



JavaScript Debugging, Diagnostic Web Tools and Firefox Add-ons

By

Gennady Feldman

March 12, 2008

April 9, 2008

At The

WebTechNY.com User Group

Summary

- Introduction
- JavaScript
- Add-ons for Firefox
- Add-ons for IE
- Fiddler
- Summary
- Q & A

Introduction

- About Me
- About Dynamic Logic

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What is this talk about?

JavaScript

JavaScript

- JavaScript \neq Java
- Sometimes dismissed as not a real programming language.
- Lots of web developers never really learned JavaScript.
- There's a lot of resources on JavaScript, but almost nobody really explains the language and syntax.
- Most people know that JavaScript is used for DOM and AJAX scripting.
- A lot have heard the buzz words, not many actually know when and why to apply them.

JavaScript

- Some of JavaScript features:
 - hashes / arrays
 - functions = objects
 - prototypal inheritance
 - private variables
 - closures
 - and many more...
- JSON is based on JavaScript objects.

JavaScript

- We know JavaScript as a Web language.
- It was actually used in Netscape to script their Web Server (on the server side).
- Douglas Crockford did a number of talks on JavaScript at Yahoo.
- He covers JavaScript for 3+ hours focusing on syntax alone.
- Yahoo has made available many talks as a free download.

JavaScript resource(s)

- Yahoo
 - <http://developer.yahoo.com/yui/theater/>
 - Specifically JavaScript video sessions by Douglas Crockford
 - You can subscribe to YUI Theater on iTunes
- JSLint – JavaScript Validator
 - <http://www.jshint.com/> - “it will hurt your feelings”.
- QuirksMode by PPK
 - <http://www.quirksmode.org/>

Web & JavaScript

- Web Development is the hardest and the most hostile environment to work in.
- HTML, CSS, JavaScript and Ajax are some of the technologies that are used on the web.
- Without proper tools web development is almost impossible.

Categories of tools

- JavaScript debugging & profiling
- HTML/DOM analysis
- CSS and layout
- Color picker
- Network capture (see what's being downloaded)
- Validation services

Firefox add-ons

- Firefox is a great and very powerful browser. It also has a ton of add-ons with more added daily.
- There are hundreds of add-ons available which makes it hard to find the ones you really need.
- I will cover some of the ones that I use and consider to be a must have.

Firebug

- A MUST for any web developer. Grab the 1.1B12 build from <http://getfirebug.com>
- Provides a number of great tools in a nice and clean interface.
- Has JavaScript debugger and profiler built-in.
- Allows you to walk the DOM and play with CSS styles on the fly.
- Allows you to analyze the time it takes a web page to load.
- Provides console debugging API.

YSlow

- Another great extension that covers web traffic and performance:
<http://developer.yahoo.com/yslow/>
- Created and supported by Yahoo.
- Built on 14 performance rules from Yahoo.
- Requires Firebug to be installed.

WebDeveloper

- Has a nice toolbar with many menus and options.
- Quite popular with Web Designers.
- Was one of the first.
- Still had a great number of tools.
- Firebug still does a lot more out of the box, but what's missing from firebug is here.

NoScript

- Tabs are really popular these days, so is security.
- XSS (cross site scripting) and CSRF (cross site request forgery) are the biggest security problems on the web today.
- Disables Flash and other plug-ins by default.
- Disables 3rd party JavaScript.

Other Firefox Add-ons

- ColorZilla
 - Color picker. Comes in very handy at times.
- IEView
 - View this page/link in IE. Great shortcut.
- Download Statusbar
 - Not a web development extension, but I love it anyway.
 - See download buttons in the statusbar instead of separate download dialogs.

IE tools and add-ons

- Internet Explorer is behind in terms of empowering web developers.
- Some people have stepped in and created some add-ons to make development easier and better.
- These are not as powerful as Firefox based ones, but some of them are quite powerful.
- Did you know that there's a JavaScript debugger that comes with Microsoft Office?

Developer toolbar from Microsoft

- This is a free add-on to Internet Explorer.
- Has a number of tools that it offers:
 - DOM tree navigation
 - Showing style information.
 - Color picker
 - Resizer
 - Ruler
 - Validation Links
 - And many more..

