

Omar AL Zabir blog on ASP.NET Ajax and .NET 3.5

Working hard to enrich millions of peoples' lives

Best practices for creating websites in IIS 6.0

Every time I create an IIS website, I do some steps, which I consider as best practice for creating any IIS website for better performance, maintainability, and scalability. Here' re the things I do:

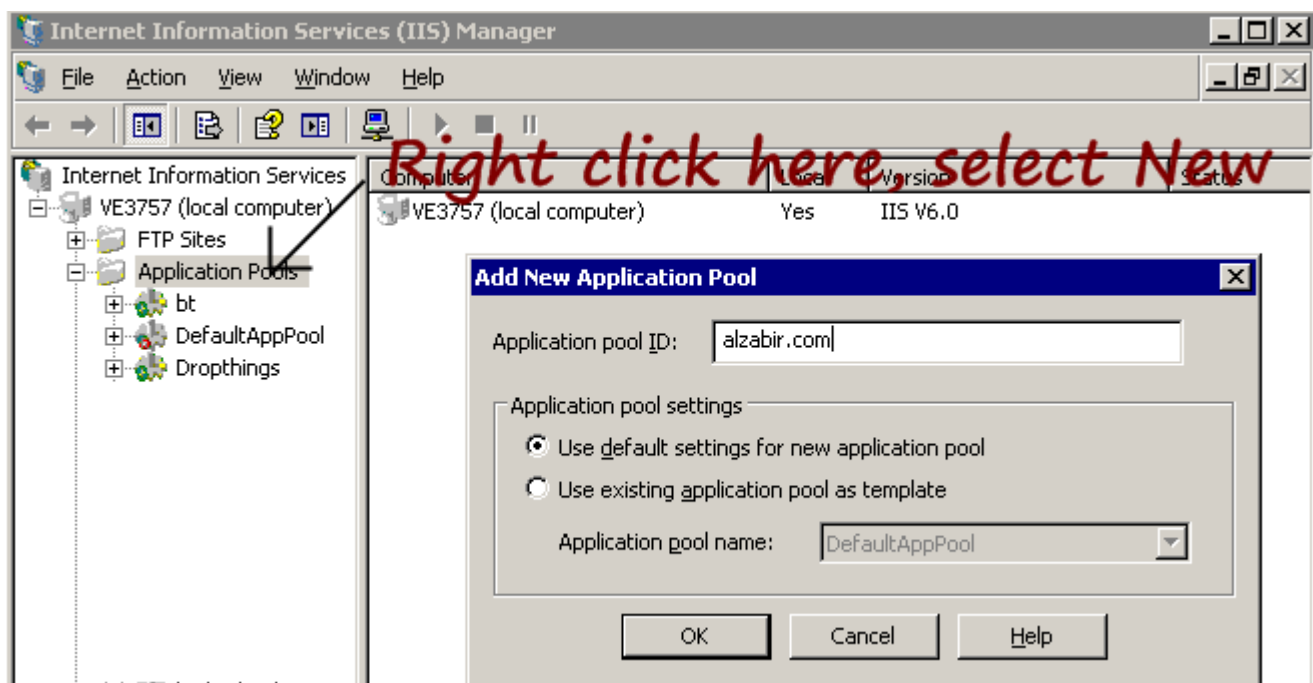
Create a separate application pool for each web application

I always create separate app pool for each web app because I can select different schedule for app pool recycle. Some heavy traffic websites have long recycle schedule where low traffic websites have short recycle schedule to save memory. Moreover, I can choose different number of processes served by the app pool. Applications that are made for web garden mode can benefit from multiple process where applications that use in-process session, in memory cache needs to have single process serving the app pool. Hosting all my application under the DefaultAppPool does not give me the flexibility to control these per site.

