

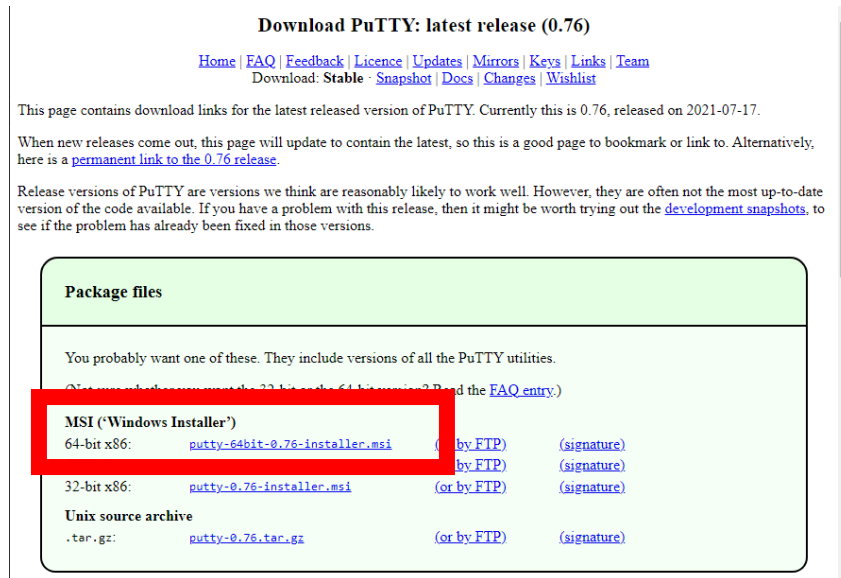
Kronos Timelapse Instructions

David Gable, 1/16/2022

Downloads

1. Download PuTTY. Follow install steps.

<https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html>



Download PuTTY: latest release (0.76)

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This page contains download links for the latest released version of PuTTY. Currently this is 0.76, released on 2021-07-17.

When new releases come out, this page will update to contain the latest, so this is a good page to bookmark or link to. Alternatively, here is a [permanent link to the 0.76 release](#).

Release versions of PuTTY are versions we think are reasonably likely to work well. However, they are often not the most up-to-date version of the code available. If you have a problem with this release, then it might be worth trying out the [development snapshots](#), to see if the problem has already been fixed in those versions.

Package files			
You probably want one of these. They include versions of all the PuTTY utilities.			
<small>(Sit down and download the 22.1 kb or the 64.1 kb version? Read the FAQ entry.)</small>			
MSI ('Windows Installer')			
64-bit x86:	putty-64bit-0.76-installer.msi	(or by FTP)	(signature)
		(or by FTP)	(signature)
32-bit x86:	putty-0.76-installer.msi	(or by FTP)	(signature)
Unix source archive			
.tar.gz:	putty-0.76.tar.gz	(or by FTP)	(signature)

2. Download WinSCP

<https://winscp.net/eng/download.php> (close the tab that pops up after clicking the green button below once the download is complete). Follow install steps.



WinSCP
Free SFTP, SCP, S3 and FTP client for Windows

Home | News | Introduction | **Download** | Install | Documentation | Forum

WinSCP 5.19 Download

WinSCP 5.19 is a major application update. New features and enhancements include:

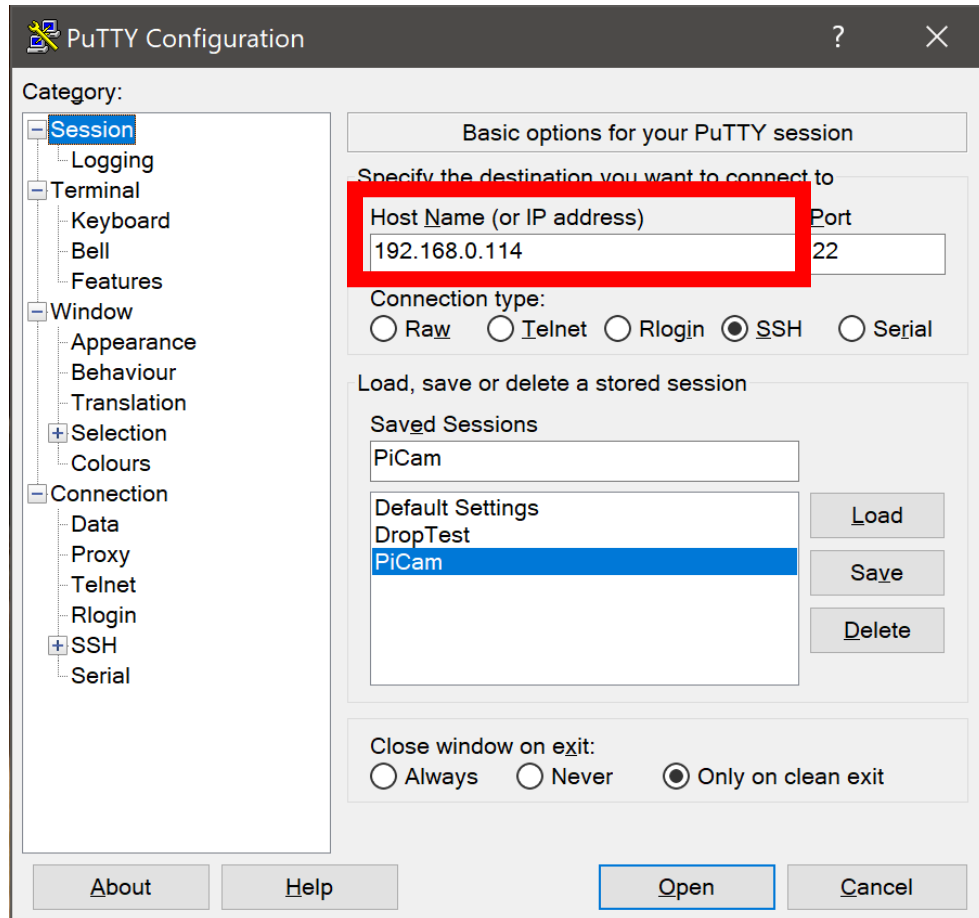
- A complete list of files that are part of a background transfer can be shown.
- Support for PPK version 3 keys from PuTTY 0.75.
- **Stream** interface in .NET assembly.
- With SFTP protocol files can be streamed to stdout and from stdin in scripting.
- Support SHA-256 fingerprints of TLS/SSL certificates.
- Extension *Synchronize with another remote server*.
- Improved FTP support for VMS servers (and potentially for other non-Unix-like systems).
- Compatibility with Google Cloud Storage when using S3 protocol to access the buckets.
- [List of all changes](#).

