# Windows Subsystem for Linux

## Installation

• Open Windows Power Shell as Administrator, then run the following line and reboot:

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

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

sudo apt update
sudo apt upgrade

• Install packages:

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

• Create /run/sshd folder:

sudo mkdir /run/sshd

• If you want to add a shortcut to your desktop, run the following on the command line to find the exe file:

which debian

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

```
C:\Users\bco\AppData\Local\Packages\TheDebianProject.DebianGNULinux_76v
4gfsz19hv4\LocalState\rootfs
```

• Add  $\Join$  and  $\trianglerighteq$  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
    - Specific user: <user>
    - Enabled
  - 3. Actions
    - Action: Start a program
    - Program/script: C:\Windows\System32\bash.exe
    - Add arguments (optional): -c "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:

## 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 rund 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>
```

### 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: 2020/03/13 01:12

