

User Interface customization for AEM 6

CQ Gems
May 7th, 2014

Gilles Knobloch
Damien Antipa





Gilles Knobloch, Engineering Manager

4 years of AEM experience
working on AEM/Granite/Coral
architect of the Sling Resource Merger



@gilknob



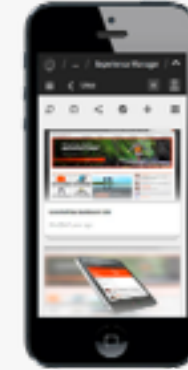
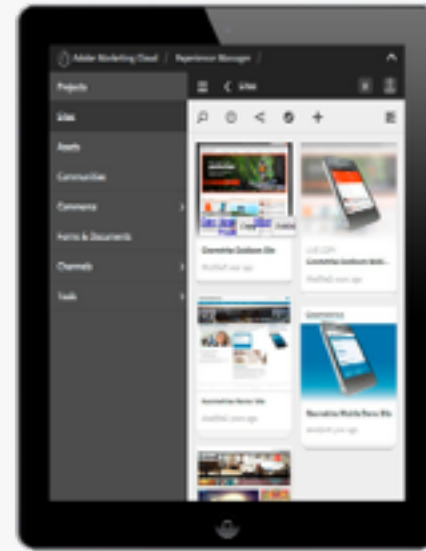
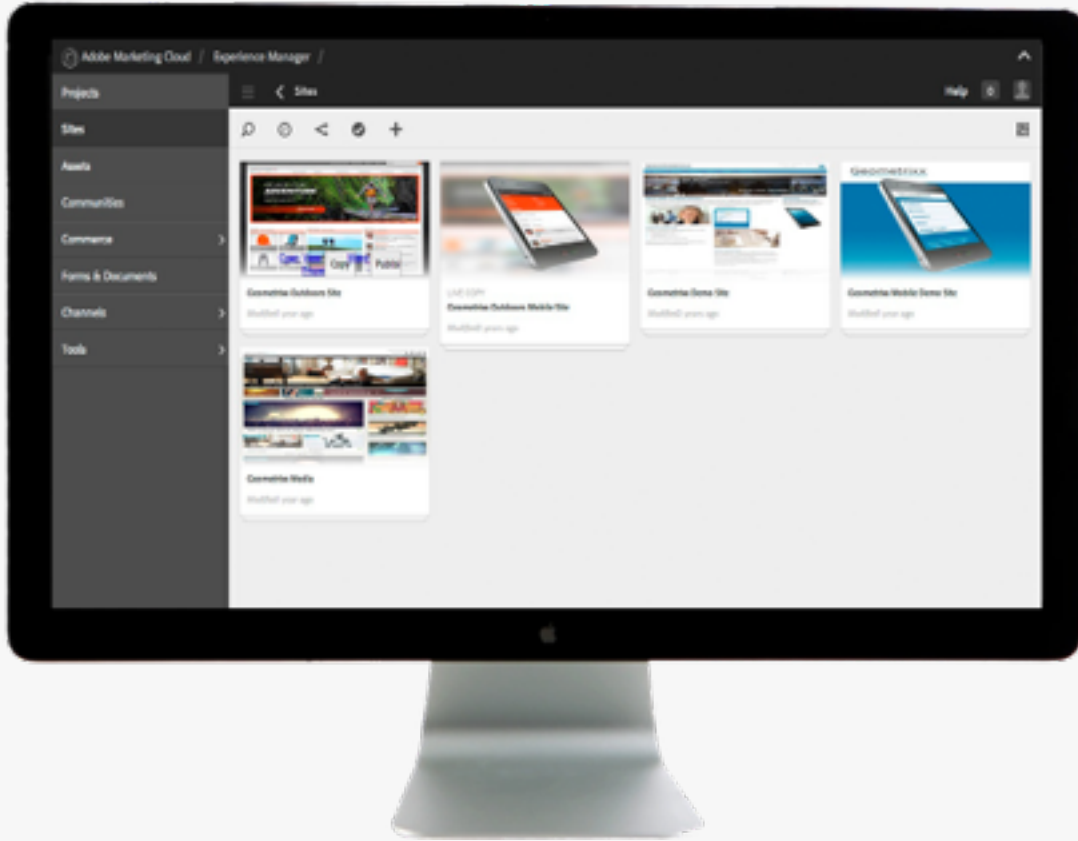
Damien Antipa, Senior UX Engineer

working on AEM/Granite/Coral and
wherever Javascript is used



@visiongeist

Introduction



New UI: Mobile first, Desktop in mind

Introduction

- Granite UI introduced in 5.6.0
- Now spread across multiple UIs of the product
- UI framework provides base components

Challenges

Extensible technology for partners/customers

Goal of the session

Understand how to extend admin screens and page authoring

Extending the Administration pages

- Sling Resource Merger
- Extend existing admin screen
- Create a custom admin screen
- Includes



Sling Resource Merger

<https://issues.apache.org/jira/browse/SLING-2986>

- Custom resource provider
- Overlays of resources using resource resolver search paths
- Working as a diff
- Custom Sling vocabulary

Overall goal: override in /apps, never touch /libs

- Guarantees upgradability
- Easier for customers to debug



Sling Resource Merger

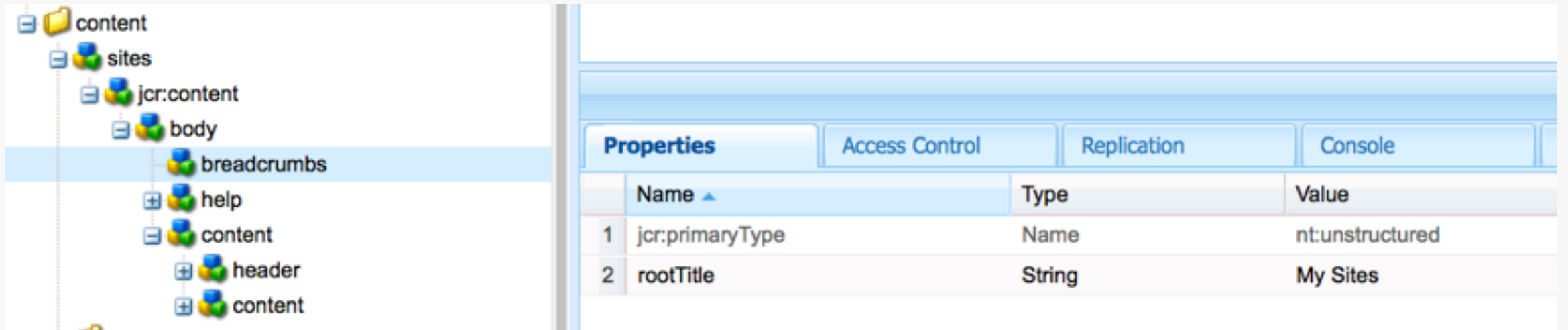
Add or override a property

Create the corresponding property within /apps
(the property will have priority based on Sling Resource Resolver configuration)

Changing the type of the property is supported

Sling Resource Merger

Add or override a property



The screenshot displays the Sling Resource Merger interface. On the left, a tree view shows a hierarchy of resources: 'content' (folder), 'sites' (folder), 'jcr:content' (folder), 'body' (folder), 'breadcrumbs' (resource), 'help' (resource), 'content' (folder), 'header' (resource), and 'content' (resource). The 'breadcrumbs' resource is selected. On the right, the 'Properties' tab is active, showing a table of properties for the selected resource.

