# SFTP Server s0 v1 Overview



email: ssh--s0-v1@becke.ch

homepage: https://becke.ch/app/becke-ch--sftp-server--s0-v1/ download: https://play.google.com/store/apps/details?id=ch.becke.sftp\_server\_\_s0\_v1

# Summary

SFTP Server s0 v1 is an Android <u>Secure File Transfer Protocol Server App</u>, compatible with all Android devices down to Android Version 4.4/5.0\* "KitKat/Lollipop\*" (API Level 19/21\*), covering more than 99.9% of all android devices world-wide. \*)Mounting of drives (document providers) & directories using Android Scoped Storage

requires at least Android Version 5.0 "Lollipop" (API Level 21)

- SFTP Server s0 v1 offers **automatic public key handling** according to preference settings
- SFTP Server s0 v1 has been tested and is working well with different SFTP Client applications like: SSHFS (network file-system, mount for: Linux, Mac, Windows), GIO/GVfs (virtual file-system, mount for: Linux), SFTP (Linux-Client, Windows/Cygwin), FileZilla (Windows-, Mac-, Linux-Client), WinSCP (Windows-Client), PSFTP (Putty SFTP, Windows-Shell), Cyberduck (Windows- & Mac-Client), Mountain Duck (Windows- & Mac-Client), Total Commander SFTP Plugin (Windows-Client).
- SFTP Server s0 v1 is purely Java based (no 3rd party and native libraries) and therefore portable on different platforms and operating systems.

# **Getting Started**

- Server: STOP/START: When the app launches the SFTP server starts automatically. Tapping the "STOP" button, stops the SFTP server and tapping the button, now called "START", starts the SFTP server.
- Host/IP & Port: The SFTP server will listen for incoming connections on all listed IP Address(es) (e.g. "192.168.173.170" and "192.168.0.147") on a certain Port (e.g. "6789") shown on the main screen. The Port Value needs to be between 1 and 65535. Ports below 1024 require a rooted device (i.e. the ability to run the "su" command with root permissions). To modify the port the server needs to be "STOPPED" first! For optimal speed connect to 5GHz WLAN and use a fast SFTP Client Program!
- Username & Password: You can login with any username. You can enter a default password or leave the the password field empty. If empty a random password will be generated and displayed on the screen during the first login. The passwords can be changed afterwards on the "SETTINGS" page (click the "Gear" symbol on the top). The minimal password length is 0 (empty) or at least 6 characters long.
- Help and Overview-Video: Clicking on the Help or Overview-Video entry (in the overflow menu, top right) brings up this presentation respective the corresponding video.
- **Context Help**: Clicking on the underlined text labels: "<u>Server:</u>", "<u>Host/IP:</u>", "<u>Port:</u>", "<u>Password:</u>" and "<u>Directories:</u>" brings up a short context related help dialog.



## MAIL

**MAIL**: Pushing the "MAIL" button, launches the E-Mail App. The user can then choose where to send the e-mail containing the SFTP Server Connection Strings to.

With the help of these connection strings the user can then easily connect from his PC to the SFTP Server running on his mobile.

SFTP Server s0 v1: Connection String Samples: MI 9: Sat Jan 23 02:29:40 GMT+01:00	2021 - Inbox - sshs0-v1@becke.ch - Mozilla Thun	derbird 🛛 🖨 🗟
🖆 Inbox - sshs0-v1@becke 🛛 SFTP Server s0 v1: Cor 🗙		
⊊ Get Messages ∨ 🖋 Write 📮 Chat 🙎 Address Book 🛛 Tag ∨ 🖓 Quick Filter	Search <ctrl+k></ctrl+k>	<. ≡
From Me <ssh-s0-v1@becke.ch> Subject SFTP Server s0 v1: Connection String Samples: MI 9: Sat Jan 23 02:29:40 GMT+01:00 2021 To Me <ssh-s0-v1@becke.ch></ssh-s0-v1@becke.ch></ssh-s0-v1@becke.ch>	<sup>†</sup> Reply         ]         → Forward         ] <sup>©</sup> Archive         ] <sup>©</sup> Junk         ]	1 Delete More V 02:30
Linux: SFTP: IP: <u>192.168.0.147</u> : External Storage Directory: sftp -P 6789 <u>192.168.0.147</u> ;/storage/emulated/0 External Storage Directory: User: test123: sftp -P 6789 test123@192.168.0.147;/stor Mounted Directories: sftp -P 6789 <u>192.168.0.147</u> ;/data/data/ch.becke.sftp_server_s Mounted Directories: User: test123: sftp -P 6789 test123@192.168.0.147;/data/data/ Root Directory: sftp -P 6789 <u>192.168.0.147</u> ;/	'age/emulated/0 0 v1/files/sftps0-v1mnt /ch.becke.sftp_servers0_v1/files/sftps0-ı	v1mnt

Root Directory: User: test123: sftp -P 6789 test123@192.168.0.147:/

#### Linux: SSHFS: IP: <u>192.168.0.147</u>

External Storage Directory: mkdir -p. /sftp-s0v1;sshfs -p 6789 192.168.0.147:/storage/emulated/0. /sftp-s0v1 External Storage Directory: User: test123: mkdir -p. /sftp-s0v1;sshfs -p 6789 test123@192.168.0.147:/storage/emulated/0./sftp-s0v1 Mounted Directories: mkdir -p. /sftp-s0v1;sshfs -p 6789 192.168.0.147:/data/ch.becks.ftp\_server\_\_50\_v1/files/sftp-s0v1-mnt./sftp-s0v1 Mounted Directories: User: test123: mkdir -p. /sftp-s0v1;sshfs -p 6789 test123@192.168.0.147:/data/data/ch.becke.sftp\_server\_\_s0\_v1/files /sftp-s0v1-mnt./sftp-s0v1 Root Directory: mkdir -p. /sftp-s0v1;sshfs -p 6789 192.168.0.147:/./sftp-s0v1

