

GUCCI CBMSOFT/ROOT INSTALL TUTORIAL:

1. Install FairSoft:

```
sudo apt -y install autoconf automake binutils bison build-essential bzip2 ca-certificates cmake coreutils curl debianutils file findutils flex g++ gcc gfortran git gzip hostname libbz2-dev libcurl4-openssl-dev libgsl-dev libicu-dev libfftw3-dev libprotobuf-dev libgl1-mesa-dev libglu1-mesa-dev libgrpc++-dev libgsl-dev liblzma-dev libncurses-dev libreadline-dev libsqlite3-dev libssl-dev libtbb-dev libtool libx11-dev libxerces-c-dev libxext-dev libxft-dev libxml2-dev libxmu-dev libxpm-dev libyaml-cpp-dev libzstd-dev lsb-release make patch python3-dev protobuf-compiler-grpc rsync sed sqlite3 libsqlite3-dev subversion tar unzip wget xutils-dev xz-utils
```

```
export CMAKE_MODULE_PATH=~/.Documents/FairSoft/build/Build/root/ROOTConfig.cmake [not sure if this was needed]
```

```
export SIMPATH=~/.Documents/FairSoft/install/
```

```
cd Documents
```

```
git clone -b jan24_patches https://github.com/FairRootGroup/FairSoft
```

```
cd FairSoft
```

```
mkdir build
```

```
cd build
```

```
cmake -S .. -B . -C ../FairSoftConfig.cmake
```

```
cmake --build . -j16
```

```
make test -j16
```

Note: It tries to do three tests for different fairroot versions: test 2 (fairroot 18.8) and test 3 (fairroot 19.0) fail! only fairroot 18.6 passes all tests.

If I find the time I can check out `/home/ubuntu/Documents/FairSoft/build/Testing/Temporary/LastTest.log` and use `"--rerun-failed --output-on-failure"` to re-run the failed cases verbosely. In the following I will choose the branch `v18.6` cuz that matches the tests that have passed.

2. Install FairRoot:

```
cd ~/.Documents/
```

```
git clone -b v18.6_patches https://github.com/FairRootGroup/FairRoot.git
```

```
cd FairRoot && mkdir build && cd build
```

```
cmake -DCMAKE_INSTALL_PREFIX=~/.Documents/FairRoot" ..
```

```
make -j16
```

```
sudo make install
```

```
make test -j16
```

If it says "100% tests passed" congrats, you are almost done!

3. Source scripts at startup:

```
sudo nano ~/.profile
```

Add the following lines at the end if they do not exist already:

```
export PATH=$PATH:/usr/local/go/bin
export PATH="$HOME/Documents/FairSoft/install/bin:$PATH"
source ~/Documents/FairRoot/build/config.sh
source ~/Documents/FairRoot/bin/FairRootConfig.sh
```

Ensure that the FairRootConfig.sh is executable by running:

```
sudo chmod +x $HOME/Documents/FairRoot/bin/FairRootConfig.sh
```

Save and reboot, you are done!

Now things like just typing 'root' should work (quit it with .q). You should also be able to run the C script runSim.C that I made! Typing 'echo \$PATH' should return a string that contains the substring 'fair' or 'sim' (gophy queries it to quickly check whether a miner might have the required software).