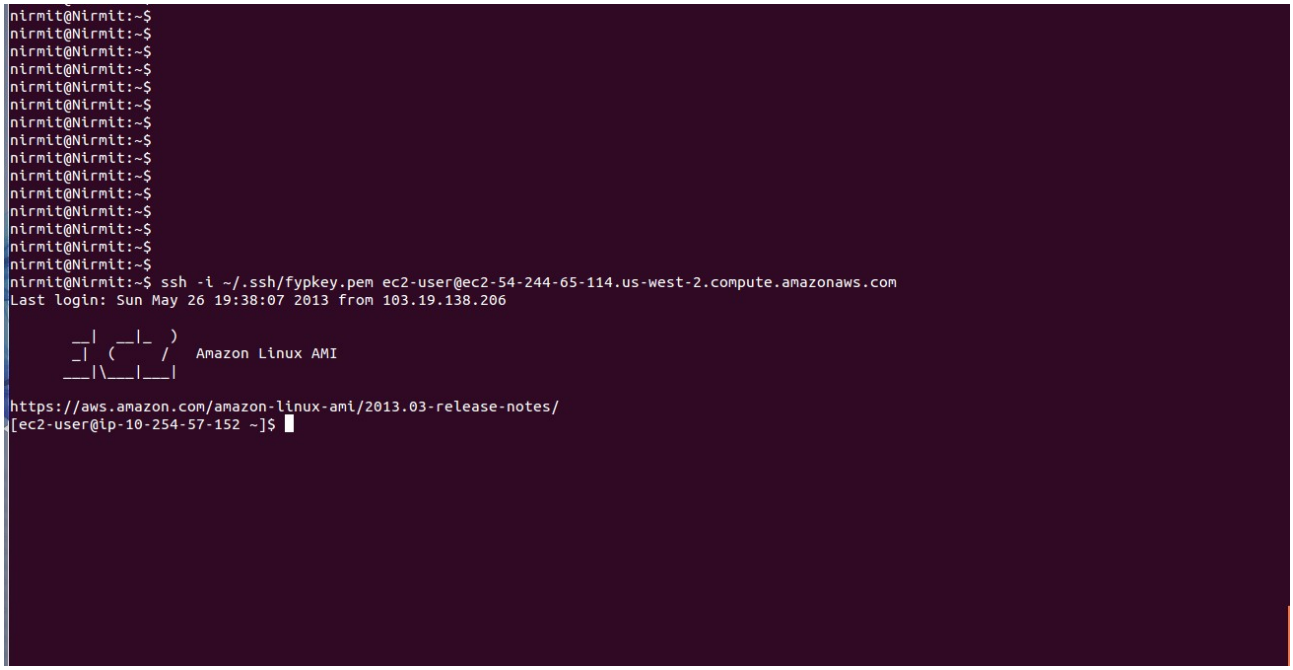
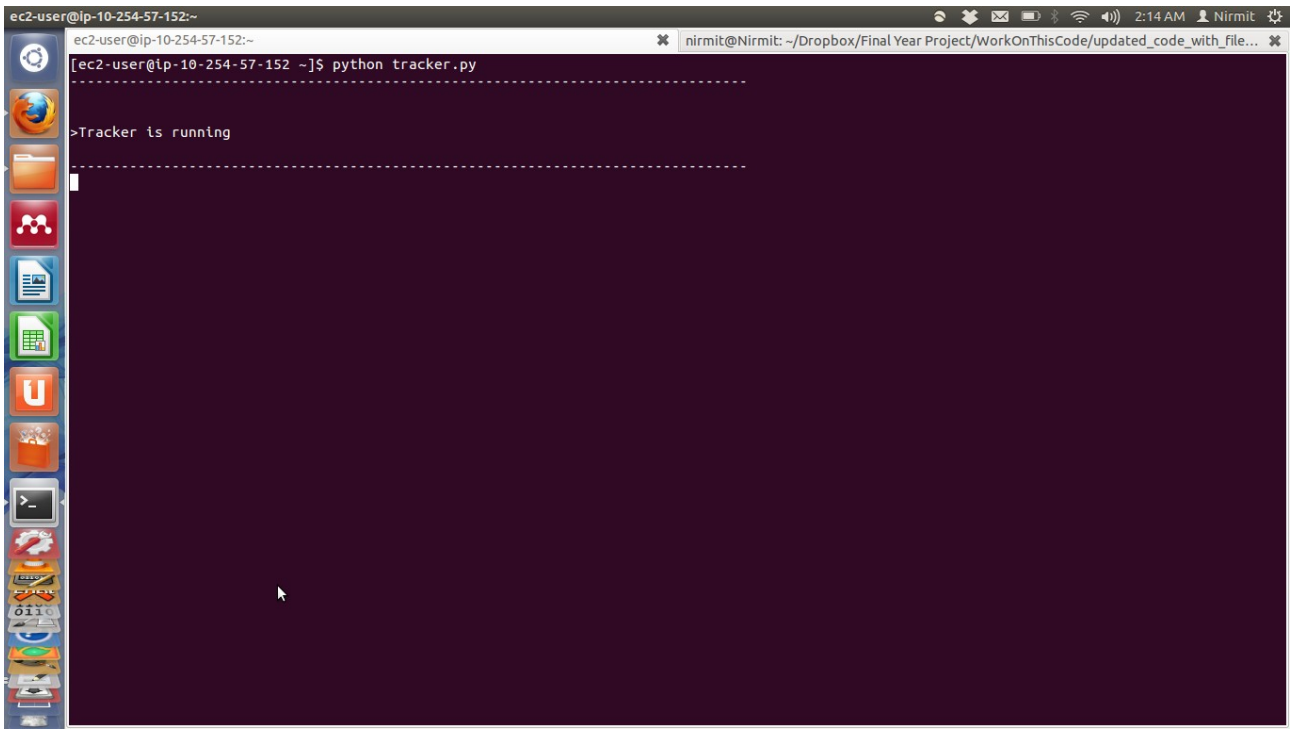
Steps to access EC2 instance and start the tracker

