



Getting Started with Plugins

MuraCon : EU

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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

- *index.cfm**
- *license.txt**
- **/plugin**
 - **/config.xml.cfm**
 - */plugin.cfc**
 - */config.cfm**
- **Optional*

/plugin/config.xml.cfm

- **Setup Variables (base & custom)**
- **Register Your Plugin's:**
 - Display Objects
 - Event Handlers

/plugin/config.xml.cfm

```
<cfoutput>
  <plugin>
    <name>MuraPlugin</name>
    <package>MuraPlugin</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 location="global"></displayObjects>
    <extensions></extensions>
  </plugin>
</cfoutput>
```

/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:**
 - `$.getBean('someBean')`
 - `$.getBean('user').loadBy(username='Steve')`
- **Mura Events:**
 - `$.event()`, `announceEvent('yourEvent')`
- **Sub-\$scopes:**
 - `$.content()`, `$.currentUser()`, `$.globalConfig()`, `$.siteConfig()`, etc.
- **Helpers:**
 - `$.getContentRenderer()`, `$.getPlugin()`, `$.getImageURL()`,
`$.addToHTMLHeadQueue()`

/plugin/config.cfm

- Hooking Into Mura

```
<cfscript>

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

    if ( !IsDefined('pluginConfig') ) {
        pluginConfig = $.getBean('pluginManager').getConfig('packageName');
    }

</cfscript>
```

pluginConfig =

- **`$.getBean('pluginManager').getConfig('packageName');`**
 - `getDirectory();`
 - `getPackage();`
 - `getName();`
 - `getApplication();`
 - `getSession();`
 - `getAssignedSites();`
 - `getSetting();`
 - `getSettings();`

/index.cfm

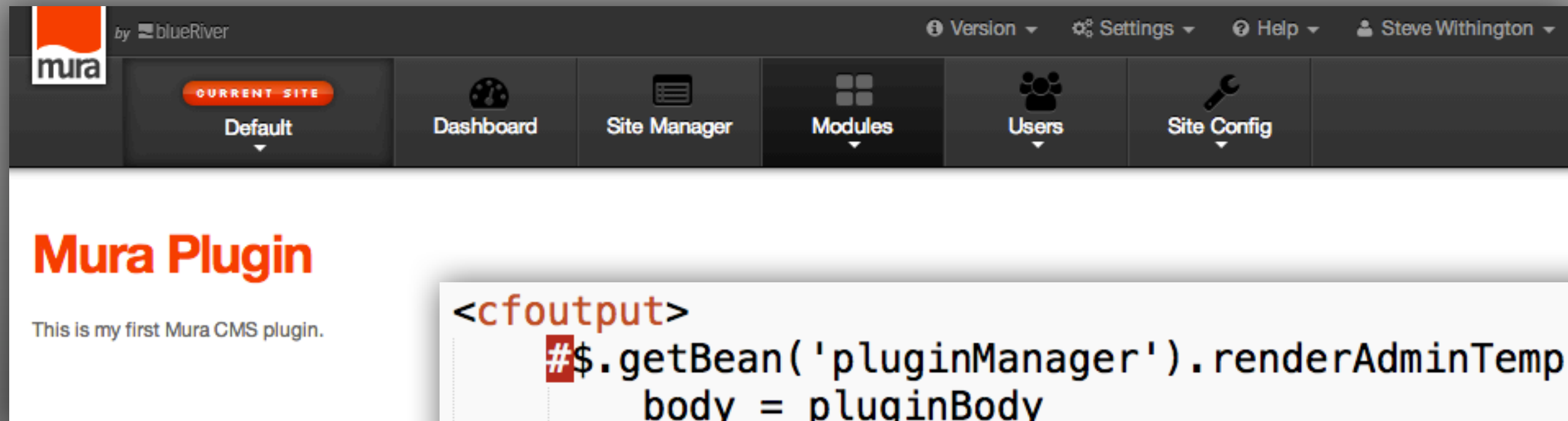
```
<cfinclude template="plugin/config.cfm" />

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

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

Admin Template

- Optionally use the Mura CMS look and feel



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

/index.cfm

- **Publicly accessible**
- **Can restrict access** (if you want)
 - *Admin Template does NOT control access!*
- **Use Application.cfc** (if you want)
 - github.com/stevewithington/MuraPlugin

Display Objects

Basic

SEO

Mobile

Layout & Objects

Categorization

Tags

Related Content

Extended Attributes

Advanced

Publishing

Layout Template ?

Inherit From Parent

Alternate Child Layout Template ?

none

Inheritance Rules ?



Inherit Cascade



Start New Cascade



Do Not Inherit Cascade

Content Objects

Available Content Objects

Plugins

Mura Plugin

Say Anything Configurable Display Object
Say Hello (CFC)
Say Hello (CFM)

Left Column Content Objects

User Tools

Main Content Content Objects

Mura Plugin - Say Hello (CFM)

Right Column Content Objects

Display Objects