Developer Toolbar from Microsoft

- Some of the features are either limited or missing. (when comparing against Firebug)
- No JavaScript tools.
- Can't navigate 3rd party IFrames in the DOM tree.
- I am not a big fan of it.

WebDevHelper

- <http://www.codeplex.com/webdevhelper/>
- This is the new webpage for it.
- A great FREE add-on with a ton of features.
- Awesome for ASP.NET developers. (never actually tried this myself)
- Has HTTP capture support, JavaScript Console, DOM tree navigation, etc...

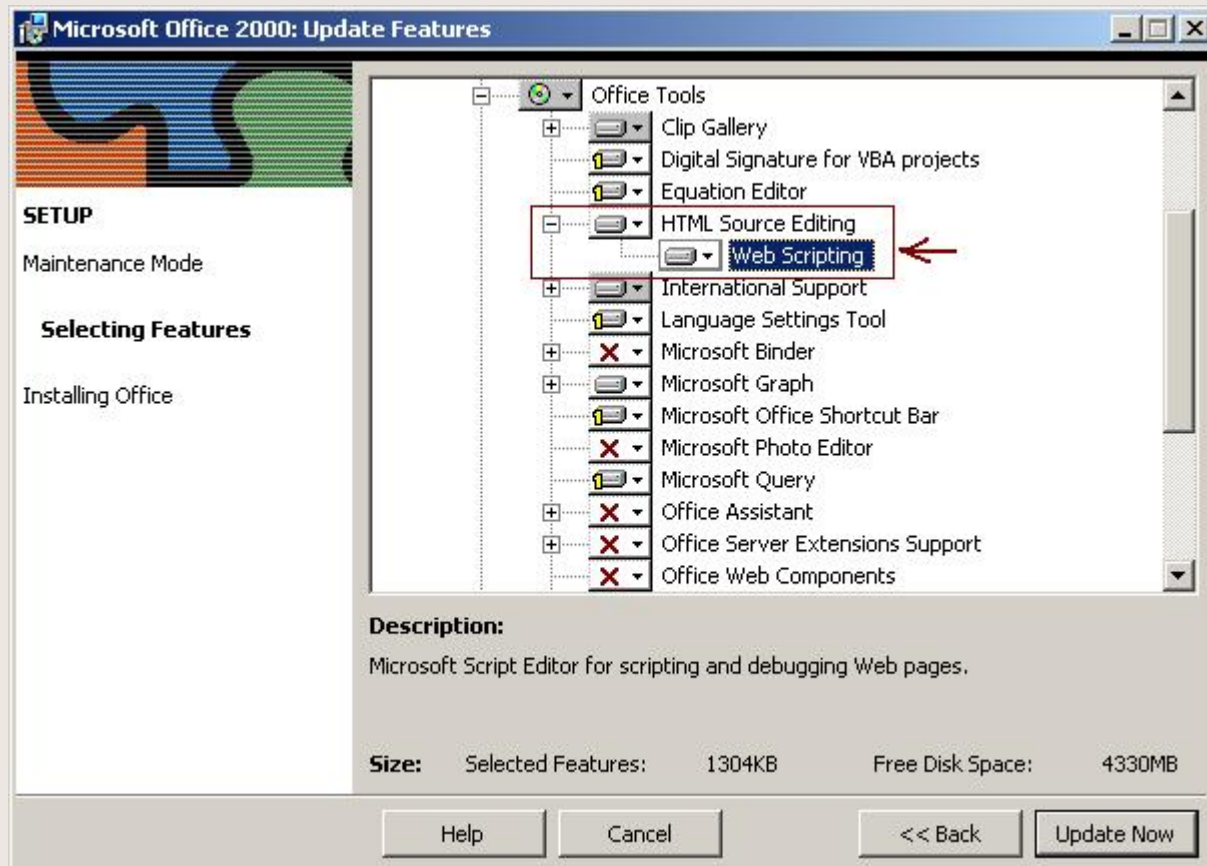
DebugBar

- Debugbar (<http://www.debugbar.com/>)
- Free for personal/private use.
- Probably the most powerful of them all.
- Has a ton of features:
 - DOM tree split up by different element types.
 - HTTP analysis.
 - Different tools setup as tabs for HTML validation.
 - Script analysis and debugging.
 - Etc..

