CIS 4004: Web Based Information Technology Summer 2014

Using jQuery – Part 2

Instructor: Dr. Mark Llewellyn

markl@cs.ucf.edu

HEC 236, 407-823-2790

http://www.cs.ucf.edu/courses/cis4004/sum2014

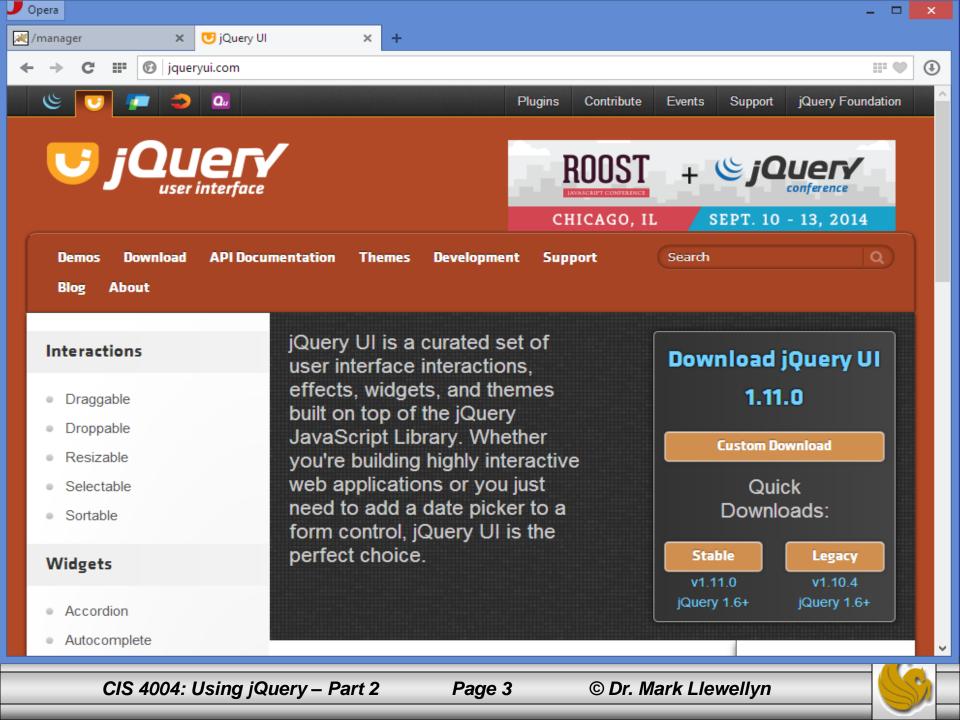
Department of Electrical Engineering and Computer Science University of Central Florida



Using The jQuery User Interface

- Now that you're a bit more familiar with jQuery and how to access and use it, let's look at the jQuery User Interface, or the jQuery UI.
- The jQuery UI is a free, open-source, JavaScript library that extends the usefulness of the jQuery library by providing higher-level features that you can use with a minimum of coding. To provide these features, the jQuery UI utilizes the jQuery library.
- The next page shows the jQuery UI home page at www.jqueryui.com. Current version of jQuery UI is 1.11.0.





- The jQuery UI home page summarizes the four types of features that the jQuery UI provides.
- Themes provide the formatting for widgets, and they are implemented by a CSS style sheet that is part of the jQuery UI download. When you build a download (described later), you can select one of the 24 pre-defined themes that come with jQuery UI, or you can create your own custom theme.
- Widgets are features like accordions, tabs, and date pickers.



- The following few pages summarize most of the components that are supports by jQuery UI.
- When you build a jQuery UI download, you decide which of these components you want to use in your web pages. The fewer you choose, the smaller the jQuery UI files that has to be loaded into a user's browser.
- The core jQuery UI component is divided into core, widget, mouse, and position. Core is always required when you use jQuery UI. Widget is required if you use widgets. Mouse is required if you use interactions. Position is required if you use elements that require positioning relative to other elements on a web page.

Name	Description
Core	Provides the core functionality. Required for all interactions and widgets.
Widget	Provides the base functionality for all widgets.
Mouse	Provides the base functionality for all interactions that require the mouse.
Position	Required for all interactions that require the positioning of elements.

jQuery UI core components



Name	Description
Accordion	An accordion.
Autocomplete	A text box that displays a list of suggested items based on user entries.
Button	A customizable button.
Dialog	A modal dialog box that is resizable and draggable.
Slider	A slider that can display a range of values.
Tabs	A set of tabs that reveals a tab's content when the tab is clicked.
Datepicker	A calendar that can be toggled from a textbox or displayed inline.
Progressbar	A status indicator that can be used to display progress or percentage values.

jQuery UI widgets (currently there are 12)



Name	Description
Draggable	Makes an element on a web page draggable.
Droppable	Defines a target that draggable objects can be dropped within.
Resizable	Makes an element on a web page resizable.
Selectable	Makes an element selectable with a mouse.
Sortable	Makes a list of items sortable.

jQuery UI interactions



Name	Description
Effects core	Required for all of the effects.
Blind	Creates a blind effect similar to vertical blinds on a window.
Bounce	Bounces an element up or down.
Clip	Clips the element on and off.
Drop	Moves an element in one direction and hides it at the same time.
Explode	Explodes an element in all directions. Also supports imploding.
Fade	Fades the element in an out.
Fold	Folds an element horizontally then vertically.
Highlight	Highlights an element's background with a color for a specified time.
Pulsate	Pulsates an element for a certain amount of time by changing the opacity.
Scale	Grows or shrinks an element and its content.
Shake	Shakes an element up or down to side to side for a specified time.
Slide	Slides an element in and out of the screen.
Transfer	Transfers an element from one element to another.
	jQuery UI effects
CIS 4004: Using jQuery – Part 2 Page 9 © Dr. Mark Llewellyn	

- The power of the jQuery UI interactions is that they can be applied to any HTML element.
- For example, you can make the items in an unordered list sortable, or you can make a row within a table selectable.
- The jQuery UI effects can be used with interactions and widgets.
- For example, an effect can be used to control how a new tab is displayed in a Tabs widget.
- The jQuery UI effects can also be used with HTML elements that are not part of jQuery UI.

- In contrast to a jQuery download, (which I hope you've already done), you have to build a jQuery UI download before you download it.
- That lets you select the components for the download, which allows you to keep the download to the minimum size that you need for your webpage.
- The next page shows the Download Builder page for the jQuery UI.
- To get to this page, click the Download link from the jQuery UI home page at www.jqueryui.com.



