Mura Plugins

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Why Plugins?

- Update Safe Customizations:
  - Extend Mura CMS
  - Add New Functionality
- Distribute Code Across Sites/Installs
- Custom Administrator
- Integrate Existing Applications
- GPL 2.0 License

Plugin Anatomy

- **MyPlugin**
  - /index.cfm
  - /license.txt
  - **/plugin**
    - **/config.xml.cfm***
    - /plugin.cfc
    - config.cfm
  - **Only required file*

/plugin/config.xml.cfm

- **Setup Plugin Variables**

- **Optionally Register**

  - Event Handler(s)

  - Class Extensions

  - Custom Image Sizes

  - Custom Plugin Settings

  - Custom Tag Paths

  - Custom Mappings

  - & More!

/plugin/config.xml.cfm

```
<cfoutput>
  <plugin>
    <name>Plugin1</name>
    <package>Plugin1</package>
    <directoryFormat>packageOnly</directoryFormat>
    <loadPriority>5</loadPriority>
    <version>1.0.0</version>
    <provider>Blue River Interactive</provider>
    <providerURL>http://blueriver.com</providerURL>
    <category>Application</category>
    <settings></settings>
    <eventHandlers></eventHandlers>
    <displayObjects></displayObjects><!--- Deprecated in M7 --->
    <extensions></extensions>
  </plugin>
</cfoutput>
```

/plugin/config.xml.cfm

- Example <setting> node

```xml
<settings>
  <setting>
    <name>yourNameAttribute</name>
    <label>Your Label</label>
    <hint>Your hint</hint>
    <type>text|radioGroup|textArea|select|multiSelectBox</type>
    <required>false|true</required>
    <validation>none|email|date|numeric|regex</validation>
    <regex>your javascript regex goes here (if validation=regex)</regex>
    <message>Your message if validation fails</message>
    <defaultvalue>1</defaultvalue>
    <optionlist>1^2^3</optionlist>
    <optionlabellist>One^Two^Three</optionlabellist>
  </setting>
</settings>
```

Demo

Plugin 1

/plugin/plugin.cfc

```cfc
component accessors=true extends='mura.plugin.plugincfc' output=false {

    // pluginConfig is automatically available as variables.pluginConfig

    public void function install() {
        // Do custom installation stuff
    }

    public void function update() {
        // Do custom update stuff
    }

    public void function delete() {
        // Do custom delete stuff
    }

}
```

Mura Scope

- **Bean Factory**
  - m.getBean('user').loadBy(username='Steve')
- **Mura Events**
  - m.event(), m.announceEvent('yourEvent'), etc.
- **Sub-Scopes**
  - m.content(), m.currentUser(), m.globalConfig(), m.siteConfig(), etc.
- **Helpers**
  - m.getPlugin(), m.getImageURL(), etc.

/plugin/config.cfm

Hooking Into Mura

```cfscript
<cfscript>

  if ( !IsDefined('m') ) {
    siteid = StructKeyExists(session, 'siteid') ? session.siteid : 'default';
    m = application.serviceFactory.getBean('m').init(siteid);
  }

  if ( !IsDefined('pluginConfig') ) {
    pluginConfig = m.getBean('pluginManager').getConfig('Plugin2');
  }

</cfscript>
```

pluginConfig=

m.getBean('pluginManager').getConfig('packageName')

.getDirectory()
.getPackage()
.getName()
.getApplication()
.getSession()
.getAssignedSites()
.getSettings()
.getSetting()

