NAME

telnet – user interface to a remote system using the TELNET protocol

SYNOPSIS

telnet [–**8ELcdr**] [**-e** *escape_char*] [**-l** *user*] [**-n** *file*] [*host* [*port*]]

AVAILABILITY

SUNWcsu

DESCRIPTION

telnet communicates with another host using the TELNET protocol. If **telnet** is invoked without arguments, it enters command mode, indicated by its prompt **telnet>**. In this mode, it accepts and executes its associated commands. (See "TELNET Commands" below.) If it is invoked with arguments, it performs an **open** command with those arguments.

Once a connection has been opened, **telnet** enters input mode. In this mode, text typed is sent to the remote host. The input mode entered will be either "line mode," "character at a time," or "old line by line," depending on what the remote system supports.

In line mode, 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 effect 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. (Use this mostly to enter passwords without the password being echoed.).

If the "line mode" option is enabled, or if the *localchars* toggle is TRUE (the default in "old line by line" mode), the user's **quit**, **intr**, and **flush** characters are trapped locally, and sent as TELNET protocol sequences to the remote side. If "line mode" has ever been enabled, then the user's **susp** and **eof** are also sent as TELNET protocol sequences. **quit** is then sent as a TELNET ABORT instead of BREAK. The options **toggle autoflush**, and **toggle autosynch** cause this action to flush subsequent output to the terminal (until the remote host acknowledges the TELNET sequence) and flush previous terminal input, in the case of **quit** and **intr**.

While connected to a remote host, the user can enter **telnet** command mode by typing the **telnet** escape character (initially **^]**). When in command mode, the normal terminal editing conventions are available.

OPTIONS

–8 Specifies an 8-bit data path. Negotiating the TELNET BINARY option is attempted for both input and output.

–E Stops any character from being recognized as an escape character.

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

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

–d Sets the initial value of the **debug** toggle to true.

–e *escape_char*
Sets the initial escape character to *escape_char*. *Escape_char* may also be a two character sequence consisting of '^' followed by one character. If the second character is '?', the DEL character is selected. Otherwise the second character is converted to a control character and used as the escape character. If the escape character is the null string, (i.e. -e ''), it is disabled.

–l *user* When connecting to a remote system that understands the **ENVIRON** option, then **user** will be sent to the remote system as the value for the variable USER.

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

–r Specifies a user interface similar to **rlogin**. In this mode, the escape character is set to the tilde (~) character, unless modified by the -e option. The **rlogin** escape character is only recognized when it is preceded by a carriage return. In this mode, the **telnet** escape character, normally '**^]**', must still precede a **telnet** command. The **rlogin** escape character can also be followed by '**.\r**' or '**^Z**', and, like **rlogin**(1), closes or suspends the connection, respectively. This option is an uncommitted interface and may change in the future.

USAGE

telnet Commands

The commands described in this section are available with **telnet**. It is necessary to type only enough of each command to uniquely identify it. (This is also true for arguments to the **mode**, **set**, **toggle**, **unset**, **environ**, and **display** commands.)

open [**-l** *user*] *host* [*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**(4)) or an Internet address specified in the "dot notation" (see **inet**(7P)). The **-l** option passes the *user* as the value of the **ENVIRON** variable **USER** to the remote system.

close Close any open TELNET session and exit **telnet**. An EOF (in command mode) will also close a session and exit.

quit Same as **close**, above.

z Suspend **telnet**. This command only works when the user is using a shell that supports job control, such as **sh**(1).

mode *type*
The remote host is asked for permission to go into the requested mode. If the remote host is capable of entering that mode, the requested mode will be entered. *Type* is one of:

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 the LINEMODE option. This requires that the 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** command.

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

display [*argument*. . .]
Display all, or some, of the **set** and **toggle** values (see **toggle**, *arguments*).