DOWNLOAD WINSCP 5.19.5 (11.3 MB) | [Get it from Microsoft](#) | [OTHER DOWNLOADS](#)

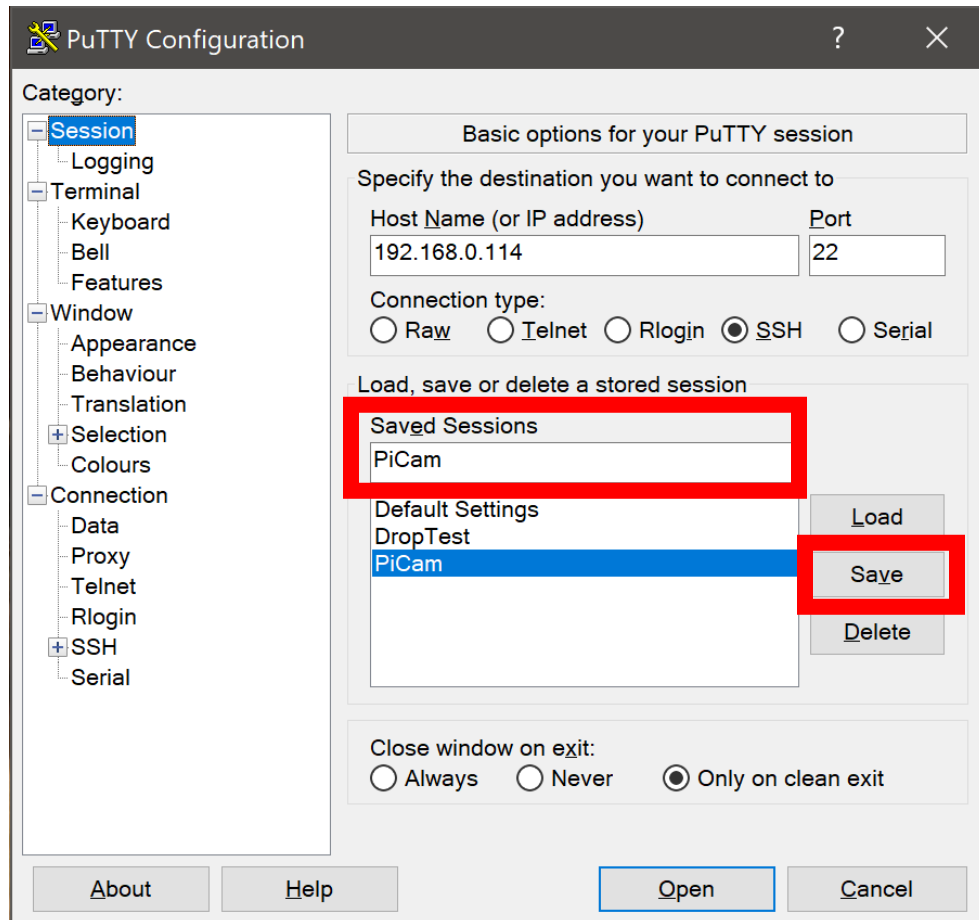
[What is this?](#)

