# How to run graphical Linux applications on Bash on Ubuntu on Windows 10

Your PC must be running (at a minimum) a 64-bit version of Windows 10 with the Anniversary Update. The Creator's Update is recommended.

To find your PC's CPU architecture and Windows version/build number, open

Settings>System>About.

Look for the System Type and Version fields respectively, as shown in the screenshot below.
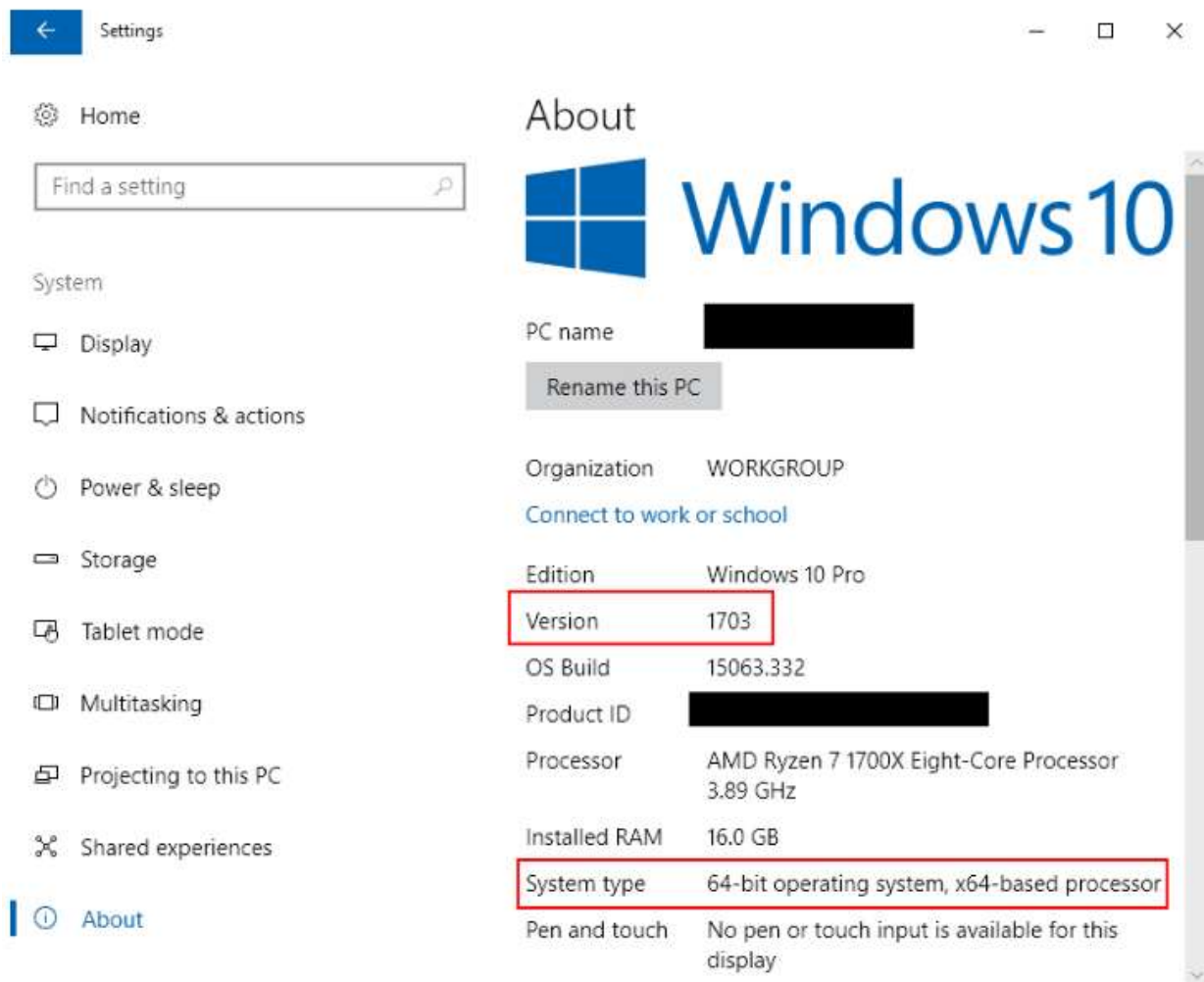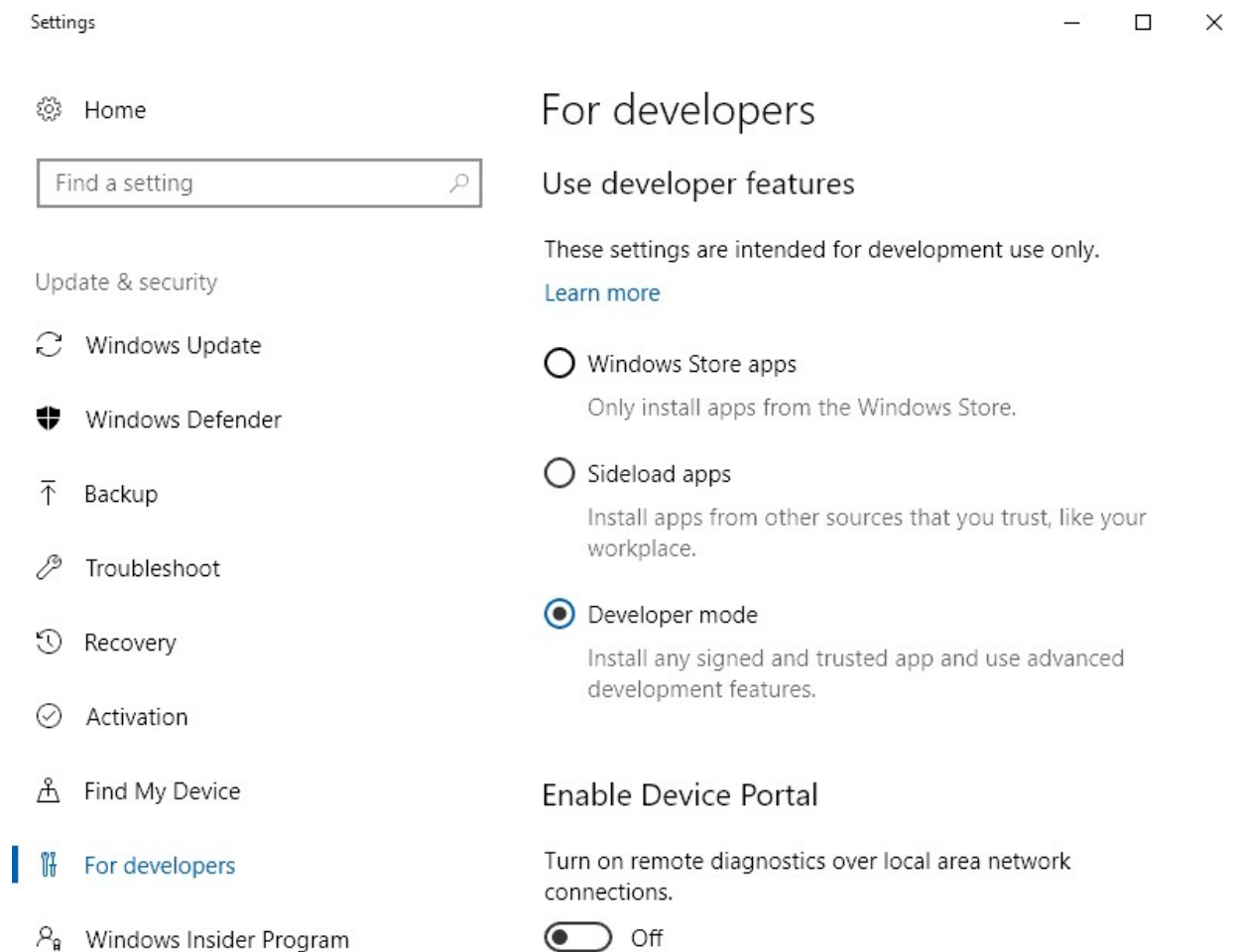

