

Cosc 2436 – Data Structures

Linux Server Environment

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DOWNLOAD REQUIREMENTS

1: PUTTY

2: FileZilla

* If you are using Mac, you don't need to download PUTTY. Use Terminal instead (skip PUTTY set up slides)

How to set up Putty/Download

Download Putty: <https://www.chiark.greenend.org.uk/~sgtatham/putty/>

Version: 0.77

PuTTY: a free SSH and Telnet client

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PuTTY is a free implementation of SSH and Telnet for Windows and Unix platforms, along with an `xterm` terminal emulator. It is written and maintained primarily by [Simon Tatham](#).

The latest version is 0.73. [Download it here](#).



Putty Download

You probably want one of these. They include versions of all the PuTTY utilities.

(Not sure whether you want the 32-bit or the 64-bit version? Read the [FAQ entry](#).)

MSI ('Windows Installer')

32-bit: [putty-0.73-installer.msi](#) ([or by FTP](#)) ([signature](#))

64-bit: [putty-64bit-0.73-installer.msi](#) ([or by FTP](#)) ([signature](#))

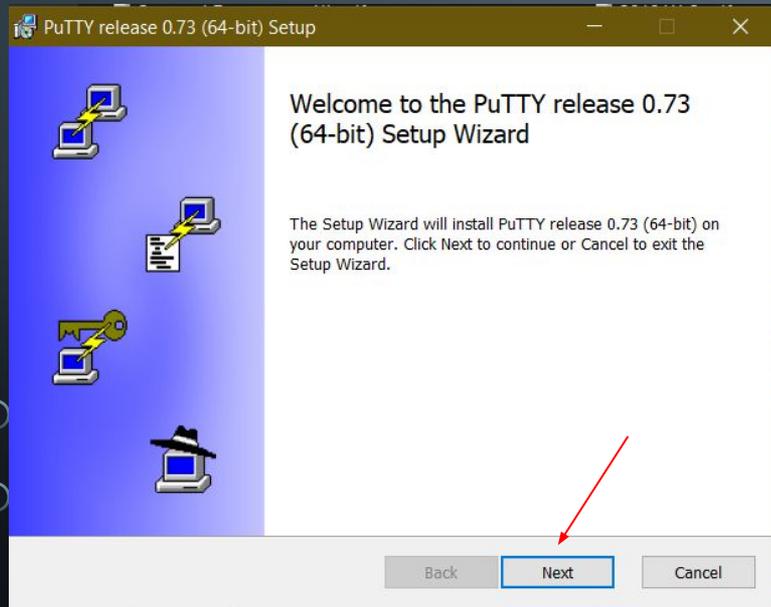
Unix source archive

.tar.gz: [putty-0.73.tar.gz](#) ([or by FTP](#)) ([signature](#))

Feel free to download which one is compatible with your PC.
If not sure, download 32-bit. It will be the best route to take.

PuTTY Download

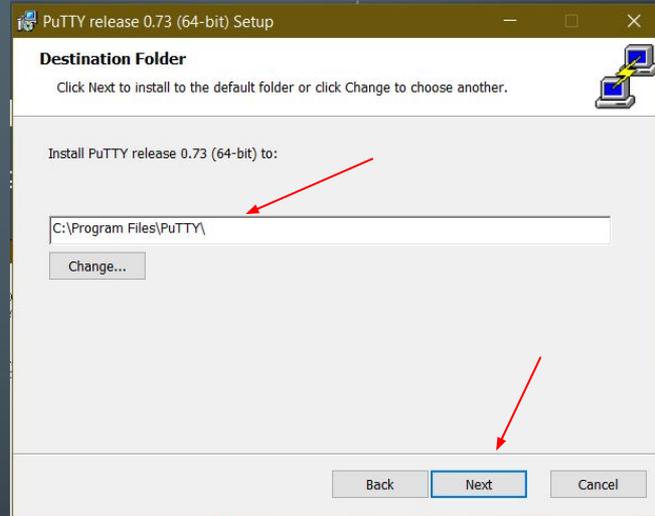
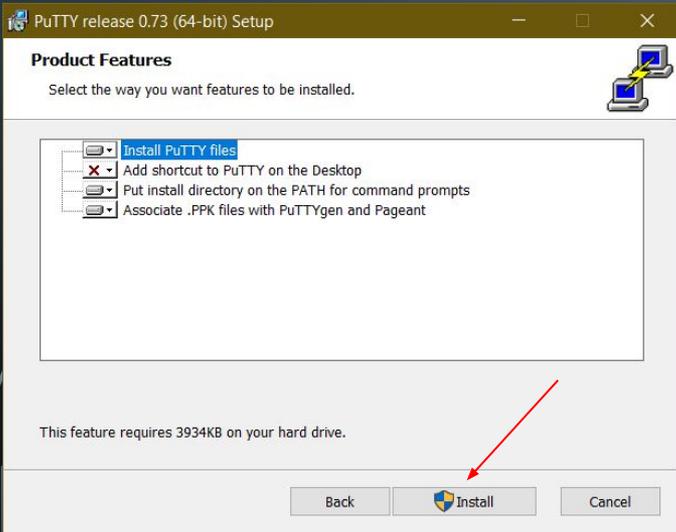
Click this and began set up.