Properties			
Access Control			
Replication			
Console			
	Name ▲	Type	Value
1	jcr:primaryType	Name	nt:unstructured
2	rootTitle	String	My Sites

Sling Resource Merger

Delete one or more properties

Create the corresponding node within /apps,

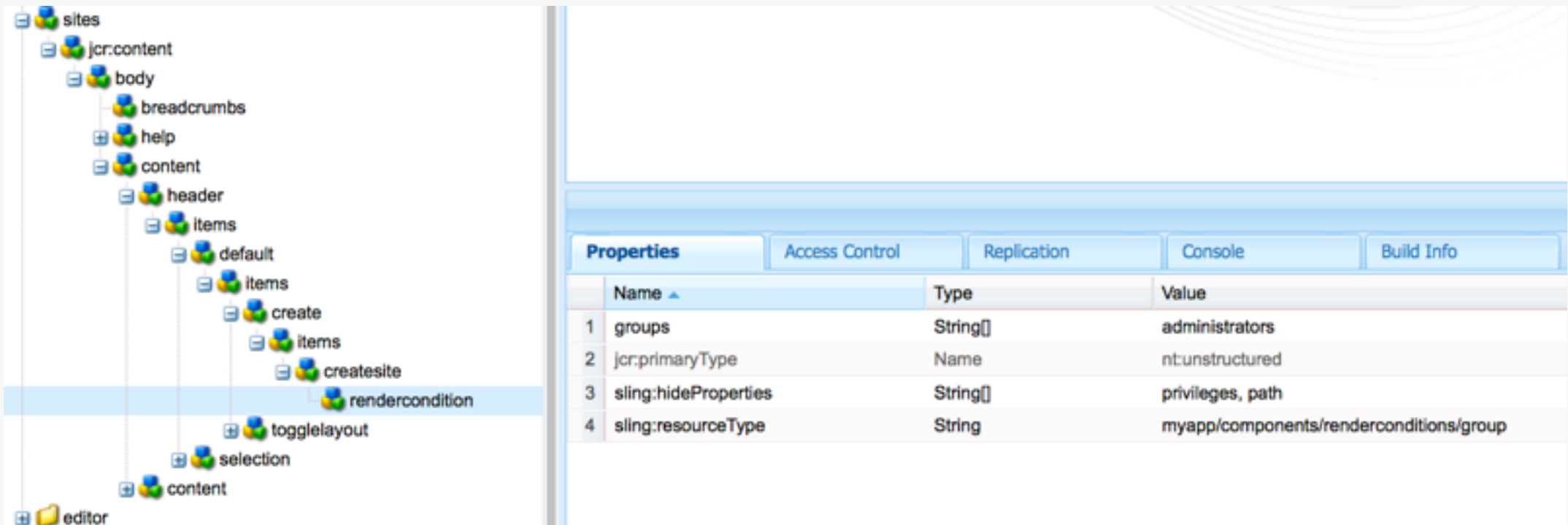
Add sling:hideProperties property: list of properties to delete (String[])

* wildcard can be used to delete all the properties



Sling Resource Merger

Delete one or more properties



The screenshot displays the Sling Resource Merger interface. On the left is a tree view of a resource structure. The 'rendercondition' resource is selected and highlighted in blue. On the right, the 'Properties' tab is active, showing a table of properties for the selected resource.

	Name	Type	Value
1	groups	String[]	administrators
2	jcr:primaryType	Name	nt:unstructured
3	sling:hideProperties	String[]	privileges, path
4	sling:resourceType	String	myapp/components/renderconditions/group

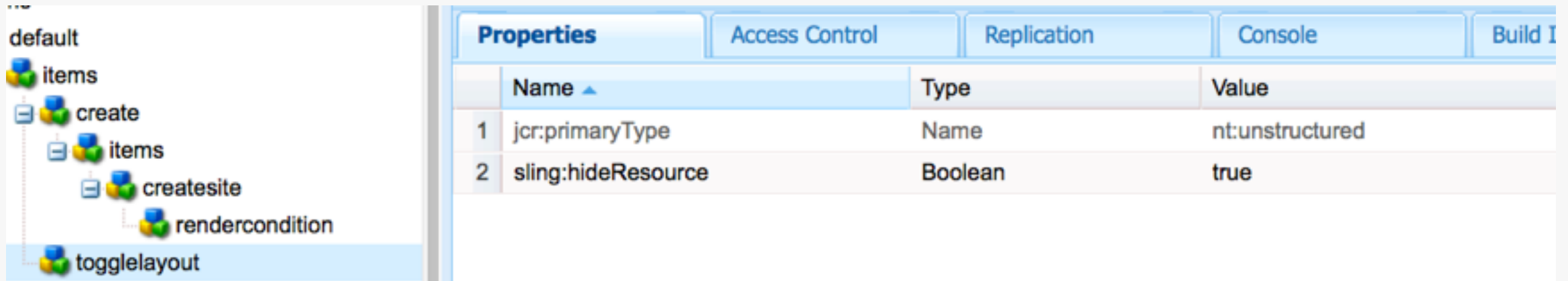
Sling Resource Merger

Delete a node (and its children)

Create the corresponding node within /apps
Set sling:hideResource to true (Boolean)

Sling Resource Merger

Delete a node (and its children)



The screenshot displays the Sling Resource Merger interface. On the left, a tree view shows a hierarchy of nodes: 'default' (root), 'items', 'create', 'items', 'createsite', 'rendercondition', and 'togglelayout'. The 'togglelayout' node is selected and highlighted in blue. On the right, the 'Properties' tab is active, showing a table with the following data:

	Name ▲	Type	Value
1	jcr:primaryType	Name	nt:unstructured
2	slings:hideResource	Boolean	true

Sling Resource Merger

Delete children of a node (but keep the properties of the node)

Create the corresponding node within /apps,

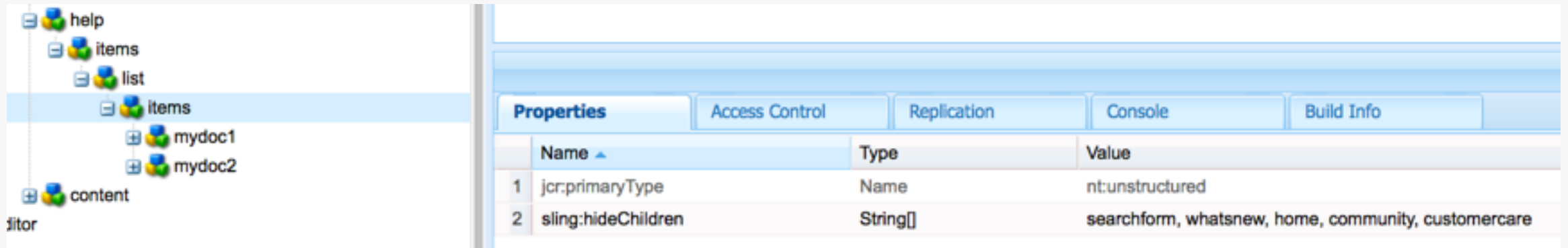
Add sling:hideChildren property: list of children to delete (String[])

* wildcard can be used to delete all the children



Sling Resource Merger

Delete children of a node



The screenshot displays the Sling Resource Merger interface. On the left, a tree view shows a hierarchy of nodes: 'help', 'items', 'list', 'items', 'mydoc1', 'mydoc2', 'content', and 'itor'. The 'items' node under 'list' is selected. On the right, the 'Properties' tab is active, showing a table with the following data:

	Name	Type	Value
1	jcr:primaryType	Name	nt:unstructured
2	sling:hideChildren	String[]	searchform, whatsnew, home, community, customercare

