Sencha Advanced Theming for Ext JS Course

Lee Boonstra

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Chapter 1. Overview of all components

1.1. Objectives

- Get familiar with the Ext components
- Review important component specs
- Preview Ext components

1.2. Containers

1.2.1. What it is

Containers are just a plain set of divs, they can contain items.

1.2.2. Specs

CSS Class: `.x-container`

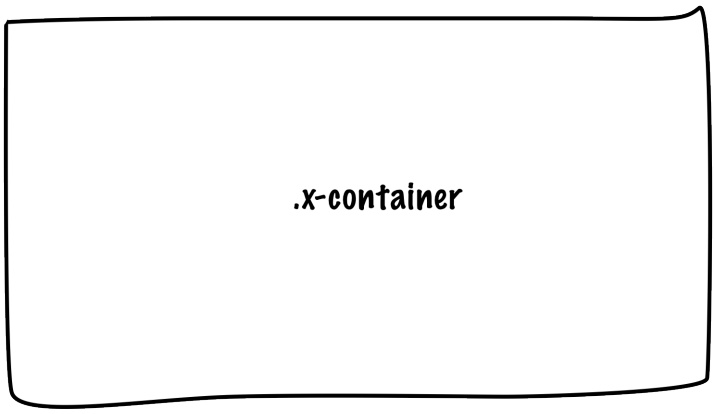
`Ext.container.Container`

Extends from `Ext.Component`

- `height`
- `width`
- `margin`
- `padding`
- `border`
- `style`
- `hidden` (true / false)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.container.Container

Figure 1.1. Ext.container.Container



1.2.3. Example

Example.

```
Ext.create('Ext.container.Container', {
    html: 'Hello World',
    width: 400,
    renderTo: Ext.getBody(),
});
```

1.3. Panels

1.3.1. What it is

Just a plain set of divs, like a Container (it may contain items) but with borders, headers, dockable footers and buttons.

1.3.2. Specs

CSS Class: `.x-panel`

`Ext.panel.Panel`

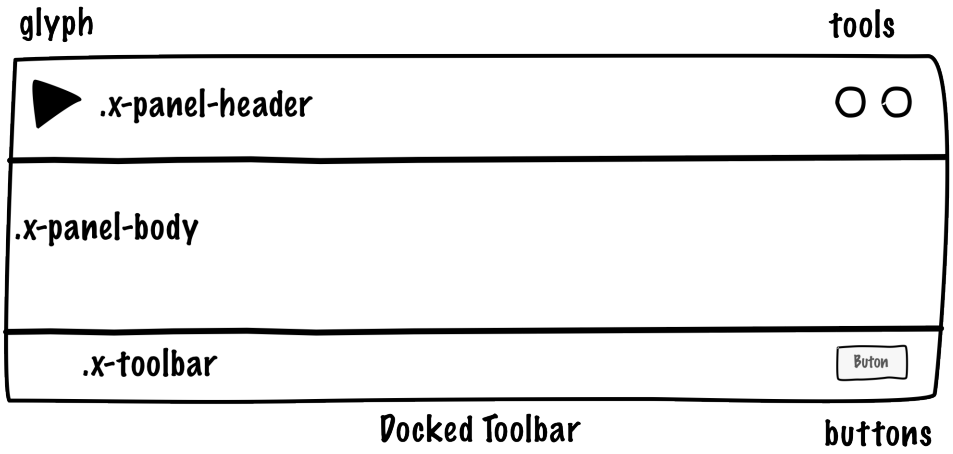
Extends from `Ext.container.Container`

- Panel Header (`.x-panel-header`)
  - `title`
  - `glyph`
  - `tools`
- Panel Body (`.x-panel-body`)

- (optional) Docked Toolbar (`.x-toolbar`)
  - `buttons`
  - `height`
  - `width`
  - `margin`
  - `padding`
  - `bodyPadding`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.panel.Panel

Figure 1.2. Ext.panel.Panel



1.3.3. Example

Example 1.1. Example

```
Ext.create('Ext.panel.Panel', {
    title : 'Panel Header',
    renderTo : Ext.getBody(),
    height : 200,
    width : 500,
    glyph: '119@Pictos',
    html: 'Panel Body',
    tools : [{
        type : 'gear',
    }],
    buttons: [{
        text: 'button'
    }]
});
```

1.4. Images

1.4.1. What it is

An HTML image tag (optionally wrapped in div elements) to display images.

1.4.2. Specs

CSS Class: `.x-img`

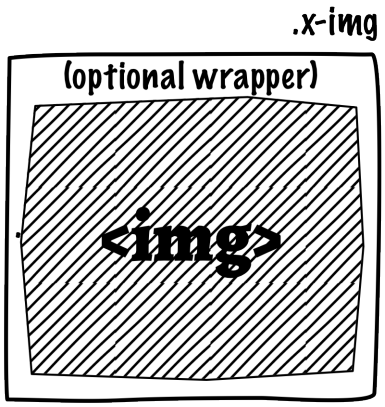
`Ext.Img`

Extends from `Ext.Component`

- `src`
- `alt`
- `autoEl`
- `height`
- `width`
- `margin`
- `padding`
- `baseCls`
- `imgCls`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.Img

Figure 1.3. Ext.Img



1.4.3. Example

Example 1.2. Example

```
Ext.create('Ext.Img', {
    src: 'http://www.sencha.com/img/20110215-feat-html5.png',
    renderTo: Ext.getBody()
});
```

1.5. TabPanels

1.5.1. What it is

A stack of Panels with dockable tabs for switching between views.

1.5.2. Specs

CSS Class: `.x-panel`

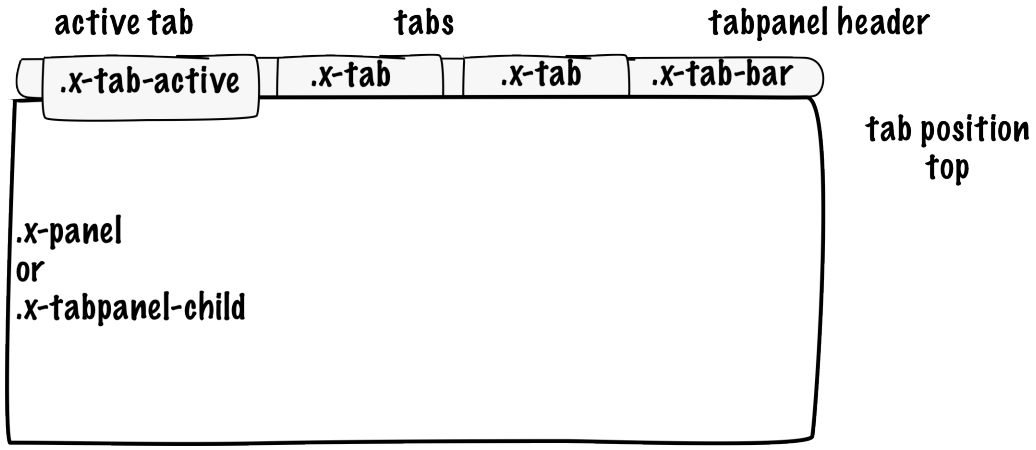
`Ext.tab.Panel`

Extends from `Ext.panel.Panel`

- TabPanel Header (`.x-tab-bar`)
- Panel Body (`.x-panel` or `.x-tabpanel-child`)
- Docked Toolbar (`.x-toolbar-footer`)
  - `buttons`
  - `tabPosition` (‘top’,‘right’,‘bottom’,‘left’)
  - `plain` (true/false)
  - `height`
  - `width`
  - `margin`
  - `padding`
  - `bodyPadding`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.panel.Panel

Figure 1.4. Ext.tab.Panel



1.5.3. Example

Example 1.3. Example

```
Ext.create('Ext.tab.Panel', {
    renderTo : Ext.getBody(),
    height : 200,
    width : 500,
    tabPosition: 'bottom',
    //plain : true,
    items : [{
        title : 'Tab',
        html : 'Panel Body'
    }, {
        title : 'Tab',
        html : 'Panel Two'
    },
    {
        title : 'Tab',
        html : 'Panel Two'
    }]
});
```

1.6. Buttons

1.6.1. What it is

Listen to user events, click, double click, toggle…

1.6.2. Specs

CSS Class: `.x-btn`

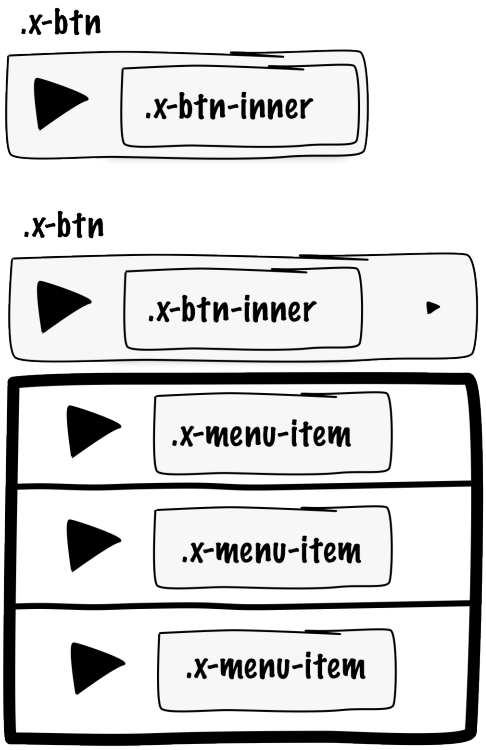
`Ext.button.Button`

Extends from `Ext.Component`

- Button (`.x-btn`)
- Inner button (`.x-btn-inner`)
  - `glyph`
  - `menu`
  - `scale` (‘small’,‘medium’,‘large’)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.button.Button

Figure 1.5. Ext.button.Button



1.6.3. Example

Example.

```
Ext.create('Ext.button.Button', {
    handler: function() {
       alert("BAMM!");
    },
    renderTo: Ext.getBody(),
    text : 'Beatles',
    menu : {
       items : [{
          text : 'John'
       }, {
          text : 'Paul'
       }, {
          text : '...'
       }]
```

```
    }
});
```

1.7. Split Buttons

1.7.1. What it is

Like Buttons, but have two functionalities. A clickable button and a clickable arrow that pops out a menu.

1.7.2. Specs

CSS Class: `.x-btn > .x-btn-split`

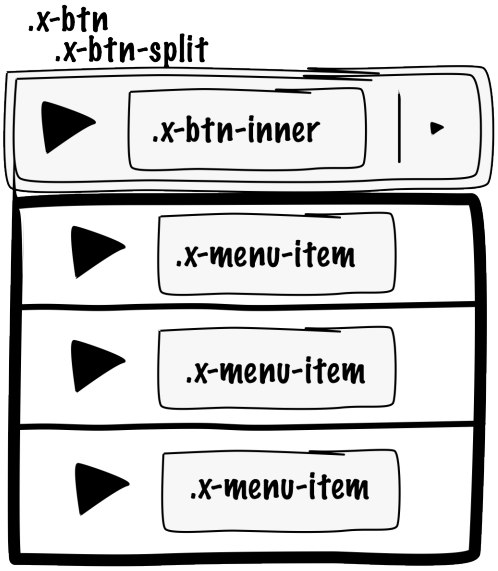
`Ext.button.Split`

Extends from `Ext.Component`

- Split Button (`.x-btn > .x-btn-split`)
- Inner button (`.x-btn-inner`)
  - `glyph`
  - `menu`
  - `scale` ('small','medium','large')

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.button.Split

Figure 1.6. Ext.button.Split



1.7.3. Example

Example.

```
Ext.create('Ext.button.Split', {
    text: 'Choose an Action',
    width: 120,
    handler: function(b) {
        alert(b.sound);
    },
    menu: {
        defaults: {
            handler: function(b) {
                var parent = b.up('splitbutton');
                parent.setText(b.text);
                parent.sound = b.sound;
            }
        },
        items: [{
            text: 'Sing',
            sound: 'la la la'
        }, {
            text: 'Play Guitar',
            sound: 'strum'
        }, {
            text: 'Compose',
            sound: 'scribble'
        }]
    },
    renderTo: Ext.getBody(),
});
```

1.8. Toolbars

1.8.1. What it is

Dockable bars, can contain things, buttons (default), form fields, text strings…

1.8.2. Specs

CSS Class: `x-toolbar`

`Ext.toolbar.Toolbar`

Extends from `Ext.container.Container`

- Toolbar item (.x-toolbar-item / .x-toolbar-btn)
- `dockedItems` > `dock` (‘top’,‘right’,‘bottom’,‘left’)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.toolbar.Toolbar

Ext.toolbar.Toolbar. ///images:toolbars.png[scale="75"]

1.8.3. Example

Example 1.4. Example

```
Ext.create('Ext.panel.Panel', {
    title : 'My Panel',

    dockedItems : [ {
        xtype : 'toolbar',
        dock : 'bottom',
        items : [ {
            text : 'Toolbar Button'
        }]
    }],

    html: 'Panel Body',
    width : 300,
    renderTo : Ext.getBody()
});
```

1.9. Windows

1.9.1. What it is

Panels that are floatable, draggable, resizable

1.9.2. Specs

CSS Class: `.x-window`

`Ext.window.Window`

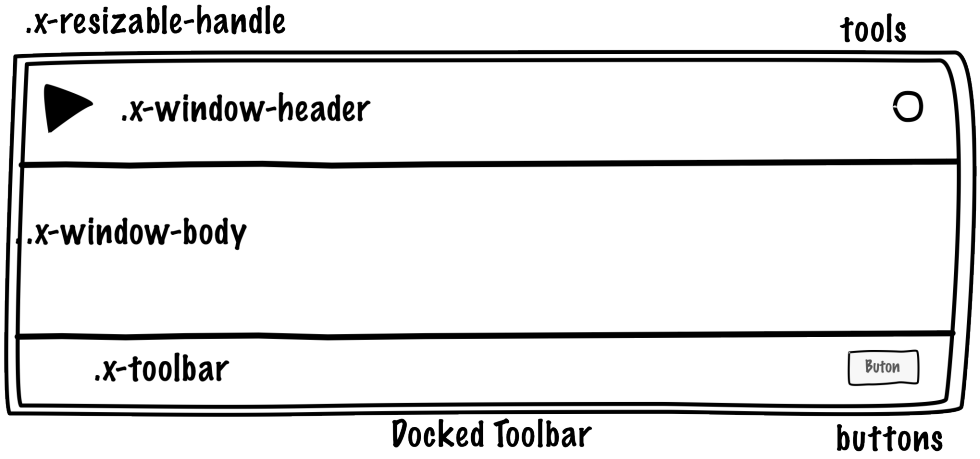
Extends from `Ext.panel.Panel`

- Window Header (`x-window-header`)
  - `title`
  - `glyph`
  - `tools`
- Window Body (`x-window-body`)
  - `icon`
  - `height`
  - `width`
  - `minWidth`

- `maxWidth`
- `x`
- `y`
- +modal*
- `draggable`
- `resizable`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.Window

Figure 1.7. Ext.window.Window



1.9.3. Example

Example 1.5. Example

```
Ext.create('Ext.window.Window', {
    title: 'Window',
    autoShow: 'true',
    height: 300,
    width: 300,
    x: 10,
    y: 10
});
```

1.10. Messageboxes

1.10.1. What it is

Windows, async, that display alert messages, prompt and confirmation input fields and buttons or progressbar / wait widgets.

1.10.2. Specs

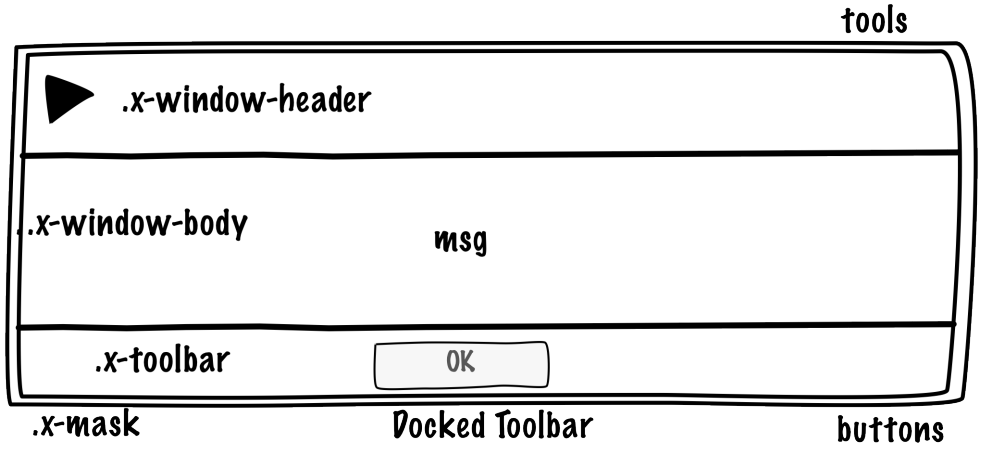
CSS Class: `.x-message-box`

Extends from `Ext.window.Window`

Ext.window.MessageBox

- `icon`

Figure 1.8. Ext.window.MessageBox.alert()



http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.MessageBox

1.10.3. Example

Example 1.6. Example

```
Ext.Msg.alert('Widget Updated', 'The widget was updated successfully.');
```

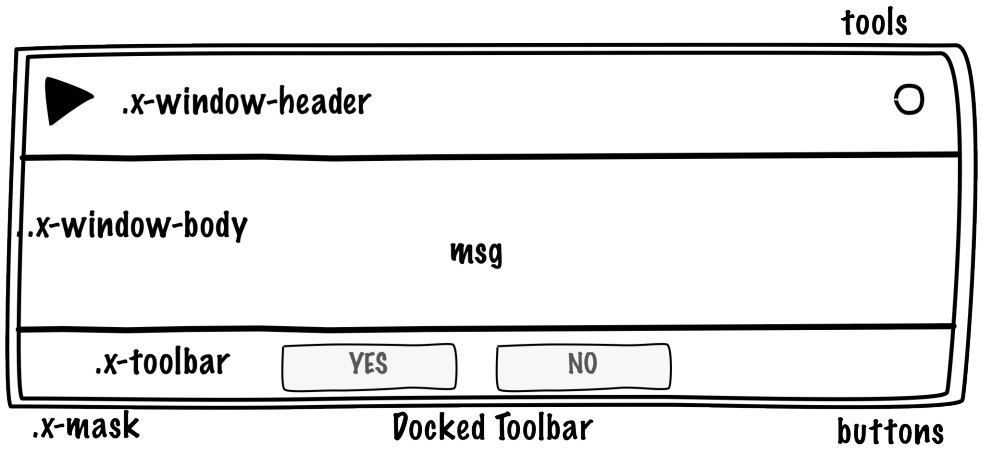
1.10.4. Specs

CSS Class: `.x-message-box`

Ext.window.MessageBox.confirm()

- `icon`

Figure 1.9. Ext.window.MessageBox.confirm()



http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.MessageBox

1.10.5. Example

Example 1.7. Example

```
Ext.Msg.confirm('Are you sure?',
   'Do you want to delete this widget?', function(btn, text){
   if(btn === 'yes'){
      Ext.Msg.alert('Deleted', 'The widget has been deleted');
   }
   else{
      Ext.Msg.alert('Not Deleted', 'The widget was not deleted');
   }
});
```

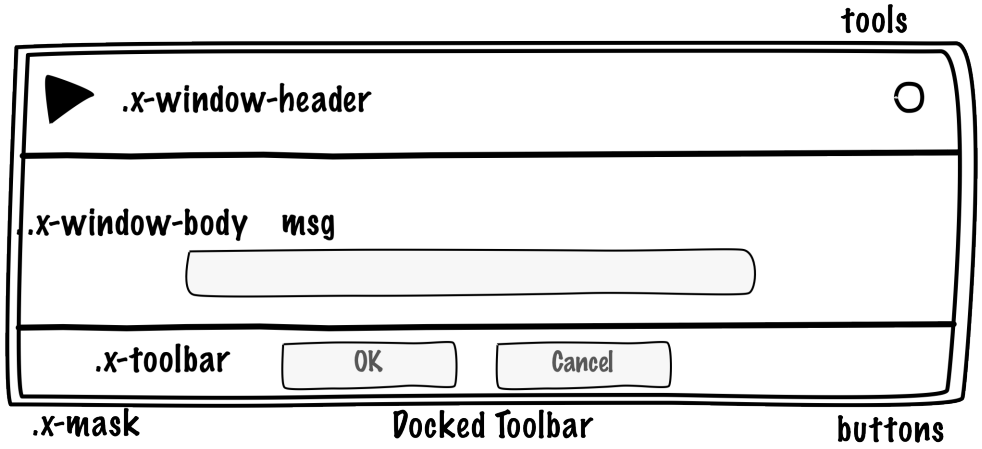
1.10.6. Specs

CSS Class: `.x-message-box`

Ext.window.MessageBox.prompt()

- `icons`

Figure 1.10. Ext.window.MessageBox.prompt()



http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.MessageBox

1.10.7. Example

Example 1.8. Example

```
Ext.Msg.prompt('Name', 'Please enter your name:', function(btn, text){
    var name = (btn === 'ok' && text.length) ? text : 'anonymous user';
    Ext.Msg.alert('Hello', 'Hello, ' + name + '!');
});
```

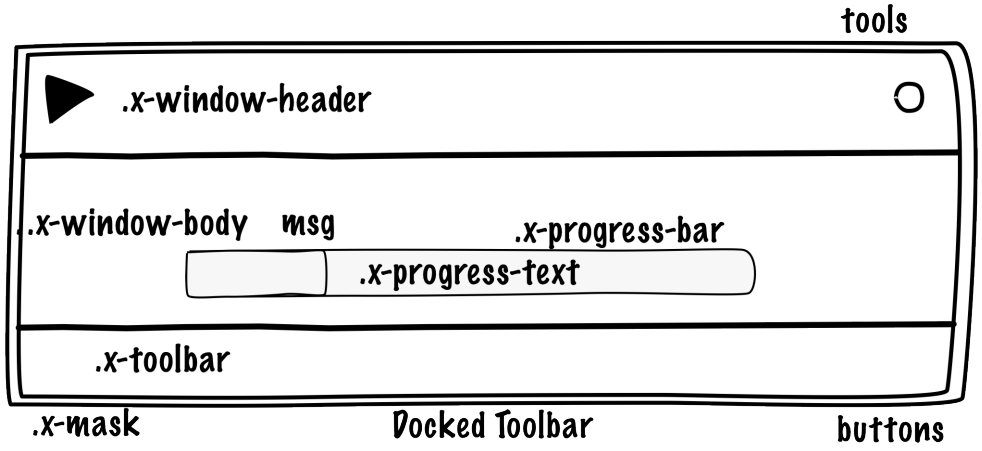
1.10.8. Specs

CSS Class: `.x-message-box`

Ext.window.MessageBox.progress()

- `icon`

Figure 1.11. Ext.window.MessageBox.progress()



http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.MessageBox

1.10.9. Example

Example 1.9. Example

```
Ext.Msg.progress('Processing', 'Please wait while we process your application...');

var update = function(percent){
    Ext.Msg.updateProgress(percent, Ext.util.Format.number((percent*100), '0% complete')
}
Ext.defer(update, 1000, null, [ .25]);
Ext.defer(update, 2000, null, [ .50]);
Ext.defer(update, 3000, null, [ .75]);
Ext.defer(update, 4000, null, [1.00]);
```

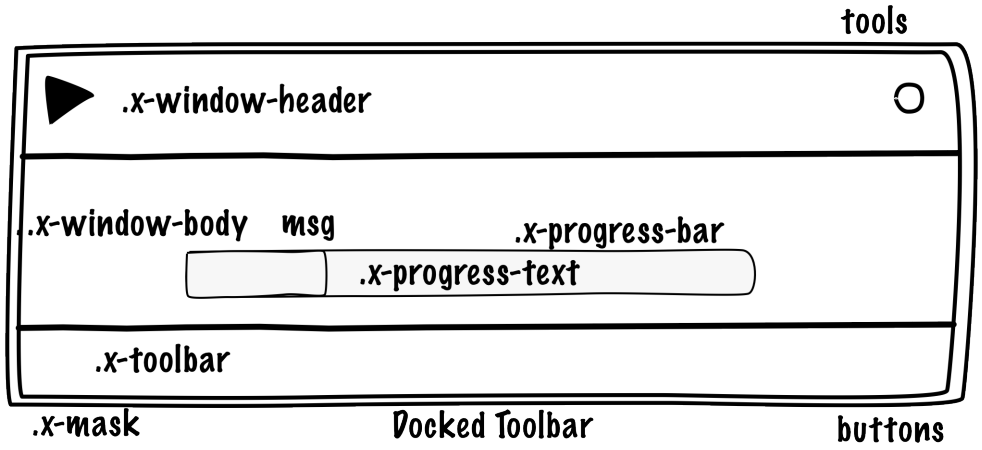
1.10.10. Specs

CSS Class: `.x-message-box`

Ext.window.MessageBox.wait()

- `icon`

Figure 1.12. Ext.window.MessageBox.progress()



http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.window.MessageBox

1.10.11. Example

Example 1.10. Example

```
var m = Ext.Msg.wait("Please wait while we process your application...", "Processing", {
   interval: 300, //bar will move fast!
   duration: 3000,
```

```
   increment: 10,
   text: 'Updating...',

   fn: function(){
      m.hide();
   }
});
```

1.11. Grids

1.11.1. What it is

For displaying a lot of (sortable) data. Like Microsoft Excel sheets, but all cells have the width of the column. This is because a grid in the DOM is in fact an HTML table.

1.11.2. Specs

CSS Class: `.x-grid`

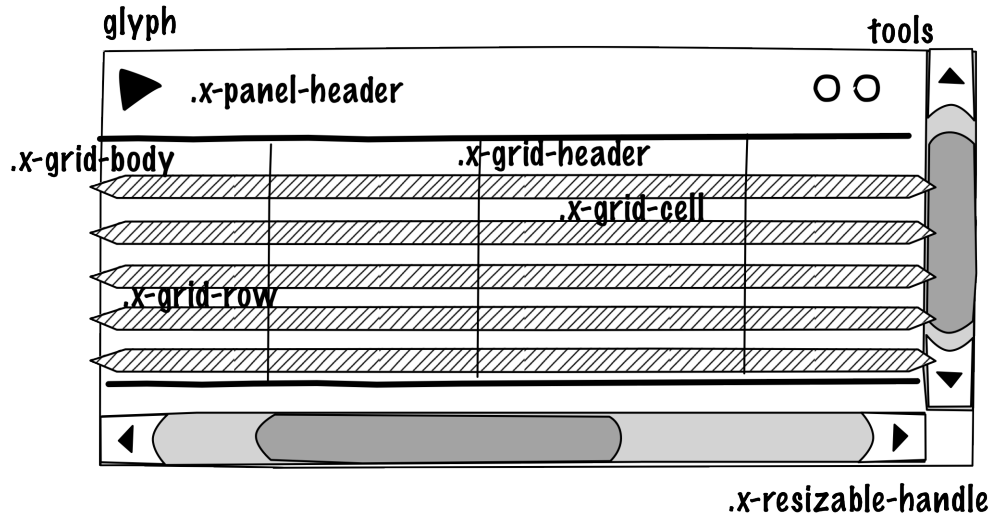
`Ext.grid.Panel`

Extends from `Ext.panel.Panel` & `Ext.panel.Table`

- Grid Header (`.x-grid-header`)
- Grid Body (`.x-grid-body`)
  - `rowLines` (true / false)
- Grid Column
  - `editor`
  - `emptyCellText`
  - `lockable`
  - `tooltip`
  - `text`
  - `tdCls`
- Grouping
- Summary
- Paging

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.grid.Panel

Figure 1.13. Ext.grid.Panel



1.11.3. Example

Example 1.11. Example

```
var store = Ext.create('Ext.data.Store', {
   fields:[
     {name: 'framework', type: 'string'},
     {name: 'rocks', type: 'boolean'}
   ],
   data: [
     { 'framework': "Ext JS 4", 'rocks': true  },
     { 'framework': "Sencha Touch", 'rocks': true  },
     { 'framework': "Ext GXT", 'rocks': true  },
     { 'framework': "Other Guys", 'rocks': false }
   ]
});

Ext.create('Ext.grid.Panel', {
    store: store,
    columns: [
        { text: 'Framework',  dataIndex: 'framework', flex: 1 },
        {

            xtype: 'booleancolumn',
            trueText: 'Yes',
            falseText: 'No',
            text: 'Rocks',
            dataIndex: 'rocks'
        }
    ],
    title: 'Frameworks',
    height: 200,
    width: 400,
    renderTo: Ext.getBody()
});
```

1.12. Trees

1.12.1. What it is

Like MS Windows Explorer or Mac OS X Finder, a Panel with a list of nodes and folders that can fold and unfold.

1.12.2. Specs

CSS Class: `.x-tree-panel`

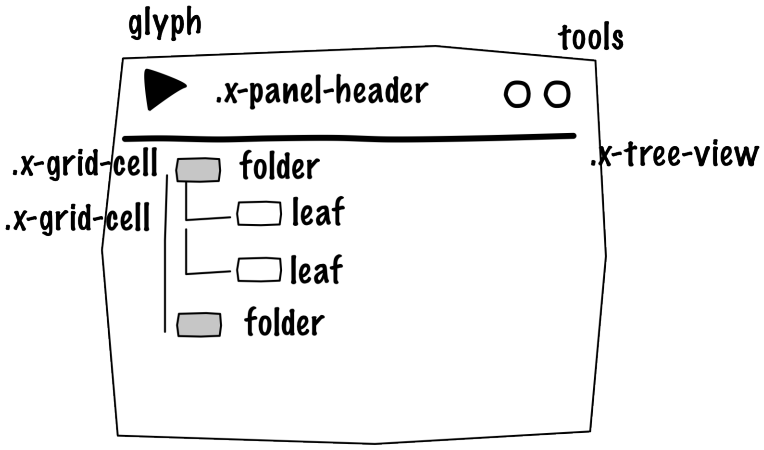
`Ext.tree.Panel`

Extends from `Ext.panel.Panel` & `Ext.panel.Table`

- Grid Header (`.x-grid-header`)
- Tree View (`.x-tree-view`)
  - Grid Cell (`.x-grid.cell`)
  - `lines`
  - `useArrows`
  - `animate`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.tree.Panel

Figure 1.14. Ext.tree.Panel



1.12.3. Example

Example 1.12. Example

```
var store = Ext.create('Ext.data.TreeStore', {
```

```
    root: {
        expanded: true,
        children: [
            { text: "detention", leaf: true },
            { text: "homework", expanded: true, children: [
                { text: "book report", leaf: true },
                { text: "algebra", leaf: true}
            ] },
            { text: "buy lottery tickets", leaf: true }
        ]
    }
});

Ext.create('Ext.tree.Panel', {
    title: 'Simple Tree',
    width: 200,
    height: 150,
    store: store,
    rootVisible: false,
    renderTo: Ext.getBody()
});
```

1.13. FormPanel

1.13.1. What it is

A panel that is required to hold form fields. Under the covers it has several mechanisms for sending and validating forms.

1.13.2. Specs

CSS Class: `.x-panel`

`Ext.form.Panel`

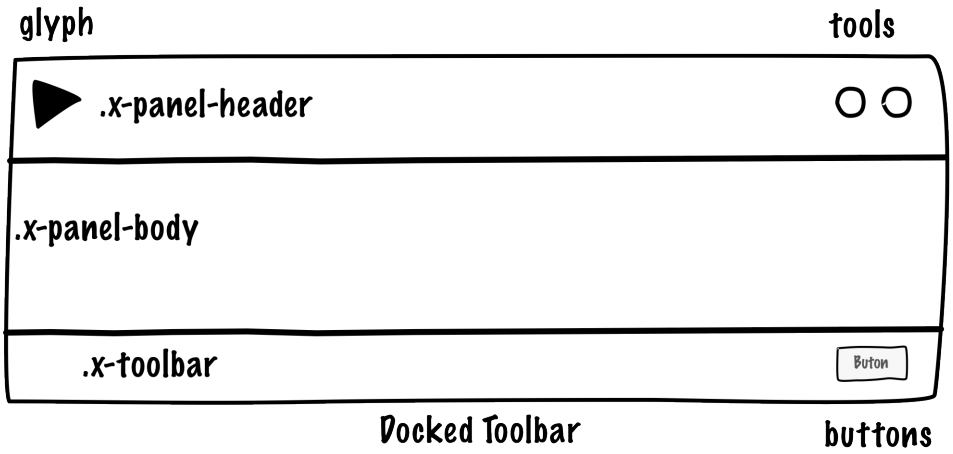
Extends from `Ext.panel.Panel`

- Panel Header (`.x-panel-header`)
  - `title`
  - `glyph`
  - `tools`
- Panel Body (`.x-panel-body`)
- (optional) Docked Toolbar (`.x-toolbar`)
  - `waitTitle`
  - `buttons`

- `height`
- `width`
- `margin`
- `padding`
- `bodyPadding`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.Panel

Figure 1.15. Ext.form.Panel



1.13.3. Example

Example 1.13. Example

```
Ext.create('Ext.form.Panel', {
    title: 'Simple Form',
    bodyPadding: 5,
    width: 350,

    // The form will submit an AJAX request to this URL when submitted
    url: 'save-form.php',

    // Fields will be arranged vertically, stretched to full width
    layout: 'anchor',
    defaults: {
        anchor: '100%'
    },

    // The fields
    defaultType: 'textfield',
    items: [{
        fieldLabel: 'First Name',
        name: 'first',
        allowBlank: false
    },{
```

```
        fieldLabel: 'Last Name',
        name: 'last',
        allowBlank: false
    }],

    // Reset and Submit buttons
    buttons: [{
        text: 'Reset',
        handler: function() {
            this.up('form').getForm().reset();
        }
    }, {
        text: 'Submit',
        formBind: true, //only enabled once the form is valid
        disabled: true,
        handler: function() {
            var form = this.up('form').getForm();
            if (form.isValid()) {
                form.submit({
                    success: function(form, action) {
                       Ext.Msg.alert('Success', action.result.msg);
                    },
                    failure: function(form, action) {
                        Ext.Msg.alert('Failed', action.result.msg);
                    }
                });
            }
        }
    }],
    renderTo: Ext.getBody()
});
```

1.14. Textfield

1.14.1. What it is

A plain form field for entering text.