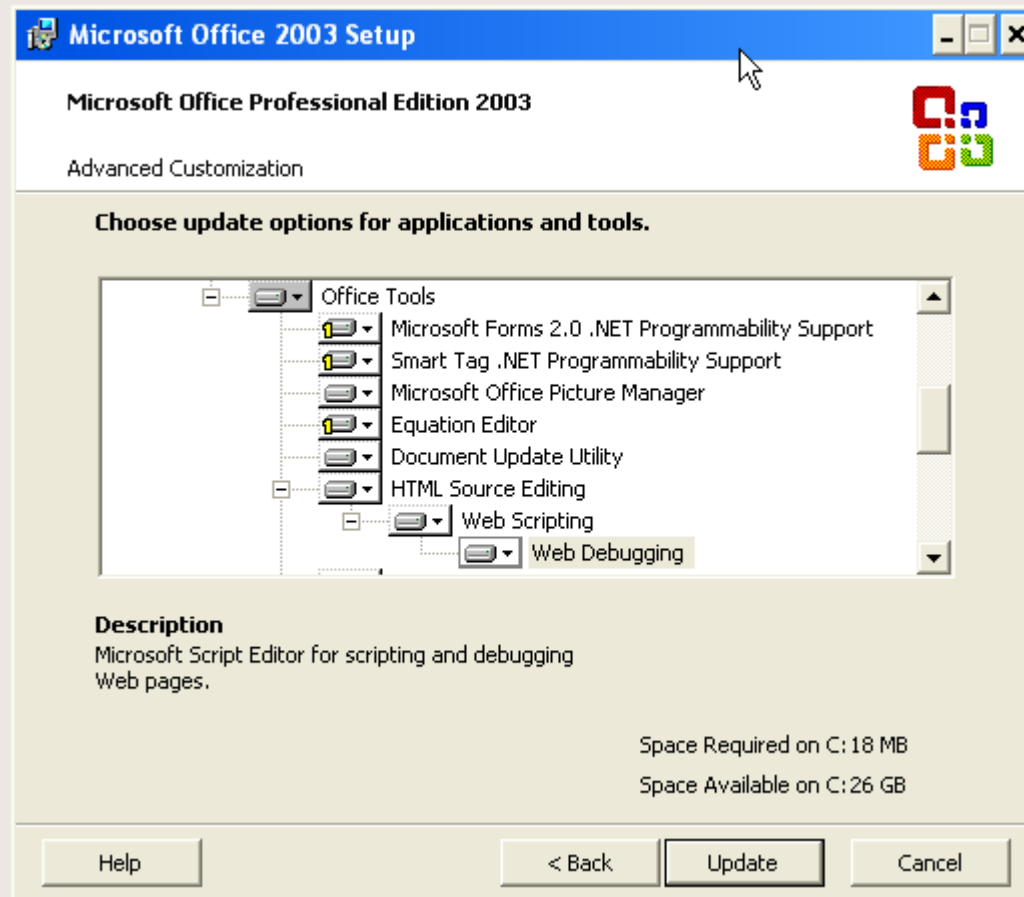
IE7Pro

- IE7Pro is a promising new free add-on that has scripting capabilities.
- Claims to work with IE 6.x and 7.x.
- Has a lot of potential through scripts and add-ons.
- Somebody has taken a Firebug Lite JavaScript source and created an IE7Pro plugin.
- Has a growing community and a supporting website listing add-ons and plugins.
- This is an active project that is gaining traction.

