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Get started with OpenSSH for Windows

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Applies to: Windows Server 2025, Windows Server 2022, Windows Server 2019, Windows 11, Windows 10

OpenSSH is a connectivity tool for remote sign-in that uses the SSH protocol. It encrypts all traffic between client and server to eliminate eavesdropping, connection hijacking, and other attacks.

An OpenSSH-compatible client can be used to connect to Windows Server and Windows client devices.

📘 Important

If you downloaded the OpenSSH beta from the GitHub repo at [PowerShell/Win32-OpenSSH](#), follow the instructions listed there, not the ones in this article. Some information in the Win32-OpenSSH repository relates to prerelease product that may be substantially modified before it's released. Microsoft makes no warranties, express or implied, with respect to the information provided there.

Prerequisites

Before you start, your computer must meet the following requirements:

- A device running at least Windows Server 2019 or Windows 10 (build 1809).
- PowerShell 5.1 or later.
- An account that is a member of the built-in Administrators group.

Prerequisites check

To validate your environment, open an elevated PowerShell session and do the following:

- Enter *winver.exe* and press enter to see the version details for your Windows device.

- Run `$PSVersionTable.PSVersion`. Verify your major version is at least 5, and your minor version at least 1. Learn more about [installing PowerShell on Windows](#).
- Run the following command. The output shows `True` when you're a member of the built-in Administrators group.

```
(New-Object Security.Principal.WindowsPrincipal([Security.Principal.WindowsIdentity::GetCurrent])).IsInRole([Security.Principal.WindowsBuiltInRole]::Administrator)
```

Enable OpenSSH for Windows Server 2025

Starting with Windows Server 2025, OpenSSH is now installed by default. You can also enable or disable the `sshd` service in Server Manager.

GUI PowerShell

To enable SSHD using Server Manager:

1. In **Server Manager**, on the navigation pane to the left, select **Local Server**.
2. In the **Properties** window, locate **Remote SSH Access**.
3. Select **Disabled** to enable the OpenSSH service.

ⓘ Note

If you need to allow or restrict specific users or groups from using OpenSSH for remote access, add them to the **OpenSSH Users** user group.

Install OpenSSH for Windows Server

GUI

PowerShell

To install the OpenSSH components on Windows 10 devices:

1. Open **Settings**, select **System**, then select **Optional Features**.
2. Scan the list to see if the OpenSSH is already installed. If not, at the top of the page, select **Add a feature**, then:
 - Find **OpenSSH Client**, then select **Install**
 - Find **OpenSSH Server**, then select **Install**
3. Open the **Services** desktop app. (Select **Start**, type *services.msc* in the search box, and then select the **Service** app or press .)
4. In the details pane, double-click **OpenSSH SSH Server**.
5. On the **General** tab, from the **Startup type** drop-down menu, select **Automatic** and then select **Ok**.
6. To start the service, select **Start**.

To install the OpenSSH components on Windows 11 devices:

1. Open **Settings**, select **System**, then select **Optional Features**.
2. Scan the list to see if the OpenSSH is already installed. If not, at the top of the page, select **View Features**, then:
 - Search for **OpenSSH Client**, select **Next**, then select **Install**
 - Search for **OpenSSH Server**, select **Next**, then select **Install**

3. Open the **Services** desktop app. (Select **Start**, type *services.msc* in the search box, and then select the **Service** app or press **ENTER**.)
4. In the details pane, double-click **OpenSSH SSH Server**.
5. On the **General** tab, from the **Startup type** drop-down menu, select **Automatic** and then select **Ok**.
6. To start the service, select **Start**.

To install the OpenSSH components on Windows Server devices:

1. Open **Settings**, select **System**, then select **Optional Features** (also referred to as **Manage optional features**).
2. Scan the list to see if the OpenSSH is already installed. If not, at the top of the page, select **Add a feature**, then:
 - Search for **OpenSSH Client**, then select **Install**
 - Search for **OpenSSH Server**, then select **Install**
3. Open the **Services** desktop app. (Select **Start**, type *services.msc* in the search box, and then select the **Service** app or press **ENTER**.)
4. In the details pane, double-click **OpenSSH SSH Server**.
5. On the **General** tab, from the **Startup type** drop-down menu, select **Automatic** and then select **Ok**.
6. To start the service, select **Start**.

Note

Installing OpenSSH Server will create and enable a firewall rule named `OpenSSH-Server-In-TCP`. This allows inbound

SSH traffic on port 22. If this rule is not enabled and this port is not open, connections will be refused or reset.

Connect to OpenSSH Server

Once installed, you can connect to OpenSSH Server from a Windows or Windows Server device with the OpenSSH client installed. From a PowerShell prompt, run the following command.

```
ssh domain\username@servername
```

Once connected, you get a message similar to the following output.

```
The authenticity of host 'servername (10.00.00.001)' can't be
ECDSA key fingerprint is SHA256:(<a large string>).
Are you sure you want to continue connecting (yes/no)?
```

Entering *yes* adds that server to the list of known SSH hosts on your Windows client.

At this point, the service prompts you for your password. As a security precaution, the characters of your password aren't displayed as you enter them.

Once connected, you should see the following Windows command shell prompt:

```
domain\username@SERVERNAME C:\Users\username>
```

Uninstall OpenSSH for Windows

GUI

PowerShell

To uninstall OpenSSH using Windows Settings:

1. Open **Settings**, select **System**, then select **Optional Features** (also referred to as **Manage optional features**).
2. In the list, select **OpenSSH Client** or **OpenSSH Server**.
3. Select **Uninstall**.

If the service was in use when you uninstalled it, you should restart Windows.

Next steps

Now that you're done installing OpenSSH Server for Windows, here are some articles that can help you learn how to use it:


- Learn more about using key pairs for authentication in [OpenSSH key management](#)
- Learn more about the [OpenSSH Server configuration for Windows](#)


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