Sencha ExtJs

To Do application with Sencha ExtJs 6.2.1

Sencha

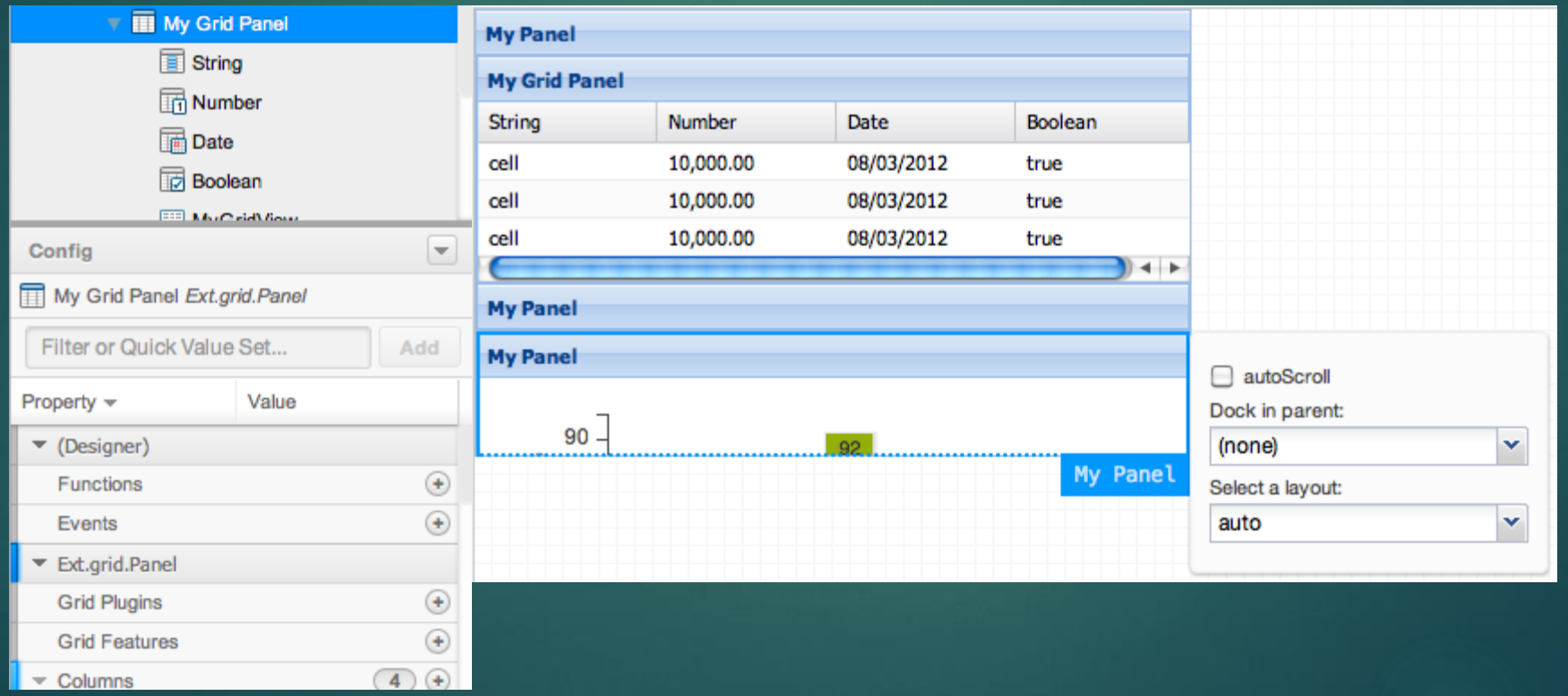
- Touch & ExtJs : mobile & desktop
- Since version 5.0 : integration of both
- Commercial use : license required
  - Minimum 5 developers : $4,475 (standard) - $9,475 (premium)
  - only developers need license, not the customer

Installation

- not necessary, recommended : Sencha Cmd
  - code generation, compiler, packaging, tuning, Cordova/PhoneGap, …
- Download & install Sencha Cmd
- create namespace (optional)
  - common framework copies
  - common code
  - common third-party packages
- create app
  - from scratch
  - use Sencha Cmd

Sencha Architect

- visual tool for building all screen elements



Hands-on

- create workspace :
  - `sencha generate workspace d:\jsapp2`

directory

- create app :
  - `sencha -sdk D:\jsapp\ext-6.2.1 generate app ToDo d:\jsapp2\todo`

app name

directory

folder with Sencha framework components

- start build-in webserver in development mode :
  - browse to the app folder `d:\jsapp2\todo`
  - `sencha app watch`
- Or, build a test version :
  - `sencha app build testing`
  - available in `<namespace dir>\build\testing\<app name>`

