

Lesson 3-4: Use Watches and Locals

In *Lesson 3-3: Use Breakpoints*, you learned how to pause your application at certain points in order to inspect the current state of controls and values. However, by using that technique you can inspect only the values of objects that your code directly refers to.

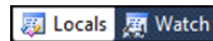
Using the *Watch* and *Locals* windows, you can inspect any values that are available, regardless of whether or not your code makes reference to them.

- 1 Open *CSharpTest* from your sample files folder.
- 2 Open *default.aspx.cs* (The code-behind file of *default.aspx*).
- 3 Start debugging.
- 4 Click on a date in the calendar.

The breakpoint you added in *Lesson 3-3: Use Breakpoints* should pause the code inside the *CalendarSelect_SelectionChanged* event handler.

- 5 View properties using the *Locals* window.

1. Click the *Locals* button at the bottom-left of the screen.



The *Locals* window will appear (if it wasn't visible already).

Locals	
Name	Value
⊕ this	{ASP.default.aspx}
⊕ sender	{SelectedDate = The nar
⊕ e	{System.EventArgs}

Locals contains all of the properties that are currently available to your code in a tree structure. It's not always the easiest way to find what you're looking for, but it always contains everything.

2. Expand *this* by clicking the plus-sign icon next to it.

The *this* object is the object that contains your code. In this case, *this* is your *aspx* page.

Name	Value
⊖ this	{ASP.default.aspx}
⊕ [ASP.default.aspx]	{ASP.default.aspx}
⊕ base	{ASP.default.aspx}
⊕ ButtonChangeText	{Text = "Button"}
⊕ CalendarSelect	{SelectedDate = The nar
⊕ form1	{System.Web.UI.HtmlCor
⊕ LabelOutput	{Text = "Hello world!"}

3. Expand *LabelOutput* in the *Locals* window.

You will see the properties of the *LabelOutput* control displayed.

LabelOutput	{Text = "Hello world!"}
base	{Text = "Hello world!"}
AssociatedControl	""
SupportsDisabled	false
Text	"Hello world!"

Note that these are only properties that have a value. You could view a complete list of the control's properties by expanding *base*.

- Return to the web browser by clicking Debug→Continue.


6 View properties using the *Watch* window.

The *Watch* window works very similarly to the *Locals* window, but you can choose the values you want to appear in it. It's usually a much more convenient way of inspecting values in your application.

- Click on a date on the calendar again.

Your code should pause at the breakpoint once more.

```
protected void CalendarSelect_SelectionChanged(object sender, EventArgs e)
{
    LabelOutput.Text = CalendarSelect.SelectedDate.ToString();
}
```

- Display the *Watch* window by clicking the *Watch* button at the bottom-left of the screen. 

- Select *LabelOutput.Text* by clicking and dragging your mouse cursor over it.

```
protected void CalendarSelect_SelectionChanged(object sender, EventArgs e)
{
    LabelOutput.Text = CalendarSelect.SelectedDate.ToString();
}
```

- Right-click on the highlighted text and then click *Add Watch* from the shortcut menu.

LabelOutput.Text and its current value appear in the *Watch* window.

Watch	
Name	Value
LabelOutput.Text	"Hello world!"

- Use *Step Over* to step to the next line.

You'll see that the value is updated in the *Watch* window. The *Watch* window is very useful for keeping an eye on the current values of important properties.

Watch	
Name	Value
LabelOutput.Text	"31/03/2011 00:00:00"

You'll be using the *Watch* window more in the coming lessons.

7 Stop debugging and close Visual Studio.