Root Directory: User: test123: mkdir -p ./sftp-s0v1;sshfs -p 6789 test123@192.168.0.147:/ ./sftp-s0v1

Windows: FileZilla: (Potentially replace the password below "YOUR-PASSWORD" with your current password!): IP: 192.168.0.147 :

External Storage Directory: User: test123: filezilla.exe sftp://test123:YOUR-PASSWORD@192.168.0.147:6789/storage/emulated/0 Mounted Directories: User: test123: filezilla.exe sftp://test123:YOUR-PASSWORD@192.168.0.147:6789/data/data/ch.becke.sftp\_server\_s0\_v1 /files/sftp-s0-v1--mnt

Root Directory: Licer: tect123: filezilla eve cftp://tect123:YOUR-PASSWORD@192.168.0.147:6789/ aroul.becke@gmail.com: Downloading message 2 of 2905 in All Mail...

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Host/IP:	wlan1: 192. wlan0: 192.	.168.17 .168.0.1	3.170 47	Host/IP:	wlan1: 19 wlan0: 19	2.168.17 2.168.0.1	3.170 147	SFTP	Server s0 v1:	Connec	tion String S	
Port:	6789			Port:	6789			Linux: IP: 192	SFTP: 2.168.0.147 :			<
Username:	login with a	ny useri	name	Username:	login with	any useri	name	Extern 192.16	al Storage Dir 58.0.147:/stor	ectory: s age/em	sftp -P 6789 ulated/0	
Password:	default pas	sword (	optional,	Password:	default pa	ssword (	optional <u>,</u>	Extern sftp -P	al Storage Dir 9 6789 13@192 168 0	ectory: L	Jser: test123	tod
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ocuments: storage/emulate h.becke.sftp_ser opplication Home	d/0/Android/data vers0_v1/files/l e <b>Directory</b> :	)/ Documents s0 v1		+BlueN	1ail	Gmail	Ĺ	test12 Linux: IP: 192	GIO/GVfs: 2.168.0.147 :	.147:/	5. ortp 1 0/0	
storage/emulate	Application Home d/0/Android/data vers0_v1/files	Directory:			Abbrech	en		Applic sftp:// Applic	ation Home D 192.168.0.14 ation Home D	0irectory: 7:6789 0irectory:	: gio mount : User: test12	3:
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## MOUNT

**"MOUNT" (Folder Icon)**: Pushing the "MOUNT" (Folder Icon) button on the main screen, opens the "MOUNT DIRECTORY" activity screen, showing the mounted drives (document providers) and directories.

- MOUNT: On the "MOUNT DIRECTORY" activity screen, pushing the "MOUNT" button, opens the drive & directory picker. Drives and directories that have been picked and confirmed will then be added to the drives and directories list on us the "MOUNT DIRECTORY" activity screen. The drives & directories are mounted at the following location (you "cannot navigate" to it because some directories are "hidden" instead you should access it (from remote) using the full path): /data/data/ch.becke.sftp\_server\_s0\_v1/files/sf <sup>txp</sup>/<sub>stc</sub>
- **UNMOUNT**: Drives and directories are unmounted by **swiping** the corresponding item/entry **to the left**.
- Remote Access: The mounted directories can be accessed remotely for example as follows (SFTP client example): sftp -P 6789
   <PHONE-IP>:/data/data/ch.becke.sftp\_server\_\_s0
   v1/files/sftp--s0-v1--mnt

```
The different possible connection strings are part of the MAIL 
Eunctionality.
```

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	Photos:	LABOR													
	/storage/emulate	ed/U/DCIM													
	/storage/emulate	ed/0/Music													
	Movies:														
	/storage/emulate	ed/0/Movies													
	Documents:		,												
	/storage/emulate	ed/U/Android/data,	/												
	Application Home	e Directory	Jocuments	5											
	/data/data/ch.be	cke.sftp_servers	0_v1												
	External Storage	Application Home	Directory:												
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_	on.becke.srtp_se							(		•				•	

# SFTP Client: GIO/GVfs

**GIO/GVfs**: GVfs is GNOME's userspace virtual filesystem designed to work with the I/O abstraction of GIO: (optional: use the fully qualified path to run

the commands! e.g. /usr/bin/gio mount
sftp://...)

• gio mount
sftp://test123@192.16
8.43.1:6789/

<	> sftp://test123@192.168.43	.1:6789/storage/emulated/0	<b>S</b>	Q ::	
$\odot$	Recent	Name	▲ Size	Туре	Modified
ፚ	Home	Alarms	_	Folder	31 Dez 2008
	Desktop	Android	_	Folder	22 Nov 2019
D	Documents			1 otder	
᠅	Downloads	browser	_	Folder	21 Nov 2019
99	Music	DCIM	_	Folder	16 Dez 2019
Ō	Pictures	1			
	Videos		2 bytes	Program	25 Dez 2019
<b>@</b>	Trash	did	74 bytes	Program	25 Dez 2019
	data	documents	_	Folder	15 Dez 2019
	home				
	test123 on 192.168.43.1	Download	_	Folder	28 Dez 2019
	ws	downloaded_rom	_	Folder	22 Nov 2019
	music	Fonts		Folder	15 Dez 2019

# **SFTP Client: SSHFS**

**SSHFS**: SSHFS (Secure SHell FileSystem) is a file system for Linux (and other operating systems with a FUSE implementation, such as Mac OS X or FreeBSD) capable of operating on files on a remote computer: (optional: use the fully qualified path to run the commands! e.g. /usr/bin/sshfs -p 6789 ...)