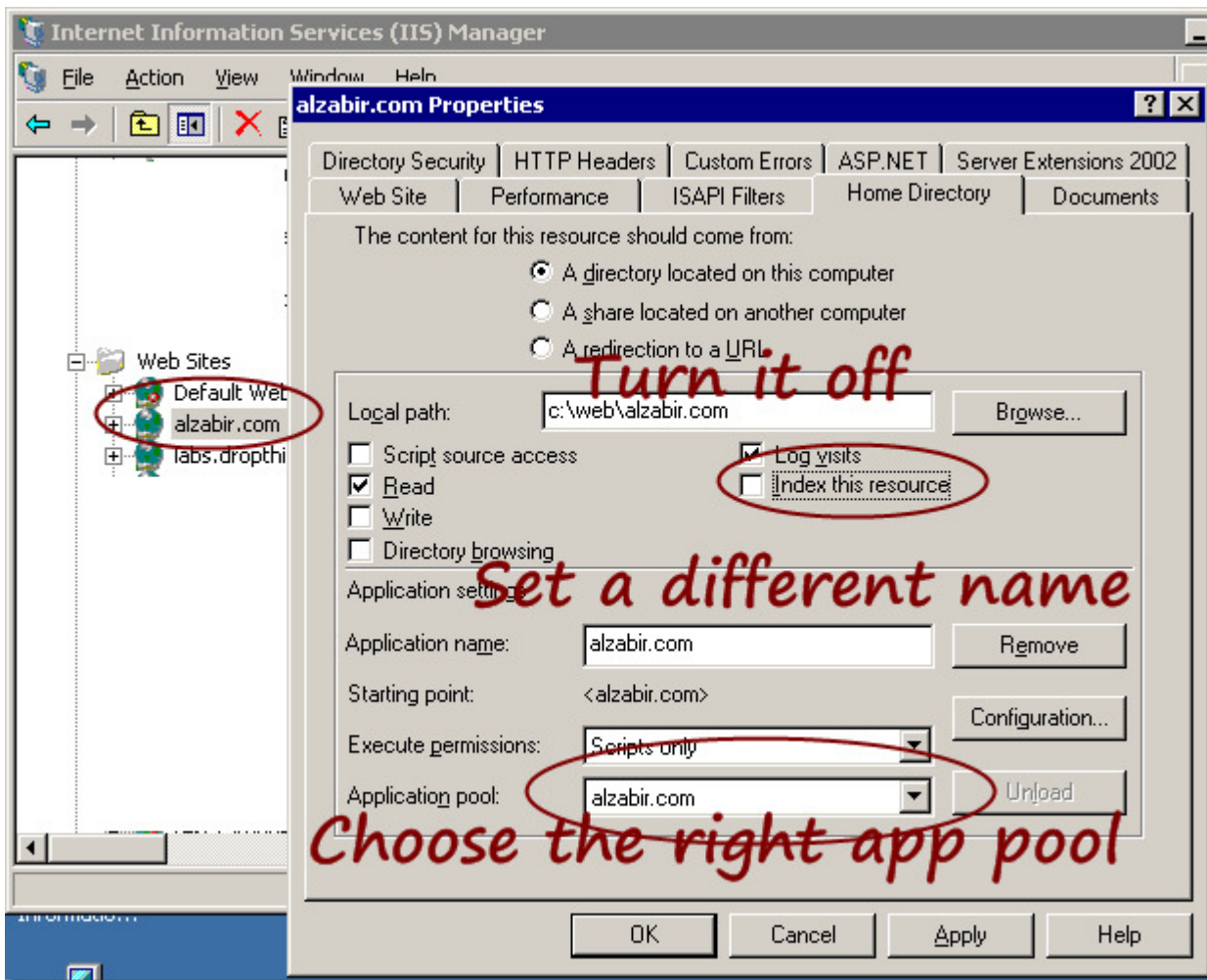
The more app pool you create, the more ASP.NET threads you make available to your application. Each w3wp.exe has it's own thread pool. So, if some application is congesting particular w3wp.exe process, other applications can run happily on their separate w3wp.exe instance, running under separate app pool. Each app pool hosts its own w3wp.exe instance.

