TELNET(1) User's Reference Manual TELNET(1)

NAME

telnet ? user interface to the TELNET protocol

SYNOPSIS

telnet [options ...] [host [port]]

DESCRIPTION

The telnet command is used to communicate with another host using the TELNET protocol. If telnet is invoked without the host argument, it enters command mode, indicated by its prompt (telnet>). In this mode, it accepts and executes the commands listed below. If it is invoked with arguments, it performs an open command with those arguments.

OPTIONS

-4, --ipv4

Use IPv4 to connect to hosts.

-6, --ipv6

Use IPv6 to connect to hosts.

-8, --binary

Specifies an 8-bit data path. This causes an attempt to nego?

-L, --binary-output

Specifies an 8-bit data path on output. This causes the BINARY option to be negotiated on output.

-e, --escape escape-char

Sets the initial telnet escape character to escape-char. If escape-char is omitted, then there will be no escape character.

-E, --no-escape

Stops any character from being recognized as an escape charac? ter.

-a, --login

Attempt automatic login. Currently, this sends the user name via the USER variable of the ENVIRON option if supported by the remote system. The name used is that of the current user as returned by getlogin(2) if it agrees with the current user ID, otherwise it is the name associated with the user ID.

-K, --no-login

Specifies no automatic login to the remote system.

-l, --user user

derstands the ENVIRON option, then user will be sent to the re? mote system as the value for the variable USER. This option implies the -a option. This option may also be used with the open command.

-n, --trace tracefile

Opens tracefile for recording trace information. See the set tracefile command below.

-r, --rlogin

Specifies a user interface similar to rlogin(1). In this mode, the escape character is set to the tilde (~) character, unless modified by the -e option.

-c, --no-rc

Disables the reading of the user's .telnetrc file. (See the toggle skiprc command on this man page.)

-d, --debug

Sets the initial value of the debug toggle to TRUE

-x, --encrypt

Turns on encryption of the data stream if possible.

Disables the atype type of authentication.

-k, --realm realm

If Kerberos authentication is being used, the -k option re? quests that telnet obtain tickets for the remote host in realm realm instead of the remote host's realm, as determined by krb_realmofhost(3).

host Indicates the official name, an alias, or the Internet address of a remote host.

port Indicates a port number (address of an application). If a num? ber is not specified, the default telnet port is used.

OPERATION

When in rlogin mode, a line of the form ~. disconnects from the remote host; ~ is the telnet escape character. Similarly, the line ~^Z sus? pends the telnet session. The line ~^] escapes to the normal telnet escape prompt.

Once a connection has been opened, telnet will attempt to enable the TELNET LINEMODE option. If this fails, then telnet will revert to one of two input modes: either ?character at a time? or ?old line by line? depending on what the remote system supports.

When LINEMODE is enabled, character processing is done on the local system, under the control of the remote system. When input editing or character echoing is to be disabled, the remote system will relay that information. The remote system will also relay changes to any special characters that happen on the remote system, so that they can take ef? fect on the local system.

In ?character at a time? mode, most text typed is immediately sent to the remote host for processing.

In ?old line by line? mode, all text is echoed locally, and (normally) only completed lines are sent to the remote host. The ?local echo character? (initially ?^E?) may be used to turn off and on the local echo (this would mostly be used to enter passwords without the password being echoed).

If the LINEMODE option is enabled, or if the localchars toggle is TRUE (the default for ?old line by line?; see below), the user's quit, intr, and flush characters are trapped locally, and sent as TELNET protocol sequences to the remote side. If LINEMODE has ever been enabled, then the user's susp and eof are also sent as TELNET protocol sequences, and quit is sent as a TELNET ABORT instead of BREAK There are options (see toggle autoflush and toggle autosynch below) which cause this action to flush subsequent output to the terminal (until the remote host acknowl?

case of quit and intr).

While connected to a remote host, telnet command mode may be entered by typing the telnet ?escape character? (initially ?^]?). When in command mode, the normal terminal editing conventions are available.