- sshfs -p 6789
  test123@192.168.43.1:
   / /media/mobile
- sshfs -p 6789 test123@192.168.43.1: /storage/emulated/0 / media/mobile

<	> /media/mobile/storage/em	ulated/0	æ	Q ::	
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᠅	Downloads	browser	3 items	Folder	21 Nov 2019
99	Music	DCIM	4 items	Folder	16 Dez 2019
Ø	Pictures	and a second			
▶■	Videos	dctp	2 bytes	Text	25 Dez 2019
<b>@</b>	Trash	did	74 bytes	Text	25 Dez 2019
	mobile	documents	0 items	Folder	15 Dez 2019
	data				
	home	Download	10 items	Folder	28 Dez 2019
<b>L</b>	ws	downloaded_rom	0 items	Folder	22 Nov 2019
	music	Fonts	0 items	Folder	15 Dez 2019

# **SFTP Client: SFTP**

CETD, often in our interventive		t	est123@hp-elitebook-850	-g5s0-v1: ~		
SFIP: Sitp is an interactive	File Edit View Sea	arch Terminal Help	)			
file transfer program, similar to ftp, which performs all operations over an encrypted ssh transport: (optional: use the fully qualified path to run the commands! e.g. /usr/bin/sftp -P 6789)	test123@hp-elite The authenticity tablished. RSA key fingerpr Are you sure you Warning: Permane test123@192.168. Connected to 192 sftp> cd /storag sftp> ls	<pre>book-850-g5s0   of host '[192. int is SHA256:W   want to contin   ntly added '[19   43.1's password   .168.43.1.   e/emulated/0</pre>	-v1:~\$ sftp -P 6789 1 168.43.1]:6789 ( <no  <br="">D6C90c/+i+4BA5qG31hw ue connecting (yes/no 2.168.43.1]:6789' (R :</no>	test123@192.168.4 hostip for proxy jdbEUsAIgw7D5gq8 o)? yes SA) to the list o	43.1 command>)' can't jnyJVs. of known hosts.	: be es
<ul> <li>sftp -P 6789 test123@192.168.43.1</li> <li>sftp -P 6789 test123@192.168.43.1 :/storage/emulated/0</li> </ul>	Alarms Kaizala Notifications browser noteeverything sftp>	Android MIUI Pictures dctp ramdump	DCIM MiVideoGlobal Podcasts did	Download Movies Ringtones documents	Fonts Music WhatsApp downloaded_r	om

# SFTP Client: FileZilla

**FileZilla**: FileZilla is a free software, cross-platform FTP application. Both server and client support FTP and FTPS, while the client can in addition connect to SFTP servers.

(optional: use the fully qualified path to run the commands! e.g. "C:\Program Files\FileZilla FTP Client\ filezilla.exe" sftp://...)

- filezilla.exe
   sftp://test123:becke.
   ch@192.168.43.1:6789/
- filezilla.exe
   sftp://test123:becke.
   ch@192.168.43.1:6789/
   storage/emulated/0/

	🔁 test1	23@192.168.43.1 - sftp:,	//test123@192.168.43.1:6789 ·	FileZilla								_		×
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	Host:	Use	ername:	Password:		Port:	Quickconnect	•	•					
	Status: Status: Status: Status: Status:	Retrieving direct Listing directory Directory listing Retrieving direct	ory listing / /data/data/ch.becke.sftp_s( of "/data/data/ch.becke.sftp tory listing of "/storage/emul	)_v1/files _s0_v1/files" succes ated/0"	sful									^
	Status: Status:	Directory listing	of "/storage/emulated/0" sug	cessful										~
	Local site	: C:\						$\overline{}$	Remote site: /storage/emu	lated/0				~
Si	te Manager	SRecycle.Bin	- 1 C-111				×	^	□ ··· ? data □ ··· ? storage □ ··· ? emulated					
Se	lect entry:			General Adv	anced Transfe	er Settings Char	et		<b></b> 0					
6	My S	ites st123@192.168.43.1		Protocol:	SFTP - SSH Fil	e Transfer Protoco	ol ~	Ì	Filename	Filesize	Filetype	Last modified	Permissio	ons ^
	4			Host:	192.168.43.1		Port: 6789		Pictures		File folder	11/22/19 20:24:	drwxrwxr	-x
									Notifications		File folder File folder	12/31/08 17:00:	drwxrwxr	-x
									Music		File folder	12/23/19 14:10:	drwxrwxr	-x
				Logon Type:	Normal		~		Movies		File folder	12/08/19 20:58:	drwxrwxr	-x
				User:	test123				MiVideoGlobal		File folder	12/08/19 20:58:	drwxrwxr	-x
				Password					MIUI		File folder	12/21/19 08:30:	drwxrwxr	-x
				Password.					Kaizala		File folder	11/19/19 20:34:	drwxrwxr	-x
									downloaded rom		File folder	11/22/19 02:42:	dnagnagr	× ×
				Background	olor: None	$\sim$			<					>
				Comments				J	2 files and 21 directories. Tota	al size: /6 byte	S			
		New site	New folder				~							
		New Bookmark	Rename											
		Delete	Duplicate				~							
					Connect	ОК	Cancel	]			•	Oueue: empty	,	

# SFTP Client: PuTTY SFTP

### **PSFTP: PuTTY SFTP**

client, is a tool for transferring files securely between computers using an SSH connection:

(optional: use the fully qualified path to
run the commands! e.g. "C:\Program
Files\PuTTY\psftp.exe" -P
6789 ...)

psftp -P 6789
 test123@192.168.43.
 1

#### Command Prompt - psftp -P 6789 test123@192.168.43.1 C:\> C:\>psftp -P 6789 test123@192.168.43.1 The server's host key is not cached in the registry. You have no guarantee that the server is the computer you think it is. The server's rsa2 key fingerprint is: ssh-rsa 2048 a3:1d:ba:db:5d:f5:43:27:a7:80:8e:53:f5:d7:7b:75 If you trust this host, enter "y" to add the key to PuTTY's cache and carry on connecting. If you want to carry on connecting just once, without adding the key to the cache, enter "n". If you do not trust this host, press Return to abandon the connection. Store key in cache? (y/n) y Using username "test123". test123@192.168.43.1's password: Remote working directory is /data/data/ch.becke.sftp s0 v1/files psftp> cd /storage/emulated/0 Remote directory is now /storage/emulated/0 psftp> pwd Remote directory is /storage/emulated/0 psftp>

# SFTP Client: WinSCP

#### **WinSCP**: WinSCP is a free and open-source SFTP, FTP, WebDAV, Amazon S3 and SCP client for Microsoft Windows.

(optional: use the fully qualified path to run the commands! e.g. "C:\Program Files (x86) \ WinSCP\winscp.exe" sftp://...)

