🖥 SSH/Remote into Raspberry PI

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SSH into Raspberry Pi:

> Startup PI / Activate SSH

| SSH into Raspberry PI to access files and control the system itself remotely.

- Get ip address using hostname -I
- 192.168.1.8
- Store this ip address so we can connect to it later
- In the terminal type, sudo raspi-config
- This will open the BIOS
- Go to SSH and select Enable

> Start up Mac

- Inside the terminal type, ssh pi@192.168.1.8
- You are now connected where you now have access to the files within the PI

Remote into Raspberry Pi GUI (Same network):

| We can login to the raspberry PI within the comfort of our own MAC over the same network

> Startup PI / Install Dependencies

- In the terminal type, sudo apt-get install xrdp
- Select Y to any questions
- This program runs in the background of the PI and will allow us to make the connection to the remote desktop via the MAC

> Fix

| The Raspberry PI comes with dependences for RealVNC (paid version) which are not required. We'll remove them and allow the Pi to install xrdp.

- sudo apt-get remove xrdp vnc4server tightvncserver
- sudo apt-gert install xrdp

> Go to Mac

- In the terminal type, ifconfig
- Store the inet address e.g. 192.168.9.18
- Go to app store and look to download a remote desktop application
- Example uses Microsoft remote desktop
- Go to general and add a new configuration
- Add the Ip found in ifconfig
- User name (Defaults are:) user: **pi** / pass: **raspberry**
- Once complete click save, then double click on the config to start the remote session

Alternative (using Macs built in features)

- Click Go > connect to server
- This will bring up an input, type: vnc://pi.local:5901

Remote into Raspberry Pi GUI (Over External network):

> Software configuration SSH

| We can login to the raspberry PI within the comfort of our own MAC over different wifi networks. Here we will set up third party software to make the connection across the cloud.

- Go to remote3.it and create an account
- SSH into the pi and type, cat /etc/os-release
- This to find out which version of the OS is installed for later
- Then type, sudo apt-get update
- This to ensure the packages are up to date on the pi
- Next let's install the remote.it required dependency, type, sudo apt-get install weavedconnectd
- Now this is installed, we can configure the application by typing, sudo weavedinstaller
- Follow the first instruction (either create acc / or type in your credentials)
- Create a name for your device
- Press 1 to connect the service to the device
- For default set up choose 'ssl'
- Then agree to continue
- Then create a name
- Once complete, navigate to the app page on remote it.
- Select SSH and click connect.
- You will be given various ways to connect to your device via SSH.
- Once you have finished you can switch off your pi using the following commands
- sudo shutdown -h (halt operations and shut down)
- sudo shutdown -h 21:33 (halt operations at 21:33 and shut down)

> Software configuration Remote VNC

- Check you have tightvncserver installed, type, which tightvncserver
- Then type, tightvncserver:1
- This will start the service
- Next we will find the port its running on by typing, sudo netstat -apn | grep tcp | grep LISTEN
- You will most likely see a couple of Xtightvnc, choose the lowest port number
- tcp   0   0 0.0.0.0:5901   0.0.0.0:*   **LISTEN**   2340/Xtightvnc
- Type, sudo weavedinstaller
- So we can configure the VNC connection.
- Follow the instructions, selecting VNC from the options.
- Once complete navigate to the app page on remote.it and login. You will see a modal with the services you have installed on your machine.
- Select VNC and open in your chosen method.

Guide for adding details for web server and VNC:

https://remot3it.zendesk.com/hc/en-us/articles/115006015367-Installing-the-remot3-it-weavedconnectd-daemon-on-your-Raspberry-Pi

https://www.remot3.it/web/finalstep.html

Further reading for the PI / Networking:
https://www.raspberrypi.org/documentation/remote-access/

Access devices:
https://www.remot3.it/web/account.html