

DESERT FIREBALL NETWORK



How to download camera data using WinSCP

DFN camera systems

Issue 1

Revision 3

Issue date: 26 November 2016

Last touch / print date: 26 July 2021

Contact details in case problems or questions:

DFN Camera Help <dfn.camera.help@gmail.com>

1 Introduction

This document provides instruction how access / download the data (eg images) from the Desert Fireball Network (DFN) camera, type DFNSMALL.

2 Connection using WiFi

There may be a WiFi access point (AP) built-in the in the camera. To get the pictures, connect to it using a laptop PC. The camera network name is "DFNcam". The WiFi network its protected by WPA encryption, password is provided but not included in this general document.

Over the WiFi Access point in the camera, the IP address of the camera is **172.16.0.101**.

Note: You may need to walk closer to the camera if you cannot see this network in your office or if the signal is too weak.

Note: the in-camera WiFi connection is only to communicate with the camera, it is not possible to access Internet through it.

3 Direct connection to the camera using ethernet cable

There are two ethernet ports in the DFN cameras. One is for LAN connection, the other for direct connection to the camera (eg with laptop in case of serviceing on site).

The ethernet port for local connection provides laptop with IP address via DHCP protocol. The laptop's networking needs to be configured in automatic DHCP mode.

Over the direct local cable connection, the IP address of the camera is **172.16.1.101**.

Note: the WinSCP example screenshots below are taken with the IP addresses for Wifi. Please modify the camera IP address accordingly in case of a direct ethernet cable connection.

4 Remote connection using LAN or public IP address

In this case follow the WinSCP instructions below, just modify the camera IP address accordingly.

5 MS Windows: accessing camera using WinSCP

5.1 WinSCP installation

You will need a file transfer software to download the pictures into your laptop. Please connect your laptop to the internet in order to download and install the WinSCP. Assuming you use some sort of Windows OS, please download and install WinSCP from here:

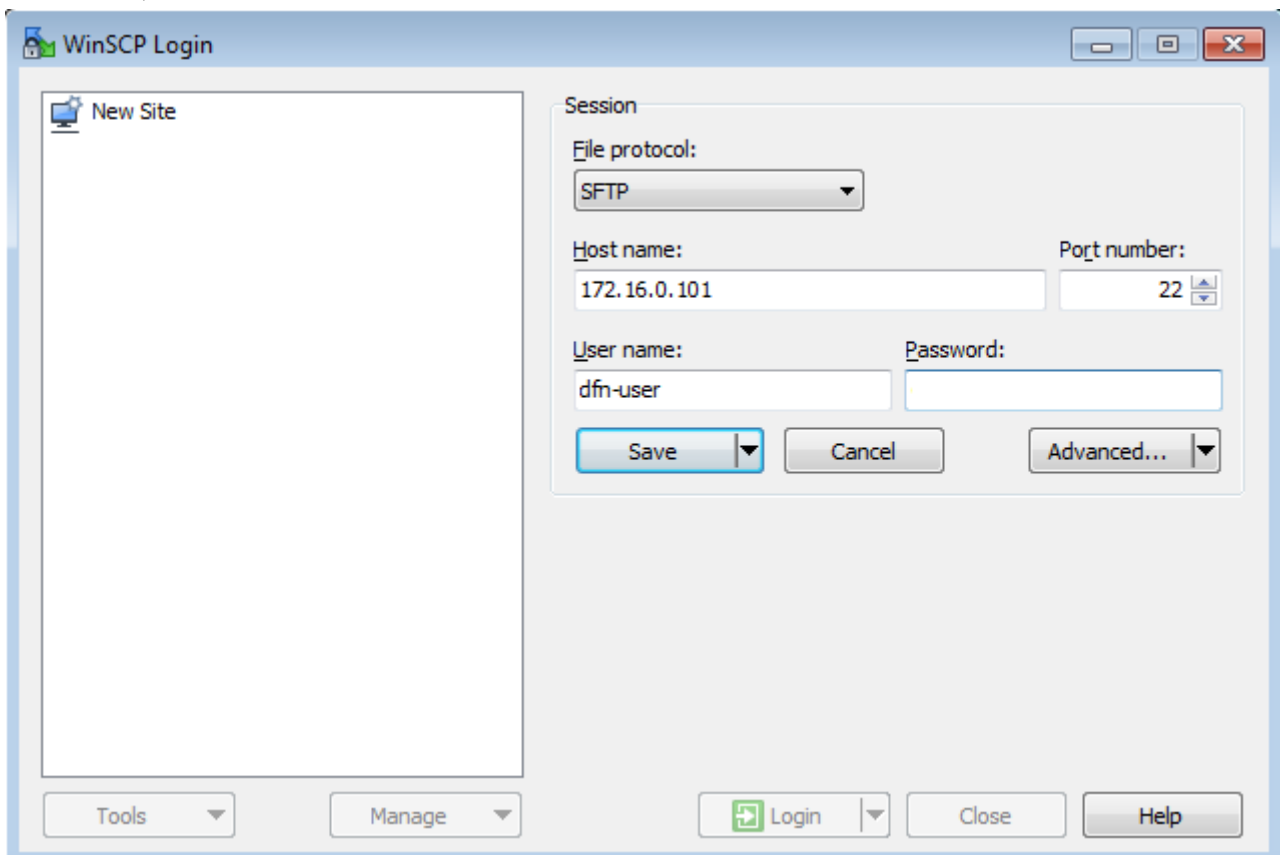
<http://winscp.net/eng/download.php>

(Click on "Installation package".)

When installing WinSCP, It may offer to install some extra software (“addware”), that you probably do not need. It could be eg Google Chrome. Skip the addware installation by disabling the check box, for example, "Include Google Chrome, along with the WinSCP". You do not need Google Chrome to communicate with the DFN camera. Select “Explorer interface” when asked during the installation. (If you miss this one, it can be changed later.) When the installation is finished, WinSCP is launched automatically.

