**Tensorboard is the tensorflow api that help user to visualize the training process, supervise the variable changing over times.**

[To activate tensorboard]

Step 1: open a terminal and call…  
>> tensorboard --logdir=<tensorboard\_record\_dir>

1. --logdir= <tensorboard\_record\_dir> is wrong. There is no space between = and<tensorboard\_record\_dir>
2. It needs one directory to hold record file for one training session  
   ps: don’t put different training session in same directory unless you want to compare them in one panel

Step 2: copy the url the terminal giving you to any browser

1. The web browser will add new data point in the real time while the record file update, but will not remove data points even when the data points don’t exist anymore in the record.
2. To fully update the tensorboard, you need to relaunch tensorboard in the terminal.

[The code structure of using tensorboard]

Five components:

1. create summary tensor
2. create summary merge tensor (optional)
3. create summary file writer
4. run summary tensor
5. run summary file writer

EX:

with tf.name\_scope(‘input’): # create name block for more organized view in tensorboard

x = tf.placeholder(tf.float32)

y = tf.placeholder(tf.float32)

with tf.name\_scope(‘process’)

m = tf.Variable(0)

m = m+1

tf.summary.scalar (‘m’, m) # create summary tensor (scalar)

xAddYAddm = x+y+m

output = xAddYAddm

tf.summary.scalar (‘output’, output) # create summary tensor (scalar)

merged = tf.summary.merge\_all () # merge all summary tensor in one

sess = tf.Session()

writer = tf.summary.FileWriter(‘tensorboard/’ sess.graph) # create a summary file writer

for step in range(100):

result = sess.run(merged, feed\_dict={x:1,y:2}) # run the merged tensor

writer.add\_summary(result, step) # run the summary file writer