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Raspberry PI 400 Install Notes

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Version 2.1b, 04/01/2022: Notes

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Installation and customization of Raspberry PI 400 for development environment.

To view a PDF version of this document click this Link

The GitHub Repository is located at this Link

The GeekMustHave Blog Post is located at this Link

1. Introduction

These are notes from the start up installation and configuration of the RPI400.

2. Additional Software

2.1. Double commander

Dual pane file manager

```
sudo apt-get install doublecmd-qt
```

After this install the Double commander should be in the `Accessories`

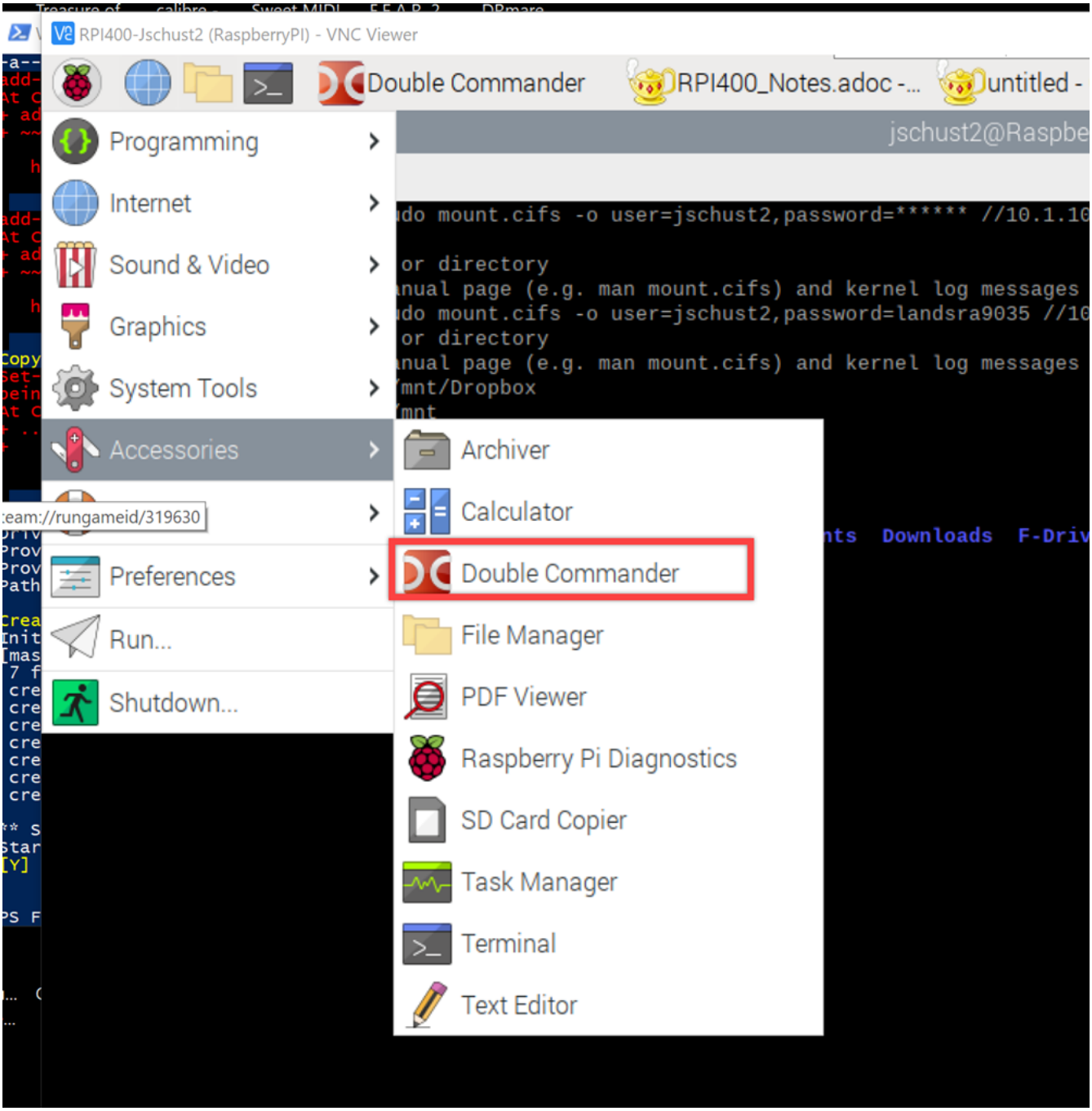

Figure 1. Double Commander

2.2. Visual Studio Code

IDE and editor with great extension library

Reference: https://code.visualstudio.com/docs/setup/raspberry-pi

```
sudo apt update
sudo apt install code
```