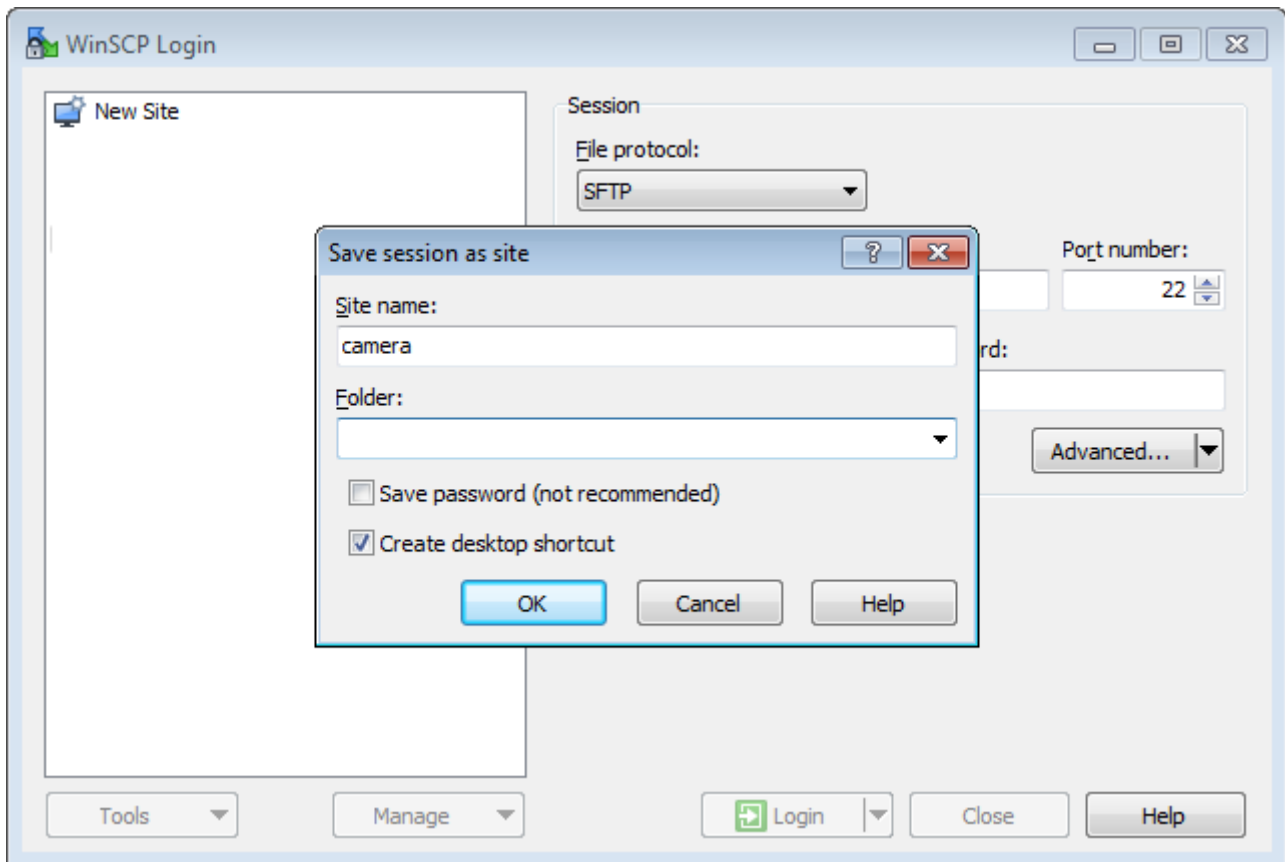
5.2 Initial WinSCP configuration

Create a new connection. The camera host IP address is 172.16.1.101 for wired (LAN/Ethernet) connection, not 172.16.0.101 as in the screenshot below – that would be for WiFi access.



Then click on button [Save].

Enter some suitable “Site name”, eg “camera” or “DFN camera”. Keep “Save password” unchecked and check “Create desktop shortcut” if you wish to have a handy icon to on the desktop, to connect to the camera next time. Confirm by clicking on [OK] button.