Click next and then continue.

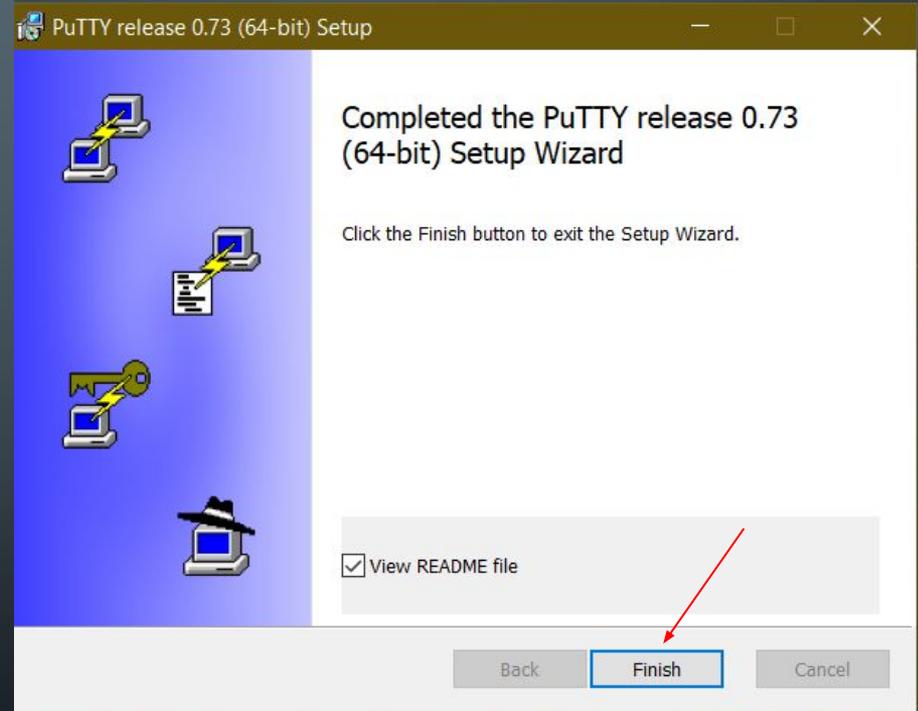
Putty Download Con't

Save it to the location of your preference, I would suggest you go with the default one they suggested.



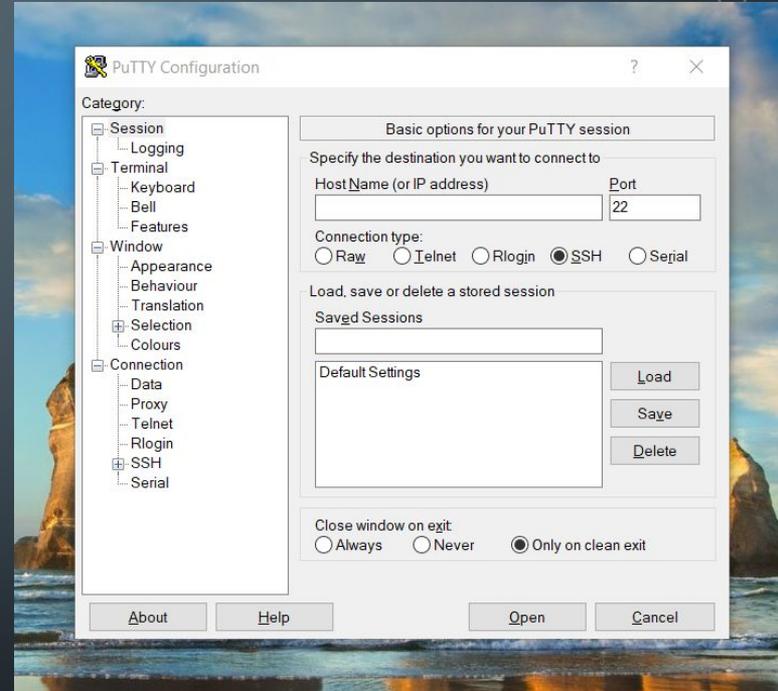
Putty is ready to be used.

It is done and now it's time to use it to set up the app.



