

GrabHTTP

Serge Emond

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COLLABORATORS

	<i>TITLE :</i> GrabHTTP		
<i>ACTION</i>	<i>NAME</i>	<i>DATE</i>	<i>SIGNATURE</i>
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REVISION HISTORY

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Chapter 1

GrabHTTP

1.1 GrabHTTP.guide/Contents

GrabHTTP

Version 1.01

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1.2 GrabHTTP.guide/About English

A word or two about English

My primary language is French. I read English very well but I'm sure what I write is awful. Sorry about that.

I could write this in French but maybe you could not read it!

When I will have some free time I will write the docs in French too but that's not now!

1.3 GrabHTTP.guide/Introduction

Introduction

I'm writing GrabHTTP because I want to build an HTTP robot.

An HTTP robot is a program that can automatically download one or more files using HTTP. Then it can scan those files to search for references to other files that it download upon some conditions and so on...

GrabHTTP simply sits there and wait for ARexx commands when executed. Its main purpose is to download files using HTTP.

1.4 GrabHTTP.guide/Features

Features

- Not available yet - read the docs!

1.5 GrabHTTP.guide/Legal information

Legal information

License

No warranty

1.6 GrabHTTP.guide/License

License

GrabHTTP is released under the concept of freeware. This means you are allowed to use and copy this program freely, as long as the following requirements are fulfilled:

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If you want to publish this program on a cover disk or similar, contact me first for approval (to make sure you have the latest version etc). I then expect a copy of the issue in question in return (additional contributions are welcomed :).

1.7 GrabHTTP.guide/Legal issues/No warranty

No warranty

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1.8 GrabHTTP.guide/Requirements

Requirements

GrabHTTP needs at least OS v39 (3.0). It also requires AmiTCP 4.0+.

1.9 GrabHTTP.guide/History

What has been done

Version 0 Revision 1 - 16.8.1996 and before

- Nothing recorded.

Version 0 Revision 2 - 16.8.1996

- Checks if port already exists
- ARexx Command VERSION
- Read/write to socket not buffered anymore
- A lot of other unlogged stuff

Version 0 Revision 3 - 19.8.1996

- Replaced console output with window

Version 0 Revision 4 - 9.9.1996

- Now fully RFC-1945 compliant
 - Use HEAD instead of GET if HeaderOnly opt is used. (Smarter)
 - Does not enforce ifmodified anymore
 - More information when an error occurs
 - Strip CR/LF when using GetHeaderString()
 - Bug fixed in SetTimeZone: hours were directly added to mins (and not $\times 60$)
-

Version 0 Revision 5 - 10.9.1996

- Does not use TCP: anymore (yé!)

Version 0 Revision 6 - 7.12.1996

- New CLI option: write buffer size

Version 0 Revision 7 - 16.12.1996

- Should not add "index.html" randomly to the filename.
- New ARexx function: TRANSLATE

Version 0 Revision 8 - 6.1.1997

- Reports error 200 when a file is incomplete.
- Added option TouchDirs to the ARexx command [GetHTTPFile](#) .

Version 0 Revision 9 - 13.1.1997

- LF was removed when saving headers!
- Was writing NULLs in memory [not belonging to GrabHTTP] - Fixed
- At last! Close gadget works even when not receiving anything! (ie while looking up or remote host frozen) It really was a stupid error!

14.1.97 - I think it's time to use a real version number. (0.9 + 0.1 = 0.10...) There are bugs but it is more than stable on my system. => 0.9 -> 1.0

1.01 - 17.1.1997

- Fixed FreeMem twice when setting & then clearing EMail address/username
- Now supports HTTP authorization (See [SetAuth](#))

1.10 GrabHTTP.guide/What's next

What's Next - The To Do List

- Proxy support
- Use a separated process to grab a file
- Allow any number of grab with a single grabhttp started
- Allow different config structs for each process
- Completely font independant progress

1.11 GrabHTTP.guide/Bugs

Known Bugs

- None known (for now!)

1.12 GrabHTTP.guide/Credits

Credits GrabHTTP is completely written by [Serge Emond](#) . Since I could not access any RFC during this summer, I looked in GetURL.rexx to see how HTTP worked. Then I tried it with the only HTTP server I could use in my situation (no internet access :), aws 0.97. I now have RFC-1945 documentation and GrabHTTP has been completely revised to comply with it.

aws is a small but efficient HTTP server written by Mike Meyer. Have a look in FTP://max.physics.sunysb.edu/pub/amiga/amosaic/aws/.

