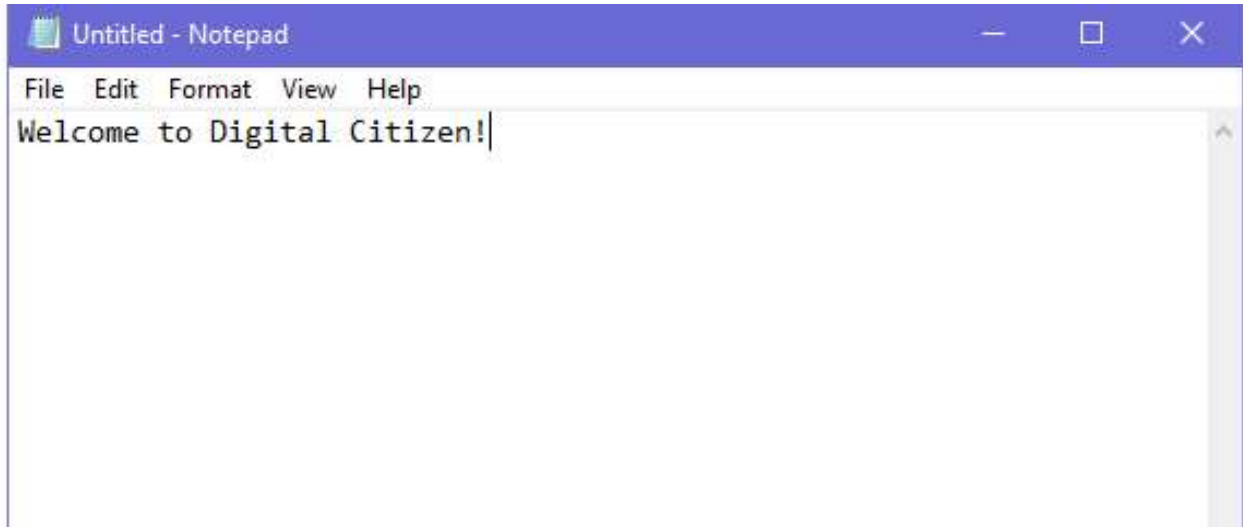


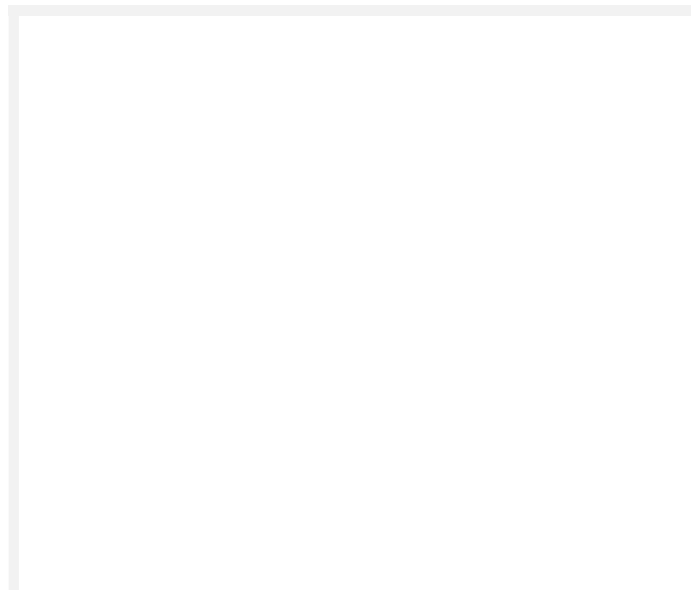


## What is the Hosts file in Windows? How to edit etc/hosts?

TUTORIAL  Ciprian Adrian Rusen  21.03.2019



The *Hosts* file, a.k.a *etc/hosts* has been around since 1984. Every operating system has one, including Windows. You may have encountered the term *etc/hosts* without knowing what it means, and why it is used. If you are a web developer, you surely know what this file is, and you want to find it quickly. In this guide, we explain what the *Hosts* file is, where it is located in Windows, what a host entry is, and how to edit the *Hosts* file without stumbling into permission errors. Let's get started:

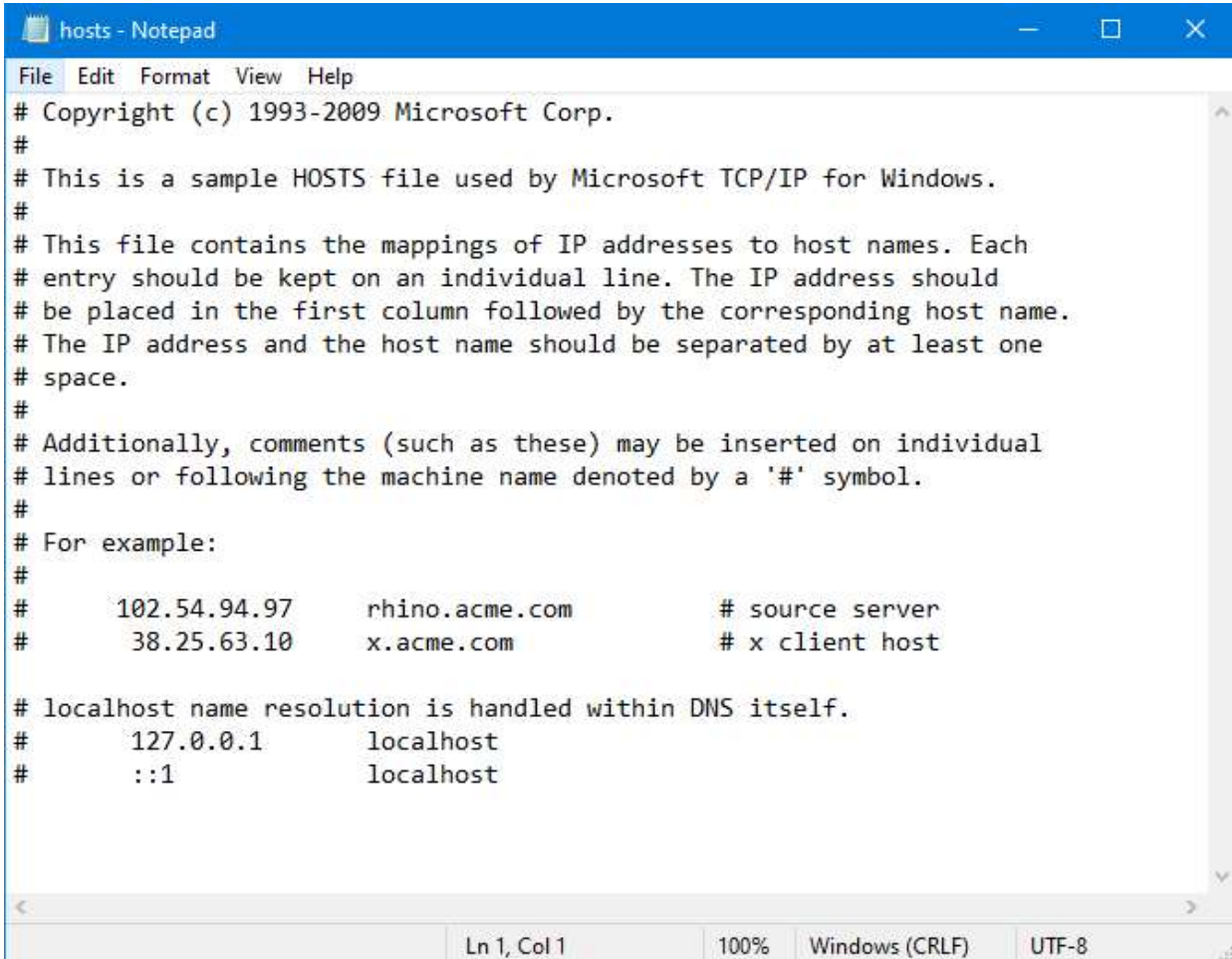


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## What is the Hosts file in Windows?