Putty Connection

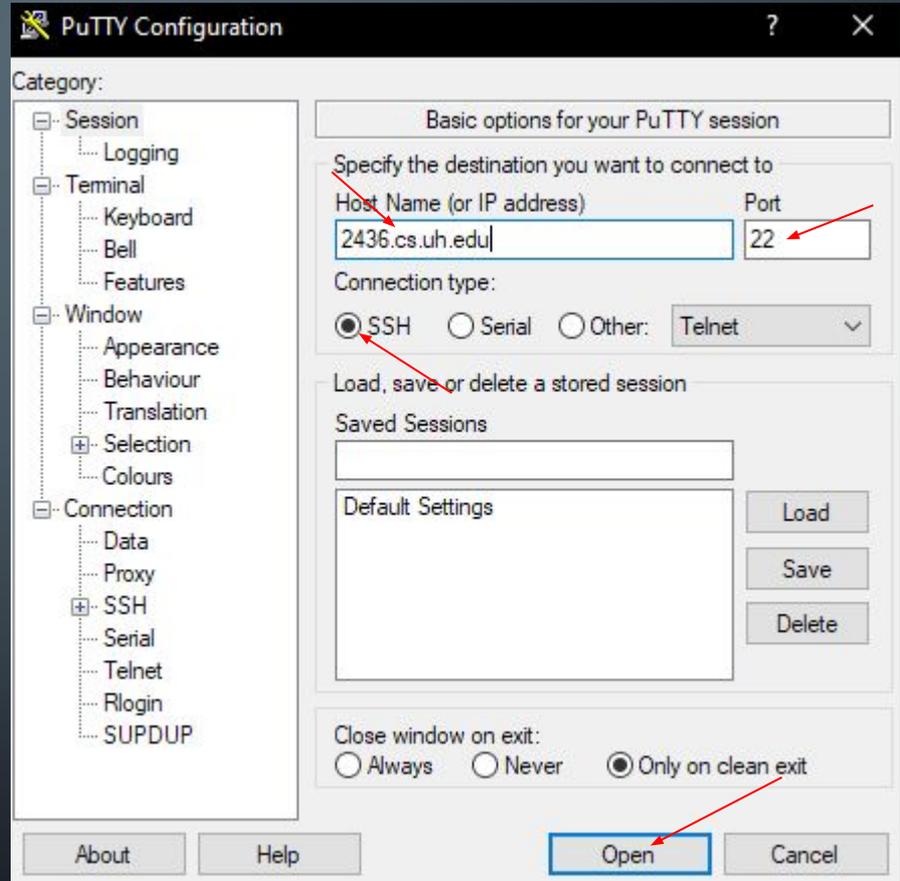
After running PuTTY, you should be directed to this window.



Putty Connection

Complete the following:

- Host Name: 2436.cs.uh.edu
- Port: 22
- Connection Type: SSH
- Then, hit Open



Putty Login Credentials

Your username can be found in “my grades” on blackboard

Your default password will be your PSID + first initial capital + last initial capital. Ex “1234567JS”

Putty Login

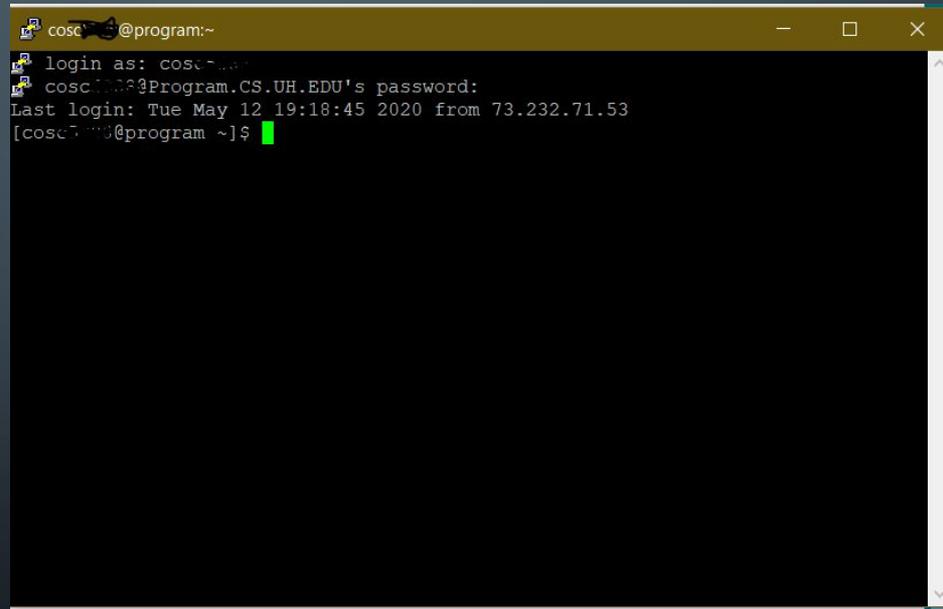
Once you establish the connection, this window should appear for you to login in using your Linux/Unix Login Credentials (See previous slide).

*Note: When typing your password, characters will not appear on the screen!
Just continue typing the password and hit enter when you have finished.



Putty Successful Login

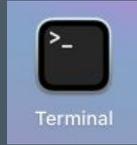
This is what the window should look like once you log in