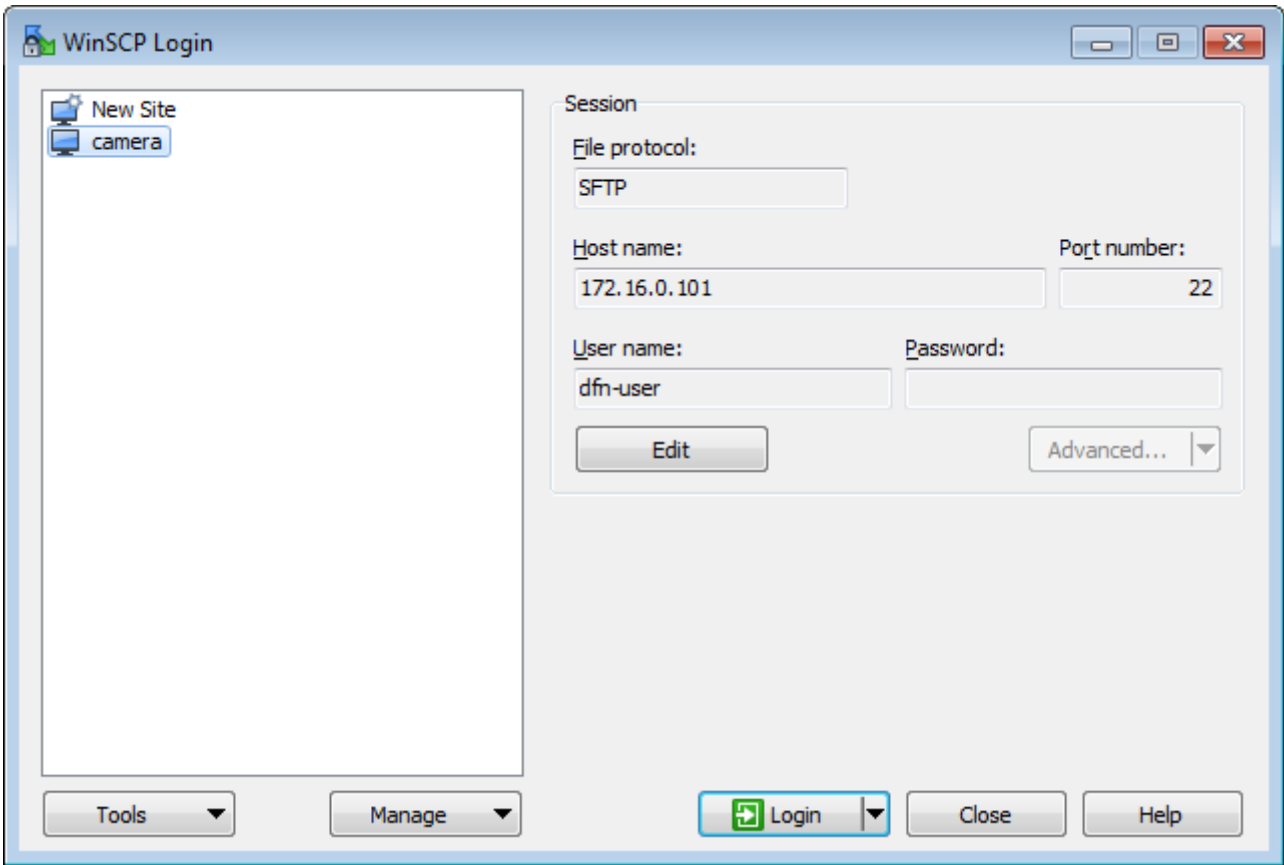


Now the connection is configured and saved – appears on the list on the top left of the window.

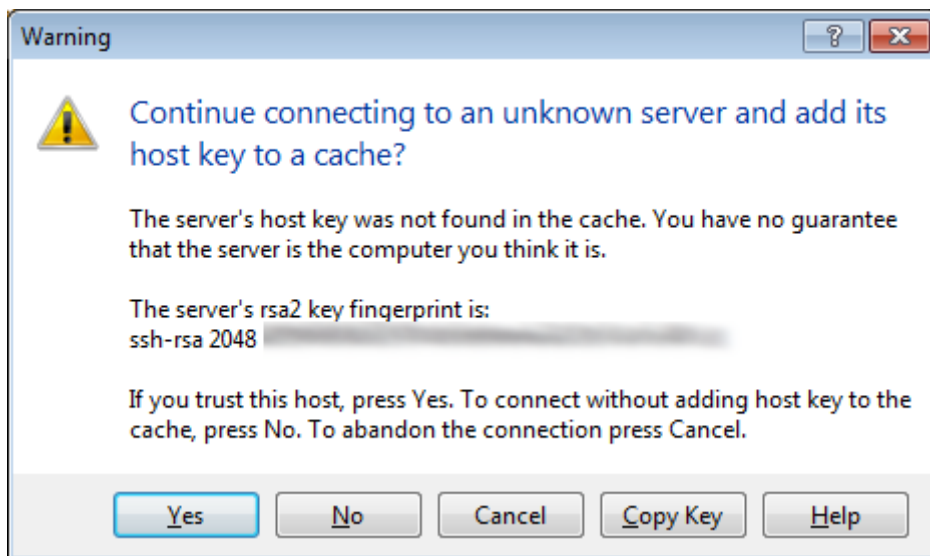
Note: The above steps needs to be done just once for the specific PC/laptop.

