

# Writing WebGUI Macros

---

Roy Johnson  
Plain Black Corporation

# What is a Macro?

- \* A Perl Subroutine
- \* Used by Site Designers and Content Managers
- \* No Direct Interaction with site visitors (usually)

# Where can you use them?

- \* Any template (including styles)
- \* Just about any field that renders output
- \* Some workflow activities

# Creating your first Macro!



# Creating your first Macro!

- \* Use skeleton code as a starting point

# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in `WebGUI/lib/WebGUI/Macro`

# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in `WebGUI/lib/WebGUI/Macro`
  - \* `>cp _macro.skeleton MacroName.pm`

# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in `WebGUI/lib/WebGUI/Macro`
  - \* `>cp _macro.skeleton MacroName.pm`
  - \* edit, add code, save



# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in `WebGUI/lib/WebGUI/Macro`
  - \* `>cp _macro.skeleton MacroName.pm`
  - \* edit, add code, save
- \* Enable Macro in site config

# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in WebGUI/lib/WebGUI/Macro
  - \* `>cp _macro.skeleton MacroName.pm`
  - \* edit, add code, save
- \* Enable Macro in site config
  - \* `"MacroName" : "MacroName"`

# Creating your first Macro!

- \* Use skeleton code as a starting point
  - \* found in `WebGUI/lib/WebGUI/Macro`
  - \* `>cp _macro.skeleton MacroName.pm`
  - \* edit, add code, save
- \* Enable Macro in site config
  - \* `"MacroName" : "MacroName"`
- \* Restart Modperl when you're done!



# Code Requirements

- \* Package Name must match filename
  - \* MyMacro.pm filename
  - \* `package WebGUI::Macro::MyMacro;`
- \* `sub process()`
  - \* you can have more subroutines
  - \* `process` subroutine is starting point



# Code Requirements

- \* shift in your parameters (if any)
  - \* my \$parameter = shift;
- \* return your output (if any)
  - \* return \$output;
- \* All Perl packages must end with !;

# Configuration Requirements

- \* Must enable the macro in your WebGUI.conf
- \* For each site you want the macro enabled
- \* “Macro\_innovation\_name” :  
“Macro\_filename”
- \* Macro.pm file must be in WebGUI/lib/  
WebGUI/Macro

# Configuration Requirements

- \* Restart mod\_perl instance of apache!
- \* Compiles your macro into memory
- \* Causes WebGUI to re-read your site configuration files



# Example: Echo Macro

- \* Requirements

- \* Accept a single parameter

- \* Return the parameter passed in

- \* Usage

- \* `^Echo(Hello);`

- \* Expected Output

- \* Hello



# Example: Echo Macro

- \* Filename: Echo.pm
- \* `>cp _macro.skeleton Echo.pm`
- \* Path: WebGUI/lib/WebGUI/Macro/
- \* Config file Entry: "Echo" : "Echo"

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```

# Example: Echo Macro

```
package WebGUI::Macro::Echo;
```

Package name must  
match our filename

```
# Echo Macro
```

```
# A macro that returns the parameter passed in
```

```
#-----
```

```
sub process {  
    my $session = shift;  
    return shift;  
}
```

```
1;
```

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```



# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```

Comments are good =)

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```

process  
subroutine is invoked on macro  
execution

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```



# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}
1;
```

packages always  
end with 1;

# Example: Echo Macro

```
package WebGUI::Macro::Echo;

# Echo Macro
# A macro that returns the parameter passed in

#-----
sub process {
    my $session = shift;
    return shift;
}

1;
```

# Beyond the Basics

- \* Multiple Parameters (Add Macro)
- \* No parameters just output (Active Sessions Macro)
- \* Templating Macro Output (SysLoad Macro)
- \* Practical Example (Link Macro)

# Example: Add Macro

- \* Requirements

- \* Input: multiple real numbers

- \* Return: sum of values passed in

- \* Usage

- \* `^Add(1,1,2,3,5,8);`

- \* Expected Output

- \* 20



# Example: Sum Macro

```
package WebGUI::Macro::Sum;

# Sum Macro
# A macro that returns the sum of numbers passed in

#-----
sub process {
    my $session = shift;
    my $sum = 0;
    foreach my $number (@_) {
        $sum += $number;
    }
    return $sum;
}

1;
```

# Example: ActiveSessions Macro

- \* Requirements
  - \* Input: none
  - \* Return: number of active user sessions
- \* Usage
  - \* `^ActiveSessions();`
- \* Expected Output
  - \* Number of Active Sessions

# Example: ActiveSessions Macro

```
package WebGUI::Macro::ActiveSessions;

# Active Sessions Macro
# A macro that returns the number of active sessions

#-----
sub process {
    my $session = shift;
    my ($sessionCount) = $session->db->quickArray(
        "select count(*) from userSession");

    return $sessionCount;
}

1;
```

# Example: Link Macro

- \* Requirements

- \* Input: text to hyperlink and URL

- \* Return: html anchor tag

- \* Usage

- \* `^Link(Plain Black, http://www.plainblack.com);`

- \* Expected Output

- \* `<a href="http://www.plainblack.com">Plain Black</a>`



```
package WebGUI::Macro::Link;

# Link Macro
# A macro that returns a hyperlink

#-----
sub process {
    my $session = shift;
    my $text = shift; # text to urlize
    my $url = shift; # our url

    my $tag = "<a href='$url'>$text</a>";

    return $tag;
}

1;
```

# Example: SysLoad Macro

- \* Requirements

- \* Input: asset id of the template to use

- \* Return: system load and uptime info

- \* Usage

- \* `^SysLoad(RLJSysLoadTemplate0001);`

- \* Expected Output

- \* our templated system load information

# Questions?