Install Operating System (Raspbian)

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Basic Operating System Installation

1. Format (erase) microSD (SD Card Formatter from SD-3C, LLC) – If the microSD card was previously used, reclaim full capacity before formatting (see Details for more information)
    a. From Windows, run ***diskpart***
    b. ***list disk***
    c. ***select disk #*** (replace # with appropriate disk number - be very careful to get the right one!)
    d. ***clean***
    e. ***exit***
    2. Download current NOOBS file from: https://www.raspberrypi.org/downloads/noobs
3. Copy NOOBS to microSD
4. Boot Rpi with microSD
5. Select: install Raspbian
6. Select: US keyboard
7. Select: WiFi to use during installation
8. Select: install
9. Boot Raspbian
10. Open Applications Menu
11. Select: Preferences -> Raspberry Pi Configuration
12. Select: Hostname and Enter name for this Rpi (system should store it in: /etc/hostname and /etc/hosts)
13. Select: Change Password and Enter your desired password (twice)
14. Select: Interfaces tab - enable SSH & VNC if you will be accessing the Rpi from another system – ex: Windows
15. Select: Localization tab.
16. Select: Locale and set Language to English and Country to US
17. Select: Set Time Zone -> Arizona
18. Select: Set Keyboard and set country as United States and Variant as English (US)
19. Select: Set WiFi Country -> US
20. Reboot by Selecting Applications Menu -> Shutdown -> Reboot
21. Open Terminal and Enter: ***sudo apt-get update*** followed by ***sudo apt-get upgrade*** (answer y when asked)
22. Enter: ***sudo shutdown -r now*** to restart

Using an Ethernet Connection

1. Right-click the Communications icon on the Panel
2. Select: Wireless & Wired Network Settings
3. Select: the down arrow on the upper right-hand box
4. Select: eth0
5. Fill in the configuration (turn off IPv6 if you are not using it)
6. Select: Apply -> Close
7. If not using WiFi, click the Communications icon on the Panel and Select: Turn Off WiFi
8. NOTE: in the future, you can remove unwanted WIFI networks that have accumulated by editing: ***sudo nano /etc/wpa_supplicant/wpa_supplicant.conf***

Adapter Configuration

1. Set Wireless and Wired IP Addresses
   a. Right-click network menu item (up/down arrows) in the header
   b. Select Wireless & Wired Network Settings
   c. Select wlan0, disable IPv6 (if you are not using it), fill in remainder of parameters.
   d. Select eth0, disable IPv6 (if you are not using it), fill in remainder of parameters.
2. Select Wi-Fi Network
   a. Click the network menu item in the header
   b. Select the wi-fi network you desire and answer any applicable questions

3. Create System Directory in user pi
   a. If this is a new installation create Install and Backup Shell Scripts
   b. If this is a rebuild, re-create pi directory from system backup.

4. **HELP**
   a. You can remove unwanted WIFI networks:
      sudo nano /etc/wpa_supplicant/wpa_supplicant.conf
   b. You can see the names of wireless interfaces by:
      iw dev (see name & info - replace ***INTERFACE*** in the following commands with a name shown from this command)
      iw dev INTERFACE link (check link status)
      iw dev INTERFACE station dump (get statistical information)
   c. To *manually* configure networking **(not usually required - if used, see if 1st command resolves the problem - ex: picked up wrong wireless network and need to force change) :**
      sudo ifconfig eth0 (or ***wlan0***, ..) ***192.168.1.5*** (your address) ***netmask 255.255.255.0 up*** - Sets IP
      sudo route add default gw 192.168.1.1 (replace with your gateway address)
      sudo echo "nameserver 4.2.2.2" > /etc/resolv.conf (replace address with your DNS address

      Note: You can also ***sudo nano /etc/resolv.conf*** to change the DNS address

      For more:
      https://wiki.archlinux.org/index.php/Wireless_network_configuration