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How to Enable OpenSSH Server in Windows 10

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As you may already know, Windows 10 includes built-in SSH software - both a client and a server! In this article, we will see how to enable the SSH Server.

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With Windows 10, Microsoft has finally listened to its users after years of them requesting an SSH client and server. By including an OpenSSH implementation, the value of the OS increases.

At the moment of this writing, the OpenSSH software included in Windows 10 is at a BETA stage. This means it can have some stability issues.

The provided SSH server is similar to the Linux app. At first glance, it appears to support the same features as its *NIX counterpart. It is a console app, but it works as a Windows Service.
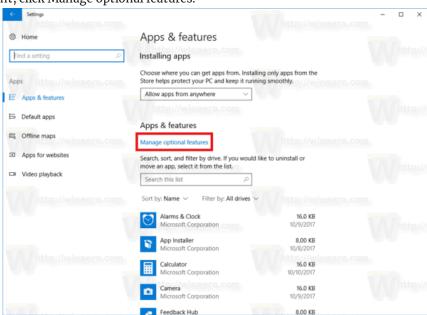
Let's see how to enable the OpenSSH server in Windows 10.

Contents [hide]

Enable the OpenSSH Server in Windows 10

1. Open the Settings app and go to Apps -> Apps & features.
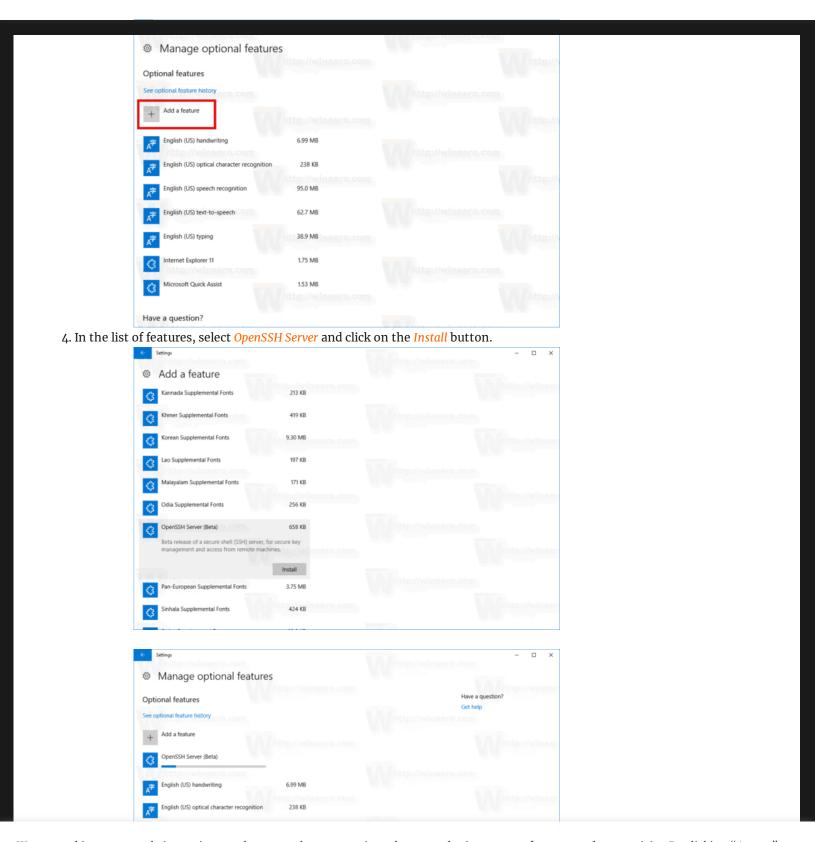2. On the right, click Manage optional features.

3. On the next page, click the button *Add a feature*.

4. In the list of features, select *OpenSSH Server* and click on the *Install* button.

apps, the folder contains the following server tools:

- sftp-server.exe
- ssh-agent.exe
- ssh-keygen.exe
- sshd.exe
- and the config file "sshd_config".

The SSH server is configured to run as a service.

At the moment of this writing, it doesn't start automatically. You need to configure it manually.