2.3. Arduino IDE

C++ IDE editor for ardunio based boards

Rference: https://www.raspberrypi-spy.co.uk/2020/12/install-arduino-ide-on-raspberry-pi/

The install below results in the installation of Arduino IDE version 1.6. This is an extremely outdated version which makes it difficult to use or impossible to flash certain devices.

```
sudo apt install arduino
```

Download current IDE from website https://www.arduino.cc/en/software

Linux Arm 64 bit, as rgw RPI400 project is 64 bt based.

Copy of `arduino-1.8.19-linuxaarch64.tar` is located here

Go to download and untar

```
tar -xf arduino-1.8.19-linuxarm.tar.xz
```

Move the folder to the `opt` directory.

```
sudo mv arduino-1.8.19 /opt
```

Run the script to install it

```
sudo /opt/arduino-1.8.19/install.sh
```

The scrip will add and entry to the `Programming` tab for Arduino IDE.

3. Chrome Extensions

3.1. ASCIIDoctor JS extension

This Chrome extension will allow viewing of an `*.adoc` file directly in the browser.

Reference: https://chrome.google.com/webstore/detail/asciidoctorjs-live-previe/iaalpfgpbocpdfblpnhhgllgbdbchmia

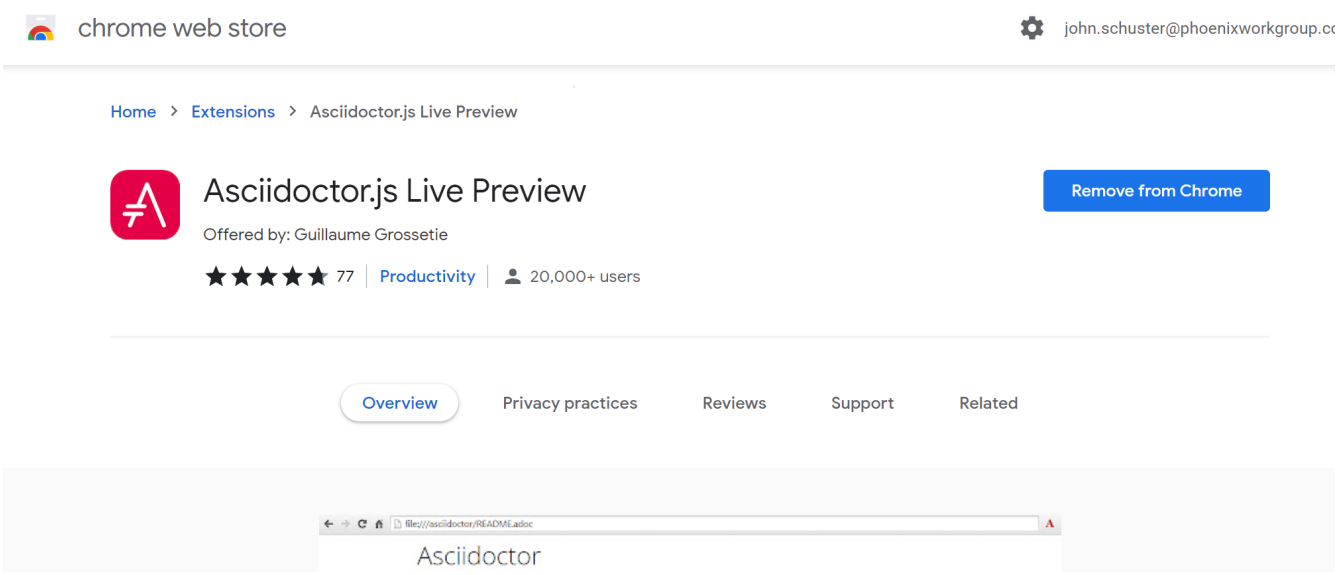

Figure 2. Chrome Store

The extension must be enabled to allow use of File URLS.