Setting Up PuTTY and WinSCP

1. Launch PuTTY
2. Type 192.168.0.114 in the Host Name line

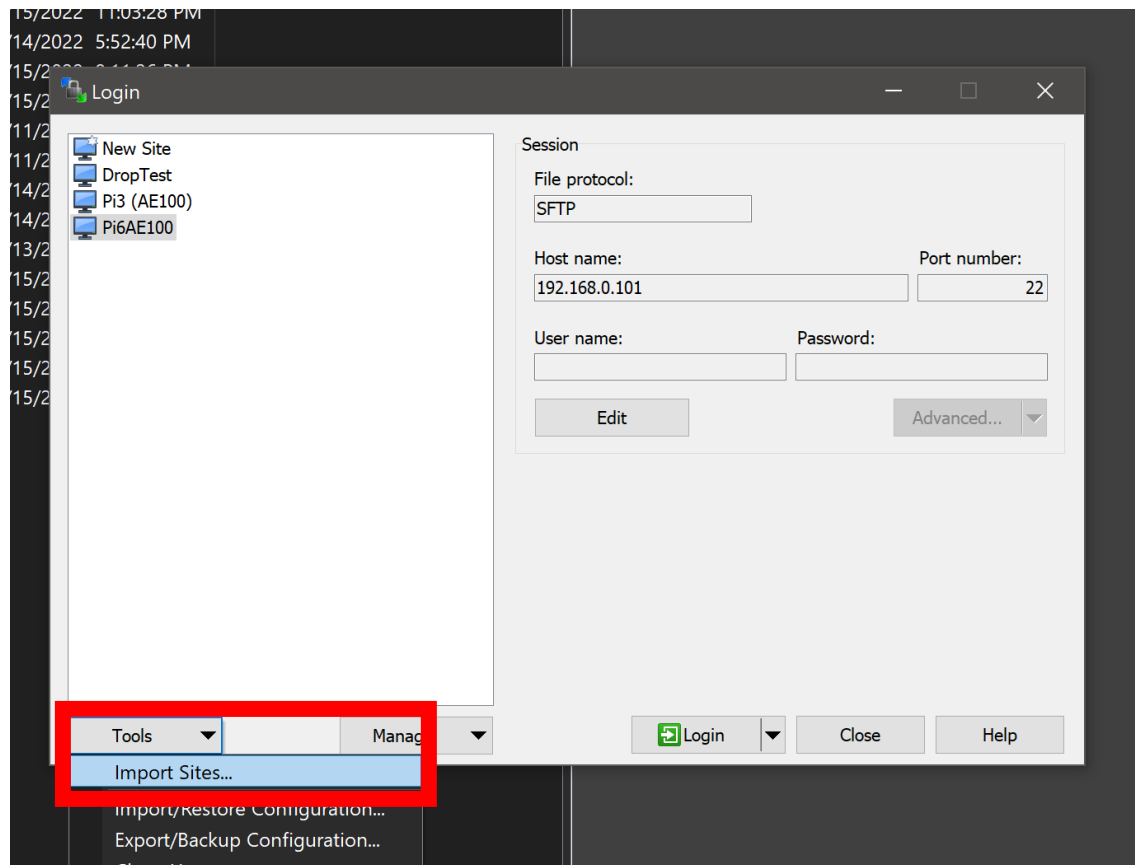


3. Give a name to the session (I used PiCam). Type in the name under Saved Sessions and click Save.

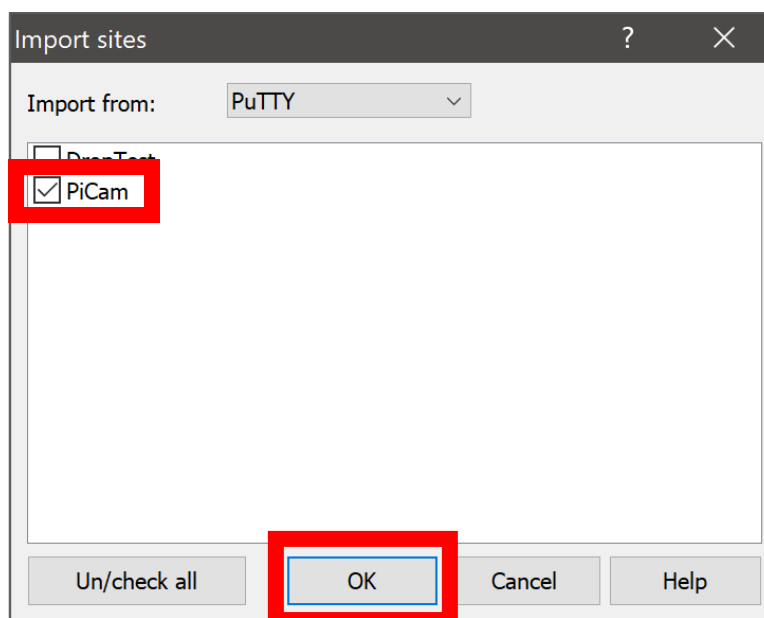


4. In the future you can double click the saved session to load directly into the RPi

5. In WinSCP click on Tools and then import sites



6. Check PiCam or whatever you saved the session as in PuTTY and click OK



7. You can optionally click Edit and add the username and password so you will have an easier time signing in. Username: pi. Password: pi.