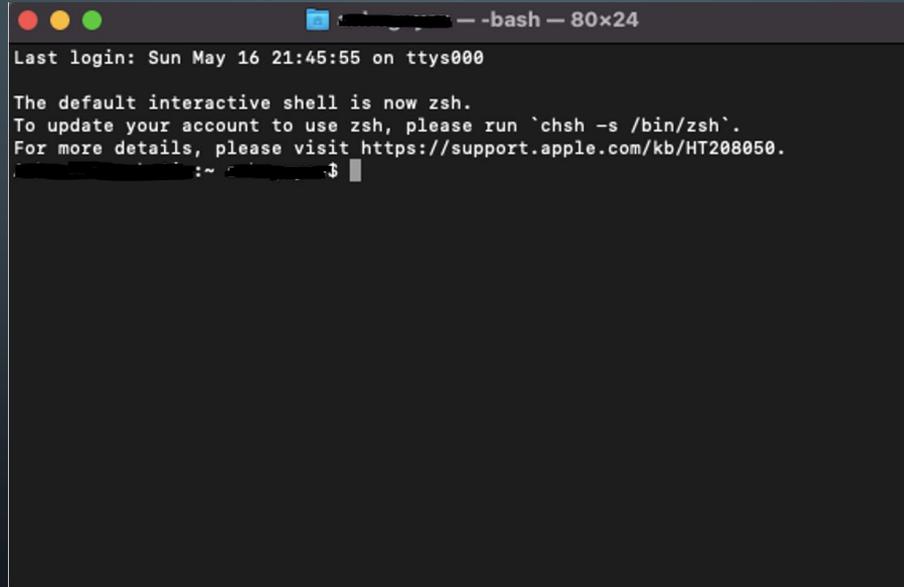
```
cosc[REDACTED]@program:~  
login as: cosc[REDACTED]  
cosc[REDACTED]@Program.CS.UH.EDU's password:  
Last login: Tue May 12 19:18:45 2020 from 73.232.71.53  
[cosc[REDACTED]@program ~]$
```

Mac login

Open terminal
This should be installed already
with any Mac system



You will see something like this

A screenshot of a macOS Terminal window. The title bar shows a blue window control button, a redacted name, and the text '-bash - 80x24'. The terminal content is as follows:

```
Last login: Sun May 16 21:45:55 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
[redacted]:~ [redacted]$
```

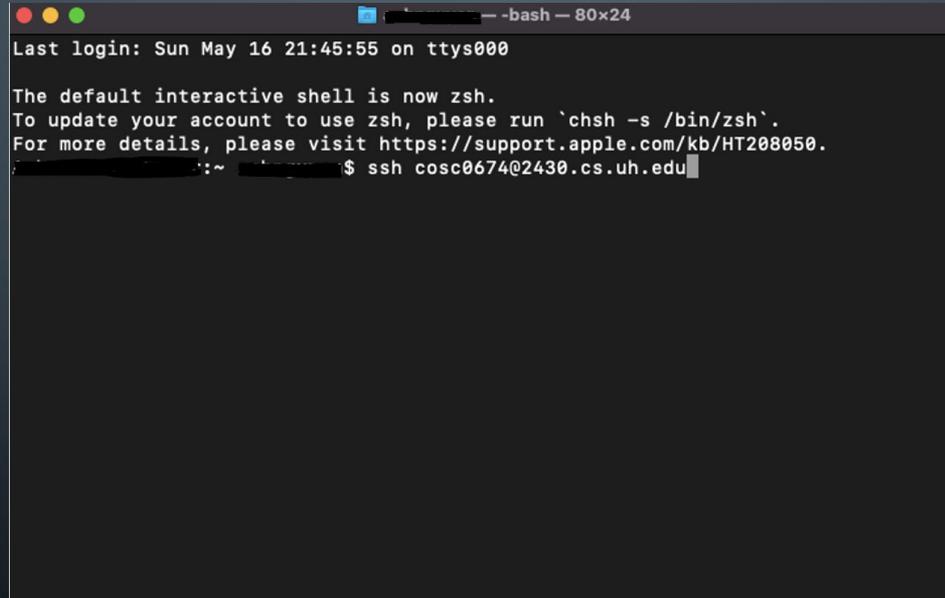
Mac login

Type “`ssh cosc###@2436.cs.uh.edu`”

Replace `cosc###` with your username, in this example the username is `cosc0674`

*Note: When typing your password, characters will not appear on the screen!

Just continue typing the password and hit enter when you have finished.

