

## Poor Man's DNS with HOSTS Files

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### DNS

Domain Name Services simply resolved a host name to a set of Internet Protocol Numbers. In other words, when I type in `HTTP://www.company.com` into my web browser, I do not need to know what the TCP/IP number is for that company's website. DNS resolves it for me and redirects me to that location. This is because the DNS Service supplies us with that correct address. DNS Services do several things in order to maintain current and correct numbers.

DNS Services look first up the valid domain and makes sure that the domain's name is registered with a valid Domain Registration Company. If it is valid, then it then looks at that registration and matches that's domain DNS Servers that hold the DNS records. It then takes those DNS server's records and makes a copy of them in its own cache. So when you are browsing or looking to that domain's records, it can resolve correctly. It is common that those records can populate throughout the world to many DNS servers. If a change is made to one or more of the records, it could take 24-48 hours to reflect those changes throughout. However, it usually is much faster than that.

Our local workstations point to a DNS server that is from our Internet Service Provider or a much larger DNS service provider if configured manually. When we configure our machines, we either get a DNS server number dynamically or we put in a set of DNS servers within our IP configuration. That being said, everything works and our machines resolve to an IP address and the connection is established.

### DNS Service

If you would like to run the DNS service on your own network, you must have a server running a DNS service. You cannot run a Windows DNS service on a workstation like Windows 7, 8, 8.1 or 10. It must be Windows a 2003, 2008, or 2012 series Server operating system. There are third party DNS providers out there but if you are only running a small environment in your house, there is no need to go that route.

### Host Files

The oldest way of doing things is to maintain a "HOSTS" file on each of your workstations. You have to know a bit about how your subnet is setup. Let assume that you have a subnet setup with a 192.168.0.x and your router is 192.168.0.1 and you have a couple machines and a printer. Your network could be setup with manual IP addresses like the following:

```
192.168.0.1    Router
255.255.255.0 Subnet Mask
192.168.0.10  WorkStation1
192.168.0.20  WorkStation2
192.168.0.50  MyPrinter
```

Please use your Internet Service Provider's DNS numbers to put in your manual configuration of each IP setup. Configure each workstation/device and take notes on each setup.

Now go to each machine and configure the "HOSTS" file. It is real simple. Go to your windows folder and drill down to `C:\Windows\System32\Drivers\ETC` and find the HOSTS file on each machine. Open it up with Notepad and you will find examples of how to use your hosts file already in the file itself.

Put in an IP address for each workstation and then the name of the appropriate machine name for that IP address. So if you named your first workstation WorkStation1 and it has an IP address of 192.168.0.10 and the second machine name was just as described above, you would enter in each "HOSTS" file:

```
192.168.0.10  WorkStation1
192.168.0.20  WorkStation2
192.168.0.50  MyPrinter
```

So you can save the file on each workstation and then reboot. Remember to make sure you do not have the .txt extension on that file or it will not work. You must remove it if you did save it that way. Once you have rebooted, you can then just enter the name of your other device to access it and it will resolve to the correct IP address. For example, if you have shared a directory called "myfiles" on your first workstation, you can open up the Windows Explorer and type in:

```
\\WorkStation\MyFiles
```

You will see those files from either workstation. It is a simple way to resolve local machines without having a DNS service in your home network.