Login

New Site
DropTest
Pi3 (AE100)
Pi6AE100
PiCam

Session

File protocol:
SFTP

Host name: 192.168.0.114 Port number: 22

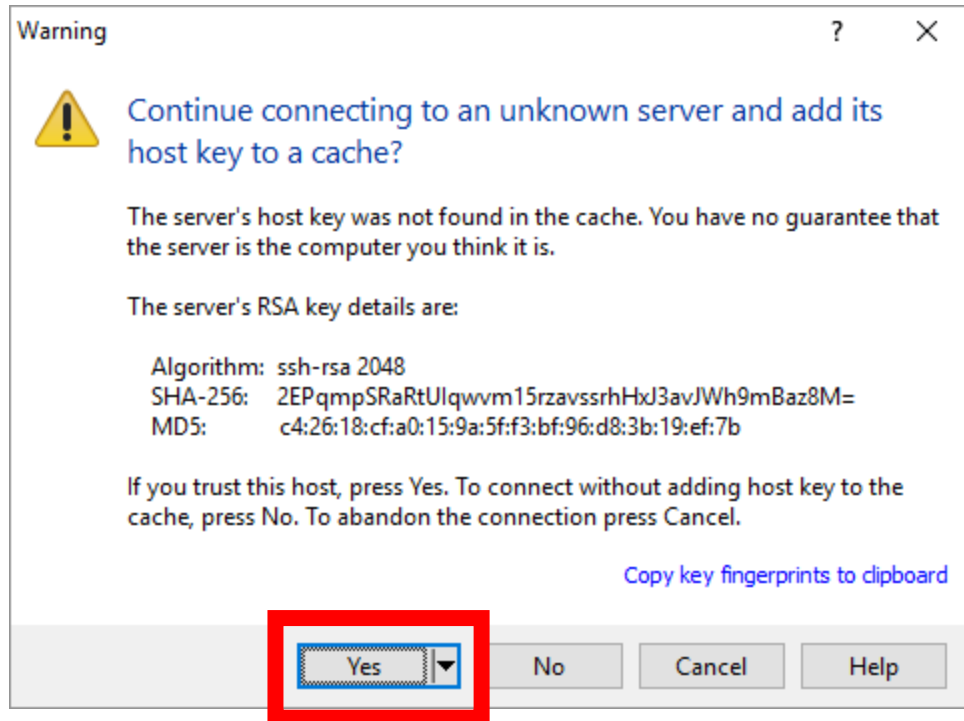
User name: pi Password: ••

Save Cancel Advanced...

Tools Manage Login Close Help

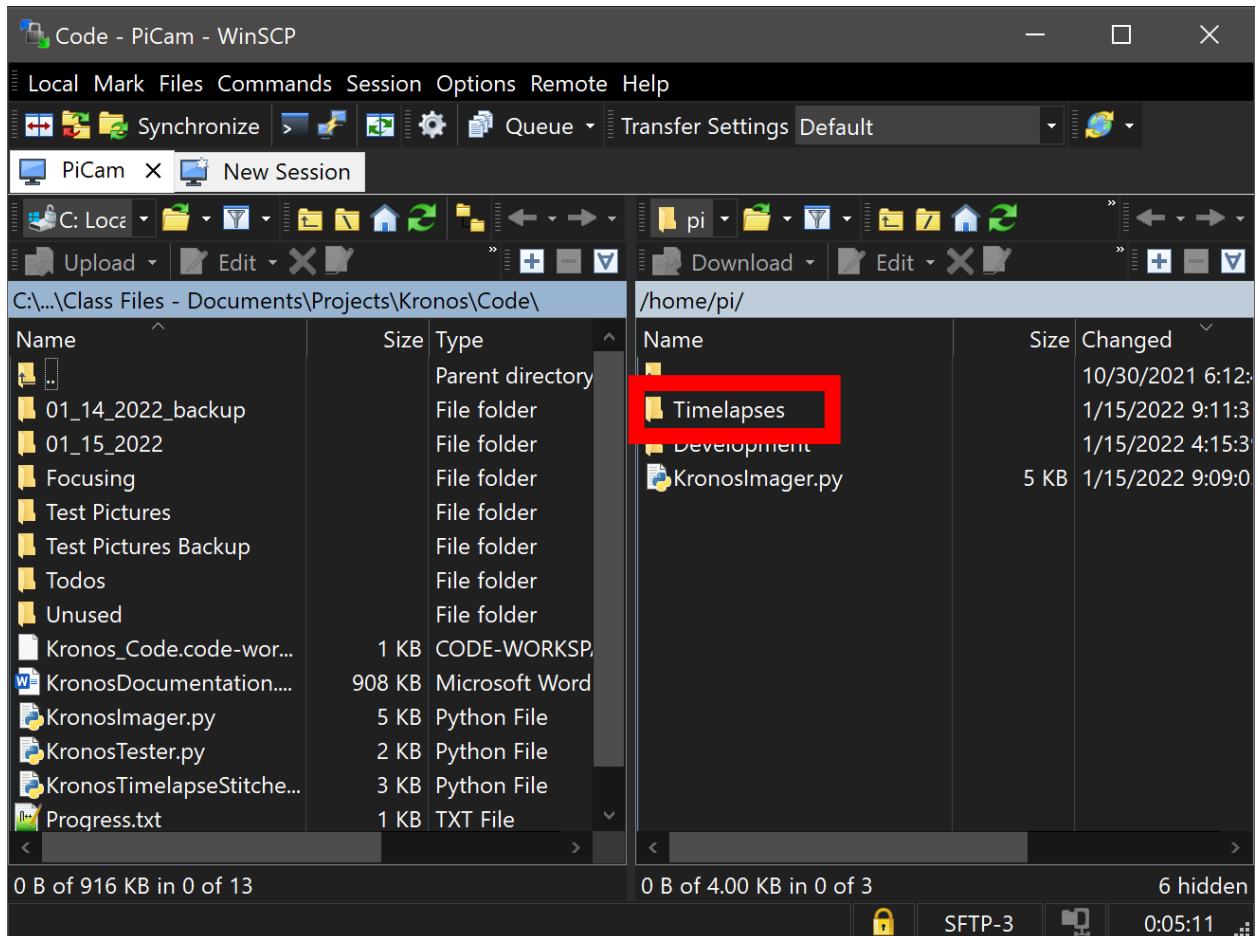
Using WinSCP

1. In WinSCP, click Login and type in username (pi) or password (pi) if prompted
2. There is a onetime alert warning about security or something, click yes.



3. On the left is your local machine and the right is the RPi. Transferring files works the same way as it would between two folders on your local machine. Click and drag files or folders to transfer them.

