GNU Screen

The Swiss knife for remote sessions

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Remote sessions …

```
$ ssh mastropiero@example.org
```

putty.exe

Remote sessions

- We use SSH for remote sessions every day:
  - Connect from everywhere
- … but:
  - Connection problems: session lost
  - Multiple windows: cumbersome

GNU Screen

- "Terminal multiplexer"
  - Multiple applications in a single terminal
  - Session reconnection
  - Session sharing
  - ...
  - More!
- Included in most Linux distributions

```
$ man screen
```

Screen basics

- How to start *screen*
- Multiple applications
- Sessions
  - Attach and detach
  - Share with others

```
# Start screen
$ screen
$
```

Basic commands

- `Ctrl-a *`
- New window
  - `Ctrl-a c`
- Next window
  - `Ctrl-a <Space>`
- Help!
  - `Ctrl-a ?`

```
$ screen

$ root

# Ctrl-a c
$ cd /data

# Ctrl-a <Space>
# Back to root
root [0] ?
```

Windows

- Split
  - `Ctrl-a S`
- Close split
  - `Ctrl-a Q`
- Kill window
  - `Ctrl-a k`

```
Hello world!

~
~
~
~
~
~
~
~
~
~
~
~
~
-- INSERT --                                              3,1         All
  1 bash
top - 01:27:31 up 67 days, 11:45, 68 users,  load average: 0.72, 0.58, 0.54
Tasks: 627 total,   1 running, 613 sleeping,  11 stopped,   2 zombie
Cpu(s):  0.1% us,  0.2% sy,  0.0% ni, 99.7% id,  0.0% wa,  0.0% hi,  0.0% si
Mem:  16438496k total, 15680088k used,   758408k free,  2718008k buffers
Swap: 16779884k total,   208016k used, 16571868k free,  8785892k cached


  PID USER      PR  NI  VIRT  RES  SHR S %CPU %MEM    TIME+  COMMAND
 4577 root      16   0  5008 2108  580 S  1.3  0.0  37:53.88 and
 7276 jcaicedo  16   0  6580 1572  840 R  1.0  0.0   0:01.50 top
    1 root      16   0  4772  512  424 S  0.0  0.0   1:28.52 init
    2 root      RT   0     0    0    0 S  0.0  0.0   0:14.32 migration/0
    3 root      34  19     0    0    0 S  0.0  0.0   0:52.32 ksoftirqd/0
    4 root      RT   0     0    0    0 S  0.0  0.0   0:14.70 migration/1
    5 root      34  19     0    0    0 S  0.0  0.0   2:46.61 ksoftirqd/1
    6 root      RT   0     0    0    0 S  0.0  0.0   0:11.56 migration/2
    7 root      34  19     0    0    0 S  0.0  0.0   1:48.45 ksoftirqd/2
    8 root      RT   0     0    0    0 S  0.0  0.0   0:08.64 migration/3
  0 bash
```

lxplus : jcaicedo

Sessions

- Sessions are preserved if connection fails

- Attach: Join existing session
  - `$ screen -r`

- Detach: Put into the background
  - `Ctrl-a d`

```
$ screen
# Start long process ...
$ root
# ...
# Lunch time! Detach
# Ctrl-a d
[detached]

# Resume session
$ screen -r
# root is still running
```

Sessions

- List existing sessions
  - $ screen -ls
- Session name:
  - $ screen -S foo
- Joining a named session:
  - $ screen -r foo

Sharing sessions

- Allows other users to see your session

- Access permissions (read, write, …)

- Useful for teaching, demos, support.

```
# User foo:
# Start session named 'demo'
$ screen -S demo

# Enable multiuser mode
# Ctrl-a
# :multiuser on

# Authorize user bar
# Ctrl-a
# :acladd bar
```

```
# User bar:
# Join the existing session
$ screen -x foo/demo

# Done!
```

Resources

- Tips:
  http://bit.ly/screen-tips

- .screenrc example:
  http://bit.ly/screen-rc

- Screen manual:
  http://bit.ly/screen-manual

Questions?

Backup slides!

.screenrc tips

- Disable startup message
  - `startup_message off`
- Change escape (Ctrl-a) to Ctrl-x:
  - `escape ^Xx`
- Scrollbar length
  - `defscrollback 10240`

Pimp my screen!

- `.screenrc`
  - Common settings
  - Repetitive tasks
- `Ubuntu 9.04:`
  - Screen profiles

```
Hello again!
~
~
~
~
~
~
~
~
~
~
~
~
~
                                                          3,0-1            All
  0 vim
top - 02:08:05 up 19 days,  4:49, 81 users,  load average: 0.00, 0.00, 0.00
Tasks: 539 total,   1 running, 537 sleeping,   0 stopped,   1 zombie
Cpu(s):  0.2%us,  0.2%sy,  0.0%ni, 99.5%id,  0.0%wa,  0.0%hi,  0.1%si,  0.0%st
Mem:   4047640k total,  1998720k used,  2048920k free,    95852k buffers
Swap:  4192956k total,      136k used,  4192820k free,   925840k cached

  PID USER      PR  NI  VIRT  RES  SHR S %CPU %MEM    TIME+  COMMAND
13666 jcaicedo  15   0 33156 2684 1656 R  0.7  0.1   0:00.46 top
23478 mlepinet  15   0 65036 5408 3128 S  0.3  0.1   1:27.37 ssh
30963 vanbeuze  15   0 67428 7248 3212 S  0.3  0.2  15:56.65 ssh
    1 root      15   0 10340  732  604 S  0.0  0.0   0:05.80 init
    2 root      RT  -5     0    0    0 S  0.0  0.0   0:04.66 migration/0
    3 root      34  19     0    0    0 S  0.0  0.0   0:05.34 ksoftirqd/0
    4 root      RT  -5     0    0    0 S  0.0  0.0   0:00.00 watchdog/0
    5 root      RT  -5     0    0    0 S  0.0  0.0   0:00.99 migration/1
    6 root      34  19     0    0    0 S  0.0  0.0   0:01.17 ksoftirqd/1
  1 top
0 vim  1 top  2 ls  3 emacs  4 bash  5 mail                    gw01  08/25  2:08am
```