**Linux commands – kick off**

| = pipe

Change resolution : vncserver :<PortNo> -geometry 1680x1050

ps -aef|grep vnc|grep <username>

ps -u <username>

Processes :

top

Kill the server app in the linux : vncserver :<PortNo> -kill

kill <process id>

kill -9 <process id>

xkill

jobs

kill %<JobId>

**Viewers:**

less <FileName>

Less viewer : space=down b=scroll up q = quit

vi<FileName>

file<FileName>

cat <FileName>

Auto completion

<Letter> esc+p

mount - give the mounted drive lists

find <path to look at such as . > -name <”FileName+wildcard”> =>

find . -name "str\*"

find . -iname "str\*" case insensitive

Find all files : find <path> -type f

Find all directories : find <path> -type d

word count of file

wc -l <Fname>

Switch user

su <username>

**Folder handlers**

Dir command as in DOS

ls -l

~=root

cd, md,cp,rm

Change Dir to last location

Cd –

Change dir to root

cd ~

./rm –f <Fname/wildcard>

rm -rf <folder name and its recursive>

\rm -rf `ls |grep hkremer` :\ = go to the executable rm w/o any customized alias

Folder copy with recursive

cp –a <folder name> <target place>

cp -r <Src Folder>/. <Dest Folder>/.

acreoread<FileName>

Copy filename to here (dot at the end)cp <FileName> .

Batch file

source <[FileName.sh](http://filename.sh)>

man = manual

BackGround running

<program/app>&

In case was already executed then move to back ground

ctrl+z

bg

Move to fore ground

fg

or ctrl+x

ctrl + d :logout shortcut

Enable copy paste from Linux to Win and vice versa by running the vncconfig util

vncconfig&

Search recursively the str from that directory case insensitive (-i)

grep <str> -Ri .\*

Search word in predefined file type \*.mk

grep "AIRSPAN\_OBJ" -Ri . --include="\*.mk"

Use \ for fill regular expression

The use of \ tells the shell that the following character “(“ is part of the file name

./flashCopy /bs/phy/boot\_flash.hex\(256MB\).bin

hostname ->will give name of a host name

env ->environment variables

mount

losetup –a will show all the virtual disk

**debug (\*.a file)**

gdb <executible \*.a file>

or kdbg free tool of kde

ldd <libraries used by the exe>

sdiff <Fname1> <Fname2>

**ENV**

setenv

unsetenv

echo $<EnvVar>

Yield env vars

env|grep

Path for the shell

which sh

**update file date**

touch <filename>

**Install from bin file**

sudo apt-get install <package name>

**Run perforce, slick edit, beyond compare**

P4v &

vs &

Bcompare &

Tensilica explorer:

hkremer@phy203:/opt/xtensa/Xplorer-4.0.1> ./xplorer

Change mode for the whole group to write in case working under matlab (user sulimatlab)

chmod -R 775 \*

or : chmod –R 777 \*

Login to phyler: ssh phyler

Login to sulimatlab user:

su sulimatlab

Pass : matlab10

Or other way: copy from Perforce folder to matlab nested folder by :

srun cp –a <Source> <Destination>

//-a is for archive maintaining the same

attributes/privileges

Inside >matlab

Use:

matlab-set-ownership will change all files ownership to sulimatlab

http:// rpm.pbone.net – all SUSE or Suse Linux Enterprise S.. - SLES

**New VNC server session:**

1. Open putty to :
   1. Phy100 – Zen server
   2. Phy101 - 192.168.57.191:22 (licensed matlab 10)
   3. Phy 102 - Matlab
   4. Phy 200 - Zen server host.
   5. Phy 201 - 192.168.57.201:22 (Trial version)
   6. Phy 202 – matlab 2011b
   7. Phy 202 - 192.168.57.202 (No matlab at all)
   8. Phy 203- 192.168.57.203 – Xtensa tools under bpianka user
   9. 204
   10. Phy 210 – ECXI server host (same power as 200)
   11. Phy 211 –192.168.57.211:22 -Trial matlab – 2009(R2009b-Trial) & Trial 2010 (R2010b-Trial)
   12. 212 – Matlab 2011b
   13. Phyler ip (NTFS – file server) : 192.168.57.190 storage machine 12 disks
2. Login – user/pass
3. Run vnc-start
4. Password
5. Close putty
6. Open VNC

Matlab : one license per machine per super user (sulimatlb) invoking matlab by the following command then each virtual machine can use the same license.

