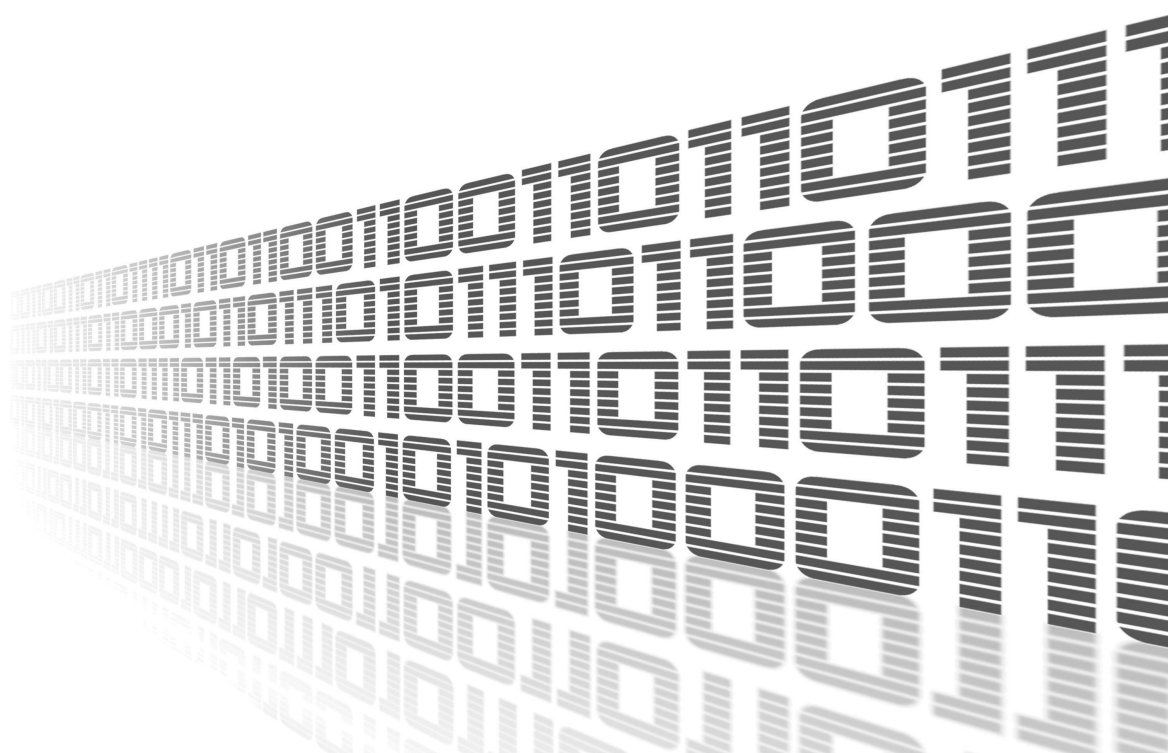# RouterApp

User Module

File Uploader

APPLICATION NOTE

ADVANTECH

Used symbols

Danger – Information regarding user safety or potential damage to the router.

Attention – Problems that may arise in specific situations.

Information or notice – Useful tips or information of special interest.

Example – example of function, command or script.

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1. Description of user module

User module *File Uploader* is not contained in the standard router firmware. Uploading of this user module is described in the Configuration manual (see Chapter 4).

File Uploader is v2 and v3 router platforms compatible.

This module is designed for synchronizing files between the router and a remote device (FTP server). For this purpose, FTP (File Transfer Protocol), or SFTP (Secured FTP) protocol can be used. The router can also be used as a mediator between two FTP network locations: There is FTP downloader, and FTP/SFTP uploader available.

After enabling the user module, the contents of a user-defined directory in the router is periodically uploaded to the specified FTP/SFTP server. Files can be optionally synced form another FTP server before performing the upload. Uploaded files can be optionally removed based on different parameters. In case of any problem with uploading of a file, the synchronization process is performed again. After three unsuccessful attempts, upload is postponed until the next regular term (in accordance with the module configuration). The maximum file size is not limited. Router is always (S)FTP client, when downloading/uploading files.

Figure 1: Web interface

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The Web interface is available for configuration of the *File Uploader* user module. It is accessible after clicking the user module's name on the *User modules* page of the router Web interface.

The left part of the Web interface contains the menu with *Configuration* pages: *Global* for overall configuration (landing page) and *SSH* for SFTP optional configuration. *System Log* page is there for monitoring of a current module state. *Licenses* page lists used Open Source software parts and its licenses. *Return* item can be used to switch back to the Web interface of the Advantech router.

