

# Instruction on transferring data from Raspberry Pi cluster to Cyverse


SFTP enables data access from a variety of computing environments.

Step 1: Connect to Cyverse from Raspberry Pi cluster.

Command line: `sftp -vv 3dscanner@data.cyverse.org`

CyVerse Account for the scanner: 3dscanner

Password: 3DScannerForbes131



```
pi@PiController: ~  
File Edit Tabs Help  
debug1: channel 0: new [client-session]  
debug2: channel 0: send open  
debug1: Entering interactive session.  
debug1: pledge: network  
debug2: callback start  
debug2: fd 3 setting TCP_NODELAY  
debug2: client_session2_setup: id 0  
debug1: Sending environment.  
debug1: Sending env LANG = en_GB.UTF-8  
debug2: channel 0: request env confirm 0  
debug1: Sending subsystem: sftp  
debug2: channel 0: request subsystem confirm 1  
debug2: callback done  
debug2: channel 0: open confirm rwindow 2097152 rmax 32768  
debug2: channel input_status_confirm: type 99 id 0  
debug2: subsystem request accepted on channel 0  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 5  
debug2: Remote version: 3  
debug2: Server supports extension "statvfs@openssh.com" revision 2  
Connected to data.cyverse.org.  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 10  
sftp>
```

Step 2: create a remote folder on Cyverse to store the data.

`cd 3dscanner/`

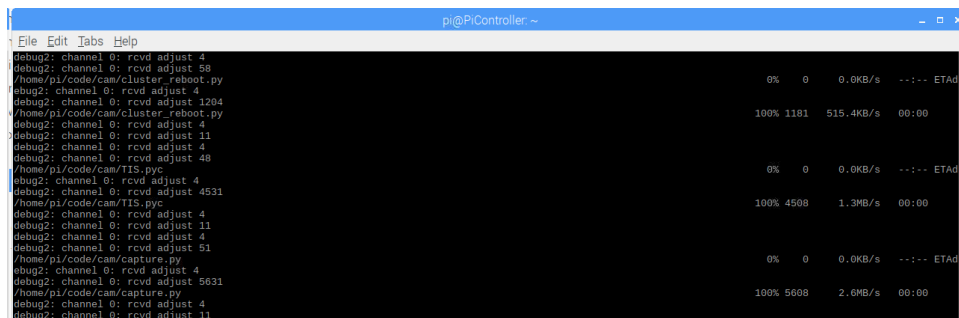
`mkdir test/` (“test” can be any legal folder name in Linux system)

Step 3: Upload the local folder to the remote folder created on Cyverse.

`put -r /home/pi/code/cam/2023-11-08/ /3dscanner/test/`

(“/home/pi/code/cam/2023-11-08/” is the path of images on Raspberry Pi, Controller Pi)

/3dscanner/test/” is the path to store images on Cyverse)



```
pi@PiController: ~  
File Edit Tabs Help  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 58  
/home/pi/code/cam/cluster_reboot.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 1204  
/home/pi/code/cam/cluster_reboot.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 11  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 48  
/home/pi/code/cam/TIS.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 4531  
/home/pi/code/cam/TIS.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 11  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 51  
/home/pi/code/cam/capture.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 5631  
/home/pi/code/cam/capture.py  
debug2: channel 0: rcvd adjust 4  
debug2: channel 0: rcvd adjust 11
```

Step 4: Type “exit” to disconnect from sftp connection.

## Reference

### Available SFTP commands

| <b>command</b>             | <b>description</b>               |
|----------------------------|----------------------------------|
| cd path                    | Change remote directory to path  |
| lcd path                   | Change local directory to path   |
| pwd                        | Display remote working directory |
| lpwd                       | Print local working directory    |
| ls [-lafhlnrSt] [path]     | Display remote directory listing |
| lls [ls-options] [path]    | Display local directory listing  |
| mkdir path                 | Create remote directory          |
| lmkdir path                | Create local directory           |
| rmdir path                 | Remove remote directory          |
| rm path                    | Delete remote file               |
| rename oldpath newpath     | Rename remote file               |
| get [-afpR] remote [local] | Download file                    |
| put [-afpR] local [remote] | Upload file                      |
| version                    | Show SFTP version                |
| help                       | Display help text                |
| exit                       | Quit sftp                        |