

## Installing and using Apache 1.3 as a local server under Windows 98

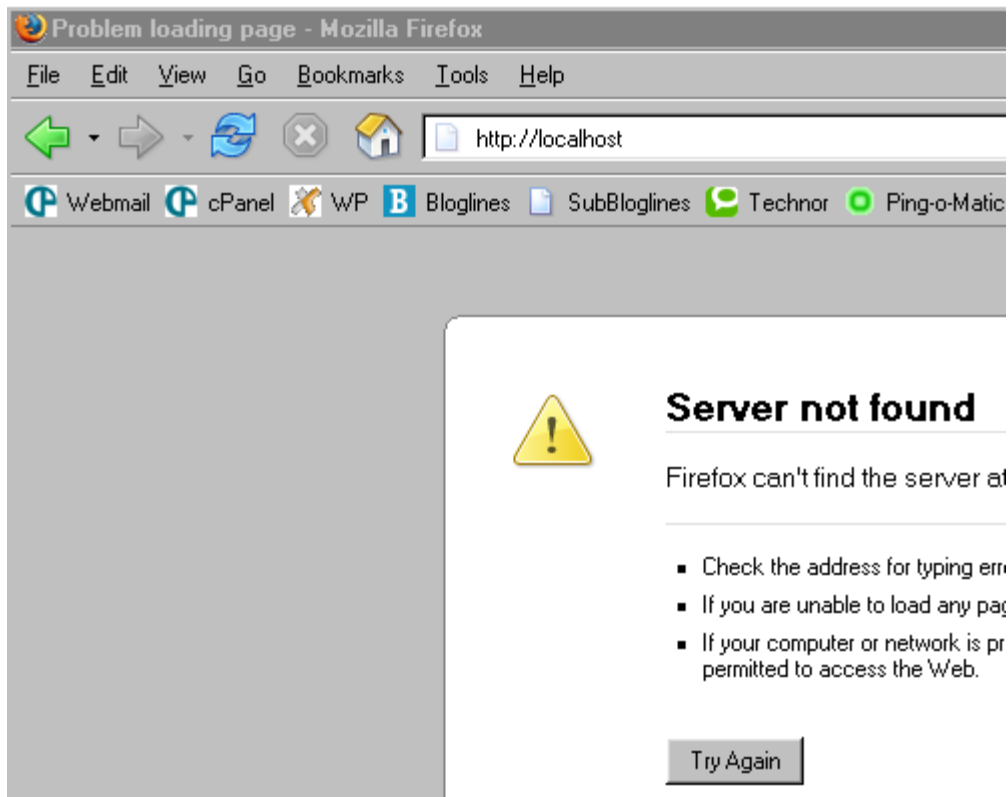
It is desirable to design and test dynamic web pages and scripts on a local system, rather than on a remote server. The Apache server is the most commonly used program for serving web pages. Recently, the combination of Windows, Apache, MySQL and PHP (WAMP) has become a common set of tools for web programmers. However with the advent of these program suites, legacy users of Windows 98 are running into problems with WAMP installations designed for Windows XP. The following document addresses some of the issues that Windows 98 users may encounter while installing WAMP software.

For instance, when first attempting to install Apache version 2 series on a designed for Windows XP, a message like the following may appear:

```
C:/Program Files/Apache Group/Apache2/bin/apache
[Thu Feb 16 06:24:04 2006] [crit] (OS 10038)Socket operation on non-socket: make
_sock: for address 127.0.0.1:80, apr_socket_opt_set: (SO_KEEPALIVE)
no listening sockets available, shutting down
Unable to open logs
```

The cryptic error message says that there is no listening socket (huh?) and that it couldn't open the logs (huh?).

This problem may also be manifest when typing **http://localhost** into a browser address window, when the browser responds with a "Server not found" message:



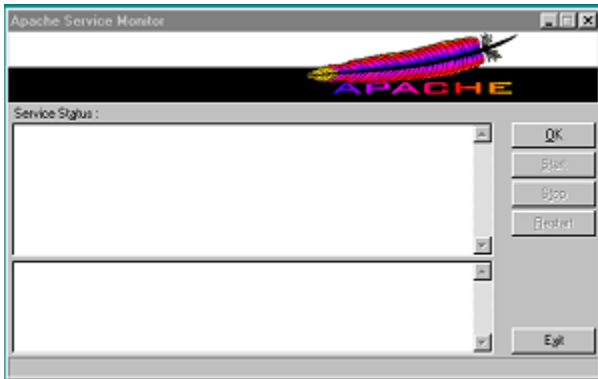
This may mean that Apache is being run as a Windows "service" on a Windows 98 system that doesn't understand "services".

