

### **Audience**

This tutorial has been prepared for the beginners to help them understand basic jQuery Mobile framework. After completing this tutorial you will find yourself at a moderate level of expertise in jQuery Mobile framework from where you can take yourself to next levels.



# **Prerequisite**

jQuery Mobile framework is based on Javascript programming language, so if you have basic understanding on Javascript programming then it will be a fun to learn jQuery Mobile framework.



# What is iQuery Mobile?

jQuery Mobile is a cross platform mobile framework designed to simplify and enhance the development of mobile web applications by integrating HTML5, CSS3, jQuery and jQuery UI into one framework that is not only robust, but maintainable and organized.



jQuery Mobile is built upon the existing jQuery core. The library is more like a framework which includes animations, transition effects, and automatic CSS styles for basic HTML elements. It was developed by the jQuery project team in the year 2010 and written in JavaScript.



jQuery Mobile works on all popular smartphones and tablets:





# **Features**

- Built on jQuery core
- Compatible with all major mobile, tablet, e-reader & desktop platforms
- Lightweight size
- Responsive design
- **❖ Powerful Ajax-powered navigation system**
- Touch and mouse event support



# Adding jQuery Mobile to Your Web Pages

There are two ways to add jQuery Mobile to your web site. You can:

- □Link to a jQuery Mobile library stored at a CDN (recommended)
- ☐ Link to a jQuery Mobile library stored at your computer



# jQuery Mobile CDN:

Just include the following style sheet (.css) and JavaScript libraries (.js) directly into your HTML page.



#### <head>

```
<meta name="viewport" content="width=device-width, initial-scale=1">
k rel="stylesheet" href="https://code.jquery.com/mobile/1.4.5/jquery.
mobile-1.4.5.min.css">
</script src="https://code.jquery.com/jquery-1.11.3.min.js"></script>
</script src="https://code.jquery.com/mobile/1.4.5/jquery.mobile-1.4.5.min.js"></script>
</script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></script></scri
```

#### </head>



# Link to jQuery Mobile Stored in Your Computer:

If you want to host the jQuery Mobile library yourself, you must first download it from jQuerymobile.com.

Then add the following code to your page:



#### <head>

- <meta name="viewport" content="width=device-width, initial-scale=1">
- <link rel="stylesheet" href="jquery.mobile-1.4.5.css">
- <script src="jquery.js"></script>
- <script src="jquery.mobile-1.4.5.js"></script>

#### </head>



# Creating our first JQuery Mobile Page

There are three different ways of laying out a page in JQuery Mobile:

- ❖ A single page-A single page is created in HTML document using a standard way of writing a template.
- Multiple pages-Multiple pages can be included in the single HTML document which load together by adding multiple divs with data-role="page" or by linking with href attribute.
- Dialog Page-Modal dialogs open content in an interactive overlay above the page.



### A Single Page

```
<body>
  <div data-role="page">
      <div data-role="header">
         <h1>Welcome To My Homepage</h1>
      </div>
      <div data-role="main" class="ui-content">
         I Am Now A Mobile Developer!!
      </div>
      <div data-role="footer">
         <h1>Footer Text</h1>
      </div>
```





#### **Example explained:**

- ☐ The data-role="page" is the page displayed in the browser
- ☐ The data-role="header" creates header at the top of the page.
- ☐ The data-role="main" is used to define the content of the page.
- ☐ The "ui-content" class includes padding and margin inside the page content.
- ☐ The data-role="footer" creates footer at the bottom of the page.
- Inside these containers, you can add any HTML elements paragraphs, images, headings, lists, etc.



