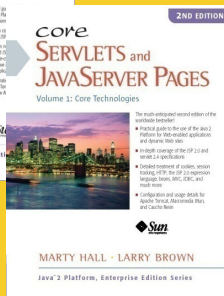
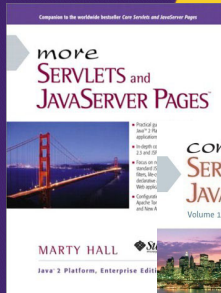




jQuery Part III: Rich Interfaces with jQuery UI (jQuery 1.3, jQuery UI 1.7)

Originals of Slides and Source Code for Examples:
<http://courses.coreservlets.com/Course-Materials/jquery.html>

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For live Ajax & GWT training, see training courses at <http://courses.coreservlets.com/>.



Taught by the author of *Core Servlets and JSP*, *More Servlets and JSP*, and this tutorial. Available at public venues, or customized versions can be held on-site at your organization.

- Courses developed and taught by Marty Hall
 - Java 6, servlets/JSP (intermediate and advanced), Struts, JSF 1.x, JSF 2.0, Ajax, GWT 2.0 (with GXT), custom mix of topics
 - Ajax courses can concentrate on 1 library (jQuery, Prototype/Scriptaculous, Ext-JS, Dojo, Google Closure) or survey several
- Courses developed and taught by coreservlets.com experts (edited by Marty)
 - Spring, Hibernate/JPA, EJB3, Web Services, Ruby/Rails

Contact hall@coreservlets.com for details

Topics in This Section

- **Overview**
- **Installation and setup**
- **Widgets**
 - Static tabbed panels
 - Ajax tabbed panels
 - Accordion panels
 - Date picker
 - Slider
 - Progress bar

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Introduction

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Overview

- **Set of rich GUI elements and effects**
 - Tabbed panels, slider, etc
 - Effects similar to Scriptaculous
 - Drag and drop API
- **Pros**
 - Official part of jQuery
 - Well tested
 - Very clean design
 - Many still show meaningful results if JavaScript disabled
 - Theming framework
- **Cons**
 - No autoCompleter (!)
 - Not as extensive as Dojo, ext/JS, or YUI

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Downloading

- **Download custom bundle**
 - <http://jqueryui.com/download>
 - Select widgets and effects you want
 - Press “Download” to download ZIP file of result
- **Unzip**
 - Unzip result into location of your choice
- **Download additional themes**
 - <http://jqueryui.com/download>
 - Deselect all widgets and options, choose different theme
 - You can also interactively build a customized theme
 - Unzip and copy entries in “css” folder to “css” folder of original download
- **Bookmark the documentation**
 - <http://docs.jquery.com/UI/>

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Installing Files

- **Load normal jQuery as before**
 - jQuery UI download gives an additional copy in “js” folder, so if you are using jQuery UI, one download from jqueryui.com is sufficient
 - As discussed in previous sections, it is common to rename jQuery-1.3.x.min.js to jQuery.js to simplify upgrades
- **Copy jQuery-ui-1.7.x.custom.min.js**
 - E.g., copy *download_folder/js/jquery-ui-1.7.x.custom.min.js* to WebContent/scripts
 - It is common to leave detailed name for this file, since UI capabilities change from version to version
- **Copy CSS “theme” folder**
 - E.g., copy *download_folder/css/ui-lightness* to WebContent/css/

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Setting Up Page: Overview

- **Load required jQuery UI files**
 - jquery.js (renamed from jquery-1.3.2.min.js)
 - jquery-ui-1.7.1.custom.min.js
 - Any custom CSS files your app uses
- **Load your files that use jQuery UI**
 - Any custom JavaScript files your app uses
 - *themenamename/jquery-ui-1.7.1.custom.min.css*

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Setting Up Page: Example

```
<link rel="stylesheet"
      href=" ./css/ui-lightness/jquery-ui-1.7.1.custom.css"
      type="text/css"/>
<link rel="stylesheet"
      href=" ./css/sample-styles.css"
      type="text/css"/>
<script src=" ./scripts/jquery.js"
        type="text/javascript"></script>
<script src=" ./scripts/jquery-ui-1.7.1.custom.min.js"
        type="text/javascript"></script>
<script src=" ./scripts/jquery-ui-examples.js"
        type="text/javascript"></script>
```

