

How to install Tor and create Tor hidden service on Windows

Where to download Tor for Windows

If you need a browser with Tor, that is, if you are sufficient that you can have another IP when surfing the Internet or want to bypass regional restriction, then you need **Tor Browser**, download it from the [official site](#). There already is everything you need for anonymous surfing in the web and everything is already set up.

If you want to install Tor as a service on Windows, then you need **Expert Bundle**. It can be downloaded from the [same page](#) of the official website. Next we will talk only about the Expert Bundle.

From the downloaded archive (in my case, the file is called tor-win32-0.3.3.7.zip), unpack the **Tor** folder to the root of drive **C**.

How to launch Tor on Windows

Tor can be started once, or set as NT service, which will be launched each time your computer booting. Consider a one-time launch. Open the Windows command prompt, to do this, press **Win+X** and select "**Windows PowerShell (Administrator)**" there.

In the window that opens, type

```
1 | C:\Tor\tor.exe
```

Wait until Tor completes his business:

```
Администратор: Командная строка - C:\Tor\tor.exe
Microsoft Windows [Version 10.0.14393]
(c) Корпорация Майкрософт (Microsoft Corporation), 2016. Все права защищены.

C:\WINDOWS\system32>C:\Tor\tor.exe
Jun 15 09:22:11.987 [notice] Tor 0.3.0.8 (git-802d30d9b71a6d54) running on Windows 8 with Libevent 2.0.22-stable, OpenSSL 1.0.2k and Zlib 1.2.8.
Jun 15 09:22:11.988 [notice] Tor can't help you if you use it wrong! Learn how to be safe at https://www.torproject.org/download/download#warning
Jun 15 09:22:11.923 [notice] Configuration file "C:\Users\Alix\AppData\Roaming\tor\torrc" not present, using reasonable defaults.
Jun 15 09:22:11.926 [warn] Path for GeoIPFile (<default>) is relative and will resolve to C:\WINDOWS\system32<default>. Is this what you wanted?
Jun 15 09:22:11.927 [warn] Path for GeoIPv6File (<default>) is relative and will resolve to C:\WINDOWS\system32<default>. Is this what you wanted?
Jun 15 09:22:11.929 [notice] Opening Socks listener on 127.0.0.1:9050
Jun 15 09:22:12.000 [notice] Bootstrapped 0%: Starting
Jun 15 09:22:12.000 [notice] Starting with guard context "default"
Jun 15 09:22:12.000 [notice] Bootstrapped 80%: Connecting to the Tor network
Jun 15 09:22:14.000 [notice] Bootstrapped 85%: Finishing handshake with first hop
Jun 15 09:22:14.000 [notice] Bootstrapped 90%: Establishing a Tor circuit
Jun 15 09:22:15.000 [notice] Tor has successfully opened a circuit. Looks like client functionality is working.
Jun 15 09:22:15.000 [notice] Bootstrapped 100%: Done
```

Tor already works! But it will end if you close the window. For Tor to work constantly, it needs to be installed as a service.

Installing Tor as a Windows Service

To install the service, simply run the command:

```
1 | C:\Tor\tor.exe --service install
```

You can adjust the service using various [Tor command-line options](#).

We need a configuration file, so create it in the **C:\Tor** directory, this file should be named **torrc**:

```
1 | echo(>C:\Tor\torrc
```

To check if the service with the settings file starts (it does not contain errors), you can use this command:

```
1 | C:\Tor\tor.exe -f "C:\Tor\torrc"
```

Now install the Tor service, which will read the settings from the **C:\Tor\torrc** file:

```
1 | C:\Tor\tor.exe --service install -options -f "C:\Tor\torrc"
```

Remember that you must specify options after the **-options** flag, otherwise they will be ignored.