# **Multiple Pages**

#### Multiple pages linked internally

```
<body>
  <div data-role="page" id="pageOne">
     <div data-role="main" class="ui-content">
        <a href="#pageTwo">Go to Page Two</a>
     </div>
  </div>
  <div data-role="page" id="pageTwo">
     <div data-role="main" class="ui-content">
        <a href="#pageOne">Go to Page One</a>
     </div>
  </div>
</body>
```



#### Multiple pages linked externally



### **Dialog Page**

```
<body>
  <div data-role="page" id="pageone">
      <div data-role="header">
         <h1>Welcome To My Homepage</h1>
      </div>
      <div data-role="main" class="ui-content">
         Welcome!
         <a href="#pagetwo">Go to Dialog Page</a>
      </div>
      <div data-role="footer">
         <h1>Footer Text</h1>
      </div>
   </div>
```



```
<a href="div data-role="page" data-dialog="true" id="pagetwo">
      <div data-role="header">
         <h1>I'm A Dialog Box!</h1>
      </div>
      <a href="main" class="ui-content">
          The dialog box is different from a normal page, it is
displayed on top of the current page and it will not span the entire width
of the page. The dialog has also an icon of "X" in the header to close the
box.
         <a href="#pageone">Go to Page One</a>
      </div>
      <div data-role="footer">
          <h1>Footer Text In Dialog</h1>
      </div>
   </div>
</body>
```



# Creating a Button in jQuery Mobile

A button in jQuery Mobile can be created in three ways:

- Using the <input> element
- Using the <button> element with class="ui-btn"
- ❖ Using the <a> element with class="ui-btn"

Buttons in jQuery Mobile are automatically styled, making them attractive and useable on both mobile devices and desktop computers. The <a> element with class="ui-btn" is better used to link between pages, and <input> or <button> elements for form submission.

```
<body>
   <a href="main" class="ui-content">
      <input type="button" value="Input">
      <button class="ui-btn">Button</button>
      <a href="#anylink" class="ui-btn">Anchor</a>
      <div data-role="controlgroup" data-type="horizontal">
         <a href="#" class="ui-btn">Button 1</a>
         <a href="#" class="ui-btn">Button 2</a>
      </div>
      <div data-role="controlgroup" data-type="vertical">
         <a href="#" class="ui-btn">Button 1</a>
         <a href="#" class="ui-btn">Button 2</a>
      </div>
      <a href="#pagetwo" class="ui-btn ui-btn-inline">Inline Button</a>
      <a href="#" class="ui-btn" data-rel="back">Go Back</a>
   </div>
</body>
```



jQuery Mobile provides a set of icons that will make your buttons look more desirable. To add an icon to your button, use the **ui-icon class**, and position the icon with an icon position class (**ui-btn-icon-pos**):

<a href="#anylink" class="ui-btn ui-icon-search ui-btn-icon left">Search</a>
<a href="#anylink" class="ui-btn ui-icon-search ui-btn-iconnotext">Search</a>

**Note:** For other buttons, like buttons in list views and forms, you must use the data-icon attribute.

### Some available icons that jQuery Mobile provide

Icon Class	Description
ui-icon-arrow-l	Left Arrow
ui-icon-arrow-r	Right Arrow
ui-icon-search	Search
ui-icon-home	Home
ui-icon-back	Back
ui-icon-delete	Delete
ui-icon-audio	Audio
ui-icon-grid	Grid
ui-icon-info	Information



# **jQuery Mobile Transition Effects**

jQuery Mobile has a variety of effects for how to transition from one page to the next. The transition effect can be applied to any link or form submission by using the data-transition attribute:

<a href="#anylink" data-transition="slide">Slide to Page Two</a>

**Tip:** All the transition effects also support reverse/backward actions, e.g. if you want the page to slide from left to right, instead of right to left, use the data-direction attribute with value "reverse".

<a href="#anylink" data-transition="slide" data-direction="reverse">Slide</a>



### Some available transitions that jQuery Mobile provide

Transition	Description
fade	Fades to the next page
flip	Flips to the next page from back to front
flow	Throws the current page away and comes in with the next page
pop	Goes to the next page like a popup window
slide	Slides to the next page from right to left
slidefade	Slides from right to left and fades in the next page
slideup	Slides to the next page from bottom to top
slidedown	Slides to the next page from top to bottom
turn	Turns to the next page
none	No transition effect

# **jQuery Mobile Navigation Bars**

A navigation bar consists of a group of links that are aligned horizontally, typically within a header or footer. The bar is coded as an unordered list of links wrapped inside a <div> element that has the data-role="navbar" attribute. By default, links inside a navigation bar will automatically turn into a button (no need for class="ui-btn" or data-role="button").