Code concepts

- all javascript
  - no tags
  - all is in javascript files
  - directory structure follows class-naming
- object oriented
  - define classes that extend from Sencha's framework classes
  - create components, use Sencha or own class
- package or dynamically loaded
  - all can be dynamically loaded
  - better : let Sencha cmd build the app (1 file app.js)

MVC or MVVC concept

- MVC :
  - model : data record → field definitions & (optionally) data
  - view : a screen component to show data (table, form, text, ...)
  - controller : contains functions → to handle events
    - controller is application-wide
- MVVM :
  - model : idem mvc
  - view : idem mvc
  - viemmodel : data specific for the view
  - viewcontroller : functions
    - controller specific for the view

Code fragments : grid's model

```
Ext.define('ToDo.model.ToDo', {
    extend: 'Ext.data.Model',
    alias:'model.todo',

    fields: [
        /*
        The fields for this model. This is an Array of Ext.data.field.Field definition objects or simply the field name.
        If just a name is given, the field type defaults to auto.
         */

        { name: 'ID', type:'number'},
        { name: 'Description', type: 'string' },

        { name: 'Active', type: 'boolean', defaultValue: true }
    ],

    idProperty:'ID'

});
```

Code fragment : proxy
(for REST connection to Caché)

```
Ext.define('ToDo.proxy.BaseAjax', {
    extend: 'Ext.data.proxy.Ajax',
    alias:'proxy.todo-ajax',
    requires : [
        'Ext.data.reader.Json',
        'Ext.data.writer.Json'
    ],
    actionMethods: {
        create:'POST',
        read:'GET',
        update:'POST',
        destroy:'POST'
    },
    api : {
        read:'rest/api/todo',
        create:'rest/api/todo',
        update: 'rest/api/todo',
        destroy: 'rest/api/destroy'
    },
    username:'demo',
    password:'demo4CUG',
    withCredentials:true,
    headers : {
        'Content-Type':'application/json'
    },
    reader:{
        type:'json',
        rootProperty:'children'
    },
    paramsAsJson: true,
    idParam : 'ID'
});
```

Code fragment : store
contains locally loaded data

```
Ext.define('ToDo.store.ToDo', {
    extend: 'Ext.data.Store',

    alias:'store.todo',

    requires:[
        'ToDo.model.ToDo',
        'ToDo.proxy.BaseAjax'
    ],

    model: Ext.define("ToDos",{extend:'ToDo.model.ToDo'}),

    proxy: {
        type:'todo-ajax'
    }
});
```

Code fragment : grid view

shows data in a dynamic table

```
Ext.define('ToDo.view.main.ToDoList', {
    extend: 'Ext.grid.Panel',
    xtype: 'todolist',
    requires: [
        'ToDo.store.ToDo',
        'Ext.grid.column.Check'
    ],
    title: 'ToDo items',
    store: {
        type: 'todo'
    },
    autoLoad:true,
    columns: [
        {text:'ID', dataIndex:'ID',flex:1,hidden:true},
        { text: 'Description',  dataIndex: 'Description', flex:8 },
        { text: 'Active', dataIndex: 'Active', flex: 1, xtype:"checkcolumn" },
        { text:'',
            xtype:'actioncolumn',
            width:24,
            items : [
                {
                    icon: Ext.getResourcePath('images/delete.png','shared'),
                    toolTip:'Delete this',
                    menuDisabled:true,
                    sortable:false,
                    handler: function(pGrid, pRowIndex, colIndex) {
                        try { ... }
                        catch(err){ ... });
                        }
                    }
                }
            ]
        }
    ]
});
```

Code Fragments : Form

```
{
    xtype:'form',
    title:'Create ToDo',
    reference:'todoform',
    frame:true,
    layout:{
        type:'hbox',
        pack:'center',
        margin:'0 20 0 20'
    },
    margin:'20 0 20 0',
    padding:20,
    defaults:{
        labelWidth:80
    },
...
```