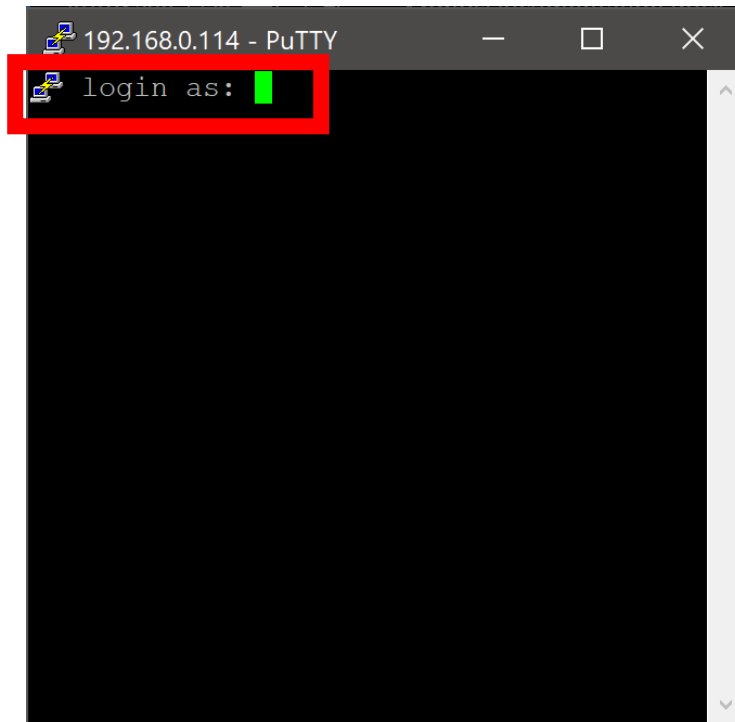
4. By default, images taken for the timelapse are stored in /home/pi/Timelapses/ on the RPi. Double click to enter folder.



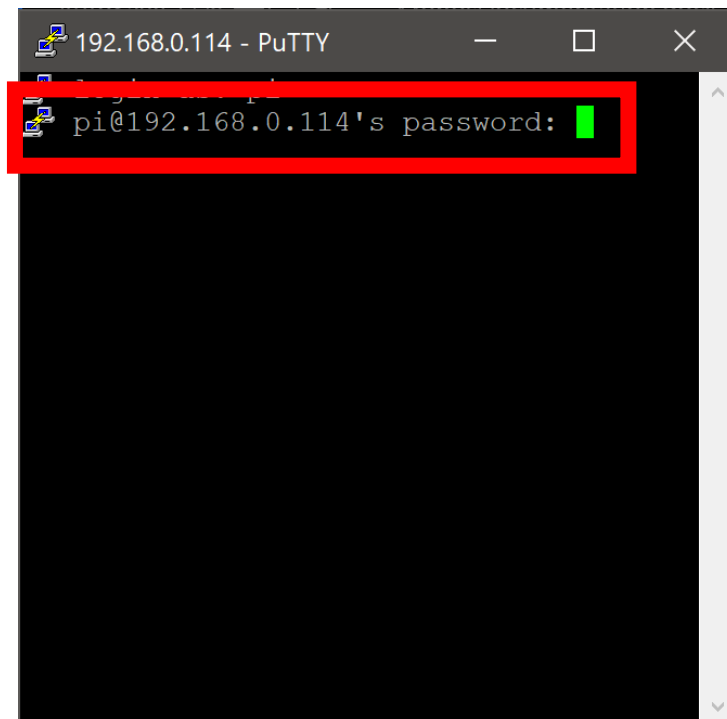
5. To update a file, click and drag the file from one side to the other as you would in File Explorer (updated side -> un-updated side)

Signing Into PuTTY

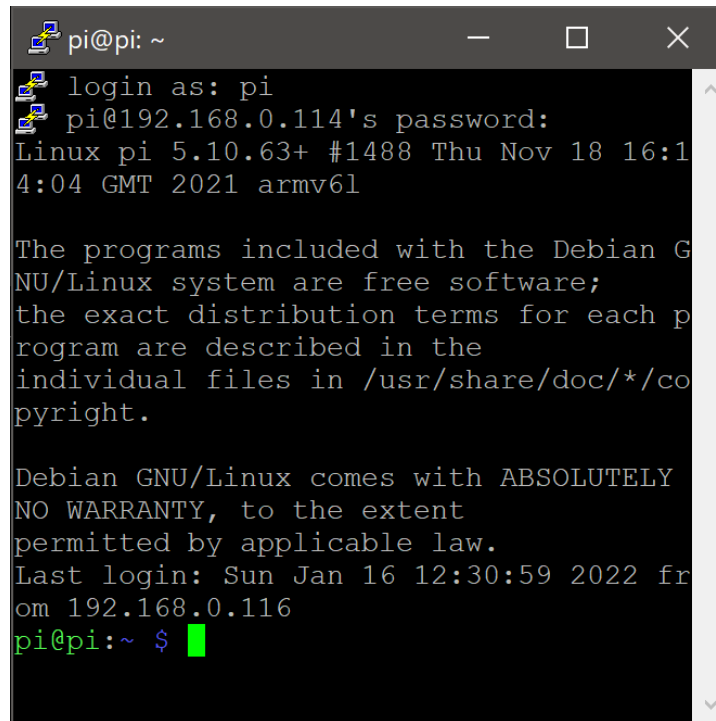
1. Double click the saved profile to load into PuTTY as shown below



2. Type **pi** for login as: and press enter



3. Type **pi** for the password and press enter (text will not display this is ok)
4. The screen should look like this



```
pi@pi: ~  
login as: pi  
pi@192.168.0.114's password:  
Linux pi 5.10.63+ #1488 Thu Nov 18 16:14:04 GMT 2021 armv6l  
  
The programs included with the Debian GNU/Linux system are free software;  
the exact distribution terms for each program are described in the  
individual files in /usr/share/doc/*/copyright.  
  
Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent  
permitted by applicable law.  
Last login: Sun Jan 16 12:30:59 2022 from 192.168.0.116  
pi@pi:~ $
```