To add an icon to your navigation button, use the data-icon attribute:



```
<div data-role="header">
<div data-role="navbar">
 < | >
  <a href="#anylink">Home</a>
  <a href="#anylink">Page Two</a>
  <a href="#anylink">Search</a>
 </U|>
</div>
</div>
```



# **jQuery Mobile Tables**

Tables in JQuery Mobile are responsive. With a simple class name, jQuery Mobile is aware of the user's available screen size and automatically resizes itself to show content that is relevant for that particular user.

Responsive tables allow us to display a large set of tabular data that will look attractive for both mobiles and desktops.

There are two types of responsive tables:

- □ reflow and
- □ column toggle.



#### **Reflow Tables**

The reflow mode positions the table data horizontally until it reaches a minimum size, then all rows are grouped together vertically.

Create a table, add the data-role="table" and a class of "ui-responsive" on the element.



# Example

```
<thead>
 CustomerID
  CustomerName
  ContactName
  Address
  City
  PostalCode
  Country
 </thead>
```



```
1
  Alfreds Futterkiste
  Maria Anders
  Obere Str. 57
  Berlin
  12209
  Germany
 </div>
```



### Column Toggle Table

The "column toggle" mode will hide columns when there is not enough width to display the data.

To create a column toggle table, add the following to the element:



By default, jQuery Mobile will hide columns from the right side of the table. However, you are allowed to specify which column that should be hidden or shown in a specific order. Add the **data-priority** attribute to the table's header () and specify a number between 1 (highest priority) to 6 (lowest priority):

If you do not specify a priority for a column, the column will be persistent and not available for hiding.

To change the toggle table button text, use the data-column-btn-text attribute:



### Example

```
<table data-role="table" data-mode="columntoggle" class="ui-responsive" data-column-btn-
text="Click me to hide or show columns!" id="myTable">
<thead>
 CustomerID
 CustomerName
 ContactName
 Address
 City
 PostalCode
 Country
 </thead>
```



```
1
 Alfreds Futterkiste
 Maria Anders
 Obere Str. 57
 Berlin
 12209
 Germany
```



# jQuery Mobile Layout Grids

jQuery Mobile provides a set of CSS-based column layouts. However, column layouts are not generally recommended on a mobile device, due to the mobile's screen width.

But there are times you want to position smaller elements, like buttons or navigation tabs, side-by-side as if it was in a table. Then, columns are perfect.

Columns in a grid are of equal width (and 100% wide in total), with no border, background, margin or padding. On small screens, it is not recommended to have too many buttons with text side-by-side on one row - as the text might get shortened.

For responsive grids, add the ui-responsive class to the container



#### There are five layout grids that can be used:

Grid Class	Columns	Column Widths	Corresponds to
ui-grid-solo	1	100%	ui-block-a
ui-grid-a	2	50%/50%	ui-block-a   b
ui-grid-b	3	33%/33%/33%	ui-block-a b c
ui-grid-c	4	25%/25%/25%/2 5%	ui-block- a b c d
ui-grid-d	5	20%/20%/20%/2 0%/20%	ui-block- a b c d e



```
<h2>Two Column Grid Example</h2>
<a href="div class="ui-grid-a" class="ui-responsive">
 <aiv class="ui-block-a"><aiv class="ui-bar ui-bar-a">First Block</aiv></aiv>
 <aiv class="ui-block-b"><aiv class="ui-bar ui-bar-b">Second Block</aiv></aiv>
</div>
<h2>Three Column Grid Example</h2>
<a href="div class="ui-grid-b">div class="ui-responsive"></a>
 <aiv class="ui-block-a"><aiv class="ui-bar ui-bar-a">First Block</aiv></aiv>
 <div class="ui-block-b"><div class="ui-bar ui-bar-b">Second Block</div></div>
  <aiv class="ui-block-c"><aiv class="ui-bar ui-bar-c">Third Block</aiv></aiv>
</div>
```



# **jQuery Mobile List Views**

List views in jQuery Mobile are standard HTML lists; ordered () and unordered ().

