

# Install Ubuntu on Windows 10

Ronald Mak

Department of Computer Engineering

Department of Computer Science

Department of Applied Data Science

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## Introduction

Linux is an industry-standard operating system, and **Ubuntu** is a popular distribution of Linux. Because Windows has many compatibility challenges, you are strongly encouraged to use Ubuntu. See <https://www.ubuntu.com/>

## Install Linux on Windows 10

Windows 10 has a feature, Windows Subsystem for Linux, that allows you to install a Linux distribution directly and then run it. See <https://docs.microsoft.com/en-us/windows/wsl/install-win10> for instructions. Choose Ubuntu.

By itself, Windows Subsystem for Linux will open only a terminal window, and so you can only run command-line applications. To run graphics applications or any application that uses a graphical user interface (GUI), you will also need to install and run an X Window server.

There are two popular X Window servers. You may need to install and try both to see which one works best for you:

- **VcXsrv Window X server:** <https://sourceforge.net/projects/vcxsrv/>
- **Xming X Server:** <http://www.straightrunning.com/XmingNotes/>

Start the X Window server before you start Linux.

When you start Ubuntu, the terminal window will open. Before you start any program that uses a GUI or any graphics, enter the following command in the terminal window:

```
export DISPLAY=:0
```

You will need to enter this command once each time you open an Ubuntu terminal window. However, you can avoid having to do this if you add the command to the `.bashrc` file in your home directory, which contains commands that Ubuntu automatically runs each time you open a terminal window. Note that the name starts with a period, and the name may not appear in a file listing unless you enter the following command in your home directory:

```
ls -a
```

## Access the Windows file system

From within Ubuntu, you can access directories and files out in the Windows file system. Use `/mnt/c` to access your C drive and `/mnt/d` to access your D drive. For example:

```
ls /mnt/d
```

## Software development on Linux

Next read the tutorial “Configure Ubuntu for Software Development”:

<http://www.cs.sjsu.edu/~mak/tutorials/ConfigureUbuntu.pdf>