5.3 Connect to the camera

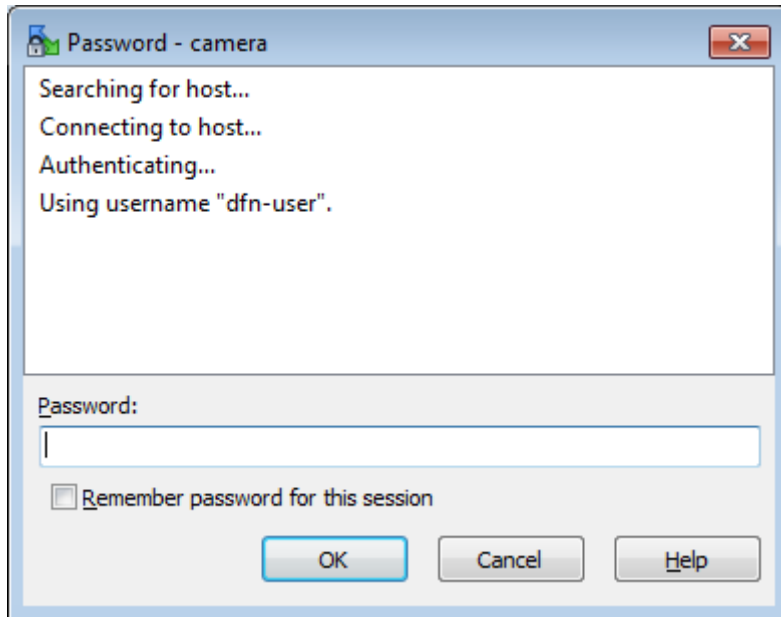
Connect to the camera WiFi. Launch the WinSCP application, if not already running. Select the recently created connection and press button [Login].



Only for the first time on the specific PC/Laptop, you have to confirm the ssh key.

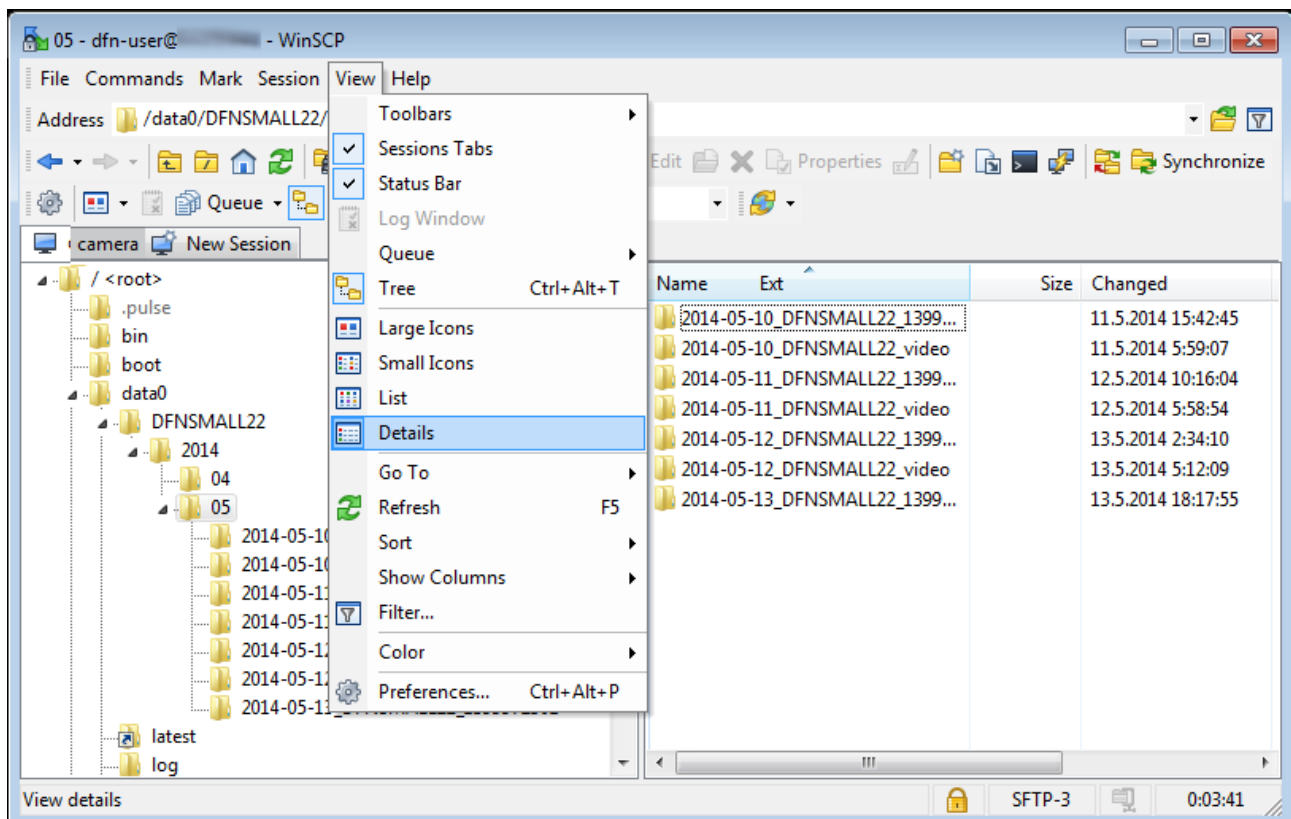


Then a password dialogue pops up.

