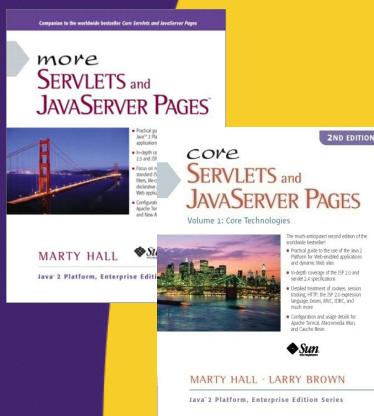




## jQuery Part III: Rich Interfaces with jQuery UI (jQuery 1.3, jQuery UI 1.7)

Originals of Slides and Source Code for Examples:  
<http://courses.coreservlets.com/Course-Materials/ajax.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, intermediate/beginning servlets/JSP, advanced servlets/JSP, Struts, JSF 1.x & 2.0, Ajax, GWT, custom mix of topics
  - Ajax courses can concentrate on one library (jQuery, Prototype/Scriptaculous, Ext-JS, Dojo) or survey several
- Courses developed and taught by coreservlets.com experts (edited by Marty)
  - Spring, Hibernate/JPA, EJB3, Ruby/Rails

Contact [hall@coreservlets.com](mailto: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 Scripacious
  - 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
    - `<ul>`
      - `<li><a href="#panel1">Go to Panel 1</a></li>`
      - `<li><a href="#panel2">Go to Panel 2</a></li>`
    - `</ul>`
  - 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>
```

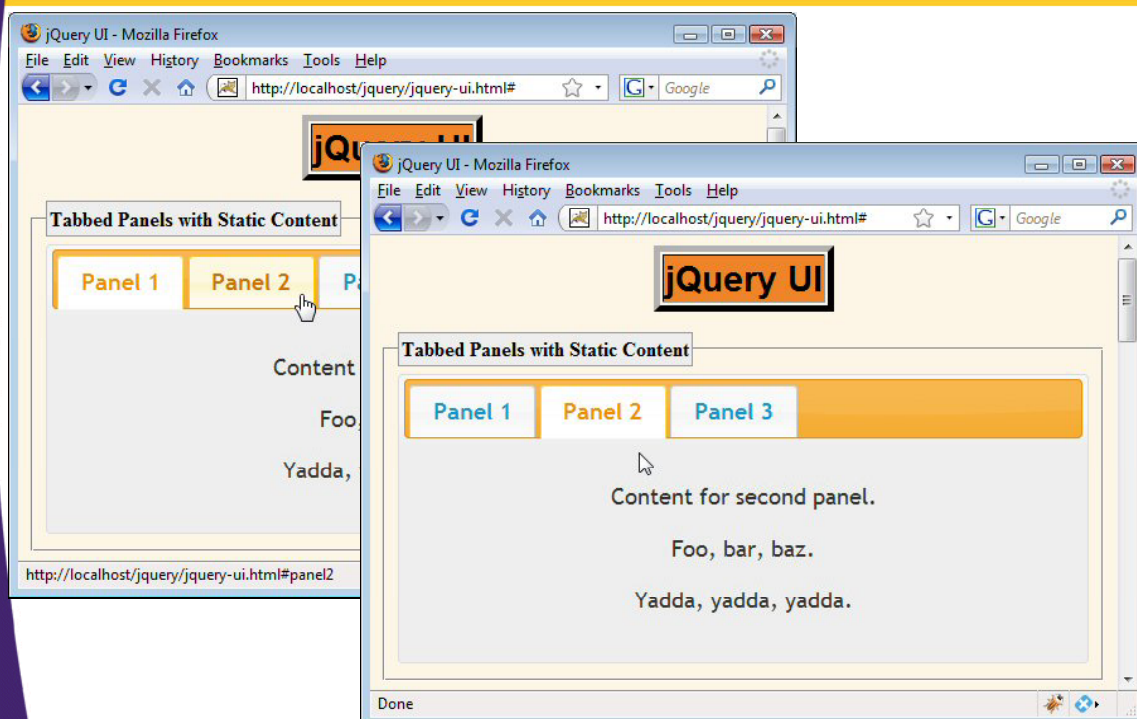
14

# Example: JavaScript

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

15

# Example: Results



16

# 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
    - `<ul>`
      - `<li><a href="url1">Get Content for Panel 1</a></li>`
      - `<li><a href="url2">Get Content for Panel 2</a></li>`
    - `</ul>`
  - 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>
```