So, my rule of thumb: Always create new app pool for new web applications and name the app pool based on the site's domain name or some internal name that makes sense. For example, if you are creating a new website alzabir.com, name the app pool alzabir.com to easily identify it.

Another best practice: Disable the DefaultAppPool so that you don't mistakenly keep adding sites to DefaultAppPool.

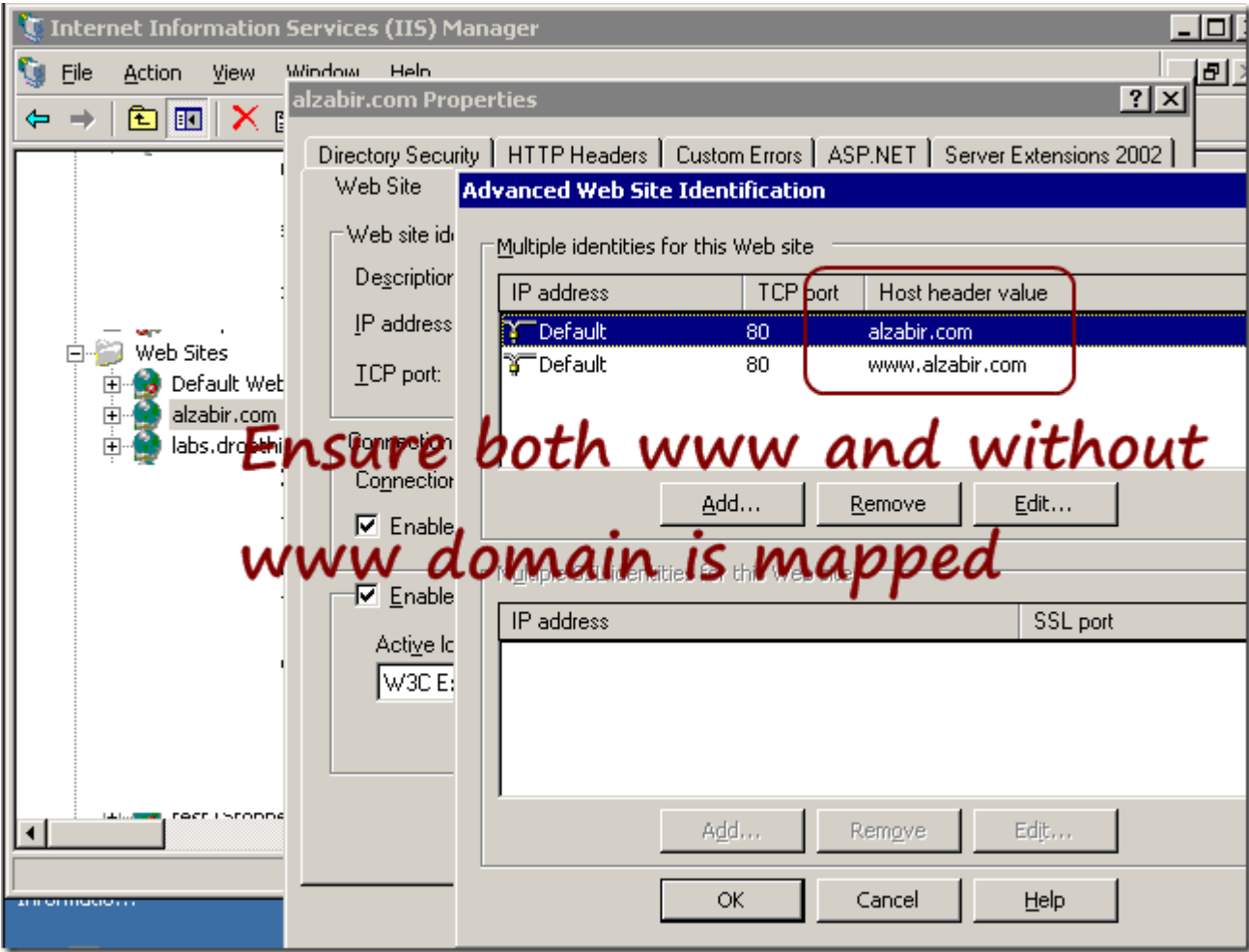


First you create a new application pool. Then you create a new Website or Virtual Directory, go to Properties -> Home Directory tab -> Select the new app pool.