**Virtual machine concept**

Buy Server with 24 cores assuming each matlab could handle one out of 4 cores in a single machine, then split into 4 virtual machine. The pros you can run multiple matlab sessions on different machines since matlab cannot exploit more than 4 cores simultaneously (parallel for or just running 4 instances).

Virtualization by XEN or by VMware. The virtualization tool let you determine how many processors and memory per machine (4 cores 16GRAM and HD).

OS: SUSE though open\_SUSE assumed more debugged despite the fact of Open source. Anyway utilities add-ons are form [SUSE Linux Enterprise Server (SLES)](http://www.vmware.com/products/sles-for-vmware)

Samba server: A service run to let windows viewing linux files.

Dispatching jobs among virtual machine could be made by Sun Grid Engine (SGE) freeware utility.

sudo -u sulimatlab REALUSER\_HOME=$HOME LD\_LIBRARY\_PATH=$HOME/matlab/dan\_so /opt/MATLAB/$matVersion/bin/matlab -display $DISPLAY

Meaning that matlab session is under “sulimatlab” user

**Login to Phyler server**

ssh phyler

other: ssh root@phy204

**Working under windows with remote desktop to one Linux machine supporting multiple users**

1. Download CygWin
2. Run X-Server on the windows which is like remote desktop

Remote desktop is better than VNC since the latter sends all the display to remote while the former sends only the windows properties which is less data and more responsive.

**KDE for SUSE**

Genome or KDI. Gnome has Kdevelop

Build:

make clean

make PROJECTS=LTE release

symbolic link

ln –s <SRC> <TARGET> ???? check order of SRC/TARGET

sulirun - same as before  
sulirunsge - same  
sulicmd - runs a command under sulimatlab (instead of srun).  
suli-set-ownership - instead of matlab-set-ownership.   
  
matlab - still runs matlab.

make clean

make clean\_all

**DAN utility for trace-back**

alias a2lCPU='/opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-addr2line --xtensa-core=cpu3400\_RD1 -e'

alias a2lDSP='/opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-addr2line --xtensa-core=dsp3400\_RD1 -e'

[bpianka@phy203:~/Perforce/Software/Phy/users/SDR\_qc\_DAN\_base\_R2.4](about:blank)> **a2lCPU** Projects/LTE/Images/release/RX\_CPU0.elf 0x5053F2FA 0x5053F8A8 0x50533D12 0x5FFFEF53 0x5FFF8823

**Finding an exposed file**

At location :/at/home

du –h file with sizes

df –h gives the remaining memory

du -hs \* : Summarize disk usage of each FILE, recursively for directories

**Compilation of DAN env**

Go to the subfolder of the targeted Module/driver

Run the build compilation command with the following additional switches:

make DEBUG\_MAKE=1

or

make PROJECTS=LTE release DEBUG\_MAKE=1 >OutFile.txt

Create the explicit command line for compilation:

make PROJECTS=LTE AIRSPAN\_BW=BW\_20\_0 AIRSPAN\_PLATFORM=PLATFORM\_SDR\_Z AIRSPAN\_OBJ=TARGET\_MSIM\_UMON release DEBUG\_MAKE=1 >compile.txt

view the compile.txt file

add/edit the compilation command line with the switch –E and –o redirecting the output file to \*.i

preprocessor use switch –E like (explicit make to rx\_cpu1.c):