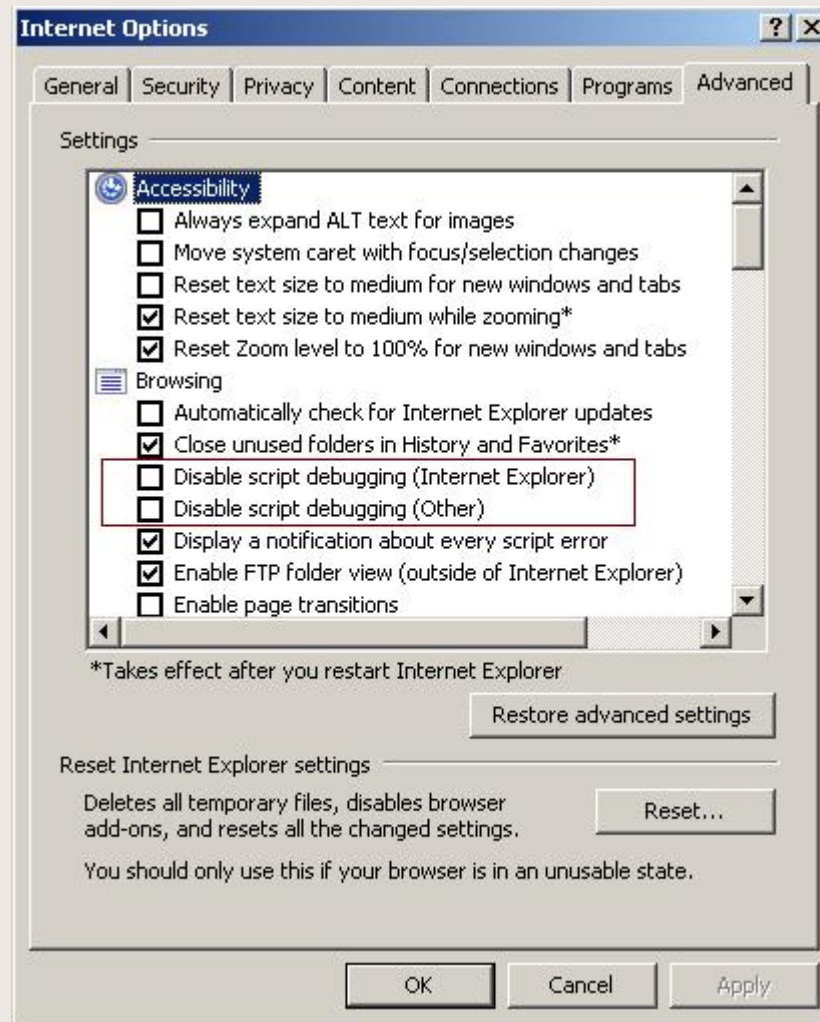
Enabling JS Debugger for IE



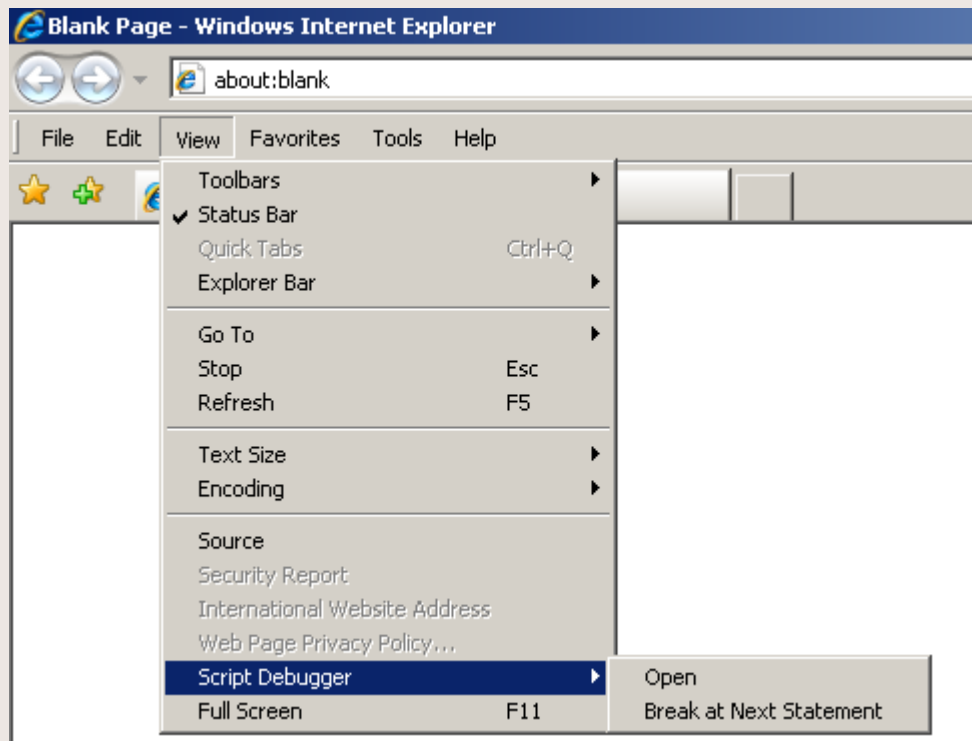
JavaScript Debugger



Enabling JS Debugger in IE

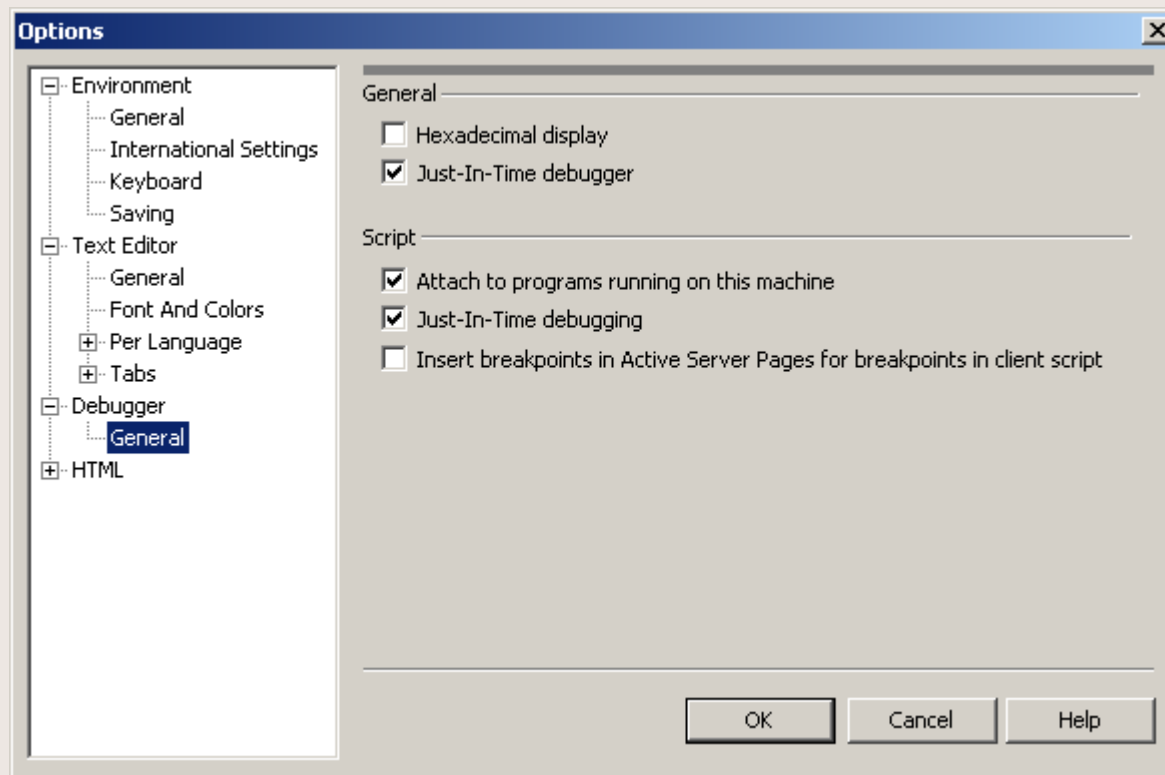


Enabling JS Debugger in IE



Enabling JS Debugger in IE

- C:\Program Files\Microsoft Visual Studio\Common\IDE\IDE98\MSE.EXE



Fiddler

- <http://www.fiddler2.com>
- Works like a proxy between the internet and the browser.
- Ties into Internet Explorer.
- You can manually configure your browser to go through Fiddler.
- Allows you to see what's going on behind the scenes (over the network).
- Much more powerful than default packet capture tools like WireShark.

Fiddler

- Shows HTTP status codes
 - Missing images
 - Redirects
 - Etc..
- Dissect HTTP(S) requests and responses.
- View cookies and headers.
- Supports plug-ins.
- Fully scriptable using .NET.
- Debug JavaScript and HTTP requests.
- Save captured information for later analysis.

