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 of RAM
   2. 64 GB 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 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
5. 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