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Tabbed Panels with Static Content

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Overview

- **Idea**
 - Tabbed panel where clicking tabs changes content inside
- **HTML**
 - Make a div container to hold the tabs
 - `<div id="main-tabbed-panel-div">...</div>`
 - Include a ul list containing internal hyperlinks
 - ``
 - `Go to Panel 1`
 - `Go to Panel 2`
 - ``
 - Include divs whose ids match the href values (minus “#”)
 - `<div id="panel1">Content for panel 1</div>`
 - `<div id="panel2">Content for panel 2</div>`
- **Basic JavaScript**
 - Call “tabs()” on the div container
 - `$("#main-tabbed-panel-div").tabs();`

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Example: HTML

```
<div id="static-tabbed-panel-div">
  <ul>
    <li><a href="#panel1">Panel 1</a></li>
    <li><a href="#panel2">Panel 2</a></li>
    <li><a href="#panel3">Panel 3</a></li>
  </ul>
  <div id="panel1">
    <p>Content for first panel.</p>
    <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
  </div>
  <div id="panel2">
    <p>Content for second panel.</p>
    <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
  </div>
  <div id="panel3">
    <p>Content for third panel.</p>
    <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
  </div>
</div>
```

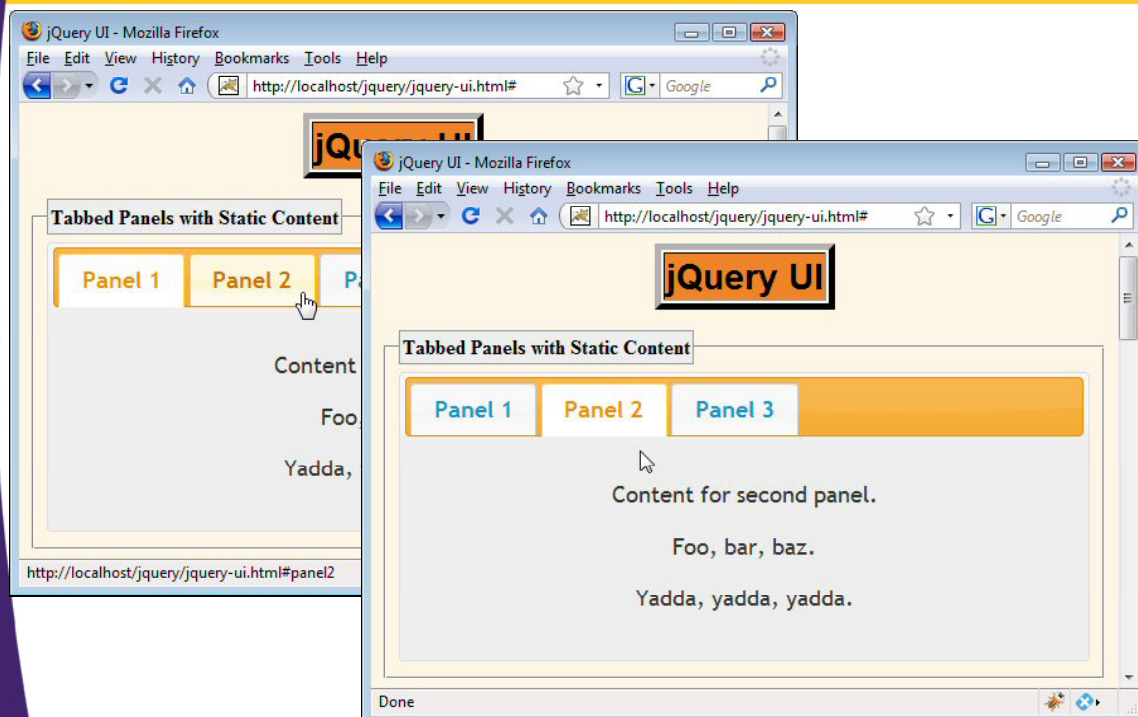
14

Example: JavaScript

```
$(function() {  
    $("#static-tabbed-panel-div").tabs();  
    ...  
});
```

15

Example: Results



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Options for jQuery UI Widgets

- **You can supply anonymous object**
 - Object has optional fields
 - Fields specify configuration and operational options
- **Examples**
 - `$("#some-id").tabs();`
 - `$("#some-id").tabs({ option1: "foo", option2: "bar", option3: "baz" });`