1) On linux, the syntax to login to EC2 instance is :
ssh -i /path/to/private/key ec2_instance_name

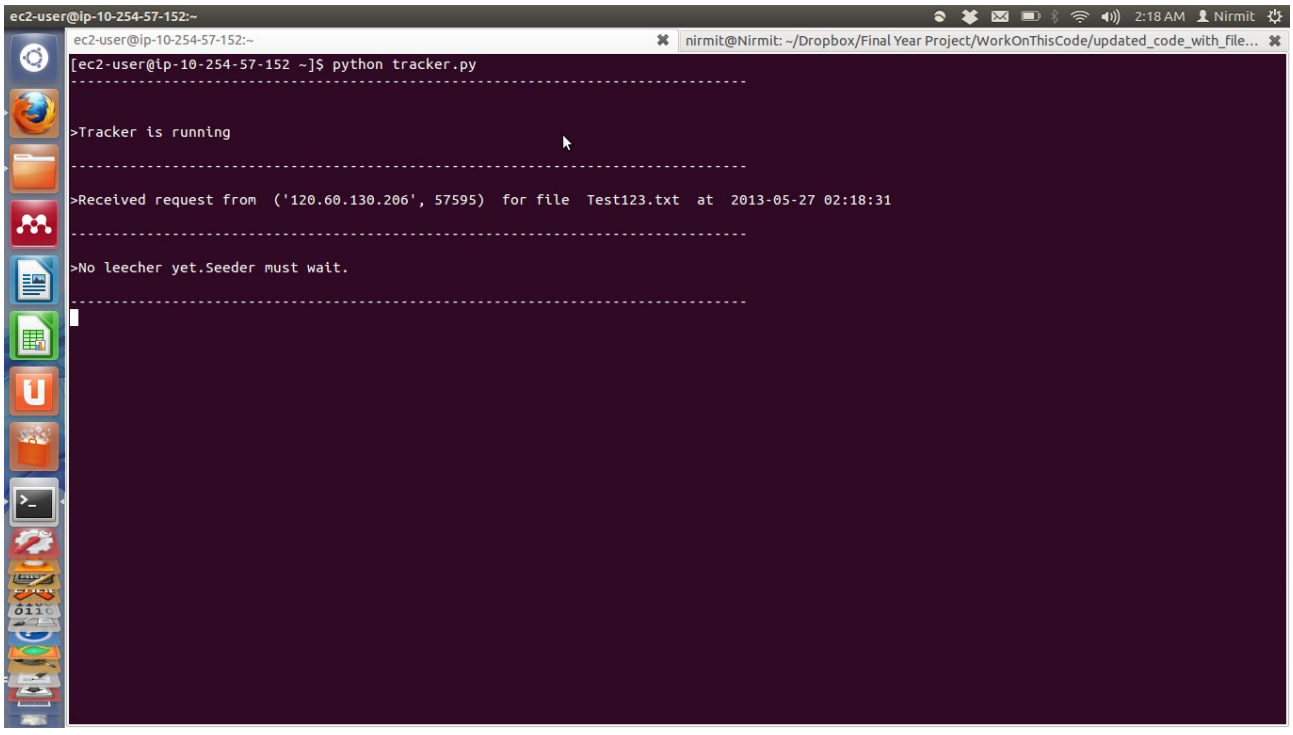


2) Run the httpd service and verify that it's running