/index.cfm

```
<cfinclude template="plugin/config.cfm" />

<cfsavecontent variable="pluginBody">
  <cfoutput>
    <h1>#HTMLEditFormat(pluginConfig.getName())#</h1>
    <p>This is my first Mura CMS plugin.</p>
  </cfoutput>
</cfsavecontent>

<cfoutput>
  #m.getBean('pluginManager').renderAdminTemplate(
    body = pluginBody
    , pageTitle = pluginConfig.getName()
  )#
</cfoutput>
```
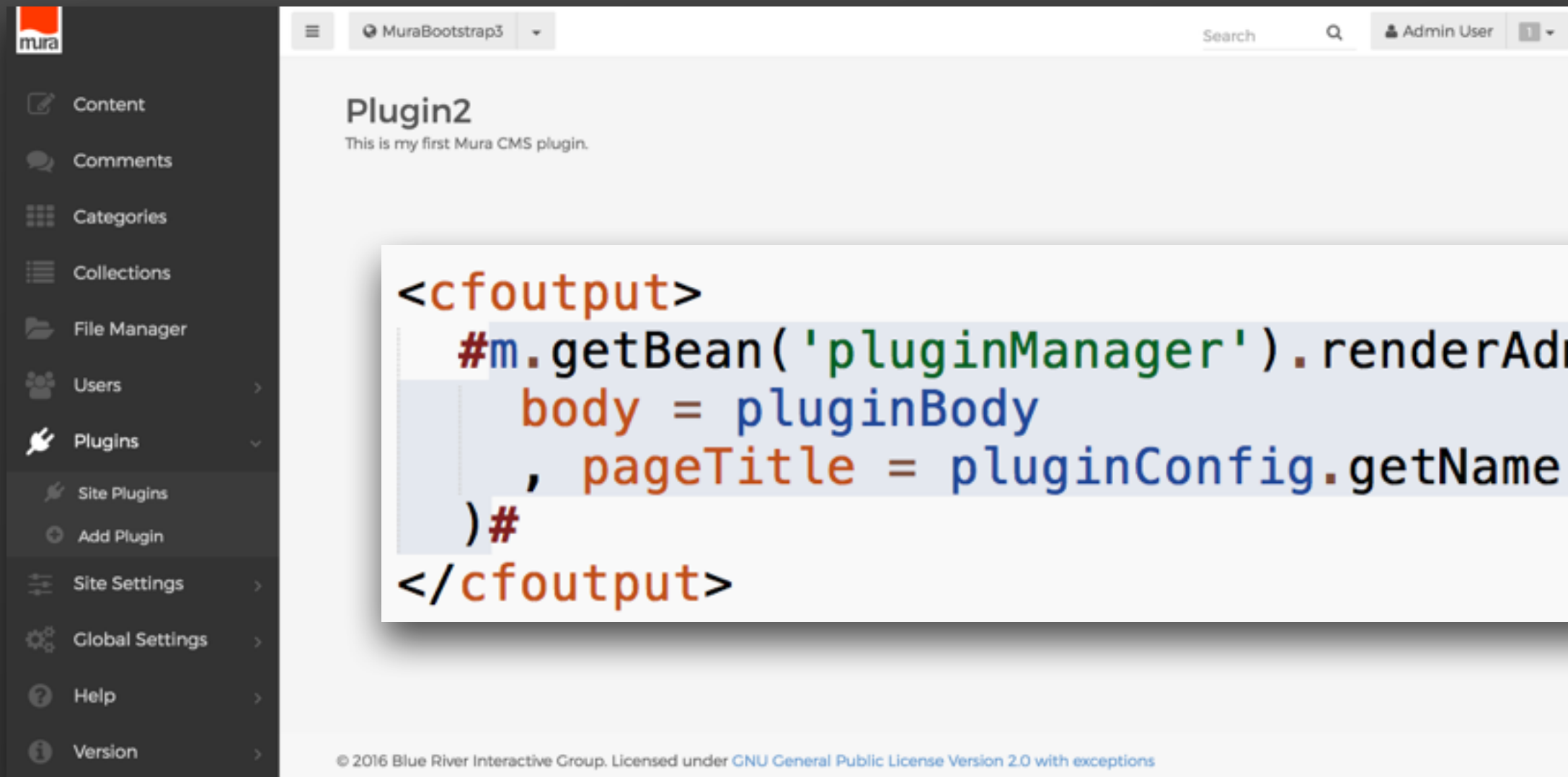
Admin Template

- Optionally use the Mura CMS look and feel

Demo

Plugin 2

/index.cfm

- **Publicly Accessible**

- **May Restrict Access** (if you want)

  - Admin Template does **NOT** control access!