The following telnet commands are available. Only enough of each com? mand to uniquely identify it need be typed (this is also true for argu? ments to the mode, set, toggle, unset, slc, environ, and display com? mands).

auth argument ...

The auth command manipulates the information sent through the TELNET AUTHENTICATE option. Valid arguments for the auth command are as follows:

disable type Disables the specified type of authentication.

To obtain a list of available types, use the auth disable ? command.

enable type Enables the specified type of authentication.

To obtain a list of available types, use the auth enable ? command.

of authentication.

close Close a TELNET session and return to command mode.

display argument ...

Displays all, or some, of the set and toggle values (see be? low).

encrypt argument ...

The encrypt command manipulates the information sent through the TELNET ENCRYPT option.

Note: Because of export controls, the TELNET ENCRYPT option is not supported outside of the United States and Canada.

Valid arguments for the encrypt command are as follows:

disable type [input|output]

Disables the specified type of encryption. If you omit the input and output, both input and output are disabled. To obtain a list of available types, use the encrypt disable ? command.

Enables the specified type of encryption. If you omit input and output, both input and out? put are enabled. To obtain a list of avail? able types, use the encrypt enable ? command.

input This is the same as the encrypt start input command.

-input This is the same as the encrypt stop input command.

output This is the same as the encrypt start output command.

-output This is the same as the encrypt stop output command.

start [input|output]

Attempts to start encryption. If you omit input and output, both input and output are enabled. To obtain a list of available types, use the encrypt enable ? command.

status Lists the current status of encryption.

stop [input|output]

Stops encryption. If you omit input and out?
put, encryption is on both input and output.

type type Sets the default type of encryption to be used
with later encrypt start or encrypt stop com?
mands.

environ arguments...

The environ command is used to manipulate the the variables
that my be sent through the TELNET ENVIRON option. The ini?
tial set of variables is taken from the users environment,
with only the DISPLAY and PRINTER variables being exported
by default. The USER variable is also exported if the -a or
-l options are used.
Valid arguments for the environ command are:

define variable value

Define the variable variable to have a value of
value. Any variables defined by this command are
automatically exported. The value may be en?
closed in single or double quotes so that tabs
and spaces may be included.

Remove variable from the list of environment variables.

export variable

Mark the variable variable to be exported to the remote side.

unexport variable

Mark the variable variable to not be exported unless explicitly asked for by the remote side.

list List the current set of environment variables. Those marked with a * will be sent automati? cally, other variables will only be sent if ex? plicitly requested.

? Prints out help information for the environ com? mand.

logout Sends the TELNET LOGOUT option to the remote side. This command is similar to a close command; however, if the re? mote side does not support the LOGOUT option, nothing hap? pens. If, however, the remote side does support the LOGOUT option, this command should cause the remote side to close

concept of suspending a user's session for later reattach? ment, the logout argument indicates that you should termi? nate the session immediately.

mode type Type is one of several options, depending on the state of the TELNET session. The remote host is asked for permission to go into the requested mode. If the remote host is capa? ble of entering that mode, the requested mode will be en? tered.

character Disable the TELNET LINEMODE option, or, if the remote side does not understand the LINEMODE option, then enter ?character at a time? mode.

line Enable the TELNET LINEMODE option, or, if the remote side does not understand the LINEMODE option, then attempt to enter ?old-line-by-line? mode.

isig (-isig) Attempt to enable (disable) the TRAPSIG mode of the LINEMODE option. This requires that the LINEMODE option be enabled.

edit (-edit) Attempt to enable (disable) the EDIT mode of

LINEMODE option be enabled.

softtabs (-softtabs)

Attempt to enable (disable) the SOFT_TAB mode of the LINEMODE option. This requires that the LINEMODE option be enabled.

litecho (-litecho)

Attempt to enable (disable) the LIT_ECHO mode of the LINEMODE option. This requires that the LINEMODE option be enabled.