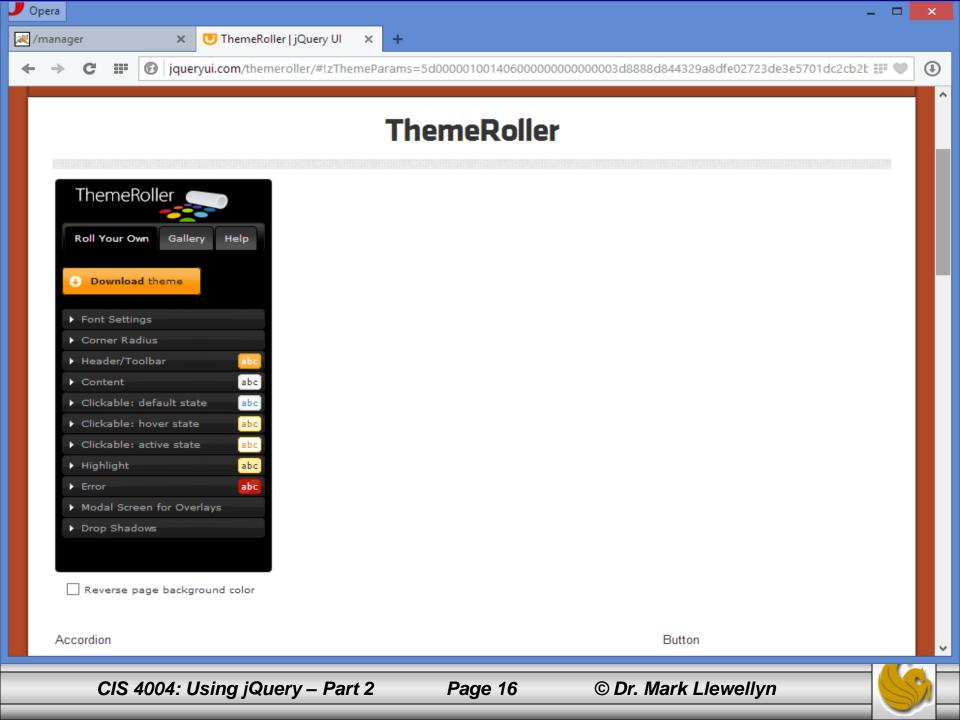


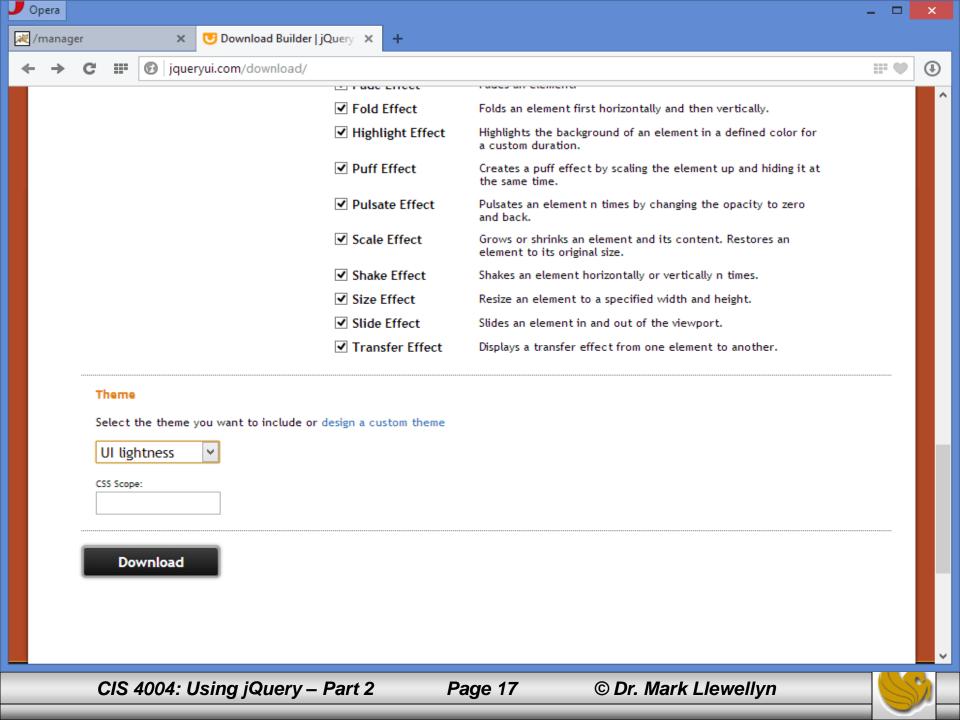
- From the Download Builder page, you select the components that you want in the download. This page includes a Components list, a drop-down Theme list, and a Download button.
- The Components list includes all of the components in the four groups that we looked at on the previous pages.
- Initially, all of the components are selected. This results in a JavaScript library that is approximately 200KB in size. To reduce the size, uncheck the components that you do not need for your webpage.
- Note that you cannot uncheck a component that is required by another component that you are using.

- If you attempt to deselect a component used by another component, a message will display indicating that both components will be deleted. This would happen, for example, if you try to uncheck the Draggable component without first unchecking the Droppable and Dialog components because these components depend on the Draggable component.
- For many webpages, you can probably uncheck most of the interactions and effects. For example, if you're only going to use the Dialog widget, you can uncheck all of the other widgets, the interactions, and the effects.
- For the time being, since we're demonstrating many of these elements, we'll leave all components checked.



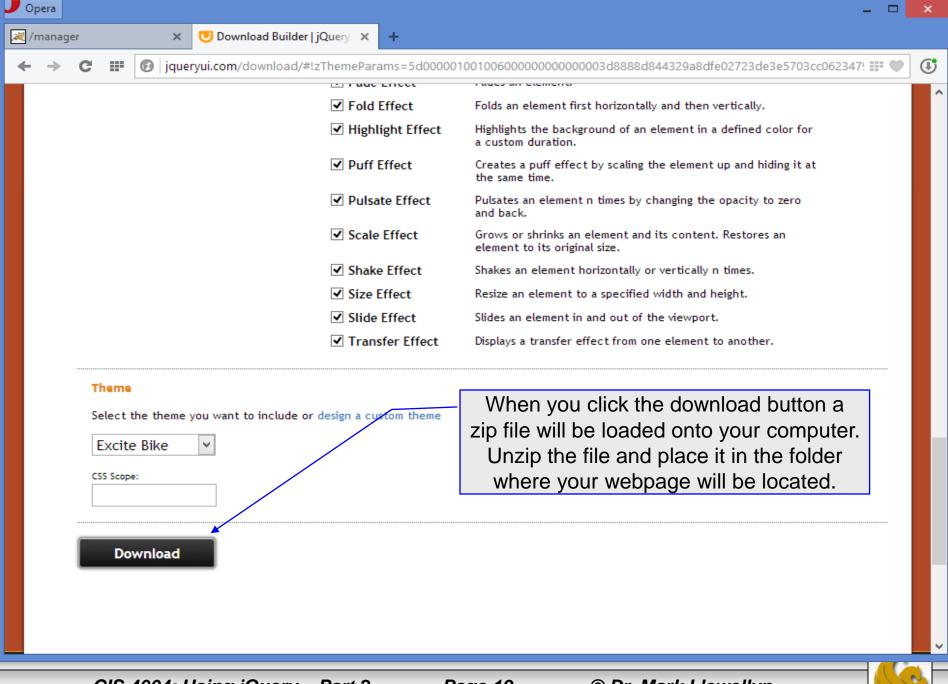
- Once you've selected the components you want, you can select a theme form the 24 that are in the drop-down Theme list, or choose No Theme.
- Optionally, you can create a custom theme, which, if you click on the "design a custom theme" link, you'll be redirected to the ThemeRoller page, which is shown on the next page.
- You can specify the name of the folder that your theme will be saved in. Otherwise, the folder for the theme will be given a default name.
- In addition, you can set the scope of the theme. You'll do this if you want to apply different themes to different areas of the page.