To start and stop the service, use the following commands:

```
1 | C:\Tor\tor.exe --service start
2 | C:\Tor\tor.exe --service stop
```

To remove the service:

```
1 | C:\Tor\tor.exe --service stop
2 | C:\Tor\tor.exe --service remove
```

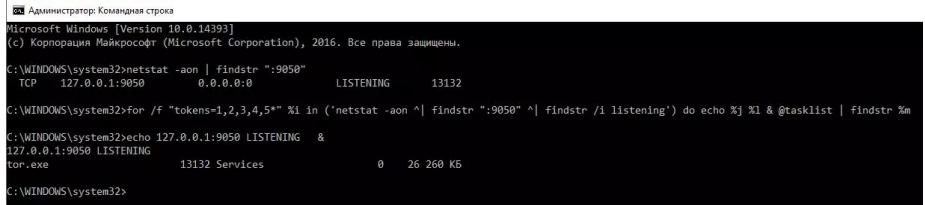
Note that you must first stop the service and then delete it.

By default, the Tor service listens on port **9050**, so you can check whether it is started by a command that shows if port 9050 is listened:

```
1 | netstat -aon | findstr ":9050"
```

You can also use the following command:

```
1 cmd
2 for /f "tokens=1,2,3,4,5" %i in ('netstat -aon ^| findstr ":9050" ^| findstr /i listening') do echo %j %l & @tasklist | findstr %k
```



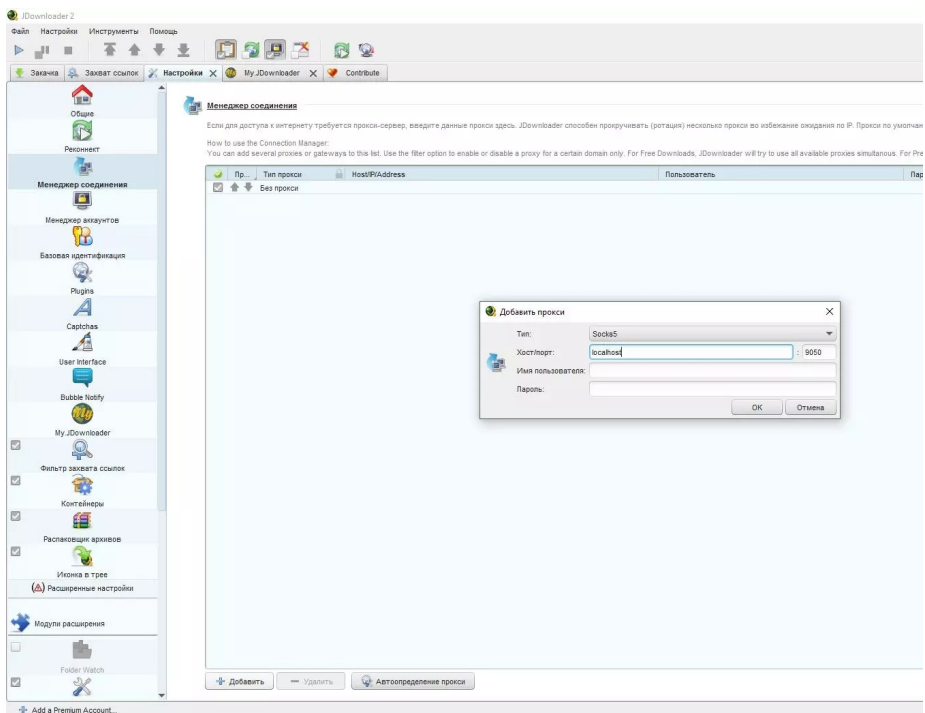
Now, when the Tor service is installed and running, several recipes will be shown, how it can be used.

Using Tor in Windows to download files from blocked sites

Some sites with media content allow you to view it, but do not allow you to download files to your hard drive. An example of such a YouTube site. I consider YouTube just as an example of a web site, which can be censored in some regions. So image YouTube is blocked, so you can visit it using Tor Browser, but you cannot download video because your download program does not use Tor and, so, cannot access it.

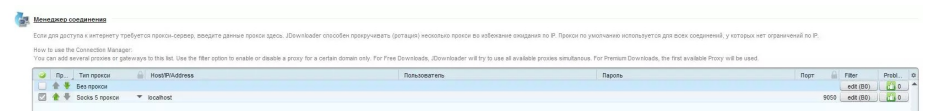
I will show you the example of JDownloader (free, open source, supports a huge number of web sites and file sharing sources, cross-platform), but this instruction is suitable for any such programs if they support SOCKS5 or SOCKS4. [JDownloader](#) site, [direct link](#) to download the JDownloader installer.

