

IEEE CCWC 2021 IoT Workshop

Installing QEMU on Windows 10

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SUMMARY

This document shows how to install the QEMU virtual machine system on Windows 10.

DETAILS

This is Part 1 **QEMU-Install** of the Preparation for the distributed Raspberry Pi workshop.

Complete all of **Part 1** of the preparation at least a day before the workshop.

Part 1 has several sub-steps. In most cases with 15MBit internet connections, we expect Part 1 to take several hours. Part 1 may require up to 2GB of storage.

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STEPS

STEP 1: GO TO WWW.QEMU.ORG

← → ↻ 🔒 qemu.org

DOWNLOAD

QEMU

the FAST! processor emulator

What is QEMU?

QEMU is a generic and open source machine emulator and virtualizer.

```
[test@donizetti ~]$ qemu-arm ./ls --color /
bin          lib64        mnt          root         srv           system-upgrade-root  var
boot         home         lost-found  opt          run          sys
dev          lib          media       proc        sbin         system-upgrade      usr
[test@donizetti ~]$ uname -a
Linux donizetti 4.6.7-300.fc24.x86_64 #1 SMP Wed Aug 17 18:48:43 UTC 2016 x86_64
x86_64 x86_64 GNU/Linux
[test@donizetti ~]$ file ./ls
./ls: ELF 32-bit LSB executable, ARM, EABI5 version 1 (SYSV), dynamically linked
      interpreter /lib/ld-linux-armhf.so.3, for GNU/Linux 3.0.0, stripped
[test@donizetti ~]$
```

Directory of C:\Users\doni\Downloads

File Name	Size	Modified	Type
qemu-arm.exe	5,267,312	08/22/2016 05:29	Application Extension

Select Download

Download QEMU

Linux	macOS	Windows
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Stefan Weil provides binaries and installers for both **32-bit** and **64-bit** Windows.

Version numbering

Since version 3.0.0, QEMU uses a time based version numbering scheme:

major

incremented by 1 for the first release of the year

minor

reset to 0 with every major increment, otherwise incremented by 1 for each release from git master

micro

always 0 for releases from git master, incremented by 1 for each stable branch release

Select Windows

Download QEMU

Linux	macOS	Windows
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Select 64-bit or 32-bit installer

Almost all Windows 10 machines are 64-bit machines

Download the installer (about 180MB).

