

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

```
<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

```
component accessors=true extends='mura.plugin.pluginincfc' 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>

    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

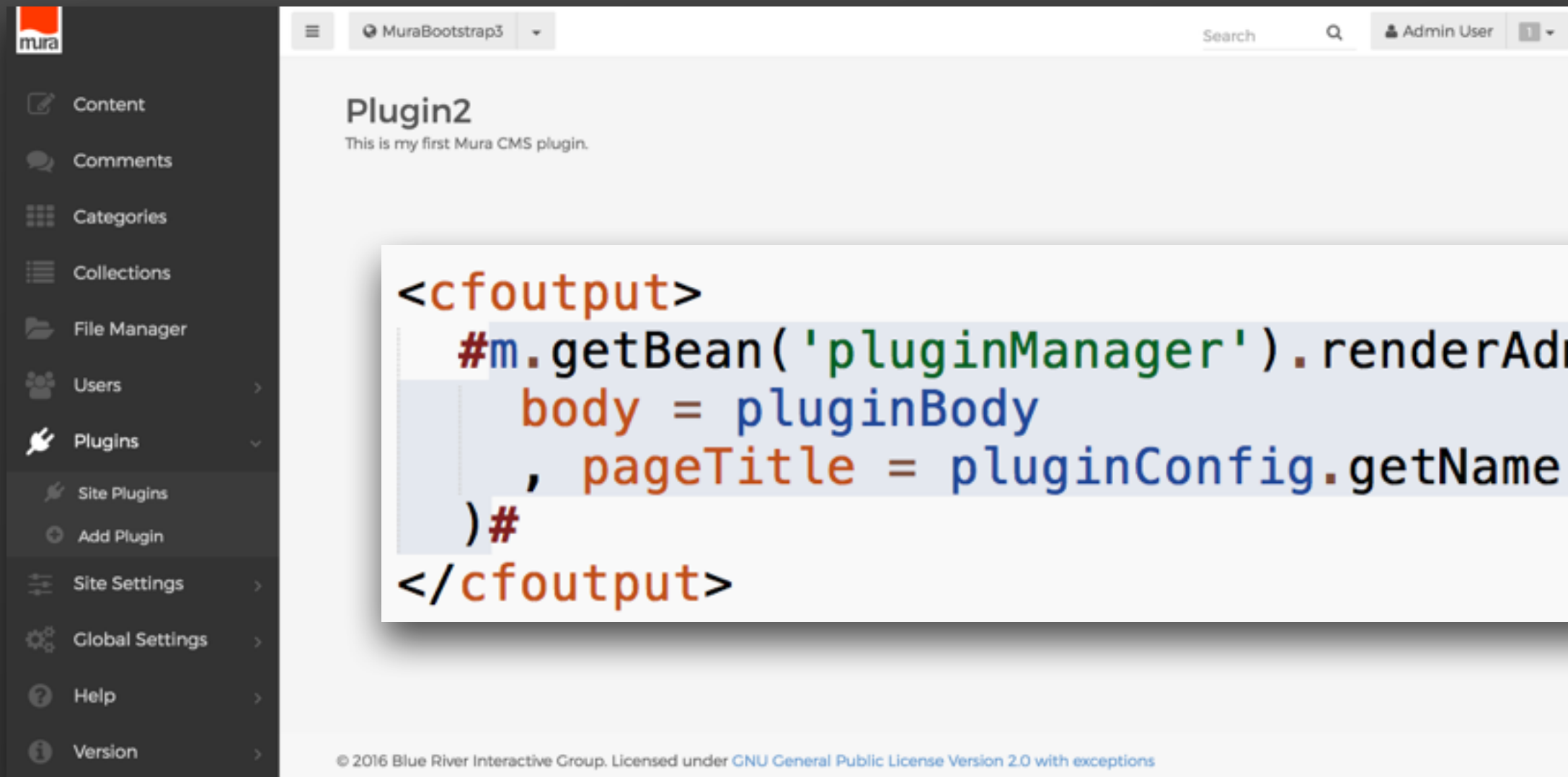
```
<cfinclude template="plugin/config.cfm" />

<cfsavecontent variable="pluginBody">
    <cfoutput>
        <h1>#HTMLFormat(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



The screenshot displays the Mura CMS Admin Template interface. On the left is a dark sidebar menu with the Mura logo at the top and various navigation items: Content, Comments, Categories, Collections, File Manager, Users, Plugins (with a sub-menu for Site Plugins and Add Plugin), Site Settings, Global Settings, Help, and Version. The main content area has a header with a hamburger menu, the text 'MuraBootstrap3', a search bar, and a user profile for 'Admin User'. Below the header, the main content area shows 'Plugin2' with the text 'This is my first Mura CMS plugin.' A code overlay is positioned in the center of the main content area, showing a ColdFusion tag and a call to the `renderAdminTemplate` method. The footer of the page contains the copyright notice: '© 2016 Blue River Interactive Group. Licensed under GNU General Public License Version 2.0 with exceptions'.

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