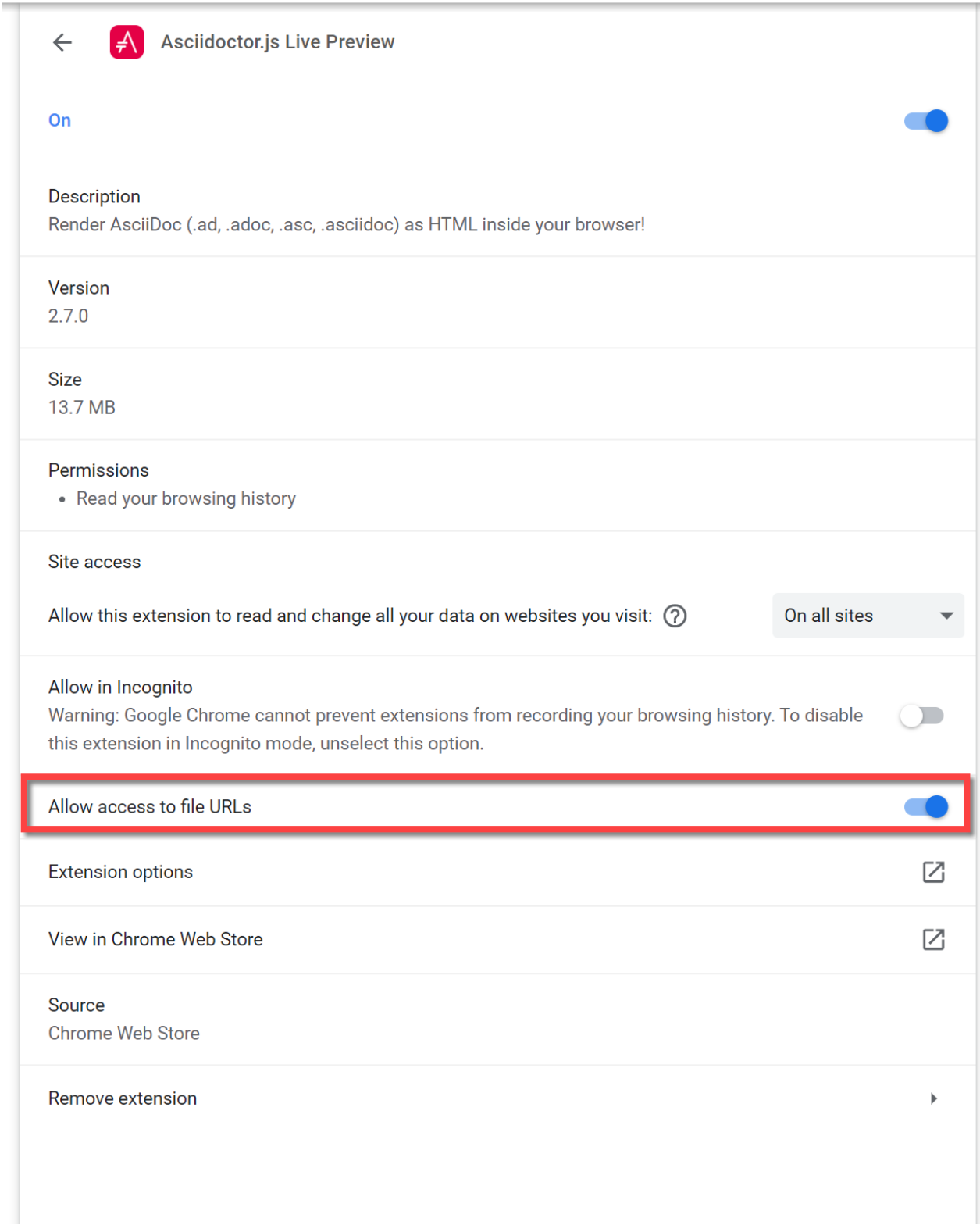

Figure 3. Extension Setting

4. Networking

4.1. VNC Server

The VNC server will allow for GUI remote access for Windows systems.