A terminal window with a dark background and light text. The window title bar shows three colored dots (red, yellow, green) and the text "--bash-- 80x24". The terminal content shows the output of an SSH command: "Last login: Sun May 16 21:45:55 on ttys000", "The default interactive shell is now zsh.", "To update your account to use zsh, please run `chsh -s /bin/zsh`.", "For more details, please visit https://support.apple.com/kb/HT208050.", and a prompt "csc0674@2430.cs.uh.edu:~\$ ssh cosc0674@2430.cs.uh.edu" with a cursor at the end.

```

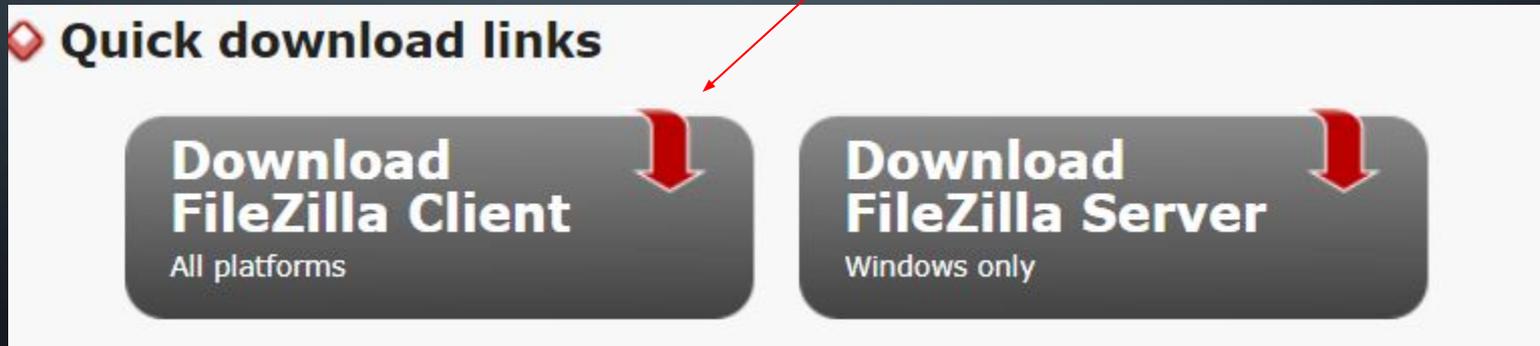
--bash-- 80x24
Last login: Sun May 16 21:45:55 on ttys000

The default interactive shell is now zsh.
To update your account to use zsh, please run `chsh -s /bin/zsh`.
For more details, please visit https://support.apple.com/kb/HT208050.
csc0674@2430.cs.uh.edu:~$ ssh cosc0674@2430.cs.uh.edu
```

Next set up FileZilla

Download FileZilla: <https://filezilla-project.org/>

Next click on the option “FileZilla Client”



FileZilla Download

Depending on what Operating System you use pick the following.

◆ **Windows (64bit)** 

**Download
FileZilla Client**



This installer may include bundled offers. Check below for more options.

The 64bit versions of Windows 8.1 and 10 are supported.

◆ **More download options**

Other platforms:   

Not what you are looking for?

[!\[\]\(a5ce6bf60513915c4be97f191363167f_img.jpg\) Show additional download options](#)

FileZilla Download

Pick the one that's free, why waste money right?

Please select your edition of FileZilla Client

	FileZilla	FileZilla with manual	FileZilla Pro
Standard FTP	Yes	Yes	Yes
FTP over TLS	Yes	Yes	Yes
SFTP	Yes	Yes	Yes
Comprehensive PDF manual	-	Yes	Yes
Amazon S3	-	-	Yes
Backblaze B2	-	-	Yes
Dropbox	-	-	Yes
Microsoft OneDrive	-	-	Yes
Google Drive	-	-	Yes
Google Cloud Storage	-	-	Yes
Microsoft Azure Blob and File Storage	-	-	Yes
WebDAV	-	-	Yes
OpenStack Swift	-	-	Yes
Box	-	-	Yes
Site Manager synchronization	-	-	Yes

Download

Select

Select

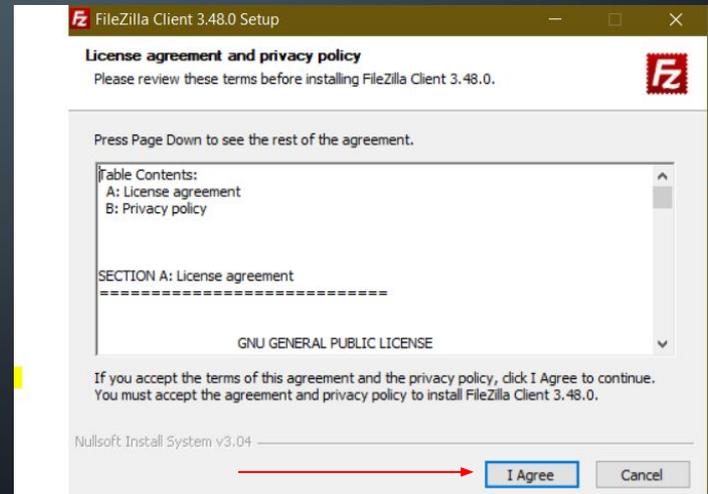
FileZilla Download

Click on this downloaded file to begin the setup.

Allow the Computer to make changes.

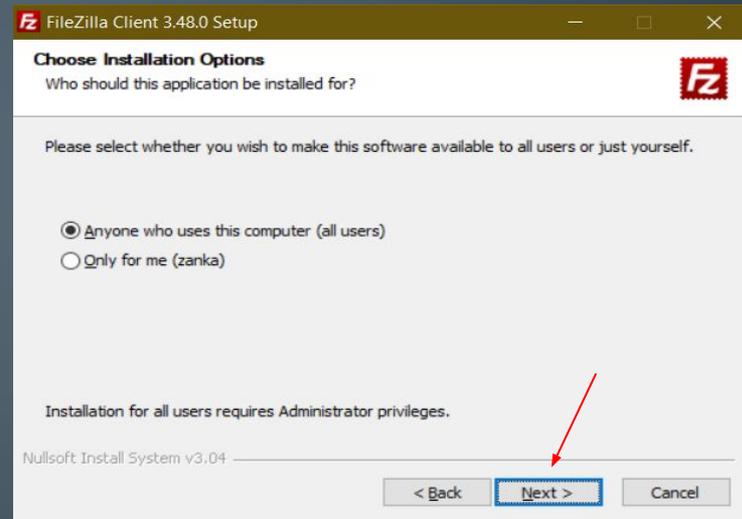
Click “I Agree”.