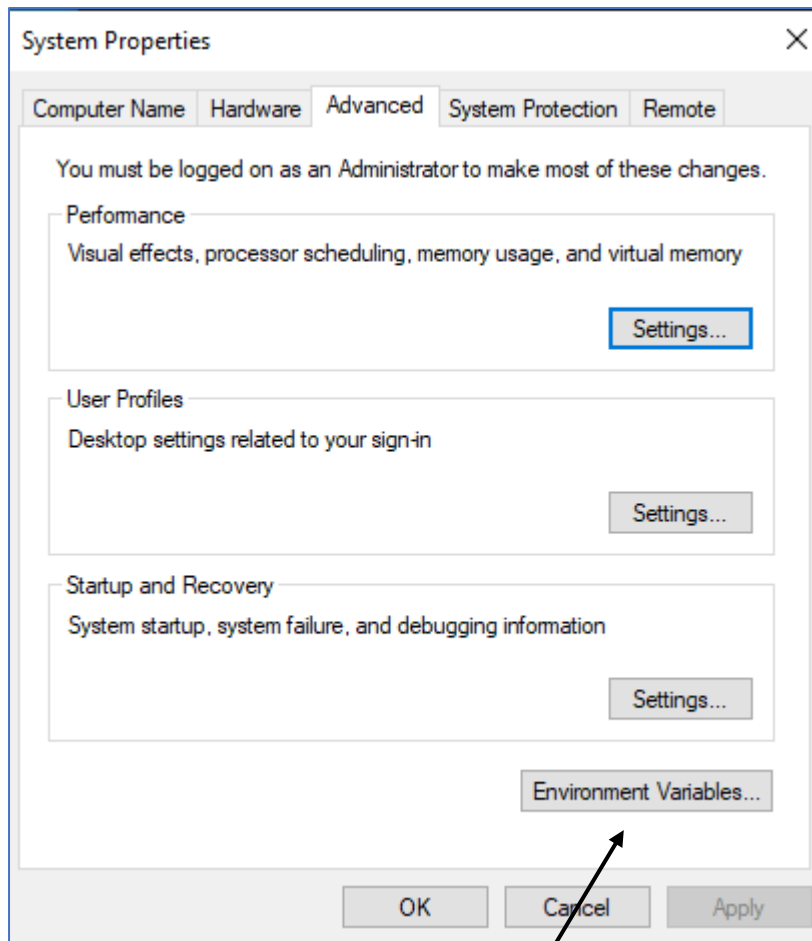
Run the installer once it is downloaded

Ensure you agree with the terms-and-conditions

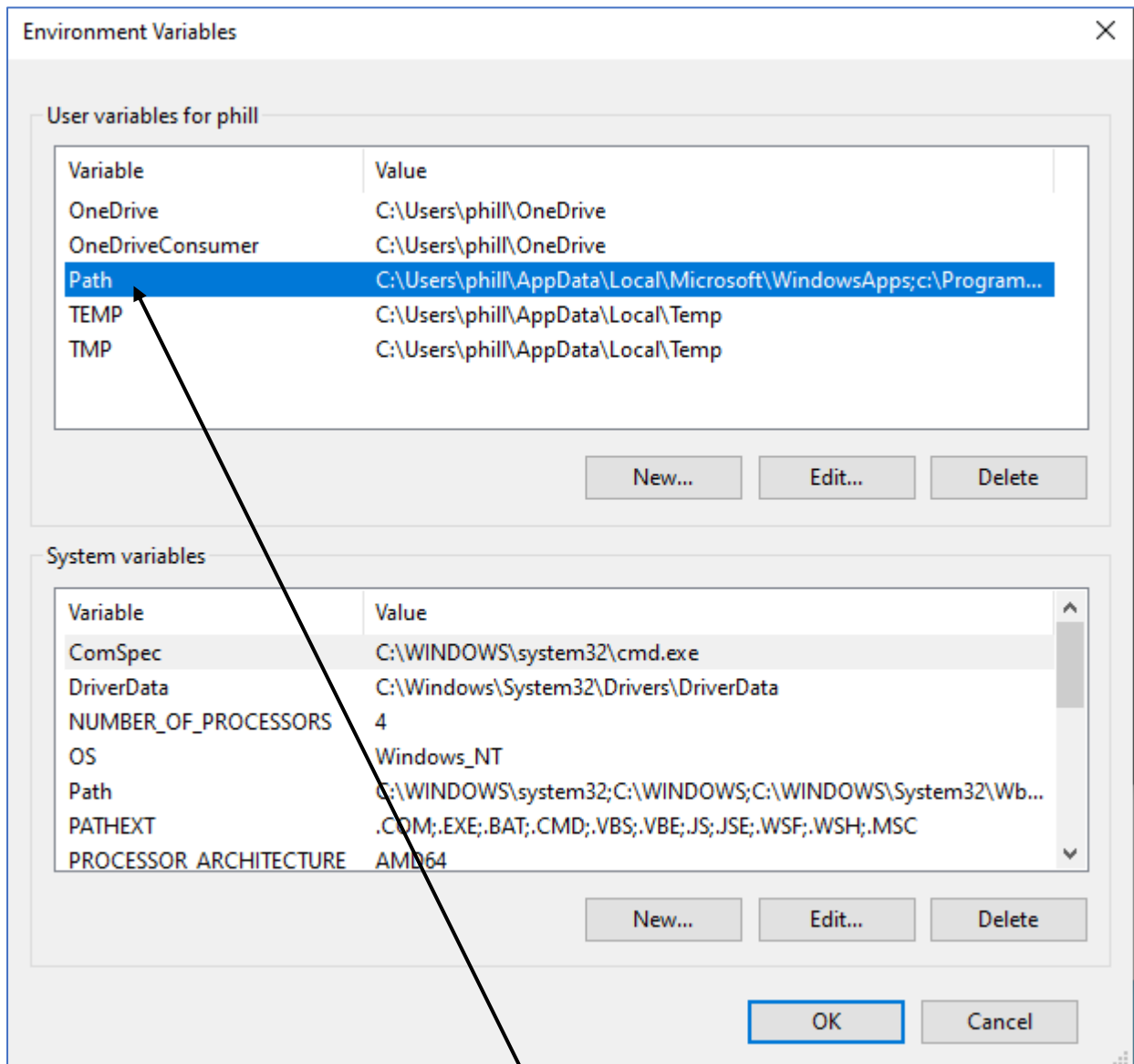