In JDownloader, go to **Settings**, then the **Connection Manager** tab, and click the **Add button**. Replace the type with **Socks5**, in the **Host/Port** field, type **localhost** and **9050**:



Click **OK** to save the settings and close the window.

JDownloader rotates the connection. Therefore, if you download from a blocked site, then uncheck the box **Without proxy**:



Now you can download from blocked sites!

How to create Tor hidden service in Windows

The essence of the hidden service is that on your computer (it can be a rented VPS or your home computer) running a web server. Your computer must have access to the Tor network. Through this network, anyone who has the address of your hidden service (domain name *.onion) can visit your website, which serves your web server. You do not need to worry about buying a domain name (it's free), about DNS, public IP, etc. - Tor network will take care of this. To start a hidden service, you only need two things:

- running web server
- connection to the Tor network

By the way, you might be interested in the article 'How to get a beautiful domain name for the Tor hidden service.'

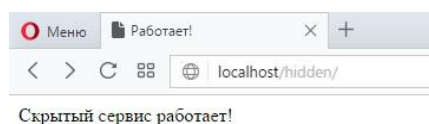
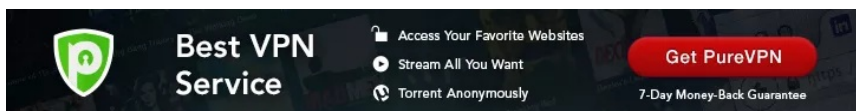
We need to have a working web server. To configure it, refer to the guide '[How to install web server on Windows 10 \(Apache 2.4, PHP 7, MySQL 8.0 and phpMyAdmin\)](#)'.

Now that the web server is installed and its functionality is verified, we will begin to configure the hidden service in Windows.

Your site for the hidden service should already work and open with localhost. I will create a simple web page. In the folder **C:\Server\data\htdocs** I create a new **hidden** folder, and in it the **index.htm** file with the following contents:

```
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <title>Работает!</title>
5 <meta charset="UTF-8">
6 </head>
7 <body>
8 <div>
9     Скрытый сервис работает!
10 </div>
11 </body>
12 </html>
```

Therefore, this file is accessible from the local server at <http://localhost/hidden/>:



Now open the Apache configuration file **C:\Server\bin\Apache24\conf\httpd.conf** and add it:

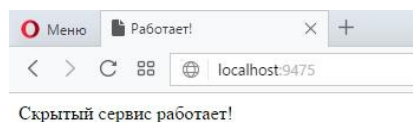
```
1 Listen 127.0.0.1:9475
2
3 <VirtualHost 127.0.0.1:9475>
4     DocumentRoot "C:/Server/data/htdocs/hidden/"
5     ServerName localhost
6     ServerAdmin you@example.com
7
8     <Directory />
9         Options +Indexes +FollowSymLinks +ExecCGI
10        AllowOverride All
11        Order deny,allow
12        Allow from all
13        Require all granted
14    </Directory>
15
16 </VirtualHost>
```

Basically, you just need to edit in it only the line **DocumentRoot "C:/Server/data/htdocs/hidden/"** - it shows the path to your website, which will be the Tor hidden service.

Restart the Apache web server for the changes to take effect:

```
1 c:\Server\bin\Apache24\bin\httpd.exe -k restart
```

Now your site for the hidden service should be accessible from the local computer at <http://localhost:9475>



Now go to the Tor configuration.