But there is one important difference. A (text) field in Ext JS is the input field plus the label all together.

Under the hood all fields are little html tables. Where the label is the left `<td>`. The field is the 2nd `<td>`. Optionally the 3rd `<td>` contains a trigger button.

1.14.2. Specs

CSS Class: `.x-field-default` or `.x-form-type-text`

`Ext.form.field.Text`

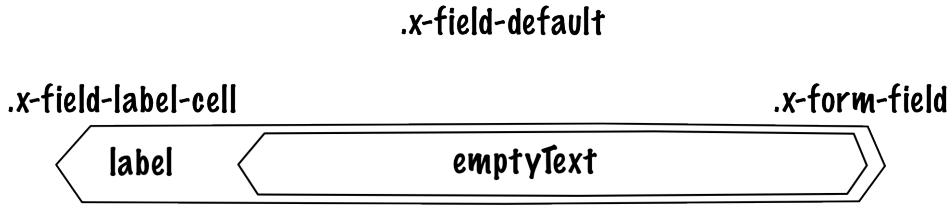
Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-type-text`)

- error (`.x-form-invalid`)
  - `size`
  - `grow`
  - `growMin`
  - `growMax`
  - `emptyText`
  - `minLength`
  - `maxLength`

http://http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Text-cfg-blankText

Figure 1.16. Ext.form.field.Text



1.14.3. Example

Example 1.14. Example

```
Ext.create('Ext.form.Panel', {
    title: 'Contact Info',
    width: 300,
    bodyPadding: 10,
    renderTo: Ext.getBody(),
    items: [{
        xtype: 'textfield',
        name: 'name',
        emptyText: "please enter name",
        fieldLabel: 'Name',
        allowBlank: false  // requires a non-empty value
    }]
});
```

1.15. Textarea

1.15.1. What it is

A text field for entering multiple rows of text. In addition, it supports automatically growing the height of the textarea to fit its content.

1.15.2. Specs

CSS Class: `.x-field-default` or `.x-form-type-text`

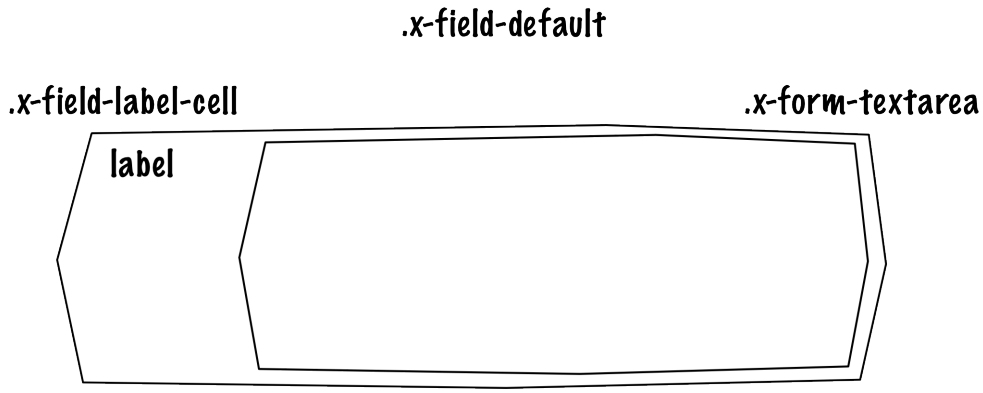
Ext.form.field.TextArea

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-type-text`)
- error (`.x-form-invalid`)
  - `rows`
  - `cols`
  - `growMin`
  - `growMax`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.TextArea

Figure 1.17. Ext.form.field.TextArea



1.15.3. Example

Example 1.15. Example

```
Ext.create('Ext.form.FormPanel', {
    title      : 'Sample TextArea',
    width      : 400,
    bodyPadding: 10,
    renderTo   : Ext.getBody(),
    items: [{
        xtype     : 'textareafield',
        grow      : true,
        name      : 'message',
        fieldLabel: 'Message',
```

```
        anchor    : '100%'
    }]
});
```

1.16. Combobox

1.16.1. What it is

A ComboBox control (is like a select dropdown) with support for autocomplete, remote loading, and many other features.

A ComboBox is like a combination of a traditional HTML text <input> field and a <select> field; the user is able to type freely into the field, and/or pick values from a dropdown selection list. The user can input any value by default, even if it does not appear in the selection list.

1.16.2. Specs

CSS Class: `.x-form-trigger-input-cell` (field), `.x-trigger-cell` (trigger) and `.x-boudlist` (list)

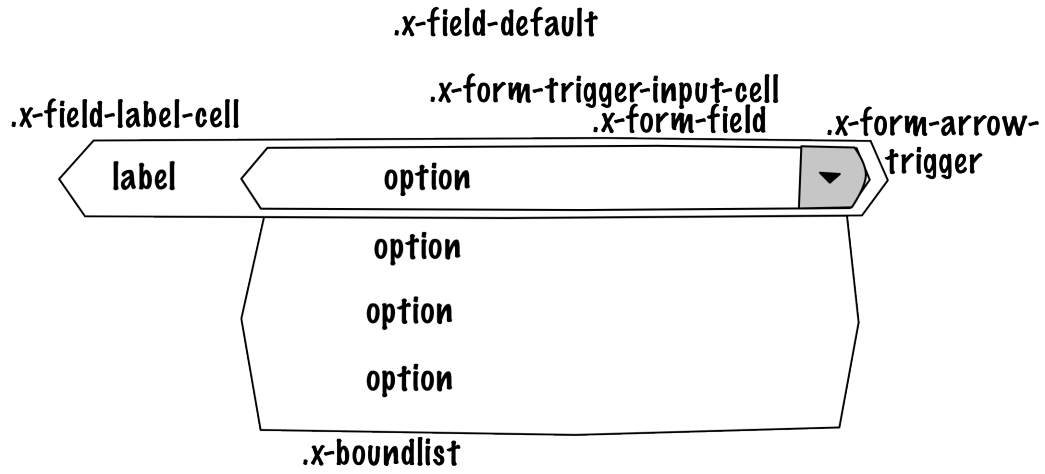
Ext.form.field.ComboBox

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-type-text`)
- error (`.x-form-invalid`)
  - `growToLongestValue`
- boundlist (`.x-boundlist`)
  - `multiSelect`
  - `typeAhead`
  - `typeAheadDelay`
- arrow trigger (`.x-form-arrow-trigger`)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.ComboBox

Figure 1.18. Ext.form.field.ComboBox



1.16.3. Example

Example 1.16. Example

```
// The data store containing the list of states
var states = Ext.create('Ext.data.Store', {
    fields: ['abbr', 'name'],
    data : [
        {"abbr":"AL", "name":"Alabama"},
        {"abbr":"AK", "name":"Alaska"},
        {"abbr":"AZ", "name":"Arizona"}
        //...
    ]
});

// Create the combo box, attached to the states data store
Ext.create('Ext.form.ComboBox', {
    fieldLabel: 'Choose State',
    store: states,
    queryMode: 'local',
    displayField: 'name',
    valueField: 'abbr',
    renderTo: Ext.getBody()
});
```

1.17. Checkbox

1.17.1. What it is

Single checkbox. To check one or more option boxes.

1.17.2. Specs

CSS Class: `.x-form-type-checkbox`

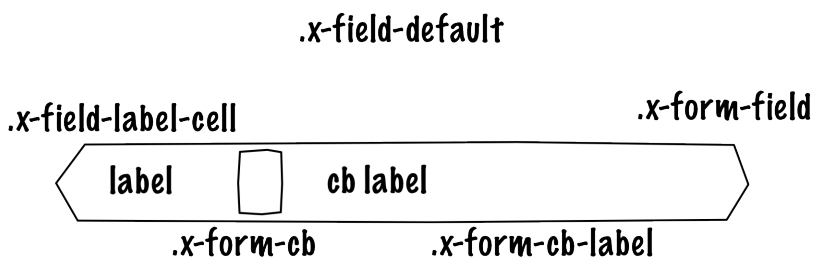
Ext.form.field.Checkbox

Extends from `Ext.form.field.Base`

- checkbox (`.x-form-type-checkbox`)
- checkbox wrapper (`.x-form-cb-wrap`)
- checkbox (`.x-form-cb`)
  - checked
  - checkedCls
  - fieldCls
- label (`.x-form-cb-label`)
  - afterBoxLabelTextTpl
  - beforeBoxLabelTextTpl
  - boxLabel
  - boxLabelAlign
  - boxLabelCls

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Checkbox

Figure 1.19. Ext.form.field.Checkbox



1.17.3. Example

Example 1.17. Example

```
Ext.create('Ext.form.Panel', {
```

```
    items: [
        {
            xtype: 'fieldcontainer',
            fieldLabel: 'Toppings',
            defaultType: 'checkboxfield',
            items: [
                {
                    boxLabel  : 'Anchovies',
                    name      : 'topping',
                    inputValue: '1',
                    id        : 'checkbox1'
                }, {
                    boxLabel  : 'Artichoke Hearts',
                    name      : 'topping',
                    inputValue: '2',
                    checked   : true,
                    id        : 'checkbox2'
                }, {
                    boxLabel  : 'Bacon',
                    name      : 'topping',
                    inputValue: '3',
                    id        : 'checkbox3'
                }
            ]
        }
    ],
    renderTo: Ext.getBody()
});
```

1.18. Radio

1.18.1. What it is

Single radio field. Similar to checkbox but pick only one option field.

1.18.2. Specs

CSS Class: `.x-form-type-radio`

Ext.form.field.Radio

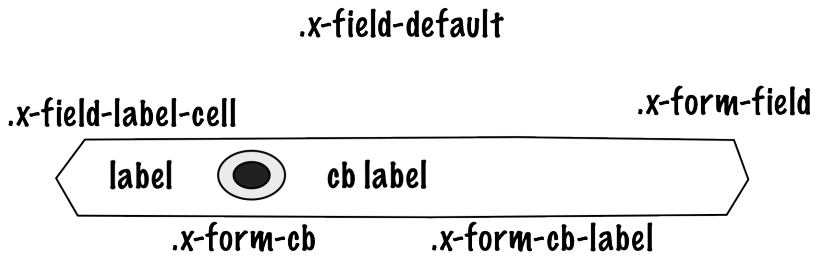
Extends from `Ext.form.field.Base` and `Ext.form.field.CheckBox`

- checkbox (`.x-form-type-radio`)
- checkbox wrapper (`.x-form-cb-wrap`)
- checkbox (`.x-form-cb`)
  - checked
  - checkedCls

    - fieldCls
- label (`.x-form-cb-label`)
    - afterBoxLabelTextTpl
    - beforeBoxLabelTextTpl
    - boxLabel
    - boxLabelAlign
    - boxLabelCls

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Radio

Figure 1.20. Ext.form.field.Radio



1.18.3. Example

Example 1.18. Example

```
Ext.create('Ext.form.Panel', {
    title      : 'Order Form',
    width      : 300,
    bodyPadding: 10,
    renderTo   : Ext.getBody(),
    items: [
        {
            xtype      : 'fieldcontainer',
            fieldLabel : 'Size',
            defaultType: 'radiofield',
            defaults: {
                flex: 1
            },
            layout: 'hbox',
            items: [
                {
                    boxLabel  : 'M',
                    name      : 'size',
                    inputValue: 'm',
                    id        : 'radio1'
                }, {
                    boxLabel  : 'L',
                    name      : 'size',
```

```
                    inputValue: 'l',
                    id        : 'radio2'
                }, {
                    boxLabel  : 'XL',
                    name      : 'size',
                    inputValue: 'xl',
                    id        : 'radio3'
                }
            ]
        }

    ]
});
```

1.19. Datefield

1.19.1. What it is

Provides a date input field with a date picker dropdown and automatic date validation.

1.19.2. Specs

CSS Class: `.x-form-trigger-input-cell` (field), `.x-trigger-cell` (trigger) and `.x-datepicker` (calendar)

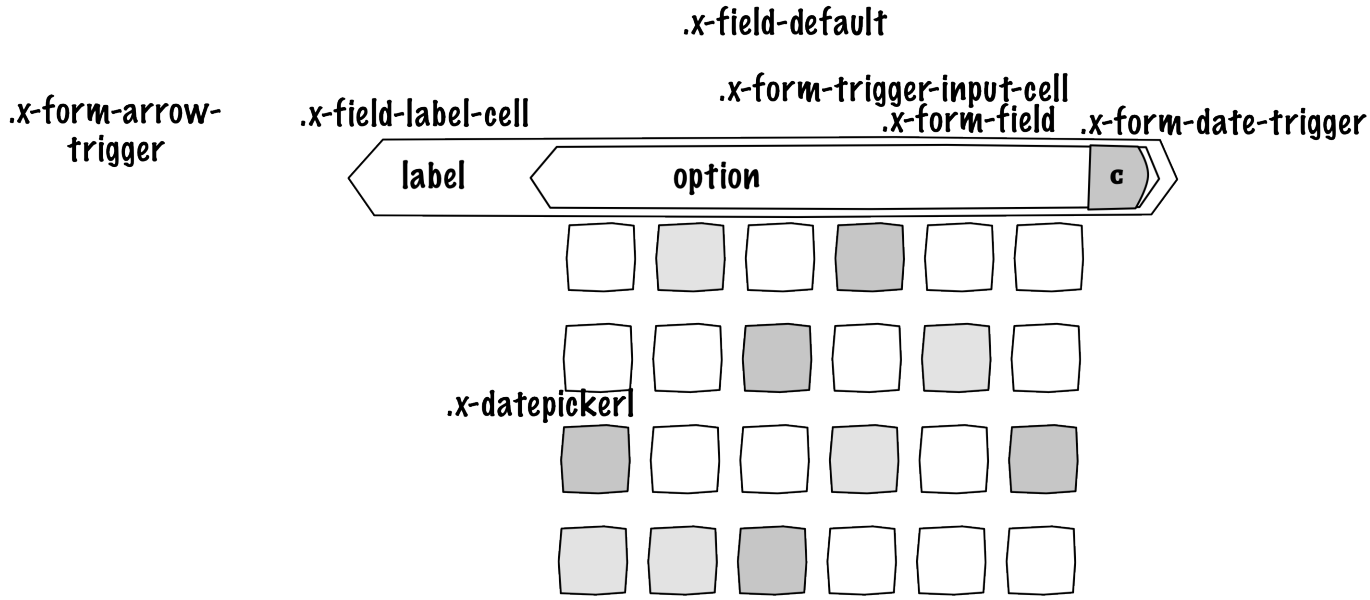
Ext.form.field.Date

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-type-text`)
- date trigger (`.x-form-date-trigger`)
- calendar (`.x-datapicker`)
  - `showToday`
  - `startDay`
  - `matchFieldWidth`
  - `altFormats`
  - `disabledDates`
  - `disabledDays`
  - `format`

http://http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Date

Figure 1.21. Ext.form.field.Date



1.19.3. Example

Example 1.19. Example

```
Ext.create('Ext.form.Panel', {
    renderTo: Ext.getBody(),
    width: 300,
    bodyPadding: 10,
    title: 'Dates',
    items: [{
        xtype: 'datefield',
        anchor: '100%',
        fieldLabel: 'To',
        name: 'to_date',
        value: new Date()  // defaults to today
    }]
});
```

1.20. Displayfield

1.20.1. What it is

A display-only text field which is not validated and not submitted. This is useful for when you want to display a value from a form’s loaded data but do not want to allow the user to edit or submit that value.

1.20.2. Specs

CSS Class: `.x-field-default` or `.x-form-readonly`

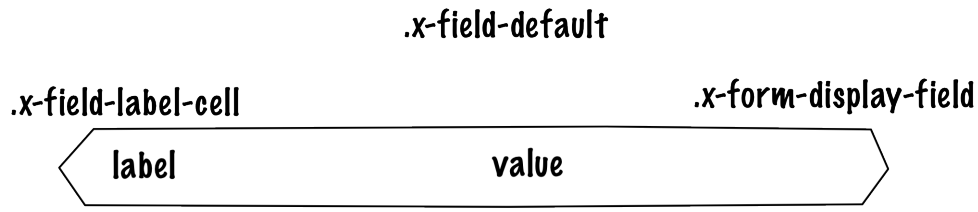
Ext.form.field.Display

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-readonly`)
  - `htmlEncode`
  - `fieldCls+`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Display

Figure 1.22. Ext.form.field.Display



1.20.3. Example

Example 1.20. Example

```
Ext.create('Ext.form.Panel', {
    renderTo: Ext.getBody(),
    items: [{
        xtype: 'displayfield',
        fieldLabel: 'Home',
        name: 'home_score',
        value: '10'
    }]
});
```

1.21. Fileupload

1.21.1. What it is

A file upload field which has custom styling and allows control over the button text and other features of text fields like empty text. It uses a hidden file input element behind the scenes to allow user selection of a file and to perform the actual upload during form submit.

1.21.2. Specs

CSS Class: `.x-field-default` or `.x-form-readonly`

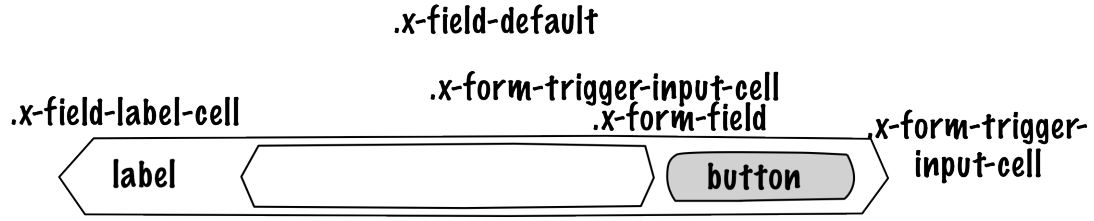
Ext.form.field.File

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-readonly`)
- trigger button (`.x-form-trigger-input-cell`)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.File

Figure 1.23. Ext.form.field.File



1.21.3. Example

Example 1.21. Example

```
Ext.create('Ext.form.Panel', {
    renderTo: Ext.getBody(),
    items: [{
        xtype: 'filefield',
        name: 'photo',
        fieldLabel: 'Photo',
        labelWidth: 50,
        msgTarget: 'side',
        allowBlank: false,
        anchor: '100%',
        buttonText: 'Select Photo...'
    }]
});
```

1.22. Numberfield

1.22.1. What it is

A numeric text field that provides automatic keystroke filtering to disallow non-numeric characters, and numeric validation to limit the value to a range of valid numbers. The range of acceptable number values can be controlled by setting the minValue and maxValue configs, and fractional decimals can be disallowed by setting allowDecimals to false.

1.22.2. Specs

CSS Class: `.x-field-default` or `.x-form-type-text`

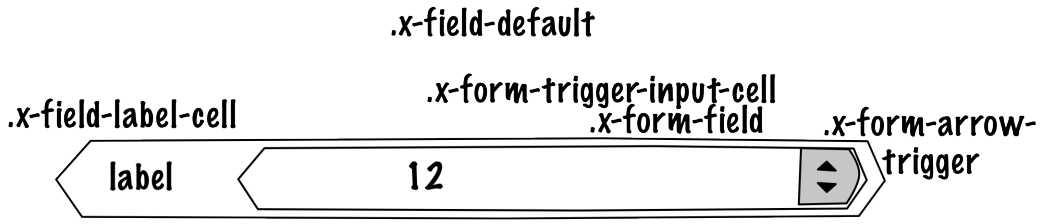
Ext.form.field.Number

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-readonly`)
  - `minValue`
  - `maxValue`
- trigger button (`.x-form-trigger`)
  - `hideTrigger`
  - `keyNavEnabled`
  - `mouseWheelEnabled`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Number

Figure 1.24. Ext.form.field.Number



1.22.3. Example

Example 1.22. Example

```
Ext.create('Ext.form.Panel', {
    renderTo: Ext.getBody(),
    items: [{
        xtype: 'numberfield',
        anchor: '100%',
        name: 'bottles',
        fieldLabel: 'Bottles of Beer',
        value: 99,
        maxValue: 99,
        minValue: 0
    }]
});
```

1.23. Spinnerfield

1.23.1. What it is

A field with a pair of up/down spinner buttons. This class is not normally instantiated directly, instead it is subclassed and the onSpinUp and onSpinDown methods are implemented to handle when the buttons are clicked. A good example of this is the Ext.form.field.Number field which uses the spinner to increment and decrement the field's value by its step config value.

1.23.2. Specs

CSS Class: `.x-field-default` or `.x-form-type-text`

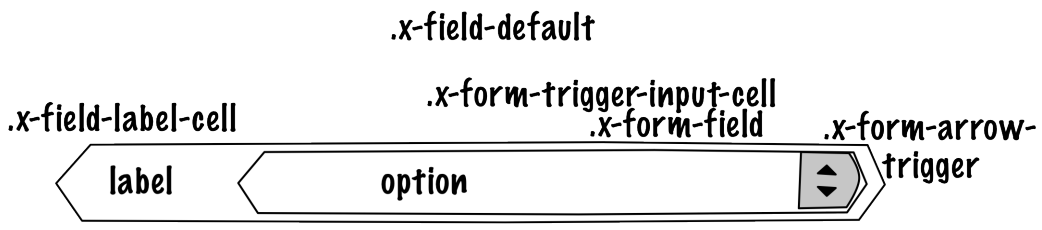
Ext.form.field.Spinner

Extends from `Ext.form.field.Base`

- formfield (`.x-field-default` or `.x-form-readonly`)
  - `spinDownEnabled`
  - `spinUpEnabled`
- trigger button (`.x-form-trigger`)
  - `hideTrigger`
  - `keyNavEnabled`
  - `mouseWheelEnabled`

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Spinner

Figure 1.25. Ext.form.field.Spinner



1.23.3. Example

Example 1.23. Example

```
Ext.define('Ext.ux.CustomSpinner', {
    extend: 'Ext.form.field.Spinner',
```

```
    alias: 'widget.customspinner',

    // override onSpinUp (using step isn't neccessary)
    onSpinUp: function() {
        var me = this;
        if (!me.readOnly) {
            var val = parseInt(me.getValue().split(' '), 10)||0; // gets rid of " Pack",
            me.setValue((val + me.step) + ' Pack');
        }
    },

    // override onSpinDown
    onSpinDown: function() {
        var me = this;
        if (!me.readOnly) {
           var val = parseInt(me.getValue().split(' '), 10)||0; // gets rid of " Pack", (
           if (val <= me.step) {
               me.setValue('Dry!');
           } else {
               me.setValue((val - me.step) + ' Pack');
           }
        }
    }
});

Ext.create('Ext.form.FormPanel', {
    renderTo: Ext.getBody(),
    items:[{
        xtype: 'customspinner',
        fieldLabel: 'How Much Beer?',
        step: 6
    }]
});
```

1.24. Timefield

1.24.1. What it is

Provides a time input field with a time dropdown and automatic time validation.

1.24.2. Specs

CSS Class: `.x-form-trigger-input-cell` (field), `.x-trigger-cell` (trigger) and `.x-boudlist` (list)

Ext.form.field.Time

Extends from `Ext.form.field.Base`

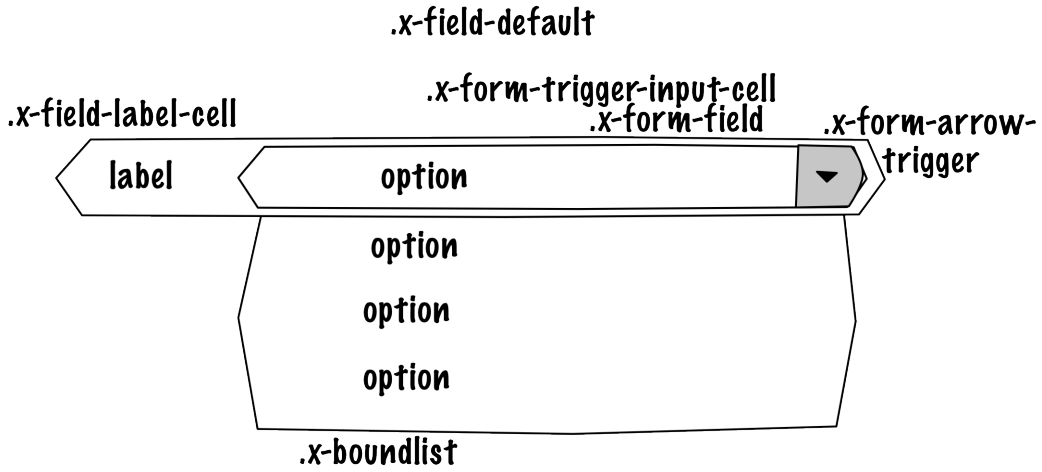
- formfield (`.x-field-default` or `.x-form-type-text`)
- boundlist (`.x-boundlist`)

- `increment`
- `format`
- `pickerMaxHeight`

- arrow trigger (`.x-form-arrow-trigger`)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.Time

Figure 1.26. Ext.form.field.ComboBox



1.24.3. Example

Example 1.24. Example

```
Ext.create('Ext.form.Panel', {
    renderTo: Ext.getBody(),
    items: [{
        xtype: 'timefield',
        name: 'in',
        fieldLabel: 'Time In',
        minValue: '6:00 AM',
        maxValue: '8:00 PM',
        increment: 30,
        anchor: '100%'
    }]
});
```

1.25. Slider

1.25.1. What it is

Slider which supports vertical or horizontal orientation, keyboard adjustments, configurable snapping, axis clicking and animation. Can be added as an item to any container.

1.25.2. Specs

CSS Class: `.x-slider`

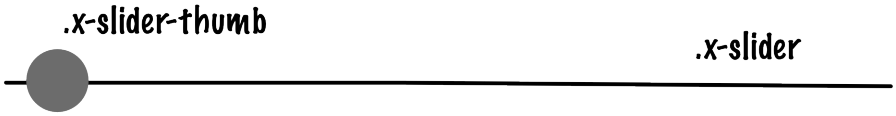
Ext.slider.Single

Extends from `Ext.form.field.Base`

- slider (`.x-slider`)
- slider thumb (`.x-slider-thumb`)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.slider.Single

Figure 1.27. Ext.slider.Slider



1.25.3. Example

Example 1.25. Example

```
Ext.create('Ext.slider.Single', {
    width: 200,
    value: 50,
    increment: 10,
    minValue: 0,
    maxValue: 100,
    renderTo: Ext.getBody()
});
```

1.26. Multi Slider

1.26.1. What it is

Slider with multiple thumbs which supports vertical or horizontal orientation, keyboard adjustments, configurable snapping, axis clicking and animation. Can be added as an item to any container.

1.26.2. Specs

CSS Class: Ext.slider.Multi

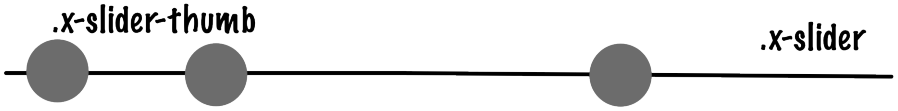
Ext.slider.Multi

Extends from `Ext.form.field.Base`

- slider (`.x-slider`)
- slider thumb (`.x-slider-thumb`)

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.slider.Multi

Figure 1.28. Ext.slider.Multi



1.26.3. Example

Example 1.26. Example

```
Ext.create('Ext.slider.Multi', {
    width: 200,
    values: [25, 50, 75],
    increment: 5,
    minValue: 0,
    maxValue: 100,

    // this defaults to true, setting to false allows the thumbs to pass each other
    constrainThumbs: false,
    renderTo: Ext.getBody()
});
```

1.27. HTML Editor

1.27.1. What it is

Provides a lightweight HTML Editor component. Some toolbar features are not supported by Safari and will be automatically hidden when needed. These are noted in the config options where appropriate.

1.27.2. Specs

CSS Class: `.x-html-editor-container`

Ext.form.field.HtmlEditor

Extends from `Ext.form.field.Base`

- editor (`x-html-editor-container`)
  - enableAlignments
  - enableColors

- enableFont
- enableFontSize
- enableFormat
- enableLinks
- enableLists
- enableSourceEdit
- fontFamilies

http://docs.sencha.com/extjs/4.2.2/#!/api/Ext.form.field.HtmlEditor

1.27.3. Example

Example 1.27. Example

```
Ext.create('Ext.form.HtmlEditor', {
    width: 580,
    height: 250,
    renderTo: Ext.getBody()
});
```

Chapter 2. Overview layout system

2.1. Objectives

- Get familiar with the Ext layout system
- Review important layout specs
- Preview Ext layouts

2.2. Hbox

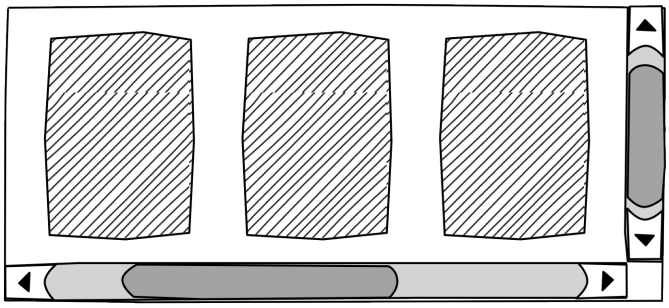
2.2.1. What’s it?

A light weight horizontal box layout. This layout optionally divides available horizontal space between child items containing a numeric flex configuration.

2.2.2. Specs

Class: `Ext.layout.container.HBox` (`layout:hbox`)

Figure 2.1. Horizontal Box layout



See also http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.HBox

2.2.3. Example

Example 2.1. Example

```
Ext.create('Ext.panel.Panel', {

    layout : {
        type: 'hbox',
        align: 'middle',
        pack : 'end'
    },

    defaults: {
```

```
        style: 'background: red',
        margin: 5,
        xtype: 'container',
        width: 50,
        height: 50
    },
    items : [ {
        html : 'Panel One'
    }, {
        html : 'Panel Two'
    }, {
        html : 'Panel Three'
    } ],

    height : 300,
    width : 500,
    renderTo : Ext.getBody()
});
```

2.2.4. Height and Width

It’s actually not so common to set height and widths on panels. Because of different screensizes, you rather have your layouts flexible.

2.2.5. Flex

To create dynamic (flexible) widths.

Let’s say, if you have a container. And the left panel takes up 25% height. And the right panel takes up 75%. (that’s together 100%). In this case, we could say 25% is one 1/4 And 75% is 3/4. So 1 + 3 = 4.

In that case the left panel would have `flex: 1`. The right panel would have `flex: 3`.

2.2.6. Example

This example first deducts 100px from the total 100%. Then it calculates the flexes.

```
Ext.create('Ext.panel.Panel', {

    layout : {
        type: 'hbox',
        align: 'middle',
        pack : 'end'
    },

    defaults: {
        style: 'background: red',
        margin: 5,
        xtype: 'container',
    },
    items : [ {
        html : 'Panel Left',
        flex: 1
    }, {
```

```
        html : 'Panel Two'
        width: 100
    }, {
        html : 'Panel Three',
        flex: 3
    } ],

    height : 300,
    width : 500,
    renderTo : Ext.getBody()
});
```

Align

Vertical alignment * `align` (defaults to *top*)

`top` : child items are aligned vertically at the top of the container. `middle` : child items are aligned vertically in the middle of the container. `bottom` : child items are aligned vertically at the bottom of the container. `stretch` : child items are stretched vertically to fill the height of the container. `stretchmax` : child items are stretched vertically to the height of the largest item.

Pack

Horizontal alignment * `align` (defaults to *start*)

`start` : child items are packed together at the left side of container. `center` : child items are packed together at mid-width of container. `end` : child items are packed together at right side of container. === Vbox

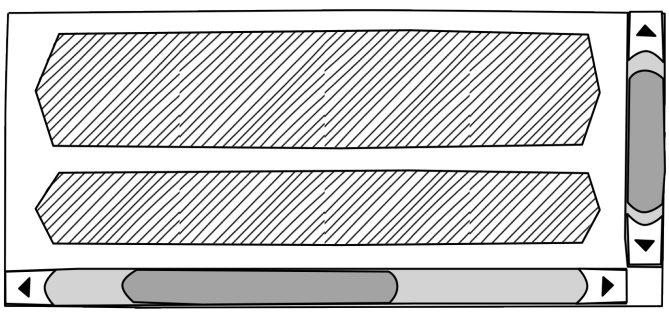
2.2.7. What's it?

A light weight vertical box layout. This layout optionally divides available vertical space between child items containing a numeric flex configuration.