STEP 2: UPDATE ENVIRONMENT VARIABLES

The standard location for installing QEMU is [C:\Program Files\qemu\](#)

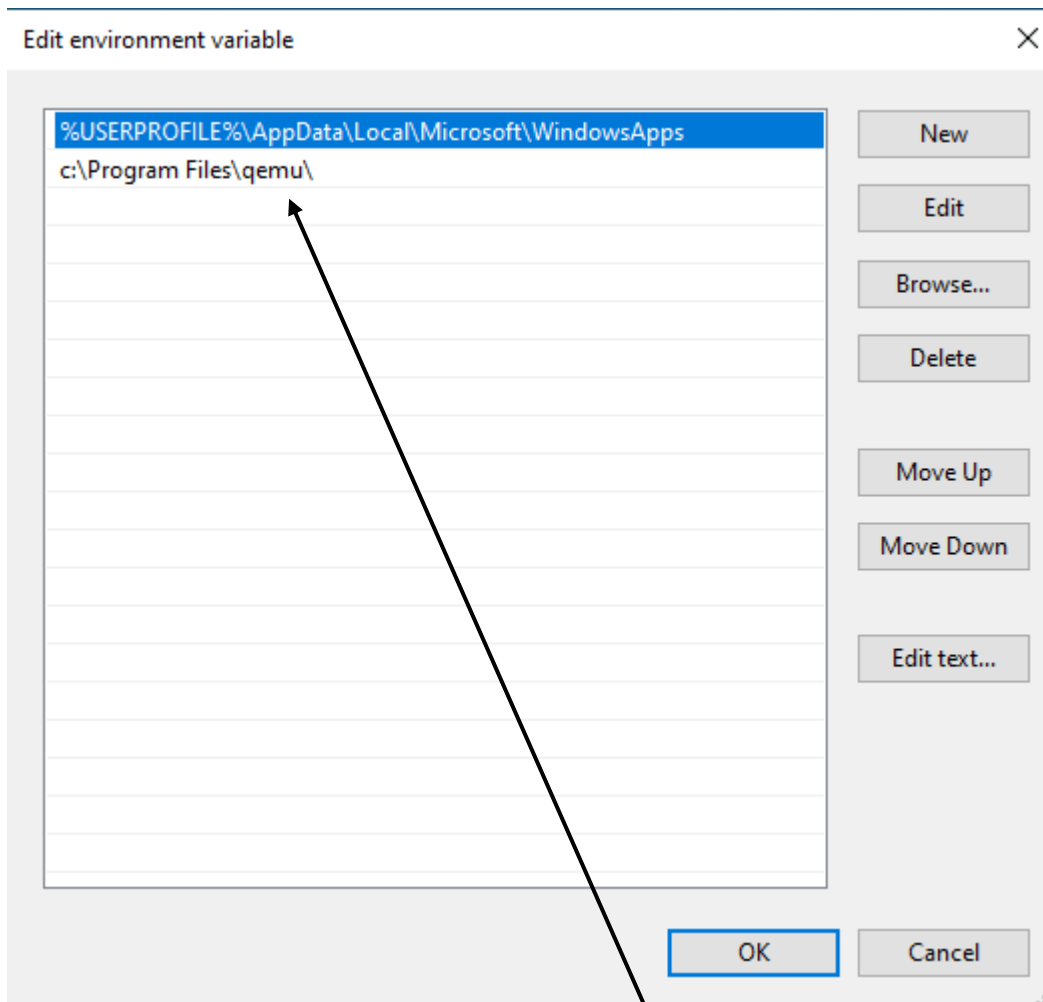
This must be set up in the system properties



