Ubuntu 22.04.2 LTS 64-bit installation on 14-inch HP Stream Laptops (Hardware Model "HP HP Laptop 14s-cf2xxx")

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August 7, 2024

1 Ubuntu Installation

1. Insert Ubuntu USB drive into one of the laptop's USB ports.
2. As the laptop boots, repeatedly press F9 until the Boot Manager menu loads.
3. From the Boot Option Menu, use the down-arrow key to select the USB Hard Drive (UEFI) - PNY option. Press Enter.
4. Screen will say "Error, /boot not found" – ignore.
5. From the Ubuntu boot screen, choose "Try or Install Ubuntu". If you wait longer than 30 seconds, it will be chosen for you automatically.
6. Wait for the loading screen which shows the HP and Ubuntu logos to pass. Eventually you will see an Ubuntu screen with a purple jellyfish wallpaper. When Ubuntu is loaded, the laptop will play a chime sound.
7. Keep the language as English and choose the "Install Ubuntu" option.
8. On the keyboard layout setting, keep all the default settings: English (US) for both. Continue.
9. Choose "I don't want to connect to a Wi-Fi network right now", Continue.
10. Choose "Minimal Installation". Continue.
11. Choose "Erase disk and install Ubuntu". Install now.
12. When prompted to "Write the changes to disks?", Continue.
13. Use the "New York" location for the timezone. Continue.
14. Next screen will ask for computer credentials. Open the Google Sheet located here on a personal device (not the loaner laptop).
    (a) The full name of the laptop goes into the "Your name" field. It is the full name of the scientist.
    (b) "Your computer's name" and "Pick a username" fields are both just lowercase versions of the scientist's first name.
    (c) Record these in the Google Sheet prior to choosing a password.
    (d) To choose a password, go to this password generation tool. **The password parameters should be 12 characters, easy to read, with symbols, numbers, uppercase, and lowercase all selected**. Verify the password is indeed 12 characters before proceeding.
    (e) Copy the password into the Google Sheet first. Then, enter it carefully into the two "Choose a password" and "Confirm your password" fields, keeping the password visibility on to check for mistakes.

(f) **Do not simply copy (ctrl+c) the password in the first field into the second. Retype it to ensure that it matches what is in the Google sheet.**

- It is not the end of the world if the passwords end up being incorrect, but we will have to reinstall Ubuntu if we cannot access one of the laptops due to an incorrect password.

15. Keep "Require my password to log in" selected. Continue.
16. Ubuntu should now be installing – this will take approximately 5-10 minutes. Once installation is complete, click "Restart now."
17. As prompted, remove the USB from the laptop then press the Enter key. The laptop will quickly reboot, after which the screen will stay on the HP/Ubuntu logo screen without a loading circle. Long-press the power button to force shutdown the laptop. Wait 10 seconds, then press the power button to boot the laptop back up.
18. When finished rebooting, the scientist's name will be shown which, when clicked, will prompt you for the password.
19. Upon logging in for the first time, you will be prompted to use Ubuntu Pro. Select "Skip for now" and Next.
20. Select "No, don't send system info" and Next.
21. Ignore Location Services (keep unselected) and Next.
22. Click "Done." Ubuntu is now successfully installed!

2 Preparing for Git Repo Setup

1. Right click the "Ubuntu Software" icon on the Favorites bar and select "Remove from Favorites". Repeat for the "Help" icon.
2. Go to "Show Applications" in the bottom left and search "Settings". Scroll down to "Power" and change the "Screen Blank" setting from 5 minutes to Never. Also click on Automatic Suspend and unselect "On Battery Power". Close the Settings.
3. Click "Show all applications" in the bottom left. Search "terminal", right click, and "Add to Favorites".
4. Click the volume/battery menu in the top right. Click "Wi-Fi Not Connected" then "Select Network". Connect to the RIT-Guest wifi.
5. To provide a number, go to this link and create a free phone number. **For privacy reasons, do NOT enter your personal phone number**. At the link, choose the United States option, then pick one of the free options. Enter the phone number in the RIT-Guest signup, then refresh the phone-number page to get the PIN. **The phone and PIN entry fields are on the right-hand side of the screen and may be difficult to see.**
6. You should now be connected to RIT-Guest.
7. Open the Terminal and go to the Desktop using `cd ~/Desktop`
8. Run `sudo apt-get update`
9. Run `sudo apt-get install python3.10-dev`
10. Run `sudo apt install python3.10-venv`
11. Run `sudo apt install git`
12. Run `sudo apt install build-essential`
13. Run `python3 -m venv venv.`
14. Run `source venv/bin/activate`
15. Run `git clone https://github.com/markoris/intro_astro_course.git`
16. Run `cd intro_astro_course`
17. Run `python -m pip install wheel`

18. Run `python -m pip install -r requirements.txt --use-deprecated=legacy-resolver`
19. The python dependencies should take about 5 minutes to install. **Ignore any compatibility warnings**.
20. Once the python dependencies are finished, run `jupyter notebook`.
21. Test each jupyter notebook and see if any errors are thrown during module import statements. Some notebooks may fail as they require user input to proceed - this is expected.
22. When finished testing the notebooks, run `git restore *` to clear local changes.

3 Disable Wifi and Bluetooth

1. Go back to the terminal and run `nmcli networking off`
   (a) **Note:** To turn wi-fi back on, run `nmcli networking on`. This may be necessary if updates or new modules are added to the GitHub repo.
2. Run `sudo systemctl disable bluetooth.service`
3. Run `history -c && history -w` to clear the terminal history. **This step is crucial so students do not turn networking back on by scrolling through terminal history!**
4. Log out.

4 Updating Git Repo

1. Go back to the terminal and run `nmcli networking on`
2. Connect to RIT-Guest. **Do not connect to private networks and do not use your personal phone number in the next step to ensure privacy.**
3. Go to this link and create a free phone number (see detailed instructions in 2.5). Use this number to log onto RIT Guest. **The same number can be used for multiple laptops if updating multiple laptops simultaneously.**
4. Using the terminal, navigate to `Desktop/intro_astro_course` and run a `git pull` command.
   (a) **If students used the laptop to make local changes to the Jupyter notebooks or write files used during the lap, the pull will fail.**
   Run `git restore *`, then repeat `git pull`.
5. Ensure that new functionalities introduced by updating the repository work in a Jupyter notebook.
6. After testing, close all Jupyter notebooks, return to the main `intro_astro_course` directory, and run `git restore *` again.
7. **Run `nmcli networking off`.**
8. Run `history -c && history -w` to clear the terminal history. **This step is crucial so students do not turn networking back on by scrolling through terminal history!**
9. Log out.