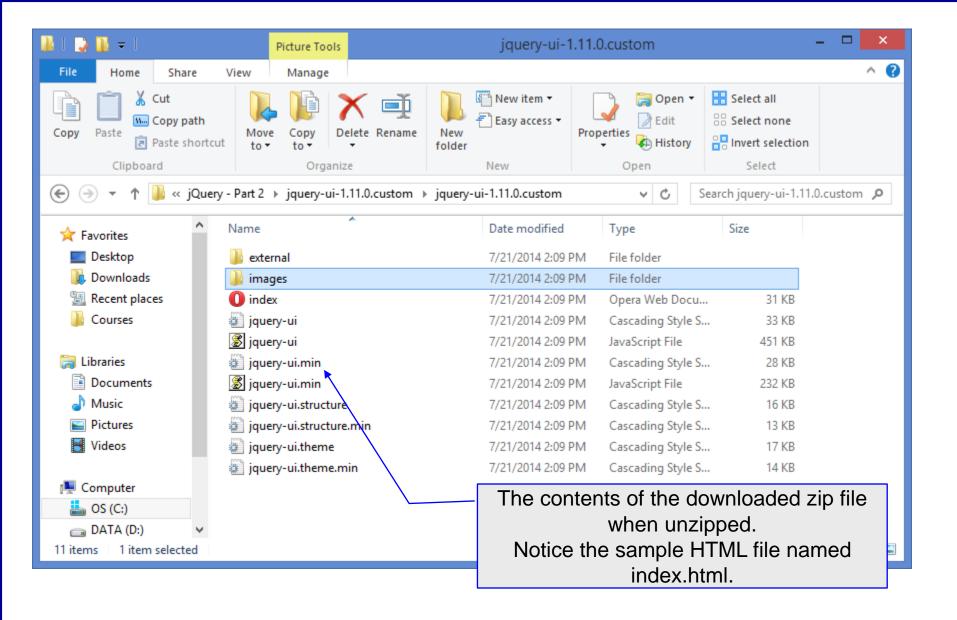
- Once you're confident that you have all the component selected and the themes set the way you want, you click the Download button, which will download a zipped folder to your computer.
- You can then unzip the folder to use the files it contains in your applications.
- Let's actually do this for the remaining examples in this set of notes.
- We'll leave all the component selected and pick one of the built-in themes (I used the excite-bike theme).



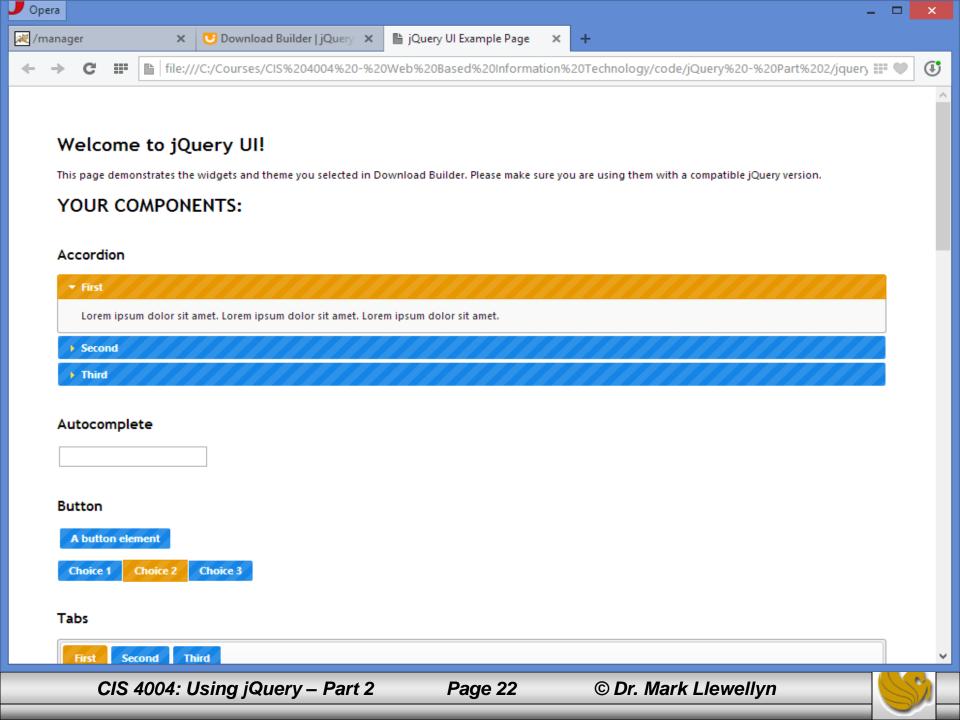


- As you can see on the next page, the download is organized into two main folders (external and images), plus an index.html file and all of the jQuery files.
- The index.html file displays a page that showcases the jQuery UI components that you selected in your download.
- For our download, part of the index.html file is displayed on page 22.

