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## Visual Studio Code

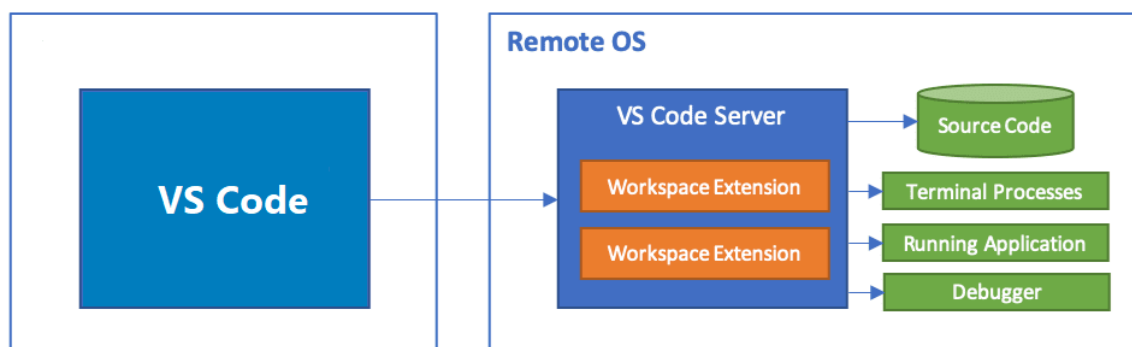


machine, like a desktop PC or virtual machine (VM), via a secure tunnel. You can connect to that machine from a VS Code client anywhere, without the requirement of SSH.

Tunneling securely transmits data from one network to another via [Microsoft dev tunnels](#).

This can eliminate the need for source code to be on your VS Code client machine since the extension runs commands and other extensions directly on the remote machine.

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VS Code can provide a **local-quality development experience** - including full IntelliSense (completions), code navigation, and debugging - **regardless of where your code is hosted**.



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## Getting Started

You have two paths to work with tunnels:

- Run the `tunnel` command of the `code` [command-line interface \(CLI\)](#).
- Enable tunneling through the VS Code Desktop UI.

Both of these paths result in the same tunneling functionality – you can use whichever tooling works best for you. The CLI is a great option if you can't install the full VS Code Desktop on your remote machine. Using the VS Code Desktop UI is convenient if you're already doing some work in VS Code and would then like to enable tunneling for your current machine.

We'll describe both paths in the sections below.

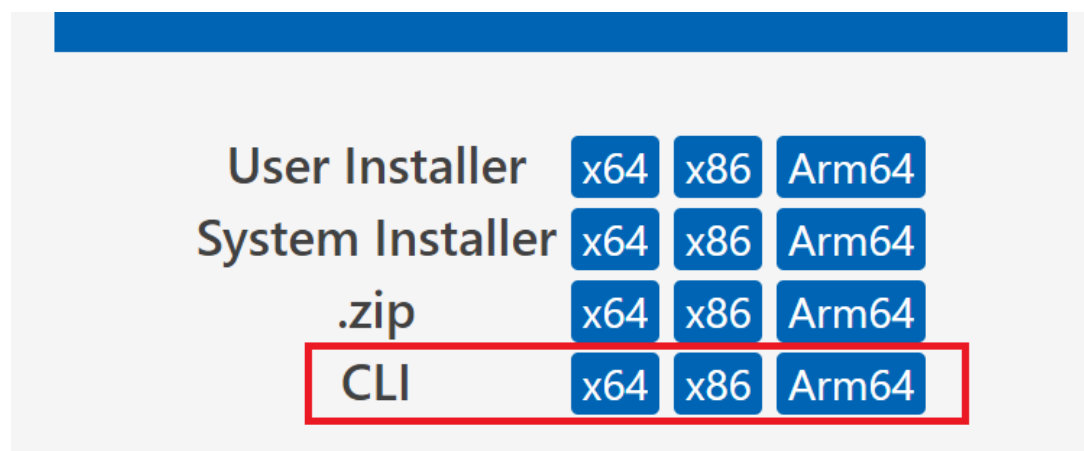
## Using the 'code' CLI

You may create and use tunnels through the `code` [CLI](#).