GetURL.rexx is an ARexx script written by James Burton. Have a look on AmiNet. (comm/www/GetURL-1.06.lha)

1.13 GrabHTTP.guide/Author

About the author

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1.14 GrabHTTP.guide/MIME Types

MIME

What follows come directly from AWeb's HTML documentation:

MIME (Multipurpose Internet Mail Extensions) is a mechanism for specifying and describing the format of Internet message bodies. It was primarily designed for e-mail, but MIME types are used also to identify the type of data in the HTTP protocol, the most widely used protocol on the World Wide Web.

A MIME type consists of a type and a subtype. The type describes the major class of data, like text or image. The subtype is used for a subdivision of the major type into different formats, like GIF or JPEG images.

According to RFC 1521, the following official MIME types are defined:

TEXT/HTML

This is a document in the HTML hypertext format. Virtually all pages on the Web are in this format.

TEXT/PLAIN

This type is used for plain text documents (normally in ASCII).

APPLICATION/OCTET-STREAM

This describes a binary file. The file could be processed by some application. An example of this would be an LHA archive.

APPLICATION/POSTSCRIPT

The document is in PostScript format.

IMAGE/GIF

IMAGE/JPEG

These are images, in GIF and JPEG format.

AUDIO/BASIC

This type is used for audio data encoded using 8-bit ISDN mu-law [PCM].

VIDEO/MPEG

This is an animation in MPEG format.

In addition to these official types and subtypes, it is allowed to define extension MIME types and subtypes. These should start with X- to avoid collisions with future official MIME types.

1.15 GrabHTTP.guide/HTTP Protocol

1.16 GrabHTTP.guide/Progress Indicator

GrabHTTP's progress indicator looks like this:

Url: <url>

File: <file>

Size: <size> Actual: <actual>

Received: <received> Remaining: <remaining>

Status: <status> Chars/sec: <cps>

100%

Here's the meaning of each field:

<url>

This is the URL GrabHTTP is receiving.

<file>

This the name of the file the datas are saved.

<size>

This is the size of the file. If the remote server does not give this information, the field remains blank.

<received>

This is the number of bytes received.

<status>

This is the status of the transfert. Errors are reported here.

<actual>

This is the time the transfer took up to now.

<remaining>

This is the calculated remaining time.

<cps>

This is the rate at which we are receiving the file - number of bytes/sec.

<100%>

This the progress bar: it fills as we receive the file. It remaing completely blank if the size information is unknown.

You can hit the Close Gadget to abort the tranfert.

1.17 GrabHTTP.guide/Browsing Anonymously

Browsing Anonymously

An HTTP request can have a field containing email and name information about the user. This way, some people send their email address on every server they connect to. Most of the time it won't do anything but... there are twisted webmasters who use this information to send anoying emails ie to sell products.

If you want to see if your Web Browser sends such information without letting you knowing about it, have a look at this page: [HTTP://www.uiuc.edu/~ejk/WWW-privacy.html](http://www.uiuc.edu/~ejk/WWW-privacy.html).

By default GrabHTTP won't send any information about the user. In fact, there is absolutely no function allowing to grab any information from your system so you can be sure it won't send anything. :)

If you really want to send your email, there is an ARexx command allowing to do so. ([SetEMail](#))

You should have a look at the [Robot Guidelines](#) .

1.18 GrabHTTP.guide/Robot Guidelines

Robot Guidelines

If you did not read the [Browsing Anonymously](#) section, you should do it now.

GrabHTTP is a robot. This means it can download stuff and do things without any user around to check what it does.

If something goes wrong or if GrabHTTP annoys webmasters, they can complain to your internet provider (or the root of your network or anyone else) and you will be the one suffering from it.

Because of this, even if you like to be anonymous, it could be a very good idea to send your email at each request.

This way, server maintainers can contact you and start a dialogue on better terms than if you were hard to track down.

The choice is yours!

1.19 GrabHTTP.guide/This is BETA

This is a BETA release

This release is BETA. This means it has not been fully tested. I release it only because it seems stable and it works well on my computer. As stated in [legal issues](#) I may not be responsible for any damage caused by the use of this program.