? [*command*]
Get help. With no arguments, **telnet** prints a help summary. If a command is specified, **telnet** will print the help information for just that command.

send*arguments*
Send one or more special character sequences to the remote host. The following are the arguments that can be specified: (More than one argument may be specified at a time.)

escape Send the current **telnet** escape character (initially ^]).

synch Send the TELNET SYNCH sequence. This sequence discards all previously typed, but not yet read, input on the remote system. This sequence is sent as TCP urgent data and may not work if the remote system is a 4.2 BSD system. If it does not work, a lower case ’r’ may be echoed on the terminal.

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

ip Send the TELNET IP (Interrupt Process) sequence, which aborts the currently running process on the remote system.

abort Send the TELNET ABORT (abort process) sequence.

ao Send the TELNET AO (Abort Output) sequence, which flushes all output from the remote system to the user's terminal.

ayt Send the TELNET AYT (Are You There) sequence, to which the remote system may or may not respond.

ec Send the TELNET EC (Erase Character) sequence, which erases the last character entered.

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

eof Send the TELNET EOF (end of file) sequence.

eor Send the TELNET EOR (end of record) sequence.

ga Send the TELNET GA (Go Ahead) sequence, which probably has no significance for the remote system.

getstatus
If the remote side supports the TELNET STATUS command, **getstatus** will send the subnegotiation to request that the server send its current option status.

nop Send the TELNET NOP (No Operation) sequence.

susp Send the TELNET SUSP (suspend process) sequence.

do *option*

dont *option*

will *option*

wont *option*
Send the TELNET protocol option negotiation indicated. Option may be the text name of the protocol option, or the number corresponding to the option. The command will be silently ignored if the option negotiation indicated is not valid in the current state. If the *option* is given as 'help' or '?', the list of option names known is listed. This command is mostly useful for unusual debugging situations.

? Print out help information for the **send** command.

set *argument* [*value*]

unset *argument*
Set any one of a number of **telnet** variables to a specific value. The special value "off" turns off the function associated with the variable. The values of variables may be interrogated with the **display** command. If *value* is omitted, the value is taken to be true, or "on." If the **unset** form is used, the value is taken to be false, or "off." The variables that may be specified are:

echo This is the value (initially **^E**) that, when in "line by line" mode, toggles between local echoing of entered characters for normal processing, and suppressing echoing of entered characters, for example, entering a password.

escape This is the **telnet** escape character (initially **^]**), which enters **telnet**

command mode when connected to a remote system.

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

quit If **telnet** is in **localchars** mode and the **quit** character is typed, a TELNET BRK sequence (see **send**, **brk**) is sent to the remote host. The initial value for the quit character is taken to be the terminal's **quit** character.

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

erase If **telnet** is in **localchars** mode *and* operating in "character at a time" mode, then when the **erase** character is typed, a TELNET EC sequence (see **send**, **ec**) is sent to the remote system. The initial value for the **erase** character is taken to be the terminal's **erase** character.

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

eof If **telnet** is operating in "line by line" mode, entering the **eof** character as the first character on a line sends this character to the remote system. The initial value of **eof** is taken to be the terminal's **eof** character.

ayt If **telnet** is in **localchars** mode, or LINEMODE is enabled, and the status character is typed, a TELNET AYT ("Are You There") sequence is sent to the remote host. (See **send ayt** above.) The initial value for **ayt** is the terminal's status character.

forw1

forw2 If **telnet** is operating in LINEMODE, and the **forw1** or **forw2** characters are typed, this causes the forwarding of partial lines to the remote system. The initial values for the forwarding characters comes from the terminal's **eol** and **eol2** characters.

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

reprint If **telnet** is operating in LINEMODE or "old line by line" mode, then the **reprint** character is assumed to be the terminal's **reprint** character. The initial value for **reprint** 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. The **rlogin** character, at the beginning of a line followed by a '.' closes the connection. When followed by a **^Z**, the **rlogin** command suspends the **telnet** command. The initial state is to disable the **rlogin** escape character.

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

stop If the TELNET TOGGLE-FLOW-CONTROL option has been enabled, then the **stop** character is taken to be the terminal'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 enabled, 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 the **netdata** or the **debug** option being TRUE, will be written. 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 terminal's **worderase** character.