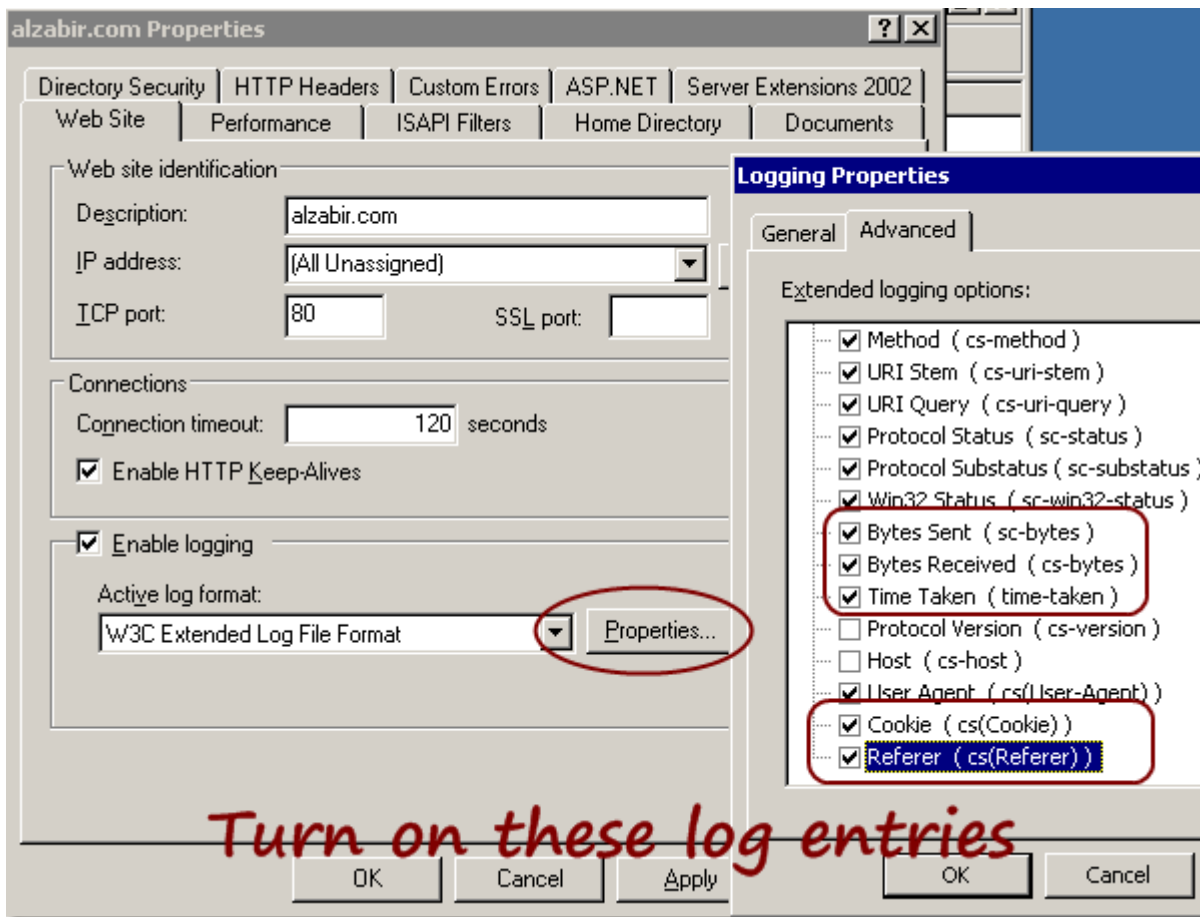


Customize Website properties for performance, scalability and maintainability

First you map the right host headers to your website. In order to do this, go to WebSite tab and click on "Advanced" button. Add mapping for both domain.com and www.domain.com. Most of the time, people forget to map the domain.com. Thus many visitors skip typing the www prefix and get no page served.