Windows XP users will normally download the apache version 2 installer module with "msi" in the name,

e.g., apache\_2.0.55-win32-x86-no\_ssl.msi. After the installation of this program, the following icon will be present in the system tray:



However Windows 98 users may instead see the following empty window when the above icon is double-clicked:

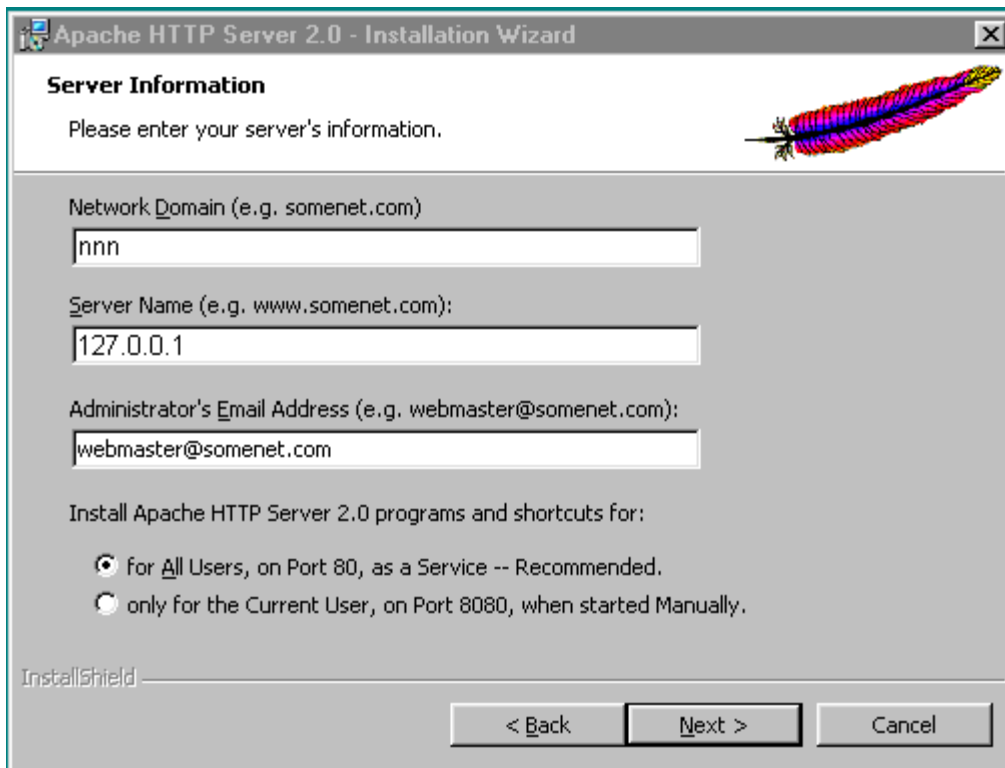


This is an indication that Apache 2 was installed as a service that isn't being correctly handled by Windows 98. To find out what was causing the problem, I installed Apache version 1.3 for Windows, after first uninstalling Apache version 2. The older version 1.3 of Apache was originally set up to run under Windows 98, and sure enough, it did. After finding the problem, it should be possible to correct it under Apache 2. But for the purpose of testing PHP scripts on a home server, the older version should work fine.

To uninstall Apache 2, go to Control Panel, Click **Add/Remove Programs**, and then scroll down the list of programs to select "**Apache HTTP Server**" program installed earlier. Click the **Add/Remove** button, and wait about 10-20 seconds until the Apache installer gives a message to continue. Click **Next**, and when the choice is given, click **Remove - Next**, then confirm you want to uninstall, and when the process finishes, click **Finish**, and reboot the computer. When the computer is up again, you can delete the folder C:\Program Files\Apache Group from your hard drive. **Note: If you have edits of earlier httpd.conf files you wish to save, then copy them to a safe location before deletion.** Be sure you know what you are deleting before you remove the old Apache folders, and be sure you have done the un-installation correctly or bad things can happen to your Windows system.

Next, download and install a version of Apache in the 1.3 series, such as **apache\_1.3.34-win32-x86-no\_src.exe**.