Open any **C:\Tor\torrc** file with any text editor and copy into it:

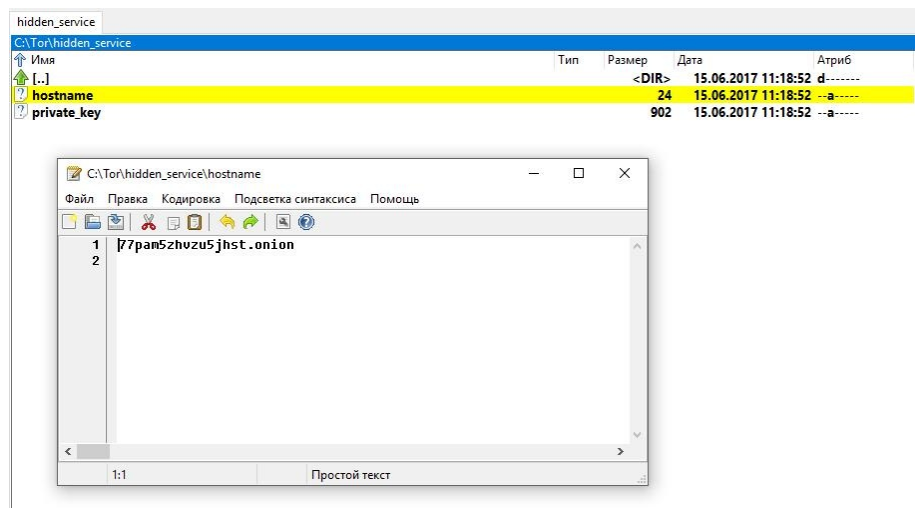
```
1 HiddenServiceDir "C:/Tor/hidden_service/"
2 HiddenServicePort 80 127.0.0.1:9475
```

Notice how we wrote **C:\Tor\hidden_service** - instead of **** we use **/**. You also need to use quotation marks.

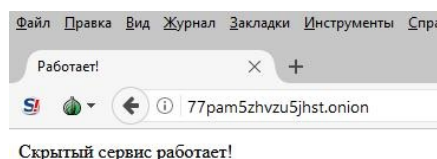
Restart the Tor service:

```
1 C:\Tor\tor.exe --service stop
2 C:\Tor\tor.exe --service start
```

The **hidden_service** folder will be automatically created and two files in it. In the file **C:\Tor\hidden_service\hostname** you will see the domain name for your hidden service:

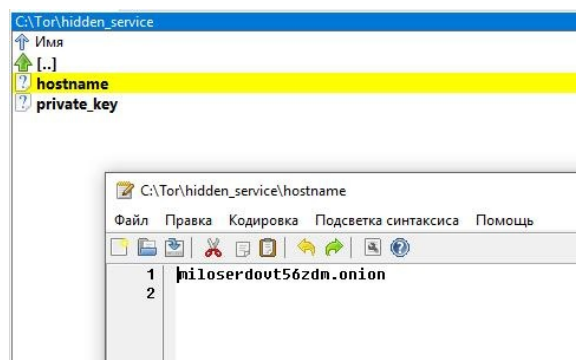


In my case it is 77pam5zhvzu5jhst.onion, we try to open it in the Tor Browser:



It may take several minutes for the hidden service to open in the browser.

If you generated your own name for the Tor hidden service, replace the contents of the **hostname** and **private_key** file, and then restart the Tor service for the changes to take effect:



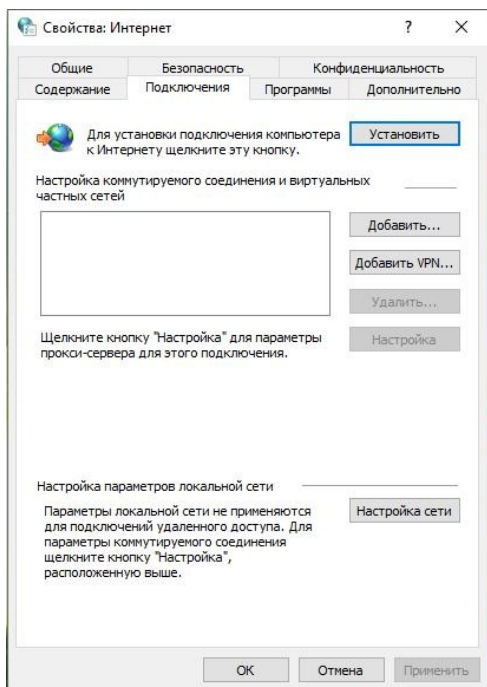
Using Tor browsers in Windows

If you want to surf anonymously on the Internet, we recommend using the Tor browser. It not only redirects traffic through the Tor network, but also has a number of patches and settings that promote privacy.