How to Start the OpenSSH Server in Windows 10

1. Double-click the *sshd* entry in Services to open its properties.
2. On the "Log On" tab, see the user account which is used by the sshd server. In my case, it is *NT Service\sshd*.

3. Now, open an elevated command prompt.
4. Go to the c:\windows\system32\Openssh directory using the command `cd c:\windows\system32\Openssh`.
5. Here, run the command `ssh-keygen -A` to generate security keys for the sshd server.

6. Now, in the elevated command prompt, type `explorer.exe .` to launch File Explorer in the OpenSSH folder.
7. *Update*: Microsoft has published a tutorial which makes the right assignment process very simple.

   Open PowerShell as Administrator and execute these commands:

   ```
   Install-Module -Force OpenSSHUtils

   Repair-SshdHostKeyPermission -FilePath C:\Windows\System32\OpenSSH\ssh_host_ed25519_key
   ```

   That's it! All the required permissions are set.

9. Click "Add" and add the permission "Read" for the user "NT Service\sshd". Now, remove all other permissions to get something like this:

   Click "Apply" and confirm the operation.
10. Finally, open Services (Press the Win + R keys and type *services.msc* in the Run box) and start the sshd service. It should start:

11. Allow the SSH port in Windows Firewall. By default, the server is using port 22. Run this command in an elevated command prompt: `netsh advfirewall firewall add rule name="SSHD Port" dir=in action=allow protocol=TCP localport=22`

Microsoft has supplied the following alternative command for PowerShell:
`New-NetFirewallRule -Name sshd -DisplayName 'OpenSSH Server (sshd)' -Service sshd -Enabled True -Direction Inbound -Protocol TCP -Action Allow -Profile Domain`

12. Finally, set a password for your user account if you don't have it.

Now, you can try it in action.

Connecting to the SSH Server in Windows 10

Open your ssh client. You can start it on the same computer, e.g. using the built-in OpenSSH client or start it from another computer on your network.

In the general case, the syntax for the OpenSSH console client is as follows:
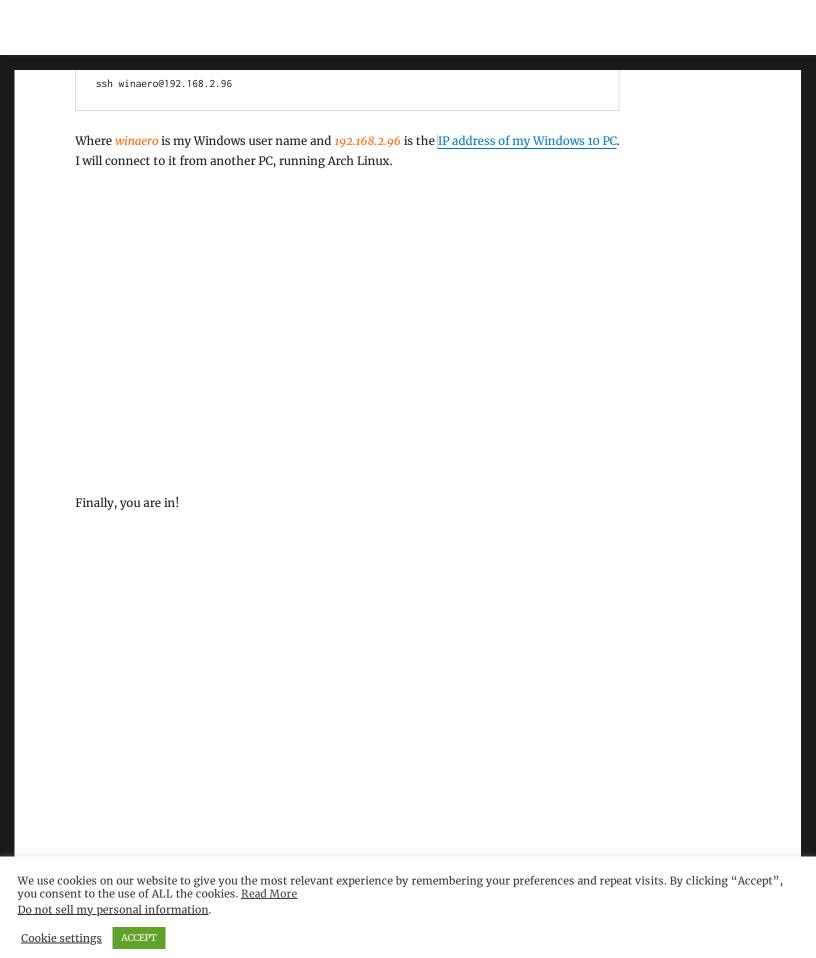
```
ssh username@host -p port
```

```
ssh winaero@192.168.2.96
```