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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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```
<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

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Plugin Settings

Name: Plugin4 Category: Application Version: 4.0.0 Provider: [Blue River Interactive](#) Plugin ID: 5 Package: Plugin4

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I Do Not Accept

UPDATE

Demo

Plugin 4

Display Objects

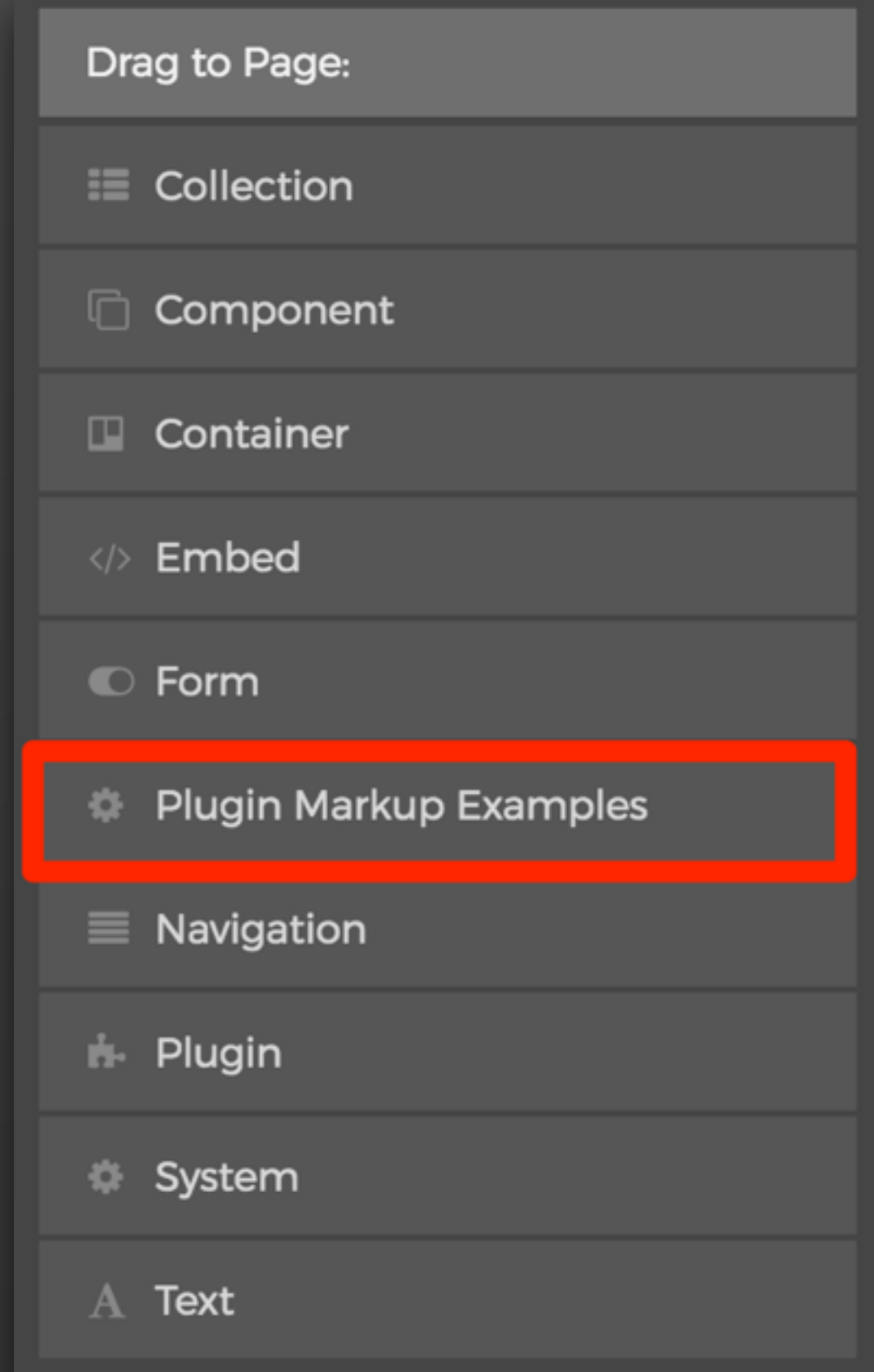
- /MyPlugin
 - /display_objects

Display Objects

- /MyPlugin
 - /display_objects
 - /your_display_object_folder
 - /config.xml.cfm
 - /index.cfm
 - /configurator.cfm (*optional*)

Display Objects

- /MyPlugin
 - /display_objects
 - /your_display_object_folder
 - /config.xml.cfm
 - /index.cfm
 - /configurator.cfm (*optional*)



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
 - /page
 - /index.cfm
 - /{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-pres0/>

- Download:

<https://github.com/stevewithington/mura-plugins-pres0/archive/master.zip>

Support

- [GetMura.com](https://getmura.com)
- [BlueRiver.com](https://blueriver.com)
- [Github.com/BlueRiver](https://github.com/BlueRiver)
- Mura CMS Developers on Google Groups & LinkedIn
- Paid Support Plans: Short-Term & Annual
- In-Person & Online Training

Thanks,

You rock!