


Mach-II Plugins, Filters & Subroutines

Peter J. Farrell
GreatBizTools, LLC

Who is he?

- Co-host of the ColdFusion Weekly
- Lead Developer for Mach-II
- CIO for GreatBizTools, LLC
- Classically trained musician



Good conquers evil
unless
good is stupid

Part One

Extensible Through Architecture



Mach-II

Extensible through architecture

- Current core in 1.1.1:
 - Plugins
 - Filters
 - Listeners
 - Application.cfc support
- Coming in 1.5.0:
 - Includes / Modules
 - Subroutines

Filters Versus Plugins

What's the difference?

■ Filter:

- Executes in each defined event-handler
- Good for flow control or controller specific logic

■ Plugin:

- Executes at each plugin point on all events
- Good for cross cutting logic (i.e. i18n, logging, injecting data as event args, etc.)

Part Two

Filters

Anatomy of a Filter

- `configure()`
 - Arguments: none (takes config parameters)
 - Used to configure the filter
- `filterEvent()`
 - Arguments: `event`, `eventContext`, `paramArgs`
 - Method called by the framework when executed. Takes runtime parameters (`paramArgs`)

Filters - Tips & Tricks

- Use runtime parameters to override config parameters for variables that seldomly change
- Do not hard code events if your filter announces them. Set via a runtime or config parameter.
- Use an internal cache if your filter perform calculations with event args or runtime parameters.

Filters - Tips & Tricks

- Valid runtime and config parameters
- Throw meaningful messages for runtime and config parameters validation errors
- Leverage the EventContext
 - More on this later

Part Three

Plugins

Anatomy of a Plugin

- `configure()`
 - Arguments: none (takes config parameters)
 - Used to configure the plugin
- Plugin points
 - `PreProcess()` - like `onRequestStart()`
 - `PreEvent()` / `PostEvent()`
 - `PreView()` / `PostView()`
 - `PostProcess()` - like `onRequestEnd()`
 - `HandleException()` - like `OnError()`

Plugins - Tips & Tricks

- Getting the event in the `preProcess()`
 - `arguments.eventContext.getNextEvent()`
- Getting the event in all other points
 - `arguments.eventContext.getCurrentEvent()`
- Define only the points that you need
 - The framework only calls points that are defined to save on processing time
- If `HandleException()` announces an event, the framework will not process it.

Plugins - Tips & Tricks

- `AbortEvent()` will throw an exception that the framework will handle.
- Plugins are called in the order they are defined in the configuration file
- Validate config parameters
- Throw meaningful messages for config parameter validation errors

Part Four

General Suggestions

Leveraging the EventContext

- Get/set event mappings
 - You may have a different “pass” event that a listener may announce based on a user role
- Dynamically display views
 - Useful to display views based on roles or other data (such as event args)
- Clear the event queue
 - This will end the request if you don't announce another event.

Leveraging the EventContext

- Get/set/has next or previous event
 - You can create plugins to handle event chaining
- Manually throw and handle an exception

Dynamic config paramaters

```
<cfset var eventName = getParameter("eventName", "") />  
  
<cfif REFindNoCase("\${(.)*?}", eventName) >  
  <cfset eventName = Mid(eventName, 3, Len(eventName) - 3) />  
  <cfset variables.eventName = getProperty(eventName, "") />  
</cfif>
```

- You should check for the existence of the property as well
- Dynamic parameters makes it easy to have parameters that vary due to deployment platforms

Subroutines - Coming Soon...

- Very new alpha already in 1.5.0 BER
 - [Http://svn.mach-ii.com/framework/1-5-0/trunk](http://svn.mach-ii.com/framework/1-5-0/trunk)
- What is a subroutine:
 - A body of code to be executed when the subroutine is called (allowing for easy reuse)
 - Parameters that are passed to the subroutine from the point where it is called
 - A value that is returned to the point where the call occurs

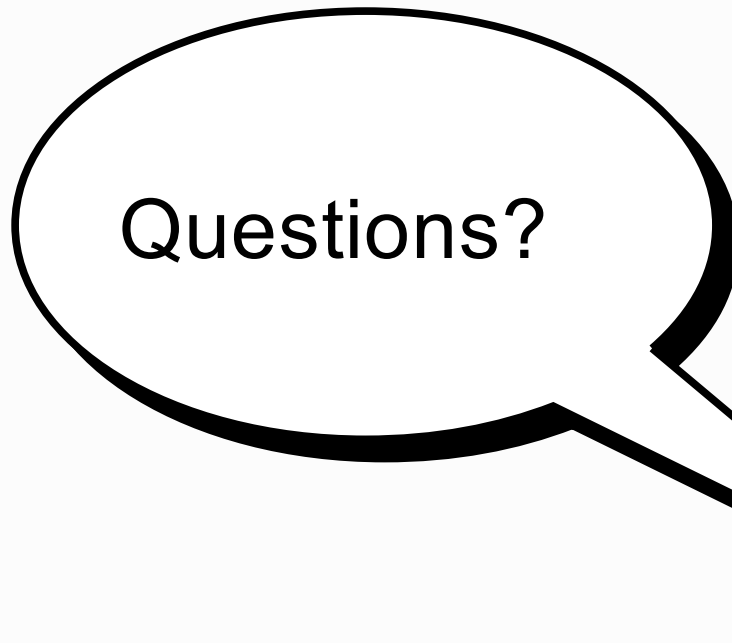
Subroutines 2 - Sneak Peek

- Allows for immediate execution of a subroutine
- Does not queue, but chains into the current event object
- New command
 - `<execute subroutine="showCategories"/>`
- Corresponding xml section
- Let's take a peek...

Resources

- Mach-II Website
 - Including core files, doco, FAQs, samples
 - [Http://www.mach-ii.com](http://www.mach-ii.com)
- Mach-II List at Google Groups
 - <http://groups-beta.google.com/group/mach-ii-for-coldfusion>
- Mach-II.info
 - [Http://www.mach-ii.info](http://www.mach-ii.info)

Wrapping Up



Contacting Me & Team Mach-II

- Peter J. Farrell
 - pfarrell@greatbiztools.com
 - [Http://blog.maestropublishing.com](http://blog.maestropublishing.com)
- Team Mach-II
 - Peter, Matt & Kurt
 - info@mach-ii.com