Sling Resource Merger

Reorder nodes

Create the corresponding node within /apps

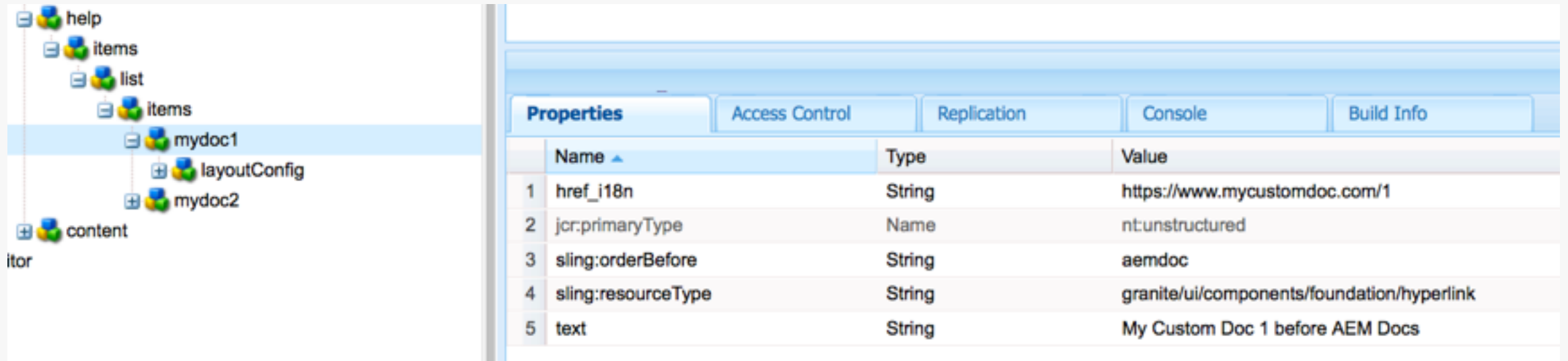
Set sling:orderBefore to the name of the sibling where that node should be reordered before (String)

TODO: support redefining the whole list of children



Sling Resource Merger

Reorder nodes



The screenshot displays the Sling Resource Merger interface. On the left, a tree view shows a hierarchy of nodes: 'help' (expanded), 'items' (expanded), 'list' (expanded), 'items' (expanded), 'mydoc1' (selected), 'layoutConfig', and 'mydoc2'. Below this, 'content' and 'itor' are also visible. On the right, the 'Properties' tab is active, showing a table of properties for the selected 'mydoc1' resource.

	Name	Type	Value
1	href_i18n	String	https://www.mycustomdoc.com/1
2	jcr:primaryType	Name	nt:unstructured
3	sling:orderBefore	String	aemdoc
4	sling:resourceType	String	granite/ui/components/foundation/hyperlink
5	text	String	My Custom Doc 1 before AEM Docs

Extend existing admin screen

Sling Resource Merger is our friend!

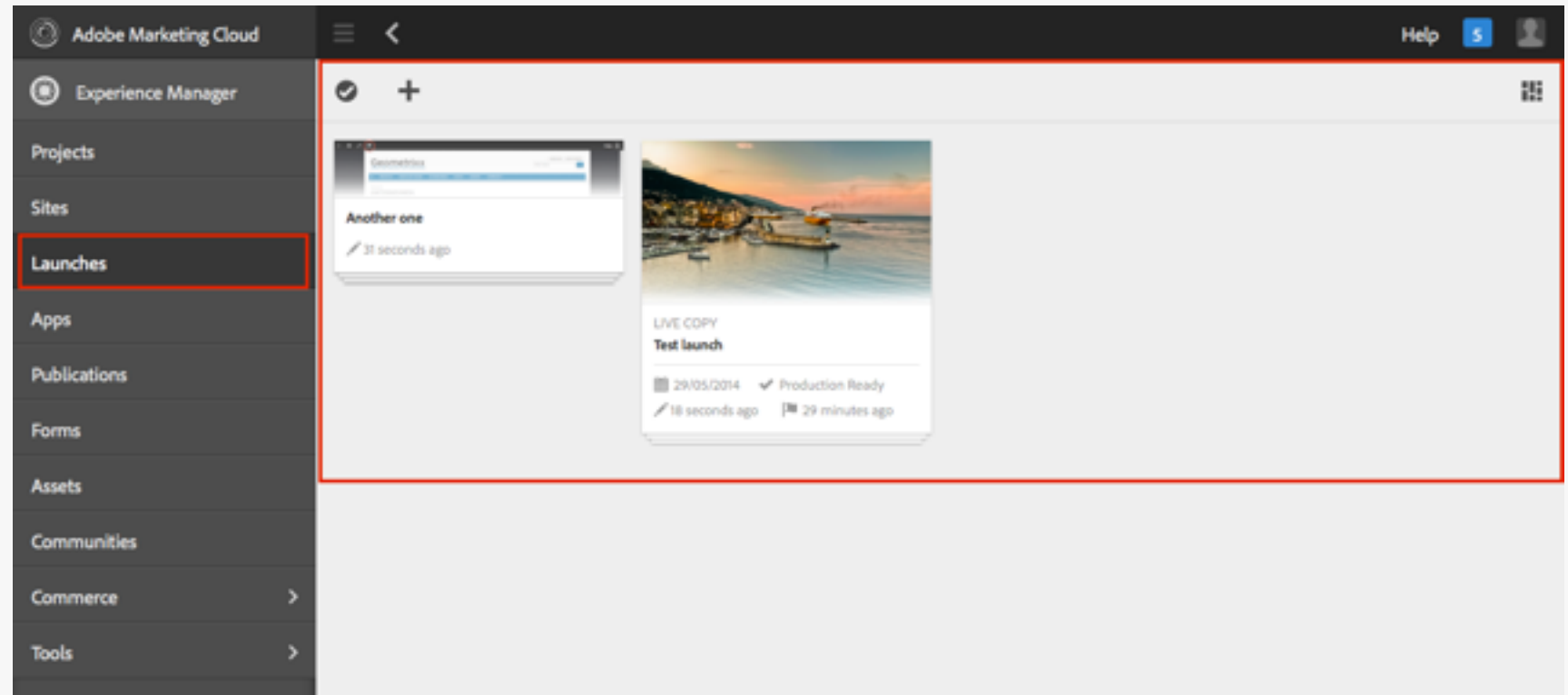
- Update root title for breadcrumb
- Custom documentation links (`slings:hideChildren`, `slings:orderBefore`)
- Additional toolbar action
- Restrict Create Site to administrators (custom rendering condition)
- Default layout to list view, removed toggle to card view (`slings:hideResource`)



Create a custom admin screen

Launches Console

- Custom console
- Custom menu entry
- Specific actions



Create a custom admin screen

Root space for Launches console

Custom components (styles, scripts, JSPs)

Page definition

Granite UI page resource

Properties	Access Control	Replication	Console	Build Info	Protected	Mandatory	Multiple	Auto Created
1	jc:mixinTypes	Name[]	sling:VanityPath		true	false	true	false
2	jc:primaryType	Name	nt:unstructured		true	true	false	true
3	jc:title	String	AEM Launches		false	false	false	false
4	sling:resourceType	String	granite/ui/components/foundation/page		false	false	false	false
5	sling:vanityOrder	Long	301		false	false	false	false
6	sling:vanityPath	String	/launches		false	false	false	false