- winscp.exe
  sftp://test123@192.168.4
  3.1:6789/
- winscp.exe
  sftp://test123@192.168.4
  3.1:6789/storage/emulate
  d/0/

Run (Windows-Key+R):
sftp://test123@192.1
68.43.1:6789/

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Local Mark Files Commands Session Opti	ons Remote Help						
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🟪 C: Local Disk 🔹 🕶 🕶 🗸 👘 🗸	<ul> <li>Image: Image: Ima</li></ul>				20	Find Files	s »
📑 Upload 👻 📝 Edit 👻 🐋 🖓 Proper	ties 🛱 New 🗸 🛨 🖂 🗸		Download - Kedit - X -	Propert	ties >	•	»
C/			/storage/emulated/0/	1			
Name A Ciae Trans	Channel		Name	Size	Changed	×	~
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			Download		16/01/2020	) 12:14:39	
🚅 New Site	Session		Music		23/12/2019	9 14:10:46	
test123@192.168.43.1	Eile protocol:		MIUI		21/12/2019	08:30:46	
	SFTP		DCIM		16/12/2019	9 19:09:55	
	Host name:	Port number:	- Fonts		15/12/2019	9 17:28:46	
	192.168.43.1	6789	documents		15/12/2019	9 17:28:46	
					09/12/2019	9 02:00:00	
	User name: Password:				08/12/2019	9 20:58:53	
	test123		Movies		08/12/2019	0 20:58:41	
	Edit	Advanced	noteeverything		25/11/2019	9 20:40:31	
Wie coll diases Element geöffnet werden?	<b></b>		Pictures		22/11/2019	9 20:24:10	
wie son dieses Element geonnet werden:			downloaded_rom		22/11/2019	02:42:17	
Cyberduck			Android		22/11/2019	02:41:09	
			browser		21/11/2019	20:11:29	
Mountain Duck			ramdump		20/11/2019	01:11:02	
			Kaizala		19/11/2019	20:34:26	
WinSCP: SFTP, FTP, WebDAV, S3 and SCP			Kingtones		31/12/2008	3 17:00:49	$\checkmark$
client	<b>—</b>		<			>	
Suchen Sie nach einer App im Microsoft Store	Login ▼ Close	Help	0 B of 76 B in 0 of 22	CETD 2	e7	1 hid	den
Immer diese App verwenden				3FTP-3	1	0:02:28	
OK							

# SFTP Client: Cyberduck

**Cyberduck**: Cyberduck is an opensource client for FTP and SFTP, WebDAV, and cloud storage, available for macOS and Windows. **CLI**: Command Line Interface:

"duck":

(optional: use the fully qualified path to run the commands! e.g. "C:\Program Files\Cyberduck\ Cyberduck.exe" sftp://...)

- duck --list
  sftp://test123@192.168.43.1
  :6789/storage/emulated/0/
- duck --download sftp://test123@192.168.43.1 :6789/storage/emulated/0/DC IM/Camera/\*.\*
   Run (Windows-Key+R):

sftp://test123@192.1 68.43.1:6789/



# SFTP Client: Mountain Duck

Mountain Duck: Mountain Duck lets you mount server and cloud storage as a disk in Finder on macOS and the File Explorer on Windows:

(optional: use the fully qualified path to run the commands! e.g. "C:\Program Files\Mountain Duck\Mountain Duck.exe" "sftp://...")

- "Mountain Duck.exe" sftp://test123@192.168.43.1 :6789/
- "Mountain Duck.exe" sftp://test123@192.168.43.1 :6789/storage/emulated/0/

Run (Windows-Key+R): \_\_\_\_\_\_ sftp://test123@192.1 68.43.1:6789/

🛂 192.168.43.1 – Si	FTP	-		×									
📇 SFTP (SSH Fil	e Transfer Protocol)			~									
Nickname:	192.168.43.1 - SFTP												
Labels:													
URL:	sftp://test123@192.168.43.1:6789/storag	e/emulated	<u>1/0</u>	4									
Server:	192.168.43.1	Port:	678	9 🗢									
Username:	test123												
Password:	•••••												
SSH Private Key:	None	×	<u> </u>		L		Verwalten	192.168.0.147 -	SFTP (\\N	IEDIAPC	S1-V1) (S;)	- 🗆	×
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Drive Letter:	S:		> *	Schnellzug	ariff	Name	~	Änd	derungsda	atum	Тур	Größe	^
Drive Letter.	5				,	.\$Trash\$		28.0	14.2022 18	:11	Dateiordner		
Connect Mode:	Default		> 📥	OneDrive		.dlprovider		22.0	07.2020 17	:10	Dateiordner		
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			> 1	3D-Ohiek	kte	Alarms		04.0	08.2021 23	:43	Dateiordner		
	Disconnect Connect	OK		Bilder		Android		18.0	14.2021 16	630	Dateiordner		
				Dealater		Audiobooks		04.0	08.2021 23	:43	Dateiordner		
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Immer die	ese App verwenden					MIUI		18.0	9.2022 19	:41	Dateiordner		
						MiVideoGlo	bal	08.1	2.2019 20	:58	Dateiordner		~
	ОК				<								>
			35 Ele	mente								8	

# **SFTP Client: Total Commander**

Total Commander: Is a Shareware file manager for Windows.