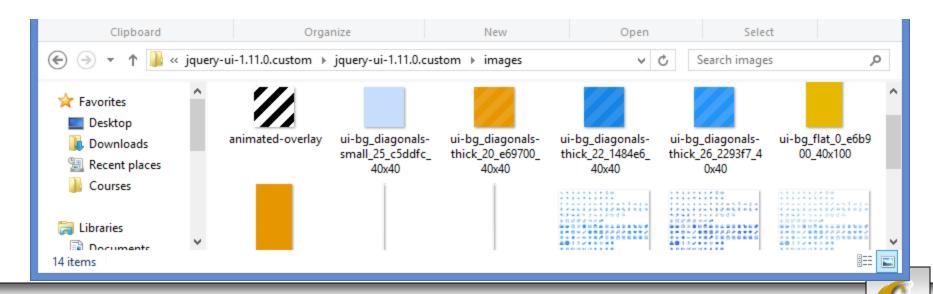




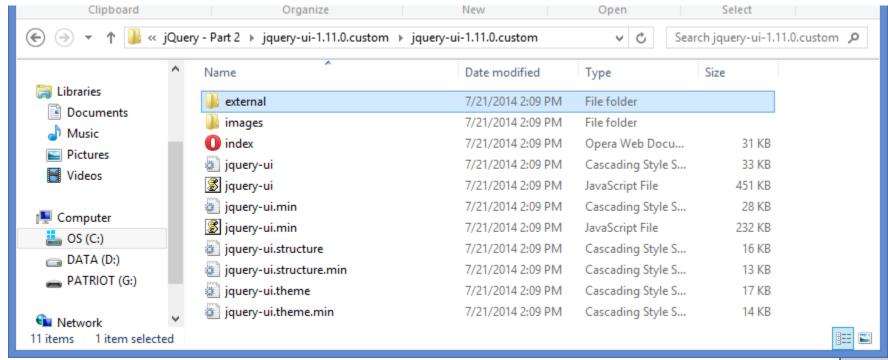




- The css files in the main folder included in the download includes a CSS style sheet for the theme you chose, as well as the images required by the widgets including arrows, icons, backgrounds, and more.
- This style sheet are in the root directory and the images folder contains all of the images associated with your theme.

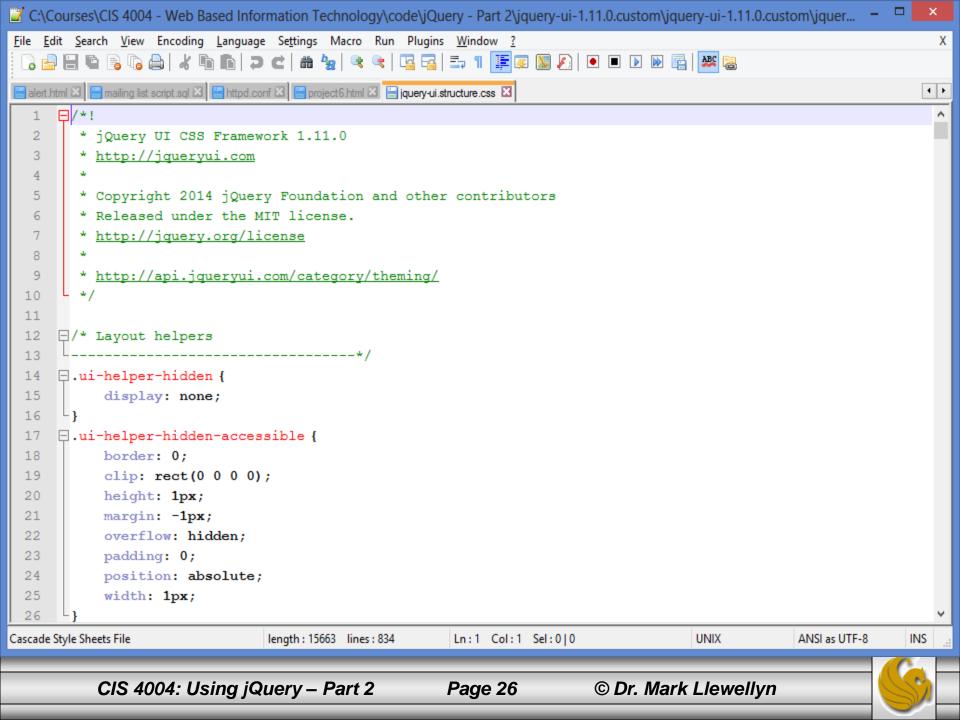


• The extrenal folder contains the latest jQuery library. However, you should already have the latest jQuery library, or you may be using a CDN hosted version, so you will only need the jQuery UI files for your webpage.