The *Hosts* file (also referred to as *etc/hosts*) is a text file used by Windows (and other operating systems) to map IP addresses to host names or domain names. This file acts as a local [DNS service](#), for your local computer, and it overrides the mappings from the DNS server that your computer is connected to, through the network.



```
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#       102.54.94.97       rhino.acme.com       # source server
#       38.25.63.10       x.acme.com          # x client host
#
# localhost name resolution is handled within DNS itself.
#       127.0.0.1         localhost
#       ::1               localhost
```

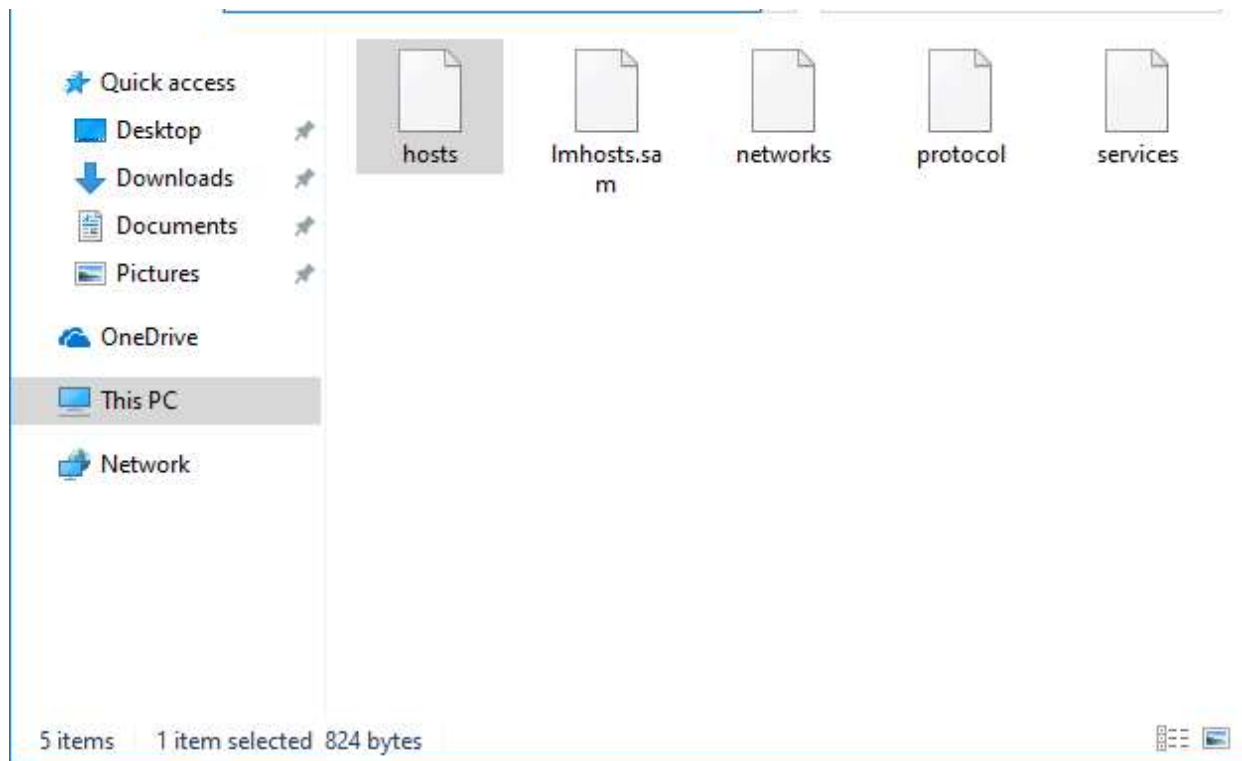
The etc/hosts file in Windows

## Where is the Hosts file located in Windows?

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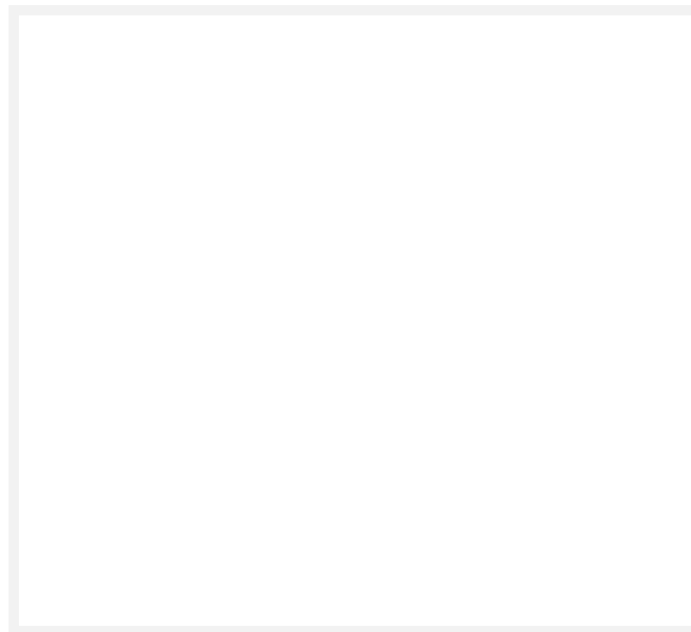
The *Hosts* files (or *etc/hosts*) is found in the following folder:

"C:\Windows\System32\drivers\etc"



The location of the Hosts file, in Windows

It is a file with no file extension, that can be opened and viewed in any text editor, including [Notepad](#).