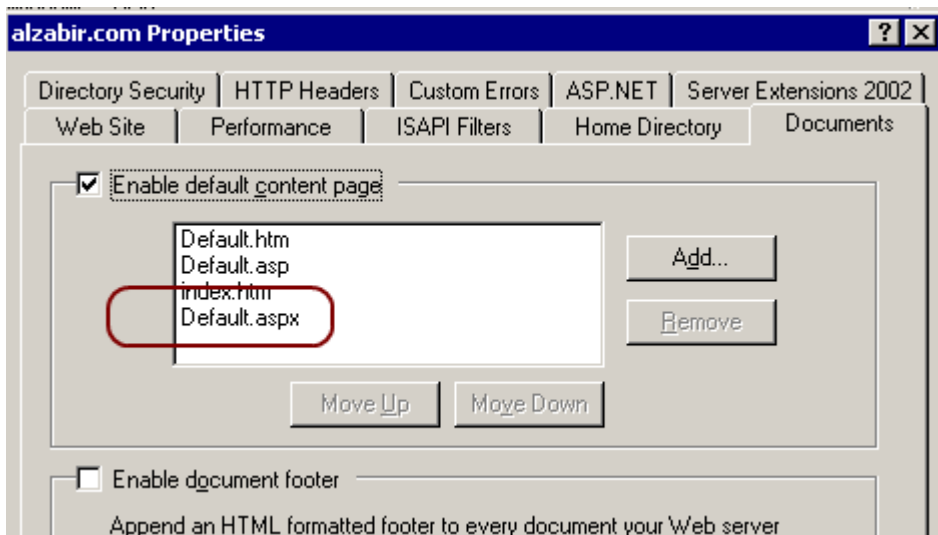


Next turn on some log entries:



These are very handy for analysis. If you want to measure your bandwidth consumption for specific sites, you need the Bytes Sent. If you want to measure the execution time of different pages and find out the slow running pages, you need Time Taken. If you want to measure unique and returning visitors, you need the Cookie. If you need to know who is sending you most traffic - search engines or some websites, you need the Referer. Once these entries are turned on, you can use variety of Log Analysis tools to do the analysis. For example, [open source AWStats](#).

But if you are using Google Analytics or something else, you should have these turned off, especially the Cookie and Referer because they take quite some space on the log. If you are using ASP.NET Forms Authentication, the gigantic cookie coming with every request will produce gigabytes of logs per week if you have a medium traffic website.