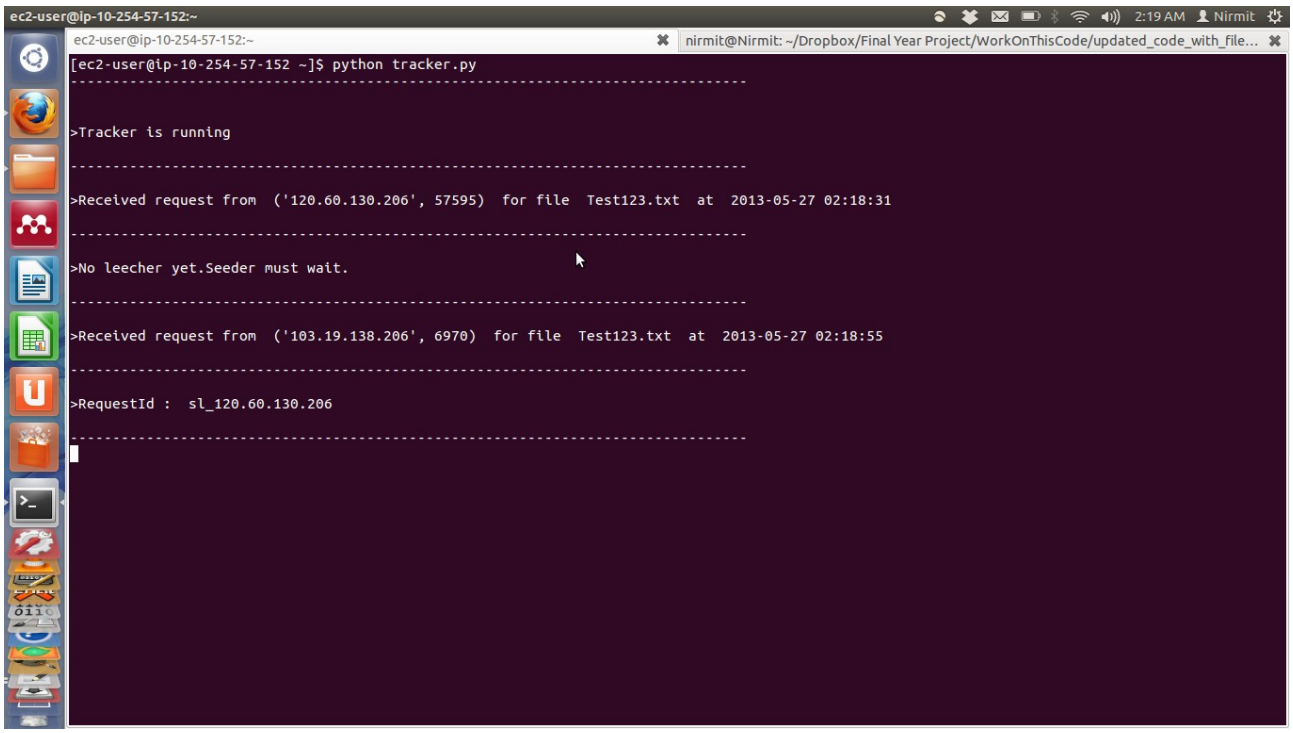
3) Run the tracker by using the command
python tracker.py



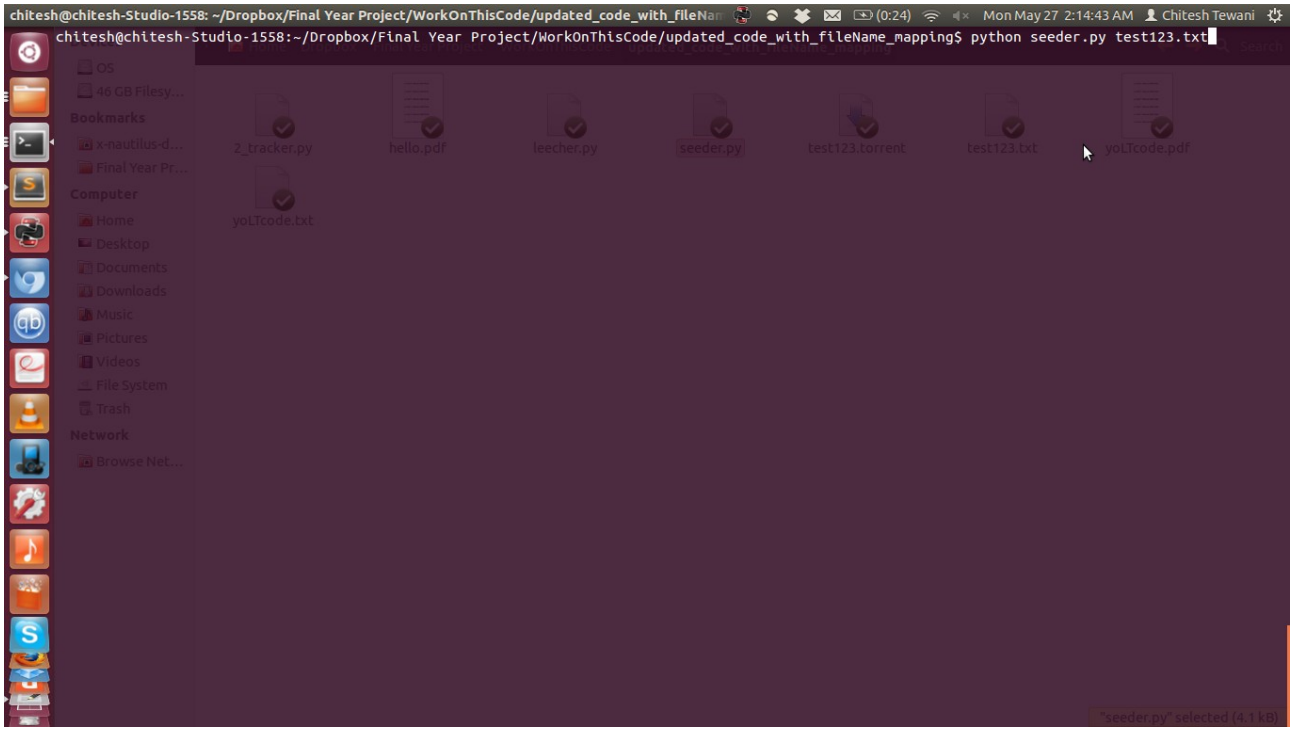
4) If seeder , connects first , the tracker shows the following message :