Installation

Guide goes here

Windows

Modules

;afsl

File Locations

sfalk

Raspberry Pi

Modules

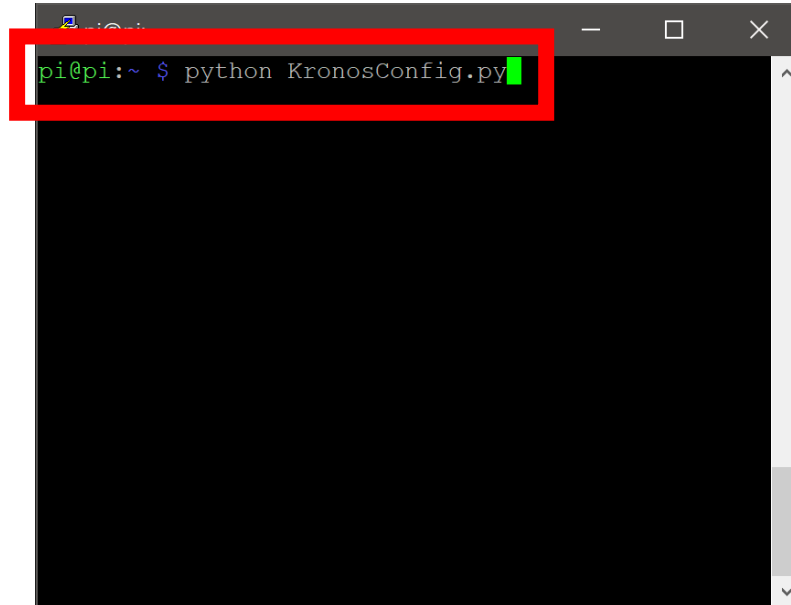
;afsl

File Locations

sfl

Configuring Timelapse

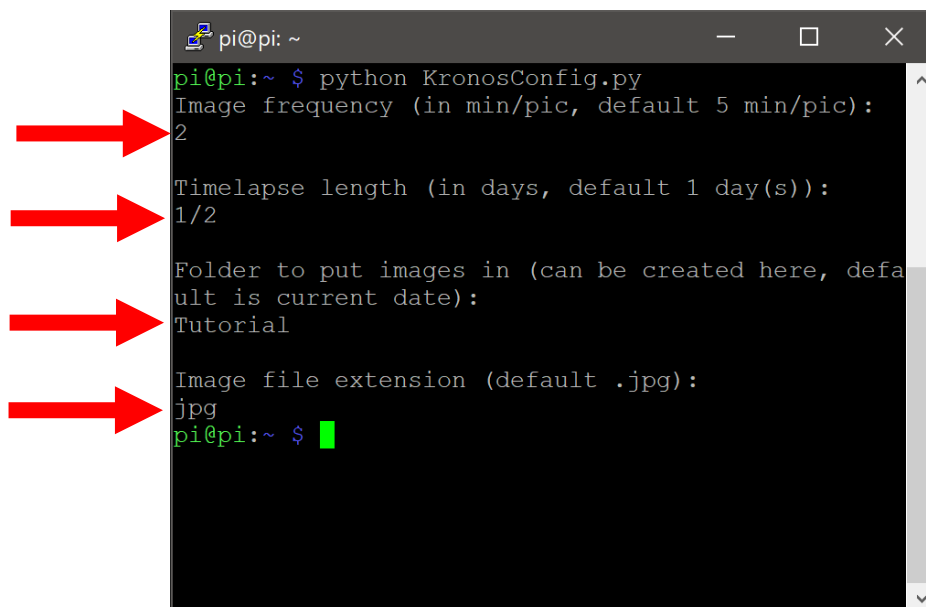
1. To configure a timelapse, type **python KronosConfig.py**. You can also paste text by right clicking.



```
pi@pi:~ $ python KronosConfig.py
```

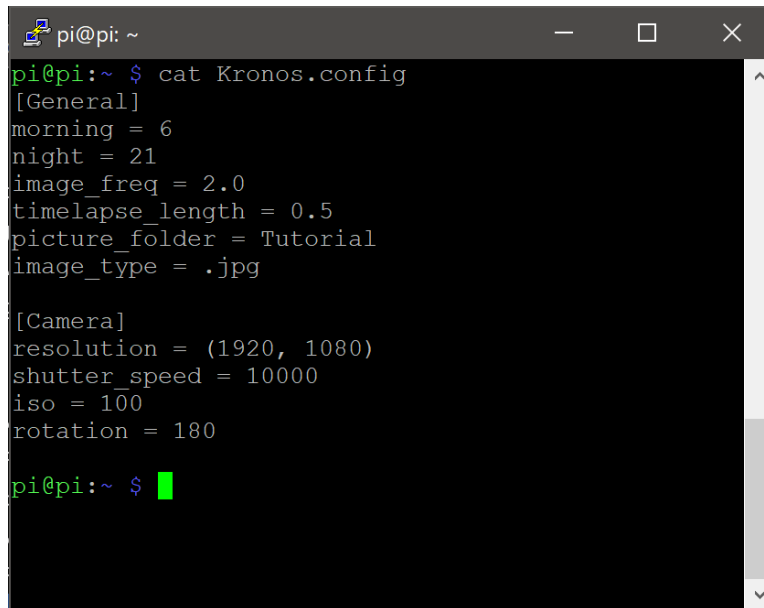
2. Type the values you would like and press enter. Alternatively, press enter if you would like to use the default values.

