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# Get started with OpenSSH for Windows

Article • 11/01/2024 • [23 contributors](#) •

Applies ☒ Windows Server 2025, ☒ Windows Server 2022, ☒ Windows Server 2019, ☒ Windows to: [Server 2016](#)

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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:

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- 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.

PowerShell

 Copy

```
(New-Object Security.Principal.WindowsPrincipal([Security.Principal.Windows
```

## 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 PowerShell:

1. Open PowerShell as an administrator and run the following cmdlet to start the SSHD service:

PowerShell

 Copy

```
# Start the sshd service
Start-Service sshd
```
2. You can also run the following optional but recommended cmdlet to automatically start SSHD to make sure it stays enabled:

PowerShell

 Copy

```
Set-Service -Name sshd -StartupType 'Automatic'
```
3. Finally, run the following command to verify that the SSHD setup process automatically configured the firewall rule:

PowerShell

 Copy

```
if (!(Get-NetFirewallRule -Name "OpenSSH-Server-In-TCP" -ErrorAction Si
    Write-Output "Firewall Rule 'OpenSSH-Server-In-TCP' does not exist,
    New-NetFirewallRule -Name 'OpenSSH-Server-In-TCP' -DisplayName 'Ope
} else {
    Write-Output "Firewall rule 'OpenSSH-Server-In-TCP' has been create
}
```

# 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.

PowerShellCopy

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

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

PowerShellCopy

```
The authenticity of host 'servername (10.00.00.001)' can't be established.  
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:

PowerShellCopy

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

# Uninstall OpenSSH for Windows

GUIPowerShell

To uninstall the OpenSSH components using PowerShell, use the following commands:

PowerShellCopy

```
# Uninstall the OpenSSH Client  
Remove-WindowsCapability -Online -Name OpenSSH.Client~~~~0.0.1.0  
  
# Uninstall the OpenSSH Server  
Remove-WindowsCapability -Online -Name OpenSSH.Server~~~~0.0.1.0
```

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](#)

## Feedback

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YesNo

# Additional resources

## Training

Module  
[Develop on a remote machine using SSH with Visual Studio Code - Training](#)

In this module, you'll learn how to seamlessly develop on a remote machine using the Visual Studio Code Remote - SSH extension. We'll explore how to run and debug code located on a remote machine, while locally using Visual Studio Code's full feature set.

Certification  
[Microsoft Certified: Windows Server Hybrid Administrator Associate - Certifications](#)

As a Windows Server hybrid administrator, you integrate Windows Server environments with Azure services and manage Windows Server in on-premises networks.