Steps to create Linux host for ChRIS backend and UI

1. Download Ubuntu 22 LTS from <https://ubuntu.com/#download>
2. Download Virtual Box from <https://www.virtualbox.org/wiki/Downloads>
3. Create a VM
   1. 8 GB min of RAM
   2. 64 GB min V-Disk
   3. Default Network Switch
   4. Use Ubuntu as the installation disk
4. Once Ubuntu is running and you are on the desktop, open disk utility and make sure that your root-fs partition fills the entire drive
5. Then open a terminal and run these commands
   1. sudo apt-get update
   2. sudo apt-get install git
   3. sudo apt-get remove docker docker-engine docker.io containerd runc
   4. sudo apt-get install ca-certificates curl gnupg lsb-release
   5. sudo mkdir -m 0755 -p /etc/apt/keyrings
   6. curl -fsSL https://download.docker.com/linux/ubuntu/gpg | sudo gpg --dearmor -o /etc/apt/keyrings/docker.gpg
   7. echo "deb [arch=$(dpkg --print-architecture) signed-by=/etc/apt/keyrings/docker.gpg] https://download.docker.com/linux/ubuntu $(lsb\_release -cs) stable" | sudo tee /etc/apt/sources.list.d/docker.list > /dev/null
   8. sudo apt-get update
   9. sudo apt-get install docker-ce docker-ce-cli containerd.io docker-buildx-plugin docker-compose-plugin
   10. To test installation run
       1. sudo docker run hello-world
   11. If this works, we now need to add your non-root user to the docker group
       1. sudo groupadd docker
       2. sudo usermod -aG docker $USER
       3. sudo shutdown -r now
6. The Linux VM is now setup to run the ChRIS program, log back into the VM and open a terminal and run these commands
   1. cd ~
   2. mkdir dev
   3. cd dev
   4. git clone <https://github.com/IainWinter/ChRIS> --recurse-submodule
   5. cd .\ChRIS\ChRIS\_ultron\_backEnd\
   6. We can now start the backend (this may take ~20 mins)
      1. docker swarm init --advertise-addr 127.0.0.1
      2. ./unmake.sh ; sudo rm -fr CHRIS\_REMOTE\_FS; rm -fr CHRIS\_REMOTE\_FS; ./make.sh -U -I -s
         1. Press ‘y’ when it asked you about persistent volumes
   7. Open another terminal window / tab (you can use the button in the top left)
   8. We can now start the UI
      1. cd ~/dev/ChRIS/ChRIS\_ui
      2. docker run --rm -d --name chris\_ui -p 3000:3000 -e REACT\_APP\_CHRIS\_UI\_URL=http://localhost:8000/api/v1/ ghcr.io/fnndsc/chris\_ui:latest
      3. Navigate to the browser and go to <http://localhost:3000>

sudo apt-get install git