

How to install & configure Apache on Windows

This article is the first part of our "[How to install prerequisites needed for running a self-hosted edition of MIDAS from a Windows server](#)" series.

It applies to self-hosted installations of a [MIDAS room booking and resource scheduling system](#) on Windows-based servers only.

This first article outlines how to install Apache on Windows. Other web servers (such as Microsoft's Internet Information Services (IIS)) are also available for Windows.

Please note that this article is provided "as is" and is correct at time of writing. For further assistance installing or configuring Apache, please refer to the vendor's own documentation / support.

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Step 1 - Download Apache for Windows

Apache for Windows may be freely downloaded from [ApacheLounge](#).

Both 32-bit (Win32 / x86) and 64-bit (Win64 / x64) versions are available, depending upon whether your Windows server runs a 32 or 64-bit version of Windows:

The screenshot shows a Firefox browser window with an 'InPrivate' tab open. The address bar displays the URL <https://www.apachelounge.com/download/>. The main content is the Apache Lounge download page. At the top, there's a banner with the Apache logo and the text 'POWERED BY APACHE' and 'Apache Lounge Webmasters'. On the left, a sidebar menu includes 'Home', 'VS17' (which is highlighted in blue), and 'Additional'. Below the sidebar, a list of recent releases is shown:

- 15 November 2023** *New C++ Redistributable*
- 19 October 2023** *httpd 2.4.58*
- 21 Sept 2023** *mod_jk 1.2.49*
- 02 Aug 2023** *httpd 2.4.57 Update OpenSSL*
- 03 July 2023** *mod_wasm 0.12.1*
- 03 June 2023** *mod_gos 11.74*
- 31 May 2023** *httpd 2.4.57 Update OpenSSL*
- 15 May 2023** *httpd 2.4.57 Update OpenSSL*
- 17 April 2023** *httpd 2.4.57 Update*

The main content area is titled 'Apache 2.4 VS17 Windows Binaries and Modules'. It states: 'Apache Lounge has provided up-to-date Windows binaries and popular third-party modules for more than 15 years. We have hundreds of thousands of satisfied users: small and big companies as well as home users. Always build with up to date dependencies and latest compilers, and tested thorough. The binaries are referenced by the ASF, Microsoft, PHP etc. and more and more software is packaged with our binaries and modules.' It also notes that the binaries are built with sources from ASF at <http://httpd.apache.org>, contain latest patches and dependencies like zlib, openssl etc., and are mostly more actual than downloads from other places. They run on Windows 7 SP1, Vista SP2, 8/8.1, 10, 11, Server 2008 SP2 / R2 SP1, Server 2012 / R2, Server 2016/2019/2022.

Below this, it says: 'Build with the latest Windows® Visual Studio C++ 2022 aka VS17. Has improvements, fixes and optimizations over VC16 in areas like Performance, MemoryManagement, New standard conformance features, Code generation and Stability. For example code quality tuning and improvements done across different code generation areas for "speed". And makes more use of latest processors and supported Windows editions (win7 and up) internal features.'

A note states: 'VS17 is backward compatible,' meaning a VS16/15/14 module can be used inside the VS17 binary. It also advises: 'Be sure you installed latest 14.38.33130 Visual C++ Redistributable Visual Studio 2015-2022 : [vc_redist_x64](#) or [vc_redist_x86](#) see [Redistributable](#)'

On the right, there's a section titled 'Apache 2.4 binaries VS17' with a link to 'Info & Changelog'. It lists two download links:

- Apache 2.4.58 Win64**: [httpd-2.4.58-win64-VC17.zip](#) (19 Oct '23, 11.386k) with PGP Signature (Public PGP key), SHA1-SHA512 Checksums
- Apache 2.4.58 Win32**: [httpd-2.4.58-win32-vs17.zip](#) (19 Oct '23, 10.239k) with PGP Signature (Public PGP key), SHA1-SHA512 Checksums

To be sure that a download is intact and has not been tampered with, it suggests using PGP, with a link to [PGP Signature](#).

For this guide, we'll assume that the Windows server is running a 64-bit operating system, and so we'll download Apache 2.4.58 Win64 ([httpd-2.4.58-win64-VC17.zip](#))

As per the information on the ApacheLounge download page, you'll also need to ensure that you have the relevant C++ Redistributable for Visual Studio installed on your server too. It's possible that this may already be installed on your system, but if in doubt, download and run "vc_redist_x64.exe" (for a 64-bit operating system), or "vc_redist_86.exe" (for a 32-bit system) from the links on the ApacheLounge site first.