In this example I will take a picture every 2 minutes, for half a day, save the images in a folder called “Tutorial”, with the file type jpg.



```
pi@pi:~ $ python KronosConfig.py
Image frequency (in min/pic, default 5 min/pic):
2
Timelapse length (in days, default 1 day(s)):
1/2
Folder to put images in (can be created here, default is current date):
Tutorial
Image file extension (default .jpg):
jpg
pi@pi:~ $
```

3. If you would like to look at the current configuration that will be used in the next timelapse type **cat Kronos.config**. Some of these variables you can change by editing in a text editor such as Morning and Night which are the times at which the timelapse will take pictures.

A terminal window titled 'pi@pi: ~' with standard window controls. The command 'cat Kronos.config' has been executed, displaying the configuration file's contents. The output is divided into two sections: '[General]' and '[Camera]'. The '[General]' section includes settings for 'morning', 'night', 'image_freq', 'timelapse_length', 'picture_folder', and 'image_type'. The '[Camera]' section includes settings for 'resolution', 'shutter_speed', 'iso', and 'rotation'. The prompt 'pi@pi:~ \$' is visible at the bottom of the terminal.

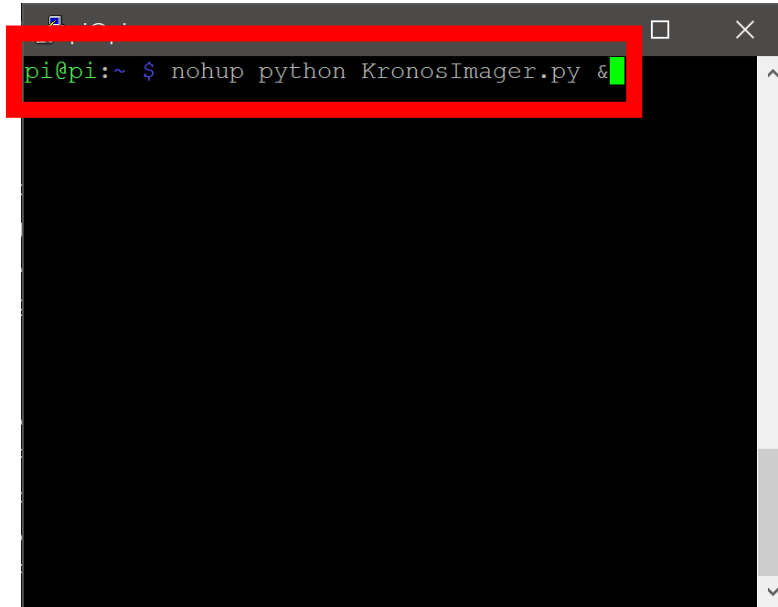
```
pi@pi:~ $ cat Kronos.config
[General]
morning = 6
night = 21
image_freq = 2.0
timelapse_length = 0.5
picture_folder = Tutorial
image_type = .jpg

[Camera]
resolution = (1920, 1080)
shutter_speed = 10000
iso = 100
rotation = 180

pi@pi:~ $
```

Running Timelapse

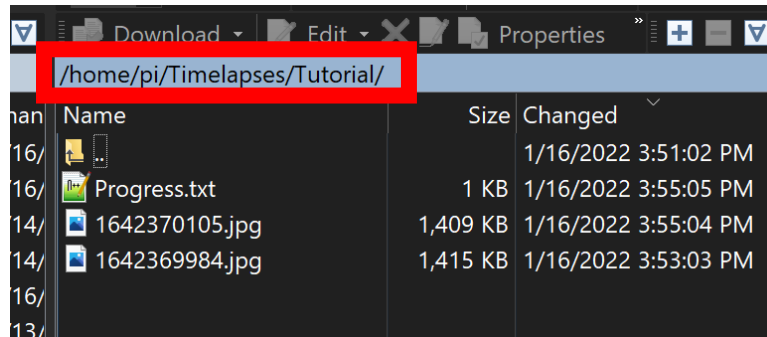
1. To begin running a timelapse with the current config file, type **nohup python KronosImager.py &**. You can also paste text by right clicking.

A screenshot of a terminal window. The prompt is 'pi@pi:~ \$'. The command 'nohup python KronosImager.py &' is being typed. A red rectangle highlights the command text. A green cursor is at the end of the command. The terminal window has a title bar with standard window controls (minimize, maximize, close) and a scroll bar on the right.

