

NetTools

FileMaker Plug-In For Windows and Macintosh



USER'S GUIDE

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Preface: Getting Help

Welcome to NetTools from Acme Technologies. NetTools is a FileMaker Pro plug-in designed to give you the tools to manipulate and control various network-based functions.

NetTools utilizes an advanced Java plug-in architecture for FileMaker Pro called JavaCompanion. JavaCompanion allows plug-ins to be written for FileMaker that are able to utilize the advantages of Java. JavaCompanion based plug-ins run on any platform that FileMaker supports (currently Windows, Macintosh and MacOS X) through a single plug-in.

FileMaker Pro plug-in developers interested in learning more about the benefits of write-once, run-everywhere Java plug-in development for FileMaker Pro should contact Acme Technologies support for licensing information. Plug-ins based on the JavaCompanion architecture can be rapidly developed, are amazingly fast and inherit the abilities of Java itself (such as multi-threading).

If you are new to FileMaker Pro, it is advised that you learn the basics of FileMaker Pro. This document is geared towards FileMaker developers that are familiar with utilizing FileMaker plug-ins.

Net Tools Discussion List

There is an email discussion list specifically for NetTools and Java-Companion. This is the single best resource for anything related to NetTools.

You can subscribe, unsubscribe and search the archives at the following URL:

<http://www.digitalpoint.com.com/lists/javacompanion.html>

Using NetTools Documentation

This user manual provides documentation for programming with NetTools functions. The manual is best used for reference and background information, while the FileMaker database "NetTools.fp5" helps you get started using NetTools immediately. Click on the "How's it work?" button to see the FileMaker Pro functions used (including sample data) for each of the operations demonstrated in the database. Our unique code-generation system helps shorten the time required to begin adding NetTools functionality to your databases.

Start by reading *Chapter 1: NetTools Software License*, for information regarding your rights as a licensee of the software.

Chapter 1: NetTools Software License

NetTools is licensed on a per workstation basis. What this means is the license fees are based on the number of employee workstations that you wish to utilize NetTools from. Multi-workstation and developer licenses are also available, please contact Acme Technologies for details.

The NetTools software license is non-transferable.

Payment of your license fee grants you the following:

- Right to use NetTools on the licensed workstations
- Technical support via email
- All minor revisions of NetTools at no additional charge
- Use of NetTools for a single company

Your license does NOT grant you following:

- The ability to view or modify the source-code

For an additional fees you can purchase additional products or services, such as priority tech support.

What Is A Software License?

The NetTools software license is a license to use the plug-in on a set number of computers. You are paying for the right to use the software on those workstations.

Your Software License

The licensing is the sole responsibility of the user to keep up to date. Acme Technologies is not responsible for any loss of business due to re-licensing the software. You must allow Acme Technologies five (5) working days to ship a new key code to extend your license.

The licensing fee is subject to change annually. Once payment has been received for a license extension, Acme Technologies will ship you a new key code via email, which will allow your workstation license to be extended.

Entering Activation Key

Your activation key will allow NetTools to be used on the workstations that it was licensed for. You can enter the activation key under the Activate Licence section under the Prefs button within the demo database or you can activate it within your own database (the syntax to do so is addressed in a later chapter).



Software License Agreement

By opening this package and using this software, you are bound by the terms and agreements of the software license agreement that is included with this software. If for any reason you are not satisfied,

you may return the product, with a disk package that **is factory sealed**, to the original vendor that you purchased the software from. (Subject to the return policy of the vendor. Please confirm their return policy with them.)

Chapter 2: General Functions

NetTools has been developed to work with the JavaCompanion plug-in architecture from Acme Technologies. This technology greatly simplifies the development of cross-platform FileMaker Pro plug-ins, however, due to limitations in the current FileMaker plug-in programming interface, JavaCompanion plug-ins do not display their function names within FileMaker's calculation dialog as other plug-ins do. Instead, all plug-ins based on JavaCompanion are accessed through a single External plug-in function name (JAVB-Command), and the actual plug-in's function name is provided as the first parameter to this function call. For example:

```
External("JAVB-Command", "NETT-Whois" & "!" & ... )
```

Examples for plug-in functions can be found in the NetTools.fp5 database that comes with this document. The “How Does It Work?”

