

**Pemrograman Web**  
**IF-IP03**

jQuery

Ken Ratri. MT

# What You Should Already Know

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- ▶ Before you start studying jQuery, you should have a basic knowledge of:
  - ▶ HTML
  - ▶ CSS
  - ▶ JavaScript

# Introduction

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- ▶ jQuery is a JavaScript Library.
- ▶ jQuery greatly simplifies JavaScript programming.
- ▶ jQuery is easy to learn.
- ▶ The jQuery is cross-browser JavaScript library and it helps the programmer's to develop cross-browser application easily.
- ▶ jQuery to handle events, perform animation, and add the ajax support into your web applications with ease.

# jQuery?

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- ▶ jQuery is a library of JavaScript Functions.
- ▶ jQuery is a lightweight "write less, do more" JavaScript library.
- ▶ The jQuery library contains the following features:
  - ▶ HTML/DOM manipulation
  - ▶ CSS manipulation
  - ▶ HTML event methods
  - ▶ Effects and animations
  - ▶ AJAX
  - ▶ Utilities
- ▶ Library : <http://www.jquery.com>.

# JS Libraries



```
for (i = 0; i < document.querySelectorAll("button").length; i++) {  
  document.querySelectorAll("button")[i].addEventListener("click", function() {  
    document.querySelector("h1").style.color = "red";  
  });  
}
```

JS vs JQuery



```
$("#button").click(function() {  
  $("#h1").css("color", "red");  
})
```

# Adding jQuery to Your Web Pages

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- ▶ There are several ways to start using jQuery on your web site. You can:
  - ▶ Download the jQuery library from <https://jquery.com/download/>
  - ▶ Include jQuery from a CDN, like Google

```
<head>  
<script src="jquery-3.4.1.min.js"></script>  
</head>
```

# Alternatives to Downloading

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If you don't want to store the jQuery library on your own computer, you can use the hosted jQuery library from Google or Microsoft.

```
<head>  
<script  
src="https://ajax.googleapis.com/ajax/libs/jquery/3.4.1/jquery.min.  
js"></script>  
</head>
```



# jQuery Syntax : Selector

- ▶ The jQuery syntax is tailor made for **selecting** HTML elements and perform some **action** on the element(s).
- ▶ Basic syntax is: **\$(selector).action()**
  1. A dollar sign to define jQuery
  2. A (selector) to "query (or find)" HTML elements
  3. A jQuery action() to be performed on the element(s)
- ▶ Examples:
  1. `$(this).hide()` - hides current element
  2. `$("p").hide()` - hides all paragraphs
  3. `$("p.test").hide()` - hides all paragraphs with class="test"
  4. `$("#test").hide()` - hides the element with id="test"

# The Document Ready Function

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- ▶ You might have noticed that all jQuery methods, in our examples, are inside a `document.ready()` function:

```
$(document).ready(function(){  
  
    // jQuery methods go here...  
  
});
```

This is to prevent any jQuery code from running before the document is finished loading (is ready).

Here are some examples of actions that can fail if functions are run before the document is fully loaded:

- Trying to hide an element that doesn't exist
- Trying to get the size of an image that is not loaded

# jQuery Selectors

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- ▶ jQuery selectors allow you to select and manipulate HTML element(s).
- ▶ With jQuery selectors you can find elements based on their id, classes, types, attributes, values of attributes and much more. It's based on the existing CSS Selectors, and in addition, it has some own custom selectors.
- ▶ All type of selectors in jQuery, start with the dollar sign and parentheses: \$().

# jQuery Selectors

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- ▶ The jQuery element selector selects elements based on their tag names.
- ▶ You can select all `<p>` elements on a page like this:

```
$("#p")
```

```
<head>
  <meta charset="utf-8">
  <title>jQuery Click</title>
  <link rel="stylesheet" type="text/css" href="style.css">
  <script src="jQuery/jquery-3.4.1.min.js"></script>
  <script type="text/javascript">
    $(document).ready(function() {
      $("button").click(function() {
        $("p").text("Hello World!");
      });
    });
  </script>
</head>
<body>
  <p>Not loaded yet.</p>
  <button type="button">Replace Text</button>
</body>
```

```
<!DOCTYPE html>
<html>
<head>
<script src="https://ajax.googleapis.com/ajax/libs/jquery/3.1.1/jquery.min.js">
</script>
<script>
$(document).ready(function(){
    $("button").click(function(){
        $("p").hide();
    });
});
</script>
</head>
<body>

<h2>This is a heading</h2>

<p>This is a paragraph.</p>
<p>This is another paragraph.</p>

<button>Click me to hide paragraphs</button>
</body>
</html>
```