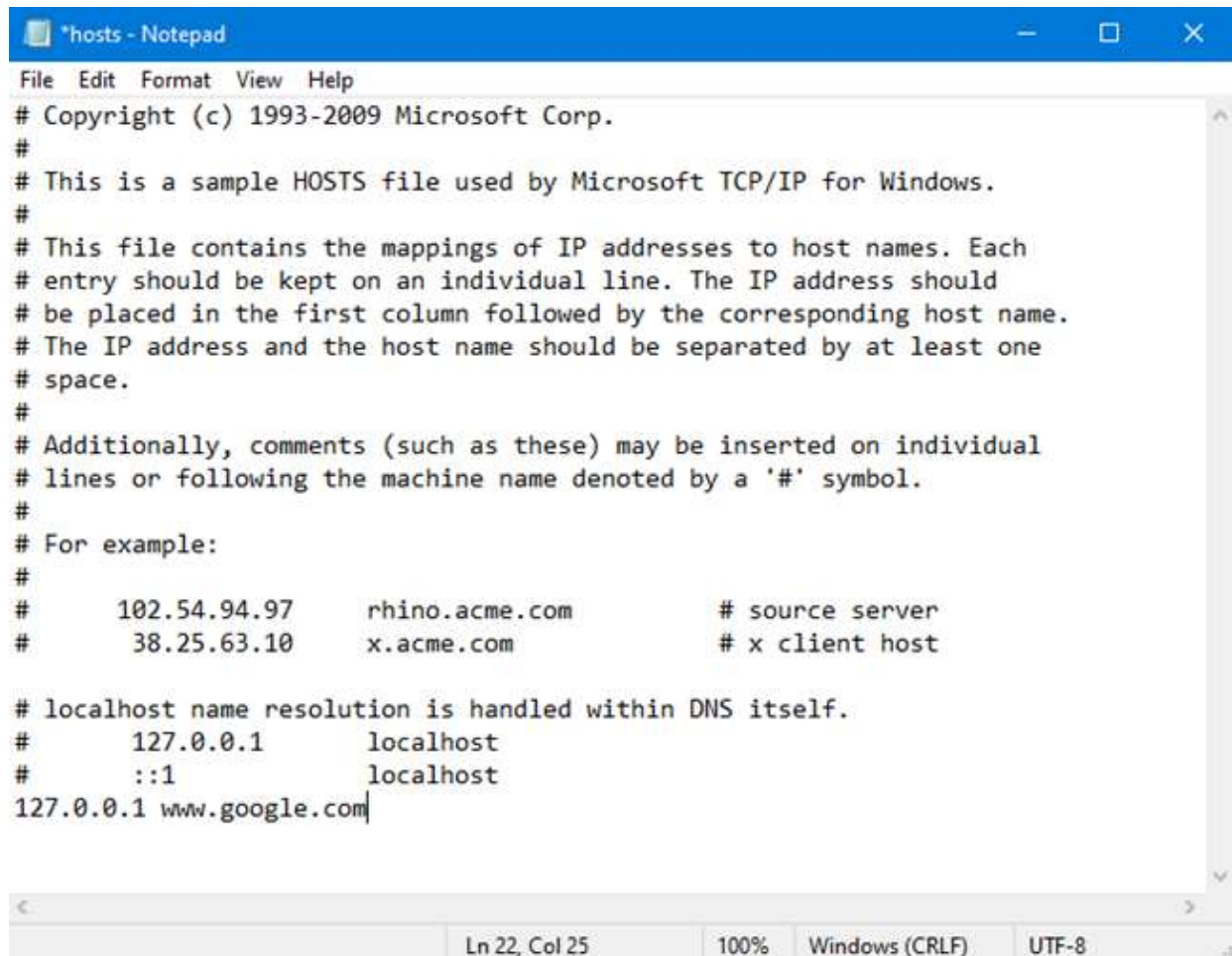


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## What is host entry in Windows?



redirect to, the second part is the domain that you want to redirect, and the third is a comment. The comment is not mandatory only the first two parts are. You can separate the three components of a host entry with spaces or TABs (press the TAB key once or twice). For example, you can add a line that says: "127.0.0.1 www.google.com"

A screenshot of a Notepad window titled '\*hosts - Notepad'. The window shows the contents of the Windows hosts file. The text includes copyright information, instructions on how to use the file, and several example entries. The last line of the file, which is the current cursor position, is '127.0.0.1 www.google.com'. The status bar at the bottom indicates 'Ln 22, Col 25', '100%', 'Windows (CRLF)', and 'UTF-8'.

```
*hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
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# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#      102.54.94.97      rhino.acme.com      # source server
#      38.25.63.10      x.acme.com          # x client host
#
# localhost name resolution is handled within DNS itself.
#      127.0.0.1        localhost
#      ::1              localhost
127.0.0.1 www.google.com
```

Editing the Hosts file in Notepad

Once you save the entry above, Windows redirects the domain www.google.com to your local computer, in all your apps and web browsers.

## What is 127.0.0.1?

127.0.0.1 is a special purpose IP address that leads to the localhost, which is your computer. It is also called "loopback address," meaning an address that leads back to the computer using the address. Unlike [standard IP addresses](#), the loopback address is not associated with any hardware, and it is not physically connected to a network. This

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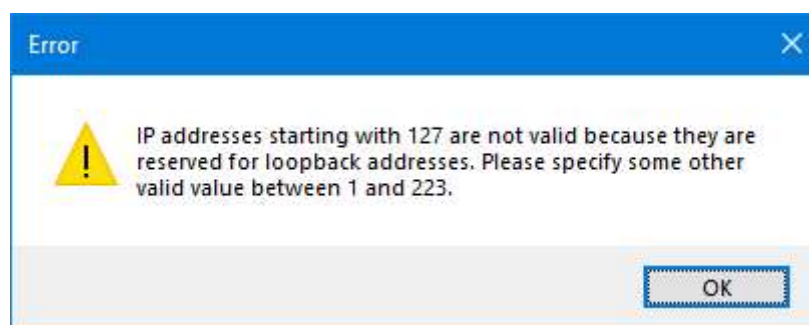
```
# localhost name resolution is handled within DNS itself.  
#       127.0.0.1       localhost  
#       ::1             localhost
```

#### localhost redirect

Your computer also has a unique IP address, different from 127.0.0.1, associated with your network card, that is used to communicate with other devices and services over the network or the internet.

Most often, the localhost IP address is used when installing a web server on your computer, for web development, so that the web pages that are created can be run locally, and tested in a web browser, as if they were live on the internet.

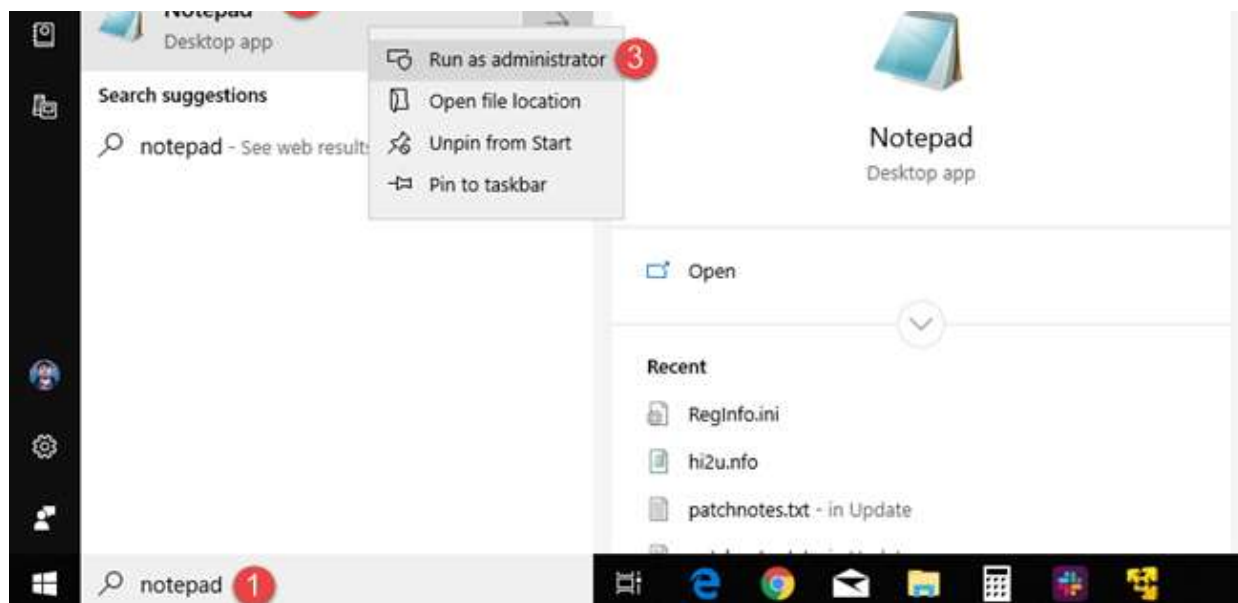
To avoid conflicts in computer networks, the IP addresses used for network devices can be anything except 127.0.0.1. For example, if you manually try to modify the IP address of your network card, in Windows, you receive an error stating that: *"IP addresses starting with 127 are not valid because they are reserved for loopback address. Please specify some other valid value between 1 and 223."*