How Does It Work?

section in the database will show you examples of all functions as well as populate the code with your data (or sample data).

Plug-In Results

Functions that you call with NetTools will return results of “**ERR:**” followed by whatever the error was if there is any problem with it.

NETT-Activate

This function is used to activate your license key you receive when you receive when you purchase NetTools.

```
External("JAVB-Command", "NETT-Activate" & "|" & [Activation Key])
```

This call will return a text string that gives you info. Either the plug-in was activated, or there was some sort of error.

NETT-ShortVersion

This function is used to get a numeric value of the plug-in version.

```
External("JAVB-Command", "NETT-ShortVersion")
```

NETT-LongVersion

Using this function, you can retrieve a string that contains the plug-in name as well as version.

```
External("JAVB-Command", "NETT-LongVersion")
```

Chapter 3: HTTP Functions

The HTTP functions in NetTools allow you to download webpages to a local file or directly into a FileMaker field.

NETT-SetRealmCredentials

If the URL you are going to perform HTTP actions with is password protected, you can call this function to set realm credentials before you use other functions to communicate with the server.

```
External("JAVB-Command", "NETT-SetRealmCredentials" & "!" & [User-  
name] & "!" & [Password])
```

For example, if you perform a URL encode on “Joe User”, you will get “Joe+User”, which will be acceptable to pass to HTTP servers.

NETT-SetFollowRedirects

If you wish NetTools to follow HTTP redirects that it received from the web server, you can use this option to set that parameter.

```
External("JAVB-Command", "NETT-SetFollowRedirects" & "!" & [True/  
False])
```

This parameter is set to “True” by default.

NETT-SetDownloadFile

This option allows you to tell NetTools to download the next URL directly to a file. This is useful if it’s a very large file, because NetTools will download it directly to a file instead of keeping it in memory.

```
External("JAVB-Command", "NETT-SetDownloadFile" & "!" & [Local File  
Path] & "!" & [Replace])
```

The replace parameter should be set to “True” or “False”.

NETT-EncodeURL

This function will perform URL encoding on whatever you pass to it as a parameter.

```
External("JAVB-Command", "NETT-EncodeURL" & "!" & [Text])
```

For example, if you perform a URL encode on “Joe User”, you will get “Joe+User”, which will be acceptable to pass to HTTP servers.

NETT-AddRequestHeader

If you wish to add custom headers to your HTTP request (GET or POST), you can use this function to define those headers.

```
External("JAVB-Command", "NETT-AddRequestHeader" & "!" & [Header  
Name] & "!" & [Header Value])
```

NETT-HTTPGet

This function will retrieve a web page and store it in memory. You can use other functions to retrieve the results.

```
External("JAVB-Command", "NETT-HTTPGet" & "!" & [URL] & "!" & [Time-  
out])
```

The timeout parameter is measured in seconds.

NETT-NewForm

This function initiates a new HTTP form (HTTP POST).

```
External("JAVB-Command", "NETT-NewForm")
```

NETT-AddField

You can use this function to add a new field to an HTTP Form (be sure to call the NewForm function first).

```
External("JAVB-Command", "NETT-AddField" & "I" & [Field Name] & "I" &
[Field Value])
```

URL encoding of the field values is done automatically.

NETT-AddFileField

If part of your HTTP form contains a file upload field, you can use this function to upload a file to the HTTP server.

```
External("JAVB-Command", "NETT-AddFileField" & "I" & [Field Name] &
"I" & [Local File Path])
```

NETT-SubmitForm

After you have created a NewForm and used the AddFields function to add all your fields you wish to the form, you can use this function to do the final submission of the form.

```
External("JAVB-Command", "NETT-SubmitForm" & "I" & [URL] & "I" &
[Timeout])
```

Like other timeouts, the timeout parameter is measured in seconds.