- **Use Application.cfc** (if you want)

  - https://github.com/stevewithington/MuraPlugin

Demo

Logout & Navigate to Plugin 2

Mura Events

- **Application Flow:**
  chain of events that fire in sequence

- **Each link in the chain can be intercepted to:**

  - Provide *additional* logic

  - Or, even *replace* business logic

Event Handlers

- **Front End Requests:** onSiteRequestStart, on{Type}{SubType}BodyRender
- **Contextual Events**
  - **Admin Life-Cycle Events:** onGlobalRequestStart, onAdminRequestStart
  - **Application Events:** onApplicationLoad, onGlobalError, onSiteError
  - **Admin Rendering Events:** onContentEdit
  - **Content Tab Events**
  - **Login Events**
  - **Content Events:** onBefore{Type}{SubType}Save
  - **Feed Events**
  - **User Events**
- **Custom Events**

Event Handlers

- Mura will **NOT** automatically look for event handlers like it does in the Site or Themes.

- You must register them in the **/plugin/config.xml.cfm** file.

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```xml
<eventHandlers>

  <!-- This is the only eventHandler you need to register -->
  <eventHandler  event="onApplicationLoad"
                 component="model.handlers.eventHandler" />

</eventHandlers>
```

eventHandler.cfc

```
component accessors=true extends='mura.plugin.pluginGenericEventHandler' output=false {

    property name='m' hint='mura scope';

    public any function onApplicationLoad(required struct m) {
        // Register all event handlers/listeners of this .cfc with Mura CMS
        variables.pluginConfig.addEventHandler(this);
        setm(arguments.m);
    }

    public any function onPageDefaultBodyRender(required struct m) {
        // Dynamically alter the 'Title' of the page
        m.content('title', 'Hijacked!');
        // Override the output of the main body area of Page / Default
        return '<h3>#m.content('title')#</h3>' & m.content('body');
    }

    // You could place any other event handlers/listeners here

}
```

Demo

Plugin 3

licenst.txt

```
                        Apache License
                  Version 2.0, January 2004
               http://www.apache.org/licenses/

