

Windows Subsystem for Linux - Debian 10.3

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Installation

1. Enable "Developer mode" in *Settings -> System -> Advanced* (Win 11) or *Settings -> Update & Security -> For developers* (Win 10)
2. Press Windows key + R and run **optionalfeatures.exe**. Enable *Windows Subsystem for Linux*. Restart the computer.
3. Open Windows Power Shell as Administrator, then run the following line and reboot:

```
Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux
```

4. If you want to use WSL on Windows 11 Home you need to first install Hyper-V (see [How to Install and Enable Hyper V in Windows 11 Home](#)). Create the following Windows batch file and run it as administrator:

```
pushd "%~dp0"
dir /b %SystemRoot%\servicing\Packages\*Hyper-V*.mum >hyper-v.txt
for /f %i in ('findstr /i . hyper-v.txt 2^>nul') do dism /online
/norestart /add-package:"%SystemRoot%\servicing\Packages\%i"
del hyper-v.txt
Dism /online /enable-feature /featurename:Microsoft-Hyper-V -All
/LimitAccess /ALL
pause
```

5. Restart your computer
6. Open the Microsoft Store and search for "Linux". Choose and get Debian, as per 2020-03-10 this is Debian 10 Buster.
7. Open *Debian* from the start menu and complete installation.
8. Upgrade all packages:

```
sudo apt update
sudo apt upgrade
```

9. Install packages:

```
sudo apt install vim
sudo apt install wget
sudo apt install zip
sudo apt install rsync
```

10. Create `/run/sshd` folder:

```
sudo mkdir /run/sshd
```

11. Create a shortcut to the executable on your desktop:

```
C:\Users\user\AppData\Local\Microsoft\WindowsApps\debian.exe
```

12. The root file system can be found at a path similar to:

```
C:\Users\bco\AppData\Local\Packages\TheDebianProject.DebianGNUlinux_76v4gfsz19hv4\LocalState\rootfs
```

13. Add  and  icons to the shortcuts

SSH Server

- Install packages:

```
sudo apt install openssh-server
```

- Follow the [SSH Client and Server](#) guide. SSH into your host and open port 22 in the Windows Firewall.

Start SSH Server at Windows boot time

- Open a bash command shell and allow <user> to run ssh as root, add the following line after %sudo:

```
sudo visudo
%sudo ALL=(ALL:ALL) ALL
<user> ALL=(root:root) NOPASSWD: /etc/init.d/ssh
```

- Open Windows Task Scheduler and click *Create Basic Task...*
 1. General
 - Name : Start Bash SSH Server
 - Description: Start the WSL SSH Server via a bash command
 - Run only when user is logged on
 - Run with highest privileges
 2. Trigger
 - Begin the task: At log on [OR] On an event
 - (if you mount VeraCrypt volumes during boot it's better to use *On an event* and begin the task when the volumes are mounted)
 - Specific user: <user>
 - Enabled
 3. Actions
 - Action: Start a program
 - Program/script: C:\Windows\System32\bash.exe
 - Add arguments (optional): -c "/usr/bin/sudo /etc/init.d/ssh start"
 4. Conditions
 - Start the task only if the computer is on AC power
 5. Settings
 - *Uncheck* Stop the task if it runs longer than:
 6. Alternative Action when starting a non elevated script "startup"

- Action: Start a program
- Program/script: C:\Windows\System32\bash.exe
- Add arguments (optional): -c "/home/user/startup"
- Script "startup":

```
#!/bin/bash
sudo /etc/init.d/ssh start
```

LAMP

- [LAMP on Debian 12 \(Apache 2.4, PHP 8.3, MariaDB 10.11\)](#)
- [Debian 9 - Apache 2.4 and PHP 7.4](#)
- [Debian 9 - MariaDB 10.3](#)

Mounting encrypted drives

- WSL can mount encrypted drives, but they must be mounted at the time wsl or bash runs the first time after boot.
- If you do not execute any tasks when the host boots up, then just make sure your encrypted drives are mounted when you run wsl or bash.
- If you **do** execute WSL tasks when the host boots up, replace the *Task Scheduler* entry for the trigger and make it run after the *Mount* script has executed:

```
<QueryList>
  <Query Id="0" Path="Microsoft-Windows-TaskScheduler/Operational">
    <Select Path="Microsoft-Windows-TaskScheduler/Operational">*[EventData[@Name='TaskSuccessEvent']][Data[@Name='TaskName']='\Mount']</Select>
  </Query>
</QueryList>
```

- Remember to "Enable All Task History" under Actions tab. **You might need to do this again after a Windows 10 major version upgrade.**

Mounting external drives

```
mkdir /mnt/f
mount -t drvfs f: /mnt/f
```

Links

- [Windows Subsystem for Linux Installation Guide for Windows 10](#)
- [How Does the Windows 10 Subsystem for Linux Work and What Is It For?](#)
- [Background Task Support in WSL](#)

- [SSH on Windows Subsystem for Linux \(WSL\)](#)
- [Backup with rsync on Windows \(WSL\)](#)
- [Docker Running Seamlessly in Windows Subsystem Linux](#)

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Last update: **2025/11/07 14:30**

