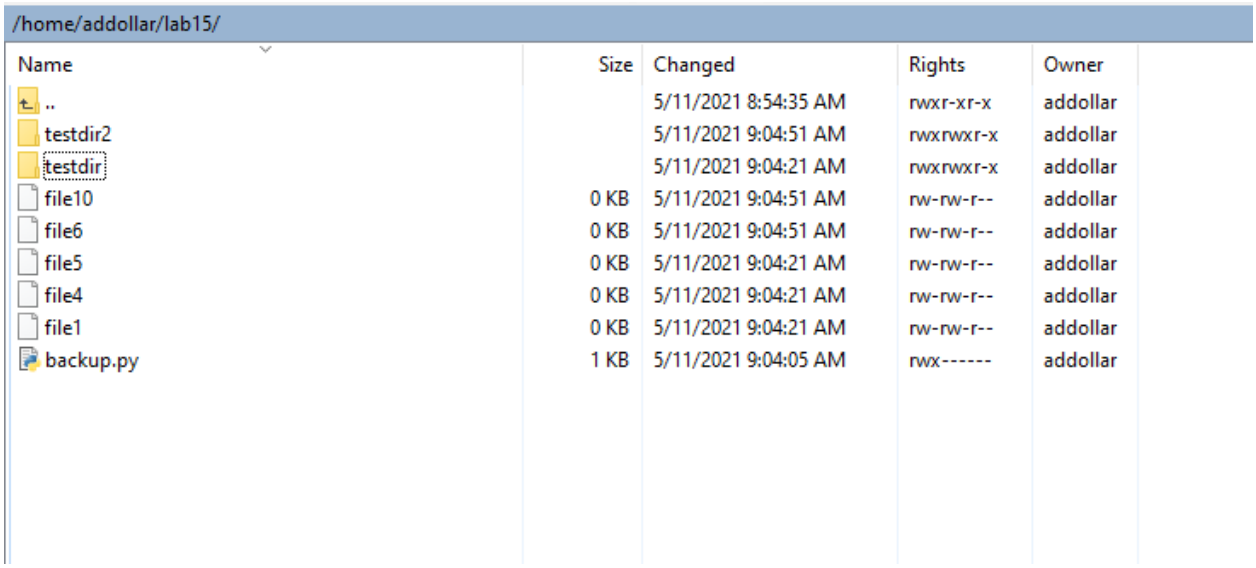
Austin Dollar
5/11/21
CSCI 344
Lab 15

Incremental Backup

Sample Testing Data:

In this code snippet, I did the “sample testing data” section of the lab documentation. I used system calls to “touch” files and create directories, then waited 30 seconds, and created more. Below is the code snippet, and below that, is a screenshot of WinSCP showing that these files and directories are, in fact, created.

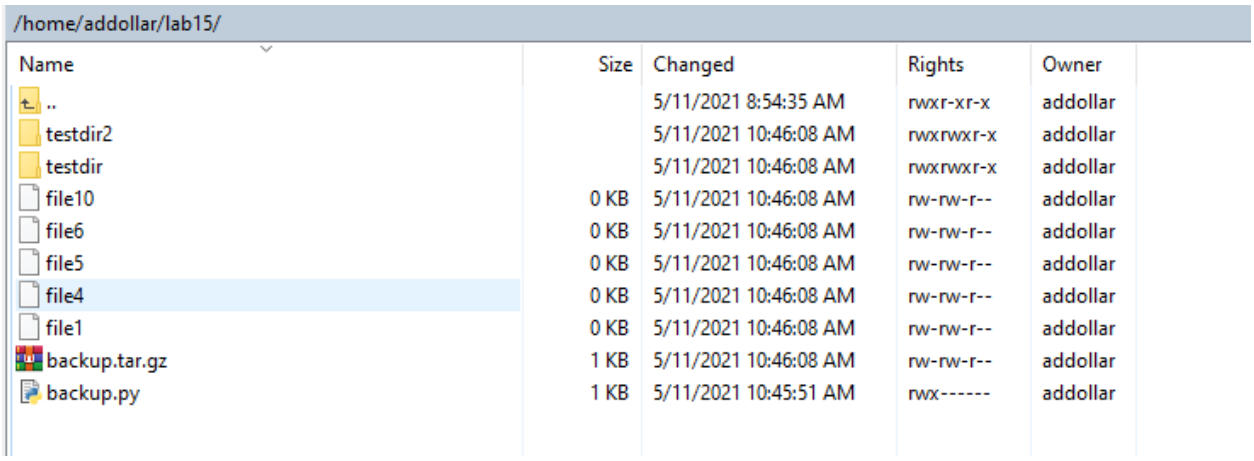
```
#!/usr/bin/python3.5

import os
import time


#create a bunch of files
os.system('touch file1')
os.system('mkdir testdir')
os.system('touch testdir/file2')
os.system('touch testdir/file3')
os.system('touch file4')
os.system('touch file5')


#wait for 30 seconds, create 5 more files
time.sleep(30)
os.system('touch file6')
os.system('mkdir testdir2')
os.system('touch testdir2/file7')
os.system('touch testdir2/file8')
os.system('touch testdir2/file9')
os.system('touch file10')
```



UNIX Find/Tar Command:

The following code snippet is used to find files modified within the last 3 minutes, and then zipp them into a tarball. This is evidenced as working via the following screenshot of WinSCP containing the given tarball.