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   control with that entity. For the purposes of this definition,
   "control" means (i) the power, direct or indirect, to cause the
   direction or management of such entity, whether by contract or
   otherwise, or (ii) ownership of fifty percent (50%) or more of the
```

licenst.txt

Plugin Settings

Name: Plugin4   Category: Application   Version: 4.0.0   Provider: Blue River Interactive   Plugin ID: 5   Package: Plugin4

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Demo
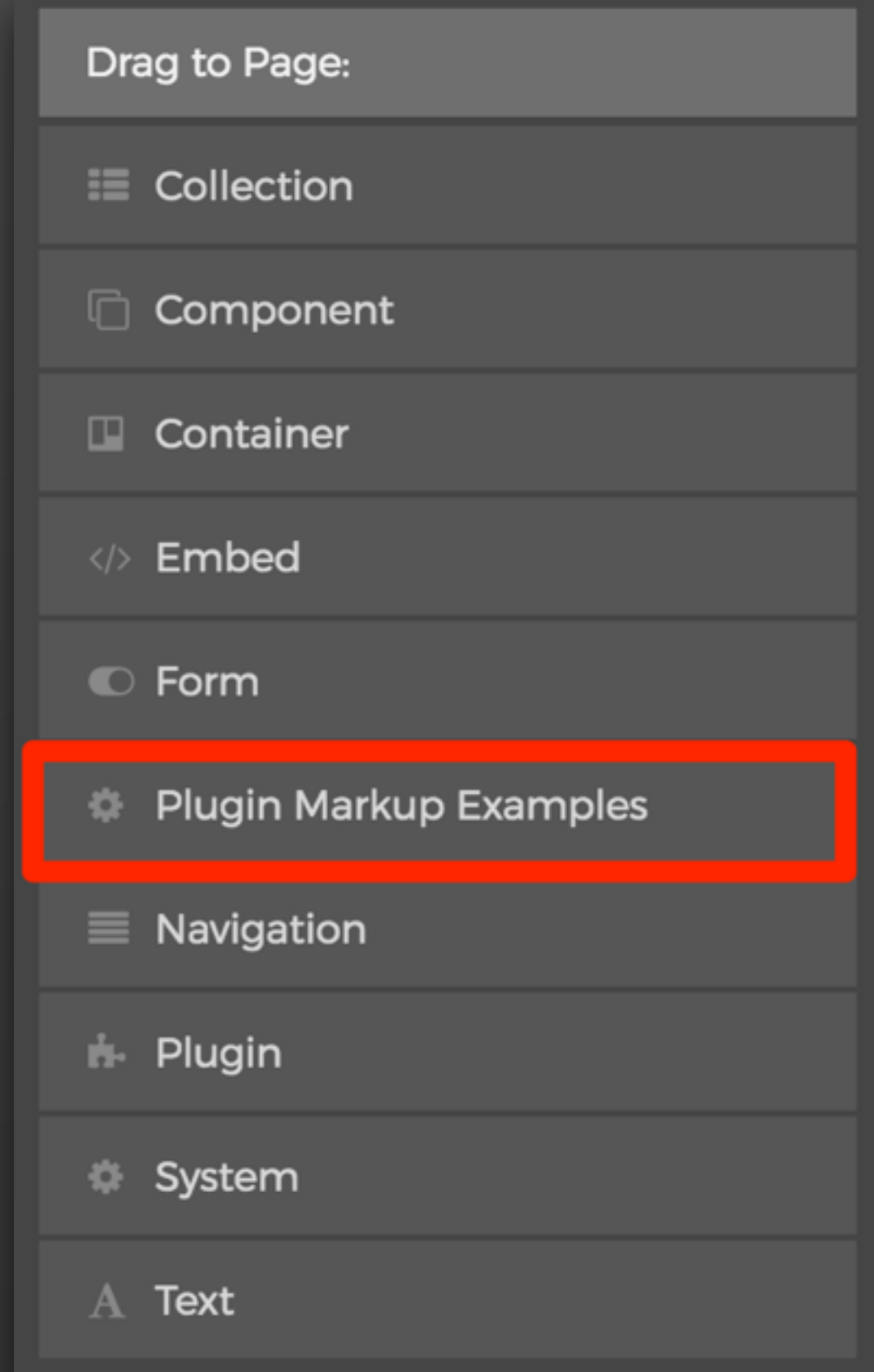
Plugin 4

Display Objects

- /MyPlugin
  - /display_objects

Display Objects

- /MyPlugin

  - /display_objects

    - /your_display_object_folder

      - /config.xml.cfm

      - /index.cfm

      - /configurator.cfm (*optional*)

Display Objects

- /MyPlugin

  - /display_objects

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      - /index.cfm

      - /configurator.cfm (*optional*)

Drag to Page:

- Collection
- Component
- Container
- </> Embed
- Form
- Plugin Markup Examples
- Navigation
- Plugin
- System
- Text

Custom Content Types

- /MyPlugin

  - /content_types

Custom Content Types

- /MyPlugin

  - /content_types

    - /page

      - /index.cfm

Custom Content Types

- /MyPlugin

  - /content_types

    - /page

      - /index.cfm

    - /{type}_{subtype}

      - /index.cfm

Custom Content Types

- /MyPlugin

  - /content_types

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    - /{type}_{subtype}

      - /index.cfm

Demo

Plugin 5

Advanced Options

- Custom Events

- Object Relational Mapping (ORM)

- Bundle Options: `toBundle()`, `fromBundle()`

- CFML Frameworks: FW/1, Model-Glue, Fusebox, etc.

When Plugins?

- **NO**
  - Small modifications
  - No chance of distribution
- **YES**
  - Major modifications
  - Distributed

Resources

- Code samples:

  `https://github.com/stevewithington/mura-plugins-101-preso/`

- Download:

  `https://github.com/stevewithington/mura-plugins-101-preso/archive/master.zip`

Support

- GetMura.com

- BlueRIver.com

- Github.com/BlueRiver

- Mura CMS Developers on Google Groups & LinkedIn

- Paid Support Plans: Short-Term & Annual

- In-Person & Online Training

Thanks,

You rock!