Next, Pick the option that suits your needs.

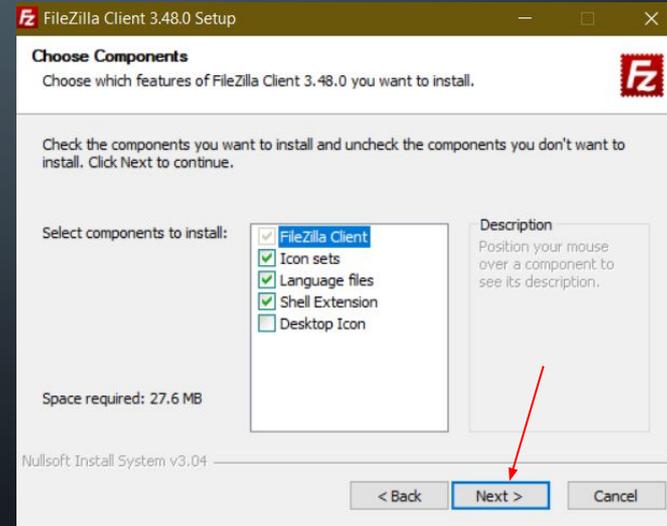


FileZilla Set-up

Next, Pick the option that suits your needs.

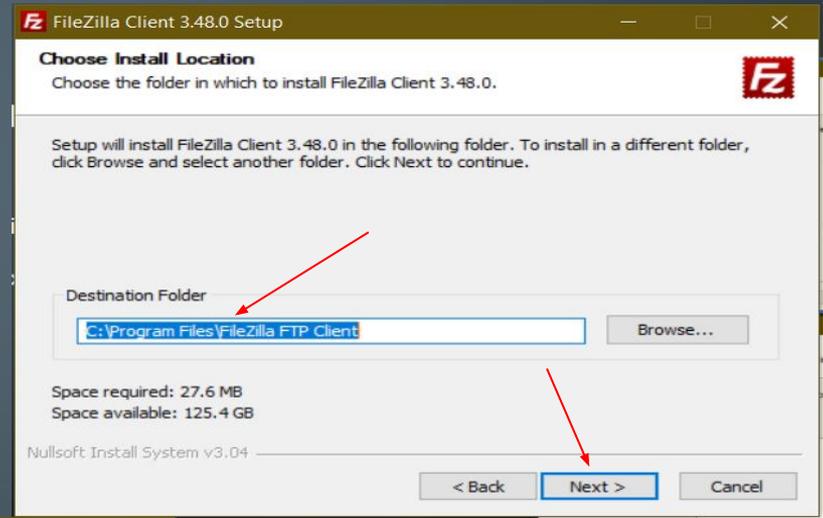


Next, keep the default settings and click next.

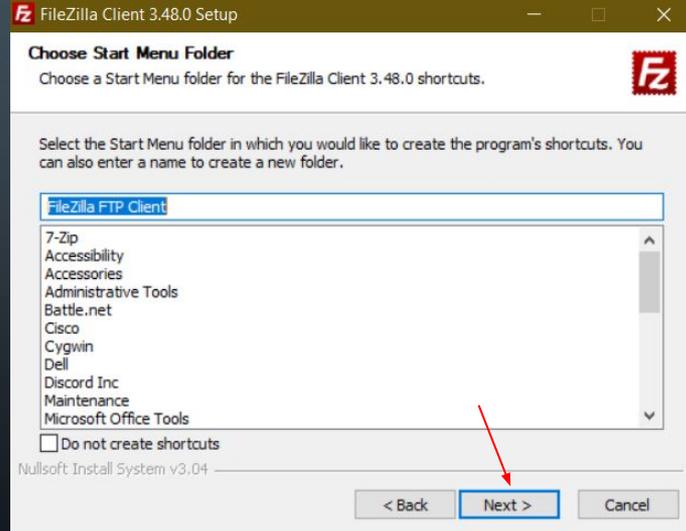


FileZilla Set-up

Next, save the file at your desired location.

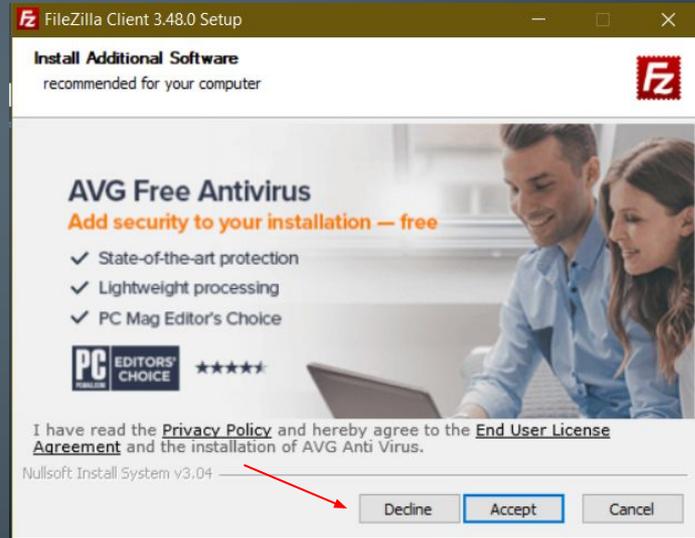


Click Next.