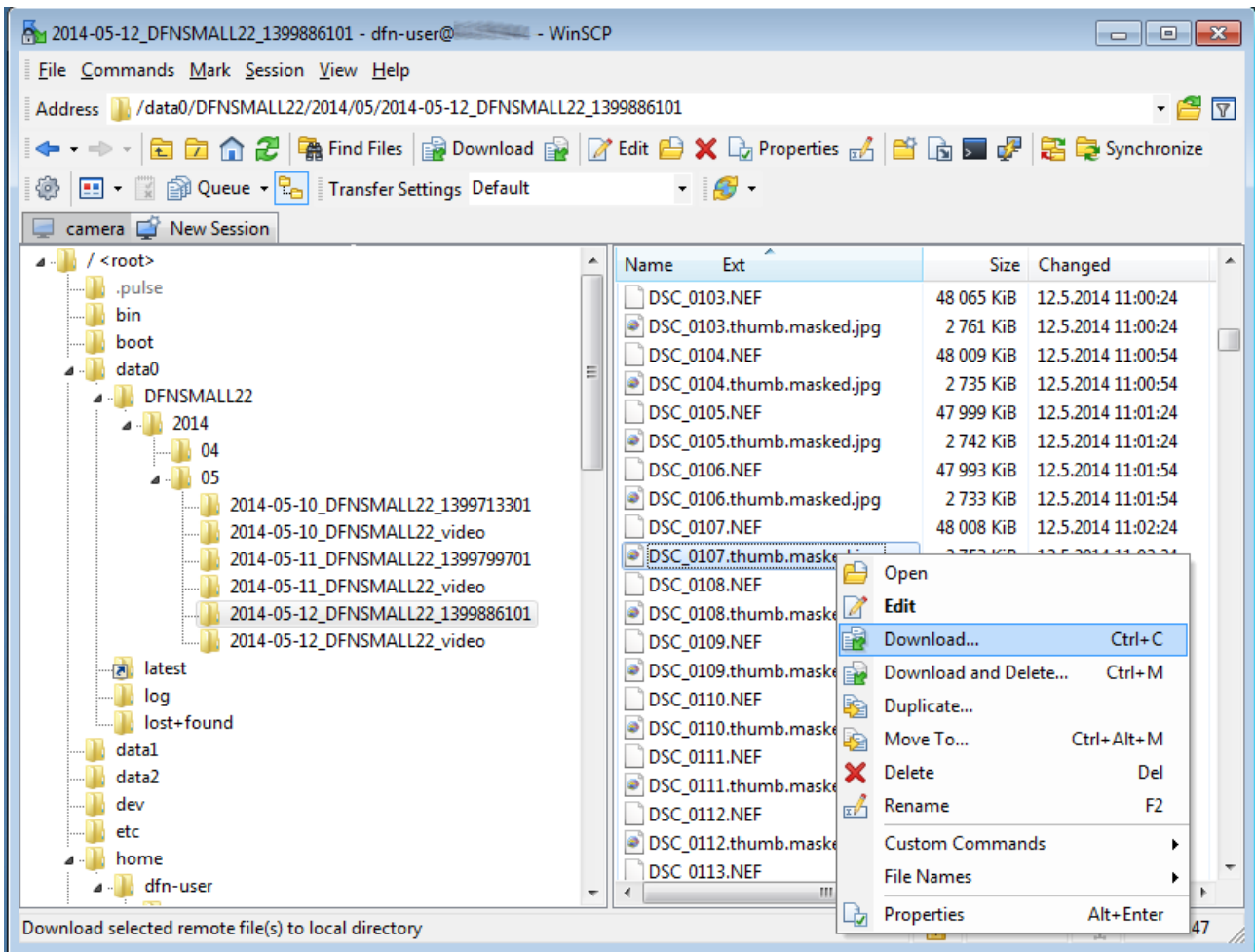


Enter the provided camera password and confirm [OK].

