



# **Firebug & Fiddler: Development Tools for the Web**

## **Penn State Web Conference 2009**

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# Firebug & Fiddler: Development Tools for the Web

- Tools help develop, test, and debug
- Fiddler and Firebug are powerful
  - Fiddler monitors HTTP traffic in and out of your computer and allows you to change it
  - Firebug allows you to inspect and manipulate what your browser does to the data (Firefox)
- We will show the basics of what they can do

# What is Firebug?

- Tool that allows developers to:
  - Inspect and Edit HTML and the DOM
  - View and Edit CSS
  - Work with JavaScript
  - Monitor network activity
- Integrates with Firefox (as an add-in)
- Free and open source



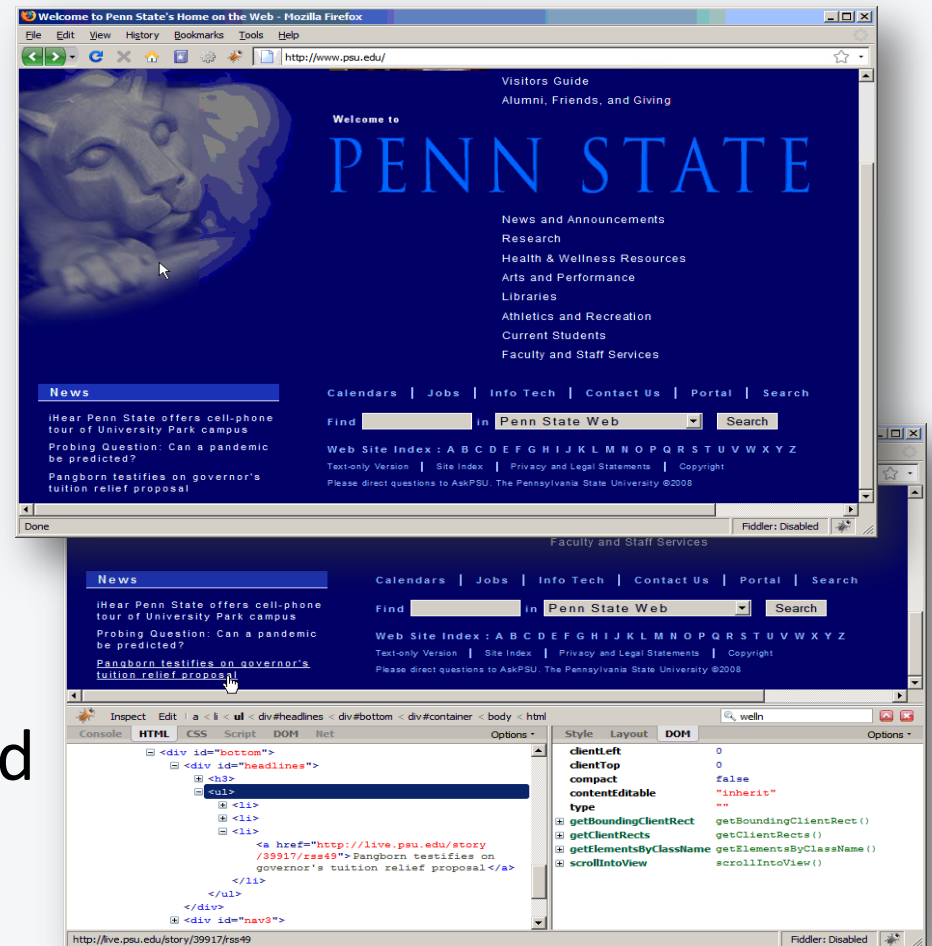
# Are there any drawbacks?

- Learning curve
- Can't build html/CSS from scratch
- Only a "Lite" version for IE, Opera, Safari



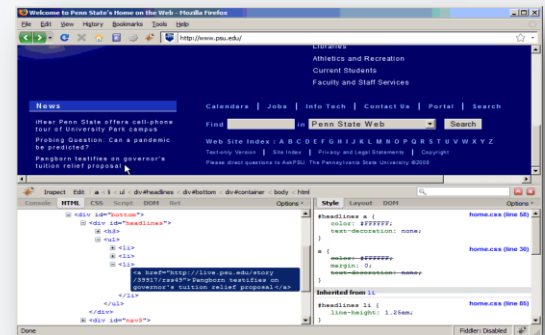
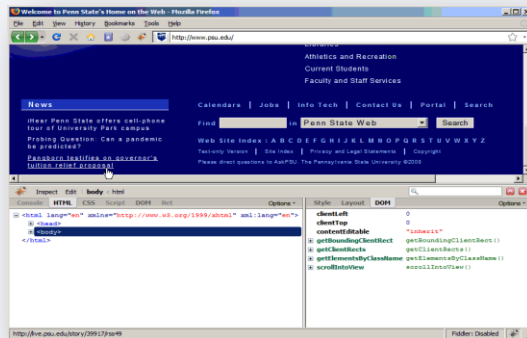
# Inspect and Edit HTML and the DOM