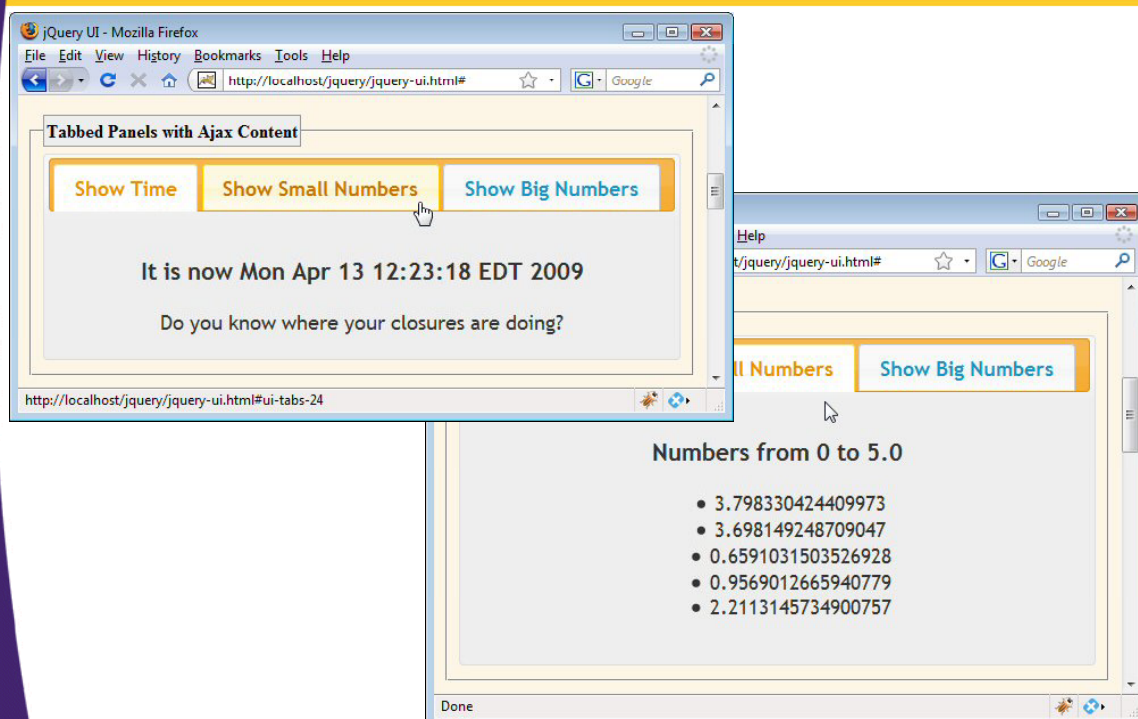
Do you know where your closures are doing?

- **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



24

# 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 “<em>Loading...</em>”)**
  - 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><a href="#">Panel 1</a></h2>`
    - `<div>Content for Panel 1</div>`
    - `<h2><a href="#">Panel 2</a></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>
```

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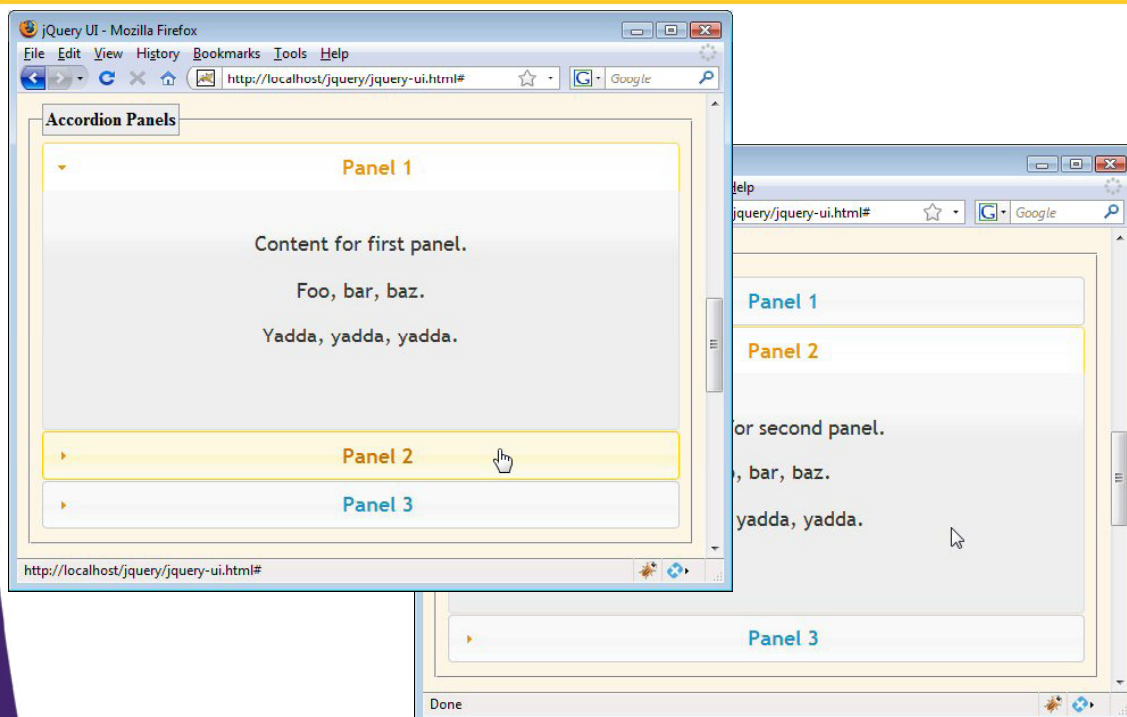


# Example: JavaScript

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

29

# Example: Results



30

# 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>
```