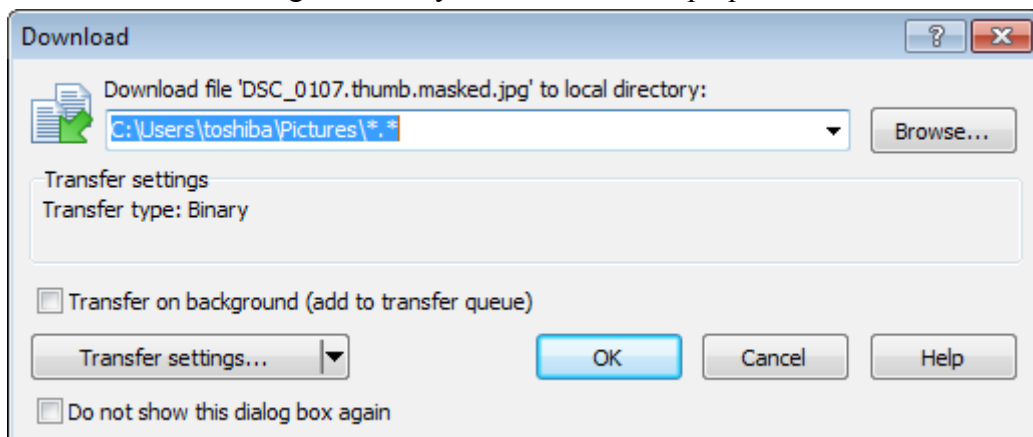
Now you should see the WinSCP application, a Windows Explorer – like window browsing the directories in the DFN camera. For better orientation, it is recommended to set the WinSCP to show the details of files like file size, date, etc.



Navigate to the specific directory with images, in this example it is the last night, /data0/DFNSMALL22/2014/05/2014-05-12_1399886101. On the left side, search for /<root>, then click on data0, DFNSMALL22, etc. Section 6 below provides more information on directory structure and files. Navigate to the specific directory with images, in this case it is the last night,



Select one or more image files (jpg files are easier to view, for NEF files a special SW is necessary, see below for more details on files) and activate the context menu by right click on the selection. Choose download and select target directory on the local PC/laptop.



Confirm [OK].

(Please note that the above directory is just an example, you can browse whatever directory.)

Now you can view the images, using Windows explorer or any other image viewer application. Navigate to the directory used in previous step.

When you finished downloading of the images, just close the WinSCP application. All the downloaded files should be now stored on your PC/laptop HDD.

6 Directory structure

The data (mostly images) collected by the camera during one night is stored in one directory. It is basically one directory per night for images, and another one for videos.

The most recent images from the last night are in `/data0/latest`.

For 2-3 earlier nights, the directory will be for example `/data0/DFNSMALL09/2014/02/2014-02-16_12345678` for 16th Feb 2014 on camera #09.

The number 09 in “DFNSMALL09” is a camera serial number, unique for each camera. You can see a different number here.

The 12345678 is a number generated for the case of two sets of exposures in one night. Older nights data are moved to the off-line hard disks for storage, and are harder to get to. If you have a specific image request, best thing to do is ask at the email above, we'll talk you though the details of how to get it.

NEF files are the raw images, taken every 30 sec throughout the night

JPG files are converted from the raw images and are easier to view and process, rather than NEFs.

NEF files require a special software from Nikon or some 3rd party provider.

PNG files are thumbnail images of any event detected, there are corresponding **TXT** files giving the coordinates of the object seen. There are two large files, `XX_interval.txt` and `XX_processing.txt`, which are logs of the last nights capturing activity and event-detection activity respectively, where `XX` is something like 2014-02-16. The file **dfnstation.cfg** contains the camera configuration for that night.

7 Linux or Mac:

When connecting from Linux/Mac, use **scp** or **rsync**, or some GUI scp/sftp client like **gftp**.