

Tutorial: Using the “Share by Wi-Fi” function in Cube-a 4.2

Cube-a includes, starting from version 4.2.2019.01.30, a nice function called “Share by Wi-Fi”.

Briefly, the Share by Wi-Fi function allows you to connect wirelessly to the Android device to browse the contents of the file system and to download files from the device to your PC and vice versa.

The function does not replace the USB cable connection, but it is a further extension of the Cube-a communication capabilities with desktop devices like PCs.

Step by step procedure – Cube-a side

Launch Cube-a and, if required, create your first project. Then select the Project page and click on the “Share by WiFi” icon, as shown in Figure 1.

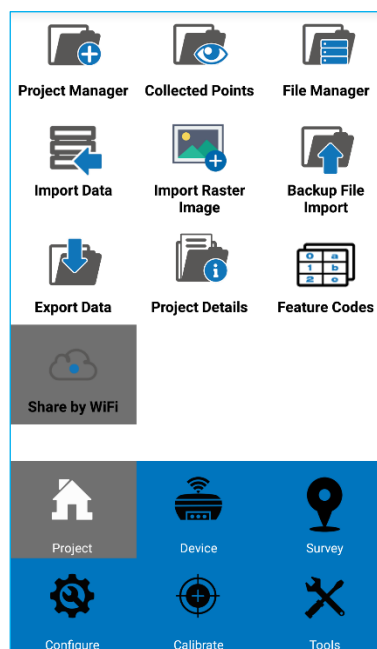


Figure 1

You will now see the WiFi Transfer Service screen, shown in Figure 2; in this page you must:

- I. Enter a name for your device (not really required);
- II. Choose a user name (the default user name is guest);
- III. Choose a password (the program automatically shows a randomly generated numeric password, you can keep it if you prefer);
- IV. Choose a port number whose value is the range 1025-65535 (you can think of the port number like your home address number whereas the IP address is the street name).

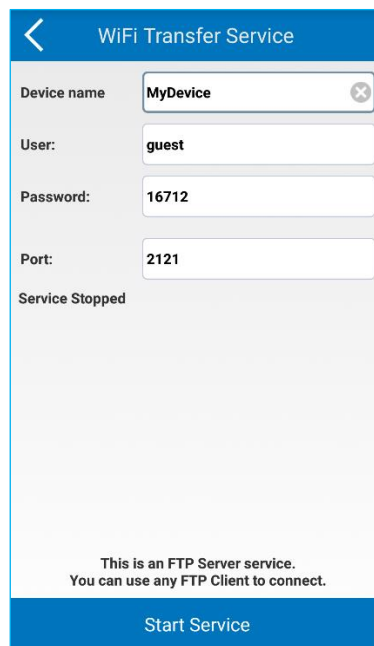


Figure 2

Now, before proceeding further, verify that:

- Your Android device is connected to a Wi-Fi network;
- Such Wi-Fi network is the same network to which your desktop computer is connected to either wirelessly or by cable.

Note: If the Android device and your desktop computer are not connected to the same network, then it will not be possible to use the Share by WiFi function. This could not be true if your network has been setup to allow some inter-network communication (for example if your company has more than one internal network).

When you are sure that network constraints are fulfilled, then click the “Start Service” button, then the “Start Service” button will change its text in “Stop Service”, as shown in Figure 3.

Right below the “Port” field, the program shows:

- Service Started
- Server IP: AAA.BBB.CCC.DDD.

Where AAA.BBB.CCC.DDD is the IP address you will need to enter later in the FTP Client on your computer.

Note that the exact values of the IP address depend on your network: common values for AAA.BBB parts are, for local private networks, 192.168 and 10.0.

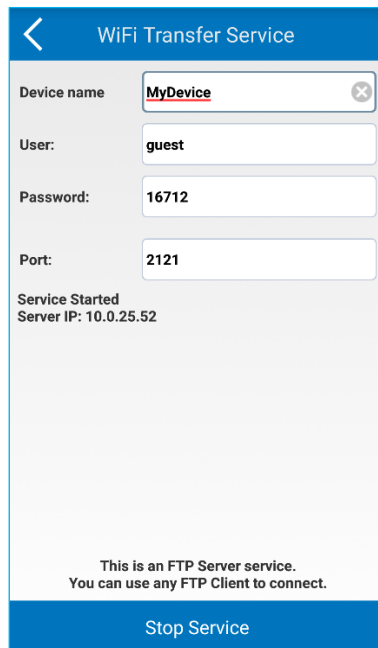


Figure 3

Step by step procedure – Desktop PC side

After you have properly setup and started the Share by Wi-Fi function on your Android device, some more easy steps must be followed on the desktop PC side.

First, you need an FTP Client program.

Here we will use one of the most commonly used FTP clients: FileZilla.

Google for “FileZilla” or browse to <https://filezilla-project.org/download.php>, using your preferred Internet browser. Download and run the installer (administrator rights required).

The setup steps shown below should be valid for any other FTP Client.

