



Screen & Tmux & irssi

ssuyi

CLI

- ❑ Command Line Interface
 - ❑ S.As like CLI world
 - ❑ Only keyboard
 - ❑ Fancy
 - ❑ Parent cannot use your computer, or...
 - ❑ Look like hacker



Boooooom

The image displays several overlapping terminal windows from a Linux environment:

- Terminal 1 (top left):** Shows system status including memory usage (5511/7978MB), tasks (319), and uptime (36 days, 01:11:59).
- Terminal 2 (middle left):** Displays a detailed process list with columns for PID, USER, PRI, NI, VIRT, RES, SHR, S, CPU%, MEM%, TIME+, and Command.
- Terminal 3 (middle right):** Shows disk usage statistics for Mail (11% 11/100 MB) and Home (14% 303/2048 MB).
- Terminal 4 (bottom left):** Shows a large, colorful ASCII art graphic.
- Terminal 5 (bottom middle):** Displays a process list with a high CPU usage for PID 98526 (ssuyi).
- Terminal 6 (bottom right):** Shows the last login time (Mon Sep 21 19:11:18) and the current user (ssuyi).

Terminal 2 Process List:

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%	TIME+	Command
22784	ylli	20	0	6225M	4451M	1240	R	100	55.8	246h	NCTUgr REGULAR ./
1318		20	0	262M	15544	4688	S	1.9	0.2	10h04:33	/usr/bin/python2
1351		20	0	44724	16240	2692	S	1.4	0.2	6h36:12	taux
2907		20	0	55956	8768	3956	S	0.9	0.1	0:03:92	mosh-server new -
12291	ssuyi	20	0	24040	3828	2968	R	0.9	0.0	0:00:66	htop
610		20	0	187M	15864	6432	S	0.5	0.2	13:05:12	/usr/bin/ntpd -g
12582	chenzsh	20	0	23540	3812	2848	S	0.0	0.0	0:00:03	/bin/sh /usr/bin/
17851	yench	20	0	43896	15572	2724	S	0.0	0.2	1h4:19	taux
18523		20	0	31424	2824	2540	S	0.0	0.0	19:30:36	taux
1373		20	0	262M	15544	4688	S	0.0	0.2	34:42:24	/usr/bin/python2
11113		20	0	31824	3664	2900	S	0.0	0.0	5:12:63	taux
2674		20	0	173M	8928	6672	S	0.0	0.1	0:43:23	irssi
602		20	0	187M	15864	6432	S	0.0	0.2	15:11:01	/usr/bin/ntpd -g

Terminal 5 Process List:

PID	USER	PRI	NI	VIRT	RES	SHR	S	CPU%	MEM%
98526	ssuyi	31	0	2395M	1436	0	C	0.0	0.0
1		0	0	0	0	0	?	0.0	0.0
40		0	0	0	0	0	?	0.0	0.0
41		0	0	0	0	0	?	0.0	0.0
43		0	0	0	0	0	?	0.0	0.0
44		0	0	0	0	0	?	0.0	0.0
46		0	0	0	0	0	?	0.0	0.0
48		0	0	0	0	0	?	0.0	0.0
49		0	0	0	0	0	?	0.0	0.0
50		0	0	0	0	0	?	0.0	0.0
53		0	0	0	0	0	?	0.0	0.0
54		0	10	0	0	0	?	0.0	0.0
56		0	0	0	0	0	?	0.0	0.0
60		0	0	0	0	0	?	0.0	0.0