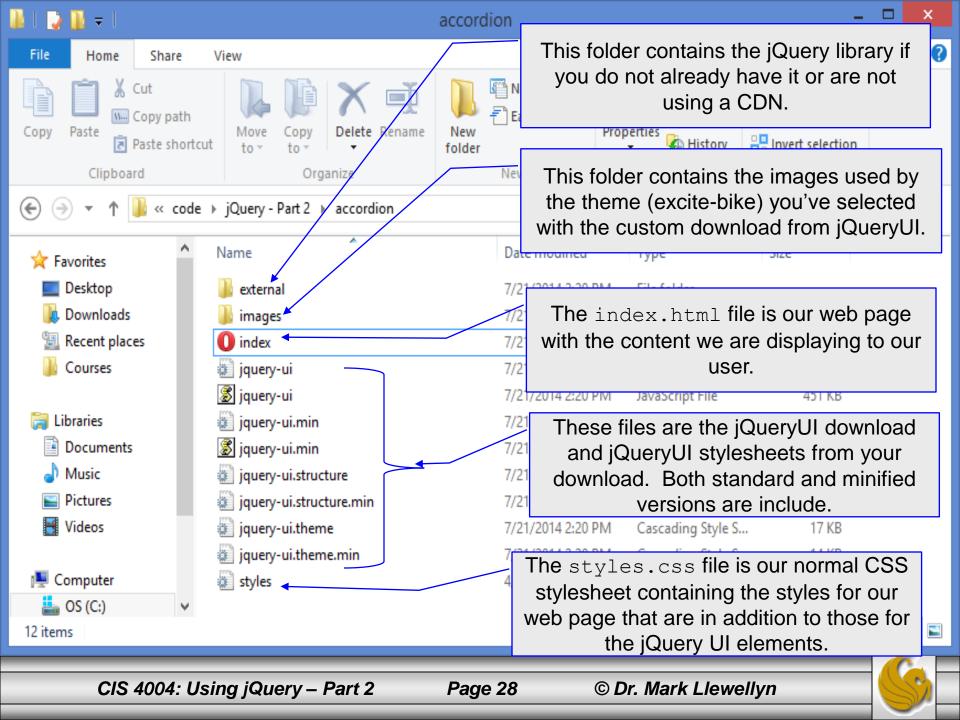


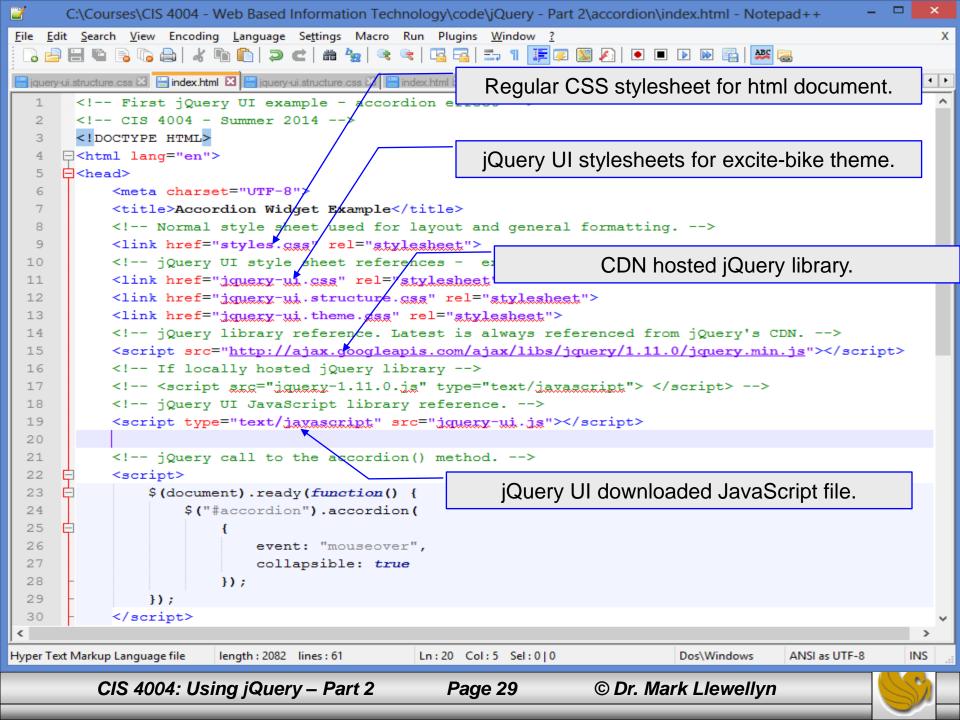
- Once you've downloaded the files, you should use any text editor or IDE to open the CSS file and look at the classes that are supported for the various widgets that you will use in your webpage.
- The next page illustrates a very small portion of the CSS file for our download.
- Note, that while these styles are applied to the widgets, you can also apply them to format your own HTML elements.

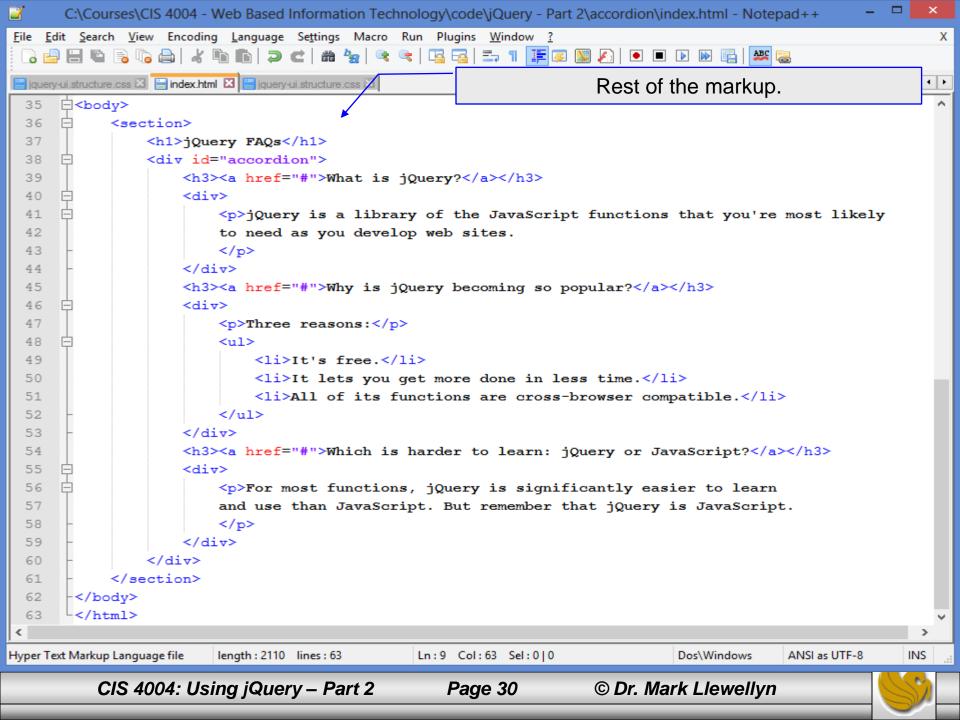


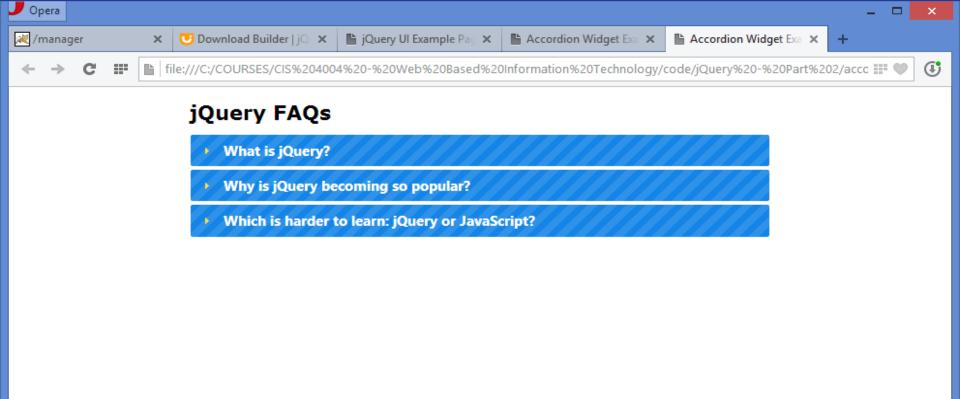


- To use the required files and the image folder your webpage/application, you would create a folder structure that mirrors that of the download and include link and script elements in the markup to access these files.
- Let's develop a complete webpage that make use of the jQuery UI download that we just created.
- Let's develop a webpage that illustrates/uses the very first widget shown in the index.html file, the accordion.
- The next few pages illustrate the html file and the folder structure necessary to build this webpage.
- First, create a folder named "accordion' and place the files from the download in it as shown on the next page.



