

Tmux + TMuxinator



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TMux + TMuxinator

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Tmux: A terminal multiplexer

This means

- you can detach from a tmux terminal session
- you can reattach, or attach from multiple places

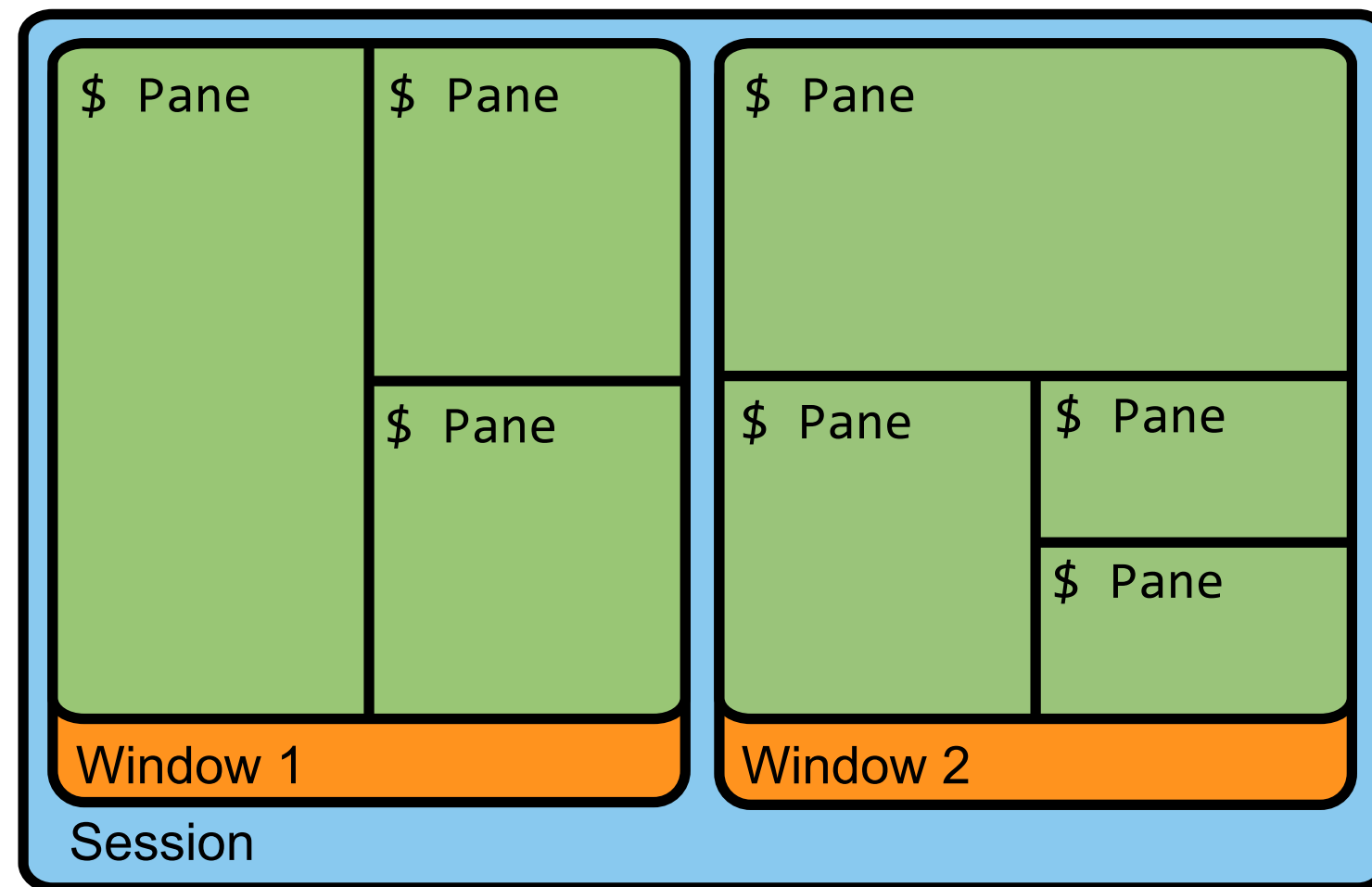
Like VNC or Remote Desktop for terminal sessions

Lost connection to a remote server running your tmux session ?

Your work is not lost, programs continue to run

- just reconnect
 - ssh to the server
 - to see running tmux sessions: `tmux ls`
 - attach to a session: `tmux a -t <session>`

But tmux is so much more ...



Use `tmux ls` to see currently running sessions

Related tools ...