```
<displayObjects location="global">

    <displayObject  name="Say Hello from .CFM"
                    displayobjectfile="extensions/dspHello.cfm" />

    <displayObject  name="Say Hello from .CFC"
                    component="extensions.displayObjects"
                    displaymethod="dspHello"
                    persist="false" />

</displayObjects>
```

Display Objects: .CFM

```
<cfscript>
/**
 *
 * NOTE:
 * This is essentially just a simple 'include' file
 * You could do whatever you need here (e.g., db lookups, etc.)
 * Also, since this will be rendered via the front-end,
 * you have access to the Mura $scope!
 *
 */
</cfscript>
<cfoutput>
    <h3>Hello from dspHello.cfm</h3>
</cfoutput>
```

Display Objects: .CFC

```
component accessors=true extends='mura.cfobject' output=false {  
  
    property name='$';  
  
    public any function init(required struct $) {  
        set$(arguments.$);  
        return this;  
    }  
  
    public string function dspHello() {  
        return '<h3>Hello from display0bjects.dspHello()</h3>';  
    }  
  
}
```

Mura Events

- **applicationFlow =**
 - ‘chain of events that fire in sequence’;
- **Each link in the chain can be intercepted to:**
 - Provide *additional* OR,
 - Even *replace* business logic

Event Handlers

- Front End Requests
- 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

```
<eventHandlers>  
  <!-- This is the only eventHandler you need to register -->  
  <eventHandler    event="onApplicationLoad"  
    |              |  
    |              |    component="extensions.eventHandler" />  
  
</eventHandlers>
```


eventHandler.cfc

```
component accessors=true extends='mura.plugin.pluginGenericEventHandler' output=false {  
  
    property name='$' hint='mura scope';  
  
    public any function onApplicationLoad(required struct $) {  
        // Register all event handlers/listeners of this .cfc with Mura CMS  
        variables.pluginConfig.addEventHandler(this);  
        set$(arguments.$);  
    }  
  
    public any function onPageDefaultBodyRender(required struct $) {  
        // Dynamically alter the 'Title' of the page  
        $.content('title', 'Hijacked!');  
        // Override the output of the main body area of Page / Default  
        return '<h3>#$.content('title')#</h3>' & $.content('body');  
    }  
  
    // You could place any other event handlers/listeners here  
  
}
```

eventHandler.cfc

```
component accessors=true extends='mura.plugin.pluginGenericEventHandler' output=false {  
  
    property name='$' hint='mura scope';  
  
    this.pluginName = 'MuraPlugin';  
  
    public any function onApplicationLoad(required struct $) {  
        // Register all event handlers/listeners of this .cfc with Mura CMS  
        variables.pluginConfig.addEventHandler(this);  
        set$(arguments.$);  
    }  
  
    public any function onSiteRequestStart(required struct $) {  
        // This makes any methods of the object accessible via $.yourPluginName  
        var contentRenderer = new contentRenderer(arguments.$);  
        arguments.$.setCustomMuraScopeKey(this.pluginName, contentRenderer);  
        set$(arguments.$);  
    }  
  
    // You could place any other event handlers/listeners here  
  
}
```

Advanced Options

- **Configurable Display Objects**
- **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

Support

- **GetMura.com**
- **BlueRiver.com**
- **Paid Support Plans: Short-Term & Annual**
- **In-Person Training**
- **Online Training**

Resources

- **Github.com/SteveWithington/MuraPlugin**
- **GetMura.com/forum**
- **Mura Books: <http://cfml.us/73>**
- **MuraCloud.com**
- **Github.com/BlueRiver**