1.20 GrabHTTP.guide/Arguments

Arguments

GrabHTTP can only be started from a Shell. It is pure and can be made resident.

You can break it at anytime by sending CTRL-C.

Text arguments

PORT Name of the ARexx port.

ACCEPT What type of file to accept.

FONT Name of the font to use.

FONTSIZE Size of the font to use.

WBUF Size of write buffer.

1.21 GrabHTTP.guide/Arguments/Port

Port (PORT)

It represents the name of the ARexx port GrabHTTP will use. The default port name is "GRABHTTP".

You should use an uppercase port so you won't have to enclose the port's name in quotes in your ARexx scripts.

See also:

[ARexx](#)

1.22 GrabHTTP.guide/Arguments/Accept

Accept (ACCEPT/K)

When given, it overwrites the default setting of "*/*". This represent the [MIME types](#) to accept. "*" means "all".

For example, if you only want to receive images, you can specify "image/*". If you only want to receive HTML files, specify "text/html".

The remote server may not know the type of a file and send it as text/plain (or something else).

1.23 GrabHTTP.guide/Arguments/Font

Font (F=FONT)

This is the font to use in the **progress display** . The default font is "topaz.font".

1.24 GrabHTTP.guide/Arguments/FontSize

FontSize (FS=FONTSIZE/N)

This is the size of the font to use in the **progress display** . The default size is 8.

1.25 GrabHTTP.guide/Arguments/WriteBufferSize

WBuf (WBUF/N)

This is the size of write buffer to use in bytes. GrabHTTP write to disk only when the buffer is full. If the given value is smaller than 2048 then 2048 is used. Default is 16k (16384 bytes).

1.26 GrabHTTP.guide/Using ARexx

Introduction

Each time a command is received, two things are set in the calling rexx script: the RC variable and a special variable named "GHRES". GHRES will be set to a NULL-string if nothing is to be returned so copy it if you want to use what's in it after calling another command.

At anytime you can receive one of these return-codes:

10 Command unknown/mispelled

15 Error setting secondary result variable (GHRES)

Here's a list of all ARexx commands supported:

GETBYTERECD

GETCPS

GETHEADERSTRING

GETHTTPFILE

GETSIZE

GETTICKS

QUIT

SETAUTH

SETDIR

SETEMAIL

SETMINSPACELEFT

SETTIMEZONE

TRANSLATE

1.27 GrabHTTP.guide/ARexx/GetByteRecd

NAME

GetByteRecd -- Get the number of bytes received during last transfer.

SYNOPSIS

GetByteRecd

FUNCTION

It returns the number of bytes received (and wrote to disk) during the last transfert.

ARGUMENTS

None.

RC

0 No error.

GHRES

Bytes received.

SEE ALSO

1.28 GrabHTTP.guide/ARexx/GetCPS

NAME

GetCPS -- Get the CPS rating of the last transfer.

SYNOPSIS

GetCPS

FUNCTION

Returns the CPS rating (characters per second) the speed of the last transfer. This is calculated by dividing the number of received bytes per the total time of transfert.

ARGUMENTS

None.

RC

0 No error.

GHRES

Contains the last CPS rating or 0 if no transfer yet or if it failed before any CPS rating could be calculated.

SEE ALSO

1.29 GrabHTTP.guide/ARexx/GetHeaderString

NAME

GetHeaderString -- Get information contained in header.

SYNOPSIS

GetHeaderString STRING

FUNCTION

This returns information contained in the header the remote host sent. An header is built this way:

```
HTTP/1.0 200 OK
```

```
Server: aws/0.97
```

```
Date: Sat, 17 Aug 1996 21:20:50 GMT
```

```
Content-Type: text/html
```

```
Last-Modified: Thu, 05 Oct 1995 23:54:06 GMT
```

```
Content-length: 456
```

```
(etc....)
```

The arguments specifies the left part of the string you want to know about. This is case insensitive. Example:

```
address grabhttp 'GetHeaderString sErV'
```

```
if rc ~= 0 then say ghres
```

```
else say 'No server information'
```

The above example would print the line "Server: aws/0.97" if this information is available.

Notes: · There is NO CR & LF.

· You can obtain the size of the file with this command but **GetSize** is more efficient.