No trailing comma

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Main Options for `tabs({...})` for Static Content

- **selected (default: 0)**
 - Tab to be selected initially
- **collapsible (default: false)**
 - Can you click selected tab to hide it (and thus *all* panels)?
 - `$("#main-id").tabs({ collapsible: true });`
- **disabled (default: empty array)**
 - An array of tab numbers (0-based) that should be disabled on startup
- **event (default: click)**
 - The type of event that should initiate tab selection
 - `$("#main-id").tabs({ event: "mouseover" });`
- **fx**
 - Many options for specifying animation when tabs are selected. See docs for details.

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Tabbed Panels with Dynamic (Ajax) Content

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Overview

- **Idea**
 - Tabbed panel where clicking tabs gets server content
- **HTML**
 - Make a div container to hold the tabs
 - `<div id="main-tabbed-panel-div">...</div>`
 - Include a ul list containing external relative hyperlinks
 - ``
 - `Get Content for Panel 1`
 - `Get Content for Panel 2`
 - ``
 - That's all!
- **Basic JavaScript**
 - Call “tabs()” on the div container
 - `$("#main-tabbed-panel-div").tabs();`

Example: HTML

```
<div id="ajax-tabbed-panel-div">
<ul>
  <li><a href="time-panel.jsp">Show Time</a></li>
  <li><a href="list-panel.jsp?range=5">
    Show Small Numbers</a></li>
  <li><a href="list-panel.jsp?range=500">
    Show Big Numbers</a></li>
</ul>
</div>
```

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Example: JavaScript

```
$(function() {
  $("#ajax-tabbed-panel-div").tabs({ collapsible: true });
  ...
});
```

22

Example: JSP

- **time-panel.jsp**

```
<h3>It is now <%= new java.util.Date() %></h3>
```

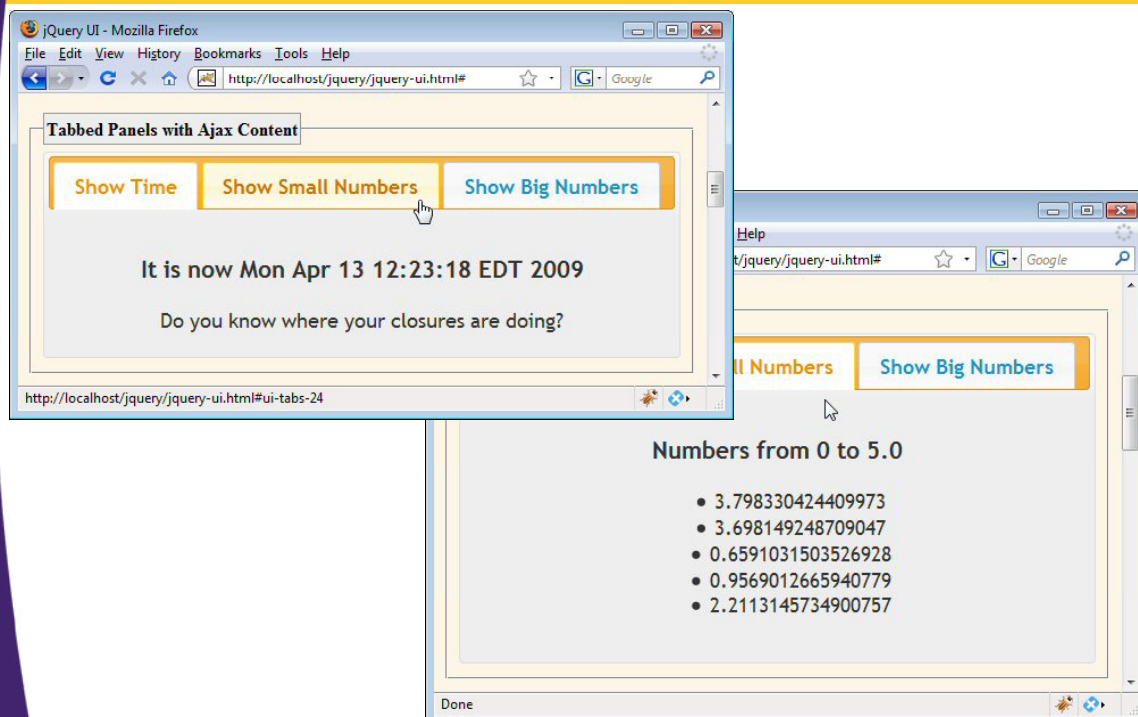
Do you know where your closures are doing?