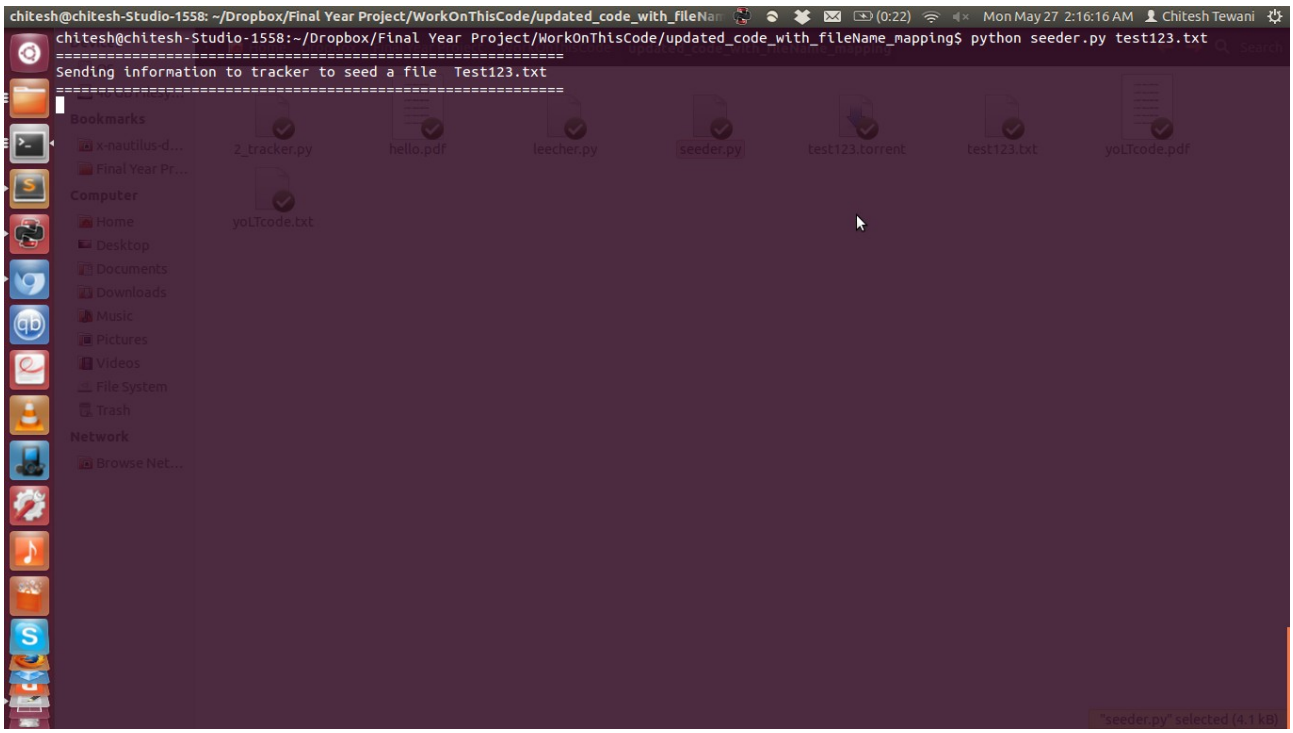
5) Once the leecher also connects, a requestID is generated