Install Apache by running the above executable file after it finishes downloading. It can be installed either by clicking **Start-Run ...** and navigating to the location of the downloaded setup file, or by double-clicking the above installation file from Windows File Manager. File Manager can be started by **left-clicking Start on the Taskbar** and choosing "**Explore**" from the menu. When the following screen appears, give it the information below:



Note that in the above program parameters, the first and third items are just dummy variables that you can change later. Also, the installation protocol to install, "for All Users, on Port 80, as a Service" will require tweaking after the installation.

Under Windows 98, the installation adds the following startup task that will run when the computer reboots: `"C:/Program Files/Apache Group/Apache/APACHE.EXE" -k start -n Apache` (startup tasks can be inspected by clicking **Start - Run - "MSCONFIG"** and clicking the **Startup tab**.)

The above startup command does the following:

`-n Apache` sets the service name used by the ServerConfigFile.

`-k start` signals Apache to start, or alternately, it can be invoked to "shutdown" or "restart".

We will come back to this startup task, but go ahead and test whether the installation of Apache worked by opening your web browser and typing in the following URL:

**http://localhost**

If you see an Apache splash screen, the installation worked, otherwise, it didn't. In that case there are several tests to determine where the problem originated.

- 1. Check ServerName.** Confirm that the file httpd.conf (in the Apache 2 folder) has the following line in it: **ServerName 127.0.0.1**. If not, open the file with a text editor like notepad, and make sure it is in there, without a leading "#" symbol to comment it out.
- 2. Error log files.** Open the file error.log in the Apache folders and see what is written there. If that doesn't solve the problem, or if there are no error log files, try the next solution.
- 3. Disable the Apache service in the startup menu.** This will allow debugging Apache from DOS.

Under Windows 98, the Apache "service" is actually run from the following script that is called when the computer is booted up:

```
"C:/Program Files/Apache Group/Apache/APACHE.EXE" -k start -n Apache
```

For debugging the Apache installation, it is desirable to disable this script, otherwise, you will have to reboot each time you want to test changes made to the Apache configuration file. To disable it, click **Start - Run - "MSCONFIG"** and click the **startup tab**. Scroll down to the startup item labeled "Apache", and uncheck it. Then click OK, and allow the computer to reboot. This prevents Apache from running until you manually tell it to run.

**4. Run Apache under DOS** (within a "console"), after the computer finishes rebooting, after Apache has been disabled from the startup tasks. Running Apache from DOS allows you to see error messages as they are generated, rather than having them blink and disappear, and it also gets around having to examine the sometimes nonexistent error.log file. Some brief instructions to get you started in DOS are given below.

Some of you may be wondering what sort of cro-magnon idiot would want to run DOS, for God's sake, under frigging Windows 98. If you are one of those people, then why are you wasting time reading this document? - `nuff said.

**4.a (method 1).** To run Apache under DOS, Click **Start - Run**, and paste the following in the window (include the quotes):

```
"C:\Program Files\Apache Group\Apache\Apache.exe" -k start
```

That should start version 1.3 of Apache, if it is installed in the default location. By the way, this command won't work to start Apache 2, because the syntax is wrong.

**4.b (method 2).** A better way to control Apache is to start DOS first, and send sequential commands to Apache until the problems can be solved.

The following commands control Apache under DOS. To use them, first open a DOS window and navigate to the Apache folder with the Apache executable file, normally located in the **C:/Program Files/Apache Group/Apache** folder.

Note: For executing DOS commands from a subfolder, it is helpful to have the "DOS Prompt Here" command available as a right-click option under Windows 98 file manager. Otherwise you have to continually navigate through the folders with the "cd" command each time DOS is run. Instructions for installing "DOS Prompt Here" are still available on the Web, **but it would do well to heed Microsoft's strong warnings against installing it in versions of Windows after Windows 98.**

From within the folder **C:/Program Files/Apache Group/Apache**, type the following command to start Apache:

```
apache.exe or simply, apache or, as above, apache -k start
```

If Apache runs the DOS window should look like this:

```
C:\Program Files\Apache Group\Apache>apache -k start
[Thu Feb 16 10:27:10 2006]
Apache/1.3.34 (Win32) running...
```

There may be other error messages as well. If the error message is "[crit]", then Apache failed to run, but if the errors just say "[warn]", you can continue.

Apache will remain running until it is stopped by pressing **Control-C**, or until the following command is

typed into another DOS window from the same folder:  
`apache -k shutdown` or, `apache -k stop` (on latest versions).