- **list-panel.jsp**

```
<% double range = 10.0;
   try {
       String r = request.getParameter("range");
       range = Integer.parseInt(r);
   } catch(Exception e) {} %>
<h3>Numbers from 0 to <%= range %></h3>
<ul>
  <li><%= Math.random() * range %></li>
  <li><%= Math.random() * range %></li>
  <li><%= Math.random() * range %></li>
  <li><%= Math.random() * range %></li>
  <li><%= Math.random() * range %></li>
</ul>
```

23

Example: Results



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Main Options for tabs({...}) for Ajax Content

- **ajaxOptions (default: {})**
 - Any of the options used for \$.ajax in first jQuery section
 - \$("#main-id").tabs({ ajaxOptions: { error: errorHandler }});
- **cache (default: false)**
 - Should jQuery remember content for previously-selected tabs? Very helpful if result is always the same for a given URL.
- **spinner (default “Loading...”)**
 - Text to show in tab title after tab selected but before content is received from server

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Accordion Panels

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Overview

- **Idea**
 - Horizontally stacked panels with wide tabs
- **HTML**
 - Make a div container to hold the tabs
 - `<div id="main-accordion-panel-div">...</div>`
 - Include alternating pairs of text with links and content
 - `<h2>Panel 1</h2>`
 - `<div>Content for Panel 1</div>`
 - `<h2>Panel 2</h2>`
 - `<div>Content for Panel 2</div>`
- **Basic JavaScript**
 - Call “accordion()” on the div container
 - `$("#main-accordion-panel-div").accordion();`

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Example: HTML

```
<div id="accordion-panel-div">
<h2><a href="#">Panel 1</a></h2>
<div>
  <p>Content for first panel.</p>
  <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
</div>
<h2><a href="#">Panel 2</a></h2>
<div>
  <p>Content for second panel.</p>
  <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
</div>
<h2><a href="#">Panel 3</a></h2>
<div>
  <p>Content for third panel.</p>
  <p>Foo, bar, baz.</p><p>Yadda, yadda, yadda.</p>
</div>
</div>
```