Launch FileZilla and enter the following data in the fields as shown in the Figure 4.

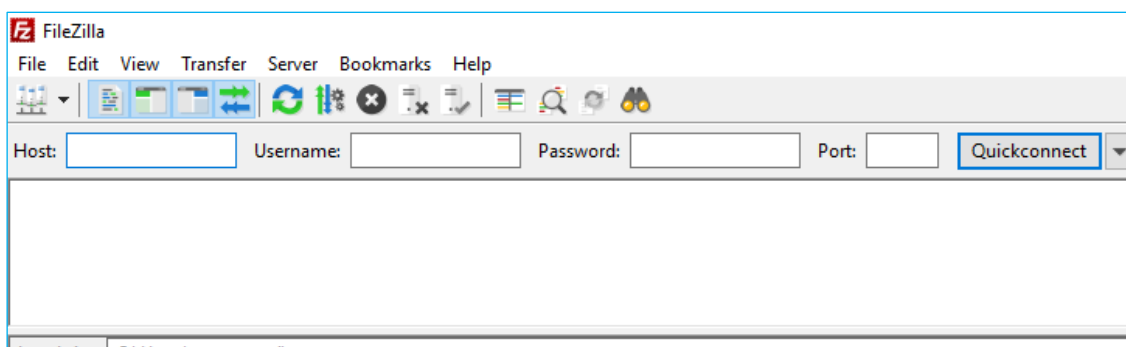


Figure 4

1. Host: it is the IP address of the Android device. Enter the values of AAA.BBB.CCC.DDD exactly as displayed by Cube-a in the WiFi Transfer Service screen (Server IP: AAA.BBB.CCC.DDD). Remember to click the Start Service button in Cube-a to see the Server IP.
2. Username: the same user name as entered in Cube-a (User field). The user name is case-sensitive.
3. Password: the same password as entered in Cube-a (Password field). The password is case-sensitive.
4. Port: the same port value as entered in Cube-a (Port field).

When you are sure that network constraints are fulfilled, then click the “Quickconnect” button.

FileZilla now tries to connect to the Android device. After a while, FileZilla will warn you with the following (the Host and Port values will be different):

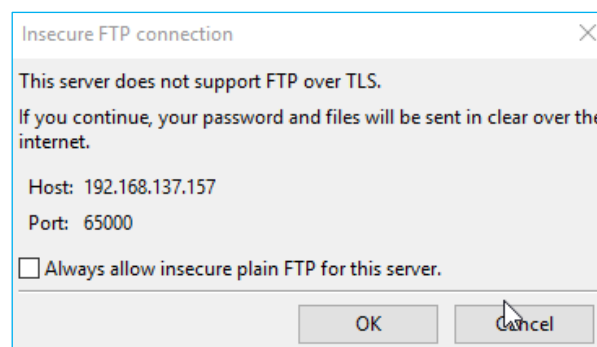


Figure 5

Click the “OK” button to continue.

When the connection has been established, you will see that the right part of the FileZilla window (Remote site column) lists the folders and the files inside the storage memory of the Android device.