In RPI Terminal enter

```
sudo raspi-config
```

Go to Interface options, then to VNC, then enable VNC server

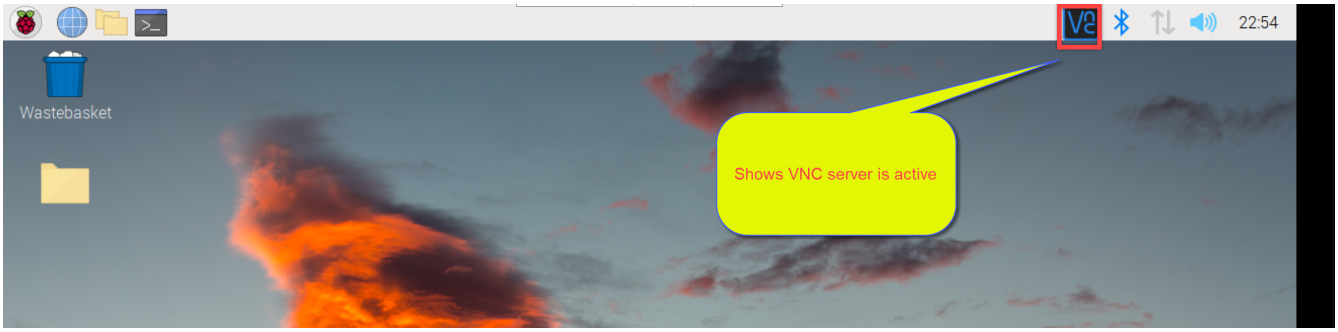

Figure 4. Verify VNC running

5. Windows Mount RPI400 Share

Using Windows file explorer map a drive

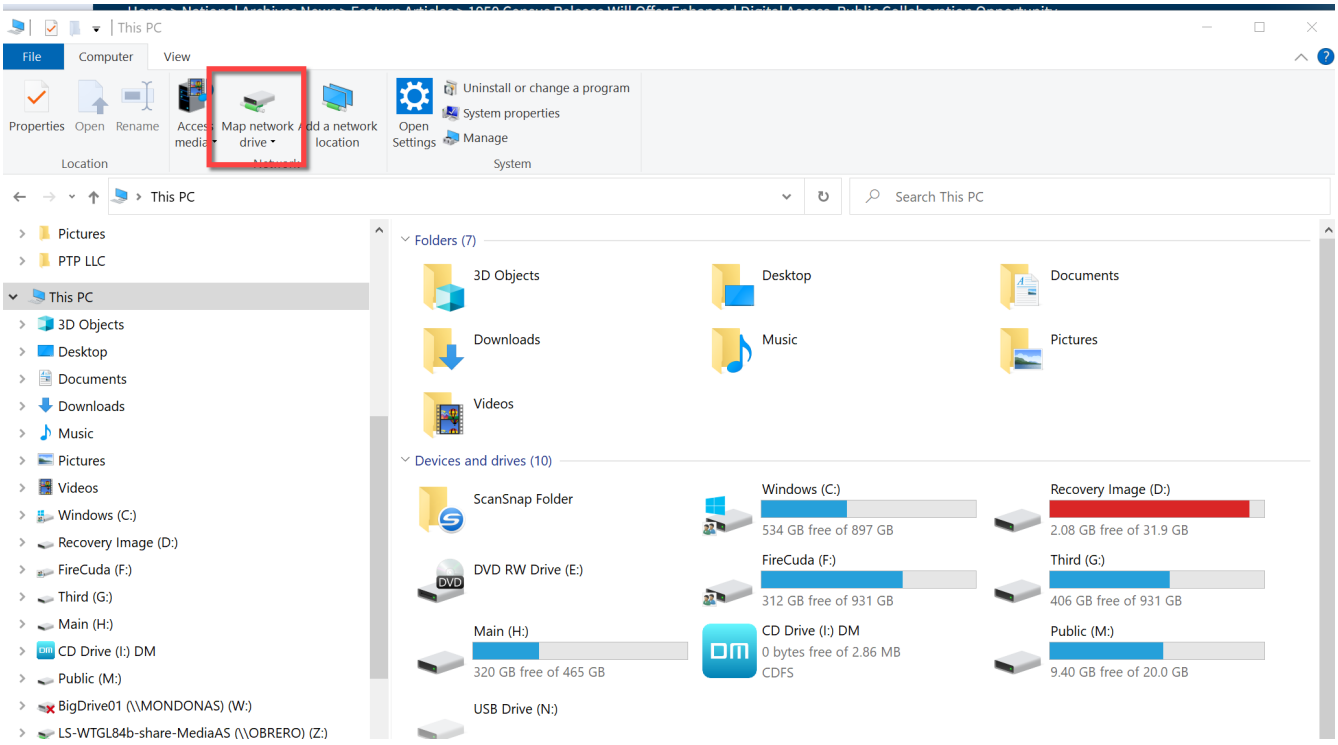

Figure 5. Map Drive

The go to the proper RPI400 share

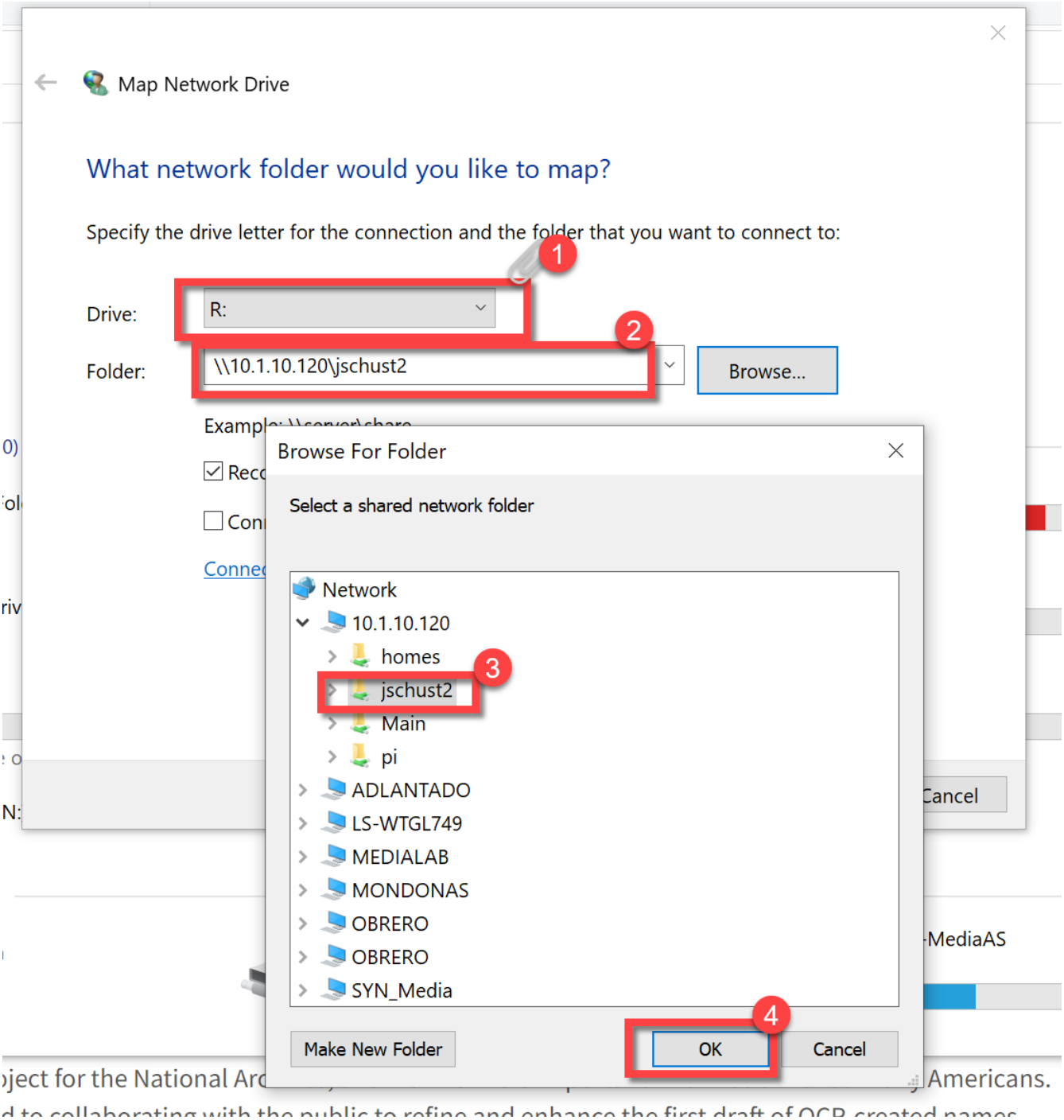

Figure 6. SharedFolder

5.1. Mount Windows share

The following section never worked!!!! All I ever got was

```
 jschust2@RaspberryPI:~ $ sudo mount.cifs //10.1.10.22/Dropbox /home/jschust2/Dropbox/
-o user=jschust2,password=landsra9035
mount error(2): No such file or directory
Refer to the mount.cifs(8) manual page (e.g. man mount.cifs) and kernel log messages
(dmesg)
jschust2@RaspberryPI:~ $
```

Reference: https://www.bitpi.co/2015/02/16/accessing-a-windows-share-with-a-raspberry-pi/

This will allow the Dropbox folder on the Windows desktop be available to the RPI400.