To create a list, apply the data-role="listview" to the or element. To make the items tappable, specify a link inside each list item (). By default, links inside a list item will automatically turn into a button (no need for ui-class="btn" or data-role="button"). If you have an alphabetically list, (for example a phone book) ¡Query Mobile automatically adds appropriate dividers by setting the data-autodividers="true" attribute on the or element:



```
<h2>Ordered List:</h2>
 <a href="#">List Item</a>
  <a href="#">List Item</a>
  <a href="#">List Item</a>
 </0|>
 <h2>Unordered List:</h2>
 data-role="listview" data-role="listview" data-autodividers="true" >
  <a href="#">List Item</a>
  <a href="#">List Item</a>
  <a href="#">List Item</a>
 </U|>
```



# **jQuery Mobile List Content**

The default icon for each list item containing a link is "carat-r" (right arrow). To change this to another icon, use the data-icon attribute on the list item you want to modify. To add a standard 16x16px icon to your list, add an <img> element inside the link with a class of "ui-li-icon". To create a split list with a vertical divider bar, place two links inside the element. iQuery Mobile will automatically place the second link on the right side of the list with a right arrow-icon. And the text inside the link (if any) will be shown when a user hover over the icon:



```
<h2>Split Buttons</h2>
 data-role="listview" data-inset="true">
  <a href="#">
      <img src="chrome.png">
      <h2>Mr. Cauchy</h2>
      Whoever thought that fat girl will turn into Oprah
   </a>
   <a href="#">Onyebuchi</a>
  </U|>
```



# **jQuery Mobile Filters**

All elements that have more than one child element, can be filtered.

#### **How To Create a Search Field:**

- The element you want to be filterable, must include the data-filter="true" attribute.
- Create an <input> element with a specified id and add the data-type="search" attribute. This will create a basic search field. Wrap the <input> in a form, and add the "ui-filterable" class to the <form> element this will adjust the margin between the search field and the filterable element.
- Then, add the data-input attribute to the filterable element. Its value must match the id of the <input> element.



```
<form class="ui-filterable">
 <input id="myFilter" data-type="search" placeholder="Search for names..">
</form>
data-role="listview" data-filter="true" data-input="#myFilter">
 <a href="#">Adele</a>
 <a href="#">Billy</a>
 <a href="#">Calvin</a>
</U|>
```



#### **jQuery Mobile Forms**

jQuery Mobile automatically style HTML forms to make them look engaging and touch-friendly. jQuery Mobile uses CSS to style HTML form elements, making them attractive and easy to use.

In jQuery Mobile you can use the following form controls:

- Text Inputs
- Search Inputs
- \* Radio Buttons
- Checkboxes
- Select Menus
- Sliders
- Flip Toggle Switches



When working with jQuery Mobile forms you should know:

The <form> element must have a method and an action attribute

Each form element must have a unique "id" attribute. The id must be unique across

the pages in the site. This is because jQuery Mobile's single-page navigation model

allows many different "pages" to be present at the same time

Each form element must have a label. Set the **for** attribute of the label to match the id of the element.



To make labels and form elements look properly on wider screens, wrap a <div>element with the "ui-field-contain" class around the label/form element. jQuery
Mobile will automatically handle the form submission via AJAX, and will attempt to
integrate the server response into the DOM of the application.



```
<form method="post" action="process.php">
           <div class="ui-field-contain">
               <a href="label"><lase | 'label | lase | lase | label 
                <input type="text" name="lname" id="lname" placeholder="First name">
               <a href="label for="bday">Date of Birth:</a>
               <input type="date" name="bday" id="bday">
               <a href="search">Search:</a>!
                <input type="search" name="search" id="search">
                <a href="linfo">Additional Information:</a>
           <textarea name="addinfo" id="info"></textarea>
```



```
<fieldset data-role="controlgroup" data-type="horizontal">
   <legend>Choose your gender:</legend>
   <a href="male">Male</a>|
   <input type="radio" name="gender" id="male" value="male">
   <a href="label">Female</a>/label>
   <input type="radio" name="gender" id="female" value="female">
 </fieldset>
<input type="range" data-show-value="true" name="points" id="points"</pre>
value="50" min="0" max="100">
 </div>
<a href="controlgroup" data-type="horizontal">
   <input type="button" value="Button">
   <input type="reset" value="Reset Button">
   <input type="submit" value="Submit Button">
</div>
</form>
```



# **jQuery Mobile Themes**

jQuery Mobile provides two different style themes, "a" and "b" - each with different colors for buttons, bars, content blocks, and so on.