# The #id Selector

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- ▶ The jQuery #id selector uses the id attribute of an HTML tag to find the specific element.
- ▶ An id should be unique within a page, so you should use the #id selector when you want to find a single, unique element.
- ▶ To find an element with a specific id, write a hash character, followed by the id of the element:

```
$("#test")
```

```
<script>
$(document).ready(function(){
    $("button").click(function(){
        $("#test").hide();
    });
});
</script>
</head>
<body>
<h2>This is a heading</h2>
<p>This is a paragraph.</p>
<p id="test">This is another paragraph.</p>
<button>Click me</button>
```



## The .class Selector

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- ▶ The jQuery class selector finds elements with a specific class.
- ▶ To find elements with a specific class, write a period character, followed by the name of the class:

```
$(".test")
```

```
<script type="text/javascript">
$(document).ready(function(){
    // Highlight elements with class mark
    $(".mark").css("background", "yellow");
});
</script>
</head>
<body>
    <p class="mark">This is a paragraph.</p>
    <p class="mark">This is another paragraph.</p>
    <p>This is one more paragraph.</p>
</body>
```

# Syntax jQuery Examples

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## jQuery Syntax Examples

- ▶ `$(this).hide()`  
Demonstrates the jQuery `hide()` method, hiding the current HTML element.
- ▶ `$("#test").hide()`  
Demonstrates the jQuery `hide()` method, hiding the element with `id="test"`.
- ▶ `$("p").hide()`  
Demonstrates the jQuery `hide()` method, hiding all `<p>` elements.
- ▶ `$(".test").hide()`  
Demonstrates the jQuery `hide()` method, hiding all elements with `class="test"`.

Syntax	Description
<code>\$("*")</code>	Selects all elements
<code>\$(this)</code>	Selects the current HTML element
<code>\$("p.intro")</code>	Selects all <code>&lt;p&gt;</code> elements with <code>class="intro"</code>
<code>\$("p:first")</code>	Selects the first <code>&lt;p&gt;</code> element
<code>\$("ul li:first")</code>	Selects the first <code>&lt;li&gt;</code> element of the first <code>&lt;ul&gt;</code>
<code>\$("ul li:first-child")</code>	Selects the first <code>&lt;li&gt;</code> element of every <code>&lt;ul&gt;</code>
<code>\$("[href]")</code>	Selects all elements with an href attribute
<code>\$("a[target='_blank']")</code>	Selects all <code>&lt;a&gt;</code> elements with a target attribute value equal to <code>"_blank"</code>
<code>\$("a[target!='_blank']")</code>	Selects all <code>&lt;a&gt;</code> elements with a target attribute value NOT equal to <code>"_blank"</code>
<code>\$(":button")</code>	Selects all <code>&lt;button&gt;</code> elements and <code>&lt;input&gt;</code> elements of <code>type="button"</code>
<code>\$("tr:even")</code>	Selects all even <code>&lt;tr&gt;</code> elements
<code>\$("tr:odd")</code>	Selects all odd <code>&lt;tr&gt;</code> elements

# jQuery **Event Methods**

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- ▶ Event handlers are methods that are called when "something happens" in HTML.
- ▶ The term "**triggered (or "fired") by an event**" is often used.
- ▶ It is common to put jQuery code into event handler methods in the <head> section.
- ▶ The jQuery event handling methods are core functions in jQuery.
- ▶ Examples:
  - ▶ moving a mouse over an element
  - ▶ selecting a radio button
  - ▶ clicking on an element

# jQuery Events

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Event Method	Description
<code>\$(document).ready(function)</code>	Binds a function to the ready event of a document (when the document is finished loading)
<code>\$(selector).click(function)</code>	Triggers, or binds a function to the click event of selected elements
<code>\$(selector).dblclick(function)</code>	Triggers, or binds a function to the double click event of selected elements
<code>\$(selector).focus(function)</code>	Triggers, or binds a function to the focus event of selected elements
<code>\$(selector).mouseover(function)</code>	Triggers, or binds a function to the mouseover event of selected elements

# Syntax For Event Methods

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- ▶ In jQuery, most DOM events have an equivalent jQuery method.
- ▶ To assign a click event to all paragraphs on a page, you can do this:

```
$("#p").click();
```

The next step is to define what should happen when the event fires. You must pass a function to the event:

```
$("#p").click(function(){  
    // action goes here!!  
});
```

```
<script>
$(document).ready(function(){
    $("button").click(function(){
        $("p").toggle();
    });
});
</script>
</head>
<body>
```

```
<button>Toggle between hiding and showing the paragraphs</button>
```

```
<p>This is a paragraph with little content.</p>
```

```
<p>This is another small paragraph.</p>
```

```
</body>
```



```
$("#p").dblclick(function(){  
    $(this).hide();  
});
```

```
$("#pI").mouseenter(function(){  
    alert("You entered pI!");  
});
```

```
$("#pI").mouseleave(function(){  
    alert("Bye! You now leave pI!");  
});
```

```
$("#p1").hover(function(){  
    alert("You entered p1!");  
},  
function(){  
    alert("Bye! You now leave p1!");  
});
```

```
$("#input").focus(function(){  
    $(this).css("background-color","#cccccc");  
});
```

```
$("#input").blur(function(){  
    $(this).css("background-color","#ffffff");  
});
```

# Jquery Effects

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## Examples

- ▶ jQuery hide()  
Demonstrates a simple jQuery hide() function.
- ▶ **jQuery hide() and show()**  
Another hide() demonstration. How to hide parts of text.
- ▶ jQuery slideToggle()  
Demonstrates a simple slide panel effect.