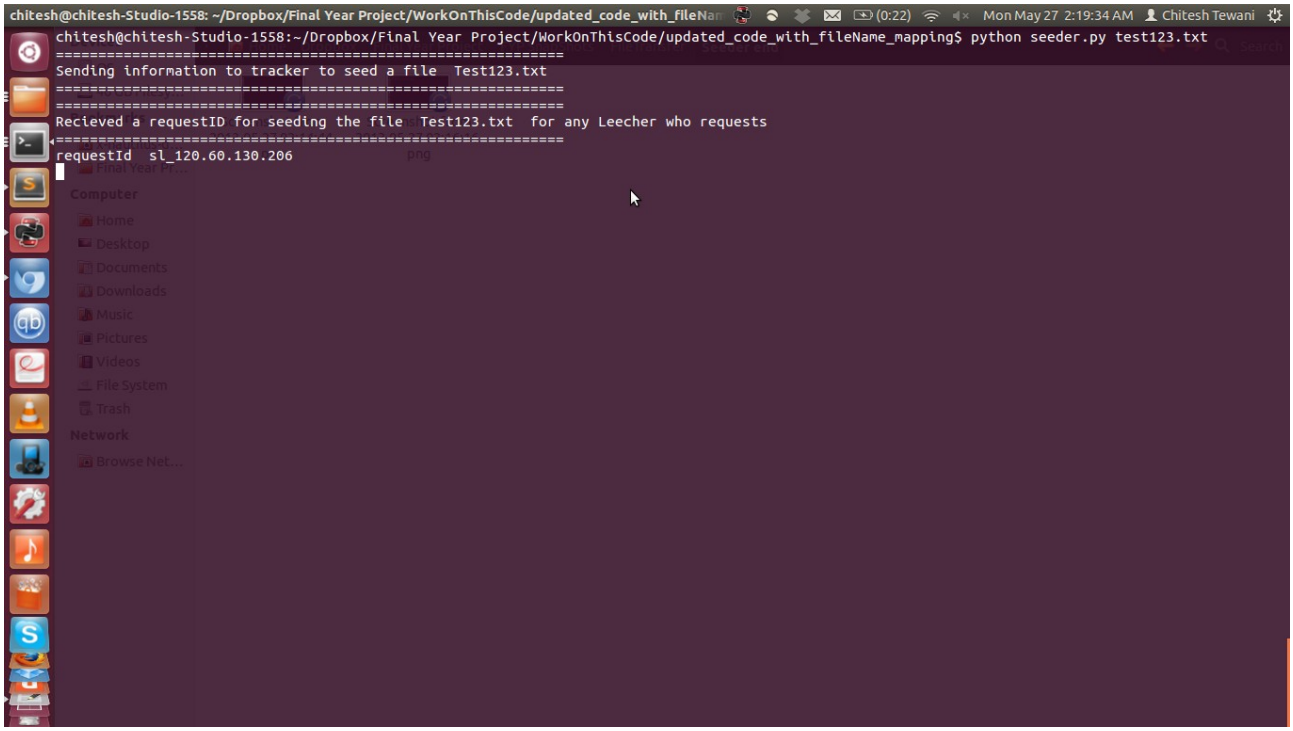
6) The seeder is run using following command :
python seeder.py fileToSeed



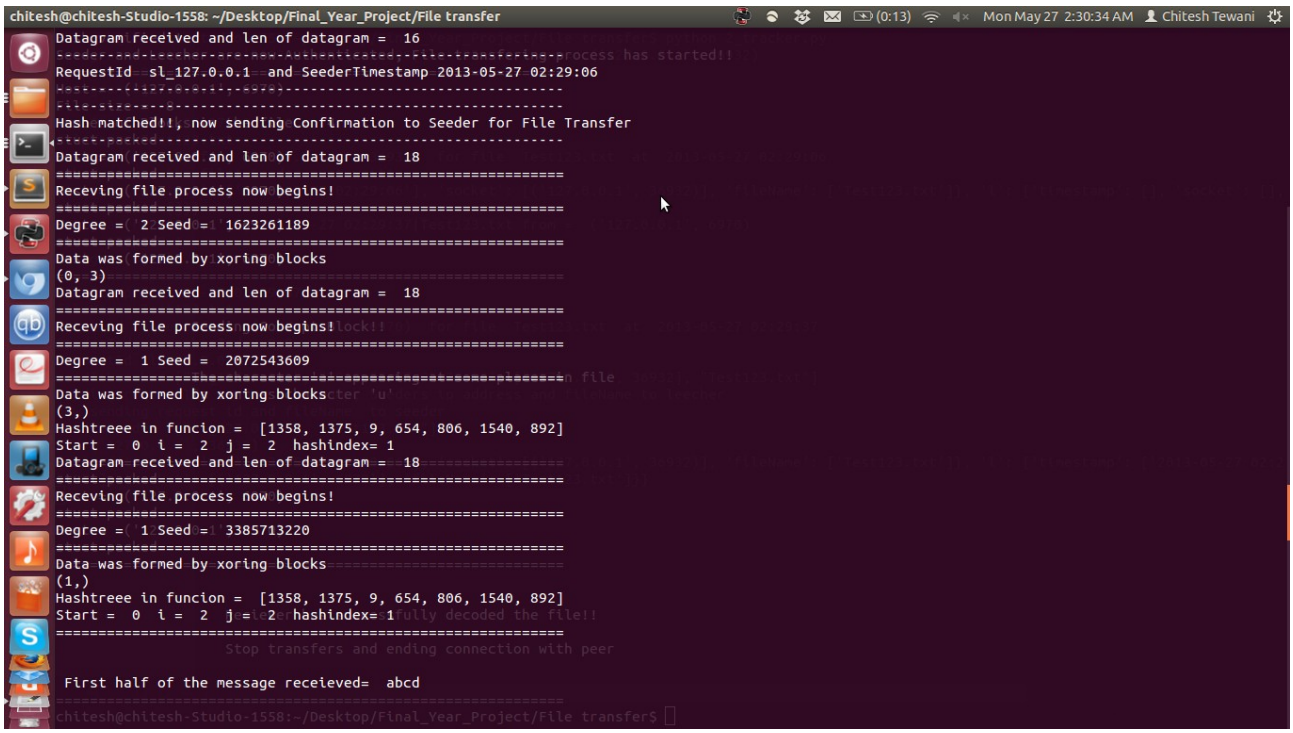
7) The seeder sends relevant information to tracker