ccache is fast compiler cache which speeds up compilation

ccache /opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-xcc -c -g3 -Wall -Werror -mno-serialize-volatile --longcalls --xtensa-system=/opt/xtensa/XtDevTools/install/builds/RD-2011.1-linux/cpu3400\_RD1/config --xtensa-core=cpu3400\_RD1 -O3 -Os -ipa -D\_\_FILENAME\_\_="rx\_cpu1.c" -DMODULENAME="RX\_CPU1" -DBUILD\_ID="0" -DRTOS -DCPU -I./inc -I./api -I../../../../API -I../../../../System/HW -I../../../.. -I../../../../RTOSes/THX/api -I../../../../OSA/OSA\_DUMMY/api -I../../../../Modules/PLATFORM/api -I../../../../Modules/DEBUG/api -I../../../../Modules/TRACE/api -I../../../../Modules/PHY\_MGR/api -I../../../../Modules/RX\_DC/api -I../../../../Modules/SIGEX/api -I../../../../Modules/RF/api -I../../../../Modules/SFBi/api -I../../../../Modules/IPC/api -I../../../../Drivers/ICTL/api -I../../../../Drivers/xDMA/api -I../../../../Drivers/FFT/api -I../../../../Drivers/CTC\_decoder/api -I../../../../Drivers/FE\_RX\_PRI/api -I../../../../Drivers/FE\_RX/api -I../../../../Kernels/CRC/api -I../../../../Kernels/RX\_stitcher/api -MD -MF Objects/release/CPU/rx\_cpu1.d -E -o /at/home/hkremer/Perforce/Software/Phy/users/DAN\_drops/DAN3X00\_rel\_2\_2\_1\_as\_tdd\_5/Projects/LTE/Nodes/RX\_CPU1/Objects/release/CPU/rx\_cpu1.i /at/home/hkremer/Perforce/Software/Phy/users/DAN\_drops/DAN3X00\_rel\_2\_2\_1\_as\_tdd\_5/Projects/LTE/Nodes/RX\_CPU1/src/rx\_cpu1.c

not well :

ccache /opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-xcc -c -g3 -Wall -Werror -mno-serialize-volatile --longcalls --xtensa-system=/opt/xtensa/XtDevTools/install/builds/RD-2011.1-linux/dsp3400\_RD1/config --xtensa-core=dsp3400\_RD1 -O3 -Os -ipa -D\_\_FILENAME\_\_="tx\_dsp0.c" -DMODULENAME="TX\_DSP0" -DBUILD\_ID="0" -DRTOS -DDSP -I./inc -I./api -I../../../../API -I../../../../System/HW -I../../../.. -I../../../../RTOSes/THX/api -I../../../../OSA/OSA\_DUMMY/api -I../../../../Modules/PLATFORM/api -I../../../../Modules/DEBUG/api -I../../../../Modules/TRACE/api -I../../../../Modules/PHY\_MGR/api -I../../../../Modules/RX\_DC/api -I../../../../Modules/SIGEX/api -I../../../../Modules/RF/api -I../../../../Modules/SFBi/api -I../../../../Modules/IPC/api -I../../../../Drivers/ICTL/api -I../../../../Drivers/xDMA/api -I../../../../Drivers/FFT/api -I../../../../Drivers/CTC\_decoder/api -I../../../../Drivers/FE\_RX\_PRI/api -I../../../../Drivers/FE\_RX/api -I../../../../Kernels/CRC/api -I../../../../Kernels/RX\_stitcher/api -MD -MF Objects/release/DSP/TX\_DSP0.d -E -o /at/home/hkremer/Perforce/Software/Phy/users/SDR\_qc\_DAN\_base\_R2.4/Projects/LTE/Nodes/TX\_DSP0/Objects/release/DSP/tx\_dsp0.i

