

Transfer WiFi passwords in Windows 10/11

<https://4sysops.com/archives/transfer-wifi-passwords-in-windows-1011/>

If you have saved many WiFi connections in a notebook, then you might want to transfer them to another computer once in a while. Windows provides the required export and import capabilities via netsh.exe. PowerShell depends on a community module for this purpose; alternatively, you can use free GUI tools.

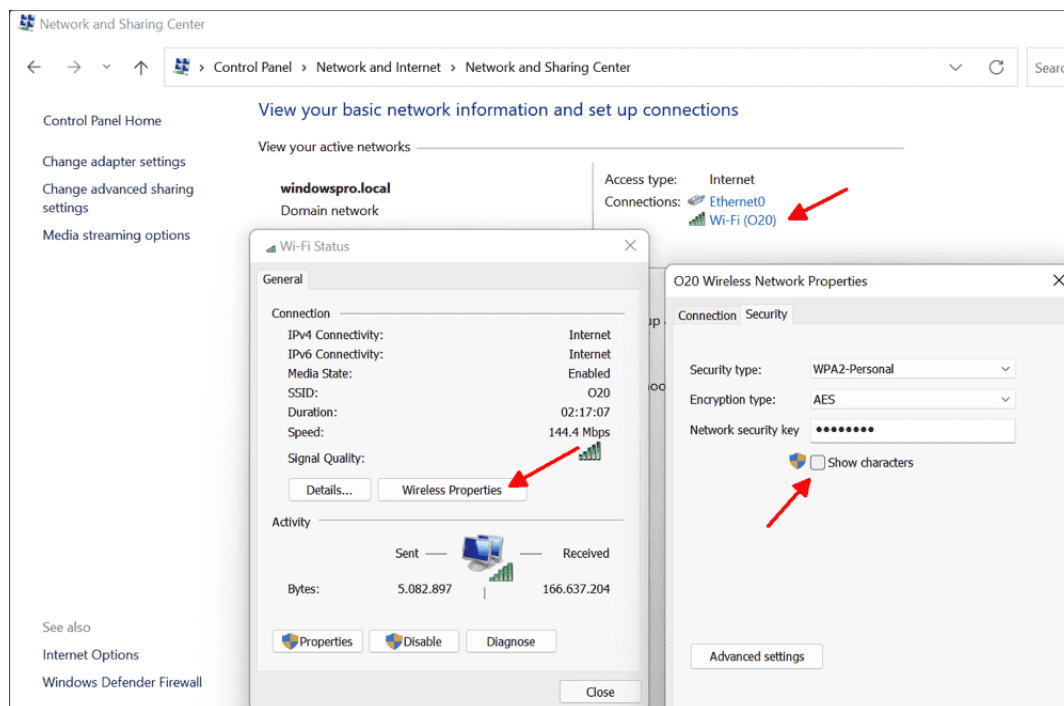
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If you only want to read the WPA key of the currently connected WLAN, you can do so via the *Network and Sharing Center*.

Show WiFi passwords

In the Network and Sharing Center, click the WiFi connection. In the Wi-Fi Status dialog box, click the *Wireless Properties* button, and then switch to the *Security* tab. By selecting the *Show characters* checkbox, you can make the password visible.



Show the key for the currently connected WiFi

This procedure works for Windows 10 and 11, but if you want to read the passwords for all saved connections, this method is useless.

Exploring WLAN keys on the command line

In this case, Windows offers only a tool for the command line, namely, netsh.exe. Unlike the GUI, it does not require elevated privileges for extracting saved WPA keys.

With the *show* parameter, this utility displays only the properties of a single profile. You have to specify its name when invoking it:

```
netsh wlan show profile name=<SSID> key=clear |  
findstr /i "SSID key"
```

```
Windows PowerShell
PS C:\Users\wolf.WINDOWSPRO>
PS C:\Users\wolf.WINDOWSPRO> netsh wlan show profile name="Nokia 8 Sirocco" key=clear |
>> findstr /I "SSID key"
    Number of SSIDs           : 1
    SSID name                 : "Nokia 8 Sirocco"
    Security key              : Present
    Key Content                : ni
PS C:\Users\wolf.WINDOWSPRO>
```

Show SSID and key of a WLAN profile

Although you can automate the retrieval of all passwords via PowerShell by iterating over all connections, it is easier to use the `netsh.exe export` function. It writes all the settings of each profile in a separate XML file so that you can then transfer them to another computer:

```
netsh wlan export profile key=clear folder=.\profiles
```

In this example, `netsh.exe` saves the settings of all profiles into the `profiles` directory. This must exist; it is not created automatically. If you omit the `Folder` parameter, `netsh.exe` stores the XML files in the current directory.

```
Windows PowerShell
PS C:\Users\wolf.WINDOWSPRO> md profiles

Directory: C:\Users\wolf.WINDOWSPRO

Mode                LastWriteTime         Length Name
----                -
d-----          1/25/2023  10:32 AM             profiles

PS C:\Users\wolf.WINDOWSPRO> netsh wlan export profile key=clear folder=.\profiles

Interface profile "Nokia 8 Sirocco" is saved in file ".\profiles\Wi-Fi-Nokia 8 Sirocco.xml" successfully.
Interface profile "iPhone von Wolfgang (2)" is saved in file ".\profiles\Wi-Fi-iPhone von Wolfgang (2).xml" successfully.
Interface profile "020" is saved in file ".\profiles\Wi-Fi-020.xml" successfully.

PS C:\Users\wolf.WINDOWSPRO>
```