2.2.8. Specs

Class: `Ext.layout.container.VBox` (`layout:vbox`)

Figure 2.2. Vertical Box layout



http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.VBox

2.2.9. Example

Example 2.2. Example vbox layout

```
Ext.create('Ext.panel.Panel', {

    layout : {
        type: 'vbox',
        align: 'center',
        pack : 'end'
    },

    defaults: {
        style: 'background: red',
        margin: 5,
        xtype: 'container',
        width: 200,
        height: 50
    },
    items : [ {
        html : 'Panel One'
    }, {
        html : 'Panel Two'
    }, {
        html : 'Panel Three'
    } ],

    height : 300,
    width : 500,
    renderTo : Ext.getBody()
});
```

Example 2.3. Example

```
Ext.create('Ext.Panel', {
    width: 500,
    height: 300,
    layout: {
        type: 'vbox',
        align: 'stretch'
    },
    renderTo: document.body,
    defaults: {
        style: 'background: red',
        margin: 5
    },
    items: [{
        xtype: 'container',
        flex: 2
    },{
        xtype: 'container',
        flex: 1
    },{
        xtype: 'container',
        flex: 1
    }]
});
```

Align

Horizontal alignment. * `align` (defaults to *left*)

`left` : child items are aligned horizontally at the left of the container. `center` : child items are aligned horizontally at the mid-width of the container. `right` : child items are aligned horizontally at the right of the container. `stretch` : child items are stretched horizontally to fill the width of the container. `stretchmax` : child items are stretched horizontally to the width of the largest item.

Pack

Vertical alignment. * `pack` (defaults to *start*)

`start` : child items are packed together at the top of container. `center` : child items are packed together at mid-height of container. `end` : child items are packed together at bottom of container. === Border

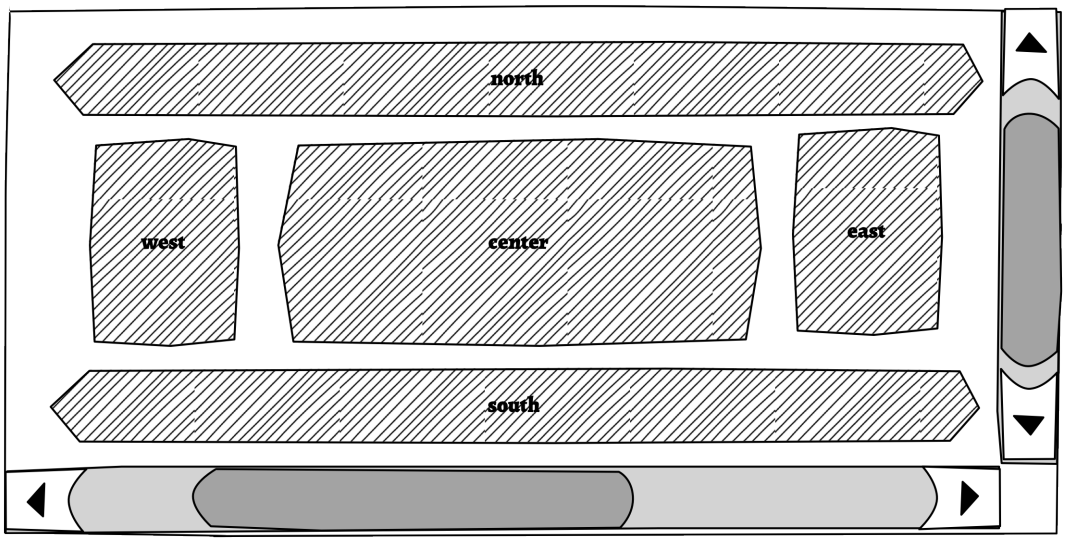
2.2.10. What's it?

This is a multi-pane, application-oriented UI layout style that supports multiple nested panels, automatic bars between regions and built-in expanding and collapsing of regions.

2.2.11. Specs

Class: `Ext.layout.container.Border` (`layout:border`)

Figure 2.3. Border layout



See also http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.Border

2.2.12. Example

Example 2.4. Example

```
Ext.create('Ext.panel.Panel', {
    layout : 'border',
```

```
    items : [ {
        title : 'West',
        region : 'west',
        width : 60
    }, {
        title : 'East',
        region : 'east',
        width : 60
    }, {
        title : 'South',
        region : 'south',
        height : 60
    }, {
        title : 'North',
        region : 'north',
        height : 60
    }, {
        title : 'Center',
        region : 'center'
    } ],

    title : 'Border Layout Panel',
    defaults : {margin : 4},
    bodyPadding : 8,
    height : 300, width : 600,
    renderTo : Ext.getBody()
});
```

How it works

Border layouts are designed to layout child panels. There is a primary center child, and other children relative to the center.

Children may be at the `west`, `north`, `east` or `south`, specified via `region` on each child. A center child is required; the other positions are optional.

Resizing Children

Child panels may be resized by tagging them with `split : true`.

When using the split option, the layout will automatically insert a `Ext.resizer.Splitter` into the appropriate place. This will modify the underlying items collection in the container.

```
Ext.create('Ext.panel.Panel', {

    layout : 'border',

    items : [ {
        title : 'West (resizable)',
        region : 'west',
        split : true,
        width : 100
    }, {
        title : 'East',
        region : 'east',
        width : 60
    }, {
        title : 'South (resizable)',
```

```
        region : 'south',
        split : true,
        height : 60
    }, {
        title : 'North',
        region : 'north',
        height : 60
    }, {
        title : 'Center',
        region : 'center'
    } ],

    title : 'Border Layout Panel',
    bodyPadding : 8,
    height : 340, width : 600,
    renderTo : Ext.getBody()
});
```

Collapsible childeren

Adjacent panels resize properly when child panels are collapsed. Furthermore, you can specify `collapseMode : mini` to have the panel fully collapse and hide its header.

```
Ext.create('Ext.panel.Panel', {

    layout : 'border',

    items : [ {
        title : 'North',
        region : 'north',

        collapsible : true,

        height : 80
    }, {
        title : 'South (collapseMode : \'mini\')',
        region : 'south',

        collapsible : true,
        collapseMode : 'mini',

        height : 80
    }, {
        title : 'Center',
        region : 'center'
    } ],

    title : 'Border Layout Panel',
    bodyPadding : 8,
    height : 340, width : 400,
    renderTo : Ext.getBody()
});
```

Weights

The region weight determine the priority / weight of each column. (You can compare this with HTML tables, where you could set rowspan and colspan, to stretch out columns or rows (although these layouts are of course no tables.)

It works a bit like in CSS where you have Z-index. An element with a greater stack order is always in front of element with a lower stack order. Who is the boss of the spot. There is just one spot. – And you stack on top of each other.

Now with a border layout, you have to check who is the boss over one of the 4 spots. The four spots are the corners.

WN – N – NE W - C - E WS - S - SE

```
Ext.create('Ext.panel.Panel', {
    layout : 'border',
    items : [ {
        title : 'West',
        region : 'west',
        width : 60
    }, {
        title : 'East',
        region : 'east',
        width : 60,
        weight: 20
    }, {
        title : 'South',
        region : 'south',
        height : 60,
        weight: 10
    }, {
        title : 'North',
        region : 'north',
        height : 60,
        weight: 30
    }, {
        title : 'Center',
        region : 'center',
    } ],

    title : 'Weight Test',
    defaults : {margin : 4},
    bodyPadding : 8,
    height : 300, width : 600,
    renderTo : Ext.getBody()
});
```

2.3. Fit

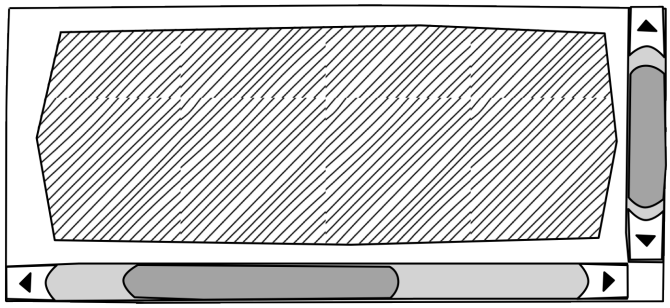
2.3.1. What’s it?

A layout that can only be used for containers that contain one single item. It will automatically expand to fill the full layout container.

2.3.2. Specs

Class: `http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.Fit` (`layout: fit`)

Figure 2.4. Fit layout



See also http://docs.sencha.com/extjs/4.2.1/#!/api/TODO

2.3.3. Example

Example 2.5. Example

```
Ext.create('Ext.panel.Panel', {
    height: 300,
    width: 300,
    bodyPadding: 10,

    layout : 'fit',
    items : [{
        xtype : 'component',
        style : {'background-color' : 'red'}
    }],
    renderTo: Ext.getBody()
});
```

2.4. Card

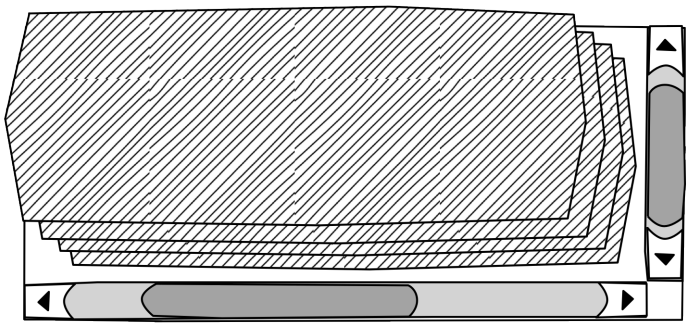
2.4.1. What’s it?

This layout manages multiple child Components, each fitted to the Container, where only a single child Component can be visible at any given time. This layout style is most commonly used for wizards, tab implementations, etc.

2.4.2. Specs

Class: `Ext.layout.container.Card` (`layout:card`)

Figure 2.5. Card layout



See also http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.Card

2.4.3. Example

Example 2.6. Example

```
Ext.create('Ext.panel.Panel', {

    layout : 'card',

    items : [ {
        style: 'background: red'
    }, {
        style: 'background: green'
    }, {
        style: 'background: blue'
    } ],
    buttons : [ {
        text : '<',
        handler : function(b) {
            b.up('panel').getLayout().prev();
        }
    }, {
        text : '>',
        handler : function(b) {
            b.up('panel').getLayout().next();
        }
    } ],

    bodyPadding : 5,
    defaults : {
        xtype: 'component'
    },
    height : 200,
    width : 200,
    renderTo : Ext.getBody()

});
```

2.4.4. How it works

Since only one panel is displayed at a time, the only way to move from one Component to the next is by calling `setActiveItem()` on the layout of the Container, passing the next panel to display (or its

id or index). The layout itself does not provide a user interface for handling this navigation, so that functionality must be provided by the developer.

2.5. Anchor

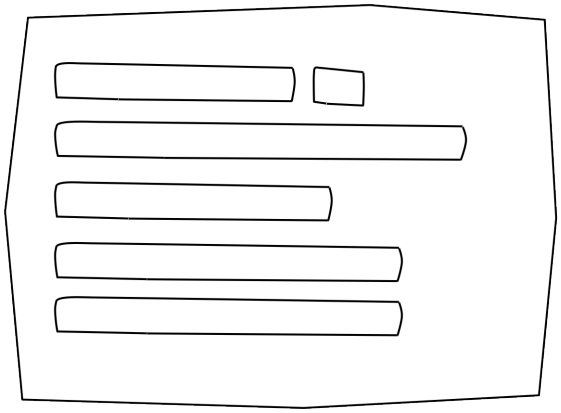
2.5.1. What's it?

A layout mostly used in forms. With the anchor layout you can specify the width and heights per field in percentages relative to the container's dimensions.

2.5.2. Specs

Class: `Ext.layout.container.Anchor` (`layout:anchor`)

Figure 2.6. Anchor layout



See also: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.Anchor

2.5.3. Example

Example 2.7. Example anchor layout

```
Ext.create('Ext.form.Panel', {
    title: 'Form Panel with anchor layout',
    bodyPadding: 5,
    width: 350,

    layout: 'anchor',
    defaults: {
        anchor: '100%'
    },

    defaultType: 'textfield',
    items: [{
        fieldLabel: 'First Name',
        name: 'first',
        allowBlank: false,
        anchor: '70%'
    },{
```

```
        fieldLabel: 'Last Name',
        name: 'last',
        allowBlank: false
    },
    {
        fieldLabel: 'Age',
        name: 'age',
        allowBlank: false,
        anchor: '40%'
    }],
    renderTo: Ext.getBody()
});
```

How it works

Specify one String where the first percentage points to the width (relative to the container's dimensions) and the second percentage to the height.

It is possible to enter pixels. A negative pixel value will deduct the amount of pixels from the 100% container height or width. A positive pixel value will add it on top of the 100% (which usually don't make sense). === Column

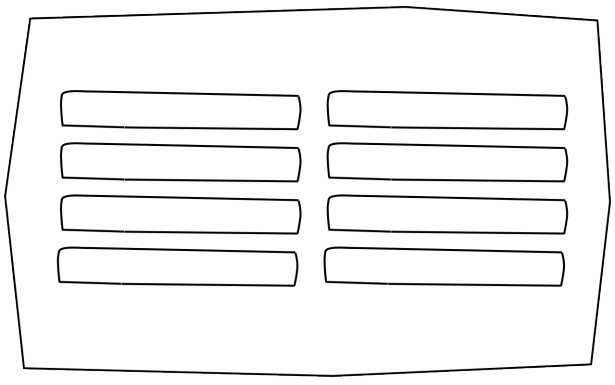
2.5.4. What's it?

Another layout that's mostly used in forms to create columns. It's possible to define a `columnWidth` per container item.

2.5.5. Specs

Class: `Ext.layout.container.Column` (`layout:column`)

Figure 2.7. Anchor column



See also http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.layout.container.Column

2.5.6. Example

Example 2.8. Example

```
Ext.create('Ext.form.Panel', {
```

```
    title: 'Column Layout',
    bodyPadding: 8,
    labelWidth: 80,
    width: 550,
    layout:'column',
    defaults:{
        xtype: 'textfield',
        padding: 3,
        columnWidth: 0.33,   //change this to 0.33
    },
    items: [{
        fieldLabel: 'First Name',
    },{
        fieldLabel: 'Middle Name',
    },{
        fieldLabel: 'Last Name',
    },{
        fieldLabel: 'Nick Name',
    }, {
        fieldLabel: 'Age'
    },
    {
        fieldLabel: 'Phone'
    }],
    renderTo: Ext.getBody()
});
```

How it works

ColumnWidth values map percentages but needs to be specified as values between 0 to 1. Ext will automatically calculate columns, from left to right. Keep in mind, that paddings are included within each width.

Chapter 3. Overview of all out of the box themes

3.1. Objectives

- Learn theming inheritance
- Overview out of the box themes
- How to switch themes

3.2. Themes are packages

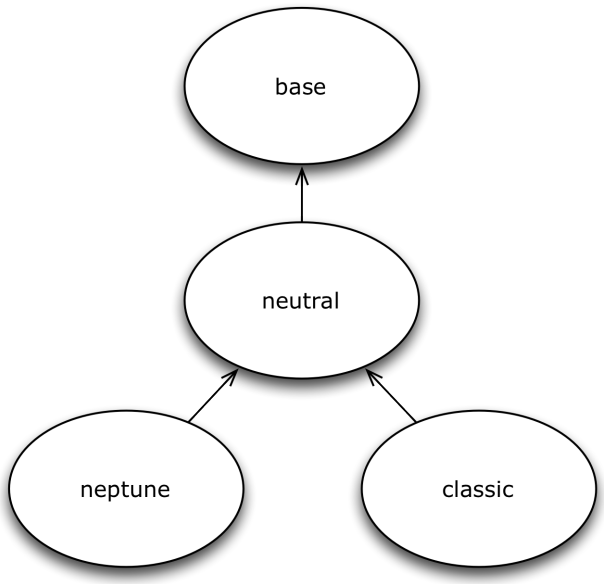
In Ext JS 4.2, themes, plugins and locales are packages.

Since themes are packages, you can share the themes with other applications.

3.3. Theme Inheritance

A theme always extends from the base theme. The base theme defines basic things like the layout.

Figure 3.1. Inheritance tree



3.4. Overview Themes

3.4.1. Base Theme

When creating your own theme, you typically wouldn’t extend from Base, although it is possible.

When you extend from Base, you have to style every Ext JS component yourself. It will cost you more time but the result is that you have a fully custom theme.

It contains the bare minimum set of CSS rules that are absolutely required for Ext JS Components and Layouts to work correctly.

The **Base** Theme is subclassed by all other themes.

3.4.2. Neutral Theme

Contains all the Sencha variables and style rules used by the custom themes.

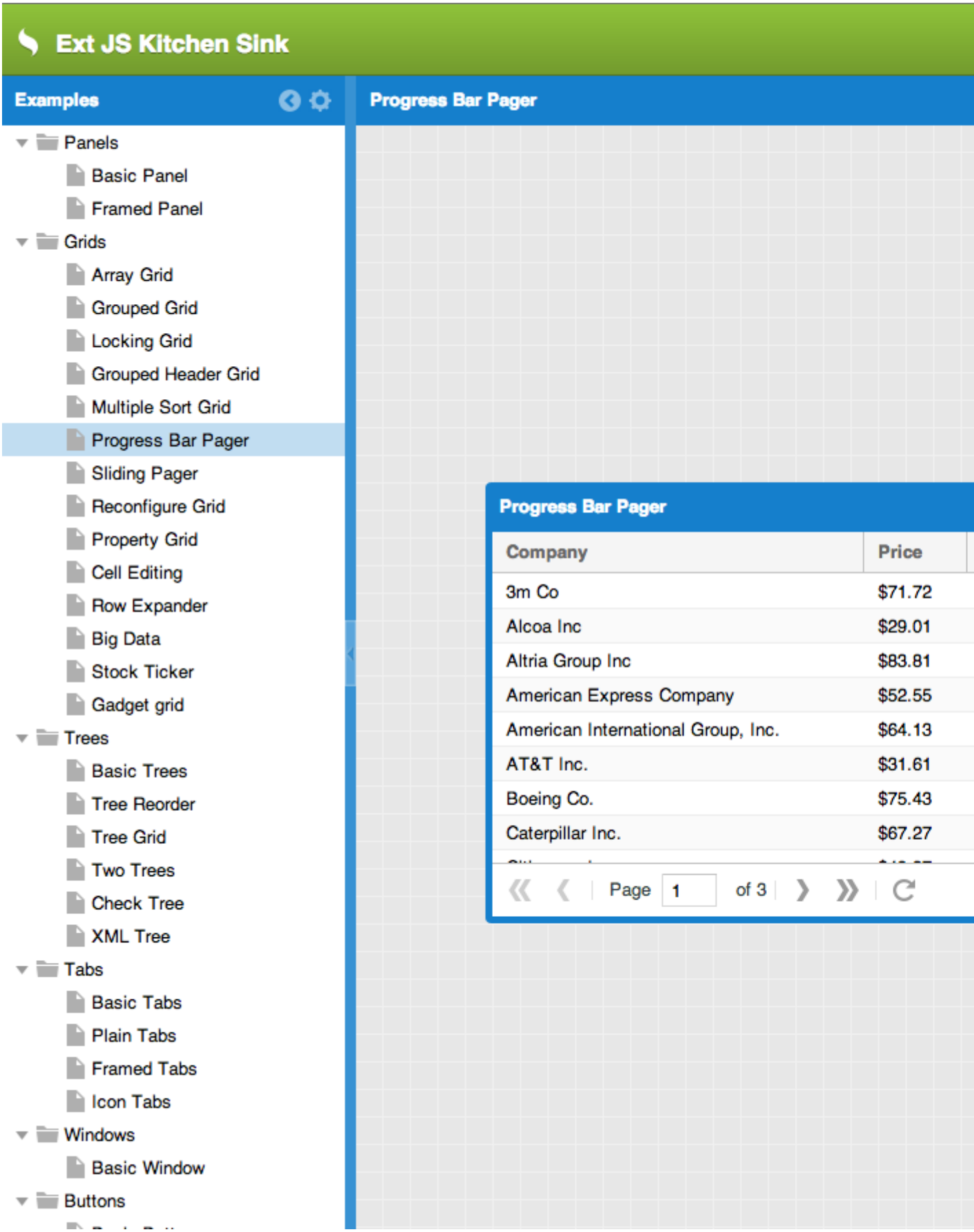
The Neutral theme extends from the **Base** theme.

3.4.3. Neptune Theme

Modern borderless theme.

The Neptune theme extends form the **Neutral** theme.

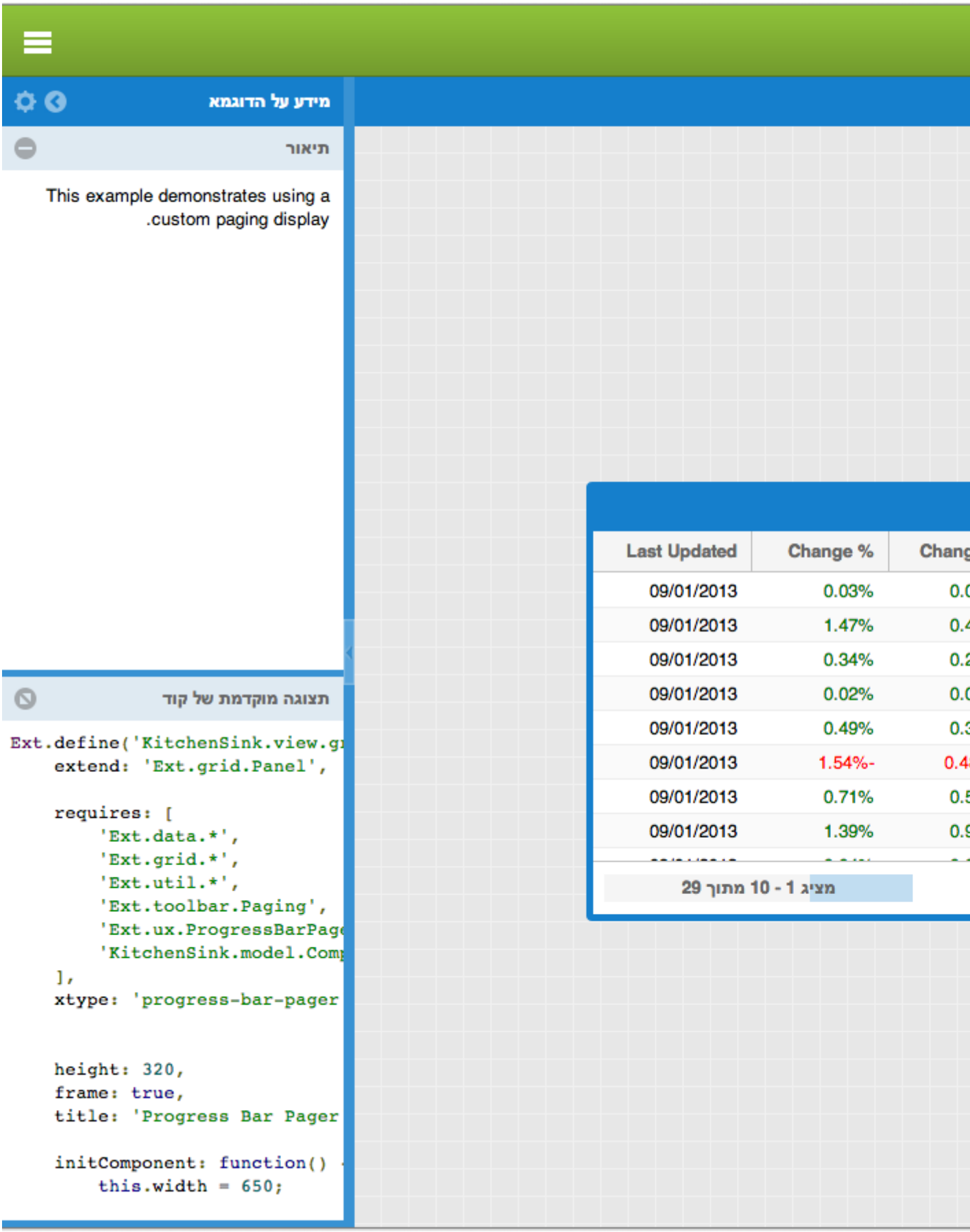
Figure 3.2. Neptune theme



3.4.4. Neptune RTL Theme Example

Text from right to left, support.

Figure 3.3. Neptune RTL theme

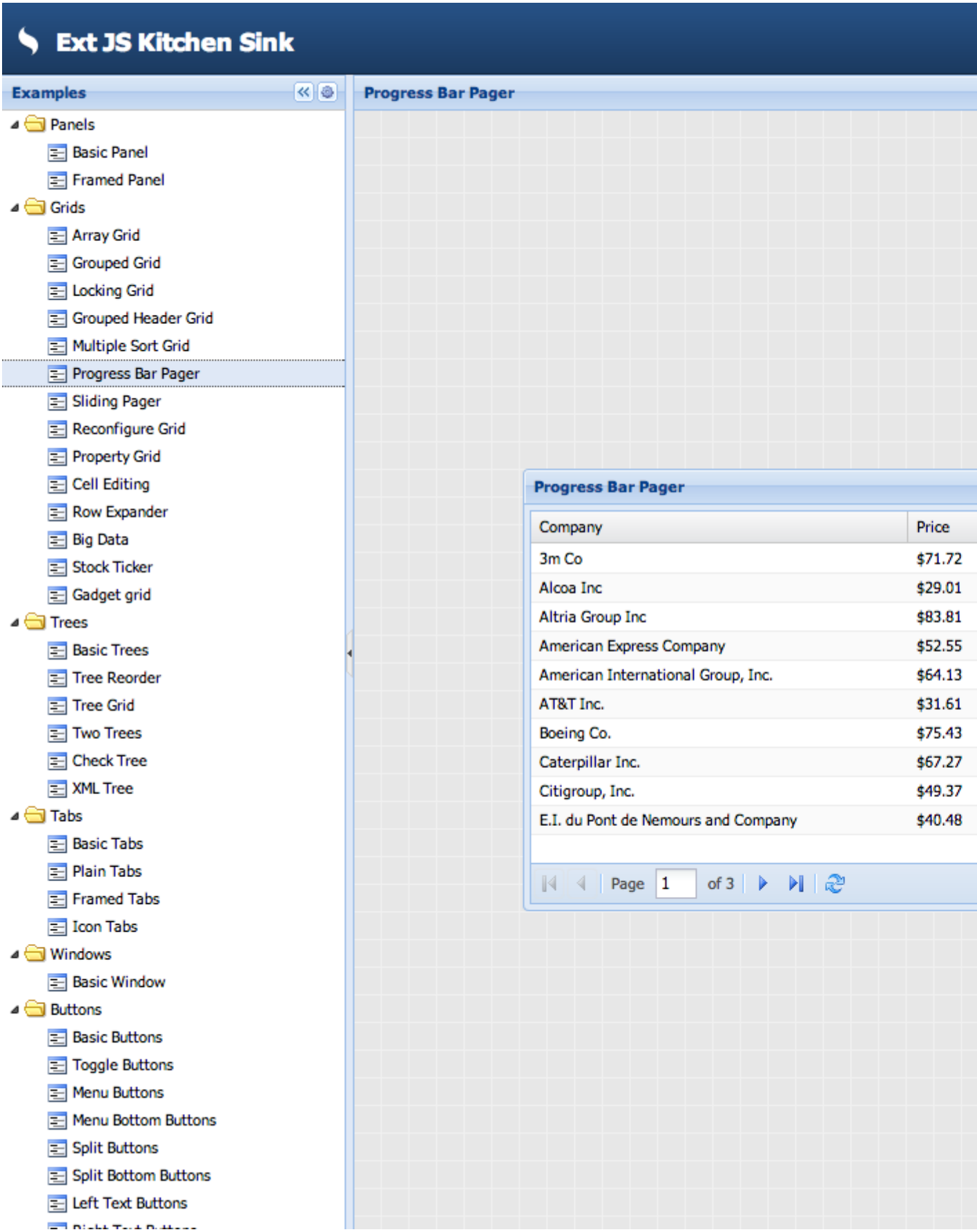


3.4.5. Classic Theme

Classic theme, replica of the old Ext 3 theme.

The Classic theme also extends form the **Neutral** theme.

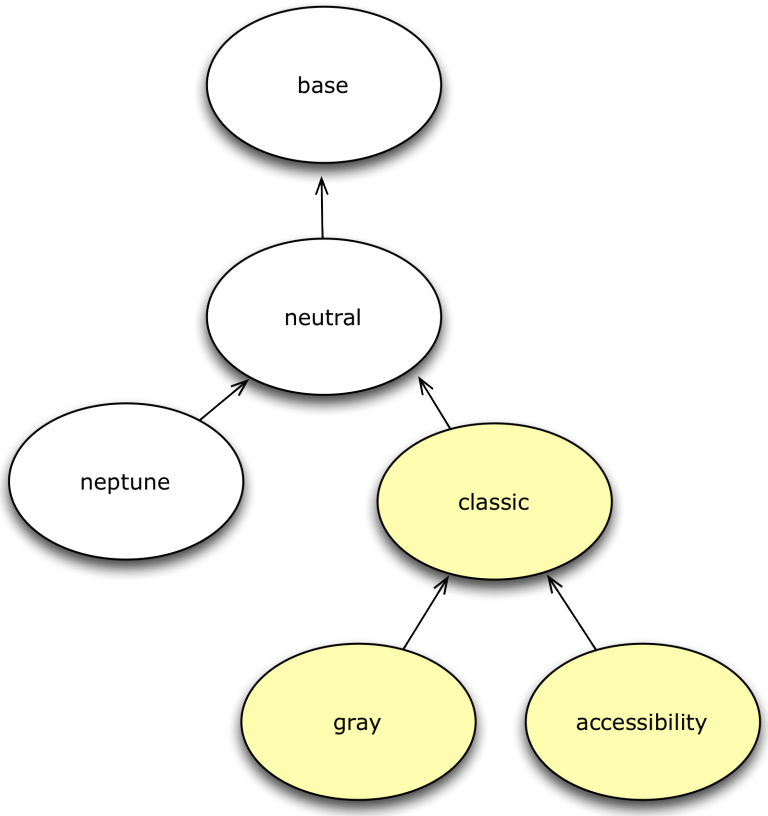
Figure 3.4. Classic theme



3.4.6. Classic Themes

Two other themes, gray and accessibility, extend from the classic theme.

Figure 3.5. Inheritance tree

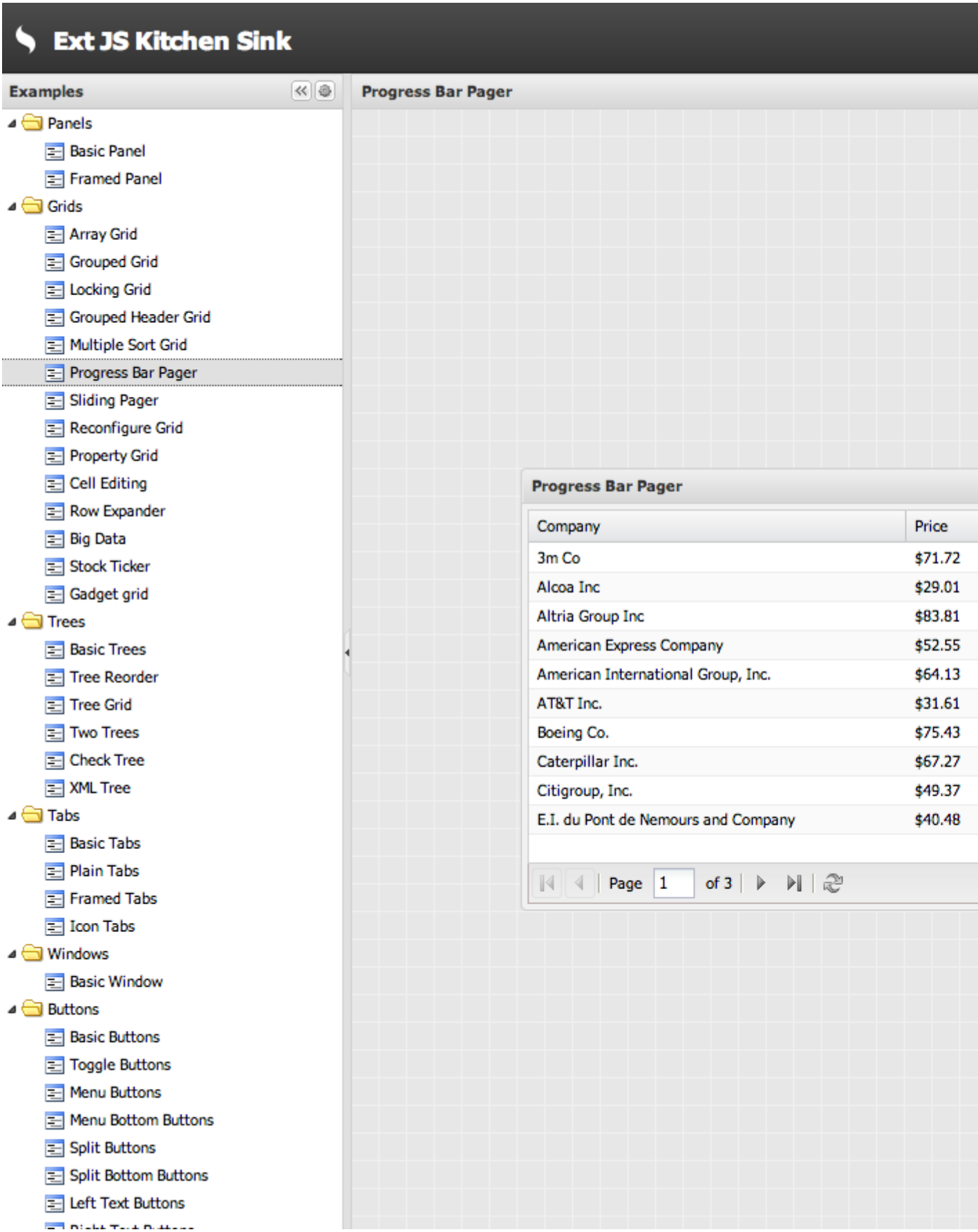


3.4.7. Gray Theme

Classic theme with a gray base color.

