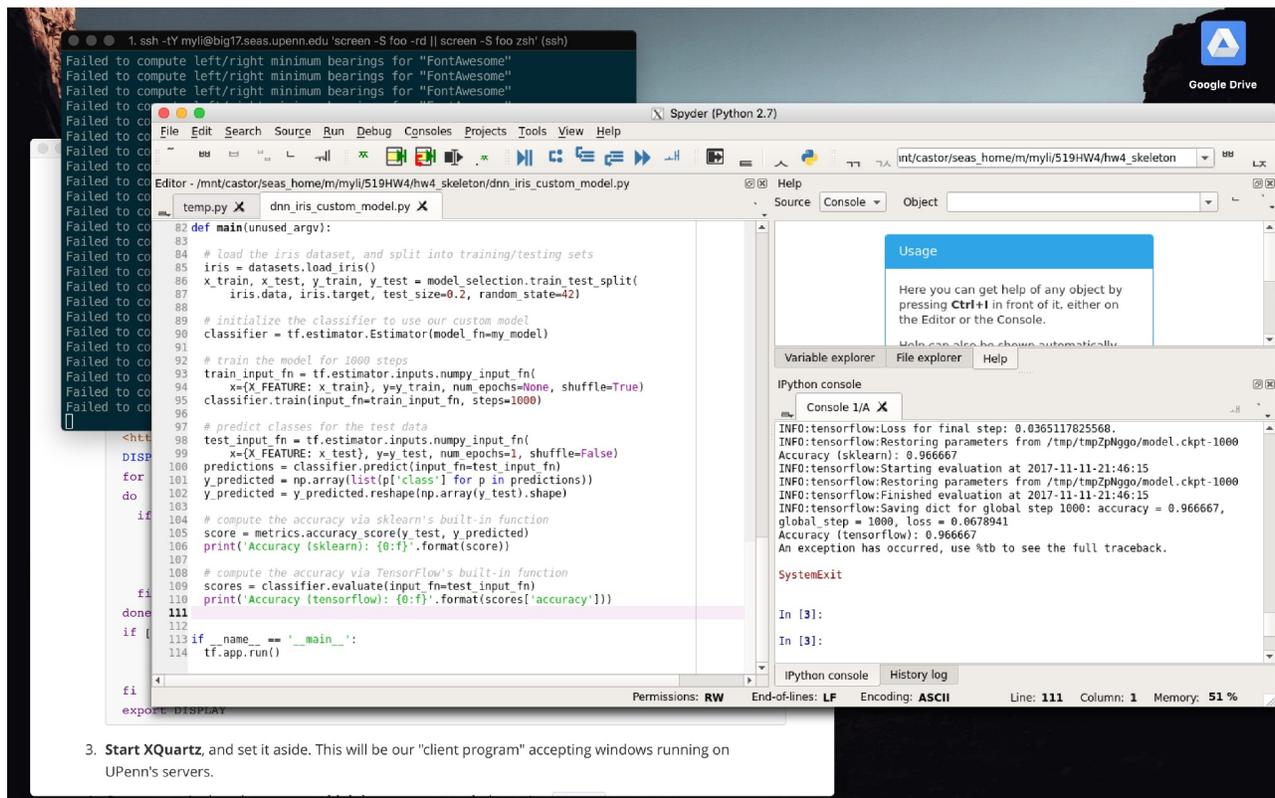


Tutorial: Run Scripts on Penn's server, but display Spyder on your own computer!



This Spyder instance actually runs a biglab.seas.upenn.edu. It is "tunneled" to my Macbook, so that I can utilize the computational power of BigLab, the friendly IDE of Spyder, while working away from home in my pajamas on this 37°F cold day!

1. If you are on a Mac, **download and install XQuartz**, which enables your Mac to accept remote windows. For other Operating Systems, please see [this](#).
2. **Add the following lines** to the `~/.zshrc` :

```
# This line enables you to type "biglab" and connect to
biglab.seas.upenn.edu directly:
alias biglab="ssh -tY <pennkey>@biglab.seas.upenn.edu 'screen -S foo -rd
|| screen -S foo zsh'"

# This script allows iTerm to accept X11 windows from remote servers.
Copied from <http://hints.macworld.com/article.php?
story=2004082505230779>.
DISPLAY=""
```

```
for x in 0 1 2 3 4 5 6 7 8 9
do
  if [ -O /tmp/.X$x-lock ]
  then
    DISPLAY=:${x}.0
    break
  fi
done
if [ -z "$DISPLAY" ]
then
  echo "$USER has no X11 DISPLAY open" 1>&2
fi
export DISPLAY
```

3. **Start XQuartz**, and set it aside. This will be our "client program" accepting windows running on UPenn's servers.
4. Open a terminal, and **connect to biglab.seas.upenn.edu** by typing `biglab`.
5. When connected, **install Anaconda**:

```
wget https://repo.continuum.io/archive/Anaconda2-5.0.1-Linux-x86_64.sh
bash Anaconda2-5.0.1-Linux-x86_64.sh
```

6. When finished, you can **set up virtual environments** by following instructions from Homework 4, Part II, 2.3.
7. With a virtual environment activated or not, you can **start Spyder** now: `spyder`. After a while, you can see a Spyder instance showing up on your desktop. Keep in mind that this is actually running on biglab!

Known Bugs

1. Tensorflow will always throw an error upon finishing, due to its "unique" way of quitting a program.
2. Button symbols are replaced by weird Korean characters, generating lots of `Failed to compute left/right minimum bearings for "FontAwesome"` error from the terminal.

Neither of these bugs affect the proper execution of our programs, so I'd let them go for now.