If your build is below 14393, try checking for updates.

In order to run Bash on Windows, you will need to manually:

1. Turn on Developer Mode
2. Enable the "Windows Subsystem for Linux (beta)" feature via the GUI or the command-line

Turn on Developer Mode

1. Open Settings -> Update and Security -> For developers
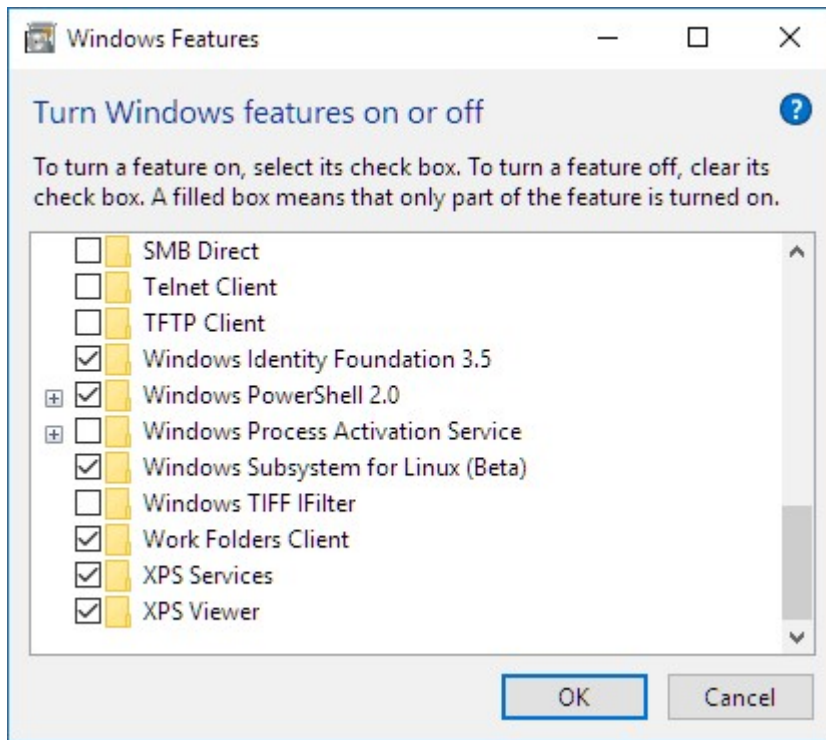2. Select the Developer Mode radio button

Enable the Windows Subsystem for Linux feature

You can enable the feature using a GUI or command-line interface.

GUI Method

1. From the Start Menu, search for "Turn Windows features on or off" (type 'turn')
2. Select Windows Subsystem for Linux (beta)

1. Click OK

Command-line Method

Open a PowerShell prompt as administrator and run:

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

After enabling Windows Subsystem for Linux

Restart your computer when prompted.

It is important that you DO restart when prompted as some of the infrastructure which Bash on Windows requires can only be loaded during Windows' boot-up sequence.

Installing Ubuntu

Go to Microsoft Store and download UBUNTU for Windows 10.

This will install UBUNTU without graphics support.

Updating Ubuntu

After you have set up your user, update Ubuntu.

You can update the installed packages just like any other Ubuntu installation:

sudo apt-get update && sudo apt-get upgrade -y && sudo apt-get upgrade -y && sudo apt-get dist-upgrade -y && sudo apt-get autoremove -y

Graphical Applications

In order to run Linux GUI applications on Bash On Ubuntu on Windows, you must:

1. Install a X server for Windows
2. Configure bash to tell GUIs to use the local X server

Install VcXsrv

In order to run graphical Linux applications, you'll need an X server.

VcXsrv is a fully open source and up-do-date native X server for windows.
1. Download and run the latest installer
2. Locate the VcXsrv shortcut in the Start Menu
    1. Right click on it
    2. Select More>Open file location
    3. Copy the VcXsrv shortcut file
3. Paste the shortcut in the following directory
C:\Users*your_windows_user_name*\AppData\Roaming\Microsoft\Windows\Start Menu\Programs\Startup
4. Launch VcXsrv for the first time

You may receive a prompt to allow it through your firewall. Cancel/deny this request! Otherwise, other computers on your network could access the server.
A X icon will appear in your system tray.

Configure bash to use the local X server

1. In bash run:
    echo "export DISPLAY=localhost:0.0" >> ~/.bashrc
2. To have the configuration changes take effect, restart bash, or run:
    . ~/.bashrc

Test a graphical application

1. Install x11-apps
    sudo apt-get install x11-apps
2. Run xeyes
A new window will open, containing a pair of eyes that will follow your mouse movements.