Where *winaero* is my Windows user name and *192.168.2.96* is the IP address of my Windows 10 PC.
I will connect to it from another PC, running Arch Linux.

Finally, you are in!

But I cannot run FAR Manager. It appears black and white and broken:

Another interesting observation: You can start GUI apps like explorer. If you are signed in to the same user account that you use for SSH, they will start on the desktop. See:

Well, the built-in SSH server is definitely an interesting thing to play with. It allows you to manage a Windows machine without installing tools like rdesktop on your Linux computer, or even changing Windows settings from a Linux computer which has no X server installed.

As of this writing, the built-in SSH server in Windows 10 is at a BETA stage, so it should get more interesting and become a useful feature in the near future.

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Sergey Tkachenko / Last updated on: December 17, 2017 / Windows 10 / Windows 10 Enable SSH, Windows 10 SSH

14 thoughts on "How to Enable OpenSSH Server in Windows 10"

Herohtar

December 14, 2017 at 6:23 am

The instructions here are very clear and organized; however, the service still wouldn't start for me with just this. It kept complaining about the sshd user not having the correct permissions. I had to follow the "User Rights Assignment" step found [here](#) before the service would start. After that it worked great!

Reply

Sergey Tkachenko ▲

December 14, 2017 at 1:17 pm

Gabe

December 15, 2017 at 10:53 pm

Thank you for explanation! How to modify the User Rights Assignment option in Windows 10 without GPO like Home Home edition? Thank you!

Reply

> **Gabe**
>
> December 15, 2017 at 11:11 pm
>
> I found a cool script to enable gpo under Windows 10 Home! If anyone else needs it here we are
>
> https://www.itechtics.com/enable-gpedit-windows-10-home/
>
> Reply

Gabe

December 15, 2017 at 11:29 pm

Another question if possible: how to modify the sshd config file for allow auth with key file only? I would like to connect just with the public / private key and disable the username/password login. Thank you!

Reply

> **Sergey Tkachenko** ▲
>
> December 17, 2017 at 12:30 am
>
> Microsoft has published the official guide.
> Please consider reading it:
> https://blogs.msdn.microsoft.com/powershell/2017/12/15/using-the-openssh-beta-in-windows-10-fall-creators-update-and-windows-server-1709/
>
> Reply

very much.

Reply

Sergey Tkachenko ▲

December 30, 2017 at 2:17 pm

Currently, I have no idea how to specify the session for the sshd server.
Also, as you could notice from my post, the behavior you've described is the default behavior for my instance.
I don't know why. There are no documentation which could explain this thing at this moment.

Reply

Assaf Toledo

February 3, 2018 at 1:31 am

Hi,
Thanks for the tutorial!
Any idea if this is supported on Windows 10 Home?
Thanks!

Reply

Sergey Tkachenko ▲

February 3, 2018 at 5:30 pm

I have no the Home edition here to check. I don't think that it is available.

Reply

Rajat

January 6, 2019 at 4:03 pm

After installing OpenSSH server and restarting the PC, there isn't any sshd in services. Please

Vishal

December 30, 2019 at 8:30 pm

Hi Rajat,

Try searching for OpenSSH Authentication Agent.
That is what comes up in my system.

Vishal

Reply

Hillel Swimmer

November 20, 2019 at 9:13 pm

In latest win version the service called OpenSSH SSH Server

Reply

Binu Balakrishnan

December 30, 2019 at 8:27 pm

Hey i dont see "OpenSSH Server" as a Feature to install, in the "Add a feature".
I have Windows 10 Enterprise. What is missing in my case?

Reply

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