Terminal Multiplexer (tmux)

```
1. [mosh] _zsh_tmux_plugin_run a (mosh-client)
tmux (mosh-client) ..matrix-curses (zsh) vi (vim) bash bash ..matrix-curses (zsh)
| | ) \ \ \ ( | | ) | Welcome to CS FreeBSD Service!
| . _ / | _ _ ^ , _ | / Open for all students and faculty

====[ Announcement of Computer Center, College of Computer Science, NCTU ]====
1. Hostnames & IP Addresses of workstations :
FreeBSD : bsd1 ~ bsd6 (140.113.235.131 ~ 140.113.235.136)
         alumni (140.113.235.116)
Linux   : linux1 ~ linux6 (140.113.235.151 ~ 140.113.235.156)

2. Useful Links:
   CCCS Duty Schedule <http://www.cs.nctu.edu.tw/schedule/>
   Frequently Asked Questions <http://www.cs.nctu.edu.tw/help/>

3. For rights of other users, please don't occupy /tmp as yours,
   please use (re)nice/taskset/cpuset to lower the priority of high-loading processes,
   and please use ipcrm to clear shared memory after using it.

= Disk Usage =====
Mail: ██████████ 11% 11/100 MB
Home: ██████████ 14% 303/2048 MB

= Process =====
PID TT  STAT  TIME COMMAND
15442 60  Ss+  0:00.01 /bin/sh /bin/csShell
15502 60  R+   0:00.00 ps

= Information =====
Current Time: Mon Sep 21 18:52:26 CST 2015
Online Users: 44
= CSCC Announce =====

CS Computer Center <help@cs.nctu.edu.tw>
ssuyi@bsd5.cs.nctu.edu.tw ~
0 <WeeChat 1 > bs2 2 > bs22 3 > bsd1 4 > bsd2 5 > bsd5 > 27°C 09-21 18:52 linux3
```

GNU/Screen

```
tmux (mosh-client) nasa (ssh) vi (vim) bash bash ..matrix-curses (zsh) 1. ssh nasa (ssh)  
ssuyi@nasa:~ % figlet HELLO  
HELLO  
ssuyi@nasa:~ % figlet WORLD  
WORLD  
ssuyi@nasa:~ % figlet 1123581321  
1123581321  
ssuyi@nasa:~ %  
[nasa][ 0$ tcsh 1$ tcsh 2$ tcsh (3*$ tcsh) 4-$ ker 5$ haha [09/21/15 7:05 PM]
```

Why you need tmux/screen?

- Don't need several terminals any more
 - create several “windows” or “panes” under one ssh session
- Detach/attach different sessions
 - you can attach back to your working session even you got disconnected
 - It won't lose working progress if network sucks
 - Share working session with different device
 - Keep online (bbs, ptt)

Basic

□ Create and attach and you can use it.

	tmux	screen
create session and attach	\$ tmux	\$ screen
attach	\$ tmux attach / tmux a	\$ screen -r
create session foo and attach	\$ tmux new -s foo	\$ screen -S foo
attach to session foo	\$ tmux attach -t foo	\$ screen -r foo

Basic (cont.)

□ Prefix + cmd

	tmux (C-b)	screen (C-a)
help	?	?
detach	d	d / C-d
create windows	c	c / C-c
close current window	&	C-k
switch to next window	n	n / space
switch to previous window	p	p / backspace

panes(tmux only)

- split into left and right panes C-b "
- split into top and bottom panes C-b %
- close current pane C-b x
- resize current pane 1 cell C-b Ctrl+[← → ↓ ↑]
- resize current pane 3 cell C-b Alt+[← → ↓ ↑]
- display pane indexes C-b q
- switch between panes C-b [← → ↓ ↑]
- show the time C-b t
- change arrangement of panes C-b space

You can do this

```

ssuyi@linux3.cs.nctu.edu.tw /
└─> cd /
ssuyi@linux3.cs.nctu.edu.tw /
└─> ls
bin boot build dev etc home lib lib64 lost+found mnt net nisdomainname opt proc root run sbin srv sys tmp u usr var
ssuyi@linux3.cs.nctu.edu.tw /
└─> cd var
ssuyi@linux3.cs.nctu.edu.tw /var
└─> ls
cache db empty games lib local lock log mail opt run spool tmp yp
ssuyi@linux3.cs.nctu.edu.tw /var
└─> █

