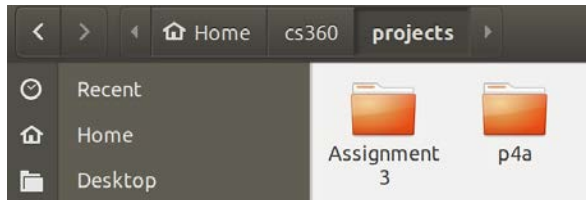


Follow the steps below to run several tests against your implementation of the multi-threaded server. The tests were provided by an operating systems teacher at the *University of Wisconsin – Madison*.

1. Place the **p4a** folder at the same level as your assignment 3 folder. For example, if your source code is in a folder named **Assignment3**, then it should look like this:



2. In folder **p4a**, open file **runtests** in a Text editor.
3. Change the value of the **base** variable (on line 2) to point to the absolute path of **p4a**. For example, in my case p4a is in ~/cs360/projects/p4a, so I set it to that value as shown below:

```
File Edit View Search Terminal Help
#!/bin/bash
base=~ /cs360/projects/p4a
python2.7 $base/test_p4a.py --test-path $base $@ | tee -i runtests.log
exit $?
```

4. The testing script gives an error if used with Python3. You need to use Python2. You probably have multiple versions of Python installed (look under /usr/bin). In my case I have version 2.7 so I am using it as shown below:

```
File Edit View Search Terminal Help
#!/bin/bash
base=~ /cs360/projects/p4a
python2.7 $base/test_p4a.py --test-path $base $@ | tee -i runtests.log
exit $?
```

Using python2.7

5. Save the changes you made to file **runtests**.
6. Open a terminal window and cd to the Assignment3 folder (or your equivalent of it). Run make clean followed by make:

```
make clean
make
```

7. Run the tests by executing this command:

```
../p4a/runtests
```

8. If everything works OK you should get something like the below. Note that it tells you how many of the 21 tests it tried succeeded:

```
test equal2 PASSED (5 of 5)
(equal buffers and threads)

test equal3 PASSED (5 of 5)
(equal buffers and threads)

test fewer PASSED (5 of 5)
(fewer buffers than threads)

test fewer2 PASSED (5 of 5)
(fewer buffers than threads)

test fewer3 PASSED (5 of 5)
(fewer buffers than threads)

Passed 21 of 21 tests.
Overall 21 of 21
Points 100 of 100
anehme@alfred-ubuntu-vm:~/cs360/projects/Assignment3$
```

In the above implementation all tests passed.