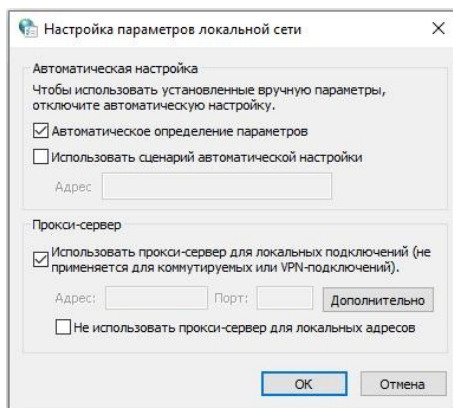
Nevertheless, if you want to access the Internet through the Tor network using browsers Google Chrome, Firefox, Opera or Internet Explorer, then it is also possible.

The Tor service must be installed (or started as shown at the beginning of the article).

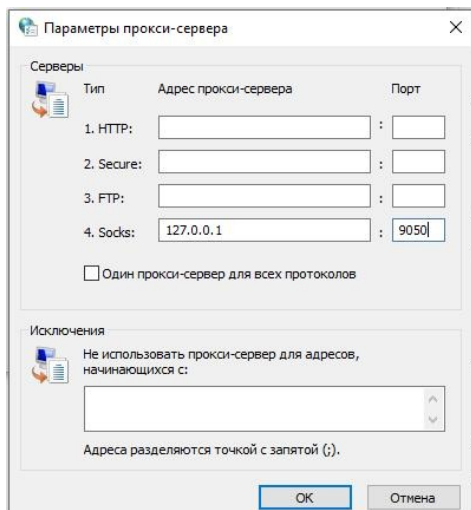
Browsers Google Chrome, Opera and Internet Explorer use the same settings. Therefore, the changes will be applied immediately for all three browsers. In any of them, go to the Proxy settings, the following window will open:



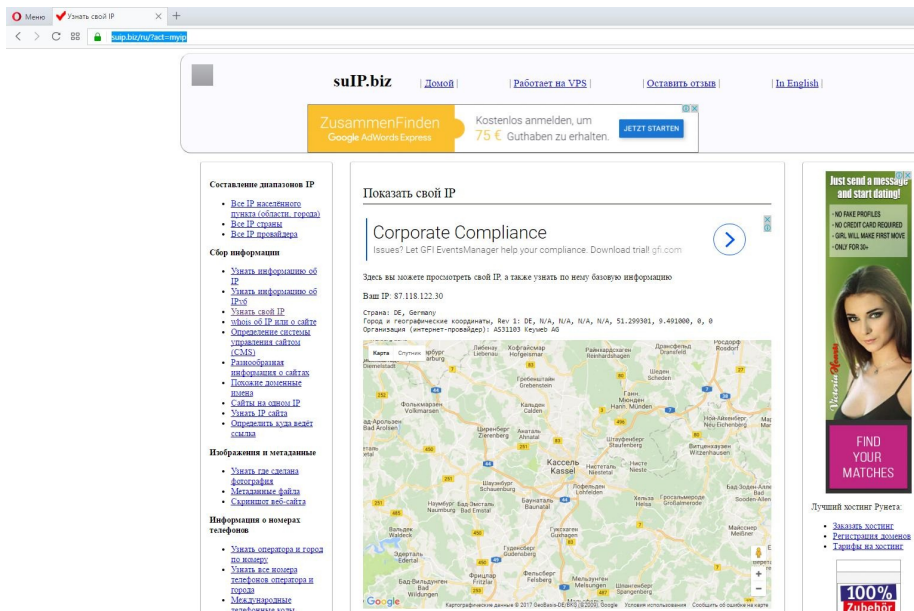
In the window, click Network Setup. In the new window that opens, check the box '**Use proxy server for local connections...**'.