NETT-GetEncodedForm

This function retrieves the encoded web form currently active.

```
External("JAVB-Command", "NETT-GetEncodedForm")
```

This command is useful if you are sending an HTTP GET request with search arguments since it will automatically URL encode the arguments for you.

NETT-GetLength

This function can be used to determine the length of a previously downloaded URL.

```
External("JAVB-Command", "NETT-GetResponseLength")
```

NETT-GetContentType

You can call this function to retrieve the content-type header that was returned from the server.

```
External("JAVB-Command", "NETT-GetContentType")
```

An example of what is returned would be “text/html” for a text based HTML document.

NETT-GetResponseHeaders

If you wish to view a list of headers that the HTTP server returned with the request, you can use this function to do so.

```
External("JAVB-Command", "NETT-GetResponseHeaders")
```

The response will be a list of headers separated by a carriage return.

NETT-GetResponseHeader

This function will return a value of a specified header. You can get a list of available headers with the `GetResponseHeaders` function.

```
External("JAVB-Command", "NETT-GetResponseHeader" & "|" & [Header  
Name])
```

Do not include the colon (":") within the header name.

NETT-GetResponseData

After you have downloaded a URL, you can use this function to retrieve the results from memory.

```
External("JAVB-Command", "NETT-GetResponseData" & "|" & [Start Offset]  
& "|" & [Length])
```

The start offset and length parameters are optional. They allow you to retrieve part of a downloaded URL.

NETT-SaveDownloadToFile

This function will save the most recently downloaded URL to a local file on your computer.

```
External("JAVB-Command", "NETT-SaveDownloadToFile" & “|” & [Local  
File Path] & “|” & [Replace])
```

The replace parameter should be set to “True” or “False”.

Chapter 4: FTP Functions

The FTP functions in NetTools allow you to download, upload or delete files from an FTP server as well as navigate through an FTP server.

NETT-FTPConnect

This function is used to connect to an FTP server. Typically it is followed by other NetTools functions.

```
External("JAVB-Command", "NETT-FTPConnect" & "l" & [Server Address] &  
"l" & [Username] & "l" & [Password])
```

NETT-FTPDisconnect

Once you complete whatever functions you are doing on the FTP server, you can issue the FTPDisconnect command to disconnect from the server.

```
External("JAVB-Command", "NETT-FTPDisconnect")
```

If you are connected to an FTP server when FileMaker quits, NetTools will automatically issue this command for you.

NETT-FTPIsConnected

The FTPIsConnected function can be used to determine the current connection status of NetTools.

```
External("JAVB-Command", "NETT-FTPIsConnected")
```

The results of this plug-in function will be “YES” if it is currently connected or “No” if it is not.

NETT-FTPAscii

This function should be called before transferring a ASCII (text) file from or to the FTP server.

```
External("JAVB-Command", "NETT-FTPAscii")
```

NETT-FTPBinary

This function should be called before transferring a binary file from or to the FTP server.

```
External("JAVB-Command", "NETT-FTPBinary")
```

NETT-FTPUseActiveTransferMode

If you would like to communicate to the FTP server in active mode, you can use this function to specify so.

```
External("JAVB-Command", "NETT-FTPUseActiveTransferMode")
```

NETT-FTPUsePassiveTransferMode

If you would like to communicate to the FTP server in passive mode, you can use this function to specify so.

```
External("JAVB-Command", "NETT-FTPUsePassiveTransferMode")
```

NETT-FTPGetTransferMode

This function can be used to determine the transfer mode currently being used by the FTP server.

```
External("JAVB-Command", "NETT-FTPGetTransferMode")
```

The results of this function will either be “Active” or “Passive”.