The Gray theme extends from the **Classic** theme.

Figure 3.6. Gray theme

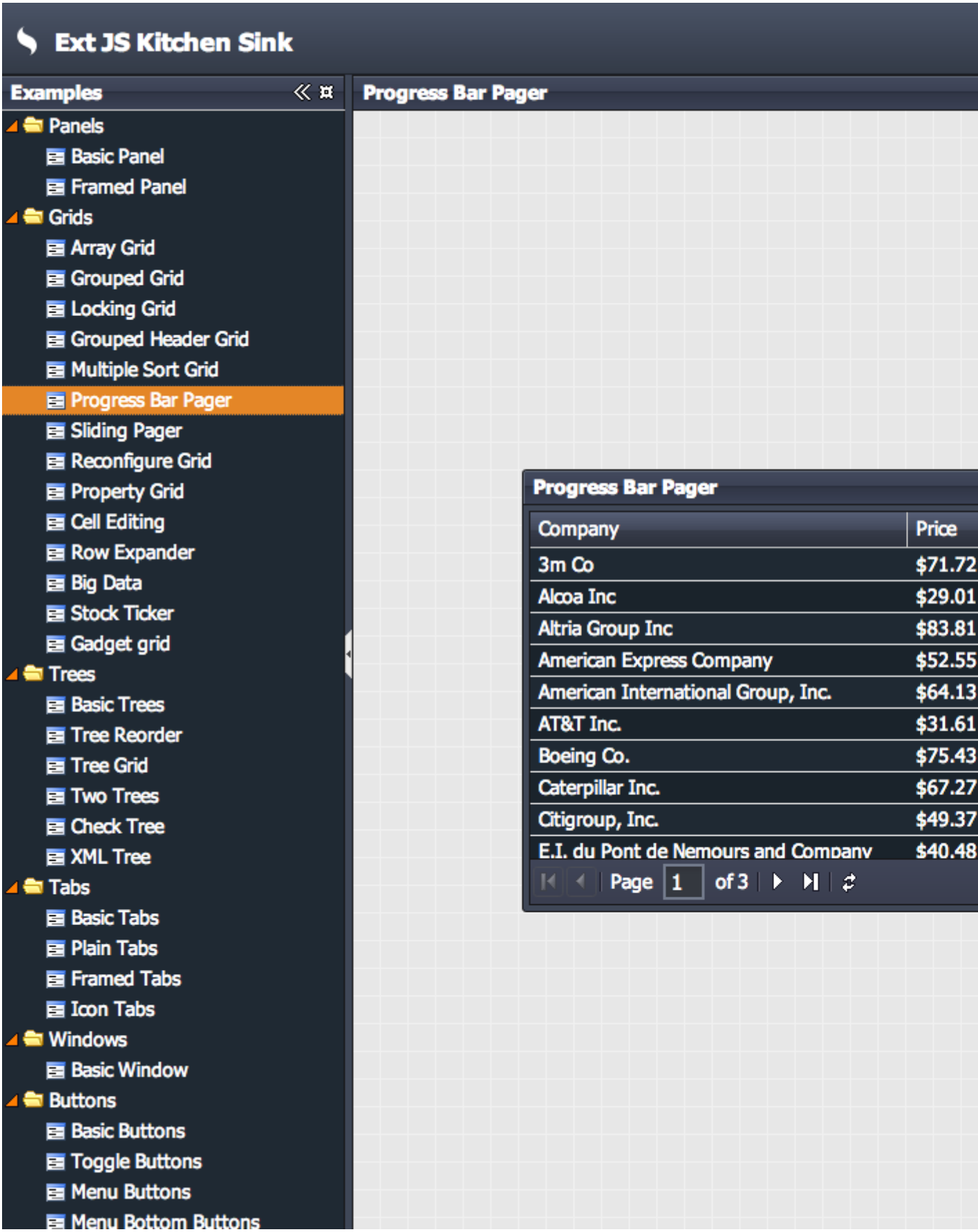


3.4.8. Accessibility Theme

Classic theme optimized for accessibility.

The Accessibility theme extends from the **Classic** theme.

Figure 3.7. Accessibility theme

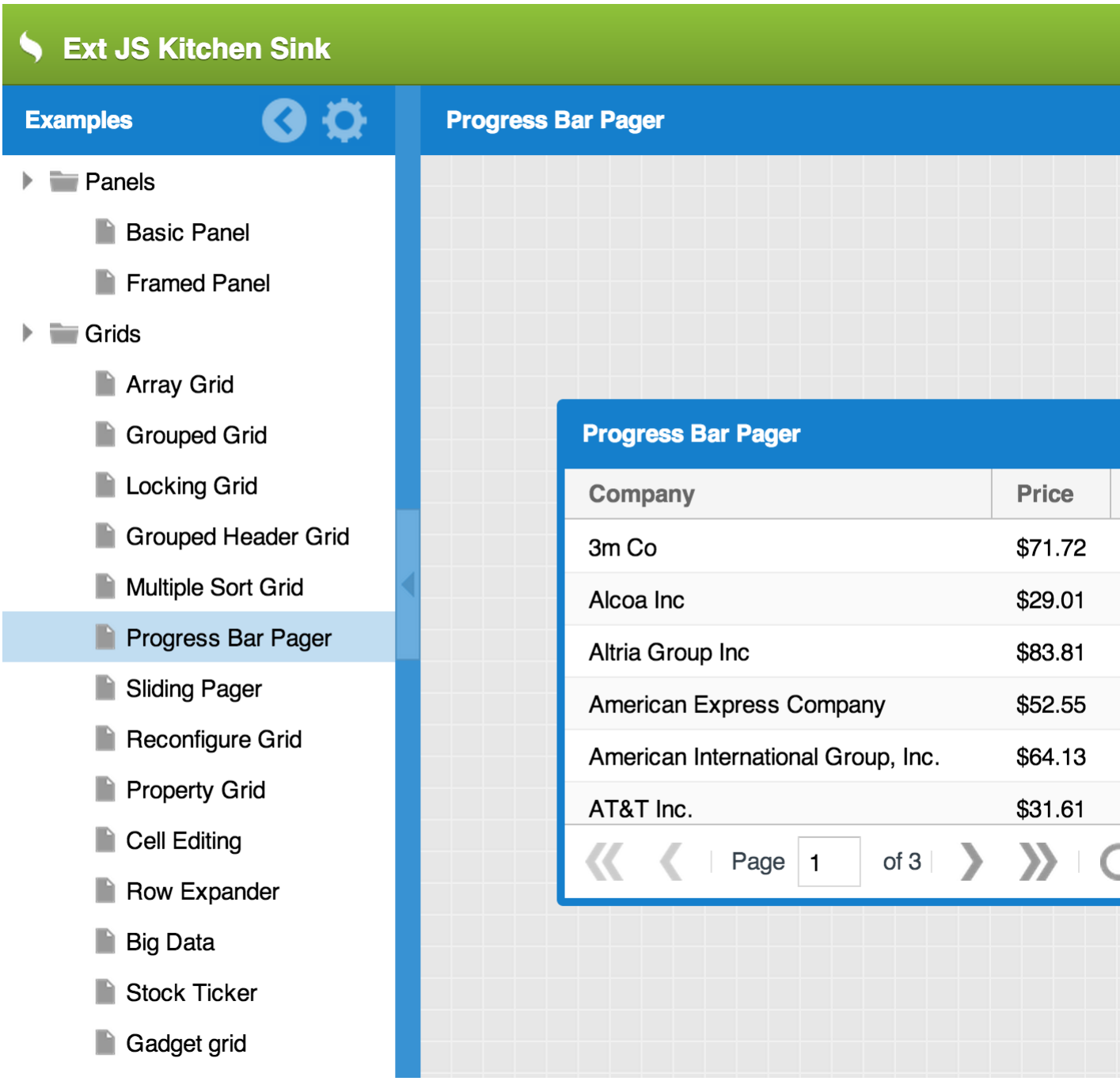


3.4.9. FUTURE: Neptune Touch Theme

Comming soon.

Touch support. (for example, icons are bigger)

Figure 3.8. Neptune Touch Theme

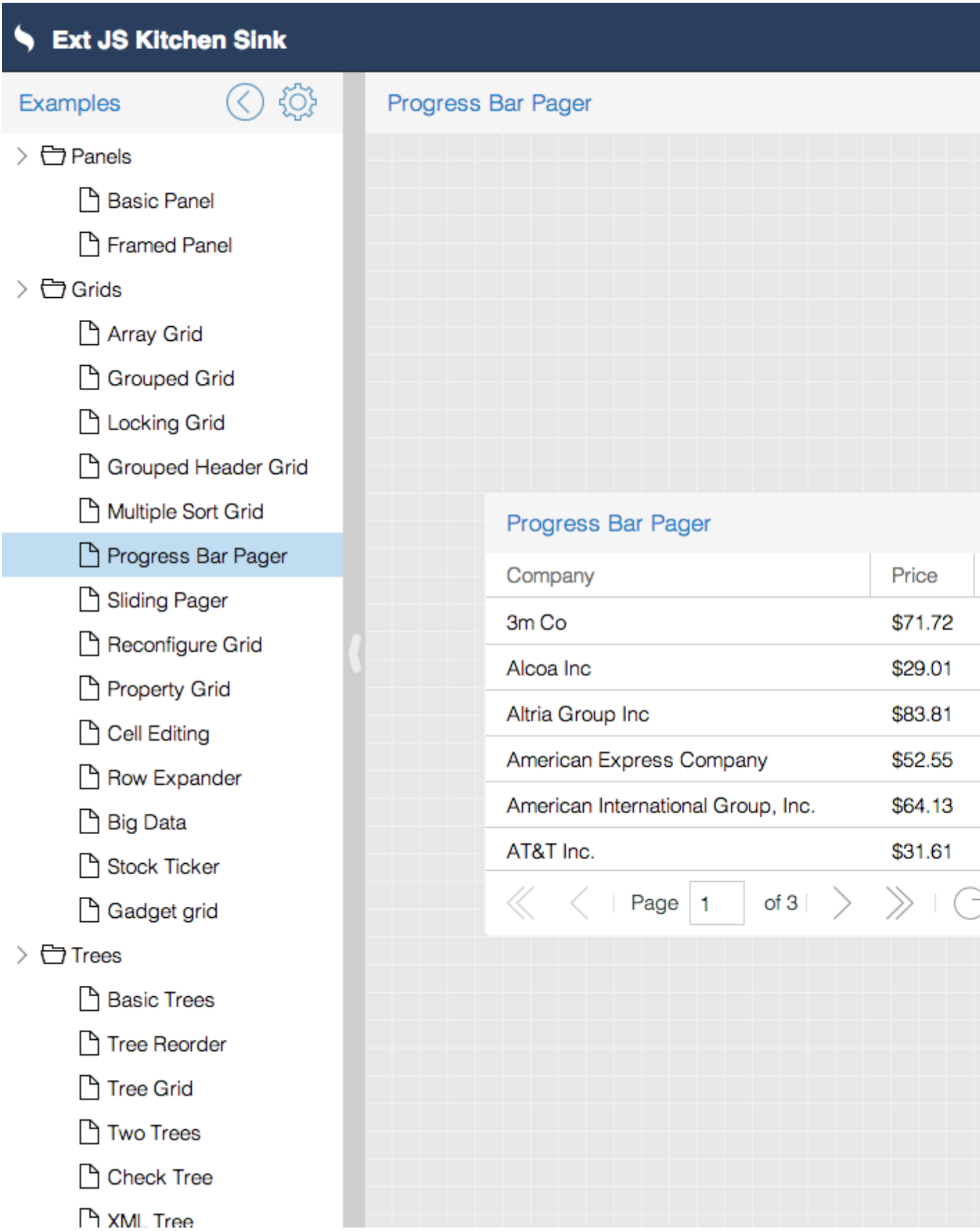


3.4.10. FUTURE: Crisp Touch Theme

Comming soon.

Touch support. (for example, icons are bigger)

Figure 3.9. Crisp Touch Theme



3.5. Switching themes

When you generate an application with Sencha Cmd, by default the **Classic** theme is used.

How can you switch themes?

3.5.1. Don’t touch the <style> tag

What’s common in lots of web applications, is not so common in Ext JS. When you want to switch your theme, you **do not change the `<style>`** in the *index.html* file.

Figure 3.10. Do not change Stylesheet in the index.html

```
1  <!DOCTYPE HTML>
2  <html>
3  <head>
4      <meta charset="UTF-8">
5      <title>Nouveau</title>
6      <!-- <x-compile> -->
7          <!-- <x-bootstrap> -->
8              <link rel="stylesheet" href="bootstrap.css">
9              <script src="ext/ext-dev.js"></script>
10             <script src="bootstrap.js"></script>
11         <!-- </x-bootstrap> -->
12         <script src="app/app.js"></script>
13     <!-- </x-compile> -->
14 </head>
15 <body></body>
16 </html>
17
```

Do not change!

3.5.2. How to switch?

Since Ext 4.2.2. and Sencha Cmd 4, the easiest way to switch a theme in your application, is by adding the `"theme"` property to *myapp/app.json*.

```
{
    "name": "ExtReader",

    "requires": [],

    "theme" : "Goggles",
}
```

Optional values are

- ext-theme-classic
- ext-theme-gray

- ext-theme-access
- ext-theme-neptune
- [your own custom theme?]

3.5.3. How to switch?

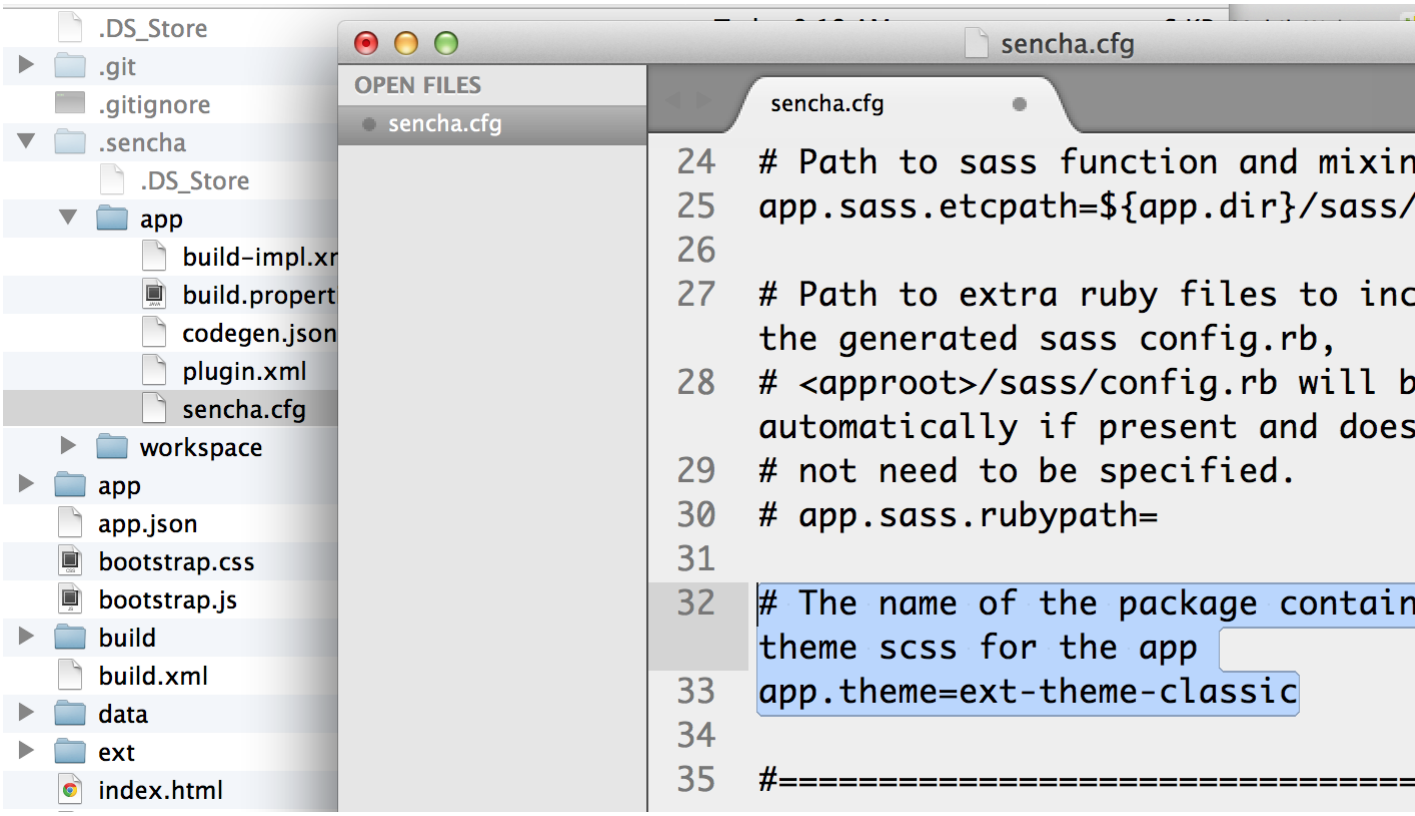
Before Ext 4.2.2. & Sencha Cmd 4; you had to switch an Ext 4.x theme by opening a hidden sencha config file.

To configure your app to use a different theme, change the following line in *[myapp]/.sencha/app/sencha.cfg*

```
app.theme=ext-theme-classic
```

3.5.4. Example

Figure 3.11. Switch themes in the sencha.cfg file



3.5.5. Enable hidden files

Can't find the *.sencha* hidden folder? Try to enable hidden files in your OS.

Mac OSX

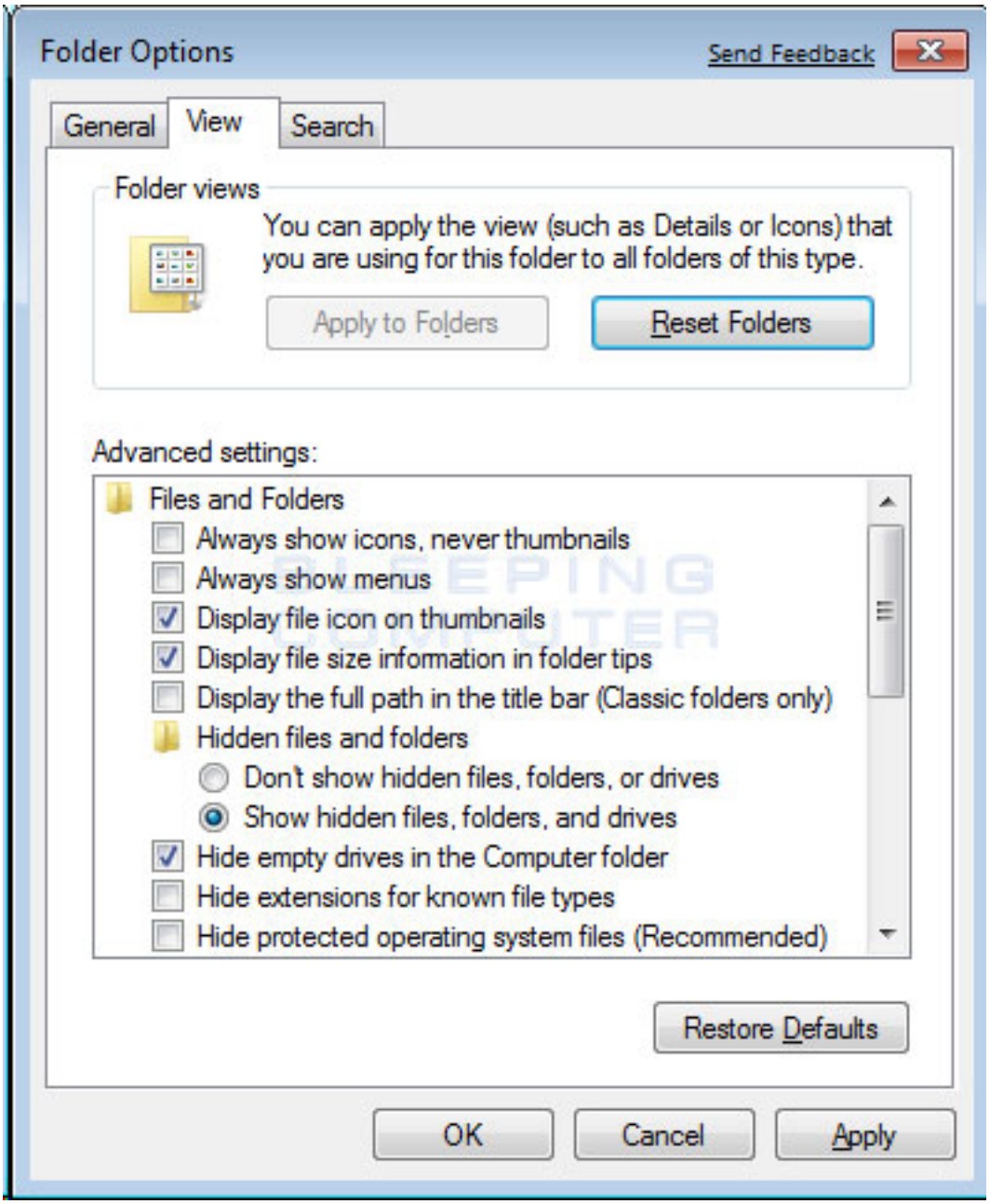
- Type the following command in your terminal:
  `defaults write com.apple.finder AppleShowAllFiles TRUE`

`killall Finder`
(running these commands with `FALSE` will hide the files again)

Windows 7

- Go to: **Control Panel** > **Appearance and Personalization** > **Folders Options** > *Link: Show hidden files and folders*
- Select the radio button labeled **Show hidden files, folders, and drives.**
- Remove the checkmark from the checkbox labeled **Hide extensions for known file types.**
- Remove the checkmark from the checkbox labeled **Hide protected operating system files (Recommended).**

Figure 3.12. Show hidden files in Windows 7



3.5.6. Build Theme

When you have already run a build of the app using the classic theme, you should clean the build directory.

```
sencha ant clean
```

Then build the app:

```
sencha app build
```

3.6. Lab: Switch from Classic to Neptune theme

Objectives

- Verify Sencha Cmd version number
- Switch themes
- Build application

Steps

1. **Confirm Sencha Cmd version. It should have version 4.0.x**

   ```
   sencha which
   ```

2. **Confirm your app looks like Figure 3.13, “ExtReader app with Classic theme”. It has the Classic theme by default and no specific app styling.**

Figure 3.13. ExtReader app with Classic theme

3. **Open with your editor the following file /extreader/.sencha/app/sencha.cfg**

   Please note, the *.sencha* folder is a hidden folder. You need to change the visibility of hidden folders for your OS.

```
*Mac users*:
+
Make hidden files visible.
To achieve this, type the following command in your terminal: +
`defaults write com.apple.finder AppleShowAllFiles TRUE` +
`killall Finder` +
(running these commands with FALSE will disable showing hidden files again)

*Windows users*:
+
TODO
```

4. **Switch the app.theme to the out of the box Neptune theme:**

```
# The name of the package containing the theme scss for the app

app.theme=ext-theme-classic
```

   to

```
app.theme=ext-theme-neptune
```

5. **Build the app, to see the changes:**

   Run the following command on the CLI, from the *extreader* folder:

```
sencha app build
```

   Your ExtReader application should look like Figure 3.14, “ExtReader app with Neptune theme”:

Figure 3.14. ExtReader app with Neptune theme

Chapter 4. Generating custom themes

4.1. Objectives

- Learn how to generate themes
- Understand the package folder structure
- Learn how to extend from Sencha themes

4.2. Generating themes

When you want to create a new custom theme, you can generate a starting point with Sencha Cmd.

4.2.1. About the Command Line

Sencha Cmd is a tool on the command line (CLI). You will use your Windows Console or Mac Terminal for this.

Windows

- **Start** > **Run**
- Type: `cmd` and press *ok*

Mac OSX

- **Applications** > **Utils** > **Terminal**

4.2.2. About Sencha Cmd

Sencha Cmd is a command-line tool that makes it quick and easy to do several application-development tasks.

- Generate commands
  - Generate workspaces
  - Generate apps
  - Generate themes
  - and more…
- Build-in webserver
- Build tools

4.2.3. Generate a theme

```
sencha generate theme MyTheme
```

This will generate a theme for the package folder structure.

4.2.4. Package folder structure

The folder structure of a theme looks like this:

[workspace/root folder]/packages/mytheme/

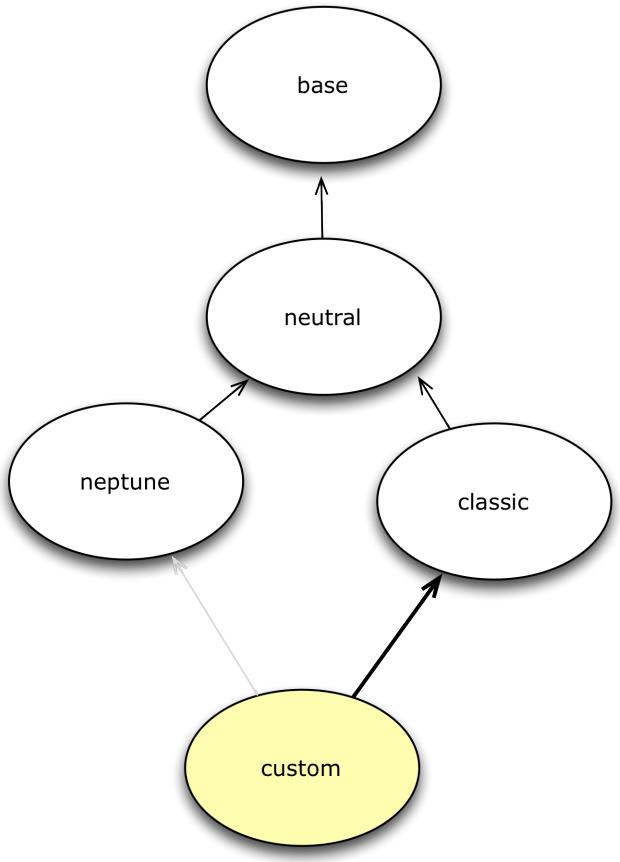
- package.json This is the package properties file. It tells Sencha Cmd certain things about the package like its name, version, and dependencies (other packages that it requires).
- build The build of the theme
- overrides This directory contains any JavaScript overrides to Ext JS Component classes that may be required for theming those Components.
- resources This directory contains images and other static resources that your theme requires.
- sass
  - etc
    contains additional utility functions or mixins
  - src
    contains Sass rules and UI mixins
  - var
    contains Sass variables

4.3. Extending themes

A new generated theme always extends from the **Classic** theme.

When you want to inherit from the **Neptune** theme instead you will need to change the `extend`.

Figure 4.1. Inheritance tree



4.3.1. Change the extend

To change the inheritance of the custom theme. Open */packages/MyTheme/package.json*

```
{
    "name": "MyTheme",
    "type": "theme",
    "creator": "Lee Boonstra",
    "version": "1.0.0",
    "compatVersion": "1.0.0",
    "local": true,
    "requires": [],
    "extend": "ext-theme-neptune" //ext-theme-classic
}
```

4.3.2. Refresh the app

You now need to refresh your application.

This ensures that the correct theme JavaScript files are included in the application’s "bootstrap.js" file so that the application can be run in development mode.

Run from the app directory the following command:

```
sencha app refresh
```

Chapter 5. Lab: Generate custom theme

Objectives

- Generate a custom theme
- Build a theme
- Understand the theme folder structure

Steps

1. **Generate a theme**

   Run the following command on the CLI, from the *extreader* folder.

   ```
   sencha generate theme Goggles
   ```

2. **Build the theme, to get an overview of all the components**

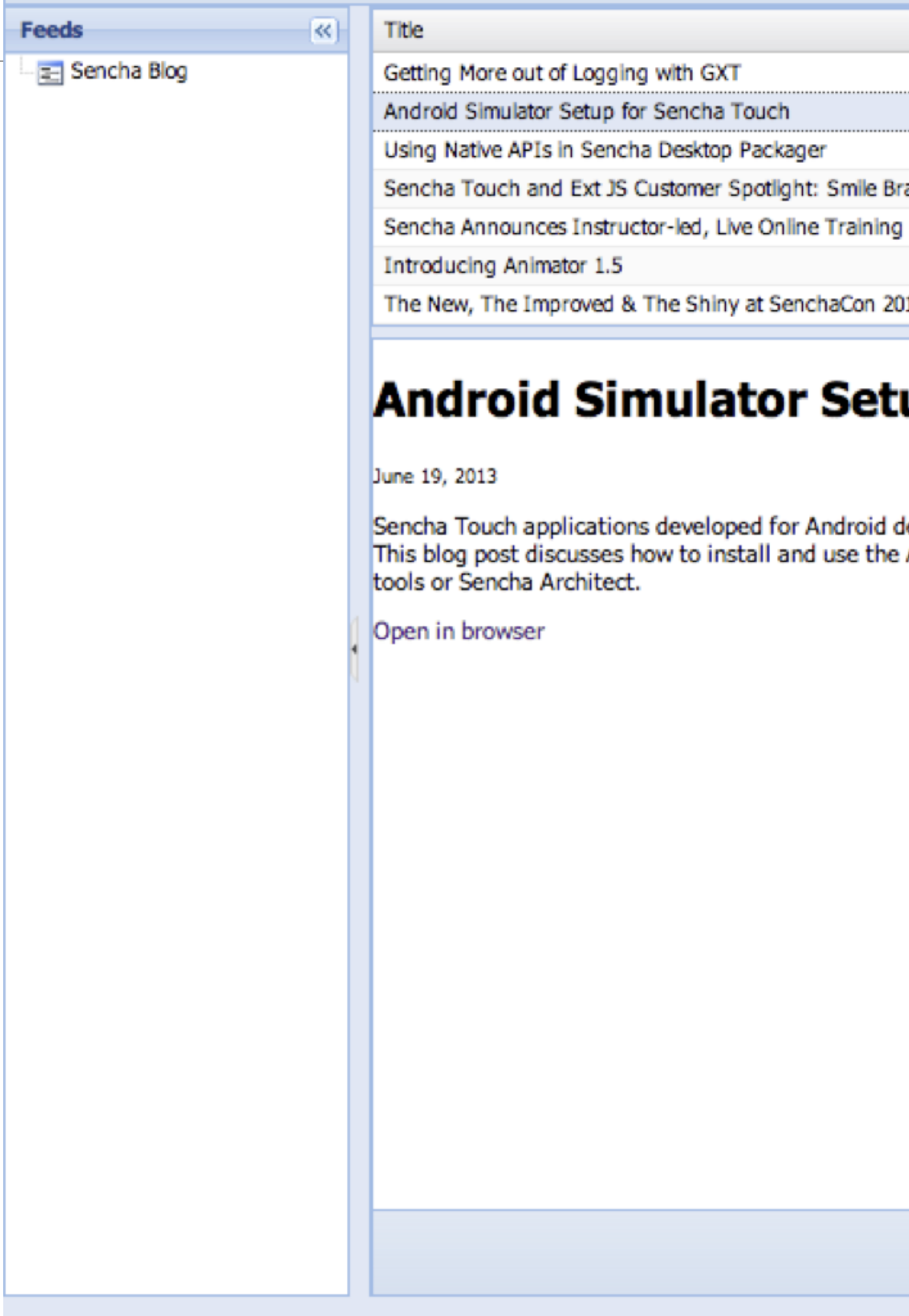
   Run the following command on the CLI, from the *extreader* folder:

   ```
   sencha theme build Goggles
   ```

3. **Review your theme folder structure**

   Browse to *advancedtheming/packages/Goggles/build* folder and review all the generated files.

   This will generate a custom theme, but it still has the looks of the Classic theme.


Feeds
Sencha Blog
Title
Getting More out of Logging with GXT
Android Simulator Setup for Sencha Touch
Using Native APIs in Sencha Desktop Packager
Sencha Touch and Ext JS Customer Spotlight: Smile Bra
Sencha Announces Instructor-led, Live Online Training
Introducing Animator 1.5
The New, The Improved & The Shiny at SenchaCon 201
Android Simulator Setu
June 19, 2013
Sencha Touch applications developed for Android d
This blog post discusses how to install and use the
tools or Sencha Architect.
Open in browser

Chapter 6. Lab: Extend from the Neptune theme

Objectives

- Extend from the Neptune theme

Steps

1. **Extend from the Neptune theme:**

   Open *packages/Goggles/package.json* and change the `extend` to `ext-theme-neptune`.