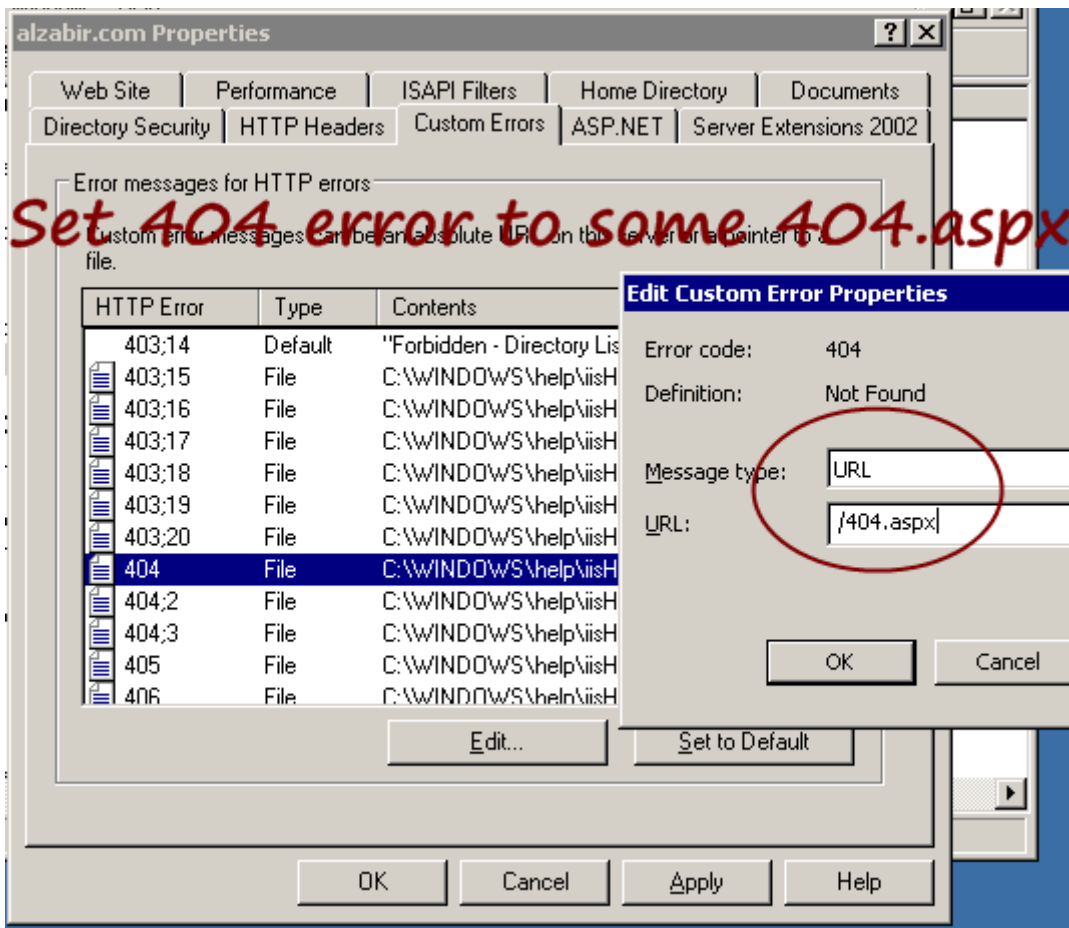


This is kinda no brainer. I add Default.aspx as the default content page so that, when visitors hit the site without any .aspx page name, e.g. alzabir.com, they get the default.aspx served.