IP addresses starting with 127 are not valid

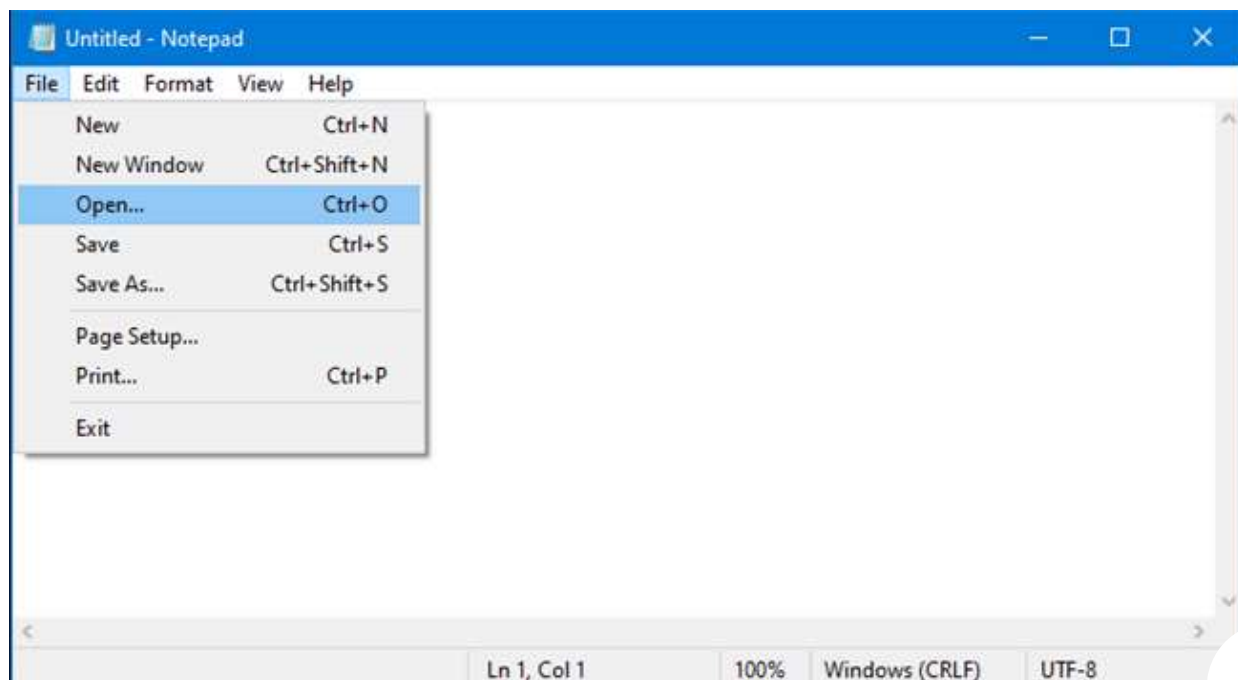
## How to open and view the Hosts (etc/hosts) file in Windows

You can edit the *Hosts* file using any text editor. Let's use *Notepad*, for example. First and most important, is that you [open Notepad](#) (or your favorite text editor) with administrator permissions. One way to do that is to search for the word "*notepad*" in Windows 10, right-click (or tap and hold) the *Notepad* search result, and then click or tap *"Run as administrator."* In the [UAC prompt](#) that is shown, press Yes.



Open Notepad as admin

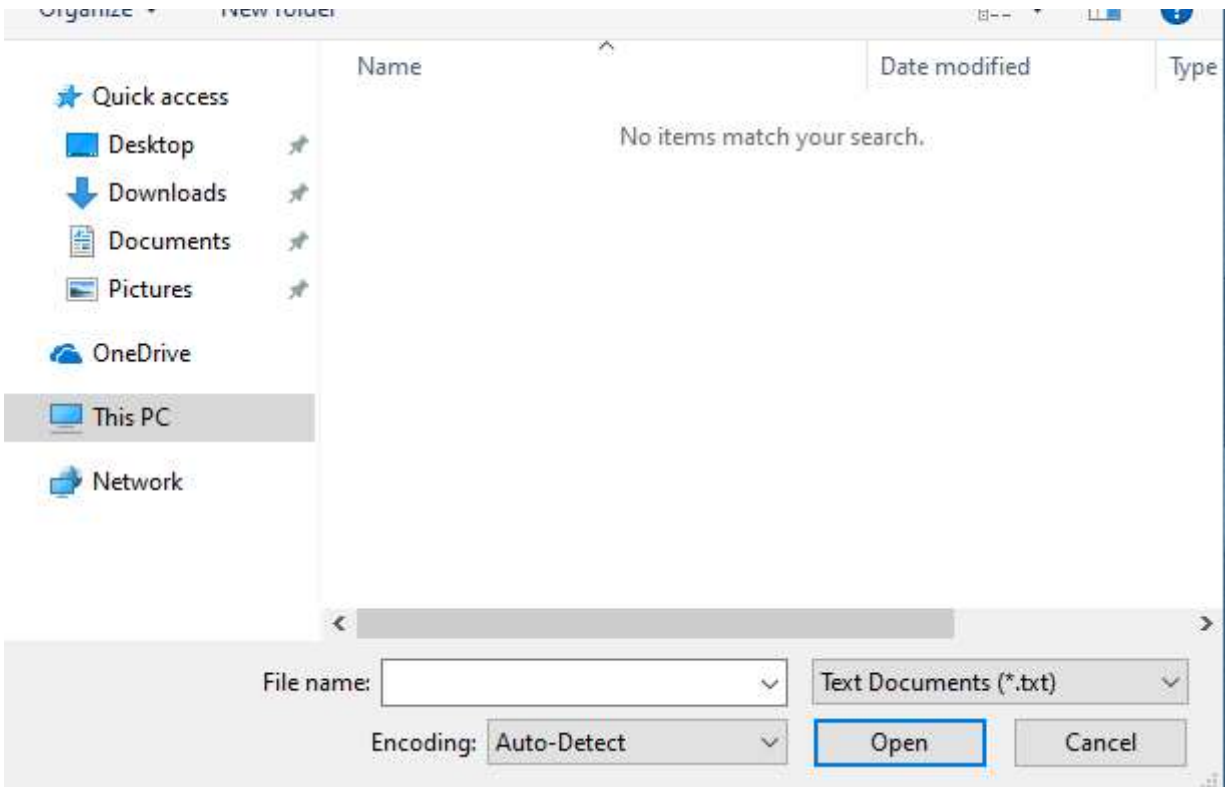
Now you need to open the *Hosts* file. Click or tap *File* and then *Open*, or press **CTRL+O** on your keyboard.



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Open a file in Notepad

Browse to "*C:\Windows\System32\drivers\etc*" or copy and paste the path in the address field of the *Open* window, and press *Enter*.

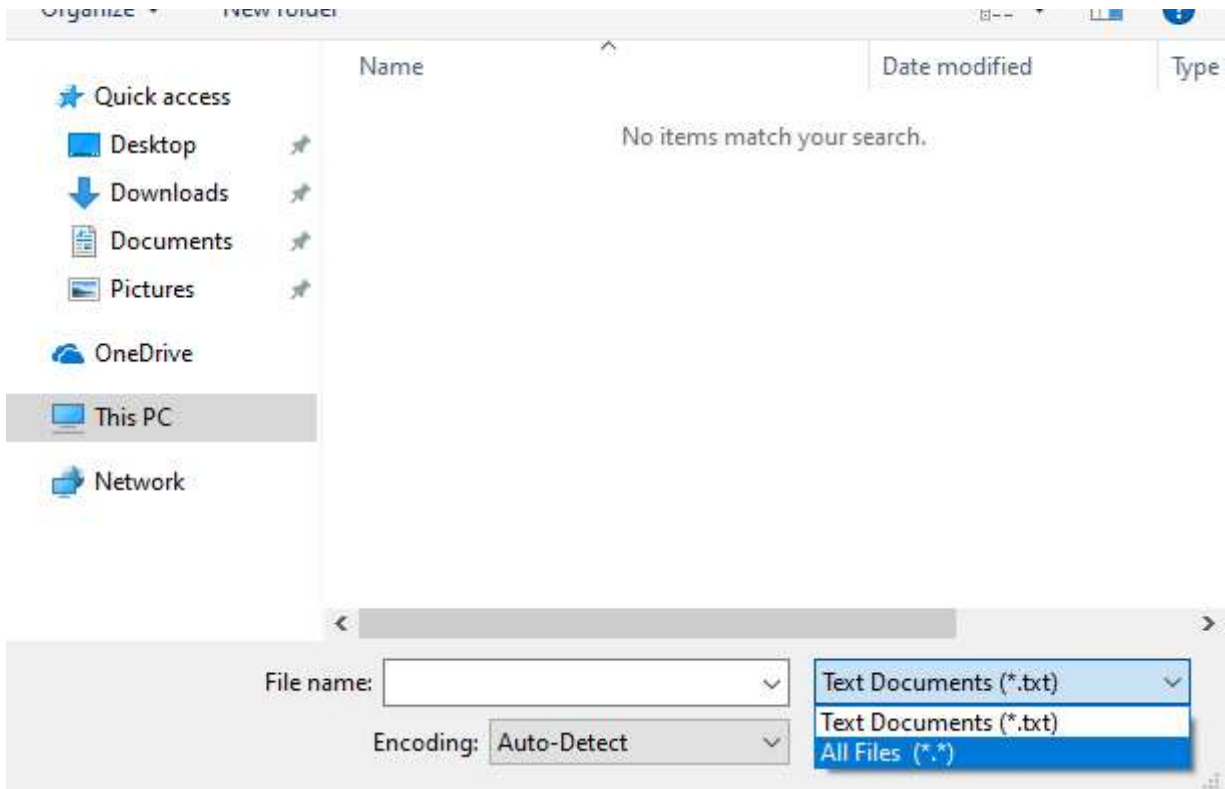


Open C:\Windows\System32\drivers\etc\hosts in Notepad

At first, "*no items match your search*" meaning that you do not see any files. That's because the Hosts file does not have a file extension, and *Notepad* is looking only for files with the ".txt" extension. Click or tap the drop-down list to the right of the *File name* field, and choose "*All Files (\*.\*)*."