Create a custom admin screen

Add in navigation

Extend navigation

Specify location in the tree

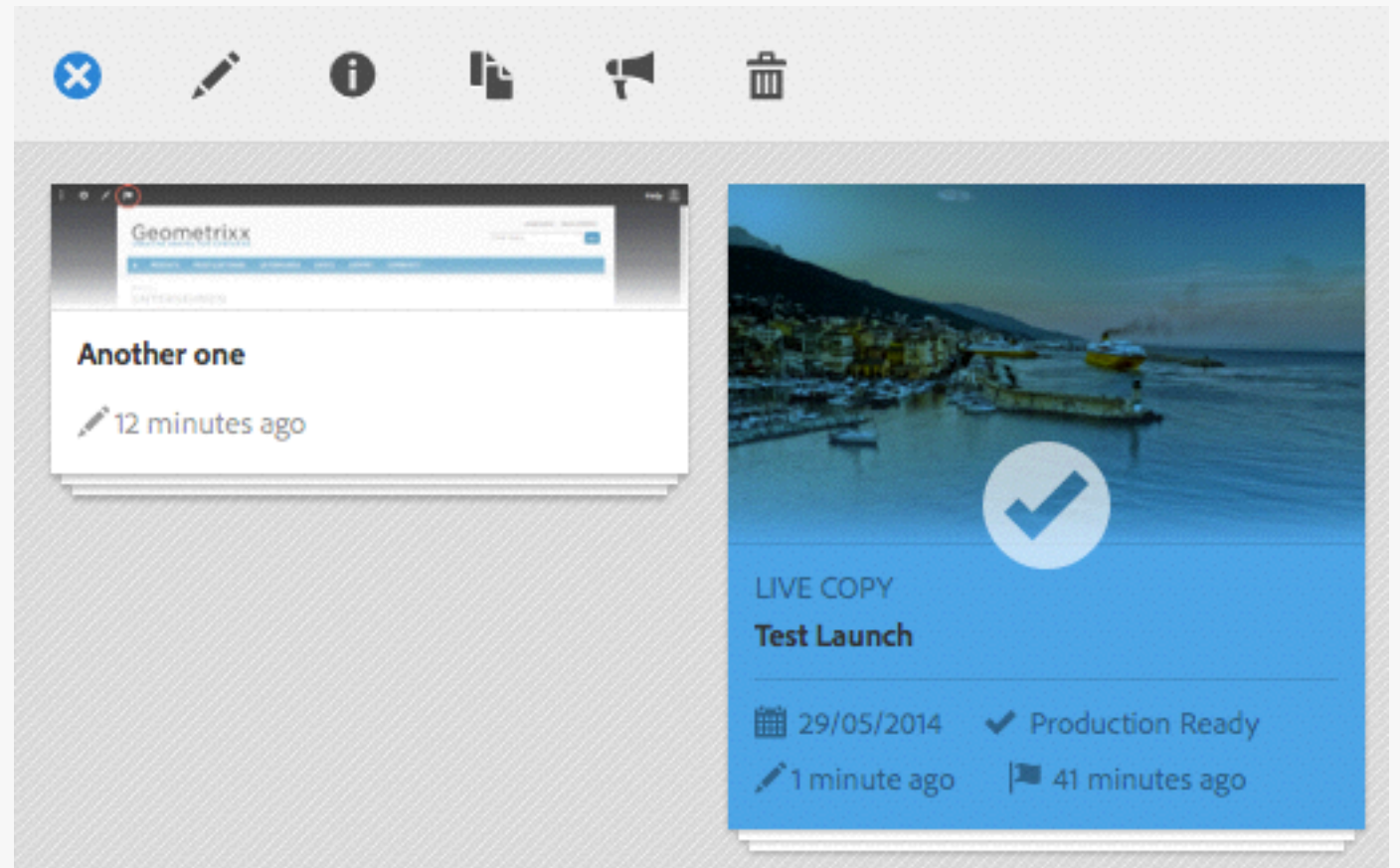
The screenshot shows the CRXDE Lite interface. On the left is a file tree with folders like 'apps', 'commerce', 'community-components', 'cq', 'core', 'content', 'nav', 'tools', 'operations', 'launches', 'demo', 'geometrixx', etc. The 'launches' folder under 'nav' is highlighted with a red box, and a green arrow points to it from the text 'Extend navigation'. Below the tree, the 'sling.orderBefore' property is set to 'apps', highlighted with a red box, and a green arrow points to it from the text 'Specify location in the tree'. On the right, the CRXDE Lite header has a search bar. Below it, a table shows properties for a resource. The 'id' property is set to 'cq-launches' (highlighted with a red box), and a green arrow points from this value to the search bar. The 'sling.orderBefore' property is set to 'apps' (highlighted with a red box).

Name	Type	Value
1 href	String	/launches.html
2 id	String	cq-launches
3 jcr:primaryType	Name	nt:unstructured
4 jcr:title	String	Launches
sling:orderBefore	String	apps

Create a custom admin screen

Custom action bar

- Build your own components
- Include the corresponding client libraries for custom actions



Granite UI Includes

granite/ui/components/foundation/include

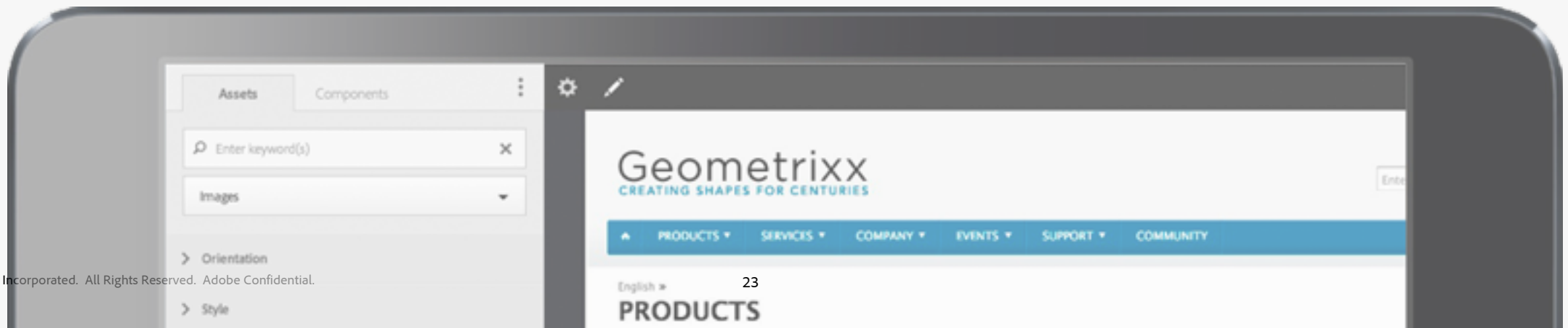
- Specify path to include

The screenshot shows the AEM console interface. The breadcrumb path is `/libs/wcm/core/content/sites/properties/jcr:content/body/account`. The left sidebar shows a tree view with the 'account' component selected. The main area displays the 'Properties' tab with the following table:

Name	Type	Value
1 jcr:primaryType	Name	nt:unstructured
2 path	String	granite/ui/content/userproperties
3 sling:resourceType	String	granite/ui/components/foundation/include

Can be used to extend component dialogs

The new Page Authoring in AEM 6.0



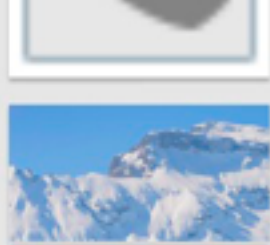
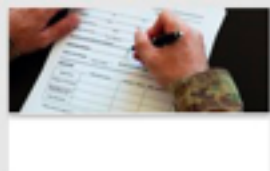
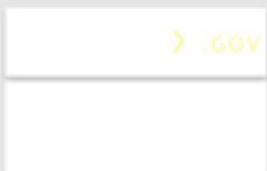


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Orientation

Style



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Nathan Mitchell
Product Manager

Editing Features = EditorFrame

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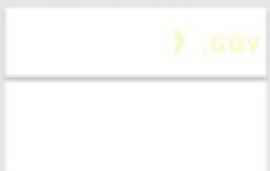
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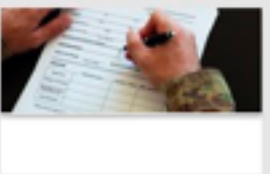
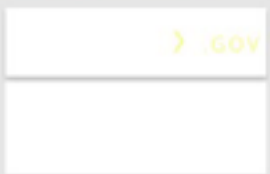
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These are Overlays