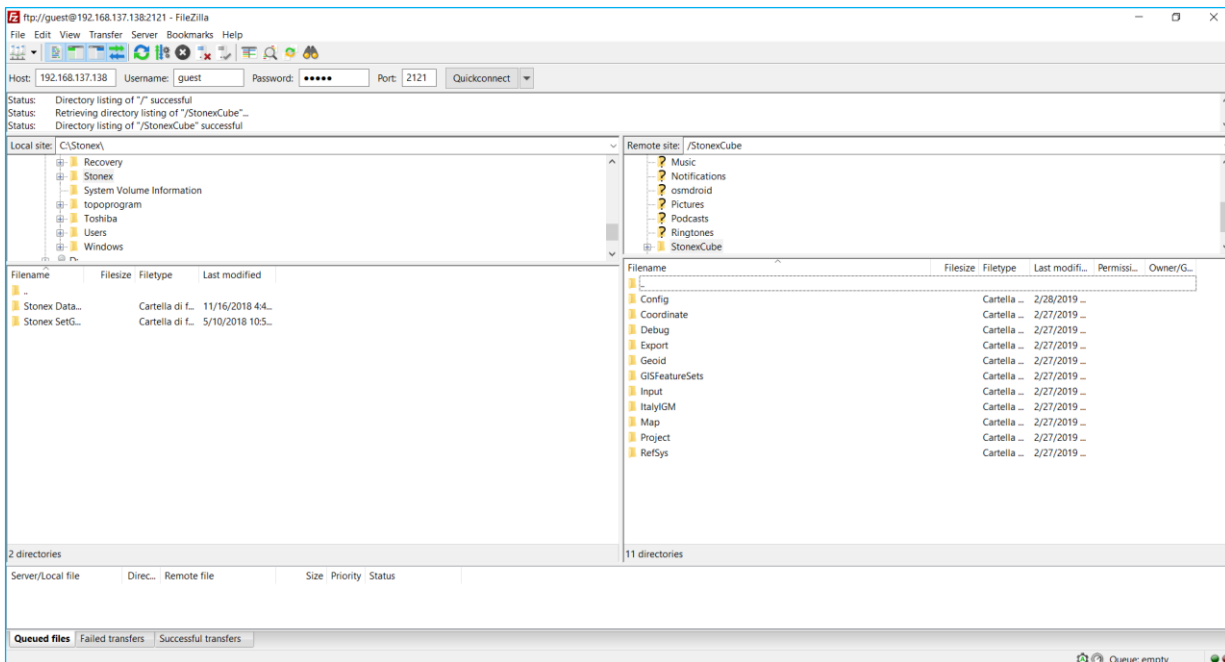


Figure 6

The FileZilla window is divided in two columns: the left column shows the contents of the disk drives of the desktop computer while the right column shows the contents of the storage memory of the Android device.

The idea is that you can select a folder or a file on the left column (your PC) and transfer it to the right column (the Android device) and vice versa.

You can also use the mouse to drag and drop files or folders from your PC to the right column to copy them into the Android device. Again, the vice versa is possible.

To properly operate on the internal memory of the Android device, without causing any damage to the data files and to the folder structure, it is required some minimal know-how. Thus, we list some minimal required information about the structure of the folders, and for which purpose those folders are used for.

Remember that the main/root storage folder of Cube-a is called StonexCube. Inside that folder there are many sub-folders. The sub-folders' name and their usage is reported in the following table.

/StonexCube/Config	Configuration files. Do not edit!
/StonexCube/Config/Codes	Default folder where the program looks for and stores the feature code libraries. Copy here your new feature code libraries.
/StonexCube/Coordinate	Default folder where the program looks for coordinate files (for the Survey Area Settings tool).
/StonexCube/Export	Default folder where the program stores exported data files.
/StonexCube/Geoid	Folder where Cube-a looks for geoid grids. Copy here your geoid grid file if it is not already included in Cube-a.
/StonexCube/GISFeatureSets	Folder where Cube-a looks for GIS Feature Sets and template DBF files. Copy here your new GIS Feature Sets files (.gfs.xml extension) and/or the DBF files to be used as templates for the definition of attributes' name and type.
/StonexCube/Input	Default folder where the program looks for data files to be imported. Copy here any file you would like to import in Cube-a using one of the import commands. Check the list of importable file formats as shown in the <i>Import</i> command screen of Cube-a for a list of recognized files extensions.
/StonexCube/ItalyIGM	Folder where Cube-a looks for Italian IGM grid files (GR1/GR2 and GK1/GK2/GK3 file extensions). Copy here the grid files to be used with the Italian reference systems whose name ends with "(grigliati)".
/StonexCube/Map	Default folder where Cube-a looks for DXF and SHP files to be used as background maps. Copy here DXF and SHP files to be used as background maps or to be staked out.
/StonexCube/Project	This folder will hold your project's data. Inside this folder, Cube-a creates sub-folders which correspond to single projects. Any project folder has some sub-folders whose use will be explained further below.
/StonexCube/RefSys	Internal configuration files. Do not edit!

For each project, Cube-a creates a sub-folder having the same name of the project, inside the folder /StonexCube/Project. Assume that your project is MyProject1, then the folder structure is as follows:

/StonexCube/Data/MyProject1	<p>The main folder of your project.</p> <p>It contains sub-folders (see below) and some configuration files.</p> <p>Do not edit the configuration files inside this folder!</p>
/StonexCube/Data/MyProject1/Config	<p>Contains configuration files.</p> <p>Do not edit!</p>
/StonexCube/Data/MyProject1/Data	<p>Contains the project databases (PD files).</p> <p>Here you will get the files to be imported in Stonex Cube-link or Stonex Cube-manager.</p> <p>If your project has been enabled for GIS then, after collecting some features and entering their attribute values: this folder will contain the automatically generated GIS data files (SHP, SHX, DBF and PRJ).</p> <p>SHP+SHX files store the geometry, DBF files store the attribute values, PRJ files store the reference system parameters to be used to properly handle the geometry coordinates.</p>
/StonexCube/Data/MyProject1/Log	<p>Contains log files used to test/verify the application.</p>
/StonexCube/Data/MyProject1/RawData	<p>If your data collector/tablet has a supported internal GPS (e.g. you own a Stonex S40), and if that GPS is capable of raw data streaming, this folder will contain the raw data files to be used when performing GNSS post-processing with Stonex Cube-manager module "P".</p> <p>The raw data files are recorded only on request (in Cube-a, enable the Record RAW data option in the Rover configuration page or in the Stop&Go survey mode configuration page).</p> <p>The raw data files recorded in this folder are in binary format.</p> <p>Note: the raw data files of non-internal GPS receivers are stored inside the GPS internal memory/SD card. To download such data, you have to connect to the device by WiFi, access the Web Interface of the receiver and request to download the files (DAT or RINEX).</p>



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