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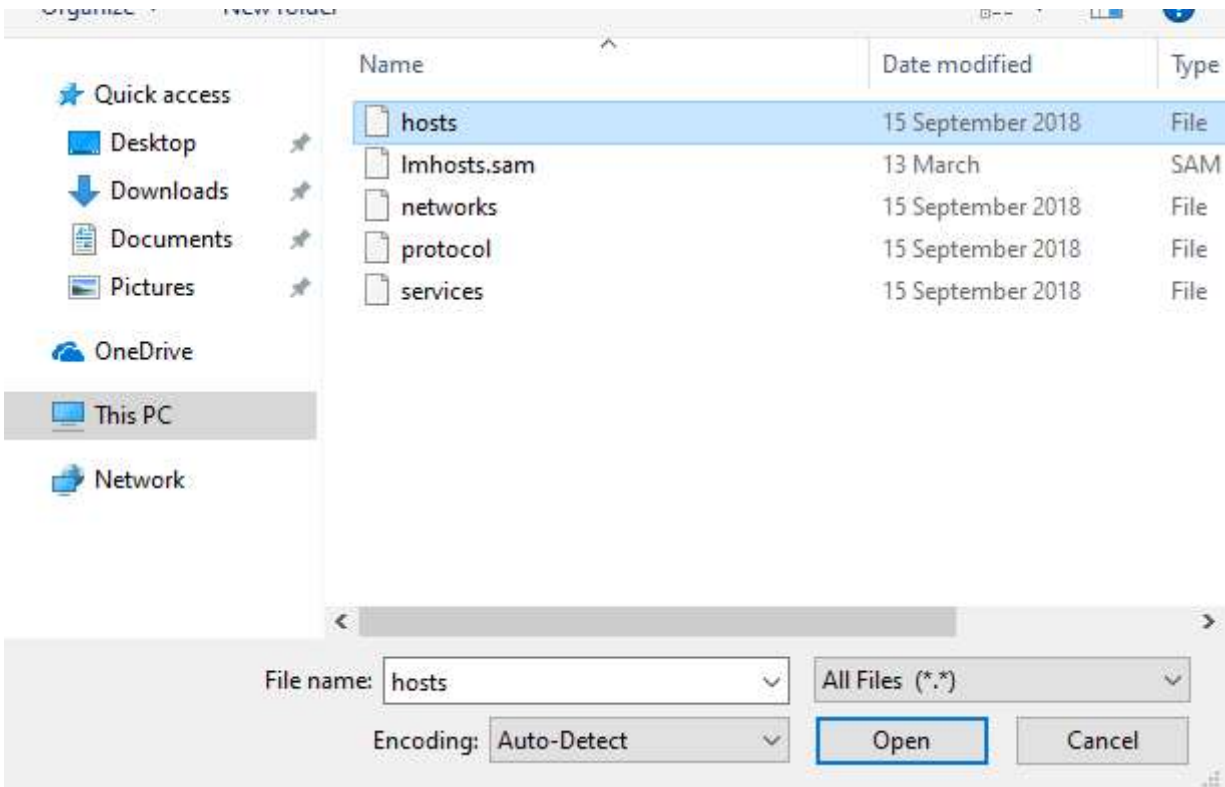


See All Files with Notepad

Now you see all the files in the folder, including *hosts*. Select the file and press *Open*.

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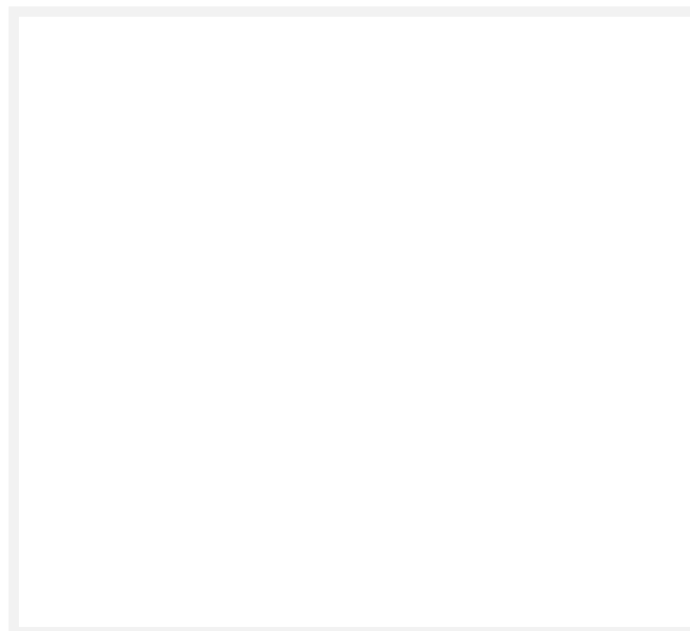




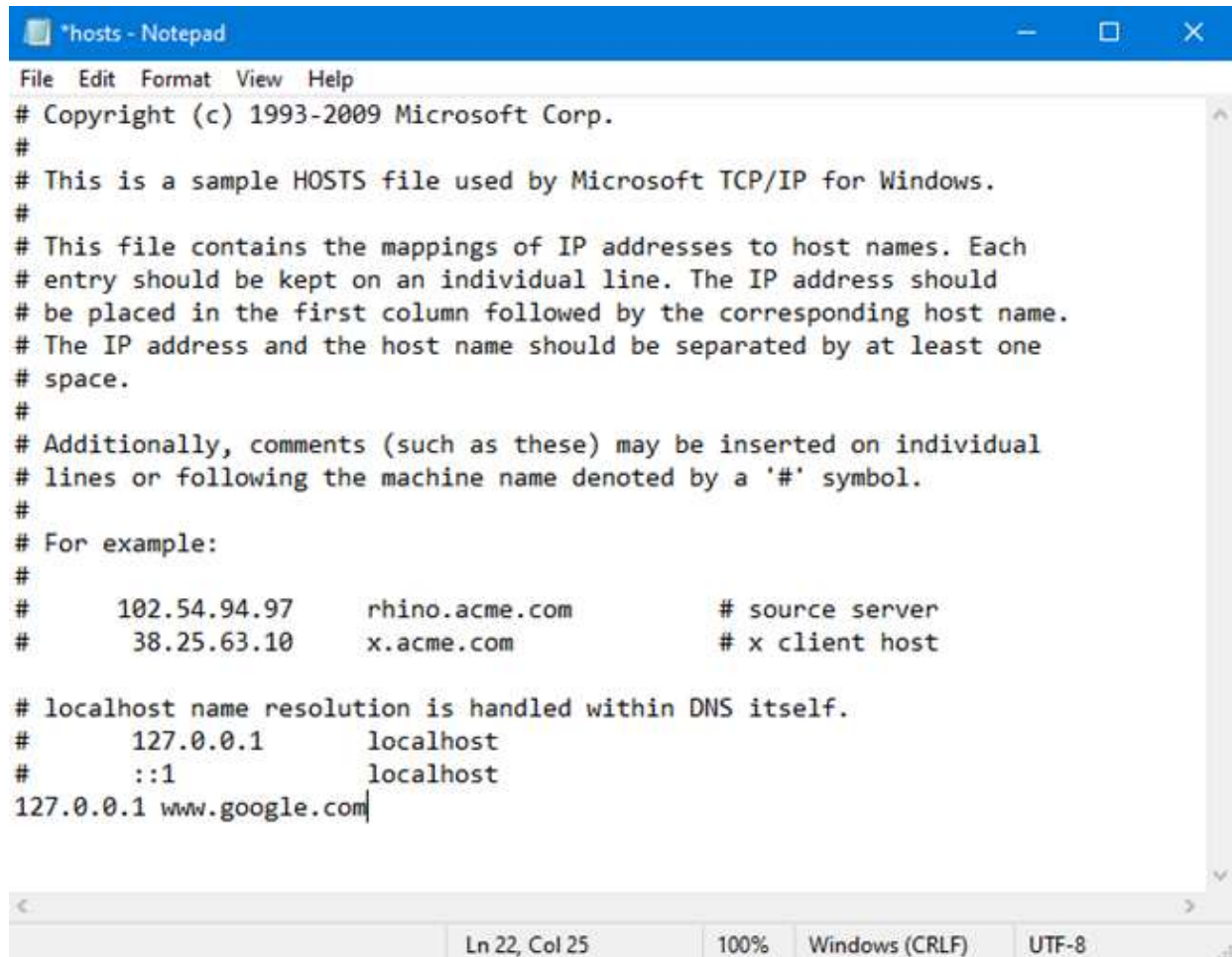
Open C:\Windows\System32\drivers\etc\hosts in Notepad