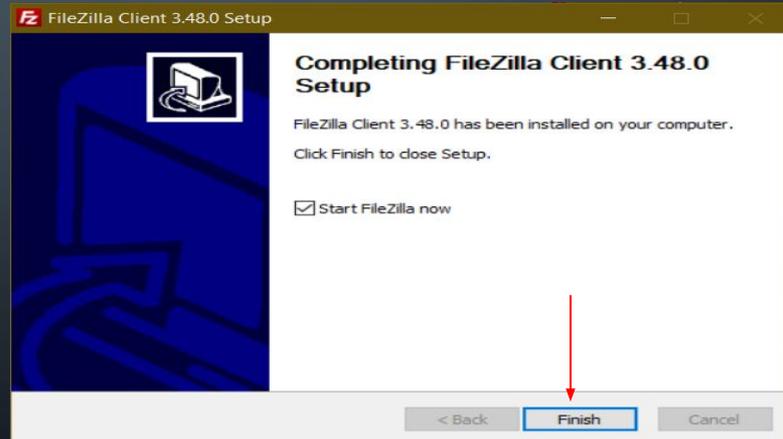


FileZilla Set-up con't

Decline this additional AntiVirus install.



Hit finish and then you are done!

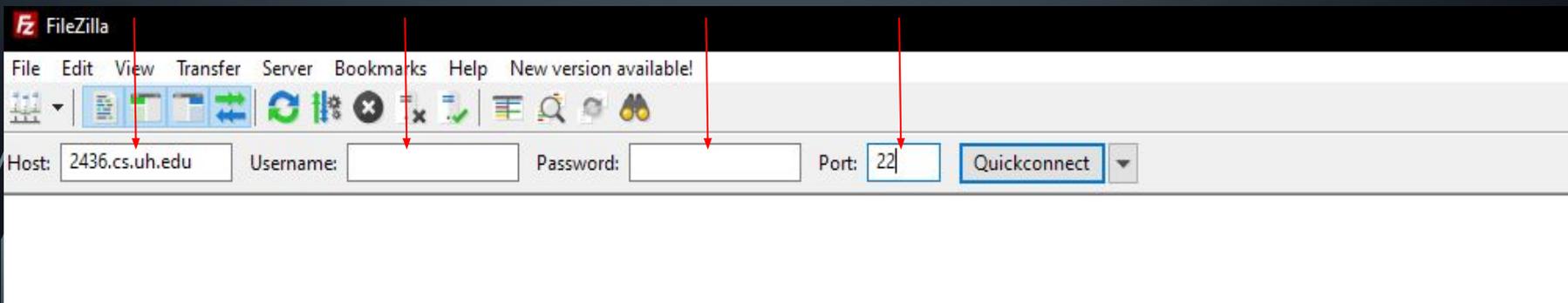


FileZilla Login

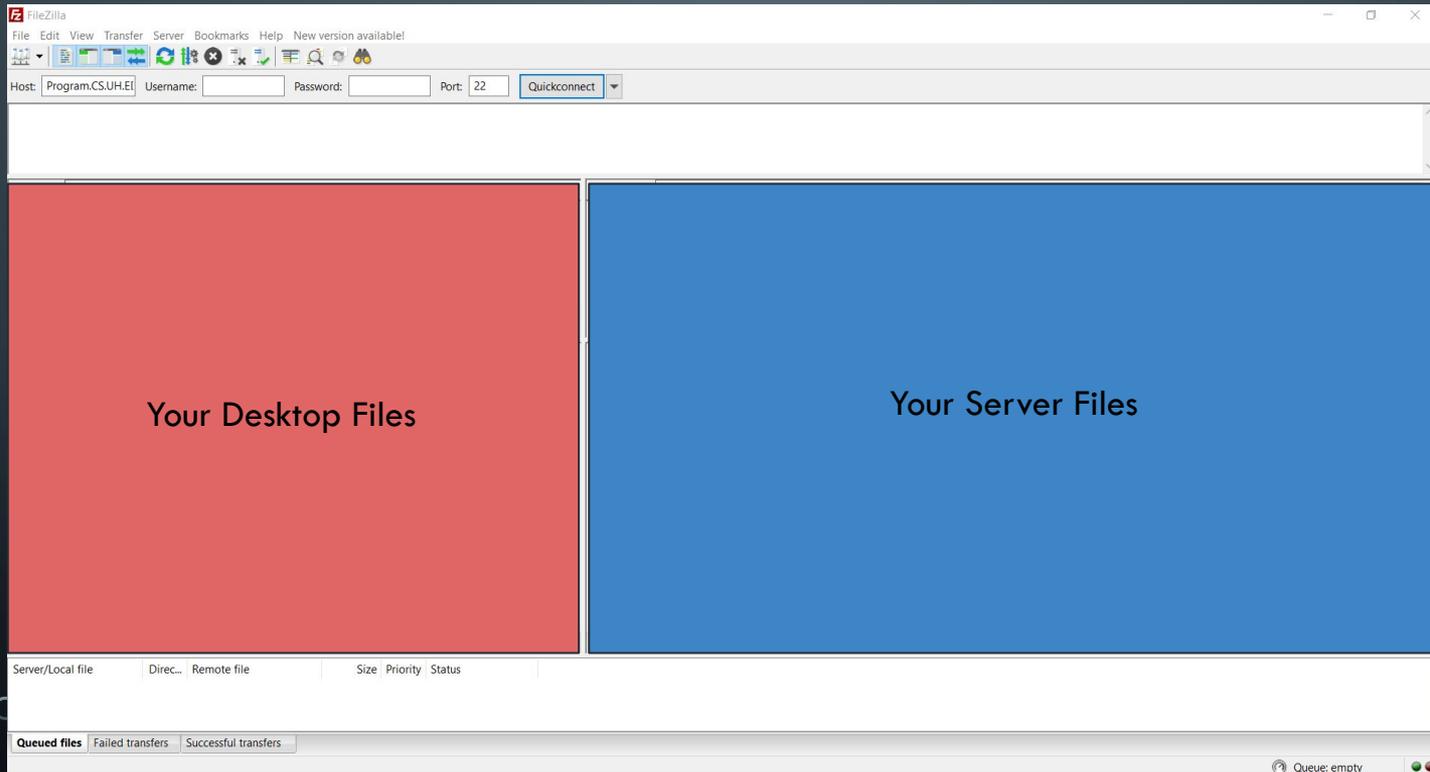
Fill out the following:

- Host: 2436.cs.uh.edu
- Username: The same as PuTTY login
- Password: The same as PuTTY login
- Port: 22

Then hit Quickconnect.



FileZilla Layout



FileZilla File Transfer

Once you are logged in, you will be able to drag and drop the files from your desktop to the server. This will allow you to submit your homework and test them in PuTTY.

Steps:

1. Locate the file you want to transfer from your desktop (left side)
2. Open the server folder you want to put your file in (right side)
3. Drag and drop the file from the left side to the right side.

FileZilla File Transfer con't

The screenshot shows the FileZilla interface with the following details:

- Host:** sftp://Program.CS
- Username:** [Redacted]
- Password:** [Redacted]
- Port:** 22
- Local site:** C:\Users\st04490\Documents\ [Redacted] \Test HW\
- Remote site:** /home/y2020/spring/[Redacted]/HwSubmission

Status Log:

- Directory listing of "/home/y2020/spring/[Redacted]/HwSubmission" successful
- Retrieving directory listing of "/home/y2020/spring/[Redacted]/HwSubmission"...
- Listing directory /home/y2020/spring/[Redacted]/HwSubmission
- Directory listing of "/home/y2020/spring/[Redacted]/HwSubmission" successful

Local File List:

Filename	Filesize	Filetype	Last modified
myHomewo...	12	C++ Source	5/13/2020 2:57...

Remote File List:

Empty directory listing

Annotations:

- A red arrow points from the text "File I want to transfer" to the file "myHomewo..." in the local list.
- A red arrow points from the text "Server folder I want to put file into" to the "HwSubmission" folder in the remote list.
- A large red curved arrow labeled "Drag and Drop" indicates the transfer path from the local file to the remote folder.

Bottom Panel:

Server/Local file	Dirac...	Remote file	Size	Priority	Status

Queued files | Failed transfers | Successful transfers

Queue: empty

What files should I include in my submission?

What files should I transfer?

- Any files with your code (main.cpp)
- All input test cases (input1.txt, input2.txt, etc.)
- All answers to the test cases (ans1.txt, ans2.txt, etc.)
- ArgumentManager.h
- test.sh

Basic commands

A simple list of basic commands that you can run in PuTTY (Terminal) to navigate the server and test your code:

- `mkdir "folder name"` - make a folder
- `rm -r "folder name"` - remove a folder
- `rm "file name"` - remove a file
- `ls` - List of all the files in that folder
- `cd "folder name"` - Used to Enter a specific file in that folder
- `cd ..` - Used this to exit out of the folder you are currently in
- `cat "filename"` - see all contents in a file
- `chmod u+x test.sh` - give you permission to run the test file
- `./test.sh` - runs the test file to test your code

Argument Manger

In order to test and grade your submission correctly, your code must include the following lines of code in every program you write.

Lines code:

```
#include "ArgumentManager.h"
```

Include this header file at at the top of your code

```
int main(int argc, char *argv[])  
{  
    ArgumentManager am(argc, argv);  
  
    string input = am.get("input");  
    string output = am.get("output");  
  
    ofstream ofs(output);  
    ifstream ifs(input);  
}
```

Main Function Parameters

Read/Write in the file using Argument Manager.

*Note: If you want to test your code locally, you can hardcode the input and output file names, but when you are ready to submit, you **MUST** use these lines of code instead.

NOW LET'S GET CODING!