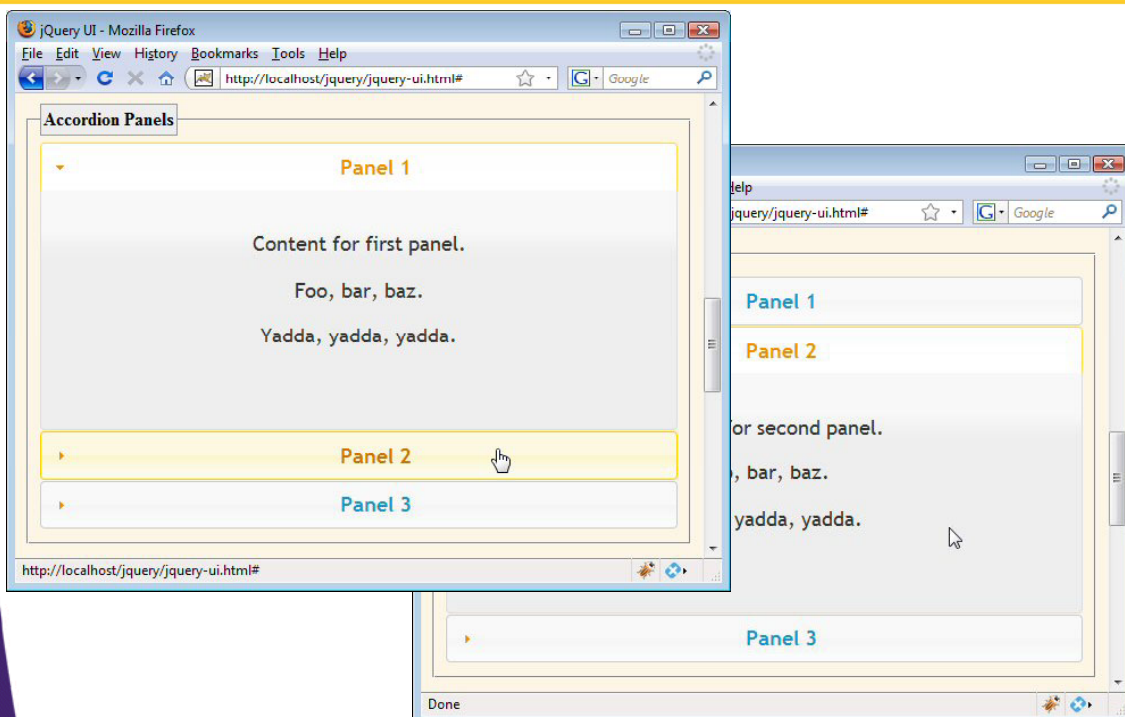
28

Example: JavaScript

```
$(function() {  
    $("#accordion-panel-div").accordion();  
    ...  
});
```

29

Example: Results



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Main Options for accordion({...})

- **active (default: 0)**
 - Index or selector for initially-selected item
- **collapsible, event**
 - Can you click to hide? Event to trigger selection.
 - Same as with tabs()
- **animated (default: true)**
 - Name of jQuery animation to use when showing content
 - `$("#main-id").accordion({ animated: "fadeIn" });`

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Date Picker

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Overview

- **Idea**
 - Click in textfield to pop up calendar. Choosing day from calendar puts date string into textfield
- **HTML**
 - Make an input field
 - `<input type="text" id="date-field"/>`
- **Basic JavaScript**
 - Call “datepicker()” on the textfield
 - `$("#date-field").datepicker();`

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Example: HTML

```
<form action="#">
  <table>
    <tr><td align="right">
      From: <input type="text"/></td></tr>
    <tr><td align="right">
      Departure Date: <input type="text" id="start-date"/></td></tr>
    <tr><td align="right">
      To: <input type="text"/></td></tr>
    <tr><td align="right">
      Return Date: <input type="text" id="end-date"/></td></tr>
    <tr><td align="center">
      <input type="button" value="Show Flights"/>
      <input type="button" value="Show Hotels"/>
    </td></tr>
  </table>
</form>
```

