

## Raspberry pi with Telos Installation

Status: The raspberry pi has been configured to communicate with the TelosB nodes.

Hardware: Raspberry Pi 3B/+, minor testing showed that a 2B(?) worked as well.

OS: Ubuntu Mate Raspberry pi aarch32 (NOT aarch64, may need to do extra commands)

<https://ubuntu-mate.org/download/>

OS Installation: After downloading the image, I used the program “Rufus” to burn the image to a micro SD card. Putting the micro SD card into the pi and powering it, allowed for the installation process to begin.

Contiki Installation: Once the OS was installed, the installation of contiki can now be installed following: <http://anrg.usc.edu/contiki/index.php/Installation>

While installing the packages for the OS, one of them was not found therefore the others were not installed. Following the error provided and the command should be:

```
sudo apt-get install build-essential binutils-msp430 gcc-msp430 msp430-libc  
msp430mcu mspdebug gcc-arm-none-eabi openjdk-8-jdk openjdk-8-jre ant  
libncurses5-dev
```

Once completed, the hello-world program was implemented to test for other errors. [http://anrg.usc.edu/contiki/index.php/Hello\\_World](http://anrg.usc.edu/contiki/index.php/Hello_World)

There should be errors during the first part, where the program is ran on the Raspberry Pi, though the second half will give errors. If there is a permission issue, put “sudo” in front of the code. Instead of following the instructions provided about putting in a new “serialedump-linux” do the following.

1. Navigate to the following directory “contiki/tools/sky” using: ***cd contiki/tools/sky***
2. Delete the file “serialdump-linux” using: ***sudo rm serialdump-linux***
3. Rebuild the file using: ***make serialdump***
4. Check to see if the file created is named “serialdump-linux” using: ***ls***
5. If its not, then rename it to that by using: ***mv serialdump serialdump-linux***
6. Change the privilege of the file using: ***sudo chmod 775 serialdump-linux***
7. Use the command: ***sed -ie 's^(ifdef O\_)SYNC^IDIRECT/' serialdump.c***
8. Navigate to the following directory “contiki/examples/hello-world” using: ***cd && cd contiki/examples/hello-world***
9. Retry running the program using: ***make TARGET=sky hello-world.upload login***

The program should now run properly off of the skymote, as well as the other programs.

10. Follow the README file inside of the Gateway Programs to setup the gateway.

Sources:

<https://contiki-developers.narkive.com/aHwt9TzD/make-login-problem>