? Prints out help information for the mode com? mand.

open host [[-l] user][- port]

Open a connection to the named host. If no port number is specified, telnet will attempt to contact a TELNET server at the default port. The host specification may be either a host name (see hosts(5)) or an Internet address specified in the ?dot notation? (see inet(3)). The [-l] option may be used to specify the user name to be passed to the remote system via the ENVIRON option. When connecting to a non-standard port, telnet omits any automatic initiation of

sign, the initial option negotiation is done. After estab? lishing a connection, the file .telnetrc in the users home directory is opened. Lines beginning with a # are comment lines. Blank lines are ignored. Lines that begin without white space are the start of a machine entry. The first thing on the line is the name of the machine that is being connected to. The rest of the line, and successive lines that begin with white space are assumed to be telnet com? mands and are processed as if they had been typed in manu? ally to the telnet command prompt.

quit Close any open TELNET session and exit telnet. An end of file (in command mode) will also close a session and exit.

send arguments

Sends one or more special character sequences to the remote host. The following are the arguments which may be speci? fied (more than one argument may be specified at a time):

abort Sends the TELNET ABORT (Abort processes) sequence.

ao Sends the TELNET AO (Abort Output) sequence, which should cause the remote system to flush all output from the remote system to the user's terminal.

ayt Sends the TELNET AYT (Are You There) sequence, to which the remote system may or may not choose to re? spond.

brk Sends the TELNET BRK (Break) sequence, which may have significance to the remote system.

ec Sends the TELNET EC (Erase Character) sequence, which should cause the remote system to erase the last character entered.

el Sends the TELNET EL (Erase Line) sequence, which should cause the remote system to erase the line currently being entered.

eof Sends the TELNET EOF (End Of File) sequence.

eor Sends the TELNET EOR (End of Record) sequence.

escape Sends the current telnet escape character (initially ?^?).

ga Sends the TELNET GA (Go Ahead) sequence, which likely has no significance to the remote system.

getstatus

If the remote side supports the TELNET STATUS com? mand, getstatus will send the subnegotiation to re? quest that the server send its current option sta? tus.

ip Sends the TELNET IP (Interrupt Process) sequence, which should cause the remote system to abort the currently running process.

nop Sends the TELNET NOP (No OPeration) sequence.

susp Sends the TELNET SUSP (SUSPend process) sequence.

synch Sends the TELNET SYNCH sequence. This sequence causes the remote system to discard all previously typed (but not yet read) input. This sequence is sent as TCP urgent data (and may not work if the re? mote system is a 4.2BSD system -- if it doesn't work, a lower case ?r? may be echoed on the termi? nal).

do cmd

will cmd

wont cmd

Sends the TELNET DO cmd sequence. Cmd can be either a decimal number between 0 and 255, or a symbolic name for a specific TELNET command. Cmd can also be either help or ? to print out help information, in? cluding a list of known symbolic names.

? Prints out help information for the send command.

set argument value

unset argument value

The set command will set any one of a number of telnet vari? ables to a specific value or to TRUE. The special value off turns off the function associated with the variable, this is equivalent to using the unset command. The unset command will disable or set to FALSE any of the specified functions. The values of variables may be interrogated with the display command. The variables which may be set or unset, but not toggled, are listed here. In addition, any of the variables for the toggle command may be explicitly set or unset using

ayt If TELNET is in localchars mode, or LINEMODE is en? abled, and the status character is typed, a TELNET AYT sequence (see send ayt preceding) is sent to the remote host. The initial value for the "Are You There" character is the terminal's status character.

echo This is the value (initially ?^E?) which, when in ?line by line? mode, toggles between doing local echoing of entered characters (for normal process? ing), and suppressing echoing of entered characters (for entering, say, a password).

eof If telnet is operating in LINEMODE or ?old line by line? mode, entering this character as the first character on a line will cause this character to be sent to the remote system. The initial value of the eof character is taken to be the terminal's eof character.

erase If telnet is in localchars mode (see toggle localchars below), and if telnet is operating in ?character at a time? mode, then when this character is typed, a TELNET EC sequence (see send ec above)

the erase character is taken to be the terminal's erase character.

escape This is the telnet escape character (initially ?^[?) which causes entry into telnet command mode (when connected to a remote system).