ARGUMENTS

STRING

String to search. Default string: "HTTP/1.0"

RC

0 No error.

1 String not found.

5 Error parsing arguments.

GHRES

Contains the string requested.

SEE ALSO

GetSize

1.30 GrabHTTP.guide/ARexx/GetHTTPFile

NAME

GetHTTPFile -- Grab a file using HTTP transfer protocol.

SYNOPSIS

GetHTTPFile URL/A FileName/K MaxSize/N HeaderOnly/S IfModified/S Progress/S SaveHeader/S TouchDirs/S

FUNCTION

GetHTTPFile tells GrabHTTP to get a file and save it to disk.

ARGUMENTS

URL (string)

Required. Name of the URL to grab. Must begins with "HTTP://".

FileName (string)

Name of the file to save. If it ends with a slash ('/') then "index.html" will be added. All inexistent directories will be created. If not specified, a filename will be created from the URL given. In that former case there won't be any path, the file will be saved in the **current directory** . If the filename contains '#', it will be truncated.

MaxSize (int)

This sets the maximal number of bytes a file can have. If the file to receive is bigger, the transfer will be aborted immediately after receiving the header. In such a case, '106' will be returned in GHRES. If this value is not specified, or if it is set to 0, then there won't be any size-checking.

HeaderOnly (switch)

Tells GrabHTTP to get the header and to abort the transfer at the start of the file.

IfModified (switch)

GrabHTTP will send a "If-Modified-Since: " flag when sending the request. If the remote server support this, it will only send the file if it is newer than the file on disk. This flag is useless if the file is not present on disk. You should set correctly the **timezone** prior to use this flag.

Progress (switch)

When present, this tells GrabHTTP to display **progress information** about the actual file transfer.

SaveHeader (switch)

This tells GrabHTTP to save the header along with the file, or only the header if HeaderOnly is set. The filename for the header will be the same as for the file, with ".HDR" added.

TouchDirs (switch)

Tells GrabHTTP to "touch" the directories not created. (Ie set the date of old directories to now) (See opt FileName above)

RC

0 Result of the transfer in GHRES.

5 Failed to parse args.

GHRES

0 Everything went OK.

97 Failed to create socket.

98 Unable to alloc mem.

99 Unable to alloc mem.

100 Remote did not reported "200 OK". (See **GetHeaderString**)

101 Bad/unsupported transfert method. (Should begins with HTTP://)

102 Failed to open socket (Ie host does not exists, no answer).

103 Failed to send HTTP request.

104 Host not found (Lookup error).

105 Failed to create required directories.

106 File is too big (See MSize option).

107 Not enough space left on device (See **SetMinSpaceLeft**).

150 Error openning output file.

151 Written less bytes than received (error writing?).

161 Error reading header.

162 Error openning/writing header's file.

163 Header do not begin with "HTTP/1.".

164 Error allocating memory for header information (ie to use with [GetHeaderString](#))

200 File is incomplete: Server closed the link before the end of file.

201 User pressed CloseWindow gadget

SEE ALSO

1.31 [GrabHTTP.guide/ARexx/GetSize](#)

NAME

GetLastModified -- Get the size of the file.

SYNOPSIS

GetSize

FUNCTION

Returns the "Size:" field of the transfer header received during last transfer.

RC

0 No error.

GHRES

Contains the size of the file received or an empty string if this information wasn't given.

SEE ALSO

[GetHeaderString](#)

1.32 [GrabHTTP.guide/ARexx/GetTicks](#)

NAME

GetTicks -- Get the total time the transfer took.

SYNOPSIS

GetTicks

FUNCTION

Returns the total time the transfer took in ticks. One second contains 50 ticks.

ARGUMENTS

None.

RC

0 No error.

GHRES

Contains the time the transfer took in ticks.

SEE ALSO

1.33 GrabHTTP.guide/ARexx/Quit

NAME

Quit -- Makes GrabHTTP exit.

SYNOPSIS

Quit

FUNCTION

Upon reception, GrabHTTP will free all its memory, close all what is opened, and... quit.

ARGUMENTS

None.

RC

0 No error.

GHRES

Nothing.

SEE ALSO

1.34 GrabHTTP.guide/ARexx/SetAuth

NAME

SetAuth -- Set username & password for HTTP authorization.

SYNOPSIS

SetAuth USERKEY

FUNCTION

Set the username and password to use HTTP authorization. If not set, no auth information is sent.