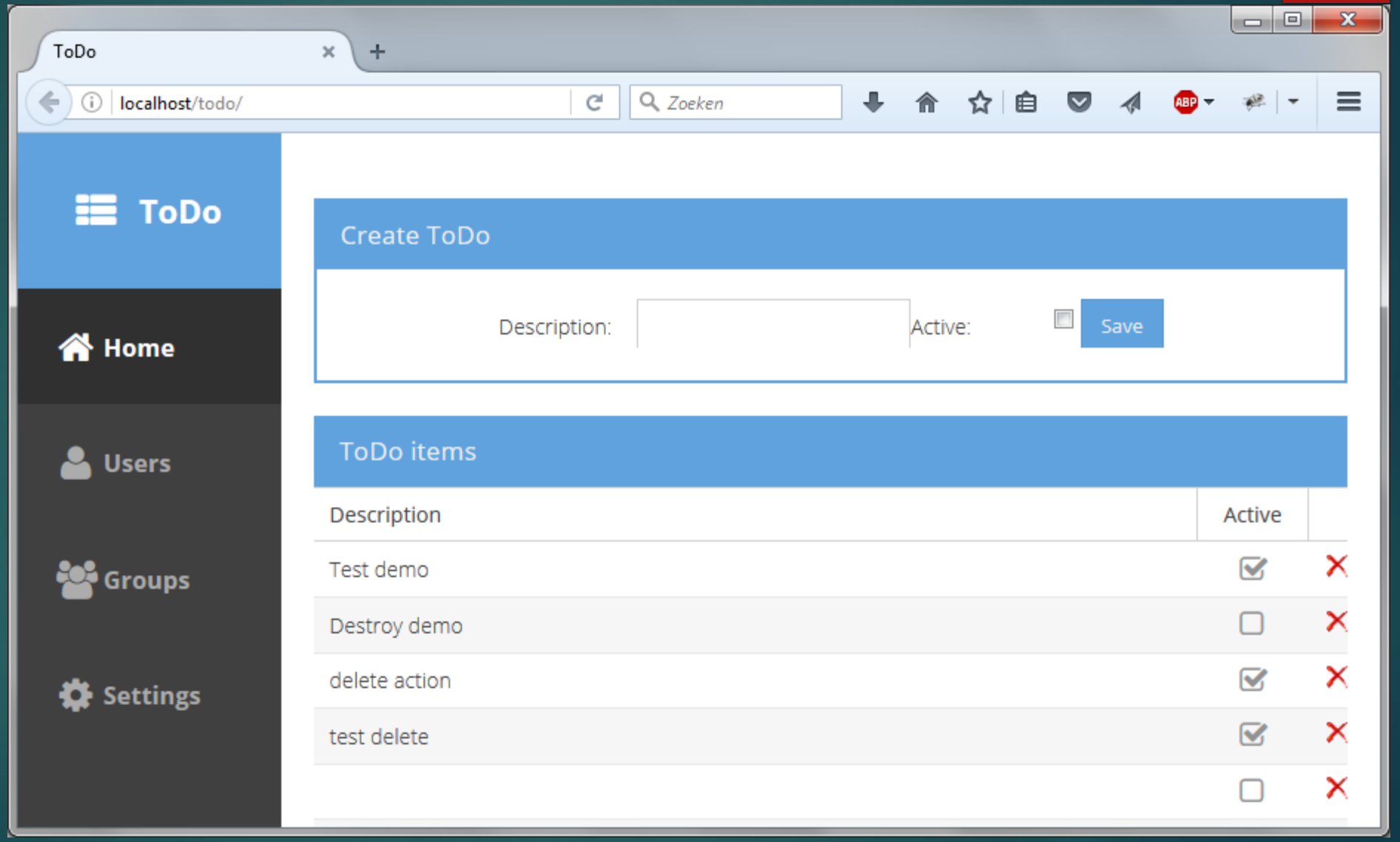
```
...
    items:[
        {
            xtype:'textfield',
            fieldLabel:'Description',
            name:'Description'
        },
        {
            xtype:'checkbox',
            fieldLabel:'Active',
            name:'Active',
            inputValue:1,
            uncheckValue:0
        },
        {
            xtype:'button',
            text:'Save',
            itemId:'Save_btn',
            listeners:{
                click:'onSaveClick'
            }
        }
    ]
},
```

Code fragment : main part

- class is defined → define object with xtype

```
items: [{
    title: 'Home',
    iconCls: 'fa-home',
    // my todo grid
    xtype: 'todolist',
    flex:1
}, {
    title: 'Users',
    iconCls: 'fa-user',
    xtype: 'mainlist'
}, {
    title: 'Groups',
    iconCls: 'fa-users',
    bind: {
        html: '{loremIpsum}'
    }
}, {
    title: 'Settings',
    iconCls: 'fa-cog',
    bind: {
        html: '{loremIpsum}'
    }
}]
```

The result


ToDo
localhost/todo/
Zoeken
ToDo
Home
Users
Groups
Settings
Create ToDo
Description:
Active:
Save
ToDo items
Description
Active
Test demo
Destroy demo
delete action
test delete