flushoutput

If telnet is in localchars mode (see toggle localchars below) and the flushoutput character is typed, a TELNET AO sequence (see send ao above) is sent to the remote host. The initial value for the flush character is taken to be the terminal's flush character.

forw1

forw2 If TELNET is operating in LINEMODE, these are the characters that, when typed, cause partial lines to be forwarded to the remote system. The initial value for the forwarding characters are taken from the terminal's eol and eol2 characters.

interrupt

localchars below) and the interrupt character is typed, a TELNET IP sequence (see send ip above) is sent to the remote host. The initial value for the interrupt character is taken to be the terminal's intr character.

kill If telnet is in localchars mode (see toggle localchars below), and if telnet is operating in ?character at a time? mode, then when this character is typed, a TELNET EL sequence (see send el above) is sent to the remote system. The initial value for the kill character is taken to be the terminal's kill character.

lnext If telnet is operating in LINEMODE or ?old line by line? mode, then this character is taken to be the terminal's lnext character. The initial value for the lnext character is taken to be the terminal's lnext character.

quit If telnet is in localchars mode (see toggle localchars below) and the quit character is typed, a TELNET BRK sequence (see send brk above) is sent to the remote host. The initial value for the quit

ter.

reprint

If telnet is operating in LINEMODE or ?old line by line? mode, then this character is taken to be the terminal's reprint character. The initial value for the reprint character is taken to be the terminal's reprint character.

rlogin This is the rlogin escape character. If set, the normal TELNET escape character is ignored unless it is preceded by this character at the beginning of a line. This character, at the beginning of a line followed by a "." closes the connection; when fol? lowed by a ^Z it suspends the telnet command. The initial state is to disable the rlogin escape char? acter.

start If the TELNET TOGGLE-FLOW-CONTROL option has been enabled, then this character is taken to be the ter? minal's start character. The initial value for the kill character is taken to be the terminal's start character.

enabled, then this character is taken to be the ter? minal's stop character. The initial value for the kill character is taken to be the terminal's stop character.

susp If telnet is in localchars mode, or LINEMODE is en? abled, and the suspend character is typed, a TELNET SUSP sequence (see send susp above) is sent to the remote host. The initial value for the suspend character is taken to be the terminal's suspend character.

tracefile

This is the file to which the output, caused by netdata or option tracing being TRUE, will be writ? ten. If it is set to ?-?, then tracing information will be written to standard output (the default).

worderase

If telnet is operating in LINEMODE or ?old line by line? mode, then this character is taken to be the terminal's worderase character. The initial value for the worderase character is taken to be the ter? minal's worderase character.

? Displays the legal set (unset) commands.

slc state The slc command (Set Local Characters) is used to set or change the state of the the special characters when the TELNET LINEMODE option has been enabled. Special characters are characters that get mapped to TELNET commands sequences (like ip or quit) or line editing characters (like erase and kill). By default, the local special characters are ex? ported.

check Verify the current settings for the current spe? cial characters. The remote side is requested to send all the current special character set? tings, and if there are any discrepancies with the local side, the local side will switch to the remote value.

export Switch to the local defaults for the special characters. The local default characters are those of the local terminal at the time when telnet was started.

import Switch to the remote defaults for the special characters. The remote default characters are

TELNET connection was established.

? Prints out help information for the slc command.

status Show the current status of telnet. This includes the peer one is connected to, as well as the current mode.

toggle arguments ...

Toggle (between TRUE and FALSE) various flags that control how telnet responds to events. These flags may be set ex? plicitly to TRUE or FALSE using the set and unset commands listed above. More than one argument may be specified. The state of these flags may be interrogated with the display command. Valid arguments are:

authdebug Turns on debugging information for the authen? tication code.

autoflush If autoflush and localchars are both TRUE, then when the ao, or quit characters are rec? ognized (and transformed into TELNET se? quences; see set above for details), telnet refuses to display any data on the user's ter? minal until the remote system acknowledges

processed those TELNET sequences. The initial value for this toggle is TRUE if the terminal user had not done an "stty noflsh", otherwise FALSE (see stty(1)).

autodecrypt When the TELNET ENCRYPT option is negotiated, by default the actual encryption (decryption) of the data stream does not start automati? cally. The autoencrypt (autodecrypt) command states that encryption of the output (input) stream should be enabled as soon as possible.