Verify using Windows `CMD` that Windows share is available using the following command.

```
net share
```

The share must be listed here to use in on RPI.

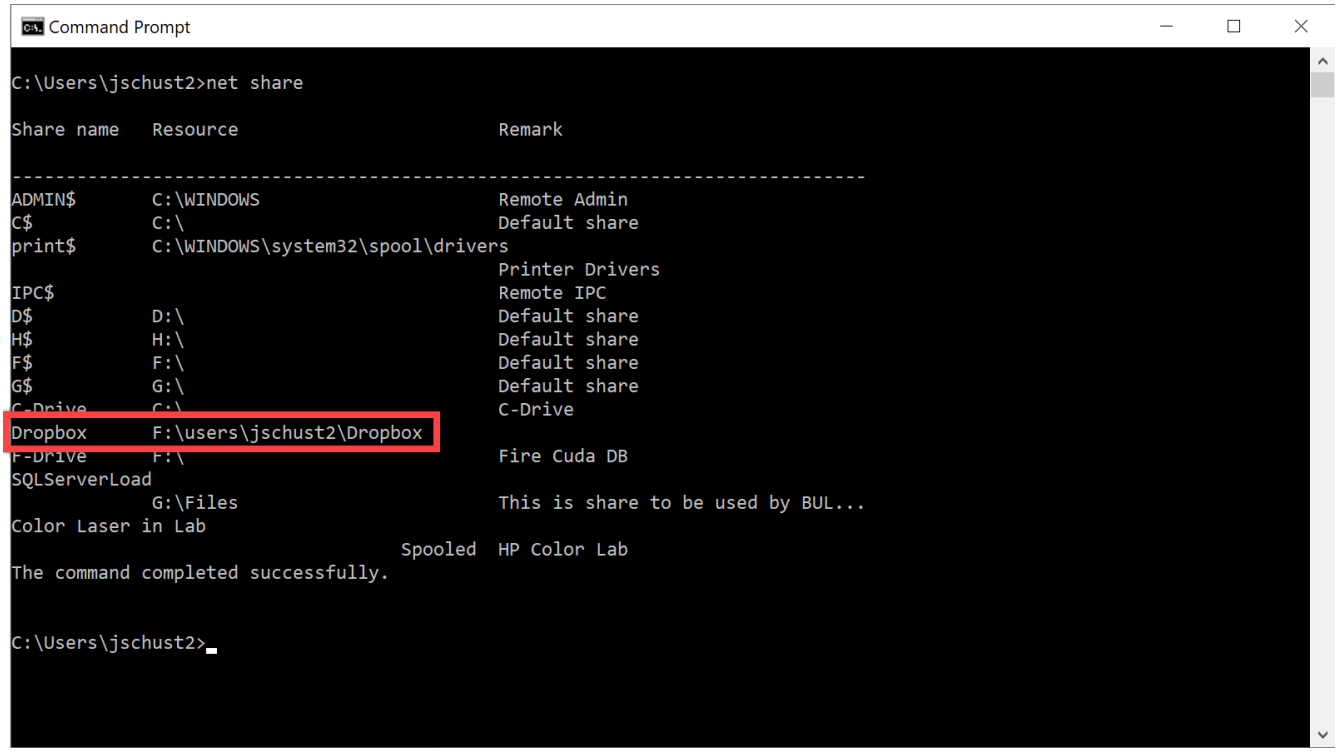

Figure 7. Verify Windows share

Verify the proper permissions exist

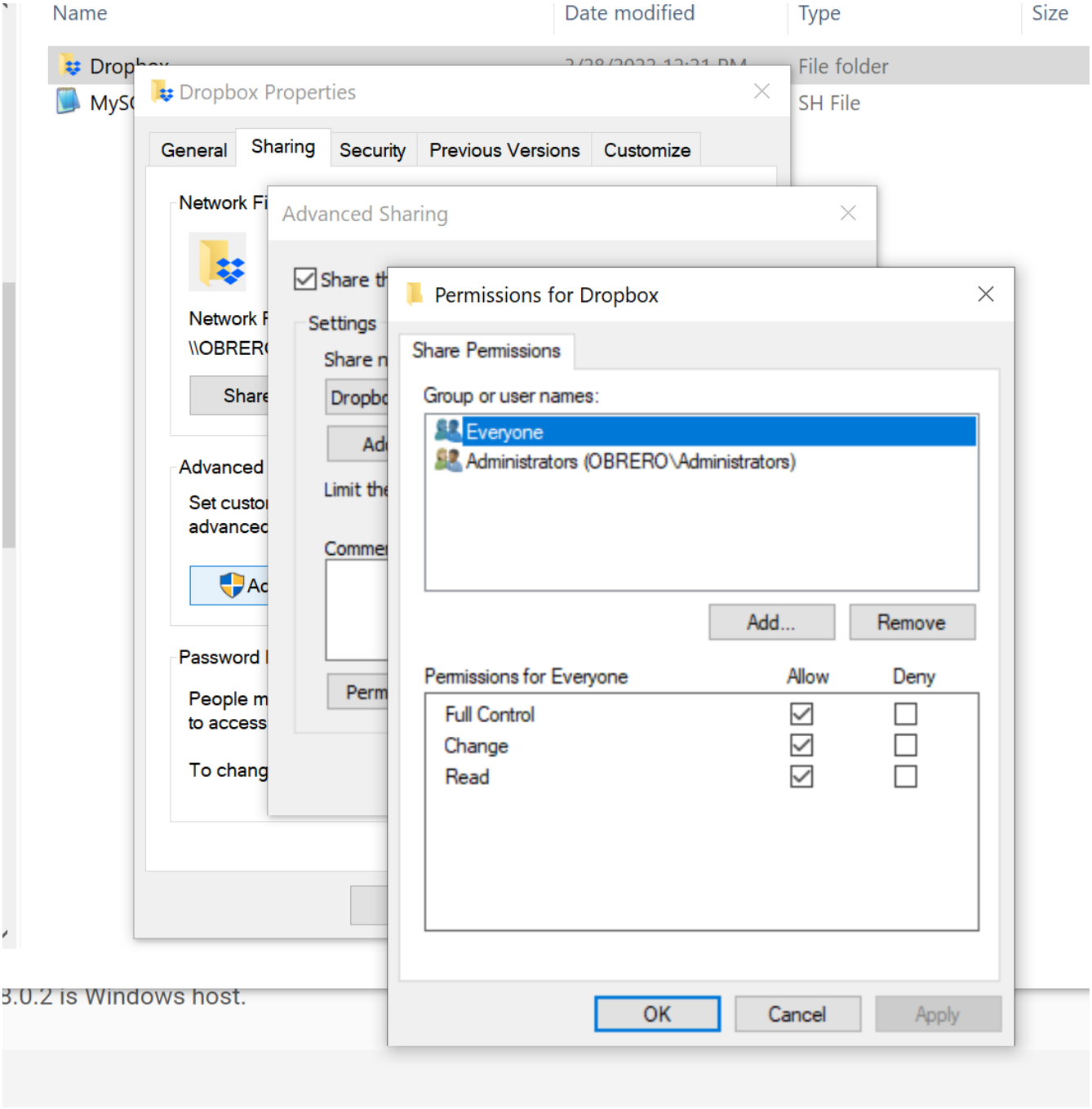

Figure 8. Dropbox folder permissions

Respect the RPI User name you logged in under. In this case the login is `jschust2` not `pi`

Using the RPI GUI Raspberry PI Configuration utility, Turn off the Auto login feature to avoid confusing `jschust2` and `pi`. There were a lot of headaches here.