2. **Change the creator name to your name**

3. **Open with your editor the sencha config file /extreader/.sencha/app/sencha.cfg**

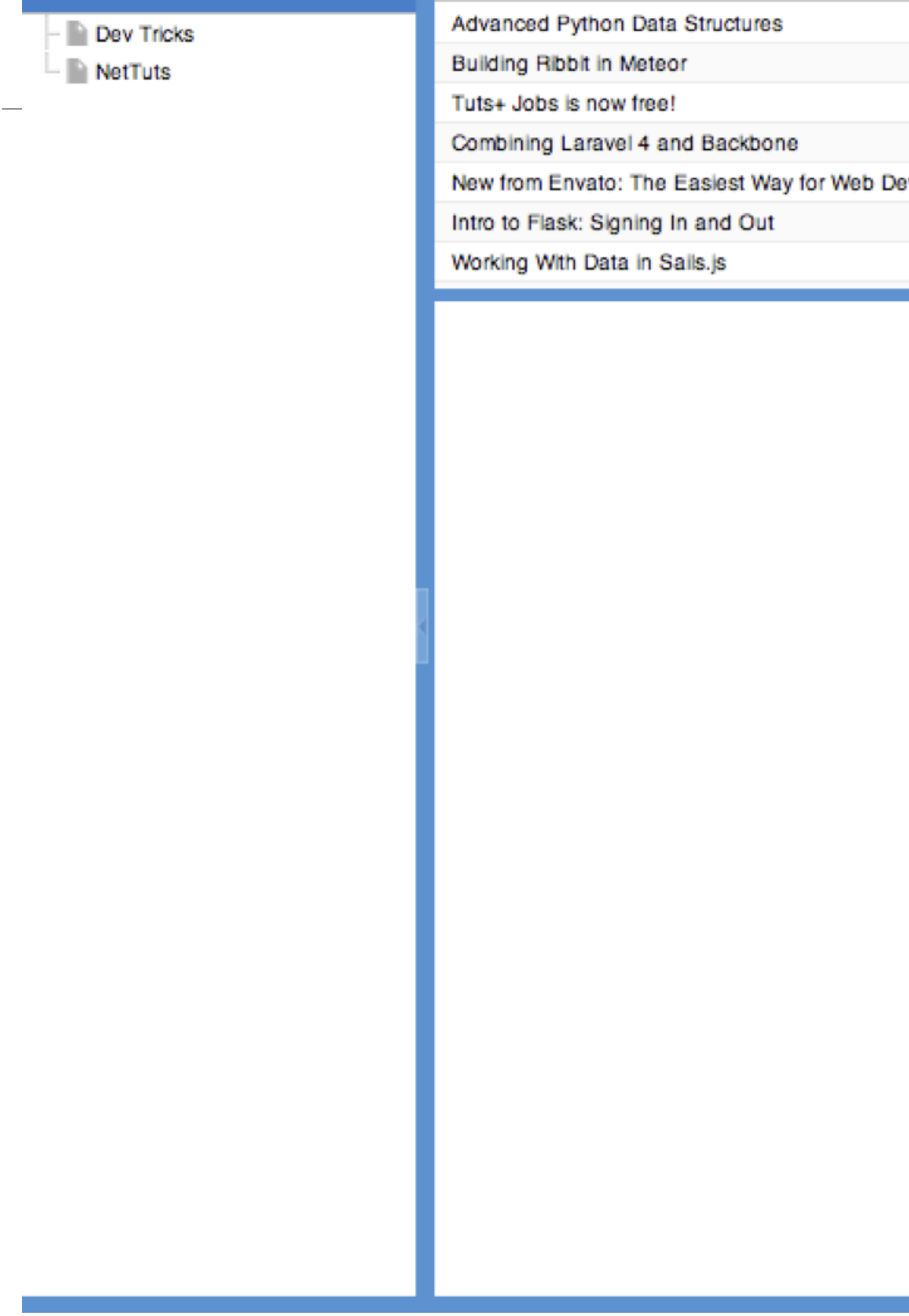
4. **Switch the app.theme to the out of the new Goggles theme**

   (See Lab 1)

5. **Build the app, to see the changes**

   Run the following command on the CLI, from the **extreader** folder:

   ```
   sencha app build
   ```


Dev Tricks
NetTuts
Advanced Python Data Structures
Building Ribbit in Meteor
Tuts+ Jobs is now free!
Combining Laravel 4 and Backbone
New from Envato: The Easiest Way for Web De
Intro to Flask: Signing In and Out
Working With Data in Sails.js

Chapter 7. About Sass & Compass

7.1. Objectives

- Working with Sass
  - Comments
  - File structure
  - Nesting
  - Variables
  - Interpolation
  - Math & Colors
  - Mixins
  - Directives
  - Extends

7.2. The old way

CSS is crafted to be simple but scaling is just difficult. When you have a big Stylesheet, it is hard to maintain all the slight variantions of colors, fonts and dimensions. And it just easily becomes messy.

Also the Stylesheet size may become unmaintainable. There is no easy way to divide Stylesheets in multiple Stylesheets without a performance hit.

7.3. About Sass

Sass stands for: "Syntactically Awesome Stylesheets". It’s like CSS but adds a lot of features to its shortcomings.

Sass has two syntaxes. The most commonly used syntax is known as “SCSS” (for “Sassy CSS”), and is a superset of CSS3’s syntax. This means that every valid CSS3 stylesheet is valid SCSS as well. SCSS files use the extension .scss.

The second, older syntax is known as the indented syntax (or just “.sass”). Instead of brackets and semicolons, it uses the indentation of lines to specify blocks. Files in the indented syntax use the extension .sass.

http://sass-lang.com/ http://thesassway.com/

7.4. Preprocessor

Like CoffeeScript or HAML. You will start developing a Sass File (Sassy CSS / .scss), compile it with a Sass compiler and then use the CSS file in your browser.

7.5. Watch for changes

To compile from a Sassy CSS file to a normal CSS file, you can let Sass **watch** your .scss file for changes.

Run this command from the CLI:

```
sass --watch app.scss:style.css
```

Every time when you hit save in your editor, the file will be compiled.

7.6. About Compass

CSS3 framework. Compass makes working with Sass even easier.

http://compass-style.org/reference/compass/css3/

7.7. Install Sass & Compass

Sass and Compass run on top of Ruby. Windows developers will need to download Ruby 1.x When Ruby is installed you can install the Sass and Compass gems from the CLI:

```
gem install Sass
gem install Compass
```

You will need to have administrative rights on the CLI. Mac OSX users, can prefix with `sudo`

7.8. Sass basics

7.8.1. First of all…

You can still use CSS code in your Sassy CSS files.

Just take it over and slidly modify it to your needs.

7.8.2. Comments

With Sass it is possible to write single line comments. These files won’t be compiled in your CSS output. Though multiline comments will.

app.scss.

```
//These lines of comments
```

```
//won't be visibile in my CSS file

/* but this line will.
```

app.css.

```
/* but this line will. */
```

7.8.3. File structure

To create structure in your Stylesheets, you can use the `@import` code.

In CSS `@import` downloads the CSS files after each other (not in parrallel) that makes a performance hit.

This is not the case with Sass. Since Sass compiles the Stylesheet on the clientside. Your output will be just one single CSS file. === Nesting .A different way of identing * Nesting improves readability * Don’t code repetitive selectors

```
.button {
        background: red;

        .inner {
                padding: 2px;
        }
}
```

```
.button { background: red; }
.button .inner { padding: 2px; }
```

7.8.4. Nesting namespaces

You can also nest namespaces:

```
.button {
        font: {
                size: 12px;
                family: 'Helvetica';
        }
}
```

```
.button { font-size: 12px; font-family: 'Helvetica'; }
```

7.8.5. Parent selector

The `&` stands for the (first) parent selector. You can point to the parent selector while nesting.

```
.button {
        background: red;

        //when a red button is on a red background
        //make the button orange.
        .redbg & {
                background: orange;
        }
}
```

```
.button { background: red; }
.redbg .button { background: orange; }
```

7.8.6. Parent selector

Here’s another example, while nesting deeper.

```
.button {
        background: red;

        span {
                .redbg & {
                        background: orange;
                }
        }
}
```

```
.button { background: red; }
.redbg .button span { background: orange; }
```

7.8.7. Rule of thumb

Try not to nest deeper then 3 or 4 levels. It can become hard to understand and also when you use to many selectors, it will be hard to overrule the style.

7.8.8. Nesting selectors

Note `&.round`. There is no space between the parent selector and the CSS class `.round`.

Therefore this rule only applies on elements with a `button` CSS class that **also** have a `round` CSS class.

```
.button {
        background: red;
        .inner {
                //looks inside the scope of .button
                //for a class .inner
                text-transform: uppercase;
        }
        &.round {
                //has both classes on the same time
                border-radius: 5px;
        }
}
```

```
.button { background: red; }
.button .inner { text-transform: uppercase; }
.button.round { border-radius: 5px; }
```

7.8.9. Nesting selectors with parent selectors

Makes totally sense for pseudo selectors such as `:hover` or `:after`.

```
.button {
        background: red;
```

```
        &:hover {
                background: blue;
        }
}
```

```
.button { background: red; }
.button:hover { background: blue; }
```

7.9. Variables

You can create variables with Sass. Prefix with a `$` sign. They can have any value for a CSS property, such as colors, numbers (with units), or text.

Change the value on one place, i.s.o. maintaining the value in your whole project.

```
$main-bg-color: red;

.panel {
        background: $main-bg-color;
}
```

```
.panel { background: red; }
```

7.9.1. Interpolation

Variables can be used for more than just property values. You can use `#{}` to insert them into property names or selectors.

```
$vertical: 'top';
$horizontal: 'right';

.rounded {
        border-#{$vertical}-#{$horizontal}-radius: 10px;
}
```

```
.rounded { border-top-right-radius: 10px; }
```

7.9.2. Calculations

Now, setting variables becomes super handy, when you want to make **math** or **color** calculations with it.

```
$main-bg-color: red;

.panel {
        background: darken($main-bg-color, 20%);
}
```

```
.panel { background: #990000; }
```

7.9.3. Color opertations

Darken

```
$main-bg-color: red;
```

```
.panel {
        background: darken($main-bg-color, 20%);
}
```

```
.panel { background: #990000; }
```

Lighten

```
$main-bg-color: red;

.panel {
        background: lighten($main-bg-color, 20%);
}
```

```
.panel { background: #FF6666; }
```

Color Mix

```
$main-bg-color: red;
$main-alternative-color: blue;

.panel {
        background: $main-bg-color + $main-alternative-color;
}
```

```
.panel { background:fuchsia; }
```

Alpha

```
$main-bg-color: red;

.panel {
        background: transparentize($main-bg-color, 0.25);
}
```

And more

There are much more color operations. `hue`, `saturation`, `grayscale`, `invert` etc…

http://sass-lang.com/docs/yardoc/Sass/Script/Functions.html

```
.panel { background: rgba(255, 0, 0, 0.75); }
```

7.9.4. Math Functions

The standard math operations (+, -, *, /, and %) are supported for numbers.

Calculations

$container-width: 600px; $font-size: 12px;

```
.panel {
        width: $container-width / 3;
        line-height: $font-size * 1.5;
}
```

```
.panel { width: 200px; line-height: 18px; }
```

Calculate units

```
.panel {
        width: 1in + 8pt;
}
```

```
.panel { width: 1.111 in; }
```

7.10. Mixins

Mixins allow you to define and reuse blocks of CSS properties

```
@mixin branded-block() {
        background: #efefef;
        border: 2px solid #000;
        color: #000;
}
.panel {
   @include branded-block();
}
```

```
.panel {
        background: #efefef;
        border: 2px solid #000;
        color: #000;
}
```

7.10.1. Mixins with arguments

Mixins also accept parameterized variables

```
@mixin custom-button-ui($color) {
        background-color: $color;
        &:hover {
                background-color: lighten($color, 20%);
        }
}

.x-btn.custom {
        @include custom-button-ui(red)
}
```

```
.x-btn.custom {
        background-color: red;
}
.x-btn.custom:hover{
        background-color: #ff6666;
}
```

7.11. Control Directives

It’s is possible to write some Sass Scripting code in your mixins.

For example if/else branching:

```
@mixin sencha-button-ui($bgcolor) {
        background-color: $bgcolor;

        //if the background is black
        //then the front color may not be black too
        @if $bgcolor == #000 {
                color: #fff;
        } @else {
                color: #000;
        }
}

.x-btn.custom {
        @include sencha-button-ui(#000)
}
```

```
.x-btn.custom { background-color: #000; color: fff; }
```

7.11.1. Each loops

Use the `@each` directive.

```
@mixin author-images() {
        $list: lee kevin max;
        @each $name in $list {
            .photo-#{$name} {
              background: url("avatars/#{$name}.png") no-repeat;
                }
        }
}

.author {
        @include author-images();
}
```

```
.author .photo-lee {
        background: url("avatar/lee.png") no-repeat;
}

.author .photo-kevin {
        background: url("avatar/kevin.png") no-repeat;
}

.author .photo-max {
        background: url("avatar/max.png") no-repeat;
}
```

7.11.2. For loops

Use the `@for` directive.

```
@for $i from 1 through 4 {
  .column-#{$i} { width: 10px * $i; }
}
```

```
.column-1 {
  width: 10px; }
```

```
.column-2 {
  width: 20px; }

.column-3 {
  width: 30px; }

.column-4 {
  width: 40px; }
```

7.11.3. While loops

Use the `@while` directive.

```
$i: 1;
$width: 60px;

@while $i < 4 {
  .grid-#{$i} { width: $width; }
  $width: $width + 80px;
  $i: $i + 1;
}
```

```
.grid-1 {
  width: 60px; }

.grid-2 {
  width: 140px; }

.grid-3 {
  width: 220px; }

.grid-4 {
  width: 300px; }
```

7.12. Extends

Use selector inheritance

- You can extend / inherit from other CSS classes
- Improves readability & maintainability

7.13. Example

```
.alert {
    font-size: 0.9em;
    background-color: yellow;
}

.alert .warning {
    font-weight: bold;
}

.redalert {
    @extend .alert;
```

```
    background-color: red;
}
```

```
.alert, .redalert {
    font-size: 0.9em;
    background-color: yellow;
}

.alert .warning, .redalert .warning {
    font-weight: bold;
}

.redalert {
    background-color: red;
}
```

7.14. Compass

7.14.1. Compass Border-radius

Border-radius mixin

```
@import "compass/css3/border-radius"
.radius   {
        @include border-radius(4px, 4px);
}
```

```
.radius   {
        -webkit-border-radius: 4px 4px;
        -moz-border-radius: 4px 4px;
        -khtml-border-radius: 4px 4px;
        border-radius: 4px 4px;
}
```

http://compass-style.org/reference/compass/css3/border_radius/

7.14.2. Compass Box-Shadow

Box-shadow mixin

```
@import "compass/css3/box-shadow"

.box-shadow-example div {
  @include single-box-shadow;
}
```

```
.box-shadow-example div {
  -webkit-box-shadow: 0px 0px 5px #333333;
  -moz-box-shadow: 0px 0px 5px #333333;
  box-shadow: 0px 0px 5px #333333;
}
```

7.14.3. Compass Font-face

Font-face mixin

```
@import "compass/css3/font-face"

@include font-face("Blooming Grove", font-files("examples/bgrove.ttf", "examples/bgrove.
```

```
@font-face {
  font-family: "Blooming Grove";
  src:  url('/fonts/examples/bgrove.ttf') format('truetype'),
                url('/fonts/examples/bgrove.otf') format('opentype');
}
```

http://compass-style.org/examples/compass/css3/font-face/

7.14.4. Compass Text-shadow

Text-shadow mixin

```
$default-text-shadow-color: rgba(red, 0.6);
$default-text-shadow-blur: 3px;
$default-text-shadow-v-offset: 1px

@import "compass/css3/text-shadow"

.has-single-shadow {
  @include single-text-shadow;
}
```

```
.has-single-shadow {
  text-shadow: 0px 1px 3px rgba(255, 0, 0, 0.6);
}
```

http://compass-style.org/reference/compass/css3/text-shadow/

7.14.5. More Compass

CSS3 mixins: http://compass-style.org/reference/compass/css3/

Sass helpers http://compass-style.org/reference/compass/helpers/

Not common in Sencha projects, but also part of the Compass frameworks:

Layout mixins: http://compass-style.org/reference/compass/layout/

Reset mixins: http://compass-style.org/reference/compass/reset/

Chapter 8. Sencha CSS Variables

8.1. Objectives

- Understanding Sencha Global variables
- Understanding Sencha Component variables
- Implementing Sencha CSS variables
- Working with the `app watch` command

8.2. Introduction

As we learned from the lecture, Sass variables are very powerful.

Example 8.1. Maintain the variables on one place.

```
$component-bg: blue;
.panel {
        background: $component-bg;
}
```

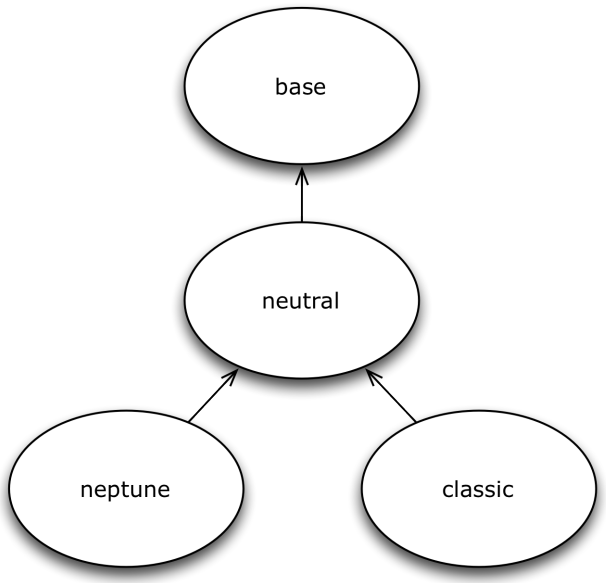
Example 8.2. Compile the Sass Stylesheet for CSS output

```
.panel { background: blue; }
```

8.3. Sencha CSS variables

Sencha has their own Sass variables set in the **Neutral** theme. Therefore we can use these CSS variables to customize our own designs.

Figure 8.1. Inheritance tree



8.4. 2 types of variables

There are 2 types of variables set. + * Global CSS variables

+ Apply to the overall Stylesheet * Component CSS variables

+ Apply to an Ext component

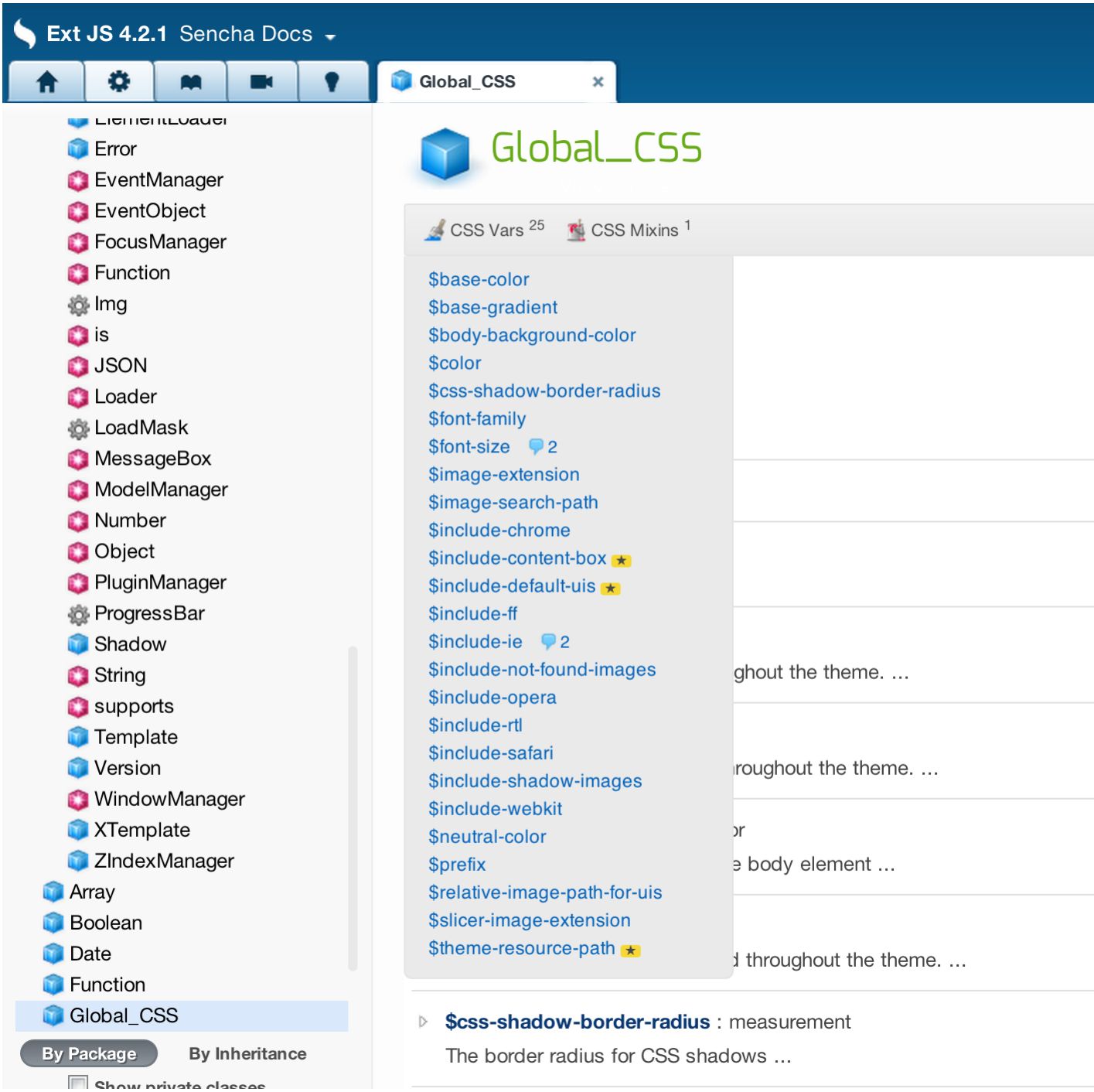
8.5. Global Vars

8.5.1. API Docs

Global CSS vars can be found in the API Docs to get an exact overview.

http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS

Figure 8.2. Global CSS vars in the API Docs



8.5.2. Where to implement

In the labs we saved all our styles and vars. here:

```
packages/<theme-name>/sass/etc/all.scss
```

We have seen that this file grows and it's getting harder to maintain. When you want to structure your Stylesheets, a better a location to save global vars would be:

```
packages/<theme-name>/sass/var/Component.scss
```

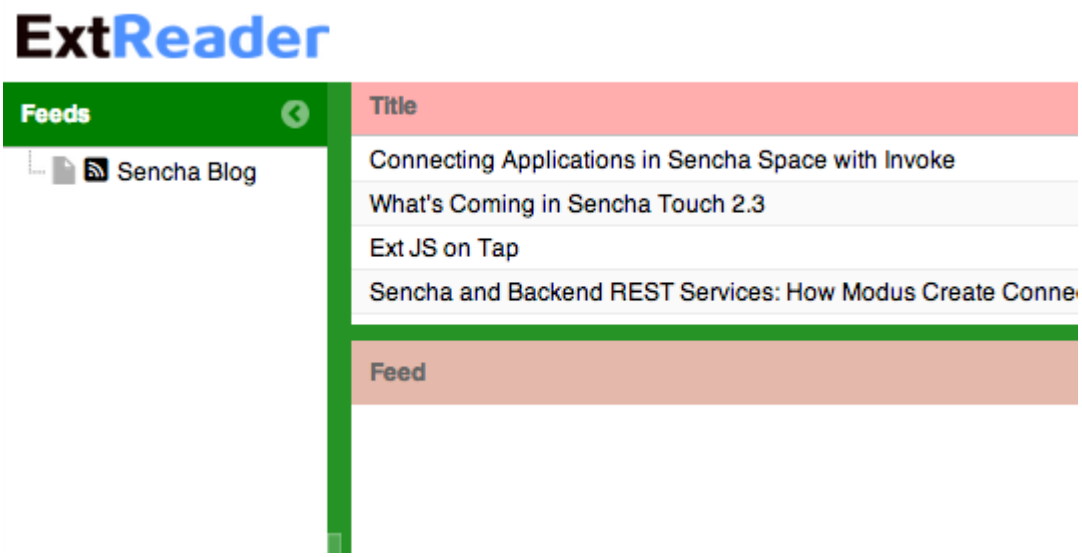
8.5.3. Example: Base-color

The base background color to be used throughout the theme (like backgrounds, panel headers etc…).

packages/MyTheme/sass/etc/all.scss

```
$base-color: green;
```

Figure 8.3. Set the base color



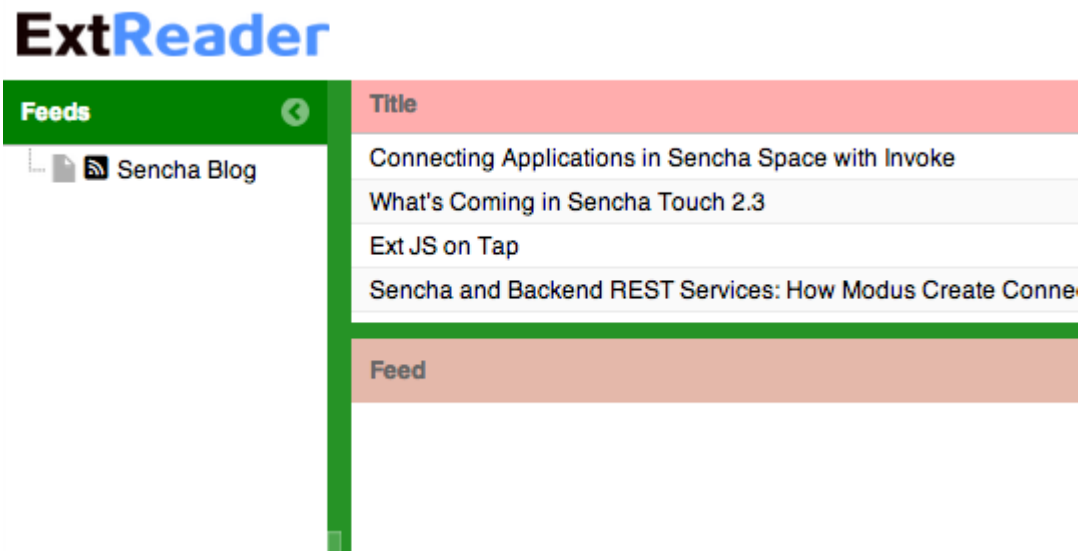
8.5.4. Example: Neutral-color

The neutral background color to be used throughout the theme. (like buttons, headers etc…), as an alternative to the `$base-color`. Defaults to: `#dcdcdc`

packages/MyTheme/sass/etc/all.scss

```
$neutral-color: #ccc
```

Figure 8.4. Set the base color



8.5.5. Overview vars

There are much more global vars available.

- *$base-color*
- $base-gradient
- $body-background-color
- $color
- $css-shadow-border-radius
- $font-family
- $font-size
- $image-search-path
- $include-content-box
- $include-default-uis
- $include-not-found-images
- $include-rtl
- *$neutral-color*
- $prefix
- $relative-image-path-for-uis
- $slicer-image-extension
- $theme-resource-path

8.5.6. Vars to exclude browsers

By default Ext JS includes all browsers, these variables are set to `true`. However if you don’t support a particular browser you can disable these so the file size of your Stylesheet will become smaller.

- $include-chrome
- $include-ff
- $include-ie
- $include-opera
- $include-safari
- $include-webkit

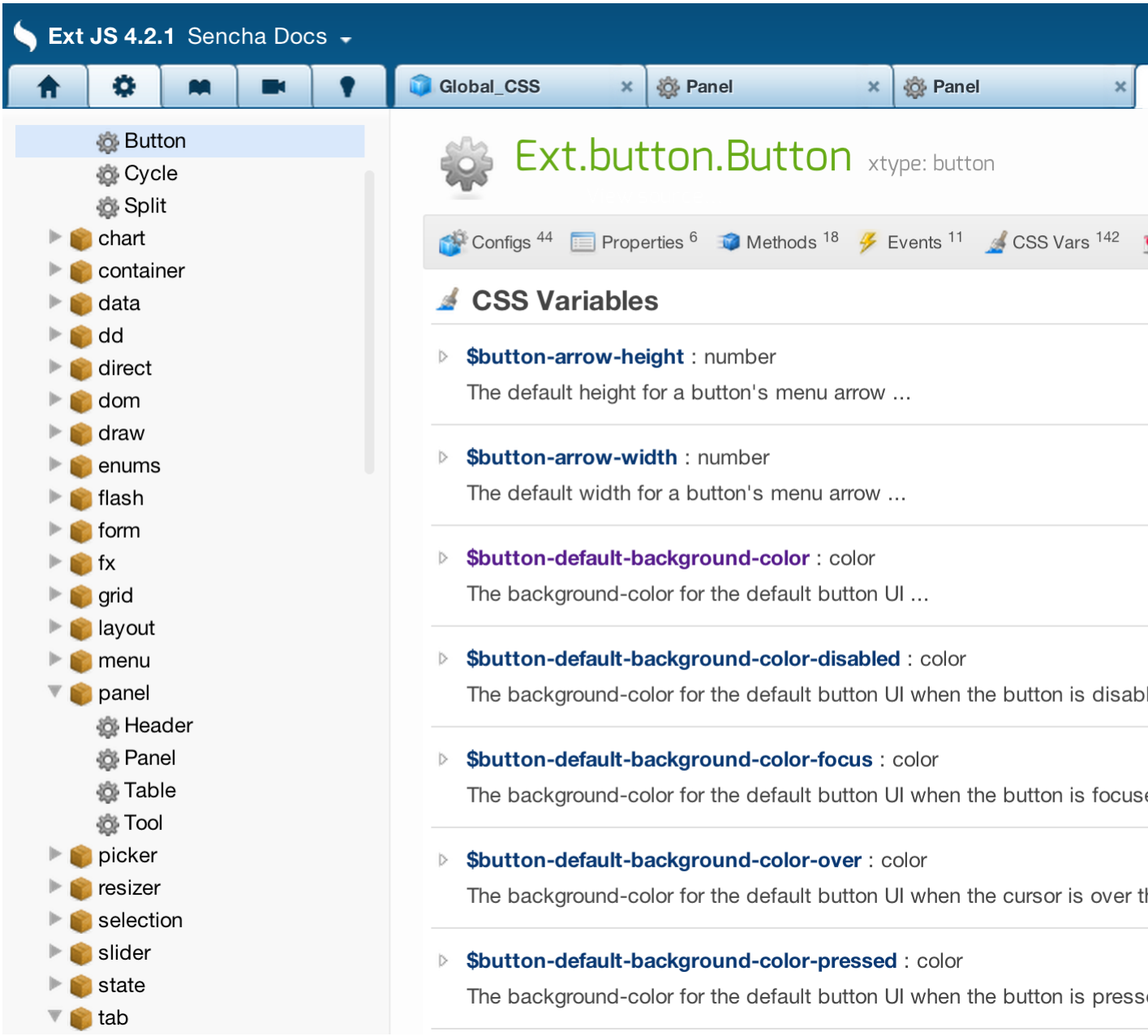
8.6. Component variables

8.6.1. API Docs

Component CSS vars can be found in the API Docs to get an exact overview.

For example the CSS vars for buttons: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.button.Button

Figure 8.5. Component CSS vars in the API Docs



8.6.2. Where to implement

In the labs we saved all our styles and vars. here:

```
packages/<theme-name>/sass/etc/all.scss
```

We have seen that this CSS file grows and it's getting harder to maintain. When you want to structurize your Stylesheets, a better a location to save component vars in a structure, **the same structure** of used by the framework.

```
packages/<theme-name>/sass/var/button/Button.scss
```

(Since `Ext.button.Button` maps to */src/button/Button.js*)

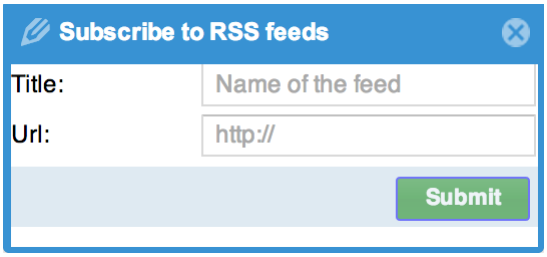
8.6.3. Example: Button

- `$button-default-base-color`: the background color of a button.
- `$button-default-border-color`: the border color of a button.

packages/MyTheme/sass/var/button/Button.scss

```
$button-default-base-color: green;
$button-default-border-color: blue;
```

Figure 8.6. Button Example



8.6.4. Overview Components with vars

Note that components that inherit from other components; will also inherit the styles set by variables.

- Ext.button.Button
- Ext.container.ButtonGroup
- Ext.menu.Menu
- Ext.panel.Panel
- Ext.panel.Table
- Ext.panel.Tool
- Ext.picker.Color
- Ext.picker.Date
- Ext.resizer.Splitter

- Ext.slider.Multi
- Ext.tab.Bar
- Ext.tab.Tab
- Ext.tip.Tip
- Ext.toolbar.Paging
- Ext.toolbar.Toolbar
- Ext.tree.Panel
- Ext.view.BoundList
- Ext.window.MessageBox
- Ext.window.Window
- Ext.LoadMask
- Ext.ProgressBar

8.6.5. Form components with vars

- Ext.form.field.Base
- Ext.form.field.Checkbox
- Ext.form.field.Display
- Ext.form.field.HtmlEditor
- Ext.form.field.Radio
- Ext.form.field.Spinner
- Ext.form.field.TextArea
- Ext.form.field.Trigger
- Ext.form.CheckboxGroup
- Ext.form.FieldSet
- Ext.form.field.Spinner

8.6.6. Grid components with vars

- Ext.grid.column.Action
- Ext.grid.column.CheckColumn

- Ext.grid.column.Column
- Ext.grid.column.RowNumberer
- Ext.grid.header.Container

8.7. App Watch

As an alternative to `compass watch`, Sencha Cmd has `sencha app watch`. Run this command on the CLI and it starts polling for changes. On every change made in the JavaScript or CSS, the system will auto build the app for you.

```
sencha app watch
```

Chapter 9. Lab: Create the Goggles Theme

Objectives

- Create a custom Sass stylesheet
- Use Sencha variables
- Compile Sass to CSS

Steps

1. **Open with your editor the following file:**

   /packages/Goggles/sass/etc/all.scss

2. **On the top of your file, define the following set of variables**

Example 9.1. Sass variables

```
/* my variables */
$red: #d14836;
$gray: #f5f5f5;
$yellow: #ffff00;
$white: #fff;
$blue: #15c;
```

3. **Below your set of variables set the `base-color`, to `$gray`**:

Example 9.2. The Sencha base-color variable

```
/* default styles */
$base-color: $gray;
```

4. **Compile your stylesheet**

   On the CLI enter the following command from the *extreader* folder:

   ```
   sencha ant sass
   ```

   You can use this command everytime you want to test your stylesheet. Just press the up key on the CLI to go back to your previous command.

