Note:

https://ultibo.org/forum/viewtopic.php?f=13&t=1303&p=11632#p11632

By Ultibo Wed Jul 21, 2021 9:01 pm

I suspect the version of QEMU that you have on the RPI3B+ is later than the one on the RPi4, try doing gemu-system-arm -version on each one.

We recently discovered that the Ultibo SD card driver was not compatible with the latest versions of QEMU, a fix for this is included in the release from today (Ultibo core 2.1.079) so if you update your RTL to the latest either using the RTL Builder or by rerunning the ultiboinstaller script then it should work now. https://en.m.wikipedia.org/wiki/QEMU. On the pi400-1 I ran ./ultiboinstaller.sh on pi400-1.

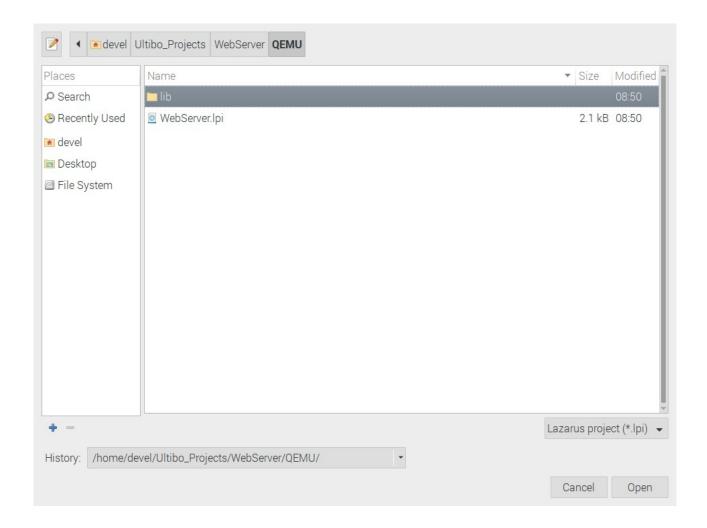
QEMU is a <u>hosted virtual machine monitor</u>: it emulates the machine's <u>processor</u> through dynamic <u>binary translation</u> and provides a set of different hardware and device models for the machine, enabling it to run a variety of <u>guest operating systems</u>. It also can be used with <u>Kernel-based Virtual Machine</u> (KVM) to run virtual machines at near-native speed (by taking advantage of hardware extensions such as <u>Intel VT-x</u>). QEMU can also do emulation for user-level processes, allowing applications compiled for one architecture to run on another.[3]

Note: Additional software is needed to run QEMU "sudo apt-get install qemu-system-arm". The following programs are added.

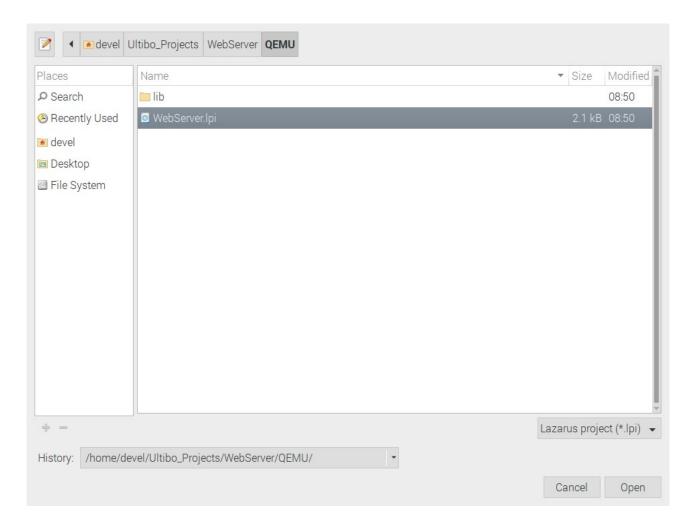
/usr/bin/qemu-img /usr/bin/qemu-nbd /usr/bin/qemu-system-aarch64 /usr/bin/qemu-io /usr/bin/qemu-pr-helper /usr/bin/qemu-system-arm

The command line for starting Lazarus IDE (Ultibo Edition) "~/ultibo/core/lazarus.sh"

Project/Open



Select WebServer.lpi



Depress Open

```
File Edit Search View Source Project Run Tools Window Help
 <u>~</u> ₩ ₩
WebServer ×
     1 program WebServer;
         {$mode objfpc}{$H+}
            This example demonstrates how to create a simple web server using the HTTP listener class. Ultibo includes both client and server classes for HTTP which can be used to interact with your devices in numerous ways.
    10
            To compile the example select Run, Compile (or Run, Build) from the menu.
             Once compiled select Tools, Run in QEMU ... from the Lazarus menu to launch
             the application in a QEMU session.
    15
            QEMU VersatilePB version
What's the difference? See Project, Project Options, Config and Target.
          {Declare some units used by this example.}
    20
            QEMUVersatilePB,
            GlobalConst
            GlobalTypes
            Platform,
    25
            Threads,
                                    INS /home/devel/Ultibo_Projects/WebServer/QEMU/WebServer.lpr
 128: 1
```

Run/Compile The kernel.bin is created when the Grean bar appers.

```
File Edit Search View Source Project Run Tools Window Help
a • • • •
WebServer.lpr ×
     1 program WebServer;
          {$mode objfpc}{$H+}
     5 { Example 12 Web Server
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     15 {
          { QEMU VersatilePB version { What's the difference? See Project, Project Options, Config and Target.
          {Declare some units used by this example.}
         uses
            QEMUVersatilePB.
            GlobalTypes
            Platform,
     25
            Threads
  128: 1
                                     INS /home/devel/Ultibo_Projects/WebServer/QEMU/WebServer.lpr
```

Contents startqemu.sh

#!/bin/bash
qemu-system-arm -machine versatilepb -cpu cortex-a8 -kernel kernel.bin \
-net user,hostfwd=tcp::5080-:80,hostfwd=tcp::5023-:23 -net nic \
-drive file=disk.img,if=sd,format=raw

./startqemu.sh

QEMU pi400-1



Chromium & QEMU on pi400-1 The pi400-1 is connected wireless



Hello from the Ultibo Web Server

FireFox on mypi3-20 which connect to main router.

Hello from the Ultibo Web Server