Linux

CLinux   ....

....

WaterElement(UnChanged) 20141209 23:29:51

```c
1  #include <stdio.h>
2  #include <unistd.h>
3
4  int main(int argc, char *argv[]) {
5      FILE *fp = fdopen(STDIN_FILENO, "r");
6      setvbuf(fp, NULL, _IONBF, 0);
7      char buffer[20];
8      buffer[0] = 0;
9      fgets(buffer, 20, fp);
10     printf("buffer is:%s", buffer);
11      return 0;
12 }
```

fgets

....

linux

1. xterm
2. (xterm) pty1
3. pty1 stdin
4. c stdin

4 3

pty:

1.
2. (BackSpace)(Delete)
3. stdin

http://en.wikipedia.org/wiki/Cooked_mode

Linux/Unixptyraw raw
readline Home/End ncurses
raw/

http://en.wikipedia.org/wiki/POSIX_terminal_interface#History

Ctrl-C SIGINT Ctrl-D EOF 3

Ctrl-Shift-C 2

Linux/unix Windows

1. cmd Win32
2. Win32 cmd
3. cmd

Windowsraw

strace

WaterElement(UnChanged) 20141210
21:53:54

FC

strace read abc

```
1  read(0, abc
2  "a", 1)
  = 1
3  read(0, "b", 1)
          = 1
4  read(0, "c", 1)
          = 1
5  read(0, "\n", 1)
          = 1
```

read

```
1  read(0, abc
2  "abc\n", 1024)
  = 4
```

raw mode
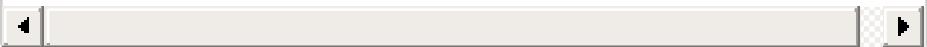
Ctty

raw mode

```
1  #include <stdio.h>
2  #include <unistd.h>
3  #include <termios.h>
4
5  static int ttyfd = STDIN_FILENO;
6  static struct termios orig_termios;
7
8  /* reset tty - useful also for resto
ring the terminal when this process
9     wishes to temporarily relinquish
the tty
10  */
11  int tty_reset(void){
12      /* flush and reset */
13      if (tcsetattr(ttyfd,TCSAFLUSH,&o
rig_termios) < 0) return -1;
14      return 0;
15  }
16
17
18  /* put terminal in raw mode - see te
rmio(7I) for modes */
19  void tty_raw(void)
20  {
21      struct termios raw;
22
23      raw = orig_termios;  /* copy ori
ginal and then modify below */
24
25      /* input modes - clear indicated
 ones giving: no break, no CR to NL,
```

```
26            no parity check, no strip cha
r, no start/stop output (sic) control */

27      raw.c_iflag &= ~(BRKINT | ICRNL |
 INPCK | ISTRIP | IXON);
28
29      /* output modes - clear giving:
no post processing such as NL to CR+NL
*/
30      raw.c_oflag &= ~(OPOST);
31
32      /* control modes - set 8 bit cha
rs */
33      raw.c_cflag |= (CS8);
34
35      /* local modes - clear giving: e
choing off, canonical off (no erase with

36            backspace, ^U,...),  no exten
ded functions, no signal chars (^Z,^C)
*/
37      raw.c_lflag &= ~(ECHO | ICANON |
IEXTEN | ISIG);
38
39      /* control chars - set return co
ndition: min number of bytes and timer
*/
40      raw.c_cc[VMIN] = 5; raw.c_cc[VTI
ME] = 8; /* after 5 bytes or .8 seconds
41
             after first byte seen
*/
```

```
42      raw.c_cc[VMIN] = 0; raw.c_cc[VTI
ME] = 0; /* immediate - anything
*/
43      raw.c_cc[VMIN] = 2; raw.c_cc[VTI
ME] = 0; /* after two bytes, no timer
*/
44      raw.c_cc[VMIN] = 0; raw.c_cc[VTI
ME] = 8; /* after a byte or .8 seconds
*/
45
46      /* put terminal in raw mode afte
r flushing */
47      tcsetattr(ttyfd,TCSAFLUSH,&raw);
48  }
49
50
51  int main(int argc, char *argv[]) {
52      atexit(tty_reset);
53      tty_raw();
54      FILE *fp = fdopen(ttyfd, "r");
55      setvbuf(fp, NULL, _IONBF, 0);
56      char buffer[20];
57      buffer[0] = 0;
58      fgets(buffer, 20, fp);
59      printf("buffer is:%s", buffer);
60      return 0;
61  }
```

fcLinuxncurses
raw vt100linuxKevin
BooneKBox linuxterminfo
vimterm info

Linux

ncurses raw

terminfo/termcap   Unix hater's Handbook
6 Terminal Insanity

Unix
TeleTYpeUnixport UnixUnix
 HTML

1.
2.

Firebird2000 vt102

vi vi
fallback fallback fallback

vi vi vi termcap Terminal Capibility termcap termcap termcap curses

curses/termcap vi vi terminfo pcurses ncurses VIM terminfo

X xterm xterm vt100 xterm vt100 *curses xterm/vt100

Unix

TERM terminfo Unix user-agent

Linux Linux OS Linus 386-PC Unix Linux OS bootloader Linux linux linux vt102

xterm vt100linux vt102
Home / End / PageUp / PageDown / Delete ASCII

linux telnet ...... linux/vt102 linux TTY telnet

...... Unix hater's Handbook