

wsl/gcc Installation Tutorial

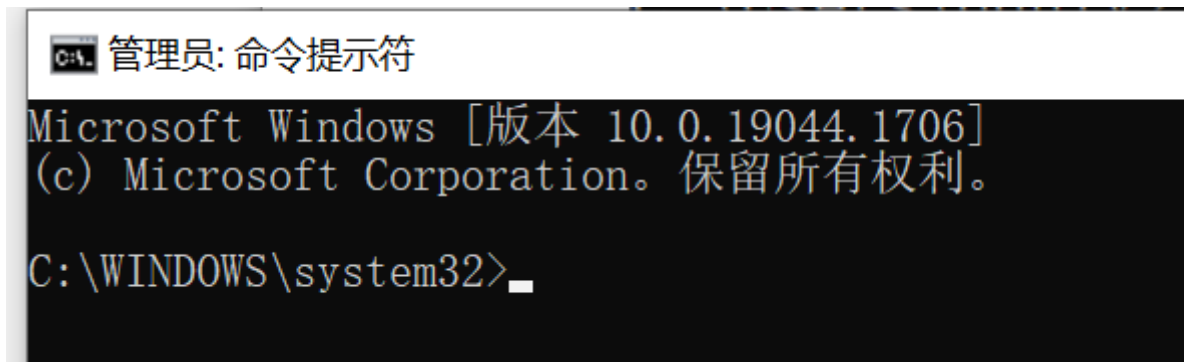
Requirements

- This tutorial is for **Windows users with version \geq Win10**.
- Please make sure your disk have enough space (\geq 2GB)

Step 1. Install Linux Distribution

Tutorial: [Basic commands for WSL | Microsoft Docs](#)

1. Run your terminal as an administrator

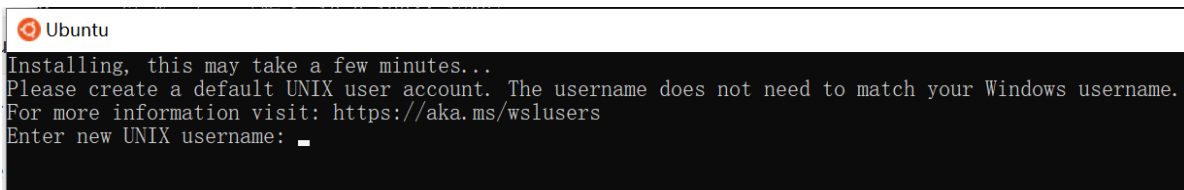


2. Install Ubuntu

Type in

```
wsl --install -d Ubuntu
```

Wait a couple of minutes for downloading. Now you should see:



3. Enter your username and password

The username should be in lower-case, e. g. hamster. Then input your password twice. You will see:

```
hamster@LAPTOP-A7MQPK7U: ~
passwd: password updated successfully
Installation successful!
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

Welcome to Ubuntu 20.04 LTS (GNU/Linux 4.4.0-19041-Microsoft x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

System information as of Sat Jun  4 20:54:47 CST 2022

System load:          0.52
Usage of /home:       unknown
Memory usage:         48%
Swap usage:           0%
Processes:            7
Users logged in:      0
IPv4 address for eth2: 2.0.0.1
IPv4 address for eth3: 192.168.56.1
IPv4 address for wifi0: 10.162.124.64
IPv6 address for wifi0: 2403:d400:1001:2:1c95:c169:4a4a:2938
IPv6 address for wifi0: 2403:d400:1001:2:ccbc:864b:5103:21f6

0 updates can be installed immediately.
0 of these updates are security updates.

The list of available updates is more than a week old.
```

4. Close the window, create a new terminal

Type in `ws1`, you should be able to see:

```
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy
Microsoft Windows [版本 10.0.19044.1706]
(c) Microsoft Corporation。保留所有权利。

C:\Users\qqniy>ws1
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$
```

5. Access Windows files

To access `C:\` drive in windows:

```
cd /mnt/c
```

List out the files

```
ls
```

```
hamster@LAPTOP-A7MQPK7U: /mnt/c
C:\Users\qqniy>ws1
To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$ cd /mnt/c
hamster@LAPTOP-A7MQPK7U: /mnt/c$ ls
ls: cannot access 'hiberfil.sys': Permission denied
ls: cannot access 'swapfile.sys': Permission denied
$Recycle.Bin      'Documents and Settings'  OneDriveTemp      Recovery          hiberfil.sys
$WinREAgent       DumpStack.log.tmp         PerfLogs           'System Volume Information'  swapfile.sys
80099C962777      INNOCONFIG.HUB.ini        'Program Files'   Users             temp
AMTAG.BIN         Intel                     'Program Files (x86)'  Windows          web_cache
Acme              removeQMDownload         ProgramData        Crossdev

hamster@LAPTOP-A7MQPK7U: /mnt/c$
```

6. Quit wsl

Press `Ctrl+D`.