Fiddler

The screenshot displays the Fiddler HTTP Debugging Proxy interface. The main window is titled "Fiddler - HTTP Debugging Proxy" and contains a menu bar (File, Edit, Rules, Tools, View, Help) and a toolbar. The central pane shows a table of "Web Sessions" with columns for #, Result, Host, URL, Body, User-d..., and Caching. The table lists 22 sessions, with the first session selected. The right-hand pane shows the "Request Builder" and "Session Inspector" tabs. The "Request Headers" section displays the headers for the selected session: GET /fiddler2/updatecheck.asp?isBeta=True HTTP/1.1. The "Response Headers" section displays the headers for the selected session: HTTP/1.1 200 OK. The status bar at the bottom shows "Capturing" is active, the page number is "1 / 22", and the current URL is "http://www.fiddler2.com/fiddler2/updatecheck.asp?isBeta=True".

#	Result	Host	URL	Body	User-d...	Caching
0	200	www.fiddler2.com	/fiddler2/updatecheck.asp?isBeta=True	606	94ms	private
1	200	www.fiddler2.com	/fiddler2/version.asp?ver=2.1.4.1&isBeta=...	7,254	172ms	private
2	200	www.fiddler2.com	/Fiddler2/Fiddler.css	3,051	78ms	
3	200	www.fiddler2.com	/fiddler/help/images/wmv.gif	1,884	79ms	
4	200	www.fiddler2.com	/Fiddler/images/FiddlerLogo.png	7,028	250ms	
5	200	search.live.com	/s/siteowner/searchbutton_normal.png	1,434	16ms	public, max-age=...
6	200	search.live.com	/bootstrap.js?market=en-US&ServId=Se...	943	16ms	public, max-age=...
7	200	www.fiddler2.com	/Eric/images/rss.gif	429	78ms	
8	200	www.fiddler2.com	/fiddler/images/fiddlericon.gif	308	78ms	
9	200	search.live.com	/s/siteowner/searchbox_background.png	3,037	15ms	public, max-age=...
10	200	www.fiddler2.com	/favicon.ico	318	78ms	
11	200	search.live.com	/DynamicScript.js?ver=1.01	1,778	31ms	public, max-age=...
12	200	search.live.com	/JsonRequest.js?ver=1.01	441	16ms	public, max-age=...
13	200	search.live.com	/WLUIPanel.js?ver=1.00	3,850	31ms	public, max-age=...
14	200	search.live.com	/SearchBox/WLSearchBoxv11.js?ver=1.01	7,259	78ms	public, max-age=...
15	200	search.live.com	/SearchBox/searchboxresources.js?ver=...	715	31ms	no-cache
16	200	search.live.com	/s/siteowner/scopebarbg_blue.jpg	328	31ms	public, max-age=...
17	200	search.live.com	/s/siteowner/x_normal.gif	61	16ms	private, max-age=...
18	200	search.live.com	/s/siteowner/scopebarbtnbg_blue.jpg	343	32ms	public, max-age=...
19	200	search.live.com	/s/siteowner/wlbrand.jpg	2,469	15ms	public, max-age=...
20	200	search.live.com	/s/siteowner/pageprev_default.gif	148	16ms	public, max-age=...
21	200	search.live.com	/s/siteowner/pagenext_default.gif	151	15ms	public, max-age=...

Request Headers [Raw] [Header Definitions]
GET /fiddler2/updatecheck.asp?isBeta=True HTTP/1.1

- Client
 - User-Agent: Fiddler/2.1.4.1 beta (.NET 2.0.50727.1433; Microsoft)
- Transport
 - Host: www.fiddler2.com
 - Proxy-Connection: Close
- Cache
 - Pragma: no-cache

Response Headers [Raw] [Header Definitions]
HTTP/1.1 200 OK

- Cache
 - Date: Thu, 06 Mar 2008 05:20:57 GMT
 - Cache-control: private
- Entity
 - Content-Length: 606
 - Content-Type: text/plain
- Miscellaneous
 - Server: Microsoft-IIS/6.0
 - MicrosoftOfficeWebServer: 5.0_Pub
 - X-Powered-By: ASP.NET

Capturing 1 / 22 http://www.fiddler2.com/fiddler2/updatecheck.asp?isBeta=True

A silver metal spiral binding is visible along the left edge of the page, consisting of a series of loops that hold the paper together.

Fiddler Demo

Summary

- Web development is getting more complicated.
- JavaScript and AJAX are being used to create web applications that run inside a browser.
- These applications tend to push browser limits.
- Developers need tools to be able to diagnose problems.
- There are many great tools available.
- I hope I gave you enough information to get you started.

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Q & A