- Install the SFTP Plugin.
- Set the **encoding** to UTF-8 (SSH default encoding)!
- Strange the connection requires 2 attempts before connecting (only happens with Total Commander)?!

erbinden mit SFTP-Server X								
erbinden mit (Server/Pfad oder Server:Port/Pfad)   Auto   IPv4   IPv6								
192.168.43.1:6789/storage/emulated/0/								
enutzername:	💾 Total Commander (v64)	10.50 - NOT REGISTERED					_ [	l v
hh100								
test123	<u>Files Mark Commands</u>	<u>N</u> et Sho <u>w</u> C <u>o</u> nfigura	ition <u>S</u> tart		1			<u>H</u> elp
ennwort: ? PuTTY-Agenten benutzen (Pageant)		😫 🐁 🔶 🔿			h 🗽 🗱 🍰 🗐			
•••••	FTP Transfer mode Bin	ary (archives, doc etc.)	✓ Disconnect	CONNECT \1 Verzeichnis e	92.168.43.1:6789:SFTP nlesen: \storage\emulated\0			\$
Schütze Kennwort mit Hauptkennwort (TC>=7.5)	Loone_] 166′629′1	92 k of 249'477'020 k free		λ				X
Benutzerzertifikat für Authentifizierung:		ownloads\sftpplug\*.*		* -	▼\\\Secure FTP\192.168.43.1:6	789:SFTP\stora	age\emulated\0\*.*	* •
Öffentliche Schlüsseldatei (*.pub):	↑ Name	Ext Size Date	Attr		★Name	xt Size	Date At	tr
	🏦 []	<dir> 29.08.2</dir>	022 22:27	A	<b>▲</b> []	<dir></dir>		^
	[64]	<dir> 06.03.2</dir>	017 10:28		[.\$Trash\$]	<dir></dir>	28.04.2022 18:11 -77	5
Private Schlüsseldatei (*.pem):	📓 libssh2	dll 419'328 25.08.2	022 18:49 -a		[.dlprovider]	<dir></dir>	22.07.2020 17:10 -77	5
>>	pluginst i	nf 217 26.08.2	022 10:16 -a		[.PiMusicPlayer]	<dir></dir>	19.11.2019 21:58 -77	5
	readme	bit 15'858 26.08.2	022 10:15 -a	D1	[Alarms]	<dir></dir>	04.08.2021 23:43 -77	5
Kompression mit ZLIB (Warnung: Bei einigen Servern schlägt Verbindung fehl)	sttpplug	MTX 200 104 24.08.2	022 15:25 -a	-53	[Android]		04.09.2021.10:30 -77	s s
Schreibe komplette Verzeichnislisten in Logdatei (für Fehleranalyse)	srepping	101.04 517 500 24.00.2	022 13:23 -8		[hackuns]		20.11.2021.18:06 -77	5
Sende Befehl zur Aufrechterhaltung der Verbindung (Sekunden):					[browser]	<dir></dir>	13.11.2021 18:17 -77	5
Beputze SCP für Transfers (schnelleri)				_	[DCIM]	<dir></dir>	27.12.2022 02:00 -77	5
Deputes SCD für alles (lisis CCTD) System: automatisch erkenn V					[documents]	<dir></dir>	25.11.2021 15:57 -77	5
				~	[Download]	<dir></dir>	23.03.2023 22:56 -77	5
odierung der Dateinamen auf dem Server: UTF-8					[downloaded_apex]	<dir></dir>	02.05.2021 20:50 -77	5
Benutzerrechte von neu angelegten Datelen/verzeichnissen:					[downloaded_rom]	<dir></dir>	22.05.2021 20:24 -77	5
Neue Dateien (Upload): 644 Neue Verzeichnisse: 755					[Fonts]		09.06.2021 10:15 -77	2
					[googletest]		10 11 2010 20:34 .77	5
roxy-Einstellungen:					[Mit.dir]	<dir></dir>	20.01.2022 01:30 -77	5
					[MIUI]	<dir></dir>	18.09.2022 19:41 -77	5
1: Kein Proxy (direkte verbindung)					[MiVideoGlobal]	<dir></dir>	08.12.2019 20:58 -77	5
Letzten Proyv löschen					[Movies]	<dir></dir>	16.10.2021 22:16 -77	5
OK Abbrechen					[Music]	<dir></dir>	15.01.2022 10:31 -77	5
					[noteeverything]	<dir></dir>	25.11.2019 20:40 -77	5
					[Notifications]	<dir></dir>	04.08.2021 23:43 -77	5
					[Pictures]	<dir></dir>	17.10.2022 22:14 -77	2
					[Ringtones]		00.10.2022 13:30 -//	5
					[Sconed Storage Test Dür]	<dir></dir>	26.03.2023 13:42 -77	5
					[Scoped Storage Test Dur2]	<dir></dir>	26.03.2023 13:38 -77	5
					[SmartMob]	<dir></dir>	31.12.2021 17:48 -77	5 .
	0 k / 984 k in 0 / 5 file(s). 0 / 1	dir(s)			0 k / 0 k in 0 / 3 file(s), 0 / 32 di	(5)		
	c:\Llsers\standardsf	-v1\Downloads\sftmblug	>					~
	En ur	FAT I'			52 M . 5 . 1			
	F3 VIEW	F4 Edit	FO LODV	- Fb Mo	/e F/ Newholder	F8De	elete Alt+	F4 EXIT

# SYSTEM OUT (Password & Public Key)

**System Out**: Clicking on the Terminal Icon in the top app bar brings the user to the System Out Screen where different System and Log related Information (e.g. password during the login process) is displayed.