Matlab so symbolic link

/opt/MATLAB/R2011b/bin/glnxa64>

libtc1000wimax.so -> /at/home/hkremer/matlab/DAN\_LinkLevelSim/main\_lte\_sim/hw\_cores/tc1700/tc1700\_Clib/Linux64b/libtc1000wimax.so

lrwxrwxrwx 1 root root 103 2012-08-26 11:49 libtc1700.so -> /at/home/hkremer/matlab/DAN\_LinkLevelSim/main\_lte\_sim/hw\_cores/tc1700/tc1700\_Clib/Linux64b/libtc1700.so

lrwxrwxrwx 1 root root 106 2012-08-26 11:49 libtc7000lte.so -> /at/home/hkremer/matlab/DAN\_LinkLevelSim/main\_lte\_sim/hw\_cores/tc1700/tc1700\_Clib/Linux64b/libtc7000lte.so

lrwxrwxrwx 1 root root 103 2012-08-26 11:49 libtc7100.so -> /at/home/hkremer/matlab/DAN\_LinkLevelSim/main\_lte\_sim/hw\_cores/tc1700/tc1700\_Clib/Linux64b/libtc7100.so

**nm tool : extract the symbols of the binary output**

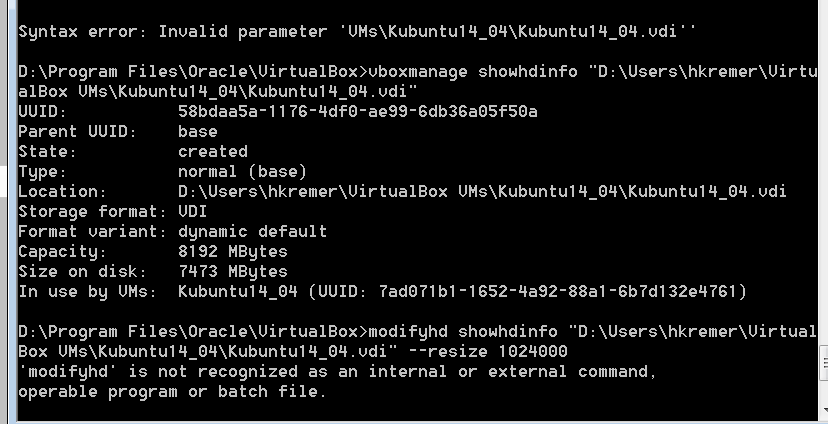
/opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-nm --xtensa-system=/opt/xtensa/XtDevTools/install/builds/RD-2011.1-linux/cpu3400\_RD1/config --xtensa-core=cpu3400\_RD1 -n Projects/LTE/Images/release/TX\_CPU1.elf

**Disassembly**

/opt/xtensa/XtDevTools/install/tools/RD-2011.1-linux/XtensaTools/bin/xt-objdump -S --xtensa-system=/opt/xtensa/XtDevTools/install/builds/RD-2011.1-linux/cpu3400\_RD1/config --xtensa-core=cpu3400\_RD1 Projects/LTE/Images/release/TX\_CPU1.elf

VirtualBOx increase HD:

[http://superuser.com/questions/716649/how-to-change-fixed-size-vdi-with-modifyhd-command-in-windows]



**D:\Program Files\Oracle\VirtualBox>vboxmanage showhdinfo "D:\Users\hkremer\VirtualBox VMs\Kubuntu14\_04\Kubuntu14\_04.vdi"**