## How to edit the Hosts (etc/hosts) file in Windows

After you have opened the *Hosts* file, you can edit it, and add, change or remove entries, as you do in any other text file.



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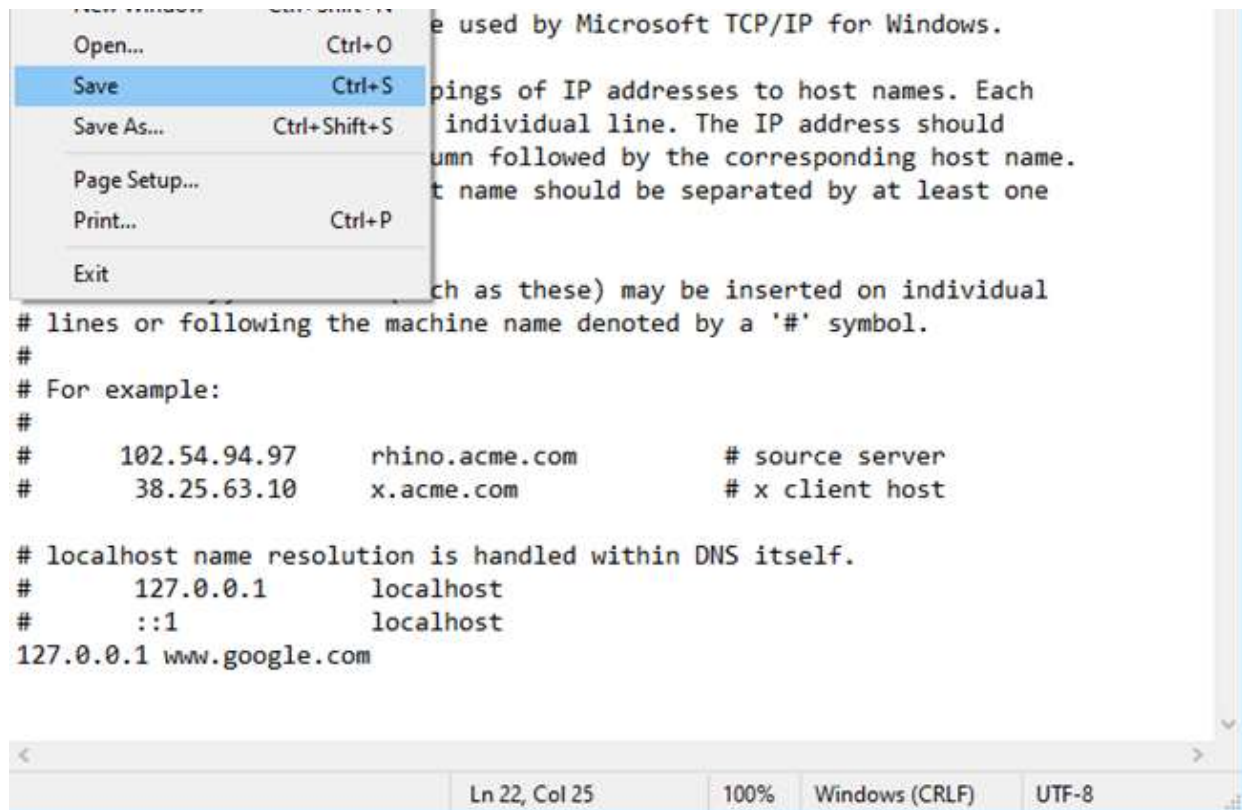


```
*hosts - Notepad
File Edit Format View Help
# Copyright (c) 1993-2009 Microsoft Corp.
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# This file contains the mappings of IP addresses to host names. Each
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#       38.25.63.10       x.acme.com           # x client host
#
# localhost name resolution is handled within DNS itself.
#       127.0.0.1         localhost
#       ::1               localhost
127.0.0.1 www.google.com
```

Editing the Hosts file in Notepad

When you are done editing the *Hosts* file, you need to save your changes. If changes are made and not saved, notice that the title of the *Notepad* window starts with a \* sign. To save your changes, go to *File* and then *Save* or press *CTRL+S* on your keyboard.

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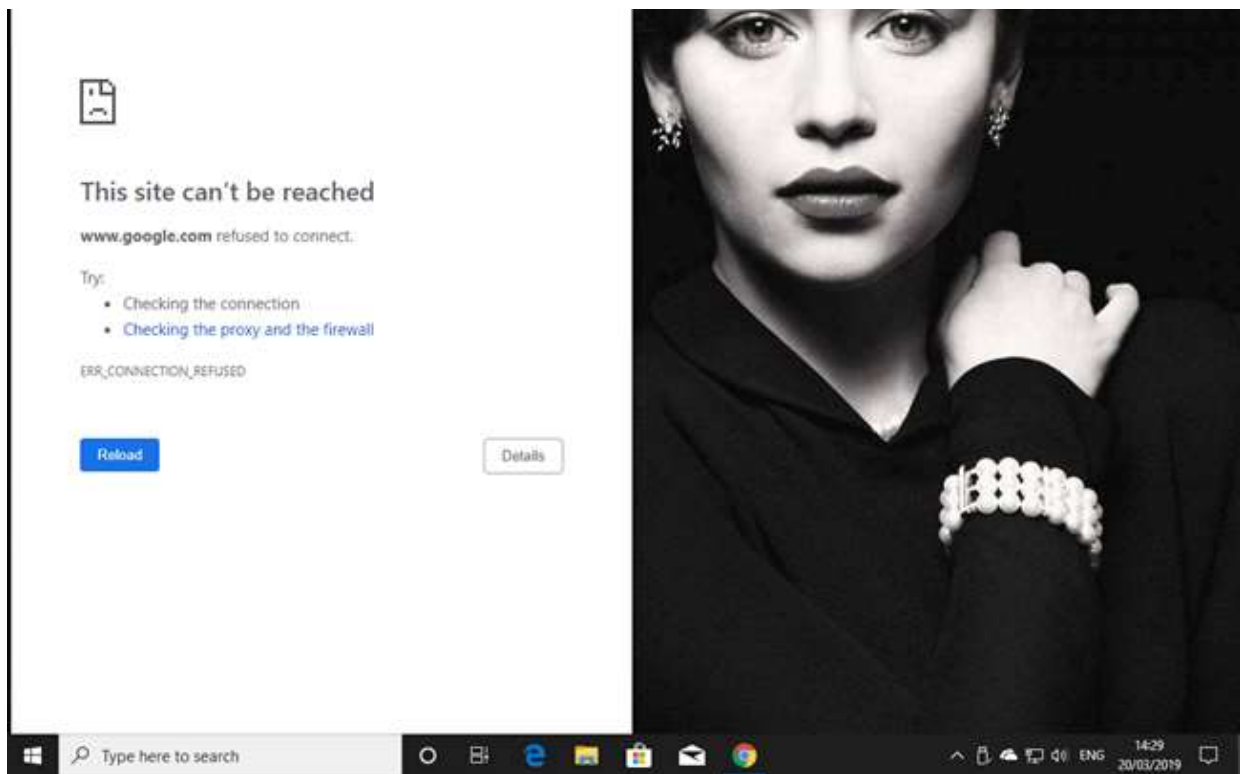


Saving the Hosts file in Notepad

After you have saved your changes, they are applied immediately and override the mappings from the DNS server that your computer is connected to.