? Displays the legal **set** and **unset** commands.

slc *state* The **slc** (Set Local Characters) command is used to set or change the state of 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 exported.

check Verifies the settings for the current special characters. The remote side is requested to send all the current special character settings. If there are any discrepancies with the local side, the local settings will switch to the remote values.

export Switches 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 Switches to the remote defaults for the special characters. The remote default characters are those of the remote system at the time when the TELNET connection was established.

? Prints out help information for the **slc** command.

toggle *arguments*. . .

Toggle between TRUE and FALSE the various flags that control how **telnet** responds to events. More than one argument may be specified. The state of these flags may be interrogated with the **display** command. Valid arguments are:

autoflush
If **autoflush** and **localchars** are both TRUE, then when the **ao**, **intr**, or **quit** characters are recognized (and transformed into TELNET sequences; see **set** for details), **telnet** refuses to display any data on the user's terminal until the remote system acknowledges (using a TELNET Timing Mark option) that it has processed those TELNET sequences. The initial value for this toggle is TRUE if the terminal user has not done an "stty noflsh." Otherwise, the value is FALSE (see **stty**(1)).

autosynch
If **autosynch** and **localchars** are both TRUE, then when either the **interrupt** or **quit** characters are typed (see **set** for descriptions of **interrupt** and **quit**), 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 Determines how carriage returns are sent. If the value is TRUE, then carriage returns will be sent as <CR><LF>. If this is FALSE, then carriage returns will be send as <CR><NUL>. The initial value for this toggle is FALSE.

crmod Toggle RETURN mode. When this mode is enabled, most RETURN characters received from the remote host will be mapped into a RETURN followed by a line feed. This mode does not affect those characters typed by the user, only those received from the remote host. This mode is useful only for remote hosts that send RETURN, but never send LINEFEED. The initial value for this toggle is FALSE.

debug Toggle socket level debugging (only available to the superuser). The initial value for this toggle is FALSE.

localchars
If this toggle is TRUE, then the **flush**, **interrupt**, **quit**, **erase**, and **kill** characters (see **set**) are recognized locally, and transformed into appropriate TELNET control sequences, respectively **ao**, **ip**, **brk**, **ec**, and **el** (see **send**). The initial value for this toggle is TRUE in "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 always be TRUE. If LINEMODE has ever been enabled, then **quit** is sent as **abort**, and **eof** and **suspend** are sent as **eof** and **susp** (see **send** above).

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

options
Toggle 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. The beginning of any TELNET escape sequence is preceded by an asterisk (*) to aid in locating them.

skiprc When the **skiprc** toggle is TRUE, TELNET skips the reading of the **.telnetrc** file in the user’s 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.

? Display the legal **toggle** commands.

environ *arguments...*
The **environ** command is used to manipulate variables that may be sent through the TELNET ENVIRON option. The initial set of variables is taken from the users environment. Only the **DISPLAY** and **PRINTER** variables are exported by default.
Valid arguments for the **environ** command are:

define *variable value*
Define *variable* to have a value of *value*. Any variables defined by this command are automatically exported. The *value* may be enclosed in single or double quotes, so that tabs and spaces may be included.

undefine *variable*
Remove *variable* from the list of environment variables. **export** *variable*

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

unexport *variable*
Mark the *variable* to not be exported unless explicitly requested by the remote side.

list List the current set of environment variables. Those marked with an asterisk (*) will be sent automatically. Other variables will be sent only if explicitly requested.

? Prints out help information for the **environ** command.

logout Sends the **telnet logout** option to the remote side. This command is similar to a **close** command. However, if the remote side does not support the **logout** option, nothing happens. If, however, the remote side does support the **logout** option, this command should cause the remote side to close the TELNET connection. If the remote side also supports the concept of suspending a user's session for later reattachment, the **logout** argument indicates that the remote side should terminate the session immediately.

FILES

$HOME/.telnetrc

SEE ALSO

rlogin(1), **sh**(1), **stty**(1), **hosts**(4), **inet**(7P)

NOTES

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

In “old line by line“ mode, or LINEMODE the terminal's EOF character is only recognized (and sent to the remote system) when it is the first character on a line.