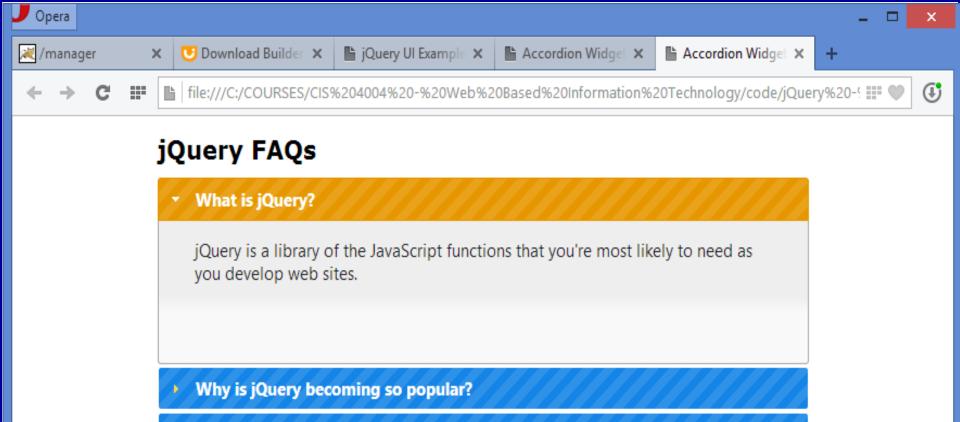






Initial rendering on page load

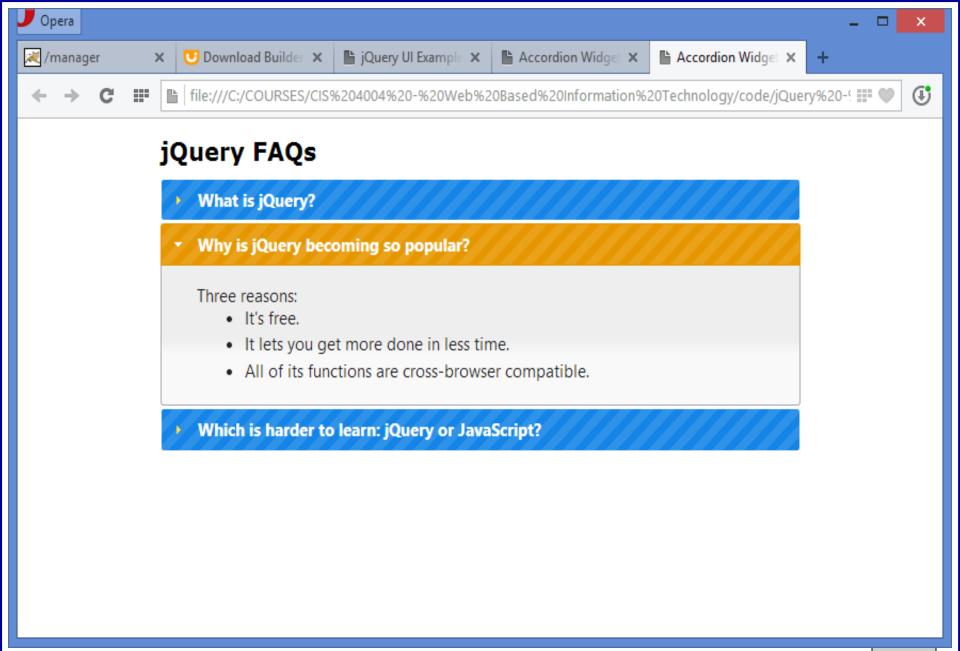




Which is harder to learn: jQuery or JavaScript?

Use places mouse over first element and it accordions out to display hidden content.