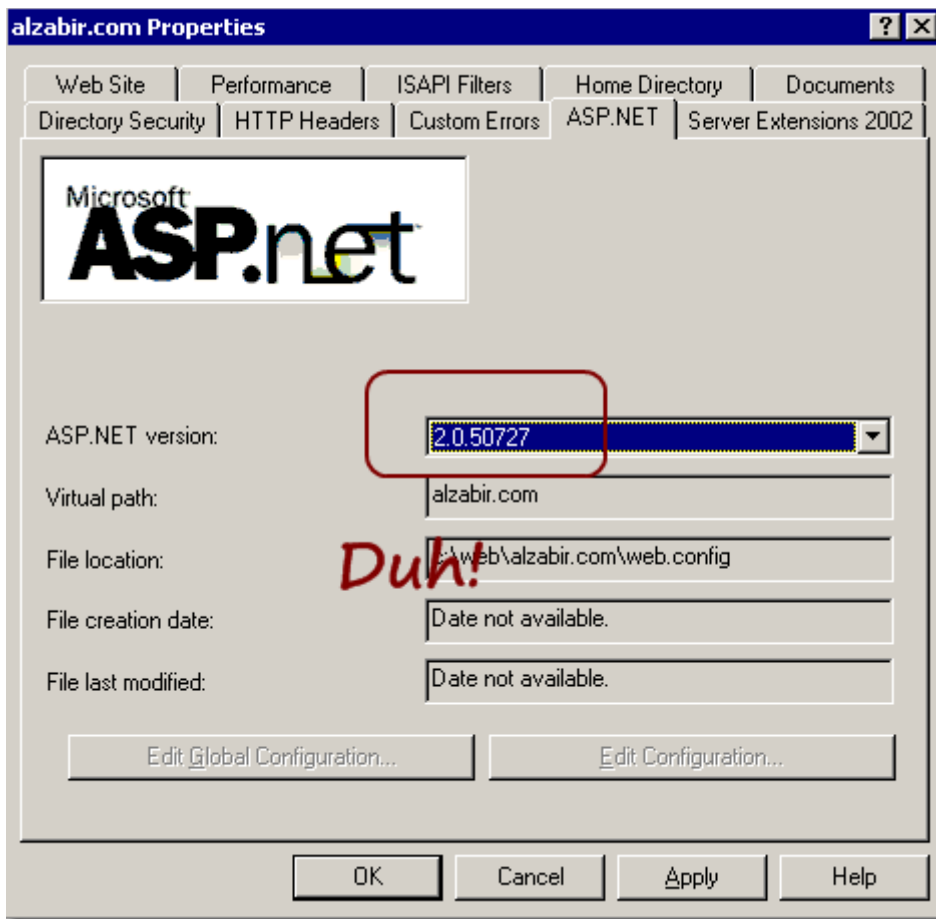


Things I do here:

- Turn on Content Expiration. This makes static files remain in browser cache for 30 days and browser serves the files from its own cache instead of hitting the server. As a result, when your users revisit, they don't download all the static files like images, javascripts, css files again and again. This one setting significantly improves your site's performance.
- Remove the X-Powered-By: ASP.NET header. You really don't need it unless you want to attach Visual Studio Remote Debugger to your IIS. Otherwise, it's just sending 21 bytes on every response.
- Add "From" header and set the server name. I do this on each webserver and specify different names on each box. It's handy to see from which servers requests are being served. When you are trying to troubleshoot load balancing issues, it comes handy to see if a particular server is sending requests.



I set the 404 handler to some ASPX so that I can show some custom error message. There's a 404.aspx which shows some nice friendly message and suggests some other pages that user can visit. However, another reason to use this custom mapping is to serve extensionless URL from IIS. [Read this blog post for details.](#)



Make sure to set ASP.NET 2.0 for your ASP.NET 2.0, 3.0 and 3.5 websites.

Finally, you must, I repeat you "MUST" [turn on IIS 6.0 gzip compression](#). This turns on the Volkswagen V8 engine that is built into IIS to make your site screaming fast.

1
digg

digg it [kick it 33](#)

Published Sat, Oct 4 2008 11:05 by [omar](#)
Filed under: [performance](#), [asp.net](#), [production](#), [IIS](#)

Comments

re: Best practices for creating websites in IIS 6.0

Saturday, October 04, 2008 9:19 PM by Mohit

this is a very nicely build checklist for starters and they will find it quite handy at times to come.
thanks.

re: Best practices for creating websites in IIS 6.0

Sunday, October 05, 2008 9:20 PM by [CalebTan](#)

Great step by step guide! I follow exactly the same steps except i also disable the logging feature as i use Google Analytics for my stats.

To streamline the process, I normally create a new website from file with all the preset settings.

Cheers

Caleb Tan

<http://calebtan.com>

re: Best practices for creating websites in IIS 6.0

Monday, October 06, 2008 3:39 AM by [dario-g](#)

I think that enabling content expiration without explanation may be dangerous for those who don't know about client-caching.

re: Best practices for creating websites in IIS 6.0

Wednesday, October 08, 2008 2:36 PM by [Miron](#)

Very useful guide. Thanks.

Do you have any recommendation for the 'Identity' property for the App Pool?

Do you create a new user for each Pool/site?

What about the Authentication method?