- tmux : started in 2011, very active
- GNU screen : much older, has many similar features



- Byobu | : | Originally a wrapper around screen, now tmux is its default
- tmuxinator | : | Ruby gem for complex tmux layouts

Basics - Invoking tmux from command-line

Some tmux commands

Command

<code>tmux ls</code>	: List currently running sessions
<code>tmux new</code>	: Create a new session
<code>tmux new -n <session></code>	: Create a named session
<code>tmux attach</code>	: Attached to last active session
<code>tmux attach -t <session></code>	: Attached to selected target (e.g. session)
<code>tmux kill-session -t <session></code>	: Deleted selected session (careful !)

Some tmux options

Option

<code>-f <conf></code>	: Specify alternative user conf file (else ~/.tmux.conf)
<code>-L <socket-name></code>	: filename of server socket under TMUX_TMPDIR
<code>-S <socket-path></code>	: filepath of server socket
<code>-v</code>	: Verbose logging to tmux-client-PID.log
<code>-V</code>	: Show tmux version

Basics - Key bindings within tmux: Sessions

Once attached to a tmux session, the session can be controlled by key combinations starting with a prefix 'C-b' (ctrl-B) by default.

Binding (C-b + ...)

?	: Help !!
\$: Rename the current session (as seen by 'tmux ls')
d	: Detach from the current session
C-z	: Suspend the tmux client
f	: Search for window containing text !
<Space>	: Apply next layout

Basics - Key bindings within tmux: Windows

Once attached to a tmux session, the session can be controlled by key combinations starting with a prefix 'C-b' (ctrl-B) by default.

Binding (C-b + ...)

,	: Rename the current window
c	: Create and move to a new window
n	: move to the next window
p	: move to the previous window
l	: move to the last visited window
i	: show info about the current window
[0-9a-z]	: Go to specfied window

Basics - More Key bindings within tmux: Panes

Binding (C-b + ...)

z	: Show current pane as full-screen (C-z to exit)
"	: Split the current pane vertically
%	: Split the current pane horizontally
[: Go into copy mode, allows to scroll in pane (C-c to exit)
o	: Cycle through panes in current window
q	: Briefly display pane numbers
x	: Kill the current pane
!	: Break current pane out of window into a new one

Basics - The tmux status bar

The status bar shows customizable information about the current session

By default this displays

- current user, ip address, session-name ('0' below)
- A list of window-names (current-*, with current command)

```
[0] 0:tmux* "giraufab3.emea.hpqcor" 10:00 27-Nov-16
```

Through tmux.conf (see later) we can customize as we wish, for example:

```
njb:: ::82.233.105.450:vim* 2:bash 3:bash 4:bash- Wed 16 Nov 13:41
```

Note that if a window is in full-screen mode then 'Z' is appended to that window name

```
njb:: ::82.233.105.450:vim*Z 2:bash 3:bash 4:bash-
```

More - Key bindings within tmux

Binding (C-b + ...)

s	: Select a new session for the current client (change session)
t	: Show the current time
w	: Choose a window
m	: Mark the current pane (select-pane -m)
M	: Unmark the current pane
{	: Swap the current pane with the previous pane
}	: Swap the current pane with the next pane

More - Using the tmux command prompt

Binding (C-b + ...)

`:setw synchronize-panes` . Send keyboard input simultaneous to all panes of
current window

Configuration - The tmux.conf file (1)

There are a set of tmux commands accessible through `ctrl-B` : which can also be used in a config file (default `~/.tmux.conf`) to set tmux default behaviours as you wish.

```
# Set Ctrl-b r as shortcut to reload this config:  
bind r source-file ~/.tmux.conf
```

```
# Rename terminals:  
set -g set-titles on  
set -g set-titles-string '^#(whoami::#h::#(curl ipecho.net/plain;echo))'
```

```
# Status bar custo:  
#set -g status-utf8 on  
set -g status-bg blue  
set -g status-fg white  
set -g status-interval 5  
set -g status-left-length 90  
set -g status-right-length 60  
set -g status-left "[fg=Green]#(whoami)[fg=white]::#[fg=blue] \  
    #(hostname - s)[fg=white]::# #[fg=yellow]#(curl ipecho.net/plain;echo)"  
@mjbright  
set -g status-justify left  
set -g status-right "[fg=Cyan]#S [fg=white]%a %d %b %R'
```