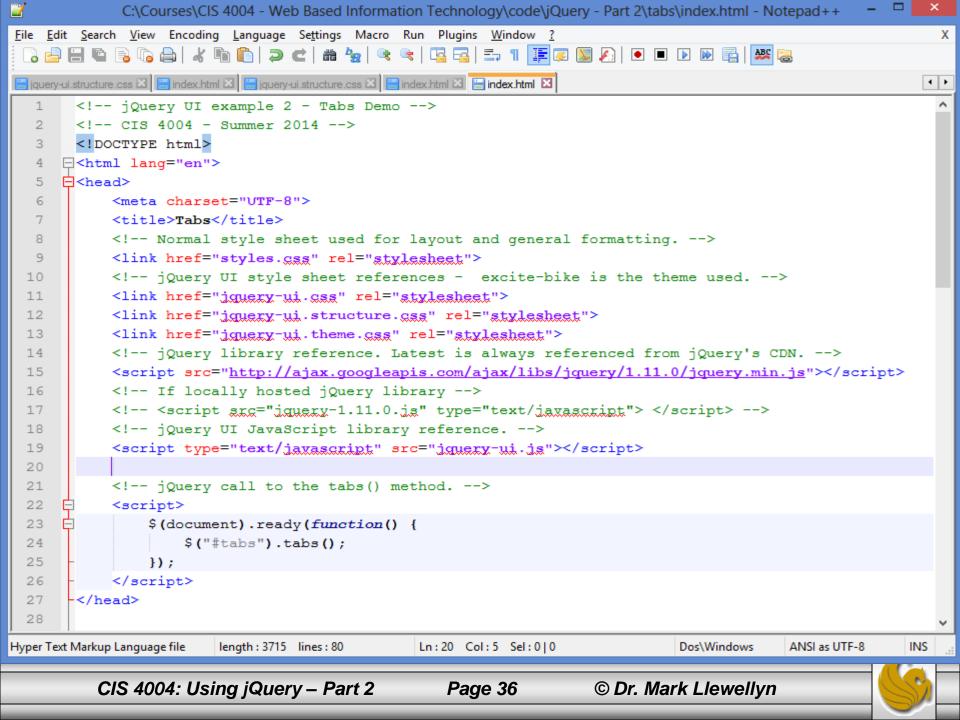


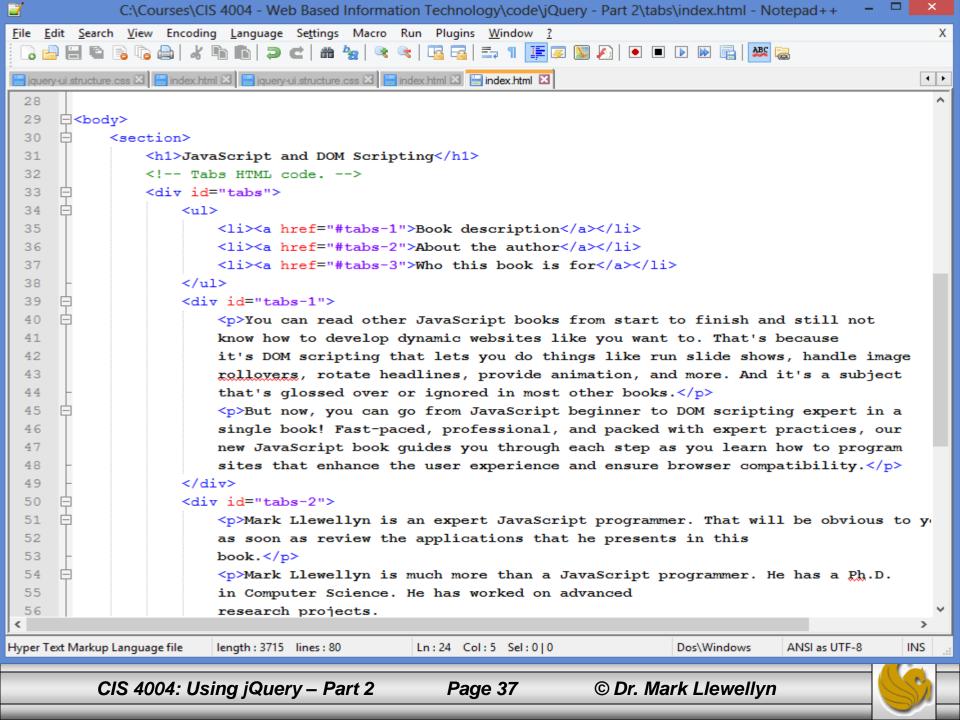
- Notice in the markup shown on pages 29-30 that anchor elements are use inside header level 3 elements, which provide the headers for the panels. Inside, there are <div> elements that provide the content for what is displayed with the accordion effect occurs.
- The href attributes of the anchor elements are set to "#".
- In the jQuery, the accordion method is used to implement the accordion widget for the <div> element that represents the accordion.
- By default, a panel is opened when its header is clicked. You can change defaults that control opening and closing by setting the event, collapsible, and animated options.

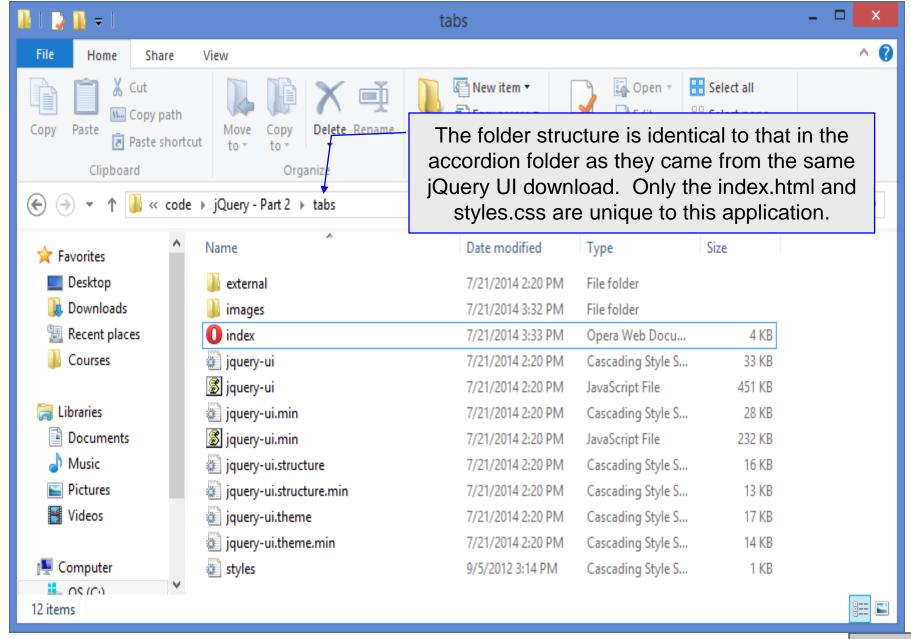


• The next couple of pages illustrate a similar example of using the jQuery UI, this time however, the tabs widget is illustrated. I won't put all of the slides in again showing the set-up, just the final few and the markup so you can again see how the jQuery UI is accessed and applied to the markup.