   With the new Sencha Cmd 4 version it's possible to watch your stylesheet for changes. Changes in the Sass file will be automatically compiled to CSS files: `sencha app watch`

5. *Verify your app looks like the image Figure 9.1, "Preview of the Goggles theme"

Figure 9.1. Preview of the Goggles theme

6. **Open the API Docs**

   http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS

7. **Create the following Global_CSS variables**

   - The `neutral-color` should be set to `$gray`
   - The default text color should be set to a 60% darker variant of gray. (`darken($gray,60%)`)
   - The font should be set to `Arial, sans-serif`, with a fontsize of 13px.

8. **Open with your browser the API Docs for Toolbars**

   http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.toolbar.Toolbar`

   Click on the *CSS vars* button and review the set of styles which are available for all toolbar components.

9. **Create the following vars**

   - Start with the comment: `/* toolbars */`
   - Set the background color for the toolbar, to variable `$gray`.
   - Test your stylesheet; you should notice a gray top toolbar.

10. **Open with your browser the API Docs for Buttons**

    http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.button.Button`

    Click on the *CSS vars button* and review the set of styles which are available for all button components.

11. **Create the following vars**

    - Start with the comment: `/* buttons */`
    - All buttons in the toolbar should have a background color `$gray` and a border color that is 10% darker then the normal `$gray`.
    - Both buttons, default and toolbar buttons should have the background-gradient set to the string: *none*.
    - Set a padding to all small buttons to 8px.
    - All default buttons, should have a $red background color. over, pressed and focus buttons can have a 10% darker red background color.
    - All default buttons with a disabled state should have a 10% lighter color.
    - Compile and test your stylesheet, you should notice gray buttons in your toolbar. When you click on the subscribe button, you should see a form with a reddish button.

12. **Open with your browser the API Docs for Panels**

    http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.panel.Panel`

    Click on the *CSS vars* button and review the set of styles which are available for all panel components.

13. **Create the following vars**

    - Start with the comment: `/* panels */`
    - Set the border width of the frame to 0.
    - Set the body border width to 0.

14. **Open with your browser the API Docs for Panel Headers**

    http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.panel.Header`

    Click on the *CSS vars* button; and review the set of styles which are available for all panel header components.

15. **Create the following vars**

    - Set the padding for the header to: 10px 5px
    - Set the header background-color to an 8% darker red.
    - Compile and test your stylesheet, you should see a tree panel with a red header.

16. **Open with your browser the API Docs for Windows**

    http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.window.Window`

    Click on the *CSS vars* button and review the set of styles which are available for all window components.

17. **Create the following vars**

    - The `window-header` padding should be set to 10px 5px;
    - The `window-header-background-color` should be set to an 8% darker red.
    - Compile and test your stylesheet, when you click on the subscribe button, you should see a nice popup window with a reddish header.

18. **Open with your browser the API Docs for Grid Panels**

    http://docs.sencha.com/extjs/4.2.1/ and search for `Ext.grid.Panel`

    Click on the *CSS vars* button and review the set of styles which are available for all grid components.

19. **Create the following vars**

- The grid header will get a border color of `$white`.
- The grid header will also get a padding of 12px 8px and a color that is 10% darker then the default gray.
- Next step is to set the `row-cell` background color and the `row-cell-alt` background color both to a 3% darker gray.
- The `row-cell` over color will be a 5% darker gray.
- The `row-cell` border color will be a 10% darker gray
- The `row-cell` selected background-color, should be a 40% lighter yellow color.
- The `grid-cell-inner` padding should be set to 8px.
- Compile and test your stylesheet, you should see a nice gray styled grid.

20. **The last step is to create some custom styles for the tree panel**

    As you can see, the tree is already styled. This is because the treepanel extends from `Ext.panel.Table` and `Ext.panel.Table`, therefore it reuses a lot of the same styles as the grid does. Let's write our own custom styles

    Take over the below CSS code and use Sass nesting http://sass-lang.com/docs/yardoc/#nesting for readability:

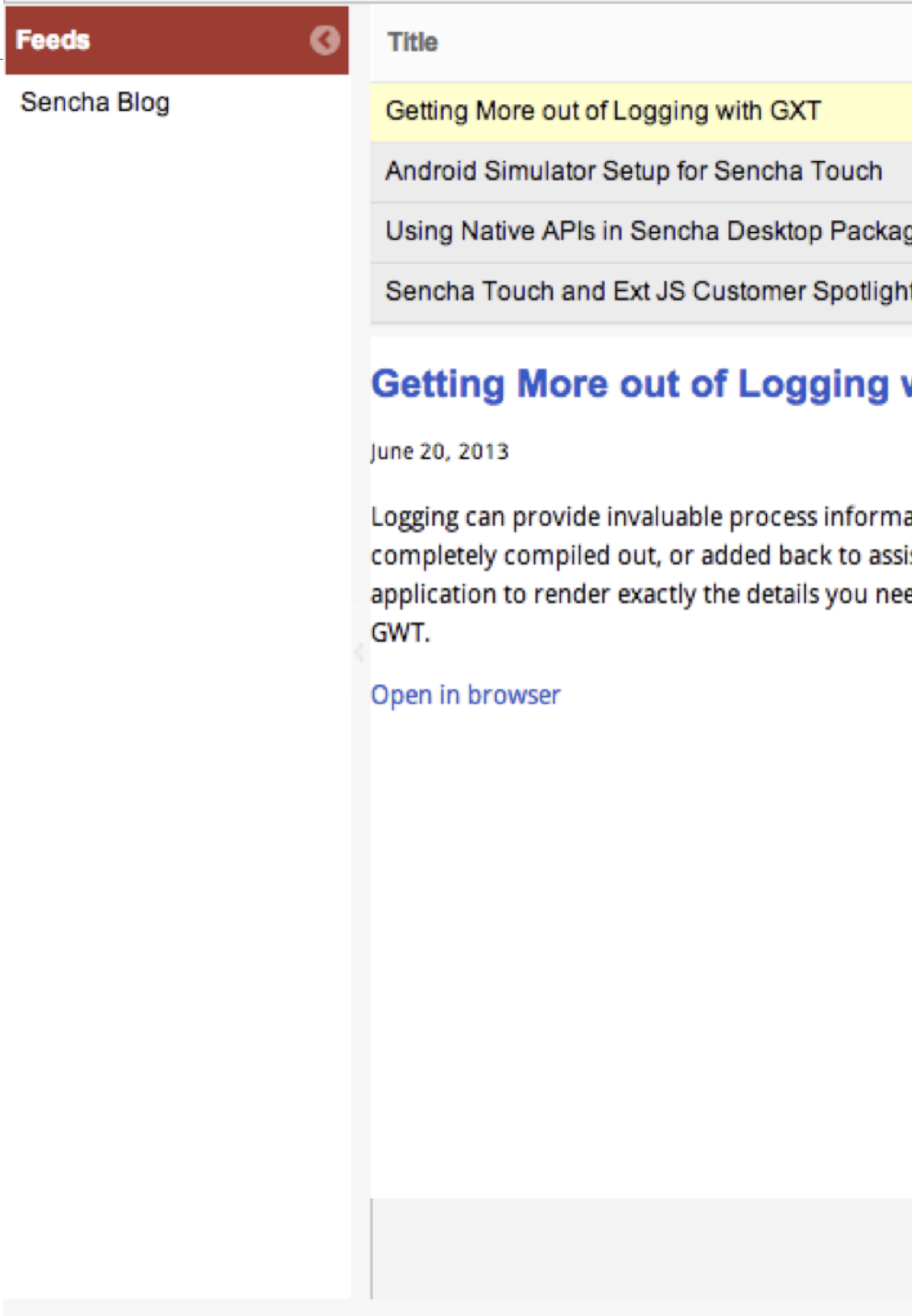
Example 9.3. Tree Panel code, take this code over and start nesting

```
.x-tree-panel .x-tree-icon,
.x-tree-panel .x-tree-elbow-img {
    display: none;
}
.x-tree-panel .x-grid-cell {
    background: $white;
}

.x-tree-panel .x-grid-row-selected .x-grid-td {
    background: white;
}
.x-tree-panel .x-grid-row-selected .x-tree-node-text {
    font-weight: bold;
}
.x-tree-panel .x-grid-row-selected {
    color: red;
}
```

21. **Compile and preview your stylessheet**

    By now you should see your own custom tree panel, with white background cells. If you want to take a peek into the solution files, check the following file: */packages/Lab4Solution/sass/etc/all.scss* When you want to test this solution theme, just switch themes in your *extreader/.sencha/app/sencha.cfg*, set `app.theme` to `Lab4Solution` (`app.theme=Lab4Solution`) and run a `sencha app build`.


Feeds
Sencha Blog
Title
Getting More out of Logging with GXT
Android Simulator Setup for Sencha Touch
Using Native APIs in Sencha Desktop Packag
Sencha Touch and Ext JS Customer Spotlight
Getting More out of Logging v
June 20, 2013
Logging can provide invaluable process informa
completely compiled out, or added back to assi
application to render exactly the details you nee
GWT.
Open in browser

Chapter 10. Sencha Mixins

10.1. Objectives

- Implementing Panel UIs
- Implementing Toolbar UIs
- Implementing Window UIs
- Implementing Button UIs

10.2. Introduction

As we learned from the lecture, Sass mixins can be very handy:

Example 10.1. Maintain the variables on one place.

```
@mixin custom-button-ui($color) {
        background-color: $color;
        &:hover {
                background-color: lighten($color, 20%);
        }
}

.x-btn.custom {
        @include custom-button-ui(red)
}
```

Example 10.2. Compile the Sass Stylesheet for CSS output

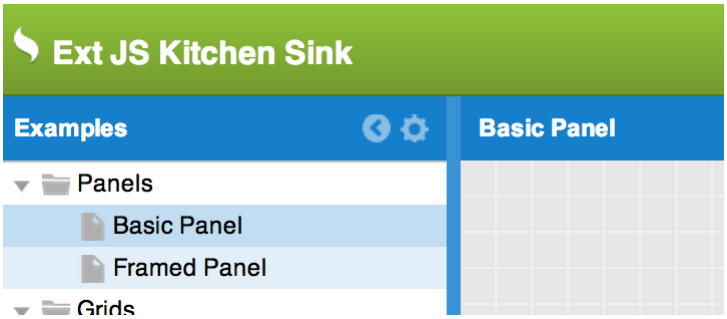
```
.x-btn.custom { background-color: red; }
.x-btn.custom:hover{ background-color: #ff6666; }
```

10.3. Sencha UIs

Sencha has their own Sass mixins set in the **Neutral** theme. Therefore we can use these mixins (sencha uis) to customize our own skins.

For example, Sencha UIs can be handy for when you have a **blue** Neptune theme and only some toolbars needs to be **green** instead of blue.

Figure 10.1. Example of a Toolbar UI



10.4. Mixin vs CSS overwrite

In the previous example you could choose to use the toolbar mixin (`extjs-toolbar-ui`).

```
extjs-toolbar-ui(
        'greentoolbar',
         $background-color: 'green'
         //more configs
);
```

To implement the mixin in your view code:

```
{
        xtype: 'toolbar',
        ui: 'greentoolbar',
        //more configs
}
```

The other solution would be to use a CSS overwrite.

```
.green {
        background: 'green';
}
```

To implement the CSS overwrite in your view code:

```
{
        xtype: 'toolbar',
        cls: 'green',
        //more configs
}
```

10.4.1. Sencha UI

Advantages

- Creates a new skin
- Set every CSS rule for this specific component
- Automatically cross browser compatible .Disadvantages

- Can increase the file size of your CSS
- Can be difficult to implement

10.4.2. CSS overwrite on class name

Advantages

- Easy solution
- Won’t increase the CSS much .Disadvantages
- Overwrites are visible in the compiled CSS
- Hard to maintain
- You will need to understand the Ext JS DOM

10.4.3. Conclusion

What to use? **Sencha UI** mixins are great when these are repetitive used in your theme. *For example: a blue theme, that has blue and red buttons.* **CSS overwrites** are handy to make a certain component unique. *For example: on the start screen, the **new** button is bigger and has a different color.*

10.5. Mixins

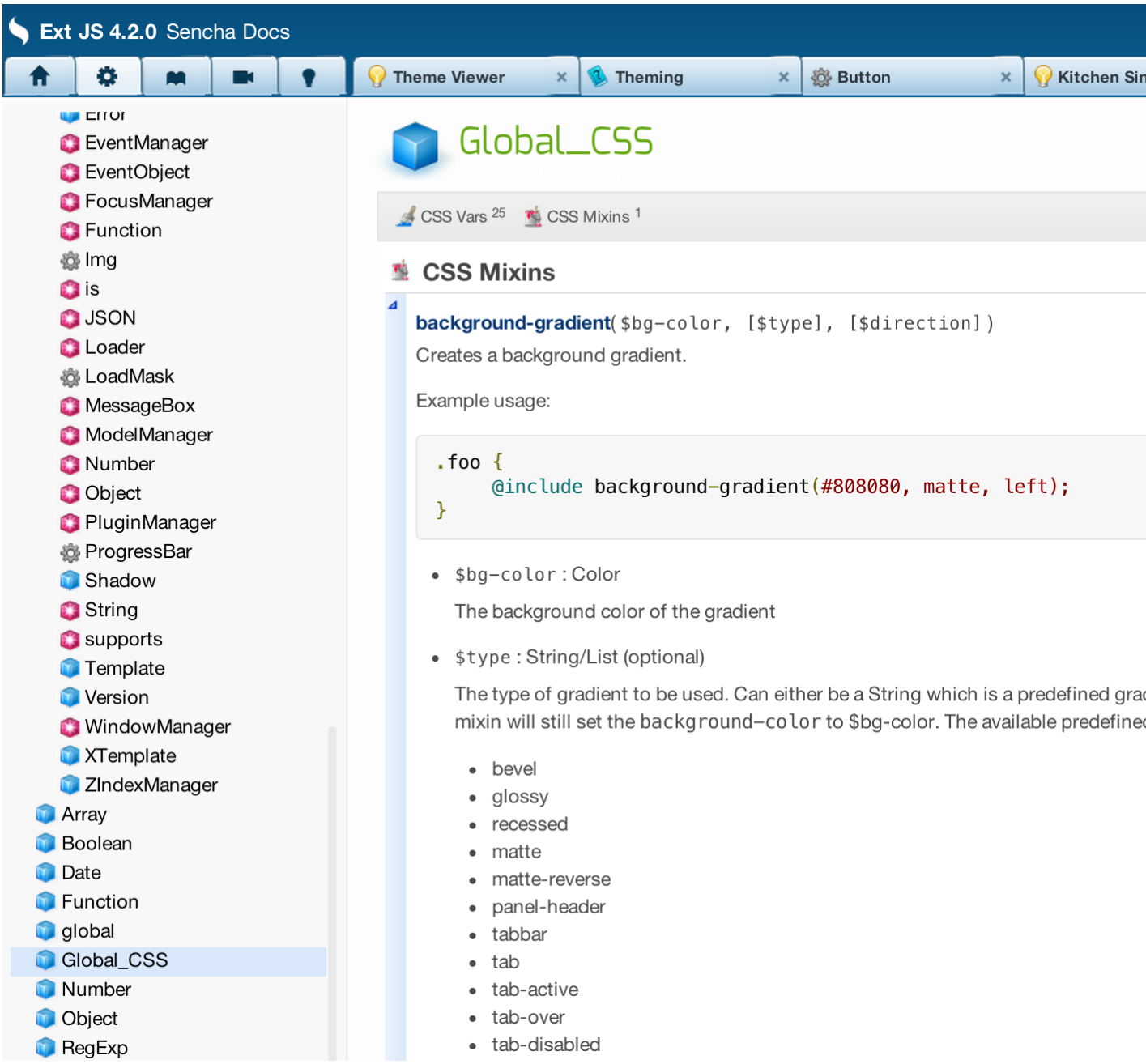
Like variables, there are two types of mixins.

- Global Mixins
- Component Mixins

10.6. Global Mixins

But there is just one global mixin…

Figure 10.2. Global CSS Mixin



http://localhost/extjs4.2.2/docs/#!/api/Global_CSS

10.6.1. Where to implement

```
packages/<theme-name>/sass/etc/all.scss
```

10.6.2. Mixin: Background-gradient

- bg-color: HEX color code
- gradient: Choose gradient type from list (see docs)
- direction: (optional) left or top.

```
.app {
     @include background-gradient(#808080, matte, left);
}
```

http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS-css_mixin-background-gradient

10.7. Component mixins

The following Ext components have their own mixins:

- `Ext.button.Button`
- `Ext.container.ButtonGroup`
- `Ext.panel.Panel`
- `Ext.tab.Panel`
- `Ext.tab.Bar`
- `Ext.tab.Tab`
- `Ext.tip.Tip`
- `Ext.toolbar.Toolbar`
- `Ext.window.Window`
- `Ext.ProgressBar`

10.7.1. Where to implement

In the labs we saved all our styles and vars here:

```
packages/<theme-name>/sass/etc/all.scss
```

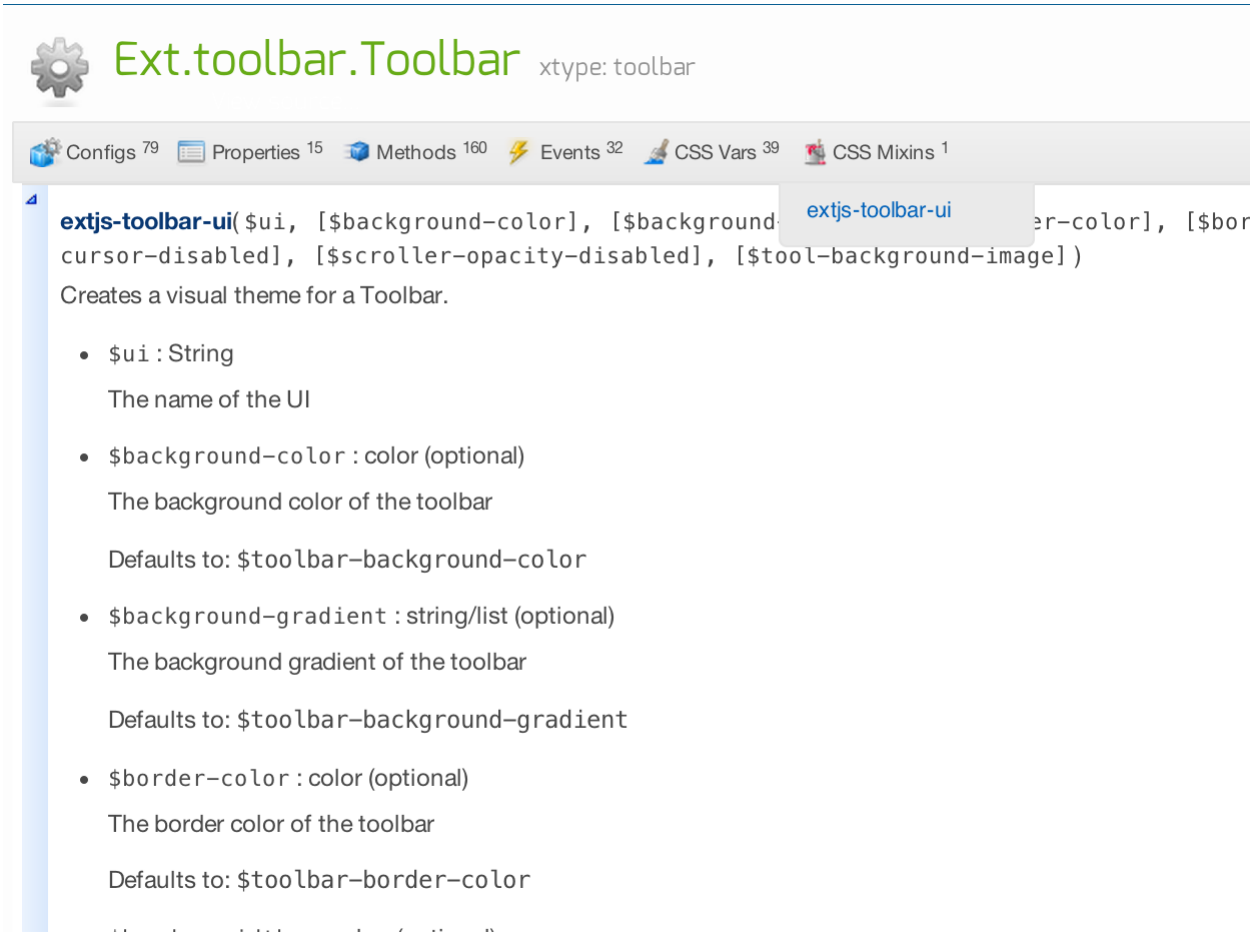
We have seen that this file grows and it’s getting harder to maintain. When you want to structure your Stylesheets, a better a location to save global vars would be:

```
packages/<theme-name>/sass/src/Component.scss
```

10.7.2. API Docs

You can figure out how to configure the mixins by checking the API Docs.

Figure 10.3. Component Mixins in API Docs



10.7.3. Mixin: Panel UI

packages/<theme-name>/sass/src/panel/Panel.scss

Example code to configure a Panel UI mixin.

```
@mixin extjs-panel-ui(
   $ui-label,
   $ui-border-color: $panel-border-color,
      $ui-border-radius: $panel-border-radius,
      $ui-border-width: $panel-border-width,
   $ui-padding: 0,
   $ui-header-color: $panel-header-color,
      $ui-header-font-family: $panel-header-font-family,
      $ui-header-font-size: $panel-header-font-size,
      $ui-header-font-weight: $panel-header-font-weight,
      $ui-header-line-height: $panel-header-line-height,
      $ui-header-border-color: $panel-header-border-color,
      $ui-header-border-width: $panel-header-border-width,
      $ui-header-border-style: $panel-header-border-style,
      $ui-header-background-color: $panel-header-background-color,
      $ui-header-background-gradient: $panel-header-background-gradient,
      $ui-header-inner-border-color: $panel-header-inner-border-color,
      $ui-header-inner-border-width: $panel-header-inner-border-width,
      $ui-header-text-padding: $panel-header-text-padding,
```

```
      $ui-header-text-transform: $panel-header-text-transform,
      $ui-header-padding: $panel-header-padding,
      $ui-header-icon-width: $panel-header-icon-width,
      $ui-header-icon-height: $panel-header-icon-height,
      $ui-header-icon-spacing: $panel-header-icon-spacing,
      $ui-header-icon-background-position: $panel-header-icon-background-position,
      $ui-header-glyph-color: $panel-header-glyph-color,
      $ui-header-glyph-opacity: $panel-header-glyph-opacity,
   $ui-tool-spacing: $panel-tool-spacing,
     $ui-tool-background-image: $panel-tool-background-image,
   $ui-body-color: $panel-body-color,
     $ui-body-border-color: $panel-body-border-color,
     $ui-body-border-width: $panel-body-border-width,
     $ui-body-border-style: $panel-body-border-style,
      $ui-body-background-color: $panel-body-background-color,
      $ui-body-font-size: $panel-body-font-size,
      $ui-body-font-weight: $panel-body-font-weight,
   $ui-background-stretch-top: $panel-background-stretch-top,
      $ui-background-stretch-bottom: $panel-background-stretch-bottom,
      $ui-background-stretch-right: $panel-background-stretch-right,
      $ui-background-stretch-left: $panel-background-stretch-left,
   $ui-include-border-management-rules: $panel-include-border-management-rules,
   $ui-wrap-border-color: $panel-wrap-border-color,
   $ui-wrap-border-width: $panel-wrap-border-width
);
```

http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.panel.Panel-css_mixin-extjs-panel-ui

10.7.4. Mixin: Window UI

packages/<theme-name>/sass/src/window/Window.scss

Example code to configure a Window UI mixin.

```
@mixin extjs-window-ui(
   $ui-label,
   $ui-padding: $window-padding,
   $ui-border-radius: $window-border-radius,
      $ui-border-color: $window-border-color,
      $ui-border-width: $window-border-width,
      $ui-inner-border-color: $window-inner-border-color,
      $ui-inner-border-width: $window-inner-border-width,
   $ui-header-color: $window-header-color,
      $ui-header-background-color: $window-header-background-color,
      $ui-header-padding: $window-header-padding,
      $ui-header-font-family: $window-header-font-family,
      $ui-header-font-size: $window-header-font-size,
      $ui-header-font-weight: $window-header-font-weight,
      $ui-header-line-height: $window-header-line-height,
      $ui-header-text-padding: $window-header-text-padding,
      $ui-header-text-transform: $window-header-text-transform,
      $ui-header-border-color: $ui-border-color,
      $ui-header-border-width: $window-header-border-width,
      $ui-header-inner-border-color: $window-header-inner-border-color,
      $ui-header-inner-border-width: $window-header-inner-border-width,
   $ui-header-icon-width: $window-header-icon-width,
      $ui-header-icon-height: $window-header-icon-height,
      $ui-header-icon-spacing: $window-header-icon-spacing,
```

```
      $ui-header-icon-background-position: $window-header-icon-background-position,
      $ui-header-glyph-color: $window-header-glyph-color,
      $ui-header-glyph-opacity: $window-header-glyph-opacity,
   $ui-tool-spacing: $window-tool-spacing,
      $ui-tool-background-image: $window-tool-background-image,
   $ui-body-border-color: $window-body-border-color,
      $ui-body-background-color: $window-body-background-color,
      $ui-body-border-width: $window-body-border-width,
      $ui-body-border-style: $window-body-border-style,
      $ui-body-color: $window-body-color,
   $ui-background-color: $window-background-color,
   $ui-force-header-border: $window-force-header-border,
   $ui-include-border-management-rules: $window-include-border-management-rules,
   $ui-wrap-border-color: $window-wrap-border-color,
   $ui-wrap-border-width: $window-wrap-border-width
);
```

http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.window.Window-css_mixin-extjs-window-ui

10.7.5. Mixin: Toolbar UI

packages/<theme-name>/sass/src/toolbar/Toolbar.scss

Example code to configure a Toolbar UI mixin.

```
@mixin extjs-toolbar-ui
   $ui,
   $background-color: $toolbar-background-color,
      $background-gradient: $toolbar-background-gradient,
   $border-color: $toolbar-border-color,
      $border-width: $toolbar-border-width,
   $scroller-cursor: $toolbar-scroller-cursor,
      $scroller-cursor-disabled: $toolbar-scroller-cursor-disabled,
      $scroller-opacity-disabled: $toolbar-scroller-opacity-disabled,
   $tool-background-image: $toolbar-tool-background-image
);
```

http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.toolbar.Toolbar-css_mixin-extjs-toolbar-ui

10.7.6. Button UIs

Different types of Button UIs

- $extjs-button-large-ui
- $extjs-button-medium-ui
- $extjs-button-small-ui
- $extjs-button-toolbar-large-ui
- $extjs-button-toolbar-medium-ui
- $extjs-button-toolbar-small-ui

10.7.7. extjs-button-ui

Default Button UI

- `$extjs-button-ui` Note: this mixin is not scale aware and therefore less common. By default the `scale` config in an `Ext.button.Button` defaults to `small`. Which will use the `$extjs-button-small-ui`. Also the `$extjs-button-ui` mixin has more more required arguments.

packages/<theme-name>/sass/src/button/Button.scss

http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.button.Button-css_mixin-extjs-button-ui

Chapter 11. Lab: Creating Custom UIs

Objectives

- Implement Button UIs
- Implement Panel UIs
- Implement Toolbar UIs
- Implement Window UIs

11.1. Button UI's

See API Docs: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.button.Button

Steps

1. **Create a new file Component.scss**

   Create this file in *packages/Goggles/sass/src*

2. **Create the button mixin extjs-button-small-ui**

   - Give this mixin the name: *blue* (`$ui`)
   - Give this mixin the following background `$background-color: lighten($blue, 20%)`
   - Give this mixin a background over color, a 10% darker `$blue`
   - Give this mixin the background disabled color, a 40% lighter `$blue`
   - Set the `border-radius` to 4px
   - Set the `color` to white
   - Set the `glyph-color` to white
   - Set the `padding` to 4px

3. **Copy and paste the previous mixin and change the mixin to ext-button-medium-ui**

   The difference is the `border-radius`, which should be set to 5px and the `padding` which should be set to 6px.

4. **Copy and paste the previous mixin and change the mixin to ext-button-toolbar-medium-ui**

5. **Copy and paste the previous mixin and change the mixin to ext-button-large-ui** The difference is the `border-radius`, which should be set to 6px and the `padding` which should be set to 8px.

6. **Assign the `blue` button mixin to the previous and next buttons**

Open *app/view/Viewport*, on the place indicated by the comment (the previous and next buttons), add the `ui: blue`.

7. **Assign the `blue` button mixin to the OK button** Open *app/view/Header.js*, on the place indicated by the comment (the OK button of the messagebox), add the `ui: blue`.

8. **Navigate on the CLI to the project folder**

9. **Build the application**

   Make sure your app is automatically compiling to CSS by running the following command on the CLI `sencha app watch`

10. **Preview your application**

    You should see blue previous and next buttons in the bottom toolbar. You should also see a blue *OK* button, when pressing the *Help > About* button.

11.2. Panel UIs

See API DOCS: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.panel.Panel

Steps

1. **Create the following mixin for Panels, see Example 11.1, “Create a new UI for panels”**

Example 11.1. Create a new UI for panels

```
@include extjs-panel-ui(
    'light',
    $ui-header-color: lighten(#15c, 20%),
    $ui-header-background-color: #fff,
    $ui-header-line-height: 14px,
    $ui-header-font-size: 12px,
    $ui-header-font-weight: bold,

    $ui-border-color: #fff,
    $ui-border-radius: 4px,
    $ui-body-background-color: #fff,
    $ui-body-font-size: 14px,

    $ui-padding: 10px
);
```

2. **Assign the `light` panel mixin to the feed panel**

   Open *app/view/Viewport.js*, on the place indicated by the comment (the feed panel), add the `ui: light`.

11.3. Toolbar UIs

See API DOCS: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.toolbar.Toolbar

Steps

1. **Create the following mixin for Toolbars, see Example 11.2, “Create a new UI for toolbars”**

Example 11.2. Create a new UI for toolbars

```
@include extjs-toolbar-ui(
    'gray',
    $background-color: lighten($gray, 10%),
    $border-width: 0
);
```

2. **Assign the `gray` toolbar mixin to the toolbar**

   Open *app/view/Viewport.js*, on the place indicated by the comment (the toolbar), add the `ui: gray`.

11.4. Window UIs

See API DOCS: http://docs.sencha.com/extjs/4.2.1/#!/api/Ext.window.Window-css_mixin-extjs-window-ui

Steps

1. **Create the following mixin for Windows, see Example 11.3, “Create a new UI for toolbars”**

Example 11.3. Create a new UI for toolbars

```
@include extjs-window-ui(
    'blue',

    $ui-header-font-size: 12px,
    $ui-header-font-weight: bold,
    $ui-header-color: #fff,
    $ui-header-background-color: lighten(#15c, 20%),

    $ui-border-color: #fff,
    $ui-border-radius: 4px,
    $ui-body-background-color: #fff
);
```

2. **Assign the `blue` window mixin to the messagebox**

   Open *app/view/Header.js*, on the place indicated by the comment (the messagebox), add the `ui: blue`.

3. **Preview the application** Your ExtReader app should have the looks of Figure 11.1, “Preview of the Goggles with custom UIs”.

Figure 11.1. Preview of the Goggles with custom UIs

Chapter 12. Implementing assets

12.1. Objectives

- Learn how to implement images
- Lean about paths to resources
- Learn how to implement custom fonts
- Learn how to implement custom icons

12.2. Implementing Images

There are a couple of ways of implementing images in Ext JS

- Implementing an image by using the `html` tag. Easy but dirty.
- Implementing an image by using `Ext.Img` class. Very powerful.
- Implementing a background image in the CSS Structured.

12.2.1. Folder structure

Where to save the images?

When app specific: *[workspace]/resources/* folder.

When global theme: *[workspace]/packages/[theme]/resources/* folder.

12.2.2. Image HTML tag

```
items: [{
    xtype: 'container',
    html: '<img src="resources/logo.png" height="25" alt="ExtReader"/>'
}]
```

12.2.3. Image Ext.Img class

```
items:[{
        xtype: 'image',
    src: 'resources/logo.png',
    alt: 'ExtReader',
    height: 25
}]
```

12.2.4. Background image in CSS

In Ext JS view:

```
items: [{
    xtype: 'container',
    cls: 'mybackground'
}]
```

In Sass:

```
.mybackground {
        background: #fff url('background.png') repeat-x;
}
```

12.2.5. Paths to resources

You don’t need to worry about paths to images in Ext JS since it’s part of the application build process.