- View source live
- Search
- Find elements/Inspect
- Instant HTML editing
- Breadcrumbs
- Copy the source
- See changes highlighted



# View and Edit CSS

- Tweak CSS
  - Inspect any style sheet
  - Preview colors and images
  - Inspect the cascade
  - Enable/disable
  - Edit
  - Autotext
- Visualize CSS layout
  - Box model shading
  - Rulers and guides
  - Edit Layout Tab



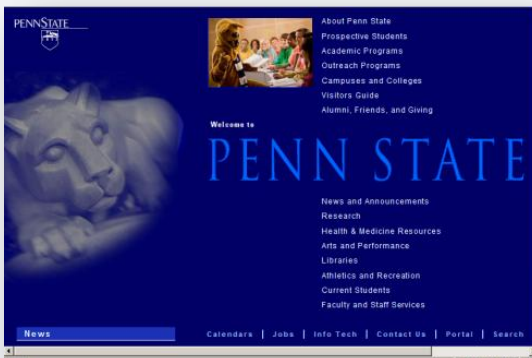
Firebug

# Work with JavaScript

- Debug JavaScript
  - Enable
  - Find scripts easily
  - Breakpoints
  - Break on errors
  - Watch expressions
  - Variable tooltips

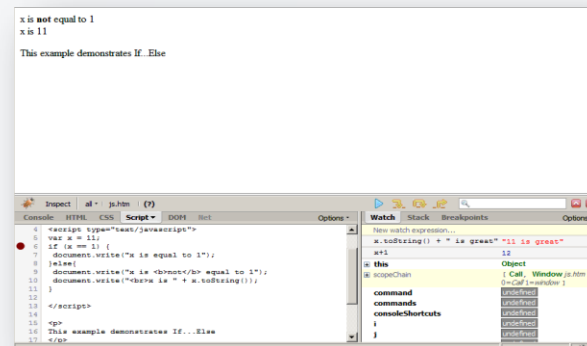


- Quickly Find Errors
  - Status bar indicator
  - Informative errors
  - Jump to the debugger
  - Quick search
  - Filtering errors



# Monitor network activity

- Enable
- Watch the timeline unfold
- Break it down by type
- Cached or not cached
- Examine HTTP Headers
- XMLHttpRequest monitoring





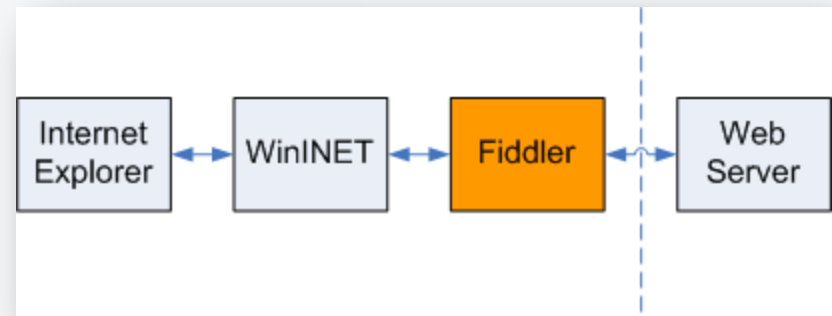
# More Information

- Download at <http://getfirebug.com/>
- Intro videos and docs at [getfirebug.com/docs.html](http://getfirebug.com/docs.html)
- Some extensions
  - Rainbow - Javascript syntax highlighting
  - Yslow - Performance report card



# What is Fiddler?

- Web Debugging Proxy
- Allows you to inspect all HTTP(S) traffic between your computer and the Internet