To customize the look of your application, use the data-theme attribute, and assign the attribute with a letter:

<div data-role="page" data-theme="a|b">

For buttons with class="ui-btn", use the "ui-btn-a|b" class to style the button either gray (default) or black:

<a href="#" class="ui-btn ui-btn-a|b">Button</a>

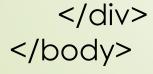


# Themes in jQuery Mobile and their descriptions

Value	Description
a	Black text on a light gray background for page content Black text on a gray background for headers and footers Black text on a light gray background for buttons White text on a blue background for active buttons Blue text on links Light gray text (placeholder) or black text (value) on a white background for input fields
b	White text on a dark gray background for page content White text on a dark gray background for headers and footers White text on a charcoal background for buttons White text on a "cyan" blue background for active buttons "Cyan" blue text on links Gray text (placeholder) or white text (value) on a black background for input fields



```
<body>
   <a href="div data-role="page" data-theme="b">
      <div data-role="header">
         <h1>Welcome To My Homepage</h1>
      </div>
      <div data-role="main" class="ui-content">
         I Am Now A Mobile Developer!!
      </div>
      <div data-role="footer">
         <h1>Footer Text</h1>
      </div>
```





# **jQuery Mobile Events**

You can use any standard jQuery events in jQuery Mobile.

In addition, jQuery Mobile also offers several events that are tailor-made for mobile-browsing:

- Touch events triggers when a user touches the screen (tap and swipe)
- Scroll events triggers when a user scrolls up and down
- Orientation events triggers when the device rotates vertically or horizontally
- Page events triggers when a page is shown, hidden, created, loaded and/or unloaded



# **Initializing jQuery Mobile Events**

In jQuery Mobile, we use the pagecreate event, which occurs when the page has been been created in the DOM, but before enhancement is complete to initialize events.

The second parameter ("#pageone") points to the id of the page to specify the event(s) for:

```
<script>
$(document).on("pagecreate", "#page_id", function(){
    // jQuery events go here...
});
```

</script>

The jQuery on() method is used to attach event handlers.



# **jQuery Mobile Touch Events**

Touch events are triggered when the user touches the screen (page).

Some JQuery Mobile touch events include:

Event	Description
jQuery Mobile Tap	The tap event is triggered when the user taps on an element.
jQuery Mobile Taphold	The taphold event is triggered when the user taps on an element and hold for one second:
jQuery Mobile Swipe	The swipe event is triggered when the user swipes over an element horizontally by more than 30px:
jQuery Mobile Swipeleft	The swipeleft event is triggered when the user swipes over an element in the left direction by more than 30px:



```
<body>
                            <a href="mage"><a hre
                                      <div data-role="header">
                                               <h1>The tap Event</h1>
                                      </div>
                                      <div data-role="main" class="ui-content">
                                                Tap me away!
                                               Tap me too!
                                      </div>
                                      <div data-role="footer">
                                                <h1>Footer Text</h1>
                                      </div>
                            </div>
</body>
```



```
<script>
$(document).on("pagecreate", "#pageone", function(){
    $("p").on("tap", function(){
        $(this).hide();
    });
});
</script>
```



# **jQuery Mobile Scroll Events**

jQuery Mobile provides two scroll events: when scrolling starts and when scrolling stops. Some JQuery Mobile scroll events include:

Event	Description
jQuery Mobile Scrollstart	The scrollstart event is triggered when the user starts to scroll the page:
jQuery Mobile Scrollstop	The scrollstop event is triggered when the user stops to scroll the page:



```
<script>
$(document).on("scrollstop", function(){
    alert("Stopped scrolling!");
});
</script>
```