## Why do people use the Hosts file?

Most casual computer users are not going to use the *Hosts* file unless they want to pull a prank on someone and use it to block their access to Google, Facebook or some other site, and make them think that it is down, and no longer working. The people using the *Hosts* file most frequently are web developers who create websites and web apps, which must be tested locally, before publishing them on the internet.



Google.com blocked by the Hosts file

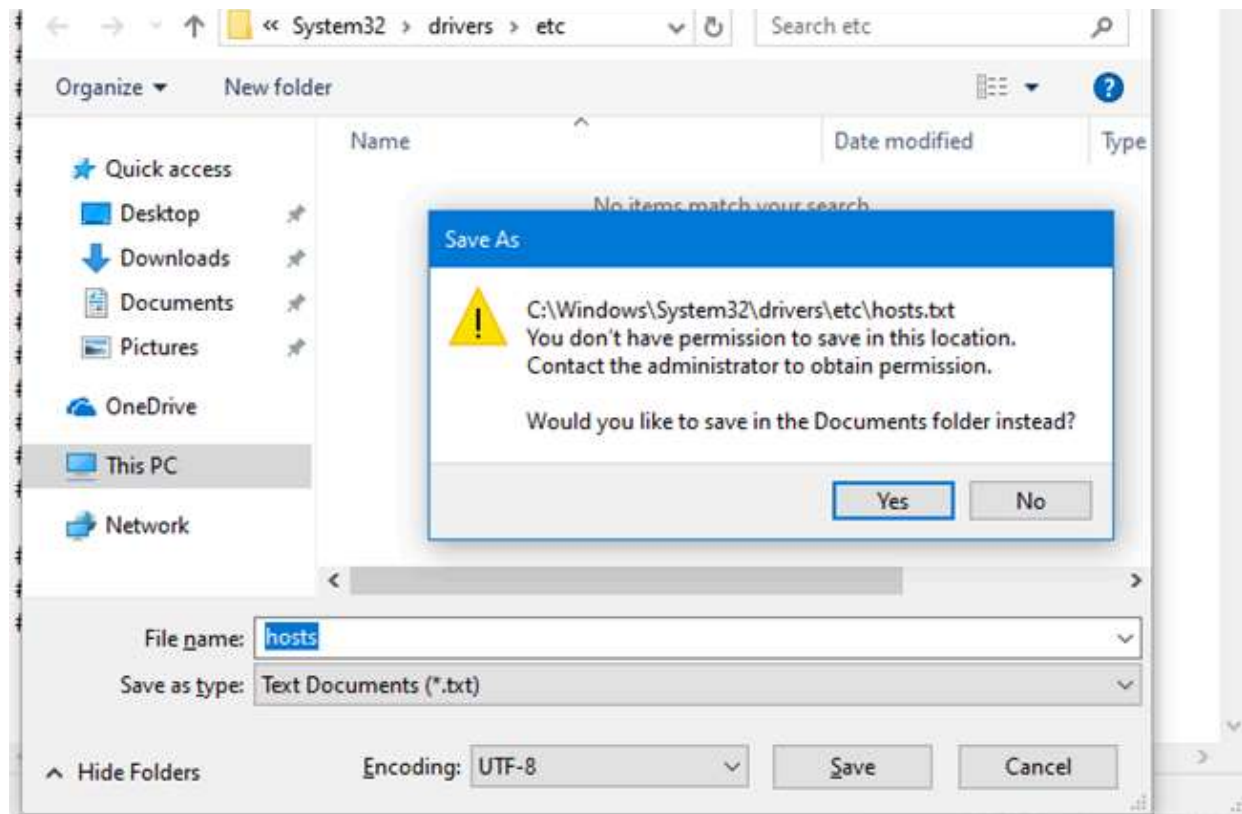
IT professionals also use the *Hosts* file to block access to specific sites and web resources, on the computers they are managing at work. For example, they can use it to block advertising in their business network, from specific ad networks.

Malware can also use the *Hosts* file to redirect your web traffic to remotely controlled servers and steal personal information or other data.

## **I can't edit the Hosts file in Windows! What do I do?**

When editing and saving the *Hosts* file in Windows, you may receive an error message that states: "*You don't have permissions to save to this location.*" This happens because you did not open *Notepad* or the text editor that you are using, with administrator permissions. Read the sections above and see how to start *Notepad* with administrator permissions.

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Error message: You don't have permissions to save in this location

After you do that, you can edit the *Hosts* file without any errors and permission problems.

## How do you use the Hosts file in Windows?

Thank you for reading this tutorial. We hope that we have managed to answer all your questions about the *Hosts* file. Before closing, tell us in a comment, how you plan to use the *Hosts* file in Windows? Is it for work or just prank on a friend or family member? Comment below and let's share our experiences working with the *Hosts* file.

