

ESTABLISHING A REMOTE DESKTOP CONNECTION WITH THE RASPBERRY PI'S

Step 1: Install Required Software

For this step and the next step we will need an actual monitor plugged directly into the Raspberry Pi. Without even going into the GUI desktop of the pi we can install XRDP with the command:

```
sudo apt-get install xrdp
```

Step 2: Establish a Static IP Address for the Pi

This part is a little harder. We need to establish 5 things: **address, netmask, network, broadcast, and gateway**. We are running on a nice localized network so luckily, this is a lot simpler. On the Windows computer open a command prompt (either by start->search->cmd or "windows key" + "x" and selecting command prompt). Enter the command:

```
Ipconfig
```

Under the Ethernet section the default gateway should read something like 192.168.Y.X and the subnet mask should be something like 255.255.255.0. Record these two numbers as we will use them to build the numbers that we need.

You may have guessed it we already have two of our five magic numbers (netmask and gateway). Broadcast is the same as the gateway just with a 255 as the last number. Network is also the same just with a 0 as the last number. Lastly the address is also the same but with any choice of a number between 2 and 253 that is not currently being used. I chose to use 200, 201, and 202 in sequence for ease of use for each Pi.

As an example if I got a gateway of 192.168.10.1 and a subnet mask of 255.255.255.0 my five numbers would be:

```
address 192.168.10.200
netmask 255.255.255.0
network 192.168.10.0
broadcast 192.168.10.255
gateway 192.168.10.1
```

Now that we have the numbers we need to establish the static ip address using them. On the Pi's terminal type the command:

```
Sudo nano /etc/network/interfaces
```

This will open the interfaces text file for editing with nano. The line that reads "iface eth0 inet xxxxxx" needs to be changed so that xxxxxx is "static". Then directly after this line put in all of our magic numbers. You should have a block of text that looks like this:

```
iface eth0 inet static
address 192.168.10.200
netmask 255.255.255.0
network 192.168.10.0
broadcast 192.168.10.255
gateway 192.168.10.1
```

Hit CTRL+O to save and then CTRL+X to exit. Reboot the Raspberry Pi for the changes to take place.

Step 3: Remote Desktop Connection

Once the Raspberry Pi reboots it will now be running XRDP on startup and it will be using the statically assigned IP address that we gave it. Open up the program called "Remote Desktop Connection" in windows. This is a standard program that comes with windows so there is no need to install anything. Type in the static IP address of the Pi that you want to connect to and hit enter. Log in to the Pi using the correct information (should be username: pi and password: raspberry by default). This will start a remote desktop connection so you can now use the Pi as a headless machine.

Step 4: Profit...