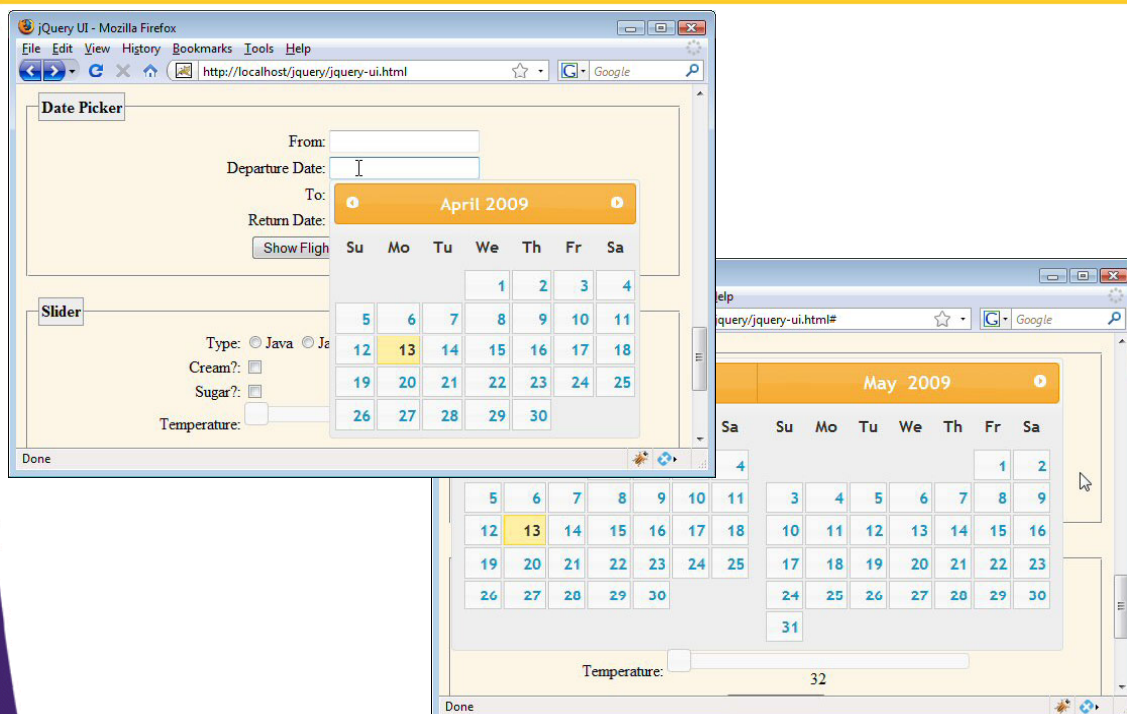
34

# Example: JavaScript

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

35

# Example: Results



36

# 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>
```

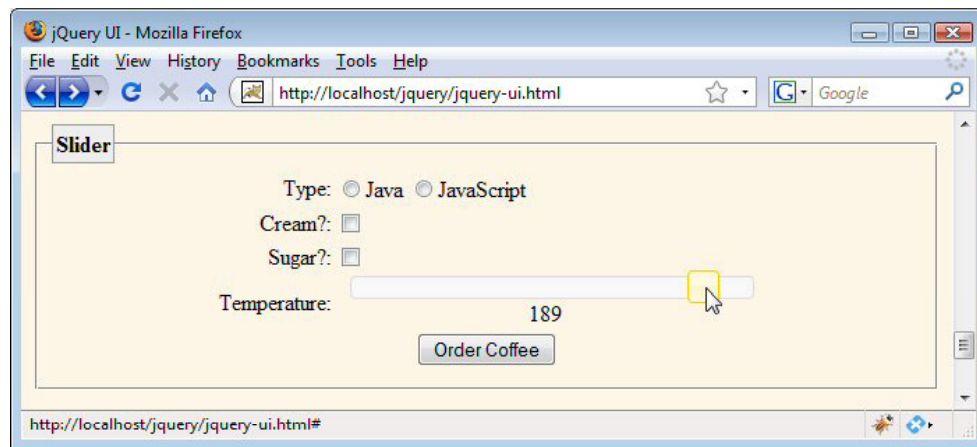
40

# Example: JavaScript

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

41

# 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>
```