Step 2. Install Compiler

Type

```
sudo apt-get install gcc
```

It would suggest you to enter the password, since the command `sudo` requests for administration.

```
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy
C:\Users\qqniy>wsl
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$ sudo apt-get install gcc
[sudo] password for hamster:
Reading package lists... Done
Building dependency tree
Reading state information... Done
The following additional packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu cpp cpp-9 gcc-9 gcc-9-base libasan5 libatomic1 libbinutils
  libc-dev-bin libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libgcc-9-dev libgomp1 libisl22 libitm1 liblsan0
  libmpc3 libquadmath0 libtsan0 libubsan1 linux-libc-dev manpages-dev
Suggested packages:
  binutils-doc cpp-doc gcc-9-locales gcc-multilib make autoconf automake libtool flex bison gdb gcc-doc gcc-9-multilib
  gcc-9-doc glibc-doc
The following NEW packages will be installed:
  binutils binutils-common binutils-x86-64-linux-gnu cpp cpp-9 gcc gcc-9 gcc-9-base libasan5 libatomic1 libbinutils
  libc-dev-bin libc6-dev libcc1-0 libcrypt-dev libctf-nobfd0 libctf0 libgcc-9-dev libgomp1 libisl22 libitm1 liblsan0
  libmpc3 libquadmath0 libtsan0 libubsan1 linux-libc-dev manpages-dev
0 upgraded, 28 newly installed, 0 to remove and 0 not upgraded.
Need to get 28.5 MB of archives.
After this operation, 123 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

Type `Y` to continue. Then it will start downloading:

```
After this operation, 123 MB of additional disk space will be used.
Do you want to continue? [Y/n] Y
Get:1 http://archive.ubuntu.com/ubuntu focal/main amd64 binutils-common amd64 2.34-6ubuntu1 [207 kB]
Get:2 http://archive.ubuntu.com/ubuntu focal/main amd64 libbinutils amd64 2.34-6ubuntu1 [474 kB]
Get:3 http://archive.ubuntu.com/ubuntu focal/main amd64 libctf-nobfd0 amd64 2.34-6ubuntu1 [47.0 kB]
Get:4 http://archive.ubuntu.com/ubuntu focal/main amd64 libctf0 amd64 2.34-6ubuntu1 [46.6 kB]
Get:5 http://archive.ubuntu.com/ubuntu focal/main amd64 binutils-x86-64-linux-gnu amd64 2.34-6ubuntu1 [1614 kB]
Get:6 http://archive.ubuntu.com/ubuntu focal/main amd64 binutils amd64 2.34-6ubuntu1 [3376 B]
Get:7 http://archive.ubuntu.com/ubuntu focal/main amd64 gcc-9-base amd64 9.3.0-10ubuntu2 [19.3 kB]
Get:8 http://archive.ubuntu.com/ubuntu focal/main amd64 libisl22 amd64 0.22.1-1 [592 kB]
Get:9 http://archive.ubuntu.com/ubuntu focal/main amd64 libmpc3 amd64 1.1.0-1 [40.8 kB]
Get:10 http://archive.ubuntu.com/ubuntu focal/main amd64 cpp-9 amd64 9.3.0-10ubuntu2 [7491 kB]
23% [10 cpp-9 2883 kB/7491 kB 38%] 247 kB/s 1min 31s
```

Important: If it's too slow or the terminal suggests you that due to net-work issue some files cannot be accessed, please contact the TAs. We will help you change to the [sjtu mirror](#).

Otherwise, just wait until:

```
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy
Setting up binutils-common:amd64 (2.34-6ubuntu1) ...
Setting up linux-libc-dev:amd64 (5.4.0-26.30) ...
Setting up libctf-nobfd0:amd64 (2.34-6ubuntu1) ...
Setting up libgomp1:amd64 (10-20200411-0ubuntu1) ...
Setting up libquadmath0:amd64 (10-20200411-0ubuntu1) ...
Setting up libmpc3:amd64 (1.1.0-1) ...
Setting up libatomic1:amd64 (10-20200411-0ubuntu1) ...
Setting up libubsan1:amd64 (10-20200411-0ubuntu1) ...
Setting up libcrypt-dev:amd64 (1:4.4.10-10ubuntu4) ...
Setting up libisl22:amd64 (0.22.1-1) ...
Setting up libbinutils:amd64 (2.34-6ubuntu1) ...
Setting up libc-dev-bin (2.31-0ubuntu9) ...
Setting up libcc1-0:amd64 (10-20200411-0ubuntu1) ...
Setting up liblsan0:amd64 (10-20200411-0ubuntu1) ...
Setting up libitm1:amd64 (10-20200411-0ubuntu1) ...
Setting up gcc-9-base:amd64 (9.3.0-10ubuntu2) ...
Setting up libtsan0:amd64 (10-20200411-0ubuntu1) ...
Setting up libctf0:amd64 (2.34-6ubuntu1) ...
Setting up libasan5:amd64 (9.3.0-10ubuntu2) ...
Setting up cpp-9 (9.3.0-10ubuntu2) ...
Setting up libc6-dev:amd64 (2.31-0ubuntu9) ...
Setting up binutils-x86-64-linux-gnu (2.34-6ubuntu1) ...
Setting up binutils (2.34-6ubuntu1) ...
Setting up libgcc-9-dev:amd64 (9.3.0-10ubuntu2) ...
Setting up cpp (4:9.3.0-1ubuntu2) ...
Setting up gcc-9 (9.3.0-10ubuntu2) ...
Setting up gcc (4:9.3.0-1ubuntu2) ...
Processing triggers for man-db (2.9.1-1) ...
Processing triggers for libc-bin (2.31-0ubuntu9) ...
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$
```

Now, to test you've successfully installed `gcc`, type in `gcc --version`. You should get:

```
hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$ gcc --version
gcc (Ubuntu 9.3.0-10ubuntu2) 9.3.0
Copyright (C) 2019 Free Software Foundation, Inc.
This is free software; see the source for copying conditions. There is NO
warranty; not even for MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

hamster@LAPTOP-A7MQPK7U: /mnt/c/Users/qqniy$
```

Congratulations! You're done! 🎉 🎉 🎉