new xui.UI.SButton({position:'relative'})).show();
```

Adds CSS. You should put those into a CSS file in your real application

All instances were changed

Output:

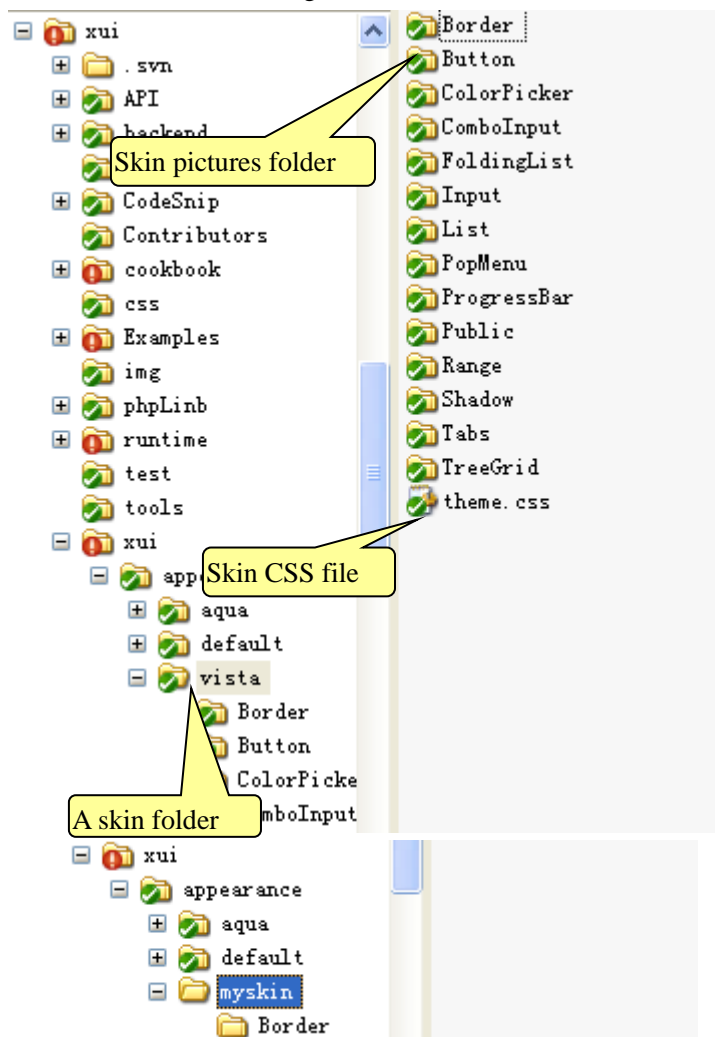


7.4.8. Custom style for all UI Class - skin

There are three system built-in skins in CrossUI: default, vista and aqua. You can use `xui.setTheme` to switch the skin. You can also add your own custom skin easily. Only two steps:

7.4.8.1. First: Copy

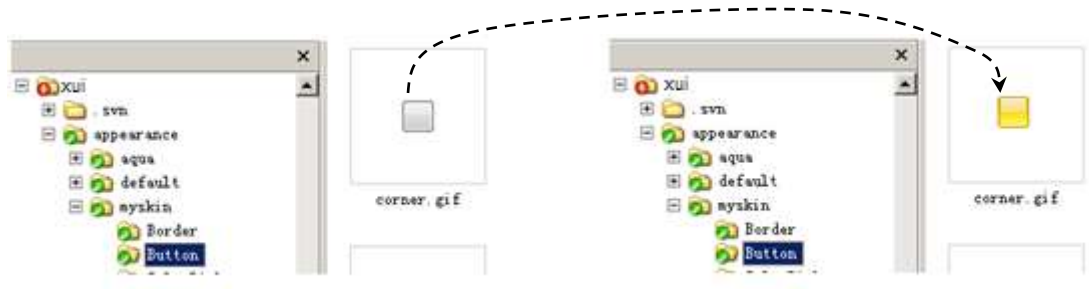
All skins are in “runtime/xui/appearance”, you can create an new folder (e.g. ‘myskin’), and copy all directories and files in an existing skin folder to it.



7.4.8.2. Second: Little by little, modify pictures and CSS

For example, we modifies corner.gif file in Button folder.

Copy from vista folder



After that,

Input:

```
xui.create('Button').show();
_.asRun(function(){
  xui.setTheme('myskin')
},2000);
```

Output:



The end

Crossui.com
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