When building the app, the global theme images and the app specific images will be automatically copied over to the resources build folder. *(build/[appname]/resources)*

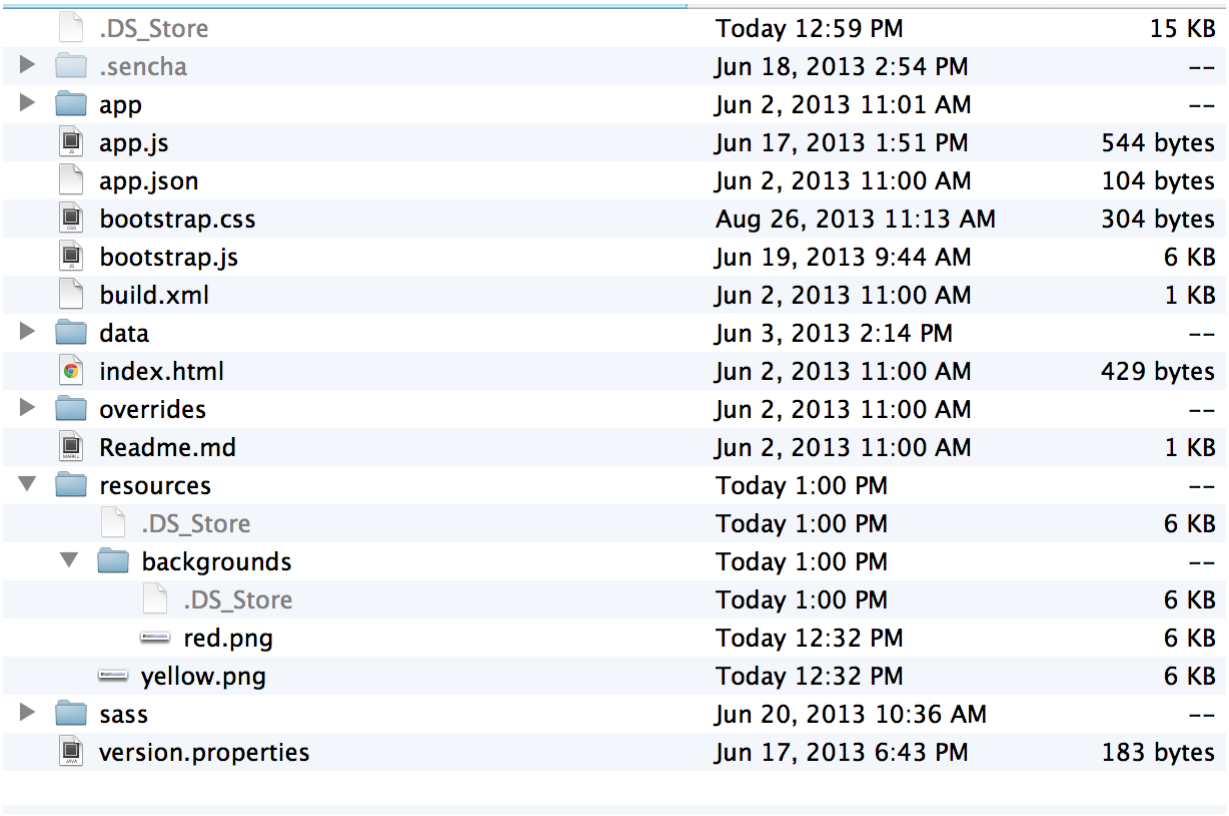
Note: subfolders will be copied too!

12.2.6. Paths global

```
/* red image: resources/backgrounds/red.png */
.bgred {
        background: url('backgrounds/red.png') repeat-x;
}
```

```
/* yellow image: resources/yellow.png */
.footer {
        background: url('yellow.png');
}
```

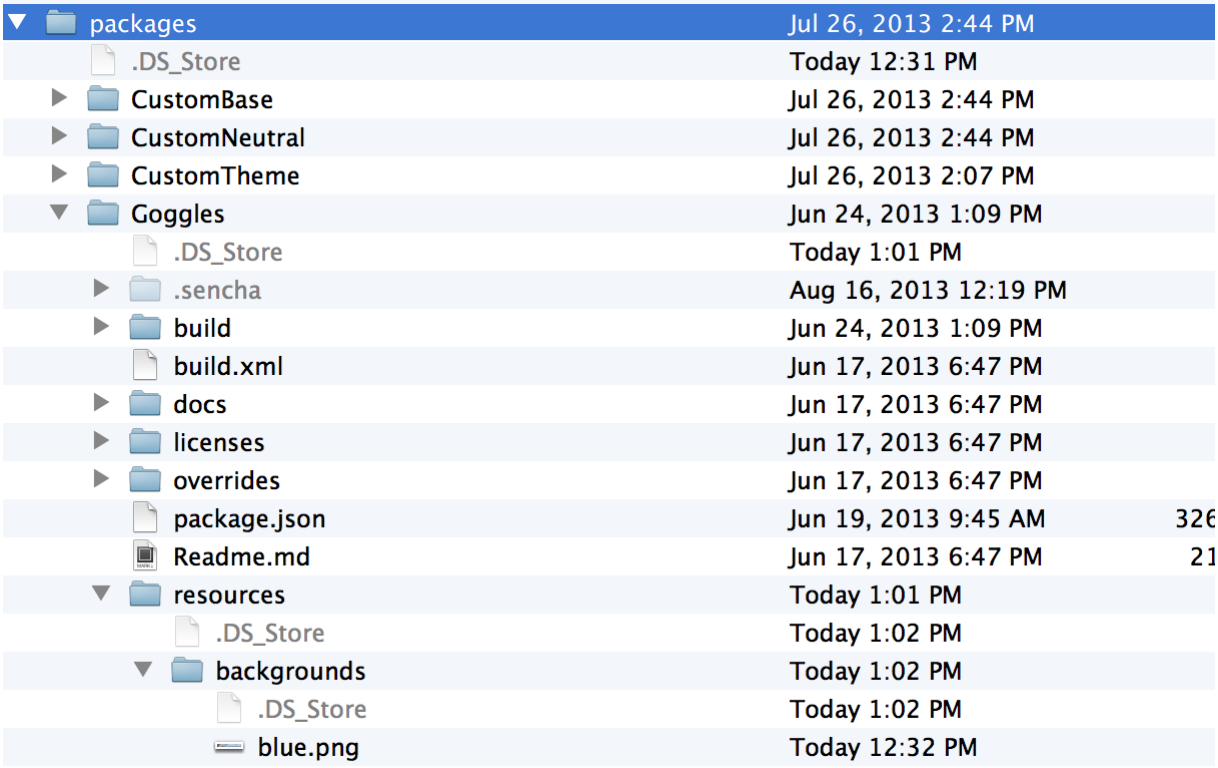
Figure 12.1. Paths to global resources



12.2.7. Paths app specific

```
/* blue image: packages/[mytheme]/resources/backgrounds/blue.png */
.bgblue {
        background: url('backgrounds/blue.png') repeat-x;
}
```

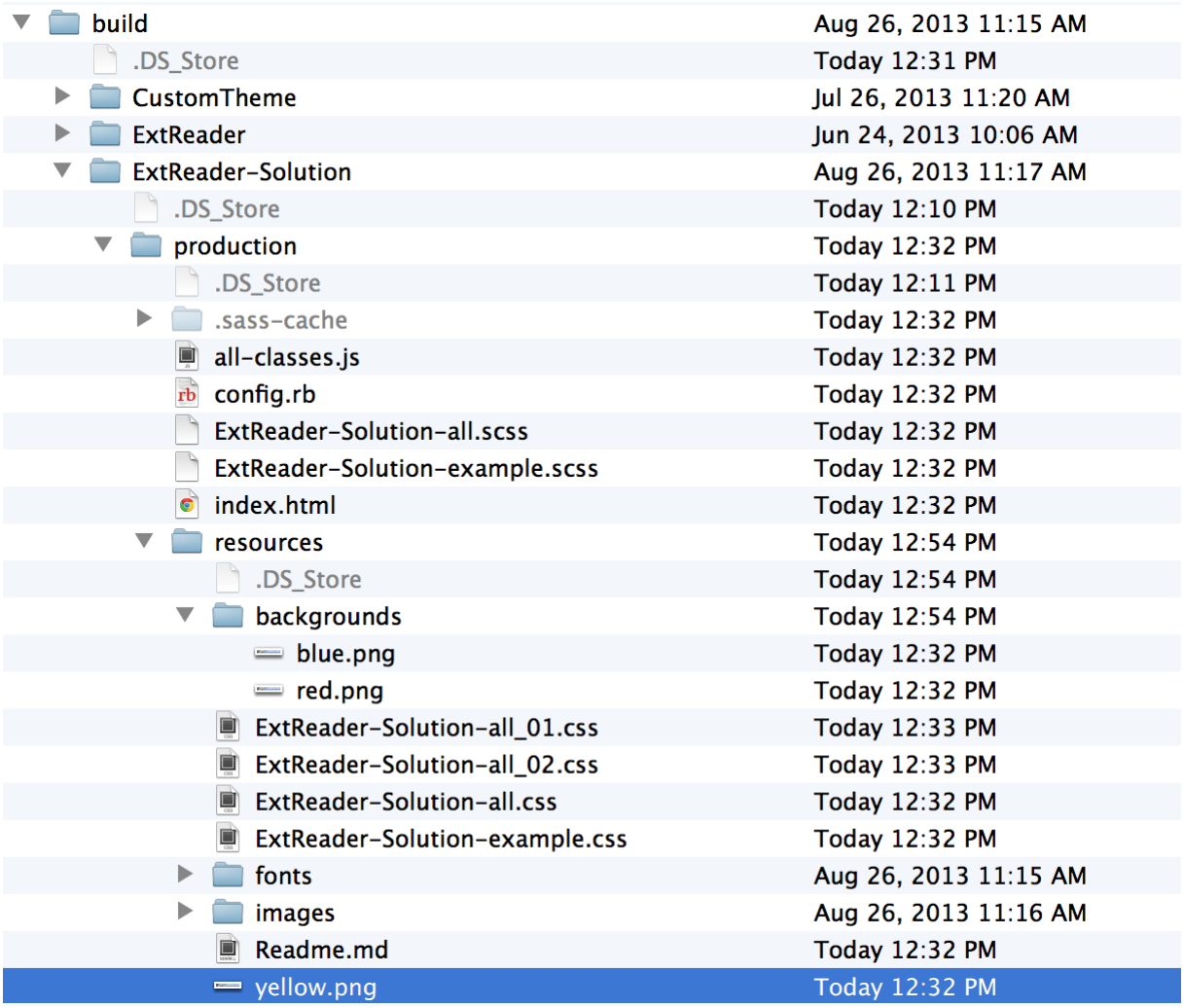
Figure 12.2. Paths to app specific resources



12.2.8. Paths in build

Images saved in *packages/[mytheme]/resources* and images saved in *[myapp]/resources/*. will be copied to the *build/[appname]/resources* folder.

Figure 12.3. Paths to all resources after build.



12.2.9. Paths to resources

Under the roots, this happens also with paths in `Ext.Img` classes and image tags and other resources such as fonts.

However, while developing you would point images to the */resources/* folder, since you don't want to build every time while developing. Once you build, Sencha Cmd will take care.

12.2.10. Base64 encode instead

Images can be saved to Base64 strings. (Binary to ASCII Text). It's a technique what's been used for years for sending email image attachments. When you are not familiair with Base64 strings, they look like these:

```
<LONG BASE64 STRING WITH ENCODED DATA>"
```

An advantage of a string like this, is that you can cache it, maybe you want to save it in a database. Instead of an URL to a path you pass in the Base-64 string.

12.2.11. Overriding images

When you are extending from other themes, some components contain images that are inherited from a parent theme.

In some cases you may need to override an image. This can be easily done by placing the desired image in *packages/[mytheme]/resources/images/* and giving it the **same name** as the image it is intended to override.

For example, let’s change the info icon of the MessageBox component. Save the following image as *packages/[mytheme]/resources/images/shared/icon-info.png* === Implementing custom fonts .The following steps are required to implement a custom font.

1. Download a font-face kit
2. Create *fonts* folder in resources folder.
3. Implement font in Sass
4. Assign font
5. Build

12.2.12. About @font-face

`@font-face` is a CSS technique used nowadays to implement custom web fonts. Where with system fonts it picks the font if available in your OS, `@font-face` downloads the font from the Internet.

Unfortunately the major browsers can’t come up with one web font solution. Therefore you have to embed multiple web font extensions into your Stylesheet. See Table 12.1, “Cross-browser compatibility overview of font-face”.

12.2.13. Compatibility

Table 12.1. Cross-browser compatibility overview of font-face

Browser	**TTF**	**EOT**	**WOFF**	**SVG**
Google Chrome	X	_	X	X
Safari	X	_	X	X
Mobile Safari	X	_	X	X
IE10	_	X	X	_
Android Browser	X	_	_	X
BlackBerry Browser	X	_	X	X
Firefox	**X**	**_**	**X**	**_**

12.2.14. Where to get fonts from?

Download an `@font-face` kit

- http://www.fontsquirrel.com/
- http://www.fontex.org/

A font service:

- http://www.google.com/fonts
- https://typekit.com/

12.2.15. Implement font in Sass

```
@font-face {
    font-family: 'DroidSansBold';
    src: url('../resources/fonts/DroidSans-Bold-webfont.eot');
    src: url('../resources/fonts/DroidSans-Bold-webfont.eot?#iefix') format('embedded-op
         url('../resources/fonts/DroidSans-Bold-webfont.woff') format('woff'),
         url('../resources/fonts/DroidSans-Bold-webfont.ttf') format('truetype'),
         url('../resources/fonts/DroidSans-Bold-webfont.svg#DroidSansBold') format('svg'
    font-weight: normal;
    font-style: normal;
}
```

12.2.16. Base64 for fonts!

Yes it’s possible to Base64 encode fonts!

To get a Base64 font, upload and encode every font extension to an encoder:

http://www.opinionatedgeek.com/dotnet/tools/base64encode/

It will present you the Base64 for each font file. These Base64 strings you can implement in your Sass.

12.2.17. Base64 font example

```
@font-face{
 font-family: "DroidSansBold";
 src: url(data:font/tff;base64,<here>) format('TrueType'),
       url(data:font/svg;base64,<here>) format('svg'),
       url(data:font/eot;base64,<here>) format('eot'),
       url(data:font/woff;base64,<here>) format('woff');
}
```

12.2.18. Assign font

Set a CSS class on a component, to target it from the CSS.

```
.mycomponent {
    font-family: 'DroidSansRegular';
    line-height: 1.6em;
}
```

12.2.19. Px or Em ?

Pixels Pixels (px) are fixed-size units that are used in screen media. One pixel is equal to one dot on the computer screen (the smallest division of your screen's resolution). Many web designers use pixel units in web documents in order to produce a pixel-perfect representation of their site as it is rendered in the browser.

Ems "Ems" (em): The *em* is a scalable unit that is used in web document media. An em is equal to the current font-size, for instance, if the font-size of the document is 16px, 1em is equal to 16px. Ems are scalable in nature, so 2em would equal 32px, .5em would equal 8px, etc.

In theory, using em instead of px will allow the layout to re-size more easily based on user preferences. But nowadays, modern browsers can resize px layouts as well as em layouts so it might not be as relevant as it was some years ago.

12.2.20. Px / Ems converters

When you think the calculation of ems is annoying… Let's Sass calculate it for you!

Example em mixin and px mixin.

```
@function em($target, $context: $base-font-size-em) {
   @if $target == 0 { @return 0 }
   @return $target / $context + 0em;
}

@function px($target, $context: $base-font-size) {
   @if $target == 0 { @return 0 }
   @return $target / $context + 0px;
}
$base-font-size: 15px;
```

12.2.21. Build

A `build` process is required in order to see the newly implemented fonts. This will copy and link the fonts to the build folder.

`sencha app build` === Implementing Glyps and Icons .The following steps are required to implement a custom icon font.

1. Choose an icon font
2. Create a font pack
3. Download the icon font.
4. Implement icon font in Sass

5. Assign icon font

6. Build

12.2.22. About icon fonts

Icons delivered as a font file and mapped to (HEX) character codes. Icon font can be embedded with CSS like any other custom font.

12.2.23. Icon fonts why?

Why icon fonts?

- Icon Fonts are vectors. Icons can easily change size and they are always best quality. Perfect on Retina displays.
- No need for Photoshop Icon Fonts can change colors, shades, contrasts and have no background. Customizable with CSS
- Screen reader compatible Font icons won’t spam your screen reader. No additional markup is required.

12.2.24. Where to get icon fonts from?

http://icomoon.io/app http://www.pictos.cc http://fontello.com/ http://fortawesome.github.io/Font-Awesome/

Convert text to unicodes: http://www.branah.com/unicode-converter

12.2.25. Create a font

Create your own font by selecting icons.

- Set character and unicode to the every icon.
- Set default font metrics (for example 16px)
- Give the font a name

12.2.26. Example: IcoMoon

Figure 12.4. Create your own custom font with IcoMoon.io

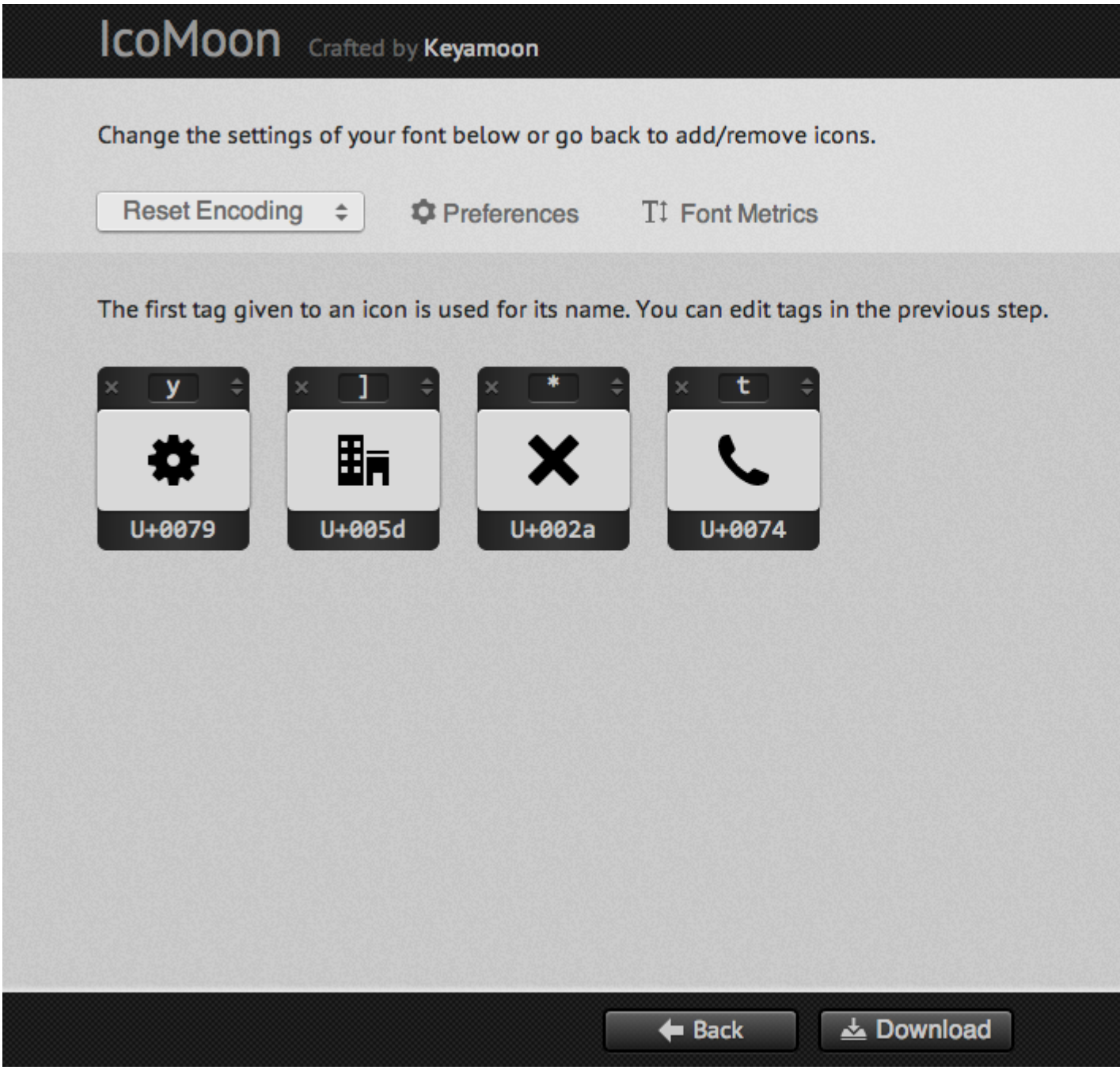
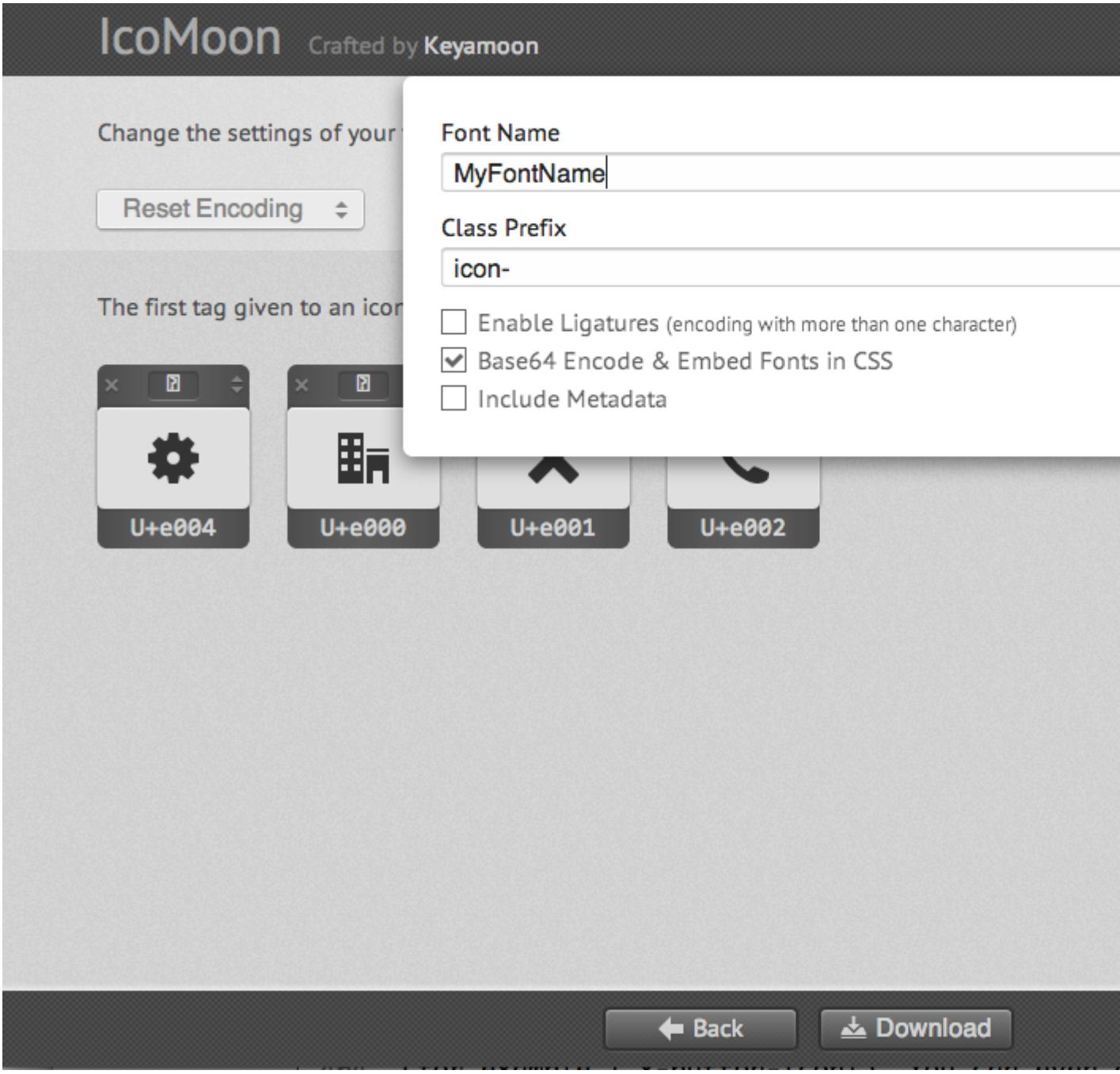
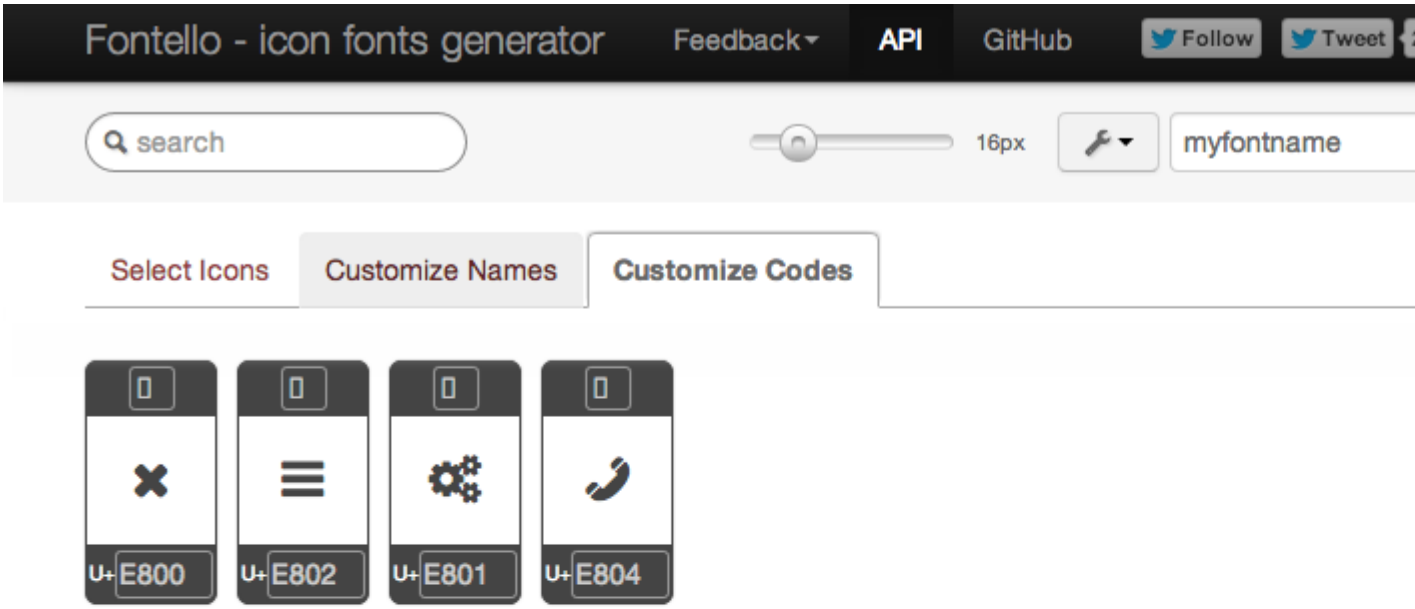


Figure 12.5. Create your own custom font with IcoMoon.io



12.2.27. Example: Fontello

Figure 12.6. Create your own custom font with Fontello.com



12.2.28. Implement icon font in Sass

This works exact the same as implementing any other font.

Sometimes the CSS file is included with the font kit download.

```
@font-face {
  font-family: 'MyFont';
  src: url('font/myfont.eot?22334');
  src: url('font/myfont.eot?22334#iefix') format('embedded-opentype'),
       url('font/myfont.woff?22334') format('woff'),
       url('font/myfont.ttf?22334') format('truetype'),
       url('font/myfont.svg?22334#myfont') format('svg');
  font-weight: normal;
  font-style: normal;
```

```
}
```

Again don’t worry about the paths, since it will be part of the build process.

12.2.29. About Glyphs

To assign custom icons to Ext JS components you can use the `glyph` config.

- Specify the decimal code that maps to the unicode character you choose while you’ve created the font pack. You can convert the character to a decimal with converters: http://www.branah.com/unicode-converter
- Specify the name of the font.

```
glyph: '115@MyFont',
```

12.2.30. More about Glyphs

When no font is specified, the Pictos icon font will be used.

```
glyph: '71',
```

Use `Ext.setGlyphFontFamily();` to set the icon font programmetically.

12.2.31. Out of the box glyhs

```
var buttons = [];

for (var i = 33; i < 127; i++) {
    buttons.push({
        xtype: 'button',
        text: i,
        scale: 'medium', // Try 'small' and 'large'
        glyph: i + '@Pictos'  // alternate config if Ext.setGlyphFontFamily() was not se
    });
}

Ext.create('Ext.panel.Panel', {
    renderTo: Ext.getBody(),
    title: 'Sample',
    height: 500,
    width: 620,
    defaults: {
        xtype: 'button',
        margin: 2
    },
    autoScroll: true,
    items: buttons
});
```

12.2.32. Icon CSS Classes

Some components have no `glyph` property. It’s still possible to create custom icons.

This trick can be done with the CSS pseudo selectors: `:before` and `:after` that implement content before or after the component in the DOM.

```
.myclass:before {
    content: "C"; //character mapped to an icon
    font-family: 'MyIconFont'; //icon font

    color: red; //set additional colors or dimensions...
    margin-right: 10px;
}
```

12.2.33. Image icons

It’s also possible to use images as icons.

- `icon` - path to an image
- `iconCls` - a CSS class specifying a background image
- `iconAlign` - align icon to *`top`*, *`right`*, *`bottom`* and *`left`*

```
Ext.create('Ext.panel.Panel', {
    title : 'Panel',
    renderTo : Ext.getBody(),
    height : 200,
    bodyPadding : 16,
    defaults : {
        margin: 8
    },
    layout : 'vbox',
    items : [{
        xtype : 'button',
        text : 'Sunny',
        icon : 'resources/images/weather_sun.png'
    }, {
        xtype : 'button',
        text : 'Rainy',
        icon : 'resources/images/weather_rain.png',
        iconAlign : 'right'
    }]
});
```

12.2.34. Build

A `build` process is required in order to see the newly implemented fonts. This will copy and link the fonts to the build folder.

```
sencha app build
```

Chapter 13. Lab: Implementing assets

Objectives

- Imlpement images
- Implement fonts
- Implement custom icons & glyphs

13.1. Implement images

Steps

1. **Open with your editor the following file:**

   extreader/app/view/Header.js

2. **Where indicated by the comment add an image tag that points to the following image**

   ```
   <img src="resources/logo.png" height="25" alt="ExtReader"/>
   ```

13.2. Implement custom fonts

Steps

1. **Download a nice free font**

   For example: Droid Sans. Make sure you download the full webfont-kit http://www.fontsquirrel.com/fonts/Droid-Sans

2. **Unzip the package somewhere on your harddrive**

3. **Create a new fonts folder**

   Create this folder in: *packages/resources*

4. **Copy all the fonts into the new folder**

   The *packages/resources/fonts* folder.

5. **Open packages/Goggles/sass/etc/all.scss**

6. **Setup fontface for DroidSansRegular and DroidSansBold**

Example 13.1. Setup fontface for DroidSansRegular and DroidSansBold

```
/* fonts */
@font-face {
    font-family: 'DroidSansRegular';
```

```
    src: url('../resources/fonts/DroidSans-webfont.eot');
    src: url('../resources/fonts/DroidSans-webfont.eot?#iefix') format('embedded-opent
         url('../resources/fonts/DroidSans-webfont.woff') format('woff'),
         url('../resources/fonts/DroidSans-webfont.ttf') format('truetype'),
         url('../resources/fonts/DroidSans-webfont.svg#DroidSansRegular') format('svg'
    font-weight: normal;
    font-style: normal;

}

@font-face {
    font-family: 'DroidSansBold';
    src: url('../resources/fonts/DroidSans-Bold-webfont.eot');
    src: url('../resources/fonts/DroidSans-Bold-webfont.eot?#iefix') format('embedded-
         url('../resources/fonts/DroidSans-Bold-webfont.woff') format('woff'),
         url('../resources/fonts/DroidSans-Bold-webfont.ttf') format('truetype'),
         url('../resources/fonts/DroidSans-Bold-webfont.svg#DroidSansBold') format('sv
    font-weight: normal;
    font-style: normal;
}
```

7. **Now we will make sure that these fonts only apply for the main center panel**

Example 13.2. Add styles for the .main CSS class

```
/* main feeds */
.main {
    font-family: 'DroidSansRegular';
    line-height: 1.6em;

    h1 {
        color: $blue;
        font-family: Arial, sans-serif;
        font-size: 20px;
        line-height: 24px;
    }

    a {
        color: $blue;
    }

    bold {
        font-family: 'DroidSansBold';
    }
}
```

8. **Build the app**

   So the theme knows the font locations and test your application. Your app should contain the new font, in the *main* center panel.

13.3. Implement custom icons

Steps

1. **Go to http://icomoon.io/app**

2. **Select the icons below, and download a package**.

You will need the following icons:

- an icon for RSS feeds - you will map this icon to the *r* character
- an icon for the help button - you will map this icon to the *h* character
- an icon for the subscribe button - you will map this icon to the *s* character
- an icon for the form popup - you will map this icon to the *e* character

3. **Setup the font pack**

   In the *preferences* screen select *preferences*, and give your font the name: *ExtReader*. Also check *base64* encoding.

4. **Unzip the icon font pack somewhere on your harddrive**
5. **Copy the font folder over**

   Copy it to the fonts folder: *extreader/resources/fonts* . **Copy the CSS rules of style.css**

   Copy it to: *packages/sass/etc/* and rename it to *all.scss*. Start with a comment: //font icons

6. **Open packages/sass/etc/all.scss and fix the path to resources/fonts/ExtReader.eot**
7. **Build the app**

   From now on the theme and the application know the icon font location.