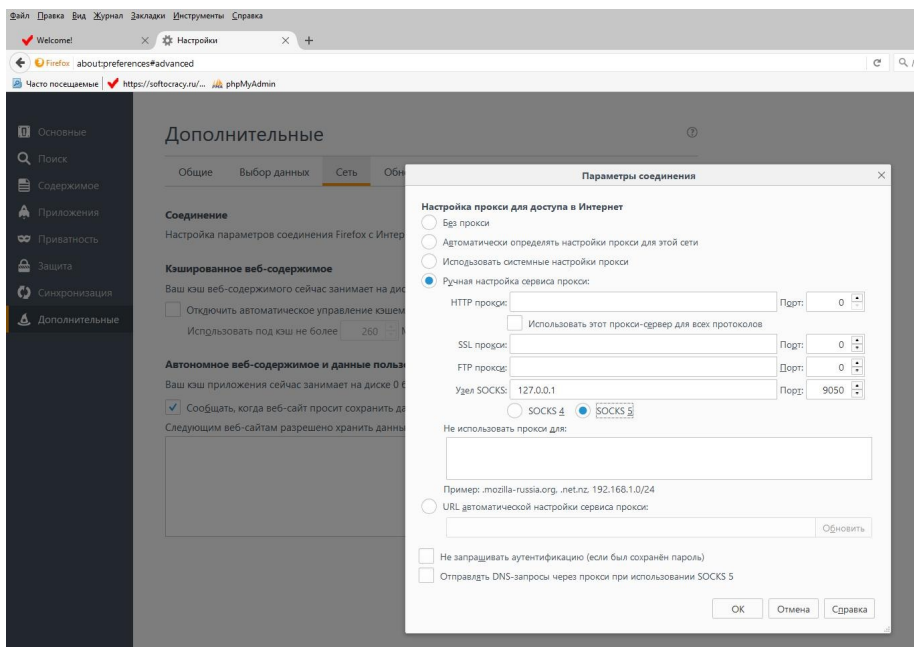
The "**Advanced**" button becomes active, press it. In the **Socks** field, type **127.0.0.1**, and in the **Port** field, type **9050**:



Click **OK** in all windows to save the settings. The current IP can, for example, be checked on the page <https://suip.biz/?act=myip>:



To change the settings in Firefox go to **Settings** -> **Advanced** -> **Network** -> **Configure**. In the window that appears, select the Manual proxy server setup switch. In the **SOCKS** Node field, enter **127.0.0.1** and the **Port** field is **9050**. Put the switch on **SOCKS 5**. Click OK to save the settings.



System-wide proxy settings in Windows

Windows has a WinHTTP proxy program. It allows you to set proxy settings for the system as a whole. Logically, it is expected that all applications should use system-wide settings, but this does not happen. Windows uses WinHTTP for certain services, for example, to download Windows updates and perform checks on revoked certificates. Nevertheless, perhaps you will find an application for this.

Using the command

```
1 | netsh winhttp import proxy source=ie
```

you can import settings from Internet Explorer.

And the following commands you can view/reset the use of system-wide settings:

```
1 | netsh winhttp show proxy
2 | netsh winhttp reset proxy
```

Accessing the Tor from a PHP program

If you installed the Tor service and you have the web server to set up the hidden service, you can also receive data from the Tor network in your PHP program (using cURL). Example of working code:

```
1 | <?php
2 | $url = 'http://hacktoolseqoqaq.onion/';
3 | $ch = curl_init();
4 | curl_setopt($ch, CURLOPT_URL, $url);
5 | curl_setopt($ch, CURLOPT_RETURNTRANSFER, true);
6 | curl_setopt($ch, CURLOPT_PROXY, 'http://127.0.0.1:9050/');
7 | curl_setopt($ch, CURLOPT_PROXYTYPE, CURLPROXY_SOCKS5);
8 | curl_setopt($ch, CURLOPT_PROXYTYPE, 7);
9 | $output = curl_exec($ch);
```

```
10 $curl_error= curl_error($ch);
11 curl_close($ch);
12
13 print_r($output);
14 print_r($curl_error);
```