Step 2 - Unzip

Once the download has completed, open the downloaded "httpd-2.4.58-

"win64-VC17.zip" file, and extract its contents to a suitable location on your server i.e. C:\Apache24 or D:\Apache, etc

Step 3 - Configure Apache

Once you've extracted Apache, we'll need to configure it. Start by locating the file "httpd.conf" (which will be in the "conf" subdirectory), and open this in a standard text editor.

By default, this configuration file assumes that you've extracted Apache to C:\Apache24. If however you've extracted Apache to a different location (i.e. D:\Apache), you'll need to update the \${SRVROOT} variable within in the httpd.conf file to point to the new location accordingly, i.e:

Define SRVROOT "C:/Apache24" → Define SRVROOT "D:/Apache"

If there is no SRVROOT variable present in your httpd.conf file, then instead you'll need to manually update all instances of "C:/Apache24", i.e.:

```
ServerRoot "C:/Apache24" → ServerRoot "D:/Apache"  
DocumentRoot "C:/Apache24/htdocs" → DocumentRoot "D:/Apache/htdocs"  
<Directory "C:/Apache24/htdocs"> → <Directory "D:/Apache/htdocs">  
ScriptAlias /cgi-bin/ "C:/Apache24/cgi-bin/" →  
ScriptAlias /cgi-bin/ "D:/Apache/cgi-bin/"
```

Regardless of where you extracted Apache to, you'll also need to make the following modifications to the httpd.conf file:

- A) Add "ExecCGI" to "Options" directive:

Locate the following line:

```
Options Indexes FollowSymLinks
```

...and append "ExecCGI":

```
Options Indexes FollowSymLinks ExecCGI
```

...this tells Apache that CGI/Perl scripts are allowed outside of the cgi-bin directory

- B) Locate and uncomment the following line: (by removing the # symbol from the start of the line)

```
AddHandler cgi-script .cgi
```

...and also add the following line:

```
AddHandler cgi-script .pl
```

...These two lines tell Apache how to handle .cgi/.pl files (i.e. execute them rather than present them to a web browser)

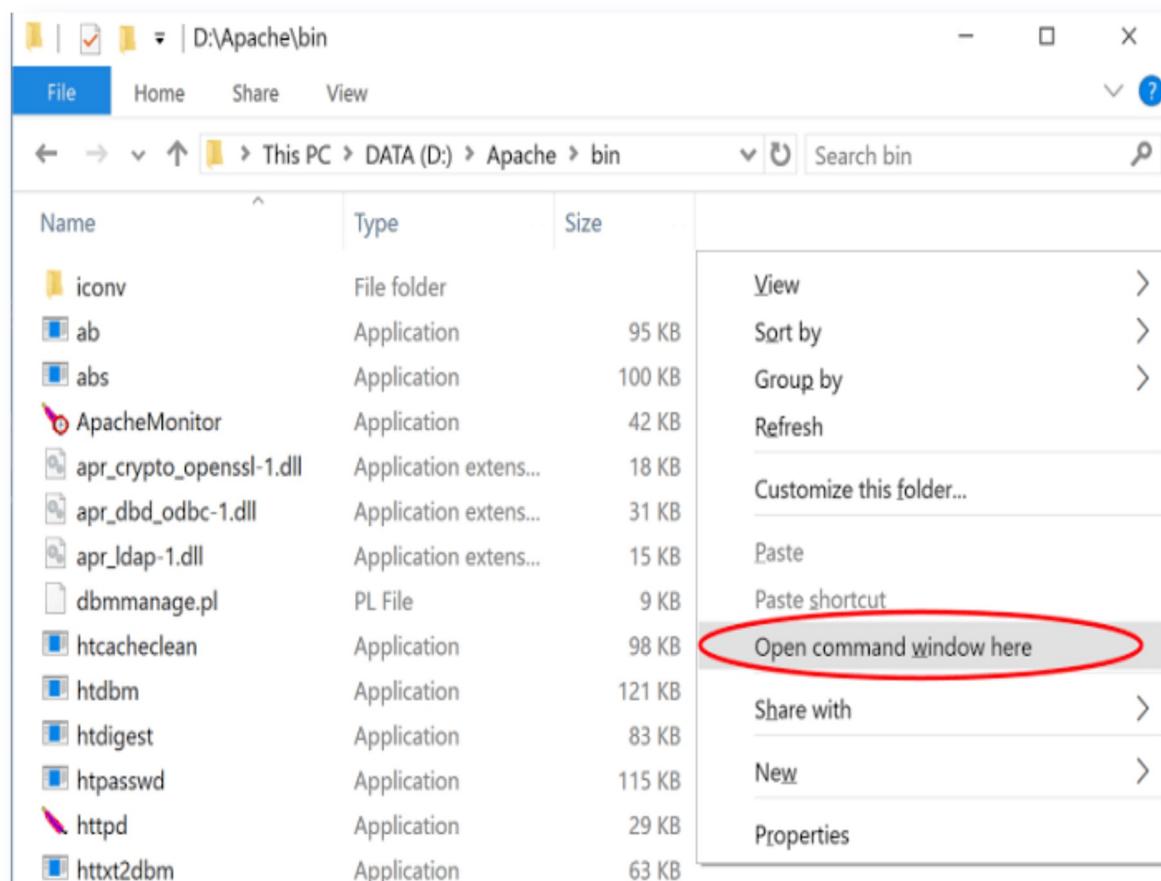
- C) Add the following line to the end of the httpd.conf file:

```
ScriptInterpreterSource Registry
```