- Freeware
- Set breakpoints
- “fiddle” with requests and responses



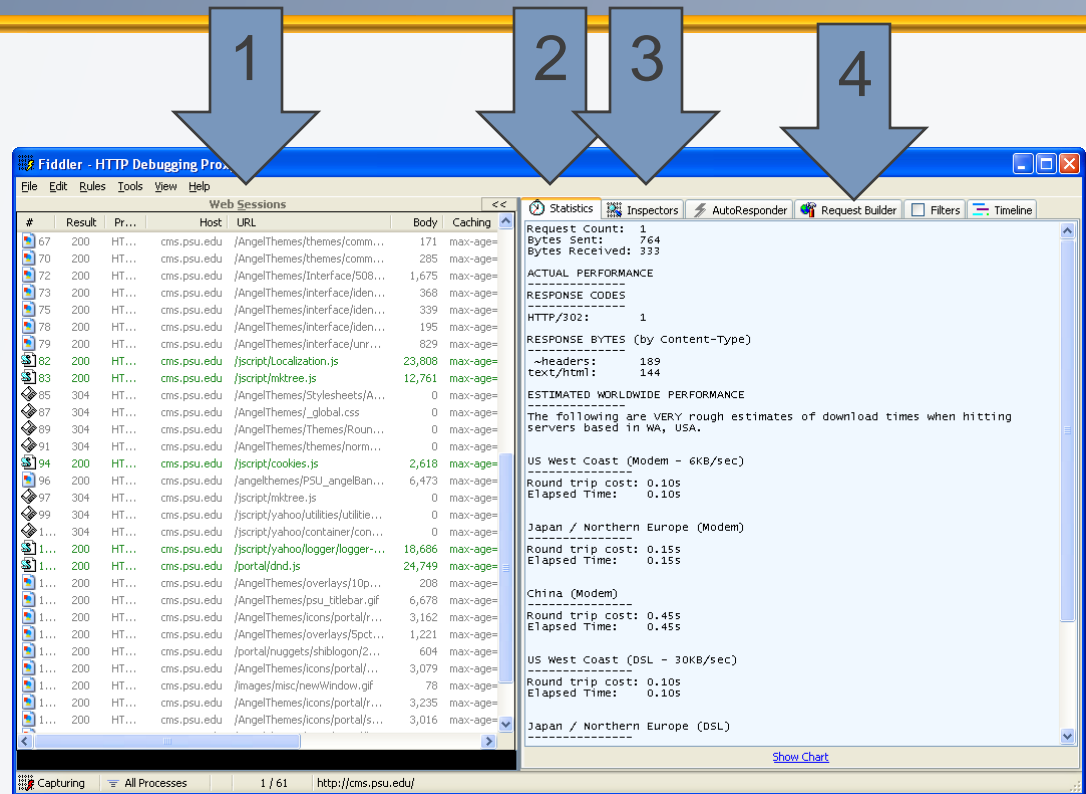
# What can you do with it?

- View performance statistics
- Inspect/Edit web traffic
  - Outgoing Requests
  - Incoming Responses
  - Including AJAX calls
- Build ad-hoc requests
- Reissue requests
- Breakpoints
- Batch Execution