- **Password**: During the first login the password (default or generated, depending on the SETTINGS) is shown on screen.
- **Public Key**: After successful login the client public key (if any and if of type **RSA or ECDSA**) is stored on the SFTP server automatically (if "Save Public-Key" is activated in the SETTINGS). And from then no password is required anymore (when connecting from this client/public-key).
- Click on the "<-" (back) button to get back to the main screen!
- Clicking on the "SYSTEM OUT" menu item (in the overflow menu, top right), on the main screen, brings you back to this screen.

	22:55 🖄 🞯 🛈	57	🗟 lin. \$	> 🗢 🚥	D: 4	23:21	1/2 🕑 🛈 🞜 🖛		*
m	SFTP Serv	ver s0 v1	▶_	۲	:	÷	SYSTEM	OUT	
;111	Server:		STOP			User: te	st123; Password	d: I3W@G:	
	Host/IP:	wlan1: 192 wlan0: 192	2.168.17 2.168.0.1	3.17( 147	)	(The (de (propert generat	efault) password ty file). Deleting/ e a random pase	l can be chang 'emptying the sword instead	ged in the default p .)
	Port:	6789							
	Username:	login with	any useri	name					
	Password:	default pa	ssword (	optio	nal,				
	Directories								
e v nis	Mounted Directoo /data/data/ch.be sftp=s0-v1=mnt External Storage /storage/emulate Photos: /storage/emulate Movies: /storage/emulate Documents: /storage/emulate ch.becke.sftp_se Application Hom /data/data/ch.be External Storage	ries: icke.sftp_server_ Directory: ad/0 ad/0/DCIM ad/0/Music ad/0/Movies ad/0/Android/da rvers0_v1/files e Directory: icke.sftp_server_ Application Hon ad/0/Android/da	_s0_v1/files/ ta/ s/Documents _s0_v1 <b>ne Directory</b> :	5					
		$\bigcirc$							

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# Directories

- **Directories**: Most directories on the android file system are hidden and therefore some of the most important directories are listed on the main screen in the lower (scrollable) part. With the help of these directory paths the user can easily find the files he is interested in. For example one of the most important directories is the "External Storage Directory" (e.g. "/storage/emulated/0") where all the public data is stored.
- **Mounted Directories**: Clicking on **MOUNT** (Folder Icon) lets you mount additional drives & directories below the application home directory. (For additional information see previous slide "MOUNT")



## SETTINGS

- System Out Log Level: The higher the Log Level the more information will be written to the SYSTEM OUT Screen.
   SF
- **Network Interface Name Pattern**: A regular expression filtering the network interface names. On the main screen only the Host/IP addresses of the interfaces matching this regular expression will be shown.
- Rename will Overwrite: Renaming a file will overwrite another file with User the same name if there exists one (this option is required in the context Pass of SSHFS).
- **Save Public-Key**: If activated the client public-key (if any and if of type **RSA or ECDSA**) is stored after successful login. And from then no password is required anymore (from this client/public-key).
- **Overwrite Public-Key**: If activated a non matching client public-key is overwritten with the new client public-key after successful password login.
- Save Password: If activated the Username & Password is stored (hash, value, not clear text!)
- Click on Username to change Password: By clicking on the username you can change the password (stored as hash value!) for this user.

22:55 🖉 🞯 🛈	57	\$ all ຈີ ຈີ 199 4	23:48	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$		.nl ଚ୍ଚି ଚ୍	82) 4		
SFTP Serv	ver s0 v1	▶_ 🕸 :	÷	SETTINGS					
Server:		STOP		User Interface					
Host/IP:	wlan1: 192. wlan0: 192.	168.173.170 168.0.147		System Out Lo	g Level		0		
Port:	6789								
Username:	login with ar	iy username		Network					
Password:	default pass	sword (optional,		Network Interf (.*wlan.*) (.*eth.	ace Name F *)	Pattern			
Directories	<u>:</u> 🖂			File					
Mounted Directo /data/data/ch.be sftps0-v1mpt	<b>ries</b> : ecke.sftp_serverst	D_v1/files/		Rename will O	verwrite				
External Storage /storage/emulat	ed/0			Authentication					
<b>Photos</b> : /storage/emulat	ed/0/DCIM			Save Public-Ke	ey				
<b>Music</b> : /storage/emulat <b>Movies</b> : /storage/emulat	ed/0/Music			Overwrite Publ	lic-Key				
Documents:	ed/0/Android/data/			Save Passwore	d				
ch.becke.sftp_se Application Hom /data/data/ch.be External Storage /storage/emulat	erver_s0_v1/files/D erver_s0_v1/files/D erverstory: ecke.sftp_server_si Application Home ed/0/Android/data/	ocuments D_v1 <b>Directory</b> :	Click on Username to change Password test123						
сп.becкe.sftp_se	erversu_v1/files	•				•			

## PERMISSIONS

Clicking on the "PERMISSIONS" Menu Entry in the overflow menu will display all Permission Requests that have not been granted until now:

- Manage all files on storage device: On Android 11 and later the permission "Manage all files on a storage device" grants you full access to all your files.
- **Display Notifications (IP-Address & Port)**: Android 13 and later requires a runtime permission for sending notifications from an app.
- Keep App Running in Doze and Standby Mode: This app follows best practice to keep the SFTP server running in the background, until the user stops or closes the app. BUT on certain Android devices and versions not adhering to the standards the server gets paused, stopped or killed in doze and/or standby mode! Please follow the instructions described in "Don't kill my app (https://dontkillmyapp.com/)!" for your Android device: "...".