Select Environment Variables



Select the **Path** Environment Variable



Add **C:\Program Files\qemu** to a new line

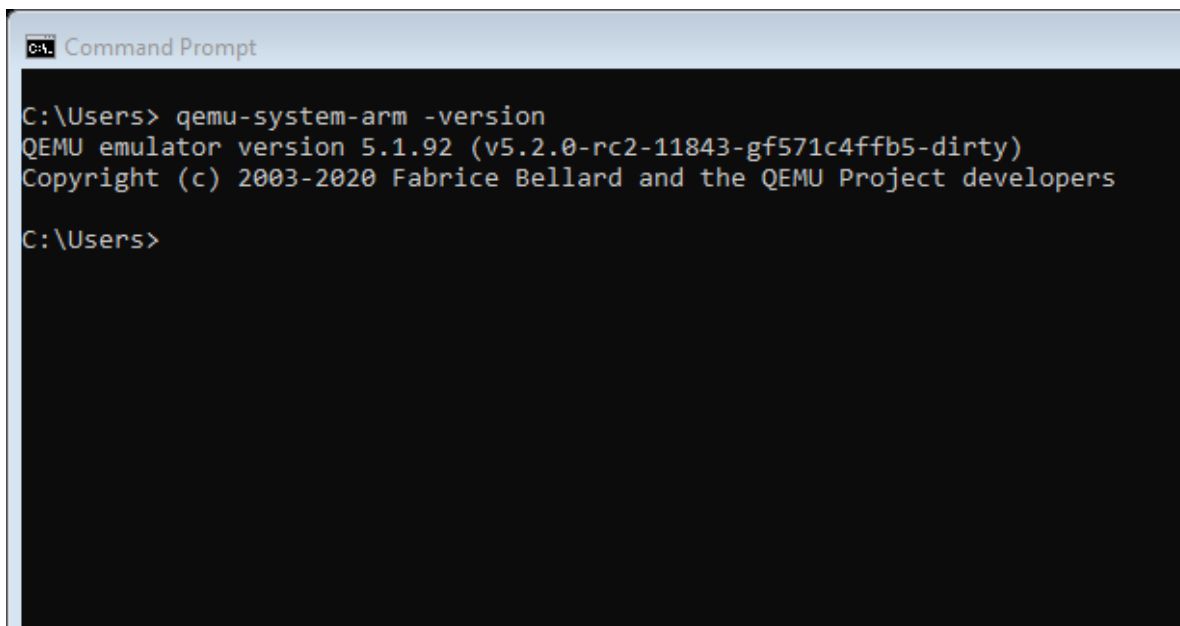
Select OK to each of the following

1. Edit Environment Variable
2. Environment Variables
3. System Properties

STEP 3 SANITY CHECK QEMU INSTALL

Open a new Terminal and verify the version of qemu-system-arm is 5.1.92:

Get a Command Prompt (a terminal)



```
Command Prompt
C:\Users> qemu-system-arm -version
QEMU emulator version 5.1.92 (v5.2.0-rc2-11843-gf571c4ffb5-dirty)
Copyright (c) 2003-2020 Fabrice Bellard and the QEMU Project developers
C:\Users>
```

Windows 10> qemu-system-arm -version

QEMU emulator version 5.1.92
Copyright (c) 2003-2020 Fabrice Bellard and the QEMU Project developers

NOTES

The QEMU system requires under 2GB on disk.