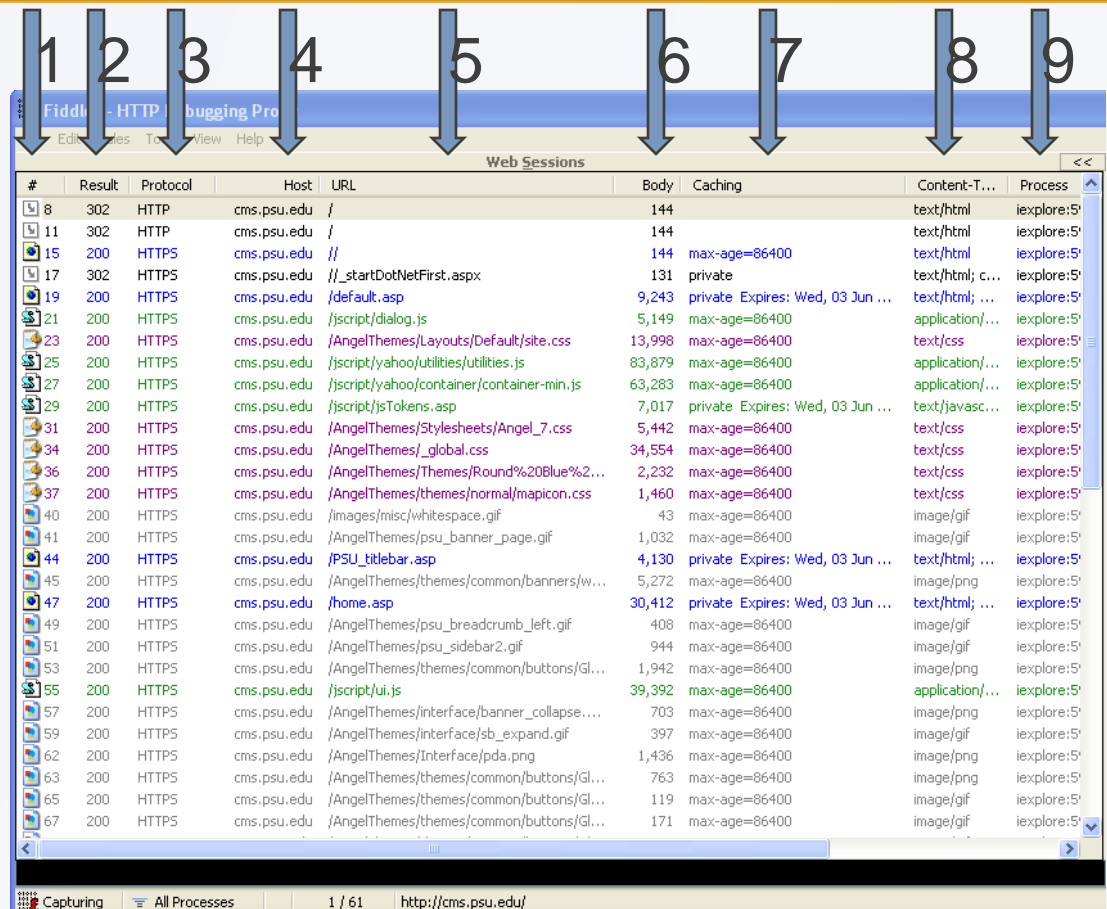
## The User Interface

1. HTTP Sessions list
2. Statistics Tab
  - Shows statistics about the selected sessions
3. Inspector Tab
  - Displays Requests and Responses
  - View and Modify
4. Builder Tab
  - Builds handcrafted HTTP requests



## Sessions List

1. **#** - An ID# of the request generated by Fiddler for your convenience
2. **Result** - The Result code from the HTTP Response.
3. **Protocol** - The Protocol used by this session
4. **Host** - The hostname of the server to which the request was sent
5. **URL** - The path and file requested from the server
6. **Body** - The number of bytes in the Response body
7. **Caching** - Values from the Response's Expires or Cache-Control headers
8. **Content-Type** - The Content-Type header from the Response
9. **Process** - The local Windows Process from which the traffic originated

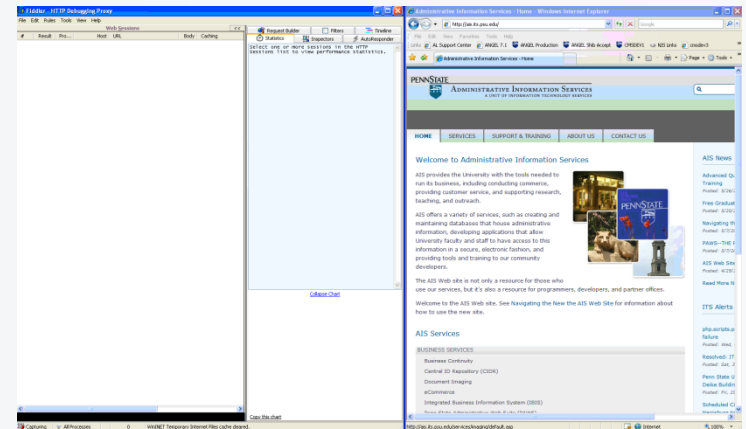


The screenshot shows the Fiddler Web Sessions list with the following columns: #, Result, Protocol, Host, URL, Body, Caching, Content-Type, and Process. The list contains 20 entries for cms.psu.edu. The numbered arrows point to the following columns:

#	Result	Protocol	Host	URL	Body	Caching	Content-Type	Process
8	302	HTTP	cms.psu.edu	/	144		text/html	ieexplor:5
11	302	HTTP	cms.psu.edu	/	144		text/html	ieexplor:5
15	200	HTTPS	cms.psu.edu	//	144	max-age=86400	text/html	ieexplor:5
17	302	HTTPS	cms.psu.edu	//_startDotNetFirst.aspx	131	private	text/html; c...	ieexplor:5
19	200	HTTPS	cms.psu.edu	/default.asp	9,243	private Expires: Wed, 03 Jun ...	text/html; ...	ieexplor:5
21	200	HTTPS	cms.psu.edu	/javascript/dialog.js	5,149	max-age=86400	application/...	ieexplor:5
23	200	HTTPS	cms.psu.edu	/AngelThemes/Layouts/Default/site.css	13,998	max-age=86400	text/css	ieexplor:5
25	200	HTTPS	cms.psu.edu	/javascript/yahoo/utilities/utilities.js	83,879	max-age=86400	application/...	ieexplor:5
27	200	HTTPS	cms.psu.edu	/javascript/yahoo/container/container-min.js	63,283	max-age=86400	application/...	ieexplor:5
29	200	HTTPS	cms.psu.edu	/javascript/jsTokens.asp	7,017	private Expires: Wed, 03 Jun ...	text/javascript	ieexplor:5
31	200	HTTPS	cms.psu.edu	/AngelThemes/Stylesheets/Angel_7.css	5,442	max-age=86400	text/css	ieexplor:5
34	200	HTTPS	cms.psu.edu	/AngelThemes/_global.css	34,554	max-age=86400	text/css	ieexplor:5
36	200	HTTPS	cms.psu.edu	/AngelThemes/Themes/Round%20Blue%2...	2,232	max-age=86400	text/css	ieexplor:5
37	200	HTTPS	cms.psu.edu	/AngelThemes/themes/normal/mapicon.css	1,460	max-age=86400	text/css	ieexplor:5
40	200	HTTPS	cms.psu.edu	/images/misc/whitespace.gif	43	max-age=86400	image/gif	ieexplor:5
41	200	HTTPS	cms.psu.edu	/AngelThemes/psu_banner_page.gif	1,032	max-age=86400	image/gif	ieexplor:5
44	200	HTTPS	cms.psu.edu	/PSU_titlebar.asp	4,130	private Expires: Wed, 03 Jun ...	text/html; ...	ieexplor:5
45	200	HTTPS	cms.psu.edu	/AngelThemes/themes/common/banners/w...	5,272	max-age=86400	image/png	ieexplor:5
47	200	HTTPS	cms.psu.edu	/home.asp	30,412	private Expires: Wed, 03 Jun ...	text/html; ...	ieexplor:5
49	200	HTTPS	cms.psu.edu	/AngelThemes/psu_breadcrumb_left.gif	408	max-age=86400	image/gif	ieexplor:5
51	200	HTTPS	cms.psu.edu	/AngelThemes/psu_sidebar2.gif	944	max-age=86400	image/gif	ieexplor:5
53	200	HTTPS	cms.psu.edu	/AngelThemes/themes/common/buttons/Gl...	1,942	max-age=86400	image/png	ieexplor:5
55	200	HTTPS	cms.psu.edu	/javascript/ui.js	39,392	max-age=86400	application/...	ieexplor:5
57	200	HTTPS	cms.psu.edu	/AngelThemes/interface/banner_collapse...	703	max-age=86400	image/png	ieexplor:5
59	200	HTTPS	cms.psu.edu	/AngelThemes/interface/sb_expand.gif	397	max-age=86400	image/gif	ieexplor:5
62	200	HTTPS	cms.psu.edu	/AngelThemes/interface/pda.png	1,436	max-age=86400	image/png	ieexplor:5
63	200	HTTPS	cms.psu.edu	/AngelThemes/themes/common/buttons/Gl...	763	max-age=86400	image/png	ieexplor:5
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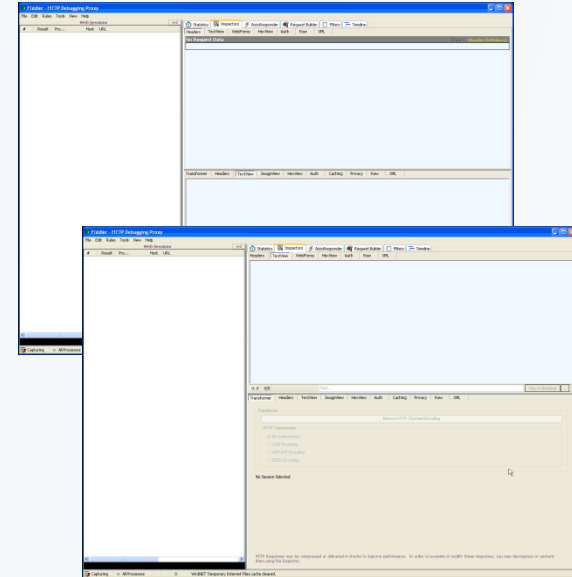
# Statistics Tab