	10:33 🗂		▼⊿ 🗈	9:50 🗂		₹⊿	
	SFTP Server s0 v1		RESET	Request Permissions			
	Server:		PERMISSIONS	Manage all files on storage device: On Android 11 and later the permission "Manage all files on a storage device grants you full access to all your files.		e: On Android 11 and files on a storage device" files.	
	<u>Host/IP:</u>	wlan0: eth0: 10	EULA	Do you want to grant this permission?			
			HELP	• Yes	O No	O Never	
	Port:	6789	OVERVIEW VIDEO	Display Notifications (IP-Address & Port): Android and later requires a runtime permission for sending potifications from an ann		s & Port): Android 13 hission for sending	
	Username:	Jsername: login w		Do you want to display IP-Address & Port notificati			
	Password:	becke.d	ch	• Yes	O No	O Never	
	Directories	<u>:</u> 🖂		Keep App Running in Doze and Standby Mode: This app follows best practice to keep the SFTP server running in the background, until the user stops or closes the app. BUT			
	Mounted Directories:			on certain Android devices and versions not adhering to the standards the server gets paused, stopped or killed in doze and/or standby mode! Please follow the instructions described in "Don't kill my app (https://dontkillmyapp.com $\hat{D}$ !" for your Android device: "google sdk_gphone64_x86_64			
	/data/data/ch.becke.sftp_servers0_v1/files/						
	External Storage Directory:						
	/storage/emulate	ed/0		(Android version: 13)". Selecting " <b>Yes</b> " will take you to the " <b>App Info</b> " screen where			
	/storage/0E1A-190A			most of these	most of these settings can be accessed. Most of these		
,	Photos:			settings are related to <b>battery optimization</b> . Once battery optimization has been disabled, this permission request will not show up anymore.			
	/storage/0F1A-190A/DCIM						
	Music:			device: "google sdk gphone64 x86 64 (Android version:			
	/storage/emulate	ed/0/Music		13)" adheres to the standards and/or you want to get rid of			
	/storage/0E1A-1	storage/0E1A-190A/Music		this permissio	n request.		
	Movies:			O Yes	No	O Never	
	/storage/emulated/0/Movies			Ũ	0	0	
	Documents:	20, 1/10/100					
	/storage/emulate	ed/0/Docum	ents				
	/storage/0E1A-1	90A/Docume	ents	Request Permissions			
	Application Hom	e Directory:					

# Notification

**Notification**: Every time the "STOP" respective "START" button is pressed the Notification message is updated accordingly.



## RESET

**RESET**: Pushing the "RESET" menu entry in the overflow menu, will delete all usernames & passwords, all client public-keys, all mounted directories and will set back the settings to their initial state.



# **Privacy Policy and End-User License Agreement**

Privacy Policy and End-User License Agreement (EULA) of SFTP Server s0 v1:

- **Privacy Policy**: https://www--s0-v1.becke.ch/app/becke-ch--sftp-server--s0-v1/legal/becke-ch--sftp-server--s0-v1--privacy-policy.html
- **EULA**: https://www--s0-v1.becke.ch/app/becke-ch--sftp-server--s0-v1/legal/becke-ch--sftp-server--s0-v1--eula.html

#### 22:03 总 🖄

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#### SFTP Server s0 v1

#### End-User License Agreement (EULA) of SFTP Server s0 v1

Last updated: January 22, 2020

This End-User License Agreement ("Agreement") is a legal agreement between you and becke.ch

This Agreement governs your acquisition and use of our SFTP Server s0 v1 software ("Software") directly from becke.ch or indirectly through a becke.ch authorized reseller or distributor (a "Reseller").

Please read this Agreement carefully before completing the installation process and using the Software. It provides a license to use the Software and contains warranty information and liability disclaimers.

By clicking "accept" or installing and/or using the Software, you are confirming your acceptance of the Software and agreeing to become bound by the terms of this Agreement.

If you are entering into this Agreement on behalf of a company or other legal entity, you represent that you have the authority to bind such entity and its affiliates to these terms and conditions. If you do not have such authority or if you do not

DECLINE ACCEPT





# PASSWORD & PUBLIC KEY FUNCTIONALITY

#### **Open the SETTINGS screen:**

- Change User (e.g. "test123") Password: Scroll to the bottom and click on the Username (e.g. "test123") to change his password. The minimal password length is 6 characters!
- Save Password: If activated the Username & Password is stored (hash value, not clear text!). Otherwise each time the user logs in he has to enter the default respective a newly generated password.
- Save Public-Key: If activated the client public-key (if any and if of type RSA or ECDSA) is stored after successful login. And from then on no password is required anymore (from this client/public-key).

23:48 🌿 🎯 🕒 🎜	all 🗟 🗟 🗷 4
← SETTINGS	
User Interface System Out Log Level	
•	0
Network	
Network Interface Nam (.*wlan.*)I(.*eth.*)	ne Pattern
File	
Rename will Overwrite	
Authentication	
Save Public-Key	
Overwrite Public-Key	•
Save Password	
Click on Username to char	nge Password
test123	

# LOGIN & PASSWORD-CHANGE

- 1. Start "SFTP Server s0 v1": When the app launches the SFTP Server starts automatically.
- 2. (Optional) Change Default Password: On the main screen, click on "Password" field to change it. The minimal default password length is 6 characters! If you clear all characters (0 length) then a random password gets generated during login.
- **3. SFTP Client: Connect to Server**: Use one of the SFTP Clients and connect to the SFTP Server on the designated IP-Address & Port-Number. (Using the "MAIL" functionality the user can send the SFTP connections strings to the Client PC and from there, with the help of these connection strings, easily connect to the SFTP Server).
- **4.** Login: Enter the Username (e.g. "test123") and Default (respective Generated) Password that is shown on the SFTP Server App Screen during the login process.
- 5. (Optional) Change User (e.g. "test123") Password: Open the SETTINGS screen, scroll to the bottom and click on the Username (e.g. "test123") to change his password. The minimal password length is 6 characters!