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You can also install and unpack the CLI through the terminal of your remote machine. This may be especially helpful if your remote doesn't have a UI:

```
curl -Lk 'https://code.visualstudio.com/sha/download?build=stable&os=alpine-x64' --output vscode_cli.tar.gz
tar -xf vscode_cli.tar.gz
```

**Note:** If you're using the standalone or terminal install, the commands in the following section will start with `./code` rather than `code`.

2. Create a secure tunnel with the `tunnel` command:

```
code tunnel
```

Copy



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you to the tunneling service to ensure you have access to the right set of remote machines.

## Using the VS Code UI

1. Open VS Code on the remote machine where you'd like to turn on tunnel access.
2. In the VS Code Account menu, select the option to **Turn on Remote Tunnel Access**, as demonstrated in the image below. You may also open the Command Palette ( **F1** ) in VS Code and run the command **Remote Tunnels: Turn on Remote Tunnel Access....**

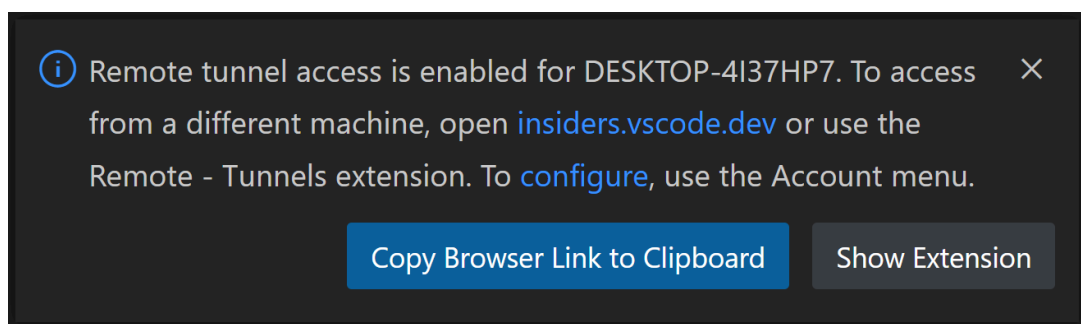


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- You'll be prompted to log into GitHub. Once you're logged in, a tunnel will start up on your current machine, and you'll be able to connect to this machine remotely.



- In a client of your choice, you may open the `vscode.dev` link from the notification above and start coding!

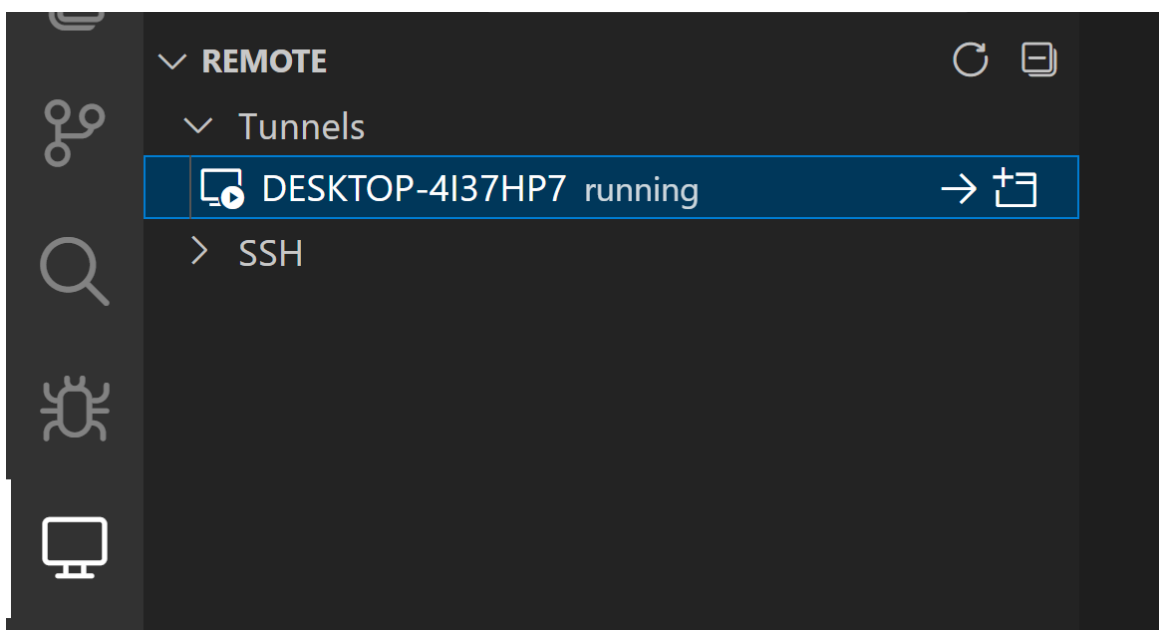
**Note:** The remote machine will only be reachable through a tunnel while VS Code remains running there. Once you exit VS Code it will no longer be possible to tunnel to it until you start VS Code there again or run the `code tunnel` CLI command.