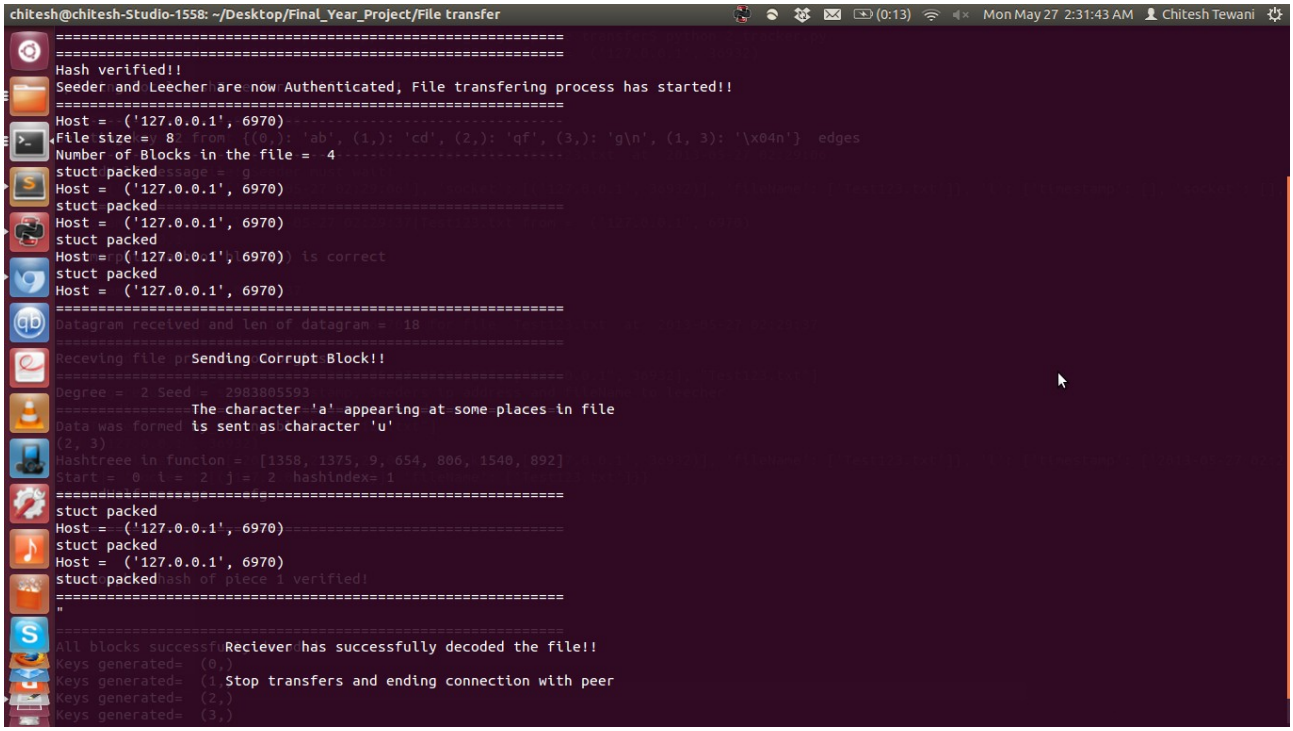
8) The tracker then sends a requestID to the seeder and leeder