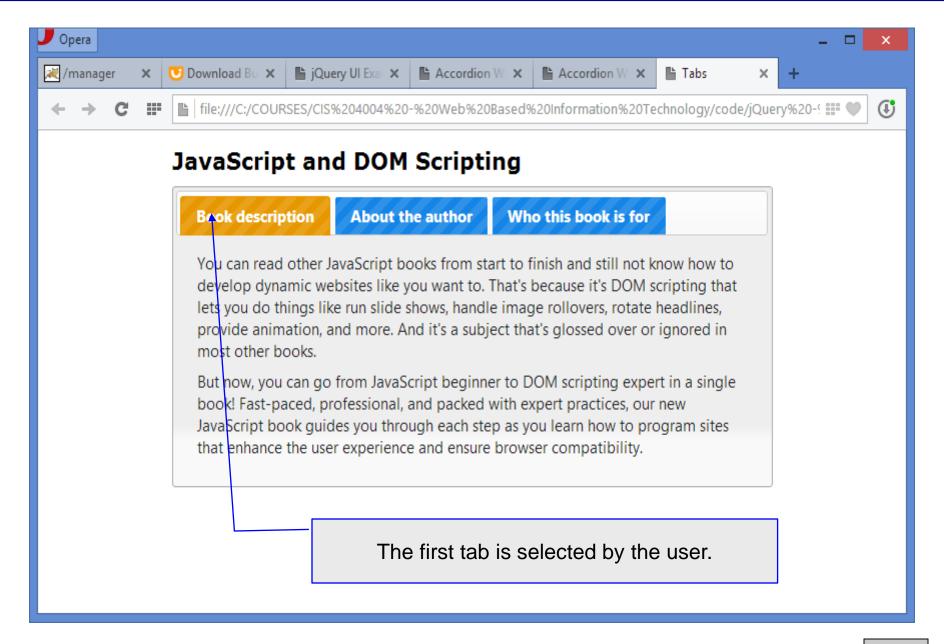




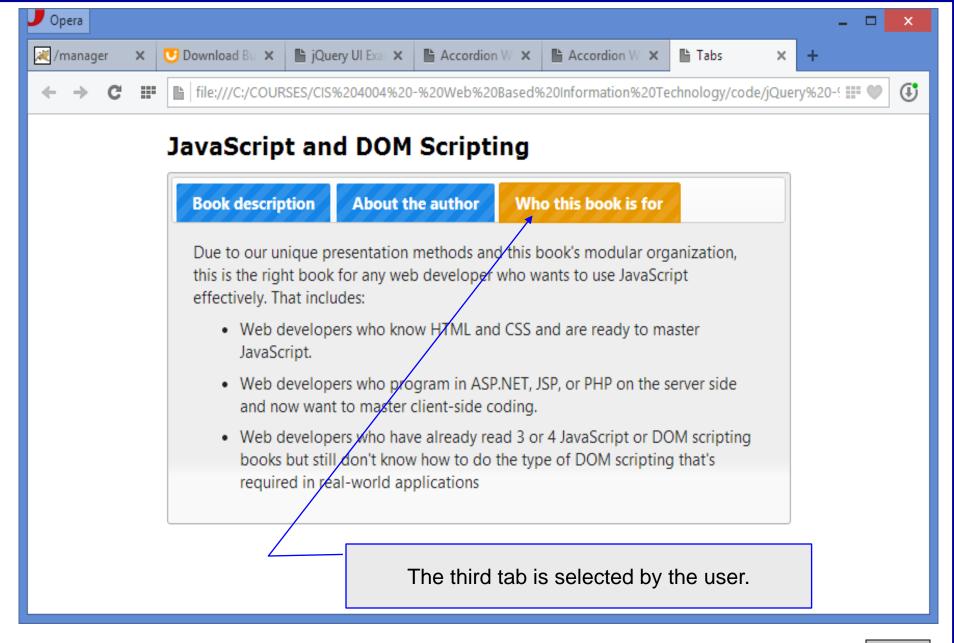










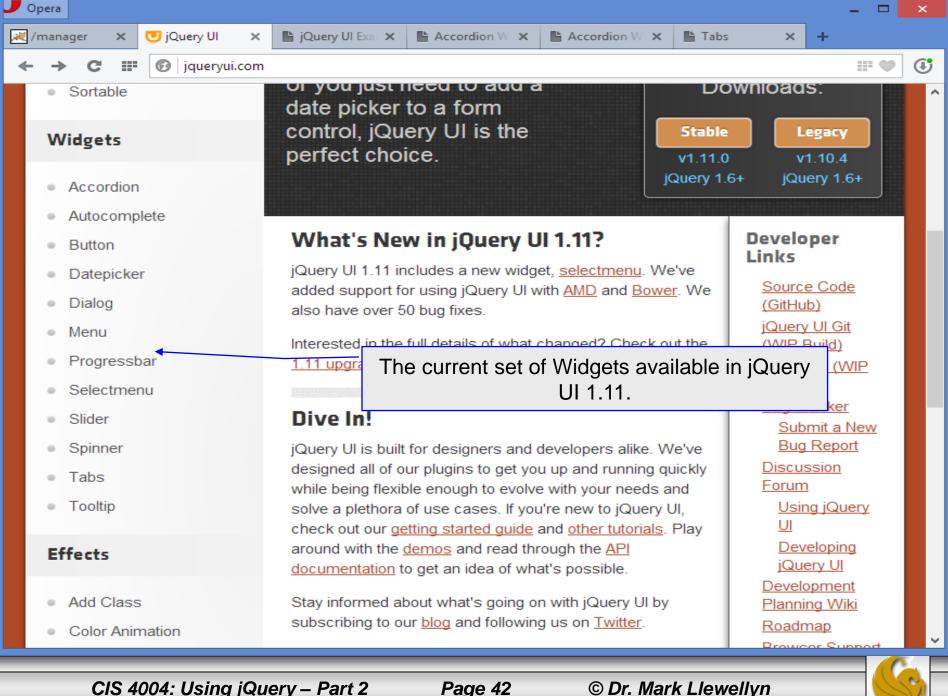




How To Use Any Widget

- The previous pages have illustrated using the accordion and tab widgets in the jQuery UI. Essentially the same technique is used to incorporate any of the 12 current jQuery UI widgets.
- Many websites do not make use of any interactions and if you elect to go this route as well, then you can exclude the interactions from your custom download. Keep in mind that some widgets depend on certain interactions, so those must be included. For example, the Dialog widget depends on both the Draggable and Resizable interactions, so if you are using that widget, you'll need to include those interactions in your download.

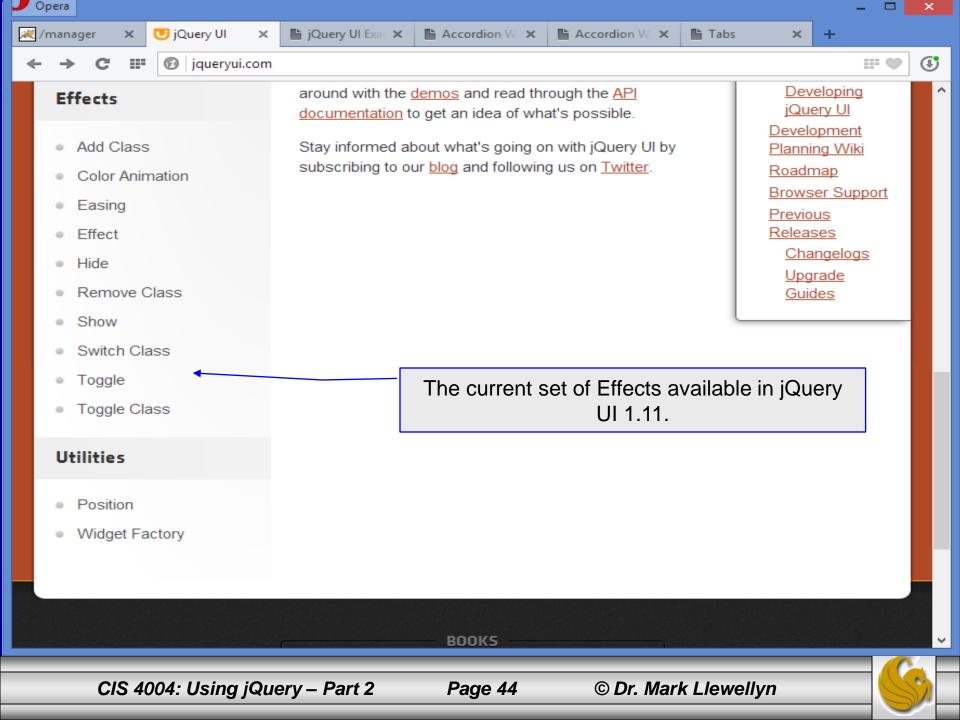




How To Use Any Widget

- The real power behind jQuery UI interactions is that they can be applied to any HTML element.
- For example, you can make the items in a unordered list sortable, or you can make a row inside a table selectable (think project 5 here).
- For uses such as these, you will need to include the interactions in your download.
- The jQuery effects can be used with interactions and widgets. For example, an effect can be used to control how a new tab is displayed in a Tabs widget. As before, jQuery effects can be used with HTML elements that are not part of jQuery UI.





An Example Using the Button and Dialog Widgets

- The next example illustrates both the Button and Dialog widgets.
- When a Button widget is activated by the jQuery button method, the HTML is converted into a button that uses the jQuery UI theme. Other than that, the button works in its normal fashion.
- In this example, the Button widget is coded as an anchor element that contains an image element for a bike rider, and jQUery UI changes its appearance. When the user clicks on it, a dialog box is opened.
- When the dialog box is displayed, it is both draggable and resizable.
- Setting the modal option to true in the dialog box options means that the user must close the dialog box before continuing.