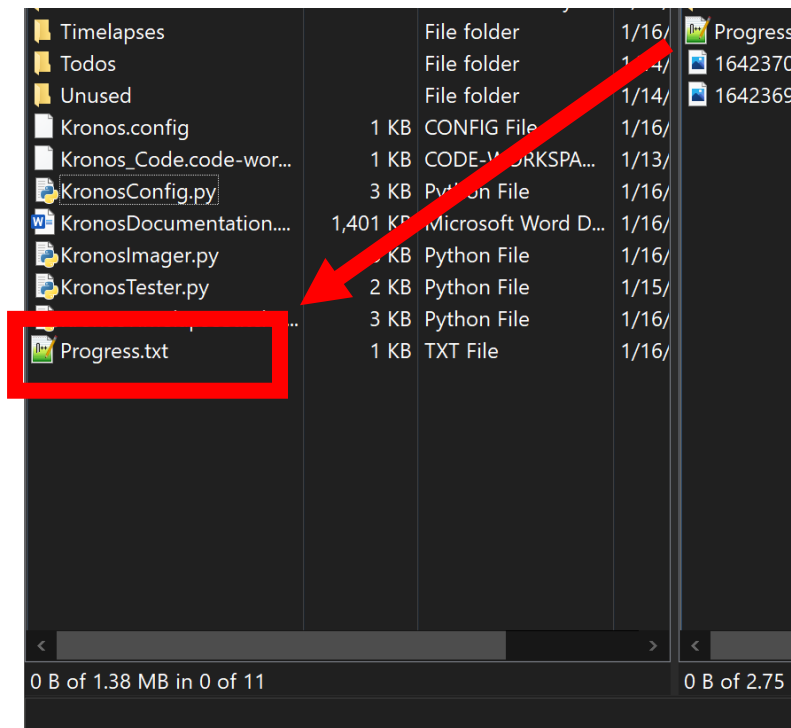
2. The terminal screen should now look like this and the timelapse is now running. To check the timelapse progress, see **Checking Timelapse Progress**.

Checking Timelapse Progress

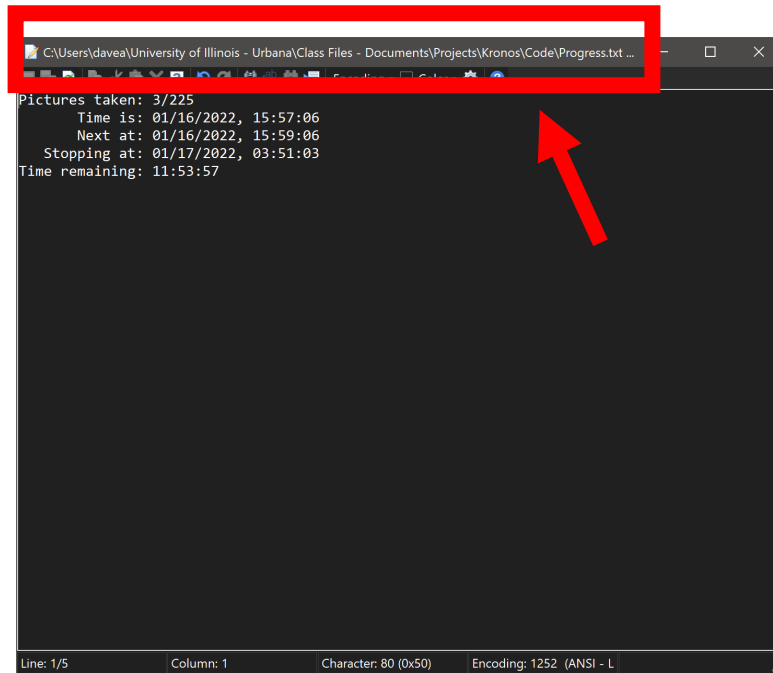
1. Checking timelapse progress is done in WinSCP. To begin, navigate to the folder “Timelapses” and then the folder you selected to save images to (in this case “Tutorial”)



2. Click and drag the file **Progress.txt** to your computer



3. Double click the file on your computer to open it

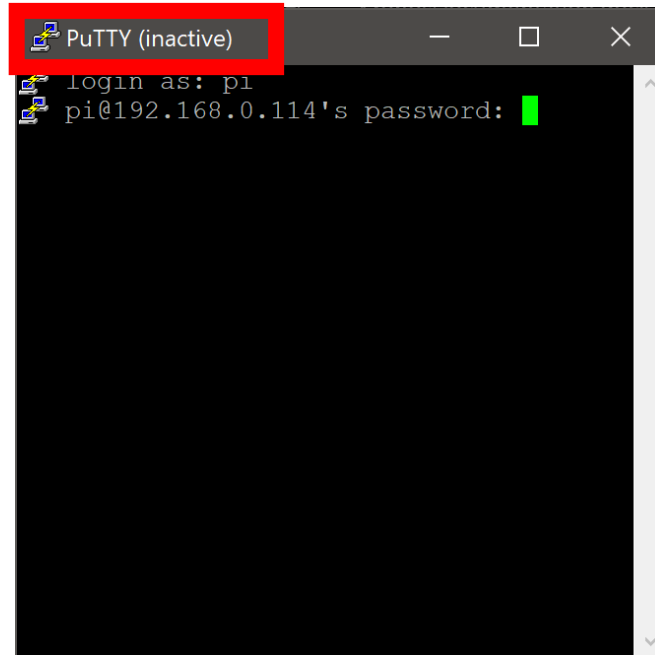


```
C:\Users\davea\University of Illinois - Urbana\Class Files - Documents\Projects\Kronos\Code\Progress.txt ...  
Pictures taken: 3/225  
Time is: 01/16/2022, 15:57:06  
Next at: 01/16/2022, 15:59:06  
Stopping at: 01/17/2022, 03:51:03  
Time remaining: 11:53:57  
Line: 1/5 Column: 1 Character: 80 (0x50) Encoding: 1252 (ANSI - L)
```

4. It is not suggested you open the file on the RPi while running KronosImager.py. The script will get hung up if the file is being read on the RPi and it will not take pictures if it cannot keep updating **Progress.txt**.

PuTTY Troubleshooting

1. Sometimes PuTTY will become unresponsive. If this happens you may see **PuTTY (inactive)** on the window title



2. **Right click** the top bar and click restart session. You will be prompted to sign in again. Return to Using PuTTY to continue.