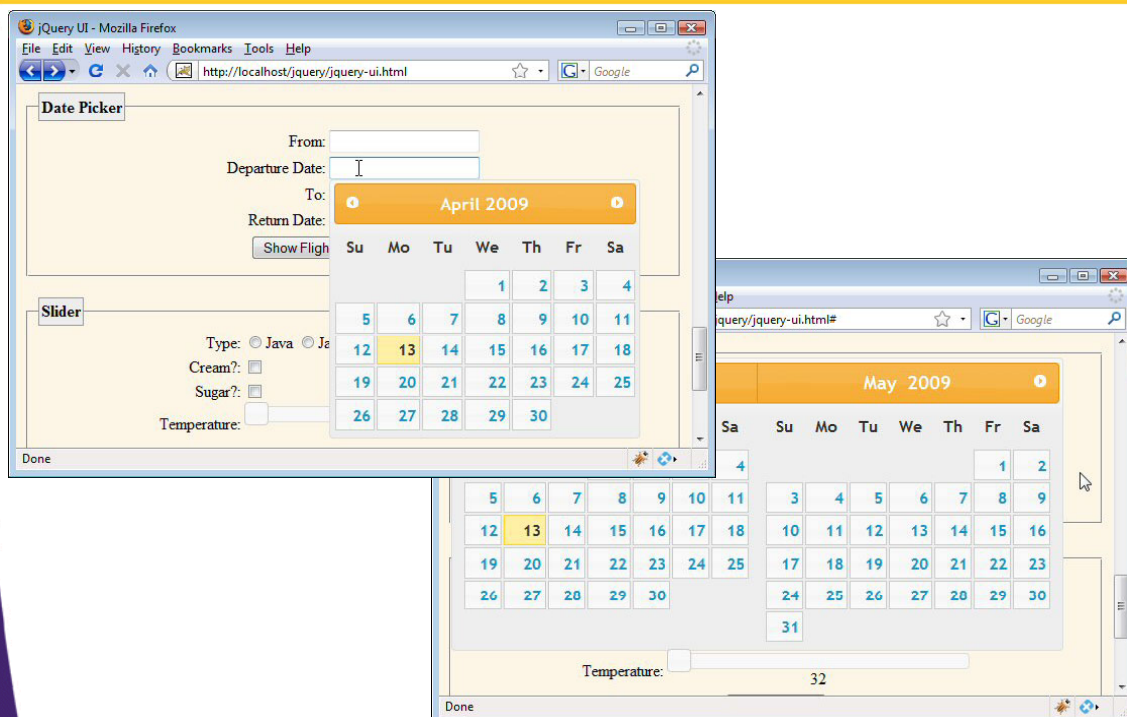
34

Example: JavaScript

```
$(function() {  
    $("#start-date").datepicker();  
    $("#end-date").datepicker({ changeMonth: true,  
                                numberOfMonths: 2 });  
    ...  
});
```

35

Example: Results



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Main Options for datepicker({...})

- **defaultDate (default: today)**
 - Initially selected date
- **changeMonth (default: false)**
changeYear (default: false)
 - Should jQuery include a dropdown list to let you choose the month or year?
- **dayNames (default Sunday...Saturday)**
monthNames (default January...December)
 - Names to use for the days and months. For other languages. There are also various options for short versions of days.
- **numberOfMonths (default: 1)**
 - How many months to show at a time

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Slider

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Overview

- **Idea**
 - Interactive slider to let user choose numeric values
 - Also supports double-handled sliders for choosing ranges
- **HTML**
 - Make a placeholder div
 - `<div id="div-for-slider"></div>`
- **Basic JavaScript**
 - Call “slider()” on the div, supply function to be called when slider moves
 - `$("#div-for-slider").slider({ slide: sliderEventHandler });`
 - Look up value later
 - Event handler takes two arguments: event and ui. Use `ui.value` to get current slider value

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Example: HTML

```
<form action="#">
  <table>
    ...
    <tr><td align="right">
      Temperature:
    </td>
    <td align="left" width="300">
      <div id="slider-div" style="margin-left: 10px"></div>
      <div id="temp-display" align="center">32</div>
    </td></tr>
    <tr><td align="center" colspan="2">
      <input type="button" value="Order Coffee"/>
    </td></tr>
  </table>
</form>
```

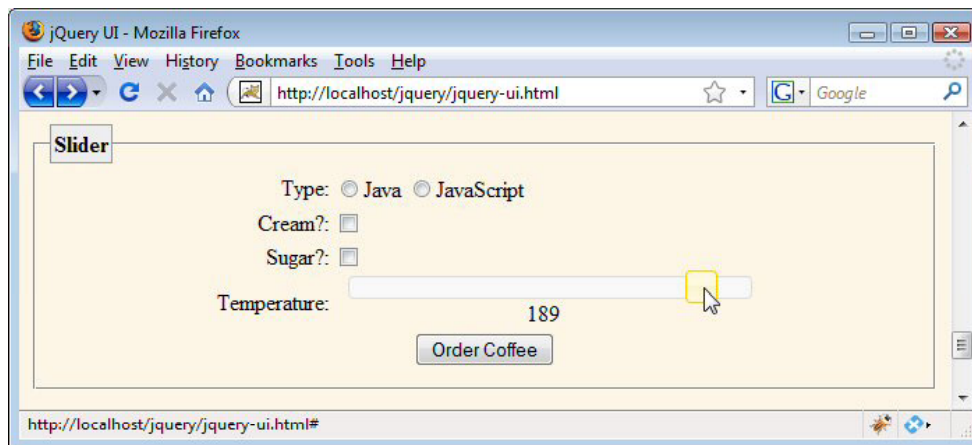
40

Example: JavaScript

```
function showTemp(event, ui) {  
    $("#temp-display").html(ui.value);  
}  
  
$(function() {  
    $("#slider-div").slider({ min: 32, max: 212,  
        slide: showTemp });  
    ...  
});
```

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Example: Results



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Main Options for slider({...})

- **min(default: 0)**
 - Value corresponding to left or top
- **max**
 - Value corresponding to right or bottom
- **slide**
 - Function to call every time value changes. Function takes two arguments: event and ui object. Use ui.value to get currently selected value.
- **step (default: 1)**
 - Granularity of changes
- **value (default: min)**
 - The initial value
- **orientation (default: auto)**
 - horizontal or vertical