Thanks in advanced

re: Best practices for creating websites in IIS 6.0

Friday, October 10, 2008 4:57 AM by [RS](#)

When we define Session Null check condition in Master Page cs file, it does not work for main aspx page load and we receive exceptions if session specific information is tried for retrieval; I was under the impression that Master page session null condition will take care of proper data generation; but it does not happen and we need to manage the session Null condition in Main Page as well, which is some times a PAIN.

Regards

RS

<http://www.healthsprint.com/>

re: Best practices for creating websites in IIS 6.0

Friday, October 10, 2008 12:51 PM by [Gürol Ayanlar](#)

this is a excellent doc for me...

thank you so much

re: Best practices for creating websites in IIS 6.0

Saturday, October 11, 2008 9:12 AM by Nawaz

Hi,

Are you sure about the new application pool for each new application? wont it increase the memory requirement?

re: Best practices for creating websites in IIS 6.0

Saturday, October 11, 2008 10:38 AM by [Shahid Riaz Bhatti](#)

It is a very nice article. I never followed these steps in my office. But now definitely I'll follow all these. Thanx a lot

re: Best practices for creating websites in IIS 6.0

Saturday, October 11, 2008 12:01 PM by HashName

This is really cool..thanks.

Just curious, why should i turn of the "Index this resource" property?

re: Best practices for creating websites in IIS 6.0

Saturday, October 11, 2008 3:17 PM by Duncan

Very good, thank you. I also would like to know why turn off 'Index this resource'? thanks.

re: Best practices for creating websites in IIS 6.0

Sunday, October 12, 2008 12:23 AM by cnhzlt

very very useful. Thanks a lot.

re: Best practices for creating websites in IIS 6.0

Monday, October 13, 2008 2:41 AM by Tarun

Hi,

Excellent Information, Just one question, Can i create a new application pool and set the new pool for an existing web site?

Thanx

re: Best practices for creating websites in IIS 6.0

Monday, October 13, 2008 9:26 AM by Thiru

This is really good stuff and better performance with these changes to hosting a site

re: Best practices for creating websites in IIS 6.0

Sunday, October 19, 2008 3:04 PM by Anders Haahr

Hey Omar

Superb cheklist with several issues I hadn't thought of, but for sure will incorporate in future site setups.

About the default content page I think I read somewhere a long time ago (maybe in the MS Press "Developing web applications" book for the 70-315 exam) that you should put Default.aspx in top of the list to save some search time.

Whether this is true or not I have this in my website creation practice. I add default.aspx, moves it to the top and delete default.asp and index.htm and also default.htm if I don't use the VS publishing feature (that feature puts a default.htm with a maintenance message on while files are being published).

Thanks for sharing :-)

re: Best practices for creating websites in IIS 6.0

Tuesday, November 11, 2008 3:11 PM by Frank

Hi

I have the web load balancing and followed you document on HHTTP header by add server name

on it. I would like to indentify which web server are respond for the request, where do I look to find name of the webserver was serve the client request.

Thanks

re: Best practices for creating websites in IIS 6.0

Wednesday, November 12, 2008 6:50 AM by Webgeek

Using dedicated application for each of the website on the server is disastrous for web servers that have limited amount of RAM. One busy website could quickly run our of resources while the other not-so-busy websites are keeping their resources idle.

re: Best practices for creating websites in IIS 6.0

Monday, December 29, 2008 4:46 PM by KnightHawk

where do I look to find name of the webserver was serve the client request.

You would find it in on the client browser side by looking at the headers returned from the server. Plenty of plugins for FF and IE will show you this.

re: Best practices for creating websites in IIS 6.0

Tuesday, February 17, 2009 7:05 AM by Husam Al Dib

I can't find ASP.NET tab on my website properties??!

Please help...

husam_aldib@yahoo.com

re: Best practices for creating websites in IIS 6.0

Tuesday, June 30, 2009 5:51 PM by [online acomplia](#)

In my opinion it already was discussed

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