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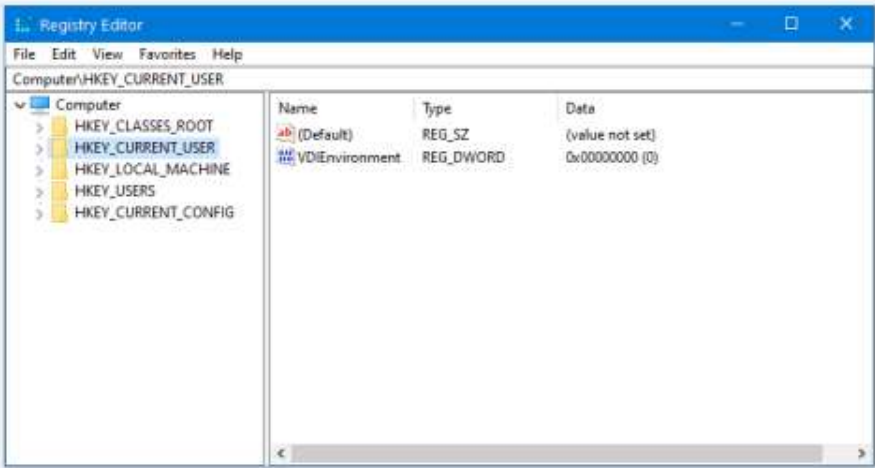
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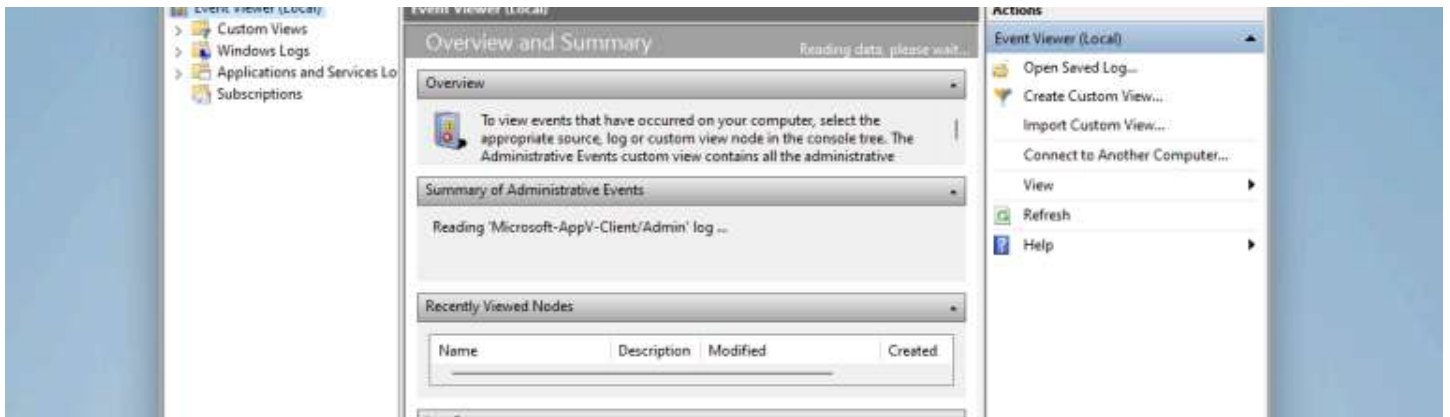
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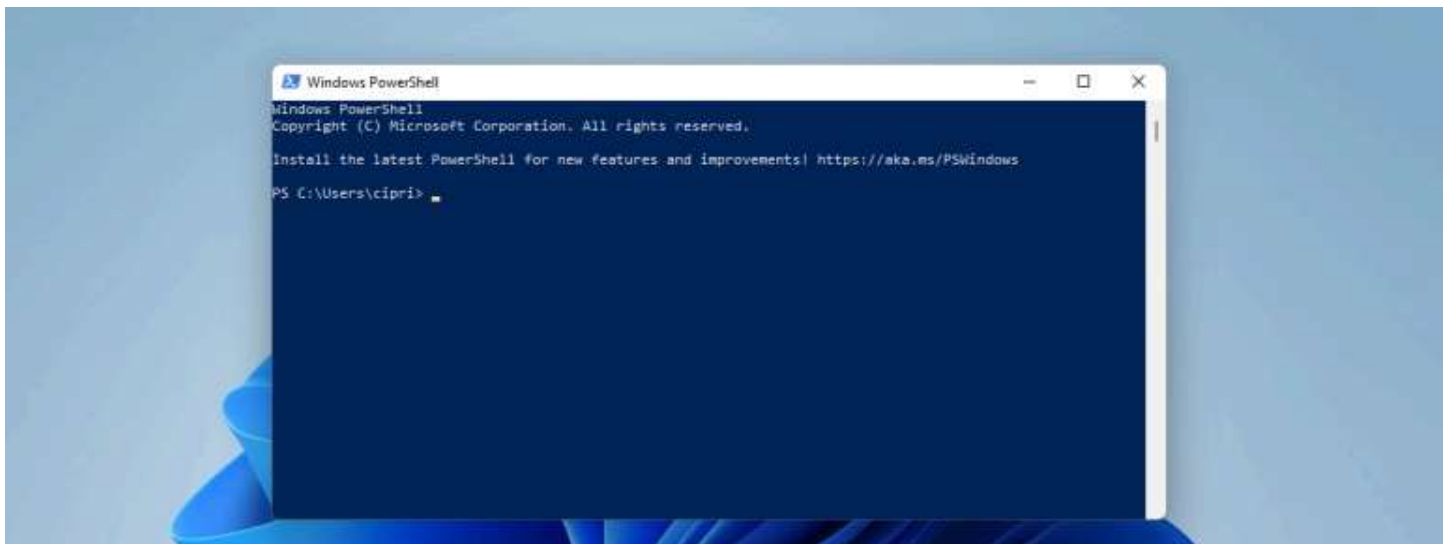


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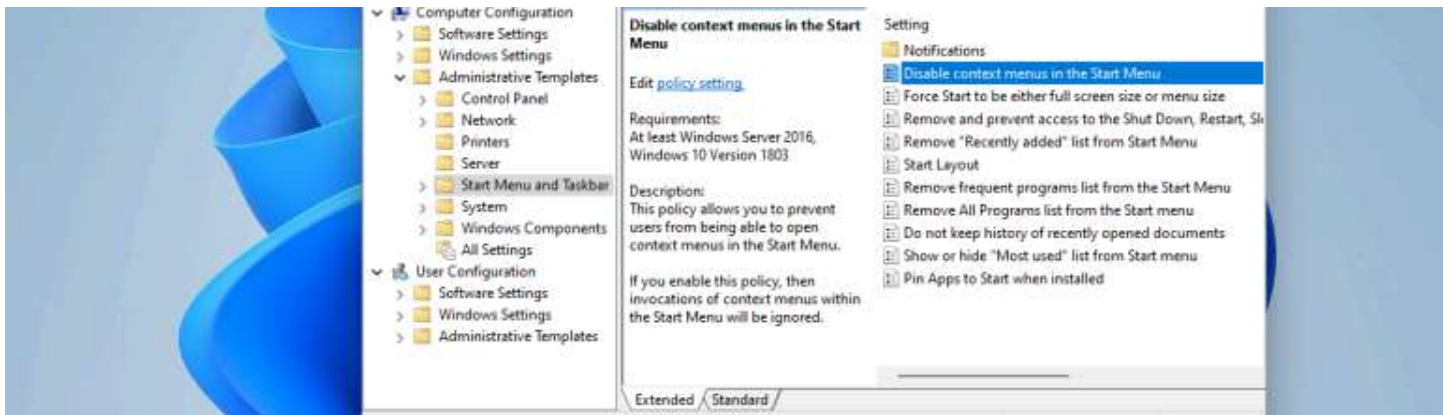


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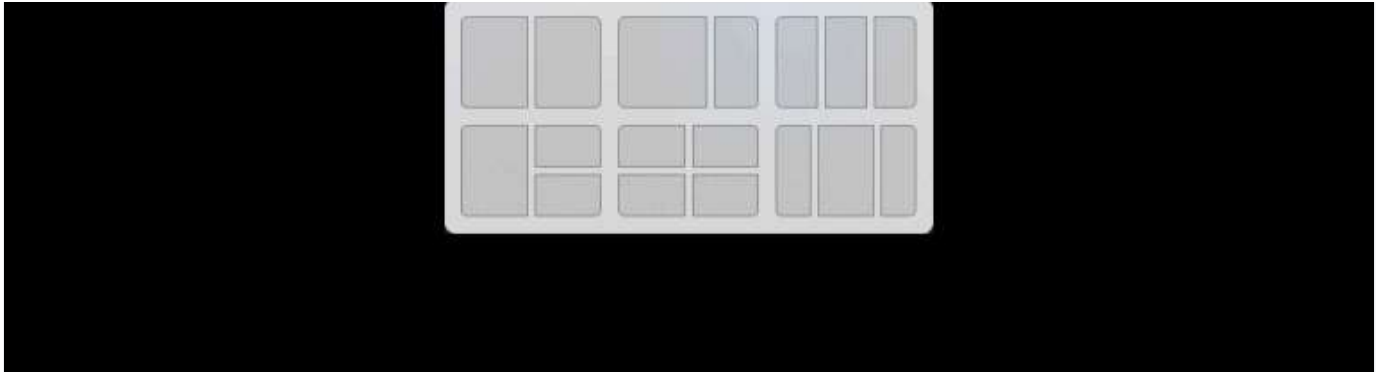
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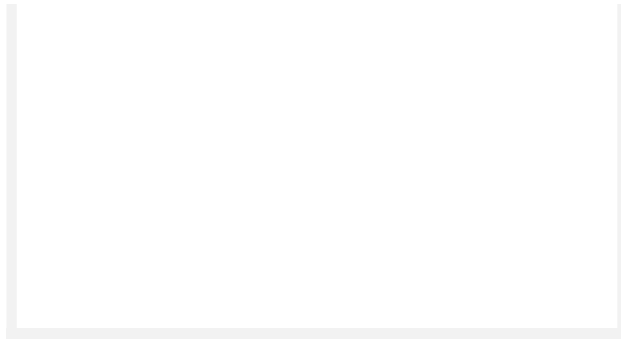


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