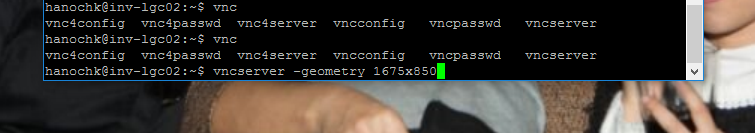
**Resizing the cloned disk.**

Input command: vboxmanage.exe modifyhd path\inputfile.vdi --resize 51200

D:\Program Files\Oracle\VirtualBox>vboxmanage modifyhd "D:\Users\hkremer\Virtual

Box VMs\Kubuntu14\_04\Kubuntu14\_04.vdi" --resize 160240

**Xubuntu : VNCserver**



-rw-r--r-- 1 hanochk innoviz 8108 Apr 6 14:38 inv-lgc02:3.log

-rw-r--r-- 1 hanochk innoviz 5 Apr 6 14:38 inv-lgc02:3.pid

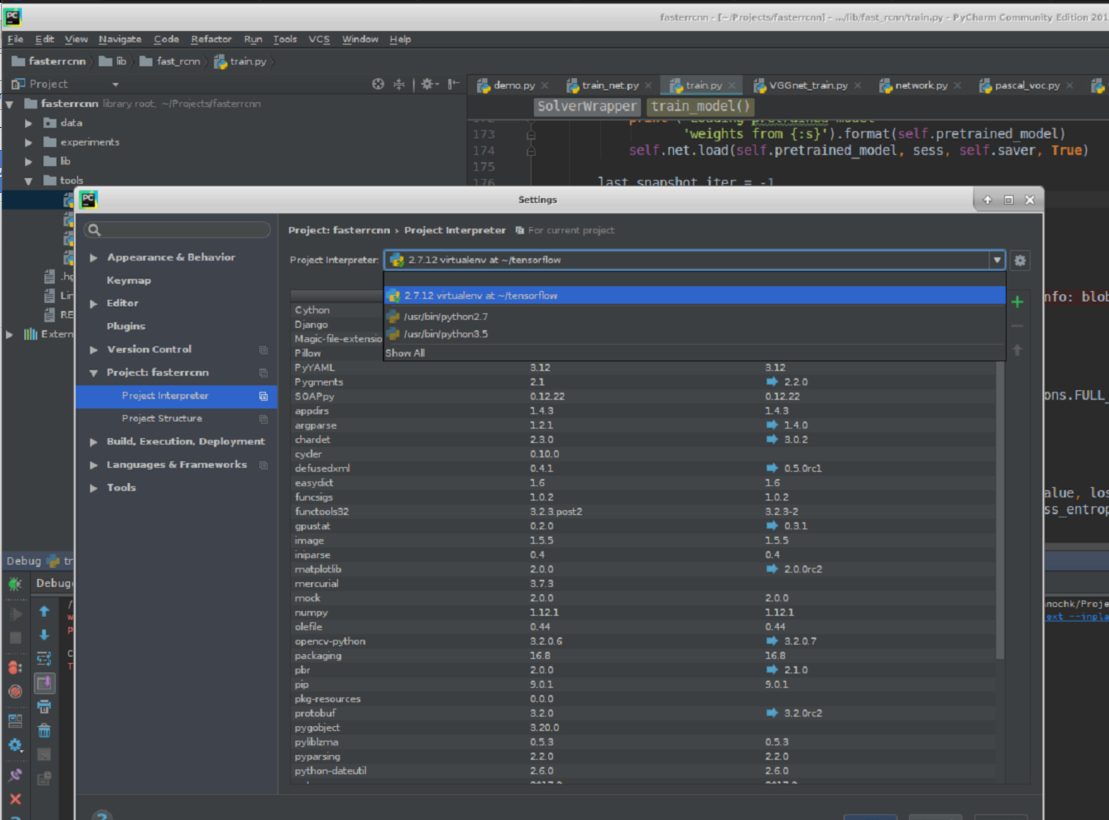
pid : tells that a VNC process is running:

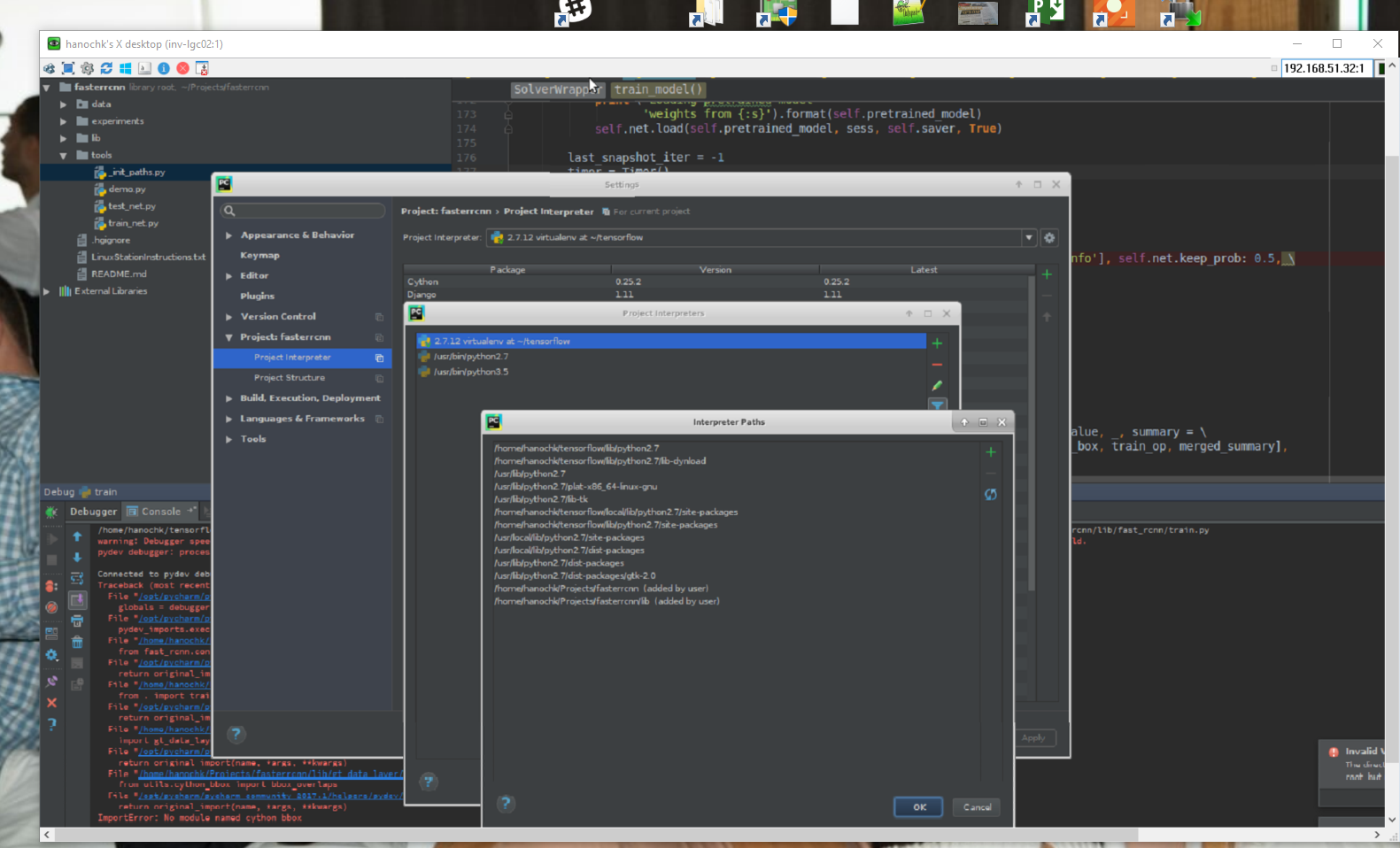
vncserver -kill :<port id >

hanochk@inv-lgc02:~/.vnc$ vncserver -kill :3

hanochk@inv-lgc02:~/.vnc$ vncserver -geometry 1920x1080

cd .v





Add the last two.

**Install Tensorflow over Linux**

sudo apt-get install tortoisehg

sudo apt-get install python-pip python-dev

sudo apt-get install virtualenv # install virtualenv

virtualenv --system-site-packages ~/tensorflow # create virtualenv

source ~/tensorflow/bin/activate

pip install --upgrade tensorflow-gpu # install tensorflow

sudo pip install --upgrade pip

sudo pip install cython easydict

sudo pip install opencv-python

sudo apt-get install git

sudo pip install --upgrade cython

sudo pip install scipy

sudo pip install matplotlib

sudo apt-get install python-tk

pip install pyyaml

sudo pip install image

mkdir ~/Projects

cd Projects

git clone --recursive https://github.com/smallcorgi/Faster-RCNN\_TF.git

- add -D\_GLIBCXX\_USE\_CXX11\_ABI=0 to g++ cmd in make.sh

Build the cyto modules

cd $FCRN\_ROOT/lib

make

source ~/tensorflow27/bin/activate