You must supply the information this way:

[username]:[password]

("[" and "]" must not be included). The string then encoded using Base64 and is sent with every request until this command is called again with no parameter.

Only "Basic" authorization is supported. (Which is the only official authorization convention... see RFC-1945)

ARGUMENTS

UserKey (string)

String containing the username and the password separated with a colon (:).

RC

0 No error.

1 Failed to alloc memory to store authorization infos, no authorization used.

5 Failed to parse args.

GHRES

Nothing.

SEE ALSO

1.35 GrabHTTP.guide/ARexx/SetDir

NAME

SetDir -- Change GrabHTTP's current directory.

SYNOPSIS

SetDir DIRECTORY

FUNCTION

Makes GrabHTTP change its current directory. Saved files without complete path will be saved relatively to this directory. If no SetDir command is received, the current directory is the one where the program has been started.

ARGUMENTS

Directory (string)

Name of the directory to go to. It will not be created if it do not exists. If no directory is specified, it will go to "PROGDIR:".

RC

0 No error.

1 Failed to change directory.

5 Failed to parse args.

GHRES

Nothing.

SEE ALSO

1.36 GrabHTTP.guide/ARexx/SetEMail

NAME

SetEMail -- Set user information.

SYNOPSIS

SetEMail EMAIL

FUNCTION

Set user's email address. If not set, no user information will be sent and the user will be anonymous (see [Browsing anonymously](#)). The string should be something like:

```
"UserName <email@address>"
```

ARGUMENTS

EMail (string)

String containing name/email address of the user. If absent, user will stay anonymous.

RC

0 No error.

1 Failed to alloc memory to store email info, user is forced anonymous.

5 Failed to parse args.

GHRES

Nothing.

SEE ALSO

1.37 GrabHTTP.guide/ARexx/SetMinSpaceLeft

NAME

Set the minimal space to leave on device.

SYNOPSIS

SetMinSpaceLeft BYTES/N

FUNCTION

Set the minimal space that should be left on the device after reception of the file. If there is not enough space on the disk for the file, **GetHTTPFile** will return 107 in GHRES. This does not refer to **current directory**'s device but to the device that will contain the file. No checking is done if this is set to 0, which is the default.

ARGUMENTS

Bytes (int)

Number of bytes to keep free on the device receiving the file. The default is 0 (feature disabled).

RC

0 No error.

5 Failed to parse args.

GHRES

Nothing.

SEE ALSO

1.38 GrabHTTP.guide/ARexx/SetTimeZone

NAME

SetTimeZone -- Set local timezone information.

SYNOPSIS

SetTimeZone H=HOURS/N M=MINUTES/N

FUNCTION

Set the time you must add to the local time to obtain GMT time. This is currently only used when using the IfModified switch of **GetHTTPFile**. Minutes can range between -1440 and +1440 and hours between -24 and 24. The total time must not exceed ± 24 hours (± 1440 minutes). The default is EST5.

ARGUMENTS

Hours (int)

Number of hours to add to local time to obtain GMT. If absent, 5 is used.

Minutes (int)

Number of minutes to add to local time to obtain GMT. If absent, 0 is used.

RC

0 No error.

1 GMT cannot be more than 1 day far. Old value kept.

5 Failed to parse args.

GHRES

SEE ALSO

1.39 GrabHTTP.guide/ARexx/Translate

NAME

Translate -- Change some characters in a string.

SYNOPSIS

Translate STRING/A,TOKEN/A,TO/A

FUNCTION

Changes all characters TOKEN into TO in the string STRING. For example, if you give

```
TRANSLATE "Hey didlo!" "!ed" "_**x"
```

You would obtain:

```
H*y xixlo_
```

BE CAREFUL!! dos.library's ReadArgs is used to parse args. A single "*" is used as an escape character (I think!). You should enter "***". Since this also applies for the string to translate, the url name will probably be wrong if you don't transform "*" to "***".

Since "*" is used on most OS as a wildcard you should not encounter any url with "*" in it.

ARGUMENTS

String (string)

String to translate.

Tok (string)

"From" characters.

To (string)

"To" characters.

RC

0 No error. New string in GHRES.

1 "TOK" contains more characters than "TO".

5 Failed to parse args.

GHRES

If RC=0, contains translated string.

SEE ALSO