- Select multiple requests
- Statistics tab
- Rough estimates of download times
- Shows files sizes by type



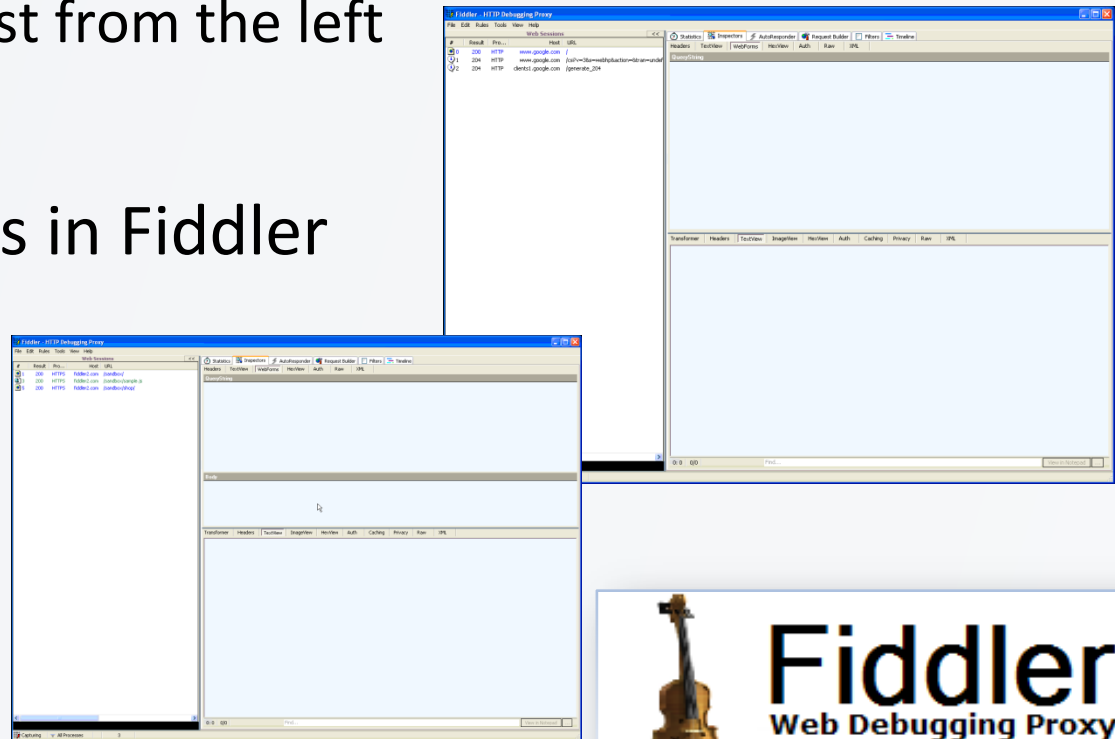
# Inspecting Web Traffic

- Select a single request
- Inspectors tab
- Request on top, Response on the bottom
  - Headers
  - Content in different views (Text, Raw, Image, etc)
  - Compare Responses



# Request Builder

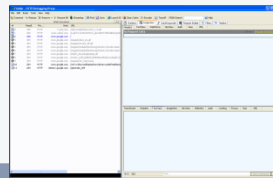
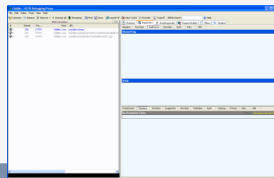
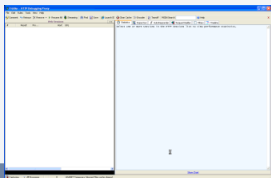
- To send a customized request
- Can build from an existing request
  - Drag a request from the left
- Execute
- Inspect Results in Fiddler





# QuickExec window

Command	Action	Sample
bpafter	Break any response on RequestURI	bpafter /favicon.ico
bpu	Break any request on RequestURI	bpu /default.aspx
cls	Clear session list	cls
bps	Break any response on status code	bps 200
>size	Select all sessions over a certain size	>40000 <i>Responses over 40KB</i>
urlreplace	Replace any portion of a URL with a new string	urlreplace google.com psu.edu



# More Information

- Start here: <http://www.fiddler2.com/>
- Documentation
- Video tutorials
- Add-ons
- Developer info