...this allows Apache to ignore the very first line of .cgi/.pl files which direct Apache to the install location of Perl, and instead determine the location of Perl from the Windows Registry

Step 4 - Start Apache

Open a Command or PowerShell prompt in the "bin" folder at the location where you extracted Apache (Hold "Shift" whilst right-clicking and select "Open command window here", "Open PowerShell window here", or "Open in Windows Terminal", depending upon your version of Windows):



If you opened a command prompt, start Apache by entering the following command:

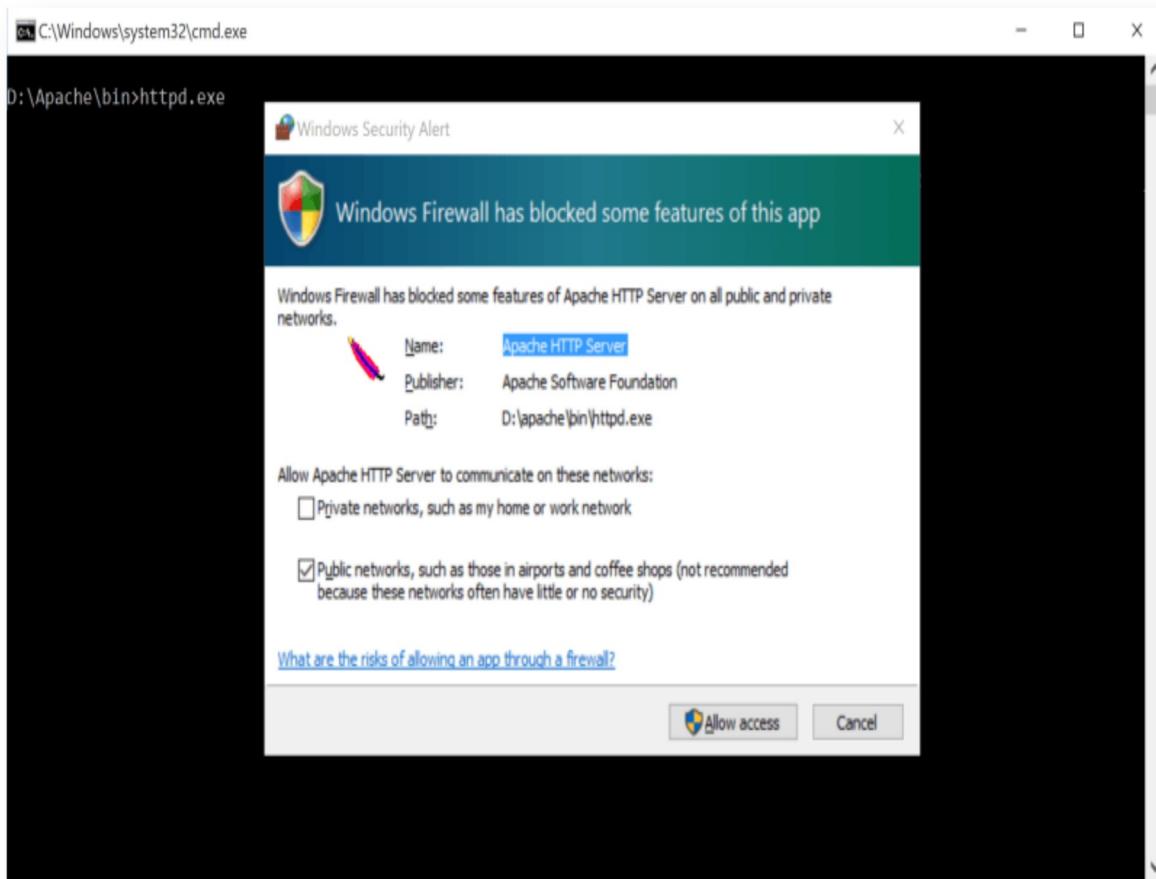
```
httpd.exe
```

If you opened a PowerShell prompt, start Apache by entering the following command:

```
& "D:\Apache\bin\httpd.exe"
```

(Replace D:\Apache\ with the location where you previously extracted your Apache server)

If you see a Windows Firewall prompt, allow access as appropriate. If you fail to allow Apache access through your server's firewall, other computers/devices will be unable to connect to your web server, so be sure to allow access accordingly:

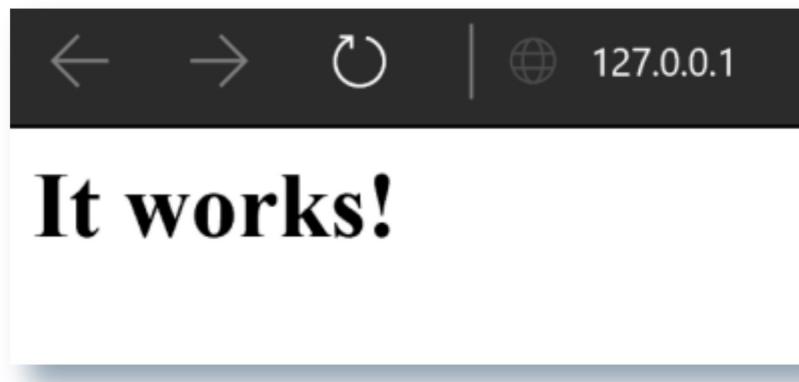


If Apache (httpd.exe) fails to start with a "could not bind to address" error, this will likely be due to another service already running on Apache's default port (80). Check that you don't currently have an IIS (Internet Information Services) server already running. If you do, you'll need to stop/disable IIS in order to run Apache (or change the listening port on either IIS or Apache to allow both services to run concurrently. You may need to refer to the vendor's own documentation for assistance changing server listening ports).

Step 5 - Check Apache

With the previous command window still open, open your web browser and navigate to <http://127.0.0.1>