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2. Configuration

The configuration of the user module is accessible under *Global* item in the menu. The first item – *Enable File Uploader* – is used to activate this user module. This starts the script with periodical uploads. All changes has to be saved by clicking *Apply* button. Configuration items are described in the sections and tables below.

Figure 2: Global configuration of the module

2.1 Storage

Item	Description
Scan Folder	Content of this directory in the router will be synchronized (uploaded) to the remote (S)FTP server.

Table 1: Storage configuration

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2.2 Download Source

Item	Description
Download files before upload	Enable or disable this feature. If enabled, the files are first downloaded from FTP server into *Scan Folder* (may be any FTP device, e.g. PLC). Then the data are uploaded to the *Upload Target*.
Download URL	URL address of the remote FTP server the data are downloaded from. **FTP only is supported**. Address has to be entered in this form: `ftp://example.com/`. If you leave "/" at the end of URL, all files in the remote directory will be downloaded. Otherwise the last string will be taken as a filename and only that file will be downloaded.
Username	Username for logging into the defined FTP server.
Password	Password for logging into the defined FTP server.

Table 2: Download Source configuration

2.3 Upload Target

Item	Description
Remote URL	URL address of the remote server the files are uploaded to. • **ftp://** – FTP protocol. • **sftp://** – SFTP protocol. Additional SSH parameters can be defined on *SSH* page, see section 2.3.1. After choosing the protocol, the address has to be entered in this form: `example.com/`
Username	Username for logging into the defined (S)FTP server.
Password	Password for logging into the defined (S)FTP server.
Work only when nobody is connected to internal FTP Server	Defines whether it is possible to upload files from user-defined directory when the FTP connection to the router is active (there is internal FTP server in the router). This ensures the files can not be changed during the upload.

Table 3: Upload Target configuration

> We recommend to keep the *Work only when nobody is connected to internal FTP Server* item ticked. Transferring files from a defined directory will be then performed only if there is nobody connected to the internal FTP server in the router.

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2.3.1 SFTP Configuration via ssh_config

For more detailed SFTP access configuration, it is possible to edit `ssh_config` file on SSH page. You can secure the connection your desired way, follow proper documentation for parameters in this file, e.g. here:
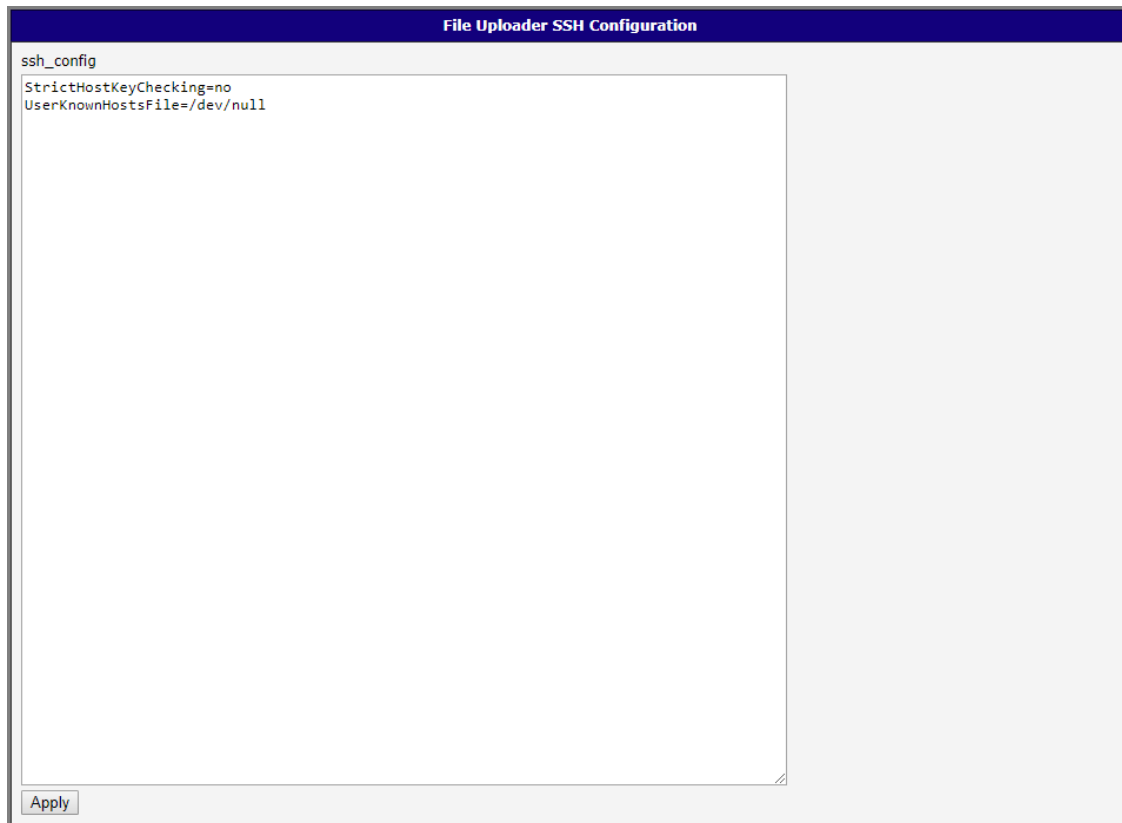https://linux.die.net/man/5/ssh_config