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NEW



NEW



Nathan Mitchell
Product Manager

AssetGroups

Sidepanel

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Filter



All

Components

COLUMNS

2 Columns

COLUMNS

3 Columns

FORM

Account Name

FORM

Captcha

GENERAL

Chart

COLUMNS

2 Columns -
Sightly

COLUMNS

3 Columns -
Sightly

FORM

Address

GENERAL

Carousel

FORM

Checkbox Group

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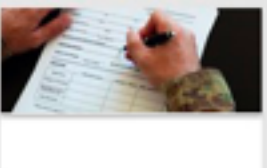
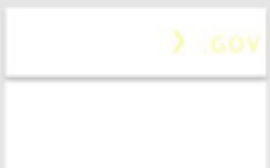


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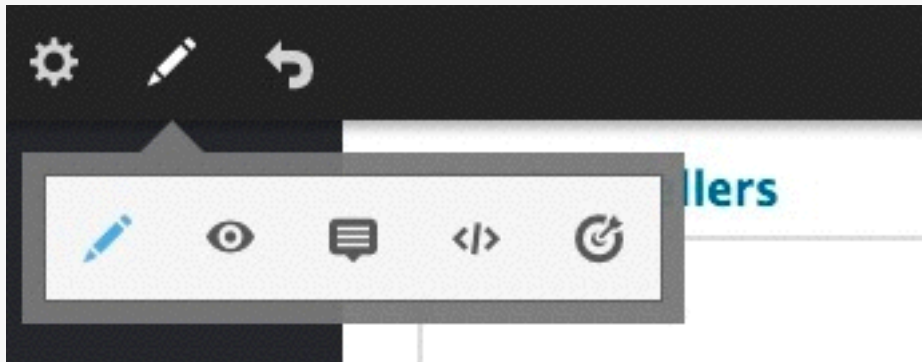
What is an Editable?

- Constructor: `Granite.author.Editable`
- inherits from `Granite.authorInspectable`
- is an instance of a component on a page
- allows access to the page's DOM and its overlay
- is aware of its JCR path and edit configuration
- all Editable's of the current page are accessible through `Granite.author.store`



What is a layer?

- A layer is an independent bundle of functionality which can be activated in order to manipulate or interact with the page
- What can I do with a layer? **What ever you want.**
(but please cleanup:-)



Extending the Page Authoring



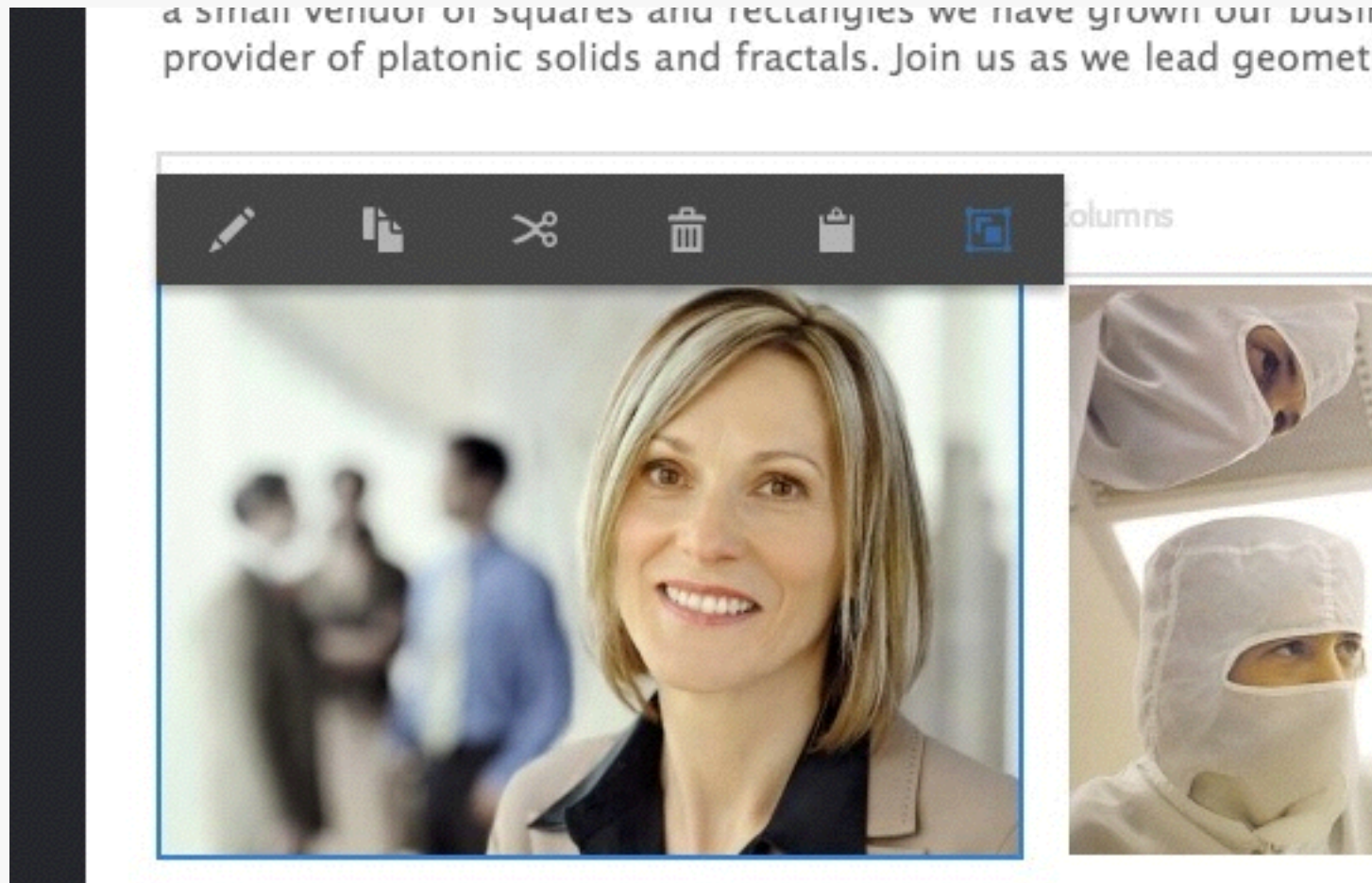
- Toolbar action
- Page action
- Inplace Editor
- Custom Layer
- Assetfinder Group

Before we start...

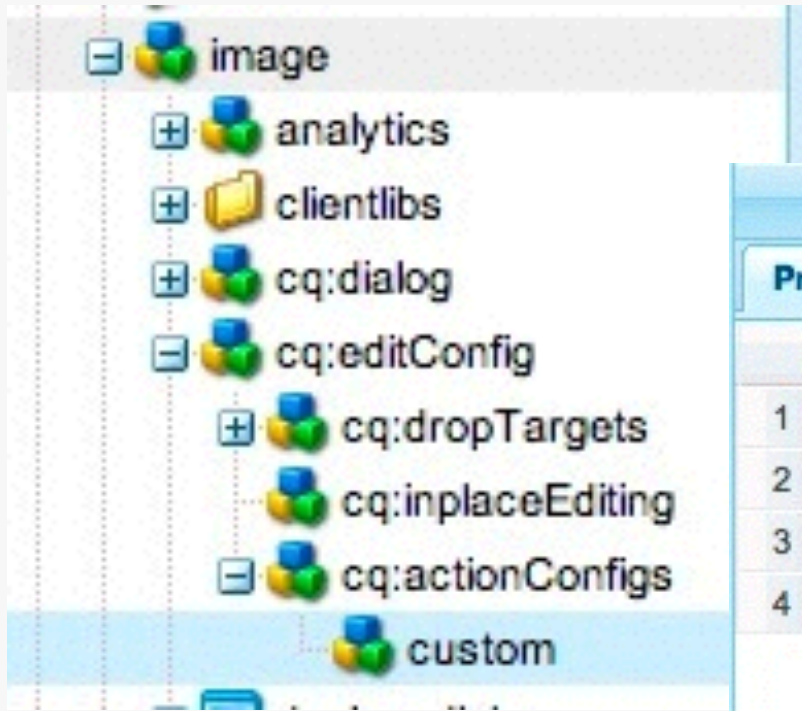
- Javascript Namespace: `Granite.author`
- ClientLib category hook: `cq.authoring.editor.hook`
- Overlays are managed by `overlayManager`
- Current page's Editables are in `Granite.author.store`
- A lot of page data is in `Granite.author.page`