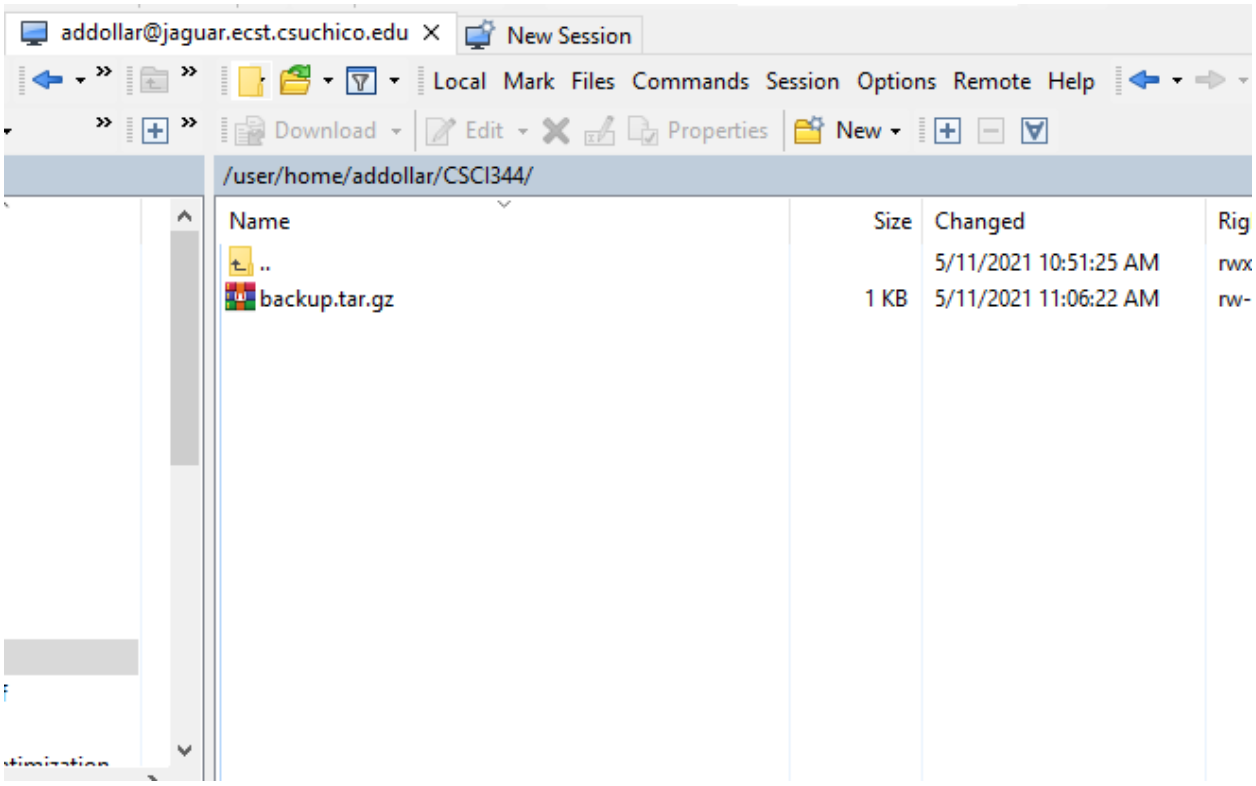
```
#find files mofied within last 3 mins, sednd to tarball
os.system("find . -mmin -3 | tar -czvf backup.tar.gz --null -T -")
```



Transfer File via paramiko library:

Below is a code snippet that uses paramiko to ssh into jaguar from the AWs server. I then use sftp and the put method to send the tarball over to Jaguar, which is evidenced by the WinSCP screenshot below the code, which shows that the tarball was successfully moved over to the Jaguar server.

```
#connect and send file
ssh_client=paramiko.SSHClient()
ssh_client.set_missing_host_key_policy(paramiko.AutoAddPolicy())
ssh_client.connect(hostname='ecc-linux.csuchico.edu', username='addollar', password='1Monkeypuppy$')

ftp_client=ssh_client.open_sftp()
ftp_client.put('/home/addollar/lab15/backup.tar.gz','user/home/addollar/CSCI344')
ftp_client.close()
```



Conclusion:

This lab was a great experience and a good wrap up of Linux/Python. My outcome was as expected, however, the difficulty was not in ssh and connecting to jaguar. Rather, the difficulty for me was in Tar balling the output of find. The command line did at first not like piping straight into tar, but after some research, I found a proper way to do it, with added arguments onto tar in order to get the files to tar properly. Overall, it was an interesting and great lab!