Export all WiFi profiles to XML files

You can display the keys with

```
findstr /i "<keyMaterial" .\profiles\*.xml
```

In PowerShell, you can extract the keys from the XML files with

```
select-string -Path .\profiles\*.xml -Pattern "<keyMaterial"
```

```

PS C:\Users\wolf.WINDOWSPRO> netsh wlan export profile key=clear
Interface profile "Nokia 8 Sirocco" is saved in file ".\Wi-Fi-Nokia 8 Sirocco.xml" successfully.
Interface profile "iPhone von Wolfgang (2)" is saved in file ".\Wi-Fi-iPhone von Wolfgang (2).xml" successfully.
Interface profile "020" is saved in file ".\wi-fi-020.xml" successfully.

PS C:\Users\wolf.WINDOWSPRO> Get-Content ".\Wi-Fi-Nokia 8 Sirocco.xml"
<?xml version="1.0"?>
<WLANProfile xmlns="http://www.microsoft.com/networking/WLAN/profile/v1">
  <name>Nokia 8 Sirocco</name>
  <SSIDConfig>
    <SSID>
      <hex>4E6F6869612038205369726F663636F</hex>
      <name>Nokia 8 Sirocco</name>
    </SSID>
  </SSIDConfig>
  <connectionType>ESS</connectionType>
  <connectionMode>manual</connectionMode>
  <MSM>
    <security>
      <authEncryption>
        <authentication>WPA2PSK</authentication>
        <encryption>AES</encryption>
        <useOneX>false</useOneX>
      </authEncryption>
      <sharedKey>
        <keyType>passPhrase</keyType>
        <protected>false</protected>
        <keyMaterial>nicolam</keyMaterial>
      </sharedKey>
    </security>
  </MSM>
  <MacRandomization xmlns="http://www.microsoft.com/networking/WLAN/profile/v3">
    <enableRandomization>false</enableRandomization>
  </MacRandomization>
</WLANProfile>

```

The export writes all the settings of the profiles into an XML file

Transfer profiles to another PC

To transfer profiles to another PC, copy the XML files to the target computer, and execute a command like this:

```
netsh wlan add profile filename="<XML-filename>" user=current
```

However, this will only allow you to import one profile at a time. If you want to import several profiles at once, you can use a loop in the command prompt:

```
for %a in (*.xml) do netsh wlan add profile filename="%a"
```

In PowerShell, the same command looks like this:

```
Get-ChildItem *.xml | foreach {netsh wlan add profile filename="$_."}>
```

```

C:\Windows\system32\cmd.exe

C:\Users\wolf.WINDOWSPRO\profiles>netsh wlan add profile filename=wi-Fi-020.xml
Profile 020 is added on interface Wi-Fi.

C:\Users\wolf.WINDOWSPRO\profiles>for %a in (*.xml) do netsh wlan add profile filename="%a"

C:\Users\wolf.WINDOWSPRO\profiles>netsh wlan add profile filename="wi-Fi-iPhone von Wolfgang (2).xml"
Profile iPhone von Wolfgang (2) is added on interface Wi-Fi.

C:\Users\wolf.WINDOWSPRO\profiles>netsh wlan add profile filename="wi-Fi-Nokia 8 Sirocco.xml"
Profile Nokia 8 Sirocco is added on interface Wi-Fi.

C:\Users\wolf.WINDOWSPRO\profiles>netsh wlan add profile filename="wi-Fi-020.xml"
Profile 020 is added on interface Wi-Fi.

C:\Users\wolf.WINDOWSPRO\profiles>

```

Importing one or more profiles via for loop

If you omit the *key=clear* parameter when exporting, the tool will write the encrypted passwords to the XML files. Attempting to import the profile on a different PC will then fail because each computer uses a different key for encryption, and so the target computer won't be able to decrypt the keys.

The above example uses the parameter *user=current*, so that the profiles are only imported for the currently logged-in user. If you omit it, the import will be done for all accounts.

Another condition for a successful import is, of course, that there is a WLAN interface on the computer. You can verify this with the following:

```
netsh.exe wlan show interfaces | findstr /i "name"
```

If you have several of them, you can specify the one for the import using the *interface* parameter:

```
netsh wlan add profile filename=MyWi-Fi.xml interface="Wi-Fi"
```

Alternative methods

If you prefer to use PowerShell instead of the relatively cumbersome *netsh.exe* utility, you will need an [external module](#).

If you want to avoid the command line altogether, you can use free GUI tools. [WirelessKeyView](#) (https://www.nirsoft.net/utils/wireless_key.html) or [NetSetMan](#) (<https://www.netsetman.com/de/freeware>) will get the job done.

Summary

The export function of *netsh.exe* writes entire Wifi profiles into separate XML files. From there, you can transfer them to another computer, provided you have saved the passwords in plain text.