NETT-FTPStoreFile

Once you are connected to an FTP server, you can use this command to upload a local file to the FTP server.

```
External("JAVB-Command", "NETT-FTPStoreFile" & "I" & [Local File Path]
& "I" & [Remote File Path])
```

If no remote path is specified, it will upload to the FTP server's current working directory as the local file's name.

It's recommended that you use the FTPAscii or FTPBinary functions to ensure the file is properly uploaded.

NETT-FTPStoreData

Once you are connected to an FTP server, you can use this command to upload static data to the FTP server.

```
External("JAVB-Command", "NETT-FTPStoreData" & "I" & [Remote File
Path] & "I" & [String Of Data])
```

NETT-FTPRetrieveFile

After you have connected to an FTP server, you can use this command to download a remote file from the FTP server to your local machine.

```
External("JAVB-Command", "NETT-FTPRetrieveFile" & "I" & [Remote File
Path] & "I" & [Local File Path] & "I" & [Replace])
```

It's recommended that you use the FTPAscii or FTPBinary functions to ensure the file is properly downloaded.

NETT-FTPRetrieveData

Once you are connected to an FTP server, you can use this command to download static data

```
External("JAVB-Command", "NETT-FTPRetrieveData" & "|" & [Remote File Path])
```

The results of this function will be the remote file contents.

NETT-FTPMakeDirectory

If you would like to create a directory, on the remote FTP server, you can do so with this command.

```
External("JAVB-Command", "NETT-FTPMakeDirectory" & "|" & [New Directory Name])
```

NETT-FTPRemoveFile

This function allows you to delete a file from a remote FTP server.

```
External("JAVB-Command", "NETT-FTPRemoveFile" & "|" & [Remote File Path])
```

NETT-FTPRemoveDirectory

This function allows you to delete an entire directory from a remote FTP server.

```
External("JAVB-Command", "NETT-FTPRemoveDirectory" & "I" & [Remote  
Directory Path] & "I" & [Recursive])
```

The recursive option should be “True” or False”. Normally FTP servers will not delete a directory if it contains files. This option will set NetTools to delete all the files within the directory before it deletes the directory.

Warning: This command has the potential to do a lot of damage, since files and directories cannot be undeleted.

NETT-FTPChangeDirectory

You can use this function to change the working directory on a remote FTP server.

```
External("JAVB-Command", "NETT-FTPChangeDirectory" & "I" & [Directory  
Name])
```

NETT-FTPChangeToParentDirectory

When you call this function, the current working directory on the FTP server that you are connected to is set to the current directory's parent.

```
External("JAVB-Command", "NETT-FTPChangeToParentDirectory")
```

NETT-FTPPrintWorkingDirectory

If you would like to determine the current working directory on the FTP server, you can use the function to do so.

```
External("JAVB-Command", "NETT-FTPPrintWorkingDirectory")
```

NETT-FTPGetSystemName

This function can be used to determine the system name of the remote FTP server.

```
External("JAVB-Command", "NETT-FTPGetSystemName")
```

NETT-FTPGetLastServerMessage

You are able to retrieve the last message given by the FTP server with this command.

```
External("JAVB-Command", "NETT-FTPGetLastServerMessage")
```

NETT-FTPLastReplyWasPositive

This function can be used to determine if the last server message was a positive reply or not.

```
External("JAVB-Command", "NETT-FTPLastReplyWasPositive")
```

The results of this function will be “YES” if the last server reply was positive in nature or “NO” if it was not.

NETT-FTPGetLastReplyCode

If you would like to know the last reply code from the FTP server, you can use this function to determine the code.

```
External("JAVB-Command", "NETT-FTPGetLastReplyCode")
```

NETT-FTPSendNoOp

This function will send the NOOP command to the FTP server that you are connected to.

```
External("JAVB-Command", "NETT-FTPSendNoOp")
```

NETT-FTPFileExists

This function can be used to determine if a file or directory exists on a remote FTP server.

```
External("JAVB-Command", "NETT-FTPFileExists" & "!" & [Remote File  
Path])
```

The results of this function will be “YES” if the file or directory exists or “NO” if it does not exist.