If Apache is running, you should see the words "It works!" displayed in your browser:



Step 6 - Install as a Windows service:

When you close the command/PowerShell window, Apache will exit.

However, to ensure that Apache is running all the time, it can quickly be installed as a Windows service.

Simply open an administrative command prompt or PowerShell prompt again, and this time enter the following, for a Command Prompt:

```
httpd.exe -k install
```

...or in a PowerShell Prompt:

```
Start-Process PowerShell -Verb RunAs
```

This ensures that PowerShell is running as an administrator. Then enter:

```
& "D:\Apache\bin\httpd.exe" -k install
```

(Replace D:\Apache\ with the location where you previously extracted your Apache server) You should then see a message that the Apache2.4 service has been successfully installed.

You can then start the service by typing:

```
net start Apache2.4
```

```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.10240]
(c) 2015 Microsoft Corporation. All rights reserved.

d:\Apache\bin>httpd.exe -k install
Installing the 'Apache2.4' service
The 'Apache2.4' service is successfully installed.

d:\Apache\bin>net start Apache2.4
The Apache2.4 service is starting..
The Apache2.4 service was started successfully.
```

Step 7 - Monitor Apache (*optional*)

To allow you to monitor the current state of your Apache server, as well as allow you to quickly start/stop/restart the server, Apache comes with a small utility called "Apache Monitor".

Double click ApacheMonitor.exe from the bin folder to run the utility, or place a shortcut to, in your Startup folder so that it automatically runs whenever Windows starts.

TIP: To quickly locate your Startup folder on Windows 10 and later, press WinKey + R and then type "shell:startup" (current user) or "shell:common startup" (all users)