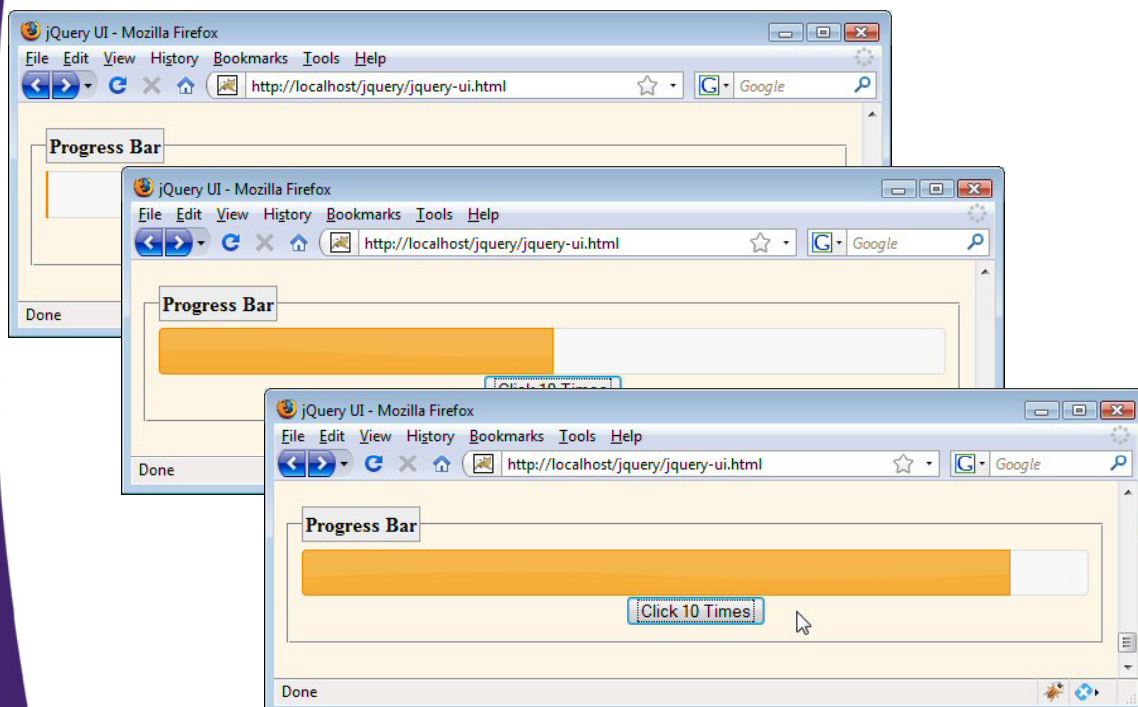
46

# 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">  
  <ul><li><a href="relative-url-1">Panel 1</1></li>  
    <li><a href="relative-url-2">Panel 2</1></li>...  
  </ul></div>
```
  - JavaScript
    - `$("#main").tabs();`
- **Others**
  - Static tabbed panels, accordion panel, date picker, slider, progress bar



# Questions?

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