## Remote Tunnels extension



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Like the other Remote Development extensions, the name of your remote machine will be listed in the lower left green remote indicator. Clicking on this indicator is another way to explore Remote Tunnels commands, along with options to close your remote connection or install VS Code Desktop.



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### Open a folder on a Remote Tunnels host in a container

You can use the Remote - Tunnels and [Dev Containers](#) extensions together to open a folder on your remote host inside of a container. You do not even need to have a Docker client installed locally.

To do so:

1. Follow the [installation](#) steps for installing Docker on your remote host and VS Code and the Dev Containers extension locally.
2. Follow the [Getting Started](#) instructions for the Remote - Tunnels extension to set up a tunnel, connect to it and open a folder there.
3. Use the **Dev Containers: Reopen in Container** command from the Command Palette ( **F1** , **Ctrl+Shift+P** ).

The rest of the [Dev Containers quick start](#) applies as-is. You can learn more about the [Dev Containers extension in its documentation](#). You can also see the [Develop on a remote Docker host](#) article for other options if this model does not meet your needs.

## Common questions



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yourself (which you may read more about in [this documentation](#)), rather than relying being solely installed and managed by the Remote Development extensions.

Accessing the VS Code Server involves a few components:

- The VS Code Server: Backend server that makes VS Code remote experiences possible.
- Remote - Tunnels extension: Extension that facilitates the connection to the remote machine, where you have an instance of the server running.

### As an extension author, what do I need to do?

The VS Code extension API abstracts away local/remote details so most extensions will work without modification. However, given extensions can use any node module or runtime they want, there are situations where adjustments may need to be made. We recommend you test your extension to be sure that no updates are required. See [Supporting Remote Development](#) for details.

### Can multiple users or clients access the same remote instance simultaneously?

No, an instance of the server is designed to be accessed by one user or client at a time.





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outbound connections to a service hosted in Azure; no firewall changes are generally necessary, and VS Code doesn't set up any network listeners.

Once you connect from a remote VS Code instance, an SSH connection is created over the tunnel in order to provide end-to-end encryption. The current preferred cipher for this encryption is AES 256 in CTR mode, and the code that implements this is [open source](#).

You can learn more about the security of the underlying dev tunnels service in its [documentation](#).

## Are there usage limits for the tunneling service?

To avoid abuse of the underlying tunneling service, there are usage limits in place for resources like number of tunnels and bandwidth. We anticipate most users to never reach these limits.

For instance, right now you can have 10 tunnels registered for your account. If you'd like to create a new tunnel and already have 10 others registered, the CLI will pick a random unused tunnel and delete it. Please note this limit is subject to change.

If you are hitting a limit and would like to discuss getting more usage, we'd love to learn more. Please reach out to [vscode-server@microsoft.com](mailto:vscode-server@microsoft.com) with information on your scenario and how much usage you need.



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You have a few options:

- Use the `service` command to run as a service. You can run `code tunnel service install` and `code tunnel service uninstall` to install and remove them.
- Use the `no-sleep` option, `code tunnel --no-sleep`, to prevent your remote machine from going to sleep.

As mentioned in the [code CLI doc](#), you can explore all the possible CLI commands and options through `code tunnel --help`.

## Can I use other Remote Development Extensions or a dev container while I'm tunneling?

Yes! Currently, you can connect to [WSL](#) and [dev containers](#) over Remote - Tunnels.

Was this documentation helpful?

Yes

No



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