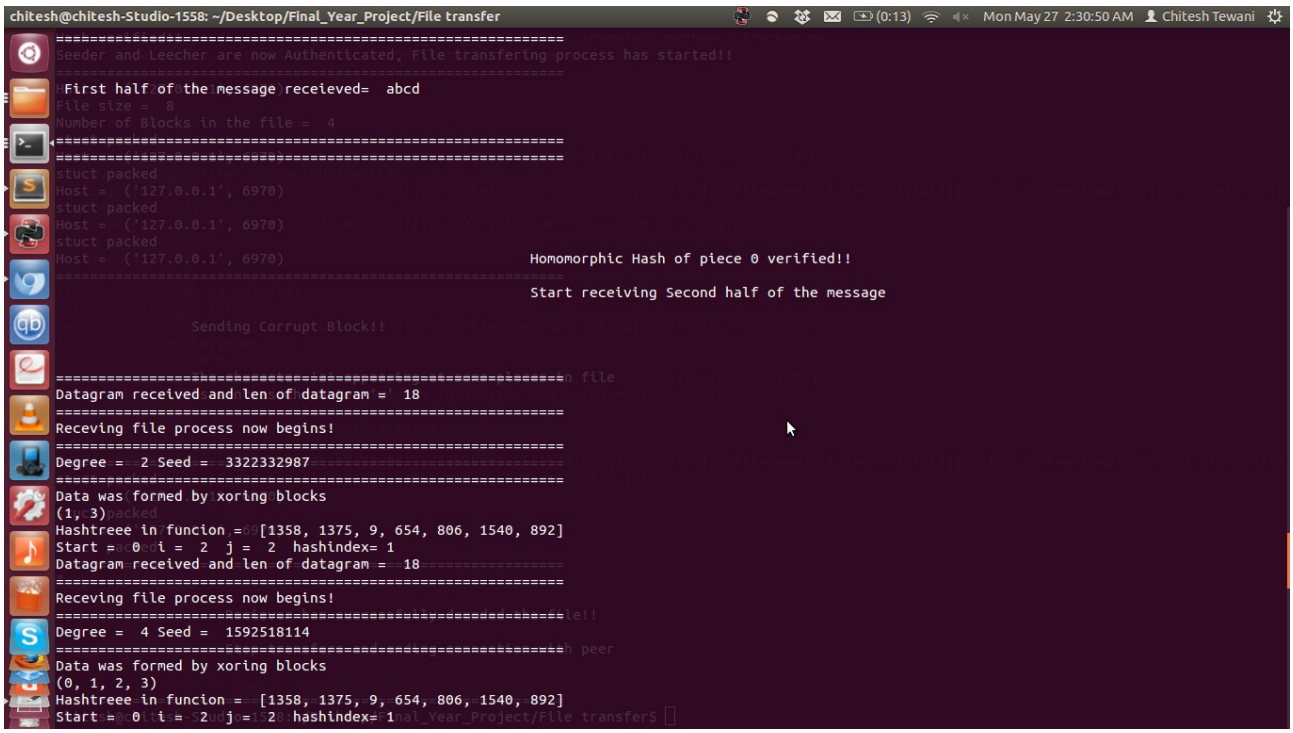
9)The leecher asks seeder for the hash of requestID and then checks if matches it's own requestID. If they match , it sends a confirmation message to seeder and starts receiving the file



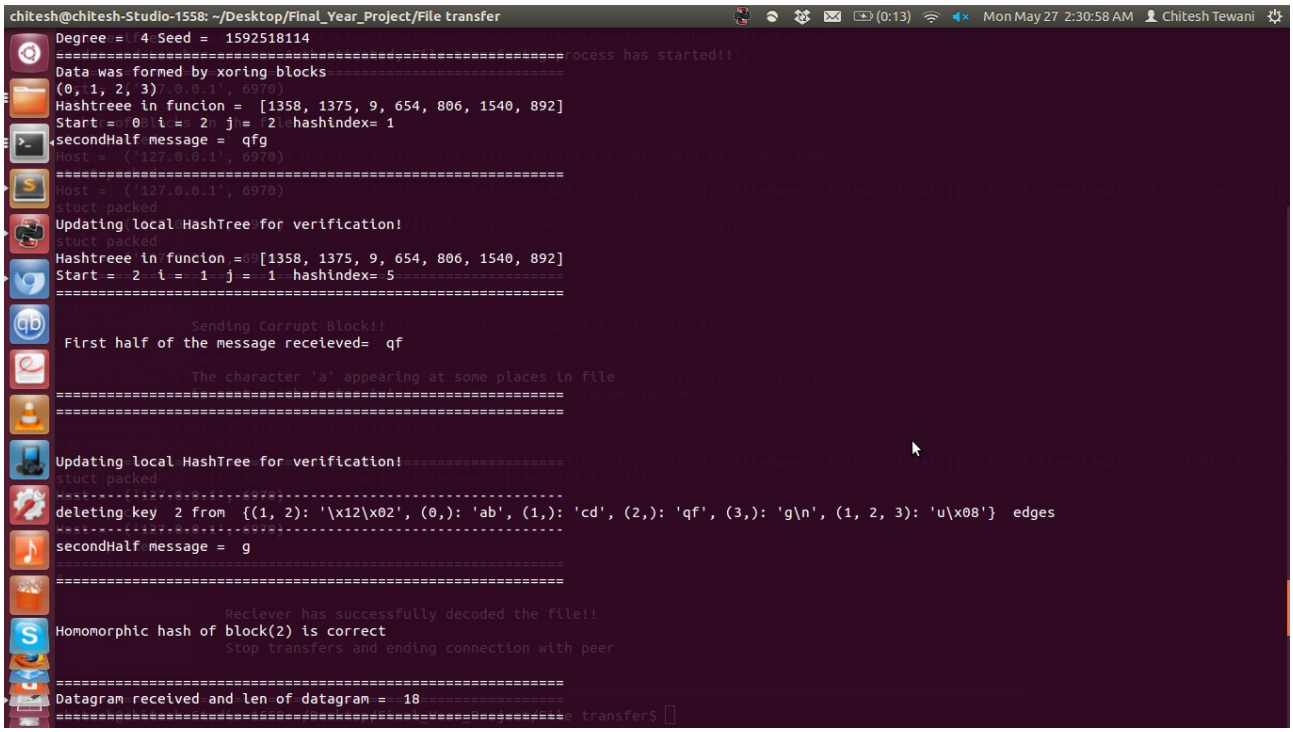
10) The seeder starts seeding file on receiving confirmation message from leecher. It randomly corrupts a block to send