Note: Because of export controls, the TELNET ENCRYPT option is not supported outside the United States and Canada.

autologin If the remote side supports the TELNET AUTHENTICATION option TELNET attempts to use it to perform automatic authentication. If the AUTHENTICATION option is not supported, the user's login name are propagated through the TELNET ENVIRON option. This command is the same as specifying a option on the open command.

autosynch If autosynch and localchars are both TRUE, then when either the intr or quit characters is typed (see set above for descriptions of the intr and quit characters), the resulting TELNET sequence sent is followed by the TELNET SYNCH sequence. This procedure should cause the remote system to begin throwing away all previously typed input until both of the TELNET sequences have been read and acted upon. The initial value of this toggle is FALSE.

binary Enable or disable the TELNET BINARY option on both input and output.

inbinary Enable or disable the TELNET BINARY option on input.

outbinary Enable or disable the TELNET BINARY option on output.

crlf If this is TRUE, then carriage returns will be sent as <CR><LF>. If this is FALSE, then car? riage returns will be send as <CR><NUL>. The

crmod Toggle carriage return mode. When this mode is enabled, most carriage return characters received from the remote host will be mapped into a carriage return followed by a line feed. This mode does not affect those charac? ters typed by the user, only those received from the remote host. This mode is not very useful unless the remote host only sends car? riage return, but never line feed. The ini? tial value for this toggle is FALSE.

debug Toggles socket level debugging (useful only to the super user). The initial value for this toggle is FALSE.

encdebug Turns on debugging information for the encryp? tion code.

localchars If this is TRUE, then the flush, interrupt, quit, erase, and kill characters (see set above) are recognized locally, and transformed into (hopefully) appropriate TELNET control sequences (respectively ao, ip, brk, ec, and

this toggle is TRUE in ?old line by line? mode, and FALSE in ?character at a time? mode. When the LINEMODE option is enabled, the value of localchars is ignored, and assumed to al? ways be TRUE. If LINEMODE has ever been en? abled, then quit is sent as abort, and eof and suspend are sent as eof and susp, see send above).

netdata Toggles the display of all network data (in hexadecimal format). The initial value for this toggle is FALSE.

options Toggles the display of some internal telnet protocol processing (having to do with TELNET options). The initial value for this toggle is FALSE.

prettydump When the netdata toggle is enabled, if prettydump is enabled the output from the netdata command will be formatted in a more user readable format. Spaces are put between each character in the output, and the begin? ning of any TELNET escape sequence is preceded

skiprc When the skiprc toggle is TRUE, TELNET skips the reading of the .telnetrc file in the users home directory when connections are opened. The initial value for this toggle is FALSE.

termdata Toggles the display of all terminal data (in hexadecimal format). The initial value for this toggle is FALSE.

verbose_encrypt
When the verbose_encrypt toggle is TRUE, TELNET prints out a message each time encryp? tion is enabled or disabled. The initial value for this toggle is FALSE. Note: Because of export controls, data encryption is not supported outside of the United States and Canada.

? Displays the legal toggle commands.

z Suspend telnet. This command only works when the user is using the csh(1).

Execute a single command in a subshell on the local system.

If command is omitted, then an interactive subshell is in?

voked.

? [command]

Get help. With no arguments, telnet prints a help summary.

If a command is specified, telnet will print the help infor?

mation for just that command.

ENVIRONMENT

telnet uses at least the HOME, SHELL, DISPLAY, and TERM environment variables. Other environment variables may be propagated to the other side via the TELNET ENVIRON option.

FILES

~/.telnetrc user customized telnet startup values

HISTORY

The telnet command appeared in 4.2BSD.

NOTES

On some remote systems, echo has to be turned off manually when in ?old line by line? mode.

only recognized (and sent to the remote system) when it is the first character on a line.