Configuration - The tmux.conf file (2)

use ctrl-b arrows - Pane navigation with vim-bindings:

```
unbind-key j;    bind-key j select-pane -D  
unbind-key k;    bind-key k select-pane -U  
unbind-key h;    bind-key h select-pane -L  
unbind-key l;    bind-key l select-pane -R
```

Plugins

tmux-plugins Official tmux plugins

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Tools and session management

Tools

powerline	Statusline plugin for vim, and provides statuslines and prompts for several other applications including tmux
tmux-cssh	TMUX with a "ClusterSSH"-like behaviour
tmuxifier	Tmuxify your Tmux. Powerful session, window & pane management for Tmux.
tmuxinator	Manage complex tmux sessions easily
tmuxomatic	Intelligent tmux session management
tmuxp	tmux session manager and python library

Tools and session management: Tmuxinator

Tmuxinator allows to easily manage complex tmux sessions with multiple windows, panes with a specified layout all specified in a YAML file:

```
project_name: 8panes
windows:
```

- shell:

```
  layout: a506,379x84,0,0{125x84,0,0[125x26,0,0,4,125x31,0,27,83,125x25,0,59,82
126,0,79,125x41,126,43,86],127x84,252,0[127x27,252,0,80,127x30,252,28,84,127x25
```

```
  panes:
```

- banner pane1
- banner pane2
- banner pane3
- banner pane4
- banner pane5
- banner pane6
- banner pane7
- banner pane8

Tools and session management: Tmuxinator-2

windows:

- work:
 - layout: tiled
 - panes:
 - messages:
 - exec ~/z/bin/Deployed/ssh_tunnel_b10.sh work
 - sudo tail -f /var/log/messages
 - shell:
 - exec ~/z/bin/Deployed/ssh_tunnel_b10.sh work
 - exec ~/z/bin/Deployed/ssh_tunnel_b10.sh work
- b1machines:
 - layout: tiled
 - panes:
 - b0g1_logs:
 - exec ~/z/bin/Deployed/ssh_tunnel_b10.sh b0g1
 - banner \$(hostname)
 - uptime; ip a | grep 10.3.222
 - cd /var/log
 - sudo tail -f syslog
 - b1g1_logs:
 - exec ~/z/bin/Deployed/ssh_tunnel_b10.sh b1g1
 - banner \$(hostname)

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Tools and session management: Tmuxinator-3

```
name: perfs  
root: ~/  
windows:
```

- perfs:
 - layout: main-horizontal
 - root: ~/tmp
 - panes:
 - htop: htop
 - sensors: ~/z/bin/Deployed/perf_monitor_CPUpotrend.sh

GNU Screen



<https://www.gnu.org/software/screen/>

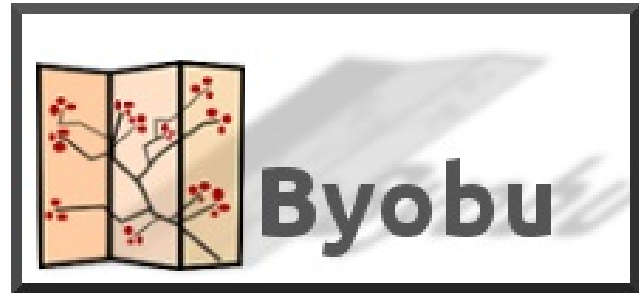
Screen is a full-screen window manager that multiplexes a physical terminal between several processes, typically interactive shells.

Whilst tmux is a more active project Screen already has many of the same features, such as:

- session continues in detached mode when no client is connected
- has a prefix key for entering commands
 - It uses Ctrl+A though (tmux chose to be different)
- multiple windows
- ability to list windows or create them on the fly, switch windows
- ability to split windows horizontally or vertically
- ...

If GNU Screen works for you ... keep it ...

Byobu



<http://byobu.co/>

Byobu is a GPLv3 open source text-based window manager and terminal multiplexer.

It was originally designed to provide elegant enhancements to the otherwise functional, plain, practical GNU Screen, for the Ubuntu server distribution.

Byobu now includes an enhanced profiles, convenient keybindings, configuration utilities, and toggle-able system status notifications for both the GNU Screen window manager and the more modern Tmux terminal multiplexer, and works on most Linux, BSD, and Mac distributions.

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Resources

Tmux

- home page <https://tmux.github.io/>
- source <https://github.com/tmux/tmux>
- awesome-tmux : [awesome-tmux](#)
- Official tmux-plugins : [tmux-plugins](#)

TMuxinator : <https://github.com/tmuxinator/tmuxinator>

GNU Screen : <https://www.gnu.org/software/screen/>

Byobu : <http://byobu.co/>