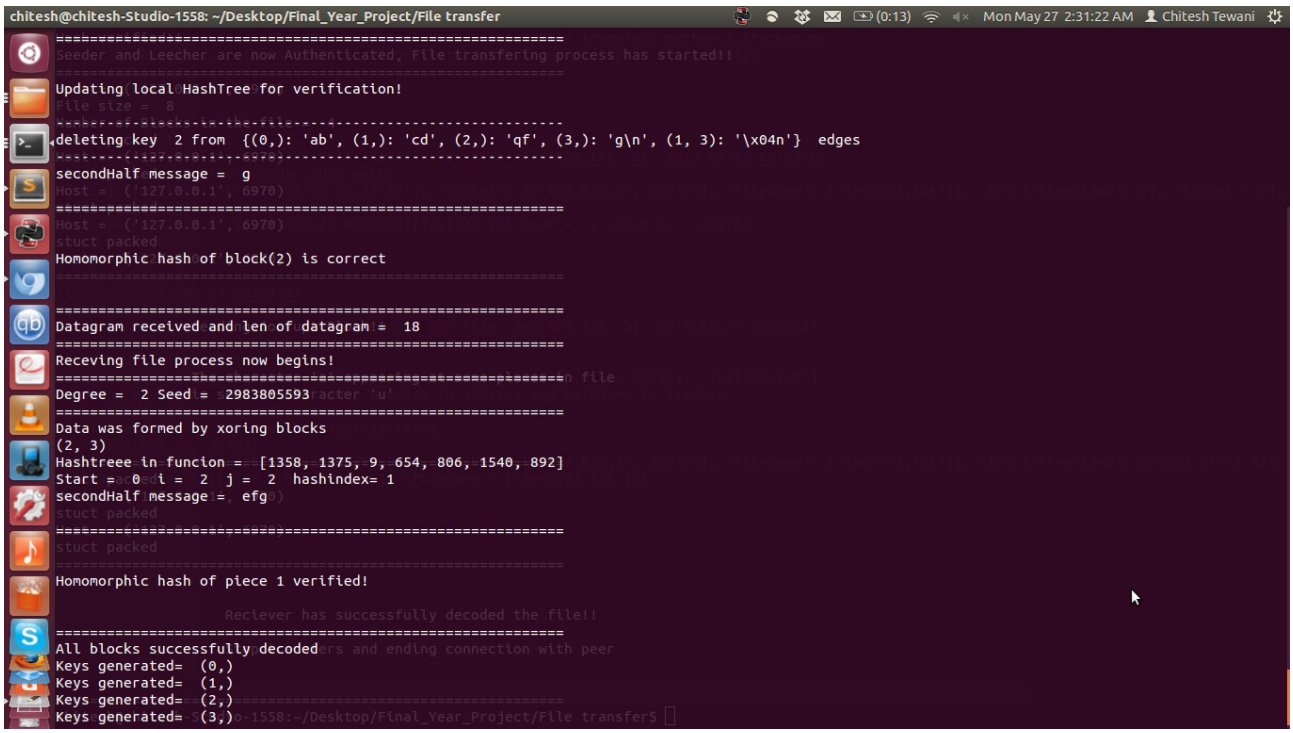
11) The leecher verifies the blocks on the fly by using homomorphic hashing



12) If a block is corrupted , it is deleted



13) If homomorphic hash of each piece is verified , the decoding process ends and leecher gets the entire file


chitesh@chitesh-Studio-1558: ~/Desktop/Final_Year_Project/File transfer
Mon May 27 2:31:22 AM
Chitesh Tewani
Updating local HashTree for verification!
deleting key 2 from {(0,): 'ab', (1,): 'cd', (2,): 'qf', (3,): 'g\n', (1, 3): '\x04n'} edges
secondHalf message = g
Homomorphic hash of block(2) is correct
Datagram received and len of datagram = 18
Receving file process now begins!
Degree = 2 Seed = 2983805593
Data was formed by xoring blocks
(2, 3)
Hashtreee in funcion = [1358, 1375, 9, 654, 806, 1540, 892]
Start = 0 i = 2 j = 2 hashindex= 1
secondHalf message = efg
Homomorphic hash of piece 1 verified!
All blocks successfully decoded
Keys generated= (0,)
Keys generated= (1,)
Keys generated= (2,)
Keys generated= (3,)