Figure 3: SFTP: SSH page for ssh_config edit

Explanation (reason) of pre-defined parameters:

- `StrictHostKeyChecking=no` – automatically adds new host keys to the user known hosts files. This is due to unability of the user module to answer the SSH command line asking whether to add the unknown host when connecting for the first time. More secure way can be achieved by logging manually from the router's command line to the server SSH console before connecting via user module.

- `UserKnownHostsFile=/dev/null` – default file to use for the user host key database.

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2.4   Download & Upload Files Period

Configuration form allows user to choose between three types of intervals in which the files are uploaded to the (S)FTP server.

- Always after the expiration of a specified number of hours.

- Every day at the specified hour.

- In the selected day of the week at the specified hour.

Additionally, you can select the option *Remove succesully uploaded files*, so the files are automatically deleted right after upload.

2.5   Remove Files Period

The last part of the configuration form lets you enable removing of old files. Item (*Remove files older than*) allows the module to delete files (in the *Scan Folder* directory) older than the specified time period. It is possible to select from wide time range from several hours to several years.

If this option is enabled, the removal can be performed periodically:

- Always after the expiration of a specified number of hours.

- Every day at the specified hour.

- In the selected day of the week at the specified hour.

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3. System Log

In case of any problems with connection it is possible to view the system log by pressing the *System Log* menu item. In the window are displayed detailed reports from individual applications running in the router including reports relating to this user module. Press *Save Log* button to save the system log to your computer.
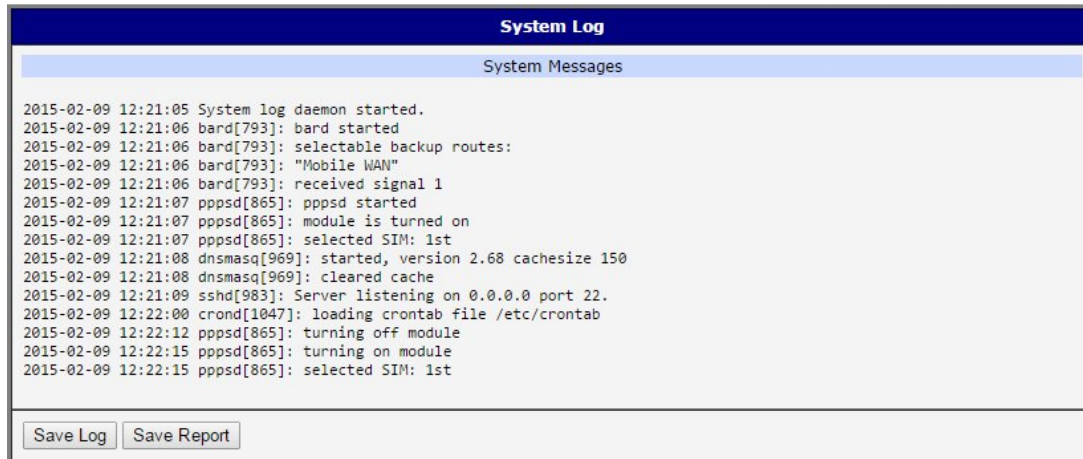

Figure 4: System Log

4. Related Documents

[1] Advantech Czech: **v2 Routers Configuration Manual** (MAN-0021-EN)
[2] Advantech Czech: **SmartFlex Configuration Manual** (MAN-0023-EN)
[3] Advantech Czech: **SmartMotion Configuration Manual** (MAN-0024-EN)
[4] Advantech Czech: **SmartStart Configuration Manual** (MAN-0022-EN)
[5] Advantech Czech: **ICR-3200 Configuration Manual** (MAN-0042-EN)

Product related documents can be obtained on *Engineering Portal* at   www.ep.advantech-bb.cz address.

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