```

```

top - 19:49:29 up 38 days, 2:15, 62 use|          12.5Kb   25.0Kb   37.5Kb   50.0Kb62.5Kb|
Tasks: 367 total,   1 running, 366 sleep|-----|
%Cpu0  : 12.5/0.0   12█|140-113-66-21 => linux3.cs.nct  1.31Kb  1.02Kb  1.07Kb|
%Cpu1  :  5.8/0.6    6█|          <=>          208b   208b   208b|
%Cpu2  :  4.6/0.0    5█|Broadcast-140 => 140-113-66-72    0b     0b     0b|
%Cpu3  :  0.7/0.0    1█|          <=>          0b     1.13Kb  869b|
%Cpu4  :  0.7/1.3    2█|Broadcast-140 => 140-113-66-90    0b     0b     0b|
%Cpu5  :  1.3/0.7    2█|          <=>          936b   749b   775b|
%Cpu6  :  0.0/0.0    0█|-----|
%Cpu7  :  2.0/0.0    2█|TX:          cum:  2rates:  1.31Kb  1.02Kb  1.10Kb|
%Cpu8  :  0.0/0.0    0█|RX:          75.7KB   2.11Kb  3.68Kb  4.28Kb|
%Cpu9  :  0.0/1.3    1█|TOTAL:       104KB   3.42Kb  4.70Kb  5.38Kb|
%Cpu10 :  0.0/0.0    0█|-----|
%Cpu11 :  0.6/0.6    1█|
%Cpu12 :  0.7/0.0    1█|
%Cpu13 :  0.0/0.0    0█|
%Cpu14 :  0.0/0.0    0█|
%Cpu15 :  0.0/0.0    0█|

```

19:49

```

PID USER PR NI VIRT RES
0 > WeeChat 1 > bs2 2 > bs22 3 > linux3 4 > new 5 > new 6 > new 7 > new

```

09-23 19:49 linux3

Configurations

- ❑ tmux (~/.tmux.conf)
- ❑ screen (~/.screenrc)
- ❑ Find it on github
 - ❑ <https://github.com/search?q=screenrc>
 - ❑ <https://github.com/search?q=tmux.conf>

IRC

- What is that?
 - Internet Relay Chat
 - tree structured network
- Talk to other hackers around the world
 - find nice people
 - join international projects
 - learning English (?)
- Better than other Ims
- Clear protocol, easy to write a bot
- Lots of clients

Famous IRC networks

- Freenode
- OFTC
- Rizon
- undernet
- EFnet
- QuakeNet

IRC clients

- irssi (<http://www.irssi.org/>)
- weechat (<http://weechat.org/>)
- xchat (<http://xchat.org/>)
- konversation (<https://konversation.kde.org/>)
- irccloud (<https://www.irccloud.com/>)
- colloquy (<http://colloquy.info/>)
- AndroIRC (<http://www.androirc.com/>)
- ... etc

irssi

- ❑ A very popular open sourced irc client
- ❑ CLI based, easy to use with tmux/screen
- ❑ Well documented
- ❑ Lots of themes / pluggins ...

irssi commands

Connect IRC server:

```
/connect irc.freenode.net
```

Join a channel:

```
/join #nctuNASA ILoveCSCC
```

Change nickname:

```
/nick xxxPHD
```

Leave a channel:

```
/window close
```

Private message:

```
/msg Nick text
```

Quit irssi:

```
/quit
```


irssi commands (Conti.)

register your nickname to the network:

```
/msg NickServ REGISTER <pass>
```

```
/msg NickServ IDENTIFY <pass>
```

Switch windows:

```
Alt + #window
```

```
Alt + [← →]
```

Irssi doc: start up

- <http://www.irssi.org/documentation/startup>
- Customize your irssi
 - Channel encoding
 - Auto join
 - Logging
 - Theme
 - Plugins
 - ... etc
 - ~/.irssi/config

Join US!

- Network: Freenode
- Channel: #nctuNASA
- Password: ILoveCSCC

- Ask any question about SA/NA

Reference

- ❑ <http://hyperpolyglot.org/multiplexers>
- ❑ https://www.wikivs.com/wiki/Screen_vs_tmu_x?
- ❑ <http://www.irssi.org/documentation>
- ❑ <https://www.youtube.com/watch?v=za8FMIWYtUc>
- ❑ https://www.youtube.com/watch?v=BHhA_ZKjyxo