Custom toolbar action

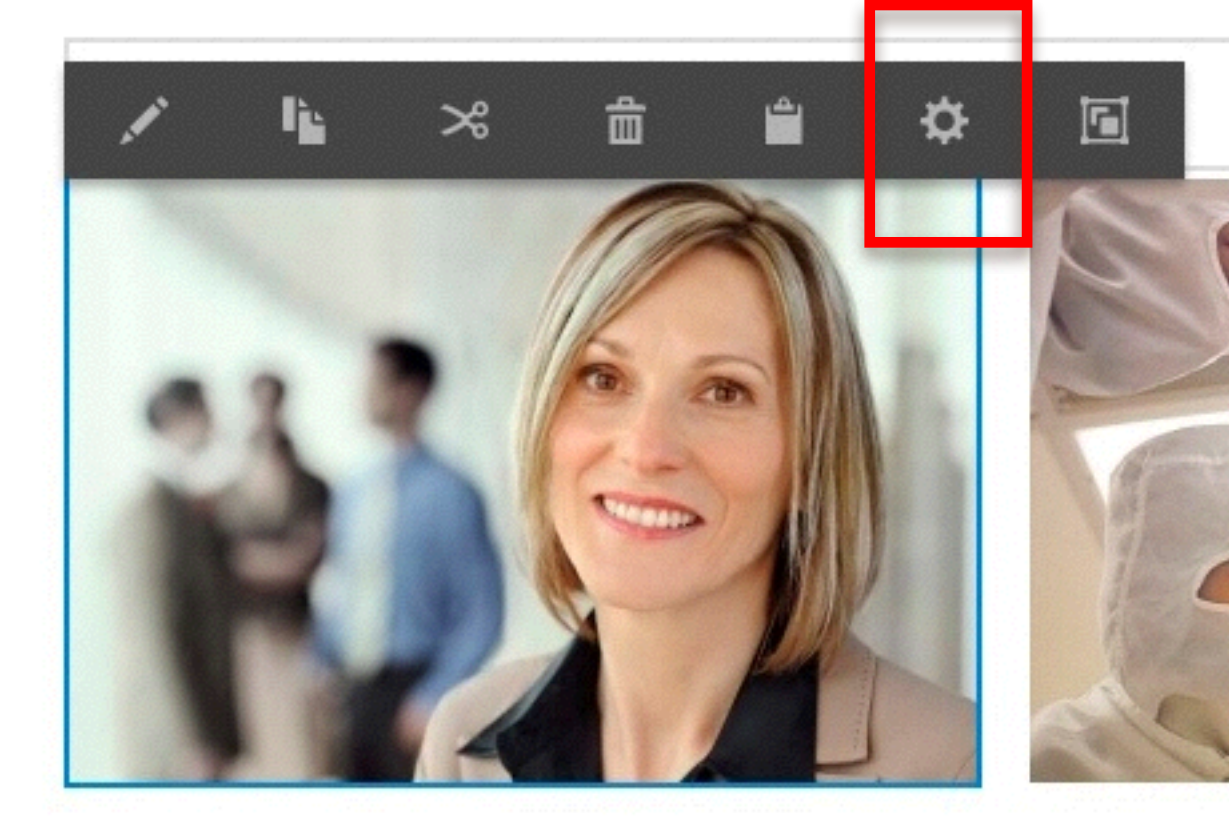


Still working: Adding custom actions to components



Properties				Access Control	Replication	Console	Build Info
	Name ▲	Type	Value				
1	handler	String	function () { alert("my custom action") }				
2	icon	String	coral-Icon--gear				
3	jcr:primaryType	Name	nt:unstructured				
4	text	String	Custom action				

Still working: Adding custom actions to components



New: Manipulating the toolbar with Javascript

- component independent actions
- understand eventing in the authoring channel
- use global objects
- toolbar entry definition



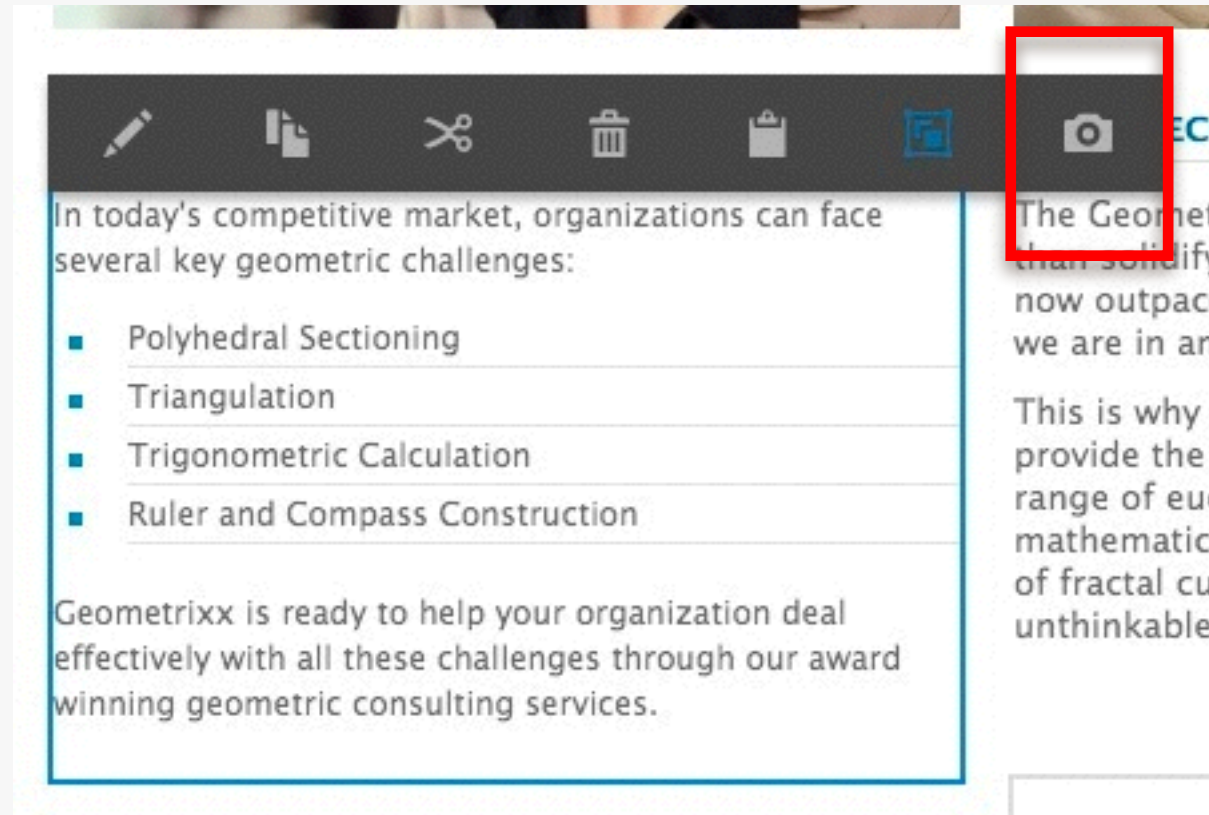
```

'CUSTOM' : {
  icon: 'coral-Icon--gear',
  text: Granite.I18n.get('Custom'),
  handler: function (editable, param, target) {
    alert('my custom action');
    // do not close toolbar
    return false;
  },
  condition: function (editable) {
    // optional condition to show action
    return !!editable.config.orderable;
  },
  render: function (dom) {
    // custom rendering
    return dom;
  },
  // could be executed when only one editable is selected
  // default: false
  isNonMulti: true
}

