


Working with Plug-ins

Lesson 07

August 16, 2014

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Lesson Objectives

- Introduction
- jQuery UI
- jQuery Plug-in Repository
- Closures
- Plug-in Types
- Function Plug-in
- Method Plug-in
- Working with Plug-in Options
- Creating Private functions



Introduction

- Plug-in is a piece of software which enhances another software application and usually cannot be run independently.
- jQuery offers a mechanism for adding methods and extra functionalities to the core module by creating plug-ins. Additional methods and functions created using this structure are then bundled as plug-ins.
- jQuery plug-ins are coded by making use of the jQuery API functions and methods.
- jQuery Plug-in results in creating a reusable resource that we don't need to rewrite in our project.

jQuery UI

- jQuery offers a plug-in architecture that allows web developers to extend the core jQuery library (jqueryui.com).
- It has following plug-ins
 - Effects plug-ins
 - It make elements bounce, explode, pulsate, or shake.
 - Interaction plug-ins
 - It enable users to interact with elements by making those elements draggable, droppable, or sortable etc.
 - Widget plug-ins
 - Widgets saves tons of coding time and complexity while creating usable and responsive user interface elements.

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jqueryui.com



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Demo

➤ [jQueryUI.html](#)



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jQuery Plug-in Repository

- <http://plugins.jquery.com> is official jQuery plug-in repository, where jQuery plug-in developers submit their plug-ins.
- We can look for the best plug-ins from this repository.
- We can browse plug-ins by category, by name, date or by search for a string.
- We can get a valuable and versatile final product very easily and eventually we can tweak it to fit our needs from this repository.

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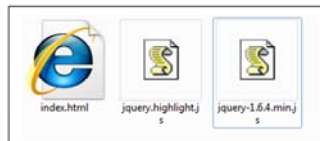
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plugins.jquery.com



jQuery Plug-in naming convention

- `jquery.PLUGINNAME.js` is the recommended file name convention for jQuery plug-ins.
- For instance, if we create a plug-in to highlight elements, we need to name it as `jquery.highlight.js`
- Place the `index.html` in the same location, which shows the demo for using the plug-in.



Closures

- A closure is used when a function is declared inside another function.
- A closure is the local variables for a function - kept alive after the function has returned.
- A closure is a stack-frame which is not de-allocated when the function returns.
- A closure in JavaScript is like keeping a copy of the all the local variables, just as they were when a function exited.

Demo

➤ [closure.html](#)



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jQuery Plug-in Types

- jQuery plug-ins can be broadly classified into two types.
 - Function Plug-in
 - Method Plug-in
- To make sure the plug-in doesn't collide with other libraries that might use the dollar sign, it's a best practice to pass jQuery to a self executing function (closure) that maps it to the dollar sign so it can't be overwritten by another library in the scope of its execution.

```
(function($) {  
    //jQuery Plug-in implementation  
})(jQuery);
```

Function Plug-in

- Standalone function (\$.xxx) which does not return a jQuery object.
- All new functions are attached to the jQuery object
- It doesn't support method chaining.
- Function plugins directly extends the jQuery object.

```
(function($){  
    $.PLUGINNAME = function() {  
        // Plugin Code  
    }  
})(jQuery);
```

Demo

➤ `displayAlert.html`



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Method Plug-in

- The method (\$.fn.xxx) must return the jQuery object.
- All new methods are attached to the jQuery.fn object
- It supports Method chaining.
- Method plugins extends the jQuery.fn object.

```
(function($) {  
    $.fn.PLUGINNAME = function() {  
        return this.each(function() {  
            // code  
        });  
    }  
})(jQuery);
```

Demo

➤ `highlight.html`



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Working with Plug-in Options

- Options were used to customize the behavior of the plugin
- Plug-in packed with options is quite flexible and easily extensible.
- To use options function definition would include an argument.
- The options object must be formatted following the inline object { option1: value1, option2: value2 } and so on.
- If the options were not provided then the plug-in will use it's default values

Demo

➤ `optionPlugin.html`



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Creating Private functions

- In order to make our functions to use only by plug-in only, we need to make them private, so that others cannot access and misuse them.
- Closures make it possible for the developer to avoid creating functions in the main namespace and keep them private to avoid problems with naming, backward compatibility issues.

Demo

➤ [closurePlugin.html](#)



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Summary

- Method plugins extend the `jQuery.fn` object.
- Function plugins directly extends the jQuery object.
- Method plugins do support chainability.
- Function plugins do not support chainability.
- Method plugins should always return the jQuery object (`this`, in the code) to allow for chainability.



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Lab

- 7.1 Using jQuery-UI
- 7.2 Creating Function Plugin
- 7.3 Creating Method Plugin
- 7.4 Creating Method Plugin (Form Validation)



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Review Question

➤ Identify correct jQuery Plug-in naming convention

- A. PLUGINNAME.js
- B. PLUGINNAME.plugin.js
- C. jquery.PLUGINNAME.js
- D. PLUGINNAME.jquery.plugin.js



➤ Which type of plug-in extends the jQuery object?

- A. Method plug-ins.
- B. Function plug-ins.
- C. The jQuery object cannot be extended.
- D. Any type of plug-in.

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