# jQuery Hide and Show

hide() and show() methods

```
$("#hide").click(function(){  
    $("#p").hide();  
});  
$("#show").click(function(){  
    $("#p").show();  
});
```

The speed parameter specifies the speed of the hiding/showing, and can take the following values: "slow", "fast", "normal", or milliseconds:

Both hide() and show() can take the two optional parameters: speed and callback.

Syntax:

```
$(selector).hide(speed,callback)  
$(selector).show(speed,callback)
```

## Example

```
$("#button").click(function(){  
    $("#p").hide(1000);  
});
```

# jQuery Toggle

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- ▶ The jQuery toggle() method toggles the visibility of HTML elements using the show() or hide() methods.
- ▶ Shown elements are hidden and hidden elements are shown.

Syntax:

**\$(selector).toggle(speed,callback)**

The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.

```
$("#button").click(function(){  
    $("#p").toggle();  
});
```

# jQuery Effects - Fading

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- ▶ With jQuery you can fade an element in and out of visibility.

jQuery has the following fade methods:

- fadeIn()
- fadeOut()
- fadeToggle()
- fadeTo()

# jQuery fadeIn() Method

- ▶ The jQuery fadeIn() method is used to fade in a hidden element.
- ▶ The optional speed parameter specifies the duration of the effect. It can take the following values: "slow", "fast", or milliseconds.
- ▶ The optional callback parameter is the name of a function to be executed after the fading completes.

```
$(selector).fadeIn(speed,callback);
```

```
$("button").click(function(){  
    $("#div1").fadeIn();  
    $("#div2").fadeIn("slow");  
    $("#div3").fadeIn(3000);  
});
```

# jQuery fadeOut() Method

---

- ▶ The jQuery fadeOut() method is used to fade out a visible element.
- ▶ The optional speed parameter specifies the duration of the effect. It can take the following values: "slow", "fast", or milliseconds.
- ▶ The optional callback parameter is the name of a function to be executed after the fading completes.

```
$(selector).fadeOut(speed,callback);
```

```
$("button").click(function(){  
    $("#div1").fadeOut();  
    $("#div2").fadeOut("slow");  
    $("#div3").fadeOut(3000);  
});
```



# jQuery fadeToggle() Method

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- ▶ The jQuery fadeToggle() method toggles between the fadeIn() and fadeOut() methods.
- ▶ If the elements are faded out, fadeToggle() will fade them in.
- ▶ If the elements are faded in, fadeToggle() will fade them out.

```
$(selector).fadeToggle(speed,callback);
```

```
$("#button").click(function(){  
    $("#div1").fadeToggle();  
    $("#div2").fadeToggle("slow");  
    $("#div3").fadeToggle(3000);  
});
```

# jQuery fadeTo() Method

- ▶ The jQuery fadeTo() method allows fading to a given opacity (value between 0 and 1).
- ▶ The required speed parameter specifies the duration of the effect. It can take the following values: "slow", "fast", or milliseconds.
- ▶ The required opacity parameter in the fadeTo() method specifies fading to a given opacity (value between 0 and 1).
- ▶ The optional callback parameter is the name of a function to be executed after the function completes.

```
$(selector).fadeTo(speed,opacity,callback);
```

```
$("#button").click(function(){  
    $("#div1").fadeTo("slow",0.15);  
    $("#div2").fadeTo("slow",0.4);  
    $("#div3").fadeTo("slow",0.7);  
});
```

# jQuery Effects - Sliding

The jQuery slide methods gradually change the height for selected elements. jQuery has the following slide methods:

**`$(selector).slideDown(speed,callback)`**  
**`$(selector).slideUp(speed,callback)`**  
**`$(selector).slideToggle(speed,callback)`**

The speed parameter can take the following values: "slow", "fast", "normal", or milliseconds.

The callback parameter is the name of a function to be executed after the function completes.

```
$(".flip").click(function(){  
    $(".panel").slideDown();  
});
```

```
$(".flip").click(function(){  
    $(".panel").slideUp()  
});
```

```
$(".flip").click(function(){  
    $(".panel").slideToggle();  
});
```