# PUBLIC KEY (PASSWORDLESS) LOGIN

There exist many ways to generate a Public/Private Key-Pair of Type RSA (or ECDSA) (on Linux). Below is listed one of them:

- 1. SFTP (Linux) Client: Terminal/Console: On your SFTP Linux Client PC, open a new Terminal/Console window.
- 2. ssh-keygen -t rsa: Execute the command "ssh-keygen -t rsa" to start generating a Public/Private Key-Pair of Type RSA. (for ECDSA type "ssh-keygen -t ecdsa")
- 3. Directory & Filename: Enter the directory and filename where to store the Public/Priate Key-Pair (/home/<USERNAME>/.ssh/id\_rsa) (respective /home/<USERNAME>/.ssh/id\_ecdsa): (I suggest to accept default directory and filename by just pressing the enter key!).
- 4. (Optional) **Passphrase**: Enter passphrase (empty for no passphrase, up to you to decide)
- **5. Repeat Passphrase**: Enter the same Passphrase again and you're done with the process of generating a Public/Private Key-Pair of Type RSA (or ECDSA).
- 6. SFTP (Linux) Client: Login: Login one last time with Username & Password. The Public Key will be stored on the SFTP Server and from then on Public Key (Passwordless) Login is enabled.

# WALK THROUGH CONNECTIVITY SAMPLE

#### 1. Mobile: Activate WLAN and/or HotSpot

15:43 15:29 Ö 12 🗇 📖 🔿 🥱 🚥 🕯 Fr. 10. Jul 1/2 🛈 📶 🤝 🕤 🎹 4 WI AN Dunkelmodus Nicht stören Energiesparmo becke-ch--wlan--s0-1-v1 ιΠι Verbunden Mi Share Bildschirmaufn Vibrieren becke-ch--wlan--s0-0-v1 9 becke-ch--wlan--s1-v1 Bearbeiten

2. Mobile: "START" the SFTP Server (if not already started) and click on "MAIL" to email connection strings to your Laptop/PC.

If you change the port number of the server you need to STOP/START the server again!



16:09	\$ 0 F 0			
$\leftarrow$	Schreiben	0	$\bowtie$	:
Wind IP: 19 Exter winso sftp:/ mula Appli winso sftp:/ IP: 19 Exter winso sftp:/ /emu	ows: WinScp: i2.168.43.1 : nal Storage Directory: Us ;p.exe icd:70/ cation Home Directory: L ;p.exe /test123@192.168.43.1: ;2.168.0.147 : nal Storage Directory: Us ;p.exe /test123@192.168.0.147 lated/0/	er: tes 6789/9 Jser: te 6789/ er: tes 7:6789	t123: storag sst123 t123: /stora	e/e : ge

Ö

Cast

Hotspot

# WALK THROUGH CONNECTIVITY SAMPLE

3. Laptop/PC: Connect to the same WLAN / LAN where the SFTP Server is running. In a nutshell the only mandatory network requirement in this context is that the Server IP Address and Port must be reachable from the Client Laptop/PC!

Wi-Fi Networks Select a network							
becke-chwlans4-0-v1	<b>₽</b> ?						
becke-chwlans0-0-v1	<b>L</b> 후						
becke-chwlans0-1-v1 🖌	<b>L</b> 후						
becke-chwlans1-v1	<b>A</b> 후						

4. Laptop/PC: Start the SFTP Client using the connection string in the email that you sent previously in step 2. When prompted for the password, enter the password that is shown on the Mobile App Screen (default "becke.ch").

Make sure that no **Firewall** is blocking the traffic!



# **PRIVILEGED PORT SUPPORT**

- Privileged port (ports below 1024) support for rooted devices: To run the SFTP Server on the standard SFTP Port "22" respective in general to run the SFTP Server on a port below "1024" requires a rooted device, i.e. the ability to run the "su" command with root permissions!
- **Superuser Request**: (Once the device is rooted and) the first time when setting the Port to a value below "1024" the user is prompted with a "Superuser Request". Granting this request will allow the SFTP Server App to run on the designated port below "1024".



## FAST SFTP VIA USB

As already mentioned: "For optimal speed connect to 5GHz WLAN and use a fast SFTP Client Program!" OR alternatively to 5GHz WLAN use SFTP via USB (using ADB):

- Enable adb debugging on your device: To use adb with a device connected over USB, you must enable USB debugging in the device system settings, under Developer options – see: https://developer.android.com/studio/command-line/adb#Enabling
- Download SDK Platform Tools / ADB (Android Debug Bridge): If not already installed (as part for Android Studio), download SDK Platform Tools containing the ADB from here: https://developer.android.com/studio/releases/platform-tools and follow the installation instructions.
- **3.** Start the ADB server: "adb -a nodaemon server start". "-a": (optional) "listen on all network interfaces, not just localhost". "nodaemon": (optional) "start the server in the foreground, not as daemon".
- 4. Connect USB cable: Connect the mobile phone via USB to the computer (and select "data transfer" in the upcoming dialog).
- 5. List attached devices: "adb devices": The device ID is required to set up the network redirection.
- 6. Set up network redirection (port forwarding): "adb -s <deviceId> forward tcp:<localPort> tcp:<remotePort>" for example: "adb -s dda0d48f forward tcp:56789 tcp:6789"
- 7. Connect with your favourite SFTP Client to localhost (127.0.0.1) or any other IP address your computer exposes on "<localPort>" for example: "sftp -P 56789 test123@localhost"

## THE END

### becke.ch

### email: ssh--s0-v1@becke.ch homepage: http://becke.ch/app/becke-ch--sftp-server--s0-v1/ download: https://play.google.com/store/apps/details?id=ch.becke.sftp\_server\_\_s0\_v1