```

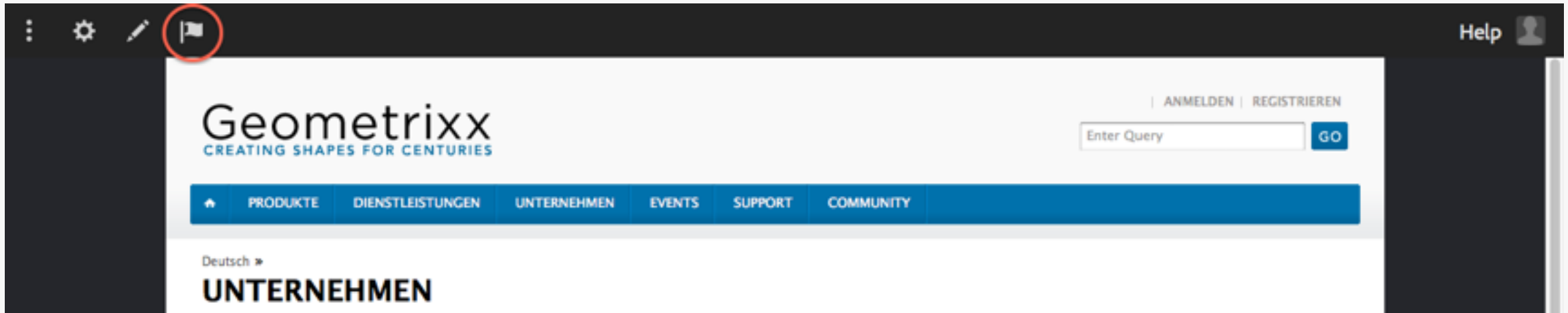


Adding a screenshot functionality



Custom page action

Add an action to page authoring toolbar



Example: a button to translate the page

Custom page action

new action added under /apps

- define as a header action
- cq-Translate-action used as jQuery selector

Name	Type	Value	Protected	Mandatory	Multiple	Auto Created
1 align	String	left	false	false	false	false
2 class	String	cq-Translate-action header-action	false	false	false	false
3 hideText	Boolean	true	false	false	false	false
4 icon	String	icon-flag	false	false	false	false
5 jcr:primaryType	Name	nt:unstructured	true	true	false	true
6 minimal	Boolean	true	false	false	false	false
7 sling:orderBefore	String	lockmode	false	false	false	false
8 sling:resourceType	String	granite/ui/components/foundation/button	false	false	false	false
9 title	String	Update Translation	false	false	false	false
10 translationWorkflowModel	String	/etc/workflow/models/wcm-translation/translate-language-copy/jcr:content/model	false	false	false	false
11 workflowModel	String	/etc/workflow/models/wcm-translation/update_language_copy/jcr:content/model	false	false	false	false

extension to cq.authoring.editor client library

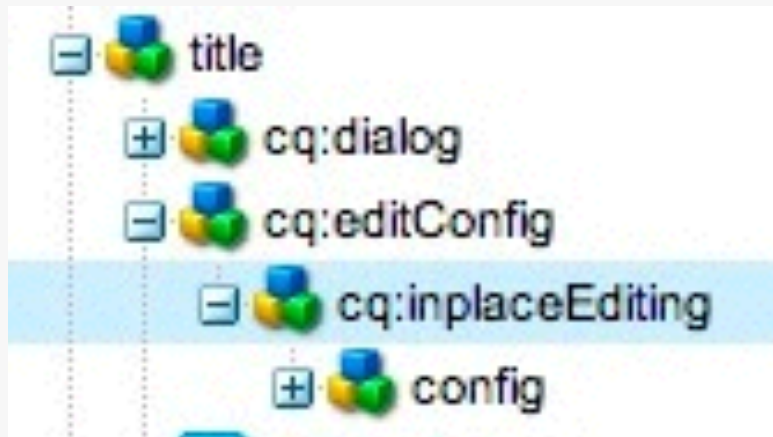
Inplace Editors



The Geometrix investment in R&D has done more than solidify our industry leadership role, we have now outpaced our competitors to such an extent that we are in an altogether **new** space.

This is why our high quality polygons and polyhedra provide the only turnkey solutions across the whole range of euclidean geometry. And our mathematicians are working on the next generation of fractal curves to bring you shapes that are unthinkable today.

Create an Inplace Editor



Properties				Access Control	Replication	Console
	Name ▲	Type	Value			
1	active	Boolean	true			
2	editorType	String	title			
3	jcr:primaryType	Name	cq:InplaceEditingConfig			

```
var MyEditor = function () {  
  
};  
  
MyEditor.prototype.setUp = function (editable) {  
  
};  
  
MyEditor.prototype.tearDown = function (editable) {  
  
};  
  
Granite.author.editor.register('myeditor', new MyEditor());
```

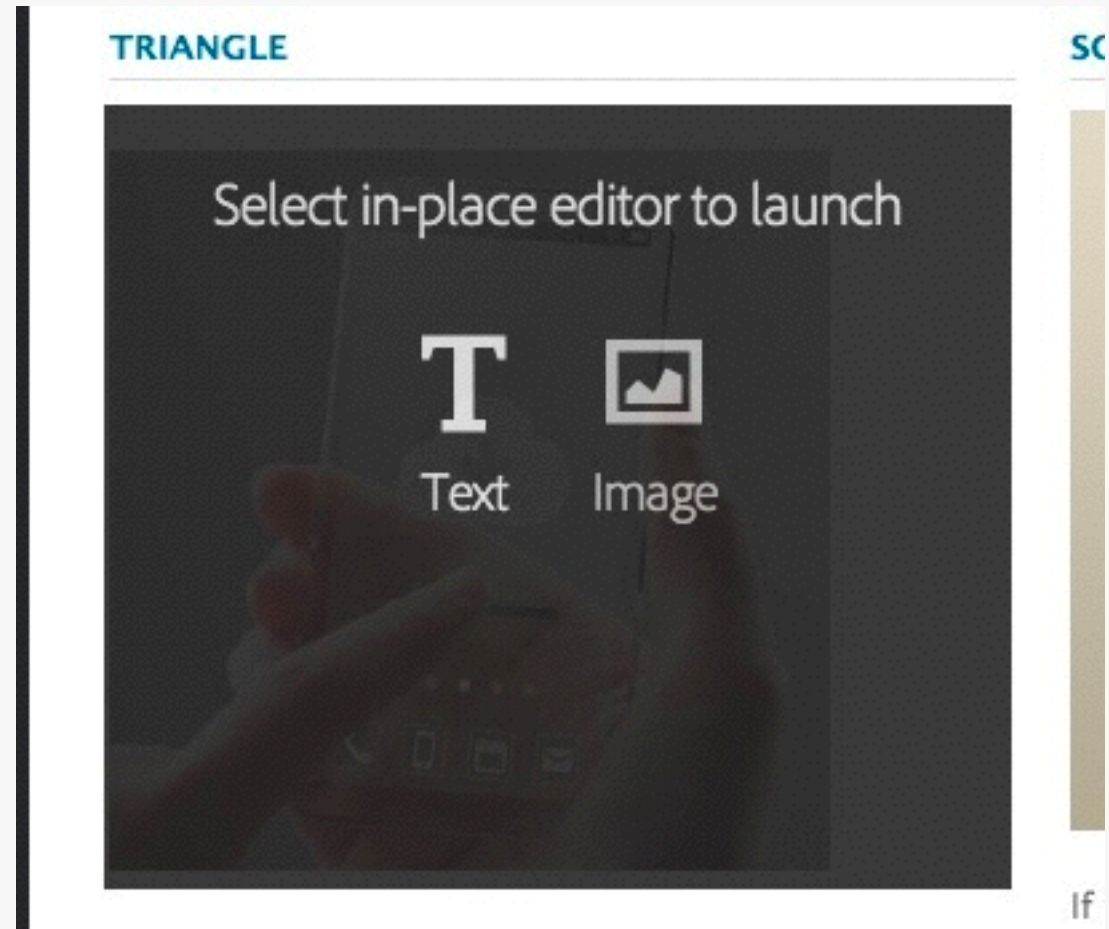
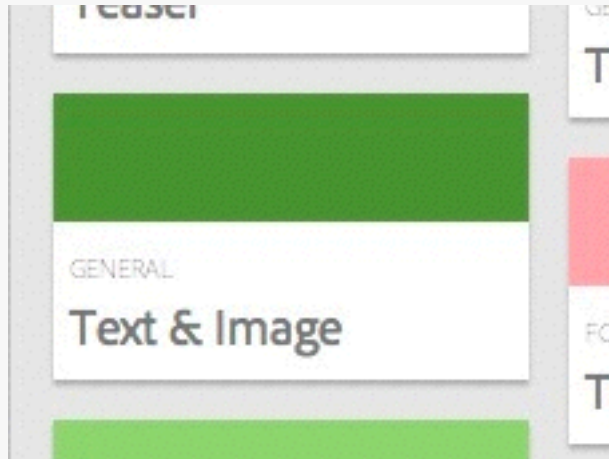