# jQuery Mobile orientationchange Event

The orientationchange event is triggered when the user rotates the mobile device vertically (portrait) or horizontally (landscape). The window.orientation property returns 0 for portrait and 90 or -90 for landscape view. Because the orientationchange event is bound to the window object, we can use the window.orientation property to, for example, set different styles to distinguish between portrait and landscape views:



```
$(window).on("orientationchange",function(){
   if(window.orientation == 0) // Portrait
      $("p").css({"background-color":"yellow"});
      else // Landscape
      $("p").css({"background-color":"pink"});
});
```



# **jQuery Mobile Page Events**

Events for handling pages in jQuery Mobile are divided into four categories:

- Page Initialization Before page creation, and when the page has been created
- Page Load/Unload When an external page is loading, unloading or encounters a failure
- Page Transition Before and after page transitions
- Page Change When pages are changed to or from, or encounters a failure



#### jQuery Mobile Initialization Events

When a typical page in jQuery Mobile is initialized, it goes through two stages:

- Before page creation
- Page creation

Each stage has an event that can be used to insert or manipulate code before or when jQuery Mobile enhances the page.



# jQuery Mobile initialization events include:

Event	Description
pagebeforecreate	Triggered when the page is about
	to be initialized, and before jQuery
	Mobile has started enhancing the
	page
pagecreate	Triggered when the page has been created, but before enhancement is complete



```
$(document).on("pagebeforecreate", function(event){
    alert("pagebeforecreate event fired!");
});
$(document).on("pagecreate", function(event){
    alert("pagecreate event fired!");
});
```



#### **jQuery Mobile Load Events**

Page load events are for external pages.

Whenever an external page is loaded into the DOM, 2 events fire. The first is pagecontainerbeforeload, and the second will either be pagecontainerload (success) or pagecontainerloadfailed (fail).



# jQuery Mobile load events include:

Event	Description
pagecontainerbeforeload	Triggered before any page load request is made
pagecontainerload	Triggered after the page has been successfully loaded and inserted into the DOM
pagecontainerloadfailed	Triggered if the page load request fails. By default, it will show the "Error Loading Page" message



```
<body>
<div data-role="page">
 <div data-role="header">
  <h1>Header Text</h1>
 </div>
 <a href="main" class="ui-content">
  <a href="externalpage.php">External page</a>
  <a href="externalnotexist.php">External page that does not exist</a>
 </div>
 <div data-role="footer">
  <h1>Footer Text</h1>
 </div>
</div>
</body>
```



# Example (externalpage.php)

```
<body>
<div data-role="page">
 <div data-role="header">
  <h1>I am the external page</h1>
 </div>
 <a href="main" class="ui-content">
 <a href="#" data-rel="back">Back</a>
 </div>
 <div data-role="footer">
  <h1>Footer Text</h1>
 </div>
</div>
</body>
```



```
<script>
$(document).on("pagecontainerload",function(event, data){
 alert("pageload event fired!\nURL: " + data.url);
});
$(document).on("pagecontainerloadfailed", function(event, data){
 alert("Sorry, requested page does not exist.");
});
</script>
```



# **jQuery Mobile Transition Events**

We can also use events for when we transition from one page to the next. Page transitions involve two pages: a "from" page and a "to" page - these transitions animate the change from the current active page (fromPage) to a new page (toPage).



# jQuery Mobile transition events include:

Event	Description
pagebeforeshow	Triggered on the " <b>to</b> " page, before the transition animation starts
pageshow	Triggered on the " <b>to</b> " page, after the transition animation completes
pagebeforehide	Triggered on the " <b>from</b> " page, before the transition animation starts
pagehide	Triggered on the " <b>from</b> " page, after the transition animation completes



```
$(document).on("pagebeforeshow", "#pagetwo", function(){ //
When entering pagetwo
 alert("pagetwo is about to be shown");
});
$(document).on("pageshow", "#pagetwo", function(){ // When
entering pagetwo
 alert("pagetwo is now shown");
});
```



```
$(document).on("pagebeforehide", "#pagetwo", function(){ //
When leaving pagetwo
 alert("pagetwo is about to be hidden");
});
$(document).on("pagehide", "#pagetwo", function(){ // When
leaving pagetwo
 alert("pagetwo is now hidden");
});
```



# Questions