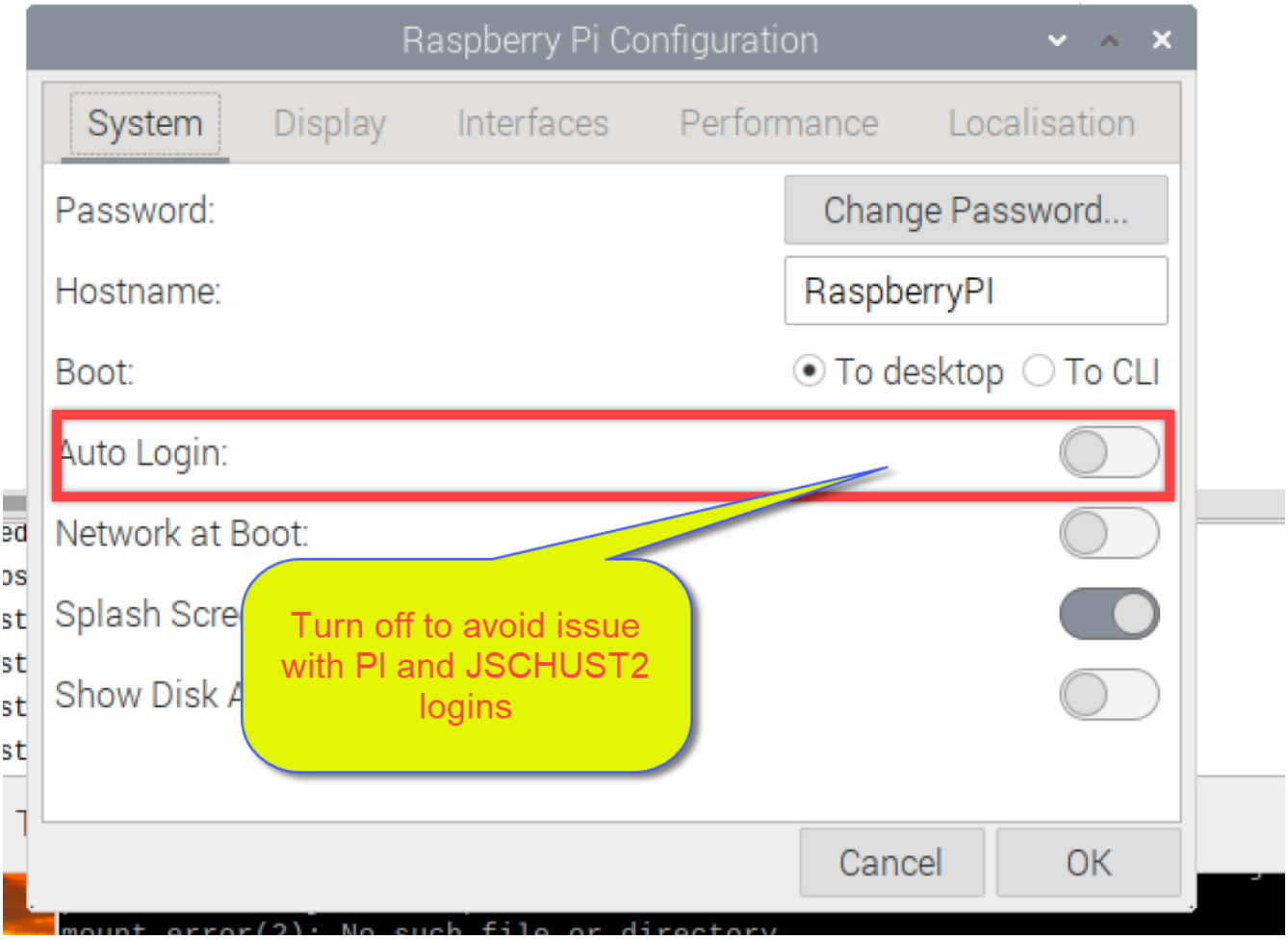

Figure 9. RPI Auto Login

Install SAMBA and Utilities for SMB support.

```
sudo apt-get install samba
```

```
sudo apt-get install samba-common-bin
```

We will need to install cifs-utils. This will help us mount SMB directories- which is what we get from Windows. We can install easily on Raspbian by running the following command:

```
sudo apt-get install cifs-utils;
```

Establish mount to a Windows share

Now we will create a mount point in the `mnt` directory:

```
mkdir /mnt/Dropbox/
```

The mount command for the Dropbox folder on the desktop the newly created folder on the RPI400.

```
sudo mount.cifs -o user=jschust2,password=****** //10.1.10.22/Dropbox /mnt/Dropbox
```

No space between user and password, all optional args are comma separated.

In order for your Raspberry Pi to mount the network shares on boot up, we need to modify the /etc/fstab file.

There may be entries there already. All we need to do is add the following to the end of the file:

```
//10.1.10.22/Dropbox  /mnt/Dropbox  cifs
username=jschust2,password=******,iocharset=utf8,sec=ntlm  0  0
```

Now we can manually run the same mount process at boot up from the command line by running:

```
sudo mount -a;
```

restart the samba service so that it loads in our configuration changes.

```
sudo systemctl restart smbd
```

6. References

7. Document History

Table 1. Document History

Date	Version	Author	Description
04/01/2022	V2.1b	JHRS	Initial version