NETT-FTPRenameFile

If you wish to rename a file or directory on a remote FTP server, this function is the one you will want to use.

```
External("JAVB-Command", "NETT-FTPRenameFile" & "!" & [From Name]  
& "!" & [To Name])
```

NETT-FTPListFiles

This function will get a list the contents of a directory on a remote FTP server.

```
External("JAVB-Command", "NETT-FTPListFiles" & "!" & [Directory Name  
Or Path])
```

The results of this function will contain the number of items listed on the first line and the item names on the following lines. For example, it may return results that look like:

```
OK: 2  
FileOne.txt  
FileTwo.txt
```

NETT-FTPListFilesLongFormat

This NetTools function works exactly the same as FTPListFiles, except that it returns the file list in a long format.

```
External("JAVB-Command", "NETT-FTPListFilesLongFormat" & "!" &  
[Directory Name Or Path])
```

The results of this function will contain the number of items listed on the first line and the item names on the following lines. For example, it may return results that look like:

OK: 2

```
-rw-rw-r-- 1 user  site1    5033 Aug  4 2001 FileOne.txt
-rw-rw-r-- 1 user  site1    2236 Aug  4 2001 FileTwo.txt
```

NETT-FTPISDirectory

If you would like to determine if an item on an FTP server is a file or a directory, you can use this function.

```
External("JAVB-Command", "NETT-FTPISDirectory" & "I" & [File Name Or Path])
```

The results of this function will be “Yes” if the item is a directory or “No” if it is not.

NETT-FTPISSymbolicLink

If you would like to determine if an item on an FTP server is a symbolic link or not, this is the function to use.

```
External("JAVB-Command", "NETT-FTPISSymbolicLink" & "I" & [File Name Or Path])
```

The results of this function will be “Yes” if the item is a symbolic link or “No” if it is not.

NETT-FTPFileSize

If you would like to determine the size of an item on an FTP server, you can use this function if you would like.

```
External("JAVB-Command", "NETT-FTPFileSize" & "!" & [File Name Or Path])
```

The results of this function will return the size of the file in bytes.

NETT-FTPGetFileOwner

This function can be used to determine the owner of a file or directory on a remote FTP server.

```
External("JAVB-Command", "NETT-FTPGetFileOwner" & "!" & [File Name Or Path])
```

The results of this function will return the name of the owner of the file or directory.

NETT-FTPGetFileGroup

This function can be used to determine the group of a file or directory on a remote FTP server.

```
External("JAVB-Command", "NETT-FTPGetFileGroup" & "!" & [File Name Or Path])
```

The results of this function will return the name of the group of the file or directory.

Chapter 5: Other Functions

There are a few miscellaneous functions that NetTools supports. Those functions are outlined in this chapter.

NETT-EncodeBase64

Using this function, you can encode a string of text with Base64 encoding.

```
External("JAVB-Command", "NETT-EncodeBase64" & "!" & [Text To  
Encode])
```

NETT-DecodeBase64

Using this function, you can decode a string of text from Base64 encoding.

```
External("JAVB-Command", "NETT-DecodeBase64" & "!" & [Text To Decode])
```

NETT-Whois

This function will do a whois (typically a domain name lookup) query using the whois server specified.

```
External("JAVB-Command", "NETT-Whois" & "I" & [Query String] & "I" & [Whois Server])
```

The query string typically will be the domain name if you are doing a whois on a domain.

NETT-LookupAddress

If you need to determine the IP address for a hostname, you can use this function to do so.

```
External("JAVB-Command", "NETT-LookupAddress" & "I" & [Hostname or IP Address])
```

If you pass an IP address to the function, it will attempt to resolve the host name with a reverse DNS lookup.

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