Once Apache is stopped, the DOS window may close automatically, but if it is still open and you want to close it, give the command `Exit`. For debugging purposes, you will normally want DOS to stay running.

**4.c.** When Apache sends a message that it is running, it can be tested by opening your browser and typing `http://localhost` into the address window. If the Apache splash screen doesn't appear, then further debugging using DOS within the above folder is in order.

**5.** Test whether Apache is already installed or not, with the command:  
`apache -k install`

**6.** A message may come back that Apache is already installed, as follows:  
`C:/Program Files/Apache Group/Apache2/bin/apache -k install`  
`[Fri Feb 17 03:53:24 2006] [error] "service" Apache is already installed!`

**7.** If it was not already installed, then it should be now. Next type the command "`apache -k start`" to start Apache. Windows 98 users may get the following cryptic message when using Apache 2:  
`C:/Program Files/Apache Group/Apache2/bin/apache -k start`  
`[Thu Feb 16 06:24:04 2006] [crit] (OS 10038)Socket operation on non-socket: make`  
`_sock: for address 127.0.0.0:80, apr_socket_opt_set: (SO_KEEPALIVE)`  
`no listening sockets available, shutting down`  
`Unable to open logs`

This is an indication that Apache 2 (rather than Apache 1.3) is installed as a Windows "service" on a Windows 98 system that doesn't understand services. At this point, consider installing a lower version number of Apache (in the 1.3 series), as described at the beginning of this document, and debugging it before upgrading to Apache 2. It is easier to debug Apache 1.3 installations, after which you can try the same methods on an installation of Apache 2.

**8.a.** A useful DOS commands tells Apache to restart. This makes it re-read the configuration files:  
`apache -k restart`

**8.b.** Another DOS command tests the configuration files:  
`apache -t`

The two previous commands can be invoked while Apache is running. Changes can be made to the configuration file `httpd.conf` while Apache is running to confirm that the code syntax is correct. Apache can be restarted during this process with the command `apache -k restart`.

**9.a.** The reason for going to all this trouble is to use Apache as a local server for testing web pages and scripts on a local system. On a local hard drive, Apache serves pages when a browser goes to address `http://localhost` (or domain `127.0.0.1`). The pages are physically located in the folder `C:/Program Files/Apache Group/Apache/htdocs`. To change this to a folder with a shorter path, make the following changes to the file `httpd.conf`.

Change the following lines by adding a `#` symbol in front of them to comment them out.  
`# DocumentRoot "C:/Program Files/Apache Group/Apache/htdocs"`  
`# <Directory "C:/Program Files/Apache Group/Apache/htdocs">`

Add the following two lines underneath each the above commented-out lines, to change the default folder for testing web pages to `C:/apachetest`.

```
DocumentRoot "C:/apachetest"  
<Directory "C:/apachetest">
```

Save the file httpd.conf and restart Apache from DOS by typing `apache -k restart`, or if it has been stopped, by typing `apache -k start`.

**9.b.** Create the folder C:/apachetest from Windows File Manager by navigating to the C: root directory and clicking **File - New - Folder ...**) and changing the name of the new folder to **"apachetest"**.

**9.c.** Open a text editor like notepad (**Start - Run - "Notepad"**) and type the following on one line: "My first Apache web page". Save the page in the folder C:/apachetest as index.html (**make sure to prevent Notepad from adding the extension ".txt" to the end of the name. To do this correctly from Notepad, click File - Save As... and click the arrow in the Save as type window to change it to All Files (\*.\*), then give the file name index.html.**). Open a browser and type `http://localhost` into the address window. If all worked correctly, the screen should show the message "My first Apache web page".

Whew! That's enough for now. To complete the creation of a local environment for testing and debugging within a WAMP environment suite still requires installation and configuration of PHP, MySQL, and maybe Perl. Also, other non-critical errors coming from Apache should be corrected as well.

Once Apache is working the way you want it to, you may want to re-enable the Apache service in the startup tray, by clicking **Start - Run - "MSCONFIG"** and checking the Apache item back on. That way, Apache will run in the background, without any further hassling over installation parameters. Minor changes to the installation can be edited at any time in the file httpd.conf, but a reboot will be required to read these parameters from that file.

Happy button-clicking! I'm going for a hike.

- Floradora Smith

- *Nothing beats a pencil for sheer computational power.*