How we created the title editor



- manipulate the Editable's DOM

Create a Hybrid Editor



```
var textImageEditorConfig = {
  editors: [
    {
      editorType: "text",
      imageClass: "coral-Icon coral-Icon--text coral-Icon--sizeL"
    },
    {
      editorType: "image",
      imageClass: "coral-Icon coral-Icon--image coral-Icon--sizeL"
    }
  ]
};
```

```
Granite.author.editor.TextImageEditor = function () {
};
```

```
Granite.author.editor.TextImageEditor.prototype =
  new Granite.editor.HybridEditor(textImageEditorConfig);
```

```
// register the editor to the editor registry
```

```
Granite.author.editor.register('textimage', new Granite.editor.TextImageEditor());
```



Creating a layer

- Build-in layers: Edit, Preview, Annotation, Developer, Target
- Important objects: layerManager, overlayManager, persistence
- Change the view and actions



```
var MyLayer = function () {  
    // Call super constructor  
    this.constructor.prototype.constructor.call(this, "MyLayer", "coral-Icon--bug");  
};
```

```
MyLayer.prototype = new author.Layer();
```

```
MyLayer.prototype.setUp = function () {  
    // allow user interaction with the iframe content (e.g., click on links)  
    author.ContentFrame.showFullScreenMask(false);  
  
    // Close the sidepanel  
    author.SidePanel.close();  
};
```

```
MyLayer.prototype.tearDown = function () {  
    // prevent user interaction with the iframe content (e.g., click on links)  
    author.ContentFrame.showFullScreenMask(true);  
};
```

```
// register at the manager  
author.layerManager.registerLayer(new MyLayer());
```





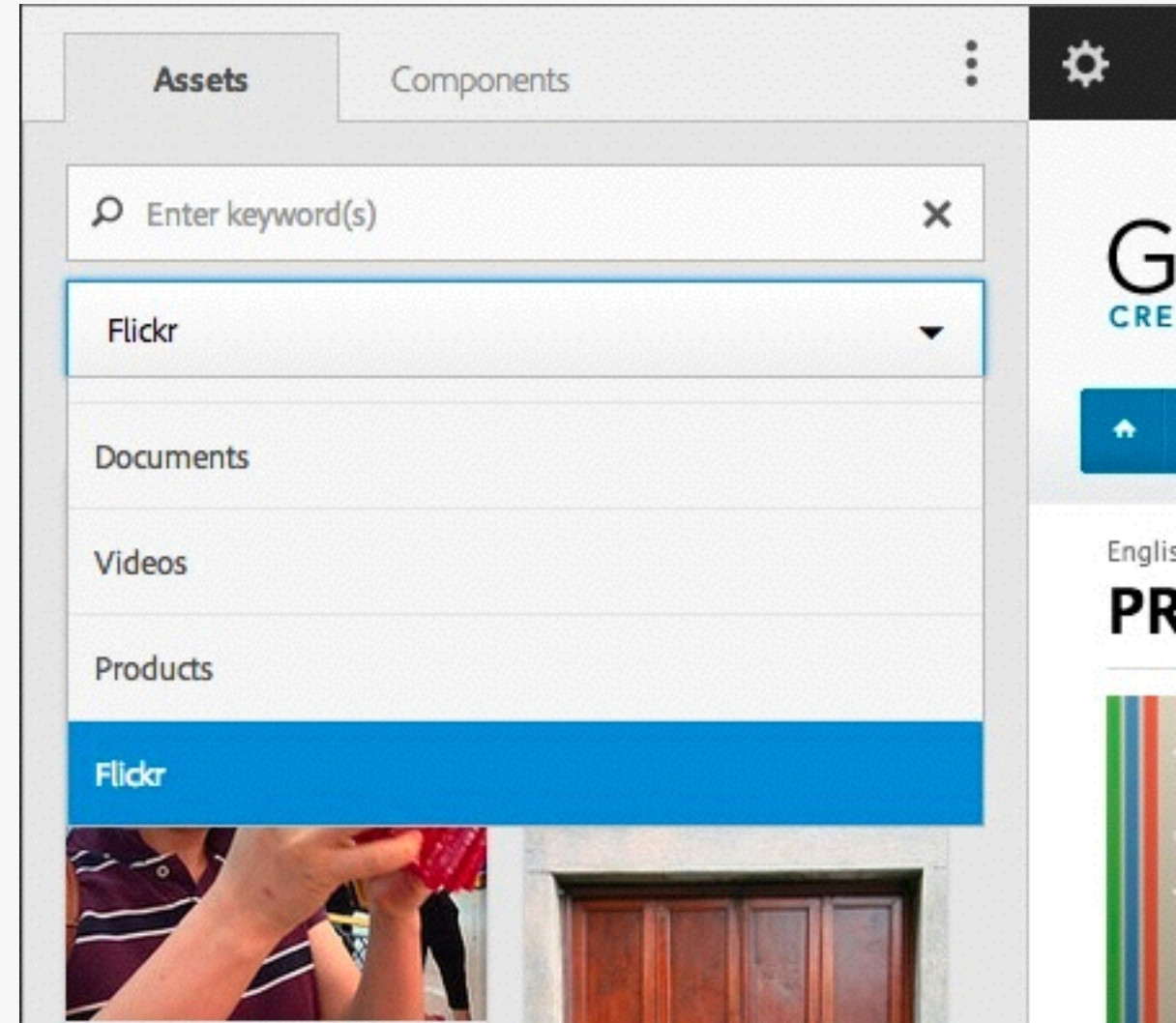
goot...
OUTDOORS

MEN'S WOMEN'S EQUIPMENT ACTIVITIES COMMUNITY SUPPORT BRAND



Assetfinder

- Adding a new asset group
- Handling the rendering
`Granite.author.ui.assetFinder`
- Handling the Drag&Drop
`Granite.author.dropController`
- Handling the Persistence
`Granite.author.edit.actions` or
`Granite.author.persistence`



Resources

Upcoming resources on Package Share

- Sample packages
- CRXDE Lite extension tool
- Dialog conversion tool

Extension points currently being documented

Questions & Comments?