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Progress Bar

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Overview

- **Idea**
 - Shows progress from 0% to 100%
 - Output only: does not accept user input
- **HTML**
 - Make a placeholder div
 - `<div id="div-for-progress-bar"></div>`
- **Basic JavaScript**
 - Call “progressbar()” on the div
 - `$("#div-for-progress").progressbar();`
 - Have another event that changes values of bar
 - Look up value with `$("#div-for-progress").progressbar("option", "value");`
 - Change value with `$("#div-for-progress").progressbar("option", "value", num);`

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Example: HTML

```
<form action="#">
<div id="progressbar-div"></div>
<input type="button" value="Click 10 Times"
      id="progressbar-button"/>
</form>
```

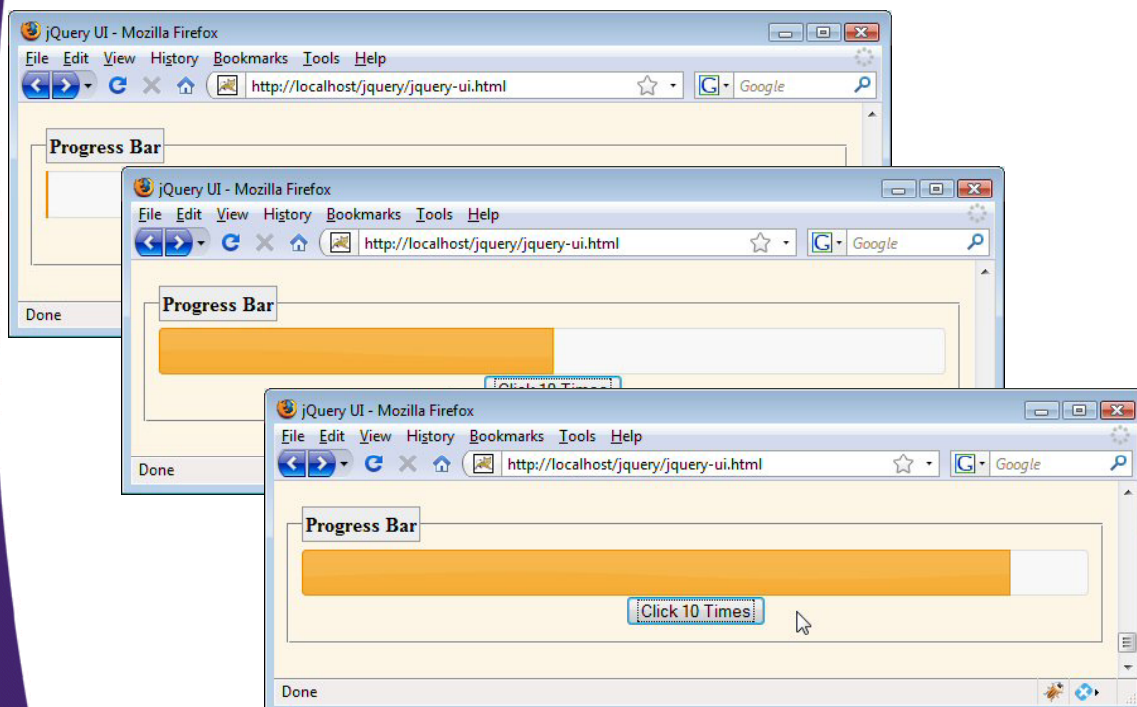
46

Example: JavaScript

```
function updateProgressBar() {  
    var currentVal =  
        $("#progressbar-div").progressbar("option", "value");  
    if (currentVal < 100) {  
        currentVal += 10;  
        $("#progressbar-div").progressbar("option", "value",  
            currentVal);  
    }  
}  
  
$(function() {  
    $("#progressbar-div").progressbar();  
    $("#progressbar-button").click(updateProgressBar);  
    ...  
});
```

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Example: Results



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Wrap-up

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Summary

- **Setup**
 - Load jquery.js, jquery-ui...js and *themenamename/...css*
- **Ajax tabbed panels**
 - HTML
 - `<div id="main">`
 - `Panel 1</1>`
 - `Panel 2</1>...`
 - `</div>`
 - JavaScript
 - `$("#main").tabs();`
- **Others**
 - Static tabbed panels, accordion panel, date picker, slider, progress bar



Questions?

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