13.3.1. Glyphs

Steps

1. **Open extreader/app/view/Header.js**
2. **Indicated by the comment, create a glyph attribute**

Point it to some decimal unicode and the Icon font:

- The glyph for the subscribe button will map to the *s* character. Therefore you will need the decimal unicode that maps to the *s* character.
- Use a converter to generate this: http://www.branah.com/unicode-converter
- The *s* character will become an icon, when you use the correct font. Therefore also set the name font that should be used:

```
glyph: '115@ExtReader',
```

3. **Create a glyph for the help button**

Indicated by the comment; the help icon should map to the *h* character. ou may uncomment the line with: `text: 'Help'`, in that case you will have a button with only an icon and no text.

Create a glyph for the edit button. + Open *extreader/controller/Main.js*, where indicated by the comment, add a glyph that points to the *e* character of the iconfont.

13.3.2. Icon Classes

Steps

1. **On the bottom of the extreader/sass/etc/all.scss stylesheet add the styles of <<code5_iconclasses>**

   Create CSS classes that point to icons.

   ```
   .x-tree-node-text:before {
       content: "r";
       margin-right: 5px;
       font-family: 'ExtReader';
   }
   ```

   This will make sure that every tree node (with class `x-tree-node-text`), has a little icon before the text. We set the content to the *r* character to map to the rss feed icon. We do have to set a font that points to our icon font name, and we set a margin-right to align the icon nicely.

Chapter 14. Sharing Themes

14.1. Objectives

- Learn about global themes
- Learn about app specific themes

14.2. Introduction

Multiple apps can share the same theme, since themes are located in the **packages** folder.

Multiple apps can share the same global theme. image::../../images/sharediagram1.png

14.3. App specific

Now in the previous example, it wouldn't make much sense that the Audio app has a Stylesheet that contains styles for the video player.

So there must be a way to also save CSS styles on app level. That's why each generated app has an own sass folder: **app/sass/**.

Some styles are specific for apps, those styles shouldn't be written in a global theme. image::../../images/sharediagram2.png

14.4. Global vs App specific

Styling that is not shared between applications belongs in the application itself, not in the theme. Sencha Cmd provides an easy way to add application-level styling by following the same pattern as theme styling. The application acts as the final level in the theme hierarchy. Applications can change theme variables, and they can add their own custom variables and rules for styling the application's views.

Global themes are saved in the *packages/sass* folder.
App specific styles are saved in the *myapp/sass/* folder.

14.5. Order of Loading.

1. First the **Global Theme** is loaded.
2. Then the **app specific styles**.

14.6. Global theme folderstructure

As we have seen in lecture; a Global theme has the following folderstructure.

- sass
  - etc
    contains additional utility functions or mixins
    all.scss
  - src
    contains Sass rules and UI mixins
    button/Button.scss
    panel/Panel.scss
    …
  - var
    contains Sass variables
    button/Button.scss
    panel/Panel.scss
    …

The files in the *src* and *var* folders are organized according the folderstructure of the framework. For example to style a `Ext.grid.Panel` you should create a folder and Sass file: *grid/Panel.scss*.

14.7. Is this structure for styles on app level the same?

No. It is different. Although you could change it; in the (hidden) sencha config file: *myapp/.sencha/sencha.cfg*

14.8. sencha.cfg

By default when you generate an application with Sencha Cmd, it is configured that app specific styles map to the filestructure of your application.

myapp/.sencha/sencha.cfg

```
# The root namespace to use when mapping scss resources to js classes
# in the sass/src and sass/var directories
app.sass.namespace=ExtReader
```

14.9. App specific folderstructure

To organize app specific Sass files, you should map your app file structure. For example:

- sass
  - etc
    contains additional utility functions or mixins
    all.scss
  - src

contains Sass rules and UI mixins
view/Viewport.scss
view/Header.scss
view/Grid.scss
…

- var
  contains Sass variables
  view/Viewport.scss
  view/Header.scss
  view/Grid.scss
  …

src/view/Viewport.scss because of `MyApp.view.Viewport`
src/view/Header.scss because of `MyApp.view.Header`
src/view/Grid.scss because of `MyApp.view.Grid.scss`

14.10. Who is winning?

Ok, you've created a global theme and some app specific styles. Let's say you set a `$base-color` on both. A blue $base-color in the global theme and a red $base-color in the app specific styles.

Who is winning?

14.11. Answer

You would think the app specific variable would win… But this is not the case. The global theme will always win, unless you allow variables to be overruled.

14.12. !default

The `!default` setting, can set a default value for a variable.

The `!default` setting can allow a variable in your **global theme** to be overruled by a variable in an app specific theme.

*It's not the same as `!important`; that's the opposite (but on CSS rules, not on Sass variables); When you set this, you can **not** override the CSS rule. Therefore `!important` is a bad practice.*

14.13. Example

See the next slides for an example of this works.

14.13.1. Create app specific styles

This app has a `MyApp.view.Viewport` class; so we will apply the `$base-color` to this component on app level.

myapp/sass/src/view/Viewport.scss.

```
$base-color: red;
```

The app specific styles are winning. (The only available styles.). image::../../images/share_red.png

14.13.2. Create a new theme

Assign a new theme to your app. Every Ext view component extends from `Ext.Component`, so we will apply the `$base-color` globally to this component.

packages/mytheme/sass/src/Component.scss.

```
$base-color: blue;
```

The global theme is winning. (In general global themes always win.). image::../../images/share_blue.png

14.13.3. Overwrite global vars

Change the global theme to allow variable overwrites.

packages/mytheme/sass/etc/all.scss.

```
$base-color: blue !default;
```

The app specific styles are winning. (Global variable allows to be overwritten.). image::../../images/share_red.png

Chapter 15. Performance

15.1. Objectives

- Learn how to optimize the Stylesheet

15.2. Introduction

There are some tricks to improve performance of your web application that are related to your CSS styling. The smaller your CSS Stylesheet, the better performance.

We will talk about the following topics:

- Change CSS output for used components
- Remove CSS output for supported browsers
- Compress CSS Stylesheet

15.3. Sencha app build

While building your application with Sencha Cmd, two important tricks to improve CSS performance are **automically** included in the build process:

- Remove unused CSS rules
- Compress CSS Stylesheet

```
sencha app build
//or
sencha app watch
```

15.4. Changes CSS output

When you build your application with Sencha Cmd, your CSS file will contain only the CSS needed for the components you are actually using. This also works for views you define, so your application can organize its Sass as a mirror image of its JavaScript — a huge help as your application grows over time.

15.5. What happends under the hood

Your CSS output specific for the application will be automatically maintained by Sencha Cmd. You can find exactly an overview of all the styles that are included and excluded in the following file:

/build/ExtReader/production/Goggles.scss

15.6. Compress CSS

When using Sencha Cmd, it will automatically compress your generated CSS file. Under the hood, this has been done by Compass which runs in Sencha Cmd based on the output_style setting in **config.rb**

Table 15.1. Compression levels

Setting	Description
`:nested`	Nested style is the default Sass style, because it reflects the structure of the CSS styles and the HTML document they're styling. Each property has its own line, but the indentation isn't constant. Each rule is indented based on how deeply it's nested. (This setting is used when you create a test build.)
`:expanded`	Expanded is a more typical human-made CSS style, with each property and rule taking up one line. Properties are indented within the rules, but the rules aren't indented in any special way.
`:compact:`	Compact style takes up less space than Nested or Expanded. It also draws the focus more to the selectors than to their properties. Each CSS rule takes up only one line, with every property defined on that line. Nested rules are placed next to each other with no newline, while separate groups of rules have newlines between them.
`:compressed`	**Compressed style takes up the minimum amount of space possible, having no whitespace except that necessary to separate selectors and a newline at the end of the file. It also includes some other minor compressions, such as choosing the smallest representation for colors. It's not meant to be human-readable. (This setting is used when you create a production build.)**

15.7. Performance Variables

In general frameworks are made to support as much usecases and browsers. Sencha Touch has some Sass variables that are related to performance; (it increases your Stylesheet), by default they are enabled (set to `true`) to support all these usecases and browsers.

The next slides explain, which settings you can turn off if you don't support that particular usecase or browser.

15.7.1. Disable browsers

By default Ext JS includes all browsers, these variables are set to `true`. However if you don’t support a particular browser you can disable these so the file size of your Stylesheet will become smaller.

Set these variables on app level

- `$include-chrome`
- `$include-ff`
- `$include-ie` (Old IE (< IE10))
- `$include-opera`
- `$include-safari`
- `$include-webkit`

http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS

15.7.2. More information

The "good" browsers (chrome/ff/safari/opera) require very few browser-specific hacks and thus you will see little or no difference in CSS file size when turning these rules off.

The big one is $include-ie. $include-ie will turn off all IE-specific rules for IE9 and below. IE10 is considered a modern browser - the rules that work in the other modern browsers also work in IE10, so there are no IE10-specific hacks required.

15.7.3. Disable not found images

Enable the inclusion of files which are not found when compiling your Sass. This setting is enabled by default.

`$include-not-found-images`

You’ll only see a decrease in file size if your stylesheet references images that do not exist on disc - most themes should not reference non-existent images.

http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS-css_var-S-include-not-found-images

15.7.4. Disable default uis

True to include the default UI for each component.

`$include-default-uis`

This controls the generation of the "default" ui for components. If set to false, you wouldn’t get the default styling for panels, buttons, etc. So this should greatly reduce the stylesheet size, but you probably wouldn’t want to do this, since it disables default styling.

http://docs.sencha.com/extjs/4.2.1/#!/api/Global_CSS-css_var-S-include-default-uis

Chapter 16. Theming with Sencha Architect

16.1. Objectives

- Learn about app templates
- Learn how to create a theme with Sencha Architect
- Learn how to use variables in Sencha Architect
- Learn how to use skins (mixins) in Sencha Architect
- Learn how to implement images in Sencha Architect
- Learn how to implement custom CSS
- Learn how to export a theme in Sencha Architect

16.2. Introduction

16.2.1. Open a Sencha Architect project

16.2.2. Create a theme

16.2.3. Theming

Vars

Skins

Images

16.2.4. How to create custom CSS

16.2.5. Exporting

Chapter 17. Lab: Theming with Sencha Architect

Objectives

- Create a custom theme with Sencha Architect
- Extend from a Sencha theme with Sencha Architect
- Create a color palette
- Theme with Sencha Architect
- Create styles for templates with Sencha Architect
- Create a custom UI with Sencha Architect
- Save themes in the toolbox

17.1. Starting Sencha Architect

Steps

1. **Start Sencha Architect**
2. **Press: Create New**

   See Figure 17.1, “Start Sencha Architect”.

Figure 17.1. Start Sencha Architect

1. **Choose: starter apps > Task List**

   Sencha Architect will start with a default working app: *The Task List*.

2. **Press the Save button**

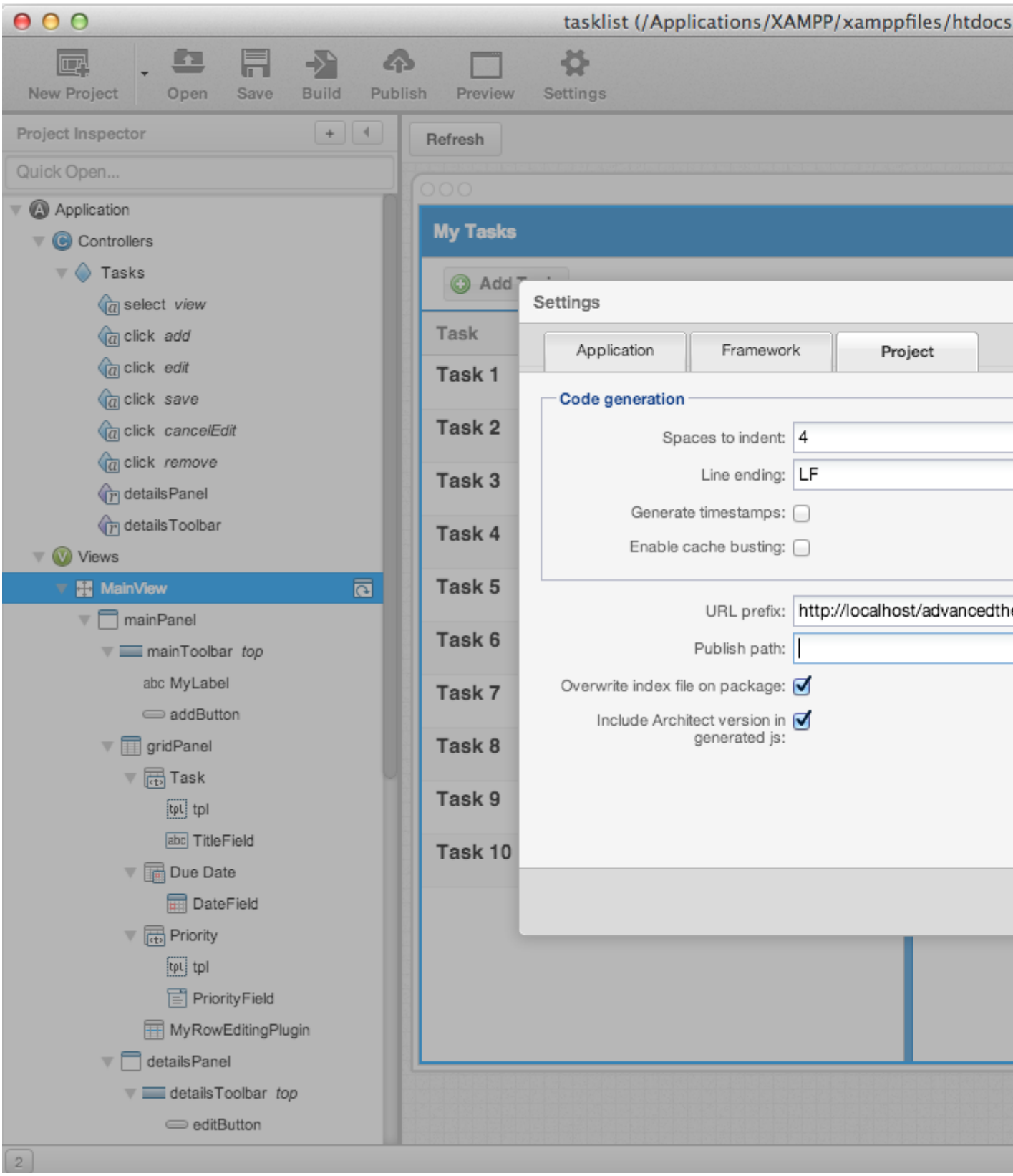
   Save the project under: *htdocs/advancedtheming/*. Give it the project name: *tasklist*

3. **Press the Settings button**

   Set the url prefix to: *http://localhost/advancedtheming/tasklist*

   See Figure 17.2, “Save Sencha Architect Project”.

Figure 17.2. Save Sencha Architect Project



17.2. Creating and extending from a Sencha theme

1. **In the toolbox, filter on Themes**

2. **Select the Neptune based theme and drag this into the Project Inspector > Resources**

   When it worked correct, Sencha Architect will ask you if you want to apply this theme. Click *Yes*. In your *Project Inspector > Resources* you will see *MyNeptuneTheme(applied)*.

3. **Rename the theme**

   Select the *MyNeptuneTheme* and in the config panel change the name to: *DarkTheme*.

4. **Select the Globals tab**

5. **Create a color palette**

   Filter for `base-color`. Click the color, and in the color picker, select the colors below and add these to the palette:

   - #474747
   - #373737
   - #313131
   - #232323
   - #dddddd
   - #94fd8a
   - #60a500

6. **Create the base-color**

   Still in the color palette, ivoked from the `base-color` property, select the color `#313131` in the palette and press *ok*.

7. **Create the toolbar background color**

   Filter for: `toolbar background` and change the white color to the color `#474747`.

8. **Create the panel body background**

   Filter for: `panel body background` and change the white color to the color `#474747`.

9. **Create the panel body color**

   Filter for: `panel body color` and change the black color to the color `#dddddd`.

10. **Create the row bg color**

    Filter for: `row bg color` and change the white color to the color `#373737`.

11. *Create the row border color

    Filter for: `row border color` and change the gray color to the color `#232323`.

12. **Create the grid column header color** Filter for: `grid column header color` and change the `grid column header color` to `#232323`.

13. **Create the grid column header font**

    Filter for: `grid columm header font` and change it to `bold 11px Helvetica`

14. **Create the grid header background color**

    Filter for: `grid header background color` and change the `grid column header color` to #dddddd.

15. **Create the grid row cell over background color**

    Filter for: `grid row cell over background color` and change the color to `#232323`

16. **Create the grid cell selected background color**

    Filter for `grid cell selected background color` and change the color to `#232323`

```
Can't find the properties you are filtering for?
Make sure you select the Resources > DarkTheme
and click the Globals tab.
```

17.3. Creating styles for templates (tpls)

1. **In the project inspector, select Views > priority > tpl**

2. **Change the image height**

   In the *code* view, give the image an attribute +height="10".

3. **Select the tpl styles**

   In the *Project Inspector* select *Views* > *mainView* > *detailsView* > *tpl2*.

   In the *config* panel, click on the plus button (+) next to the *scss* property. After that, press the icon with the *arrow to the right*.

   See Figure 17.3, “Create custom styles for tpls” and Figure 17.4, “Create custom styles for tpls (part 2)”.

Figure 17.3. Create custom styles for tpls

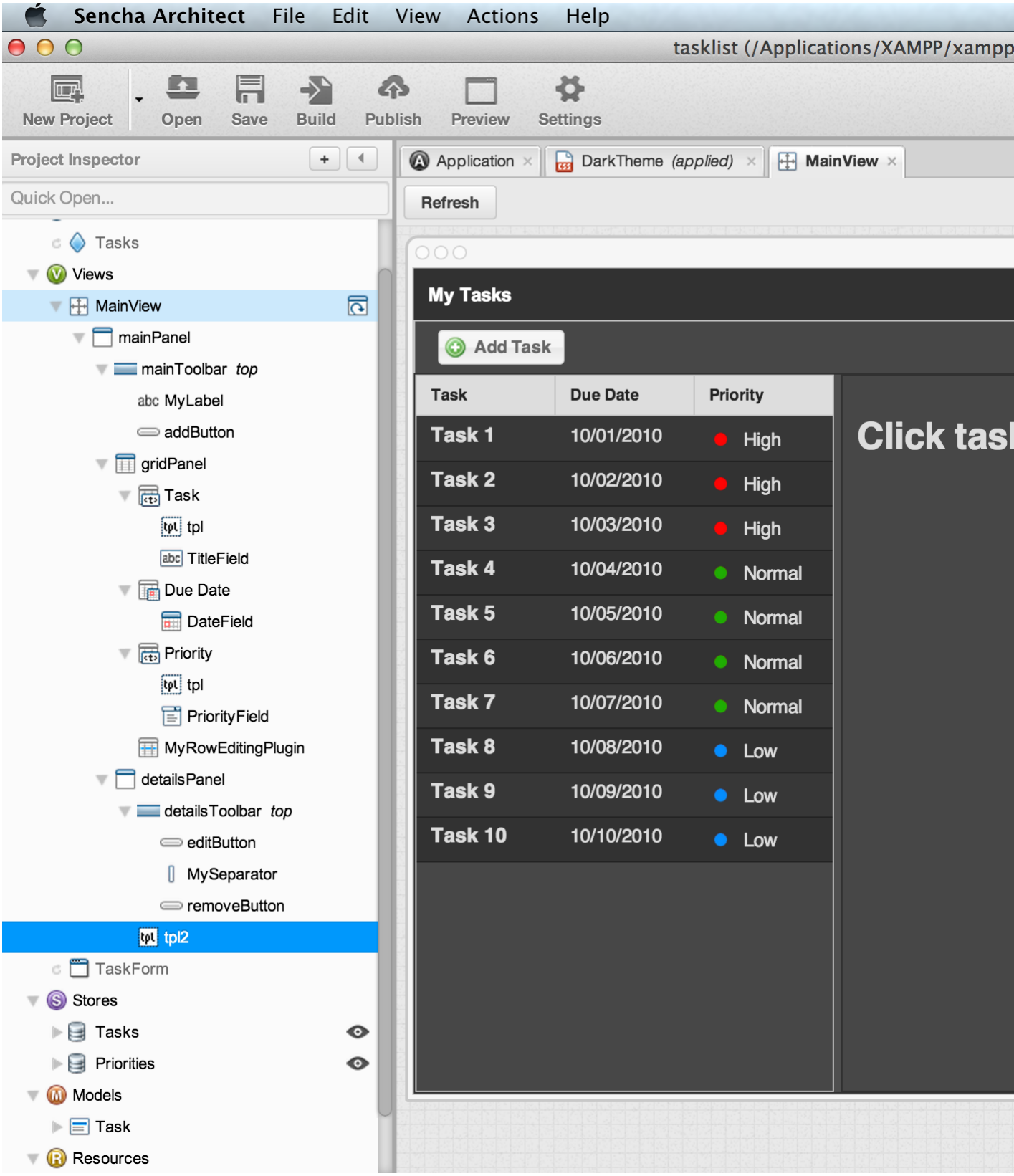
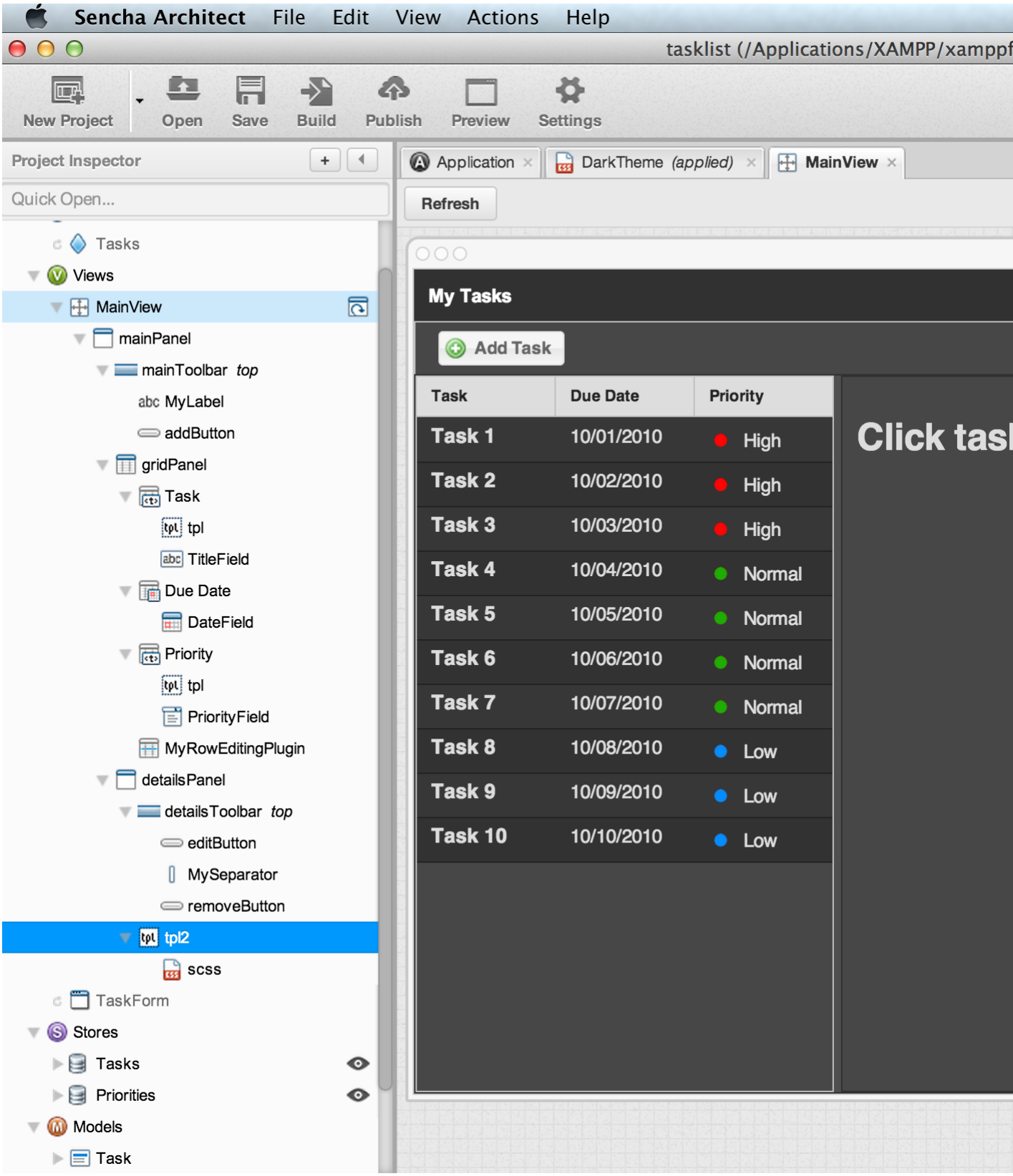


Figure 17.4. Create custom styles for tpls (part 2)



1. **Open the tpl code**

   Under `tpl2_ there should be a +scss` file, double click to open it in the *code editor* view.

2. **Add the custom styles**

Enter the following styles (See Example 17.1, “Custom styles for templates”) and wait till Architect finished compiling.

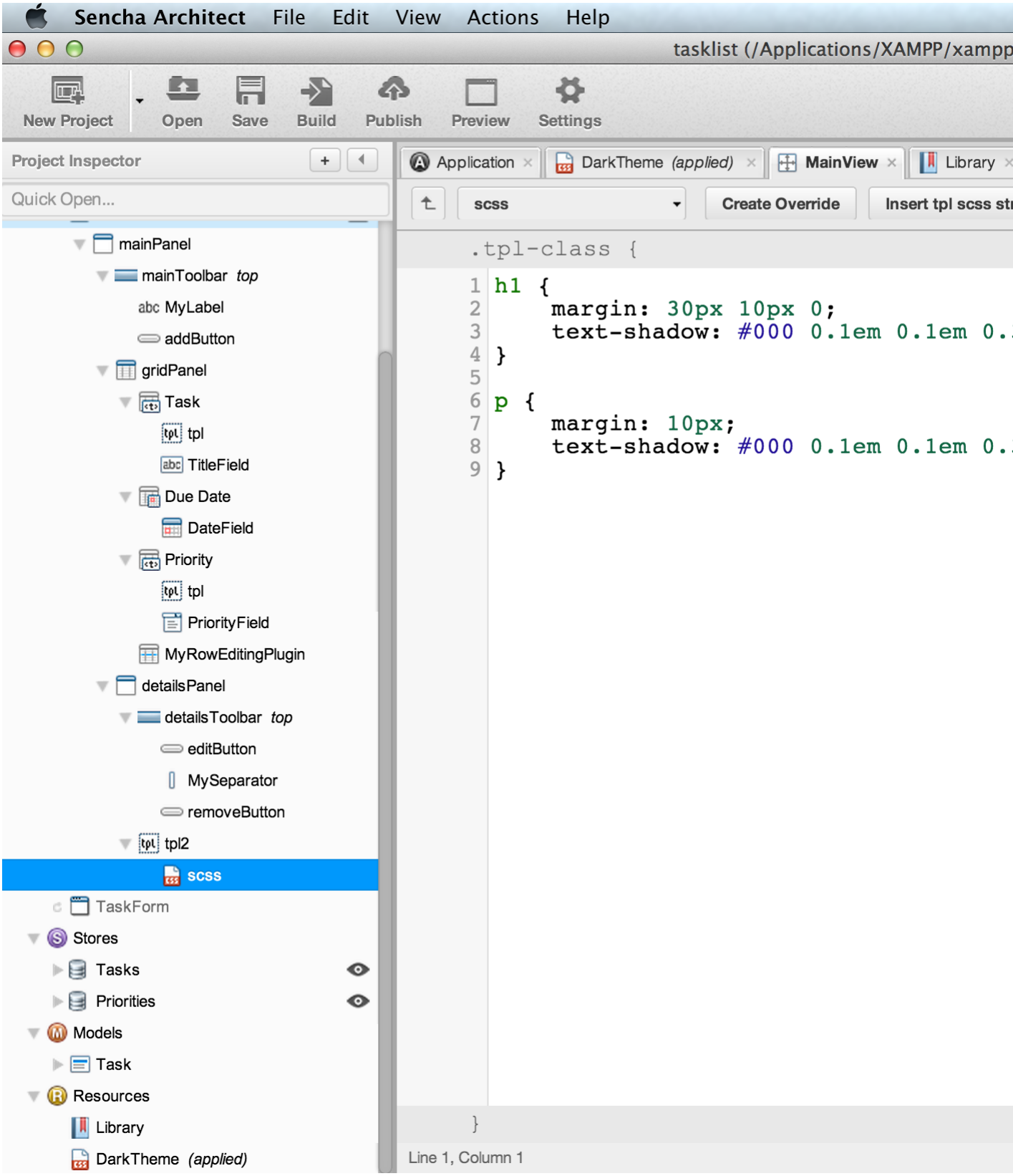
Example 17.1. Custom styles for templates

```
h1 {
    margin: 30px 10px 0;
    text-shadow: #000 0.1em 0.1em 0.3em;
}

p {
    margin: 10px;
    text-shadow: #000 0.1em 0.1em 0.3em;
}
```

See Figure 17.5, “Create custom styles for tpls (part 3)”.

Figure 17.5. Create custom styles for tpls (part 3)



+

```
Note: save your Architect project after Architect
is done with compiling...
```

1. **Preview the TaskList app in your browser**

17.4. Create a new button UI

1. **In design mode, select the add task button**
2. **Select the Skins tab**
3. **Click on the + button to create a new UI for the button**
4. **Click on the R button to rename the new UI**
5. **Create the background color**

   Filter for: `background color` and change the color+ to #60a500.

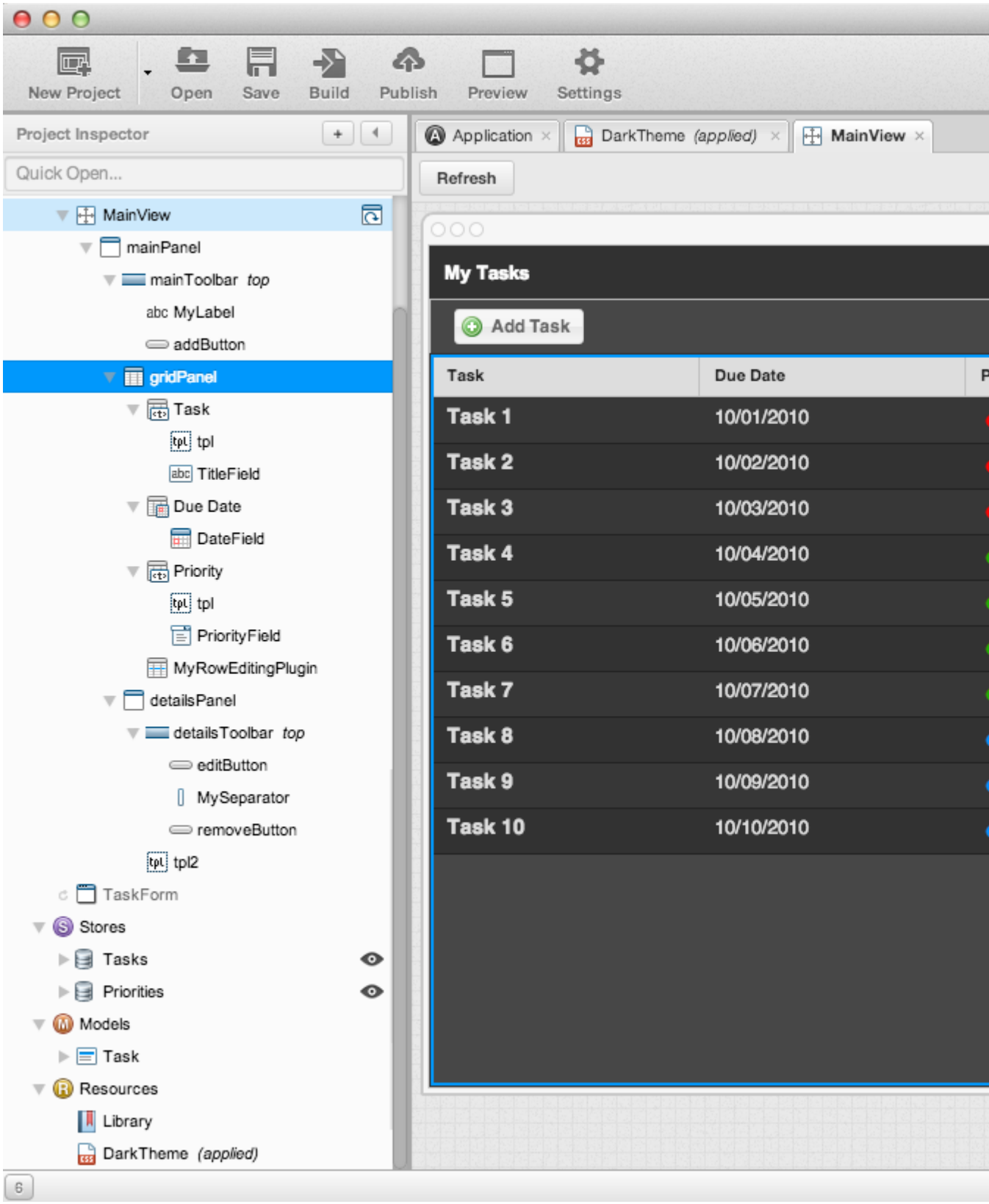
   ```
   Note currently there is a bug that does not apply
   background colors to buttons in toolbars.
   ```

17.5. Reusing themes

1. **Save the theme to toolbox**

   - Select the *DarkTheme* theme_.
   - *Right click > save to toolbox*

Figure 17.6. Example of the custom DarkTheme in Sencha Architect



//////BONUS extending from Base theme ////include::../../_lab9.asciidoc[]