Modern Commandline Tools

(Final Last Version 2)

#BalCCon2k19

@LEYRER
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Thanks to karas et.al.!

karas
@karasuarts   Follows you

Irgendwas mit ~~irgendwas mit Bienchen und Blümchen~~ IT

Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.

Anything that's invented between when you're
fifteen and thirty-five is
new and exciting and revolutionary
and you can probably get a career in it.

Anything invented after you're thirty-five is against the natural order of things.

"I've come up with a set of rules that describe our reactions to technologies:

1. Anything that is in the world when you're born is normal and ordinary and is just a natural part of the way the world works.
2. Anything that's invented between when you're fifteen and thirty-five is new and exciting and revolutionary and you can probably get a career in it.
3. Anything invented after you're thirty-five is against the natural order of things."

Douglas Adams, The Salmon of Doubt

The UNIX philosophy

Doug McIlroy, Bell System Technical Journal 1978

http://emulator.pdp-11.org.ru/misc/1978.07_-_Bell_System_Technical_Journal.pdf

The UNIX philosophy

Make each program do one thing well. To do a new job, build afresh rather than complicate old programs by adding new features.

The UNIX philosophy

Expect the output of every program to become the input to another, as yet unknown, program.

Don't clutter output with extraneous information.

Avoid stringently columnar or binary input formats.

Don't insist on interactive input.

The UNIX philosophy

Design and build software, even operating systems, to be tried early, ideally within weeks. Don't hesitate to throw away the clumsy parts and rebuild them.

The UNIX philosophy

Peter H. Salus in "A Quarter-Century of Unix" (1994):

- Write programs that do one thing and do it well.

- Write programs to work together.

- Write programs to handle text streams, because that is a universal interface.

http://www.catb.org/~esr/writings/taoup/html/ch01s06.html

systemd Utilities

systemctl   journalctl   notify   analyze   cgls   cgtop   loginctl   nspawn

systemd Daemons

systemd

journald   networkd

loginduser session

systemd Targets

bootmode   basic

shutdown   reboot

multi-user
dbus   telephony

dlog   logind

graphical
user-sesssion

user-session
display service

tizen service

systemd Core

manager

systemd

unit
service   timer   mount   target

snapshot   path   socket   swap

login
multiseat   inhibit

session   pam

namespace   log

cgroup   dbus

systemd Libraries

dbus-1   libpam   libcap   libcryptsetup   tcpwrapper   libaudit   libnotify

Linux Kernel

cgroups   autofs   kdbus

Previously

systemd

dig

tracepath / mtr / oping

iproute2

tmux

zsh

ranger

HTTPie / jq

aria2c

icdiff / colordiff

ripgrep / fd / z

exa

fzf

pv / progress

Plan

Hub / lab/ tig

lynis

top Family

Nethogs

socket statistics

dstat / saidar / discus

nmon

Kubetail

colorex / lolcat

HTTP Prompt

XMLStarlet

Ultimate Plumber

reptyr / ttyd

WTF

no more secrets

hub

- Wrapper (embrace and expand) for git
- Better support for Github
  - fork, pull-requests, create repo, clone, …
  - Tab Completion
- https://github.com/github/hub

DEMO TIME

```
$ hub clone igornikolic/BalCConLOC
Cloning into 'BalCConLOC'...
remote: Enumerating objects: 98, done.
remote: Counting objects: 100% (98/98), done.
remote: Compressing objects: 100% (68/68), done.
remote: Total 98 (delta 49), reused 66 (delta 26), pack-reused 0
Receiving objects: 100% (98/98), 1.18 MiB | 2.20 MiB/s, done.
Resolving deltas: 100% (49/49), done.

$ ls -al BalCConLOC
total 1120
drwxr-xr-x 7 leyrer leyrer    4096 Sep 15 15:05 .
drwxrwxr-x 4 leyrer leyrer    4096 Sep 15 15:05 ..
-rw-r--r-- 1 leyrer leyrer   82457 Sep 15 15:05 balccon2k19.qxw
drwxr-xr-x 2 leyrer leyrer    4096 Sep 15 15:05 BalcconLights
drwxr-xr-x 2 leyrer leyrer    4096 Sep 15 15:05 BalcconLightsAnalogue
drwxr-xr-x 2 leyrer leyrer    4096 Sep 15 15:05 BalcconLightsMendel
drwxr-xr-x 2 leyrer leyrer    4096 Sep 15 15:05 BalcconLightsWS2812
drwxr-xr-x 8 leyrer leyrer    4096 Sep 15 15:05 .git
...
```

```
cd gpn19
git init
hub create -d "BALCCON2K19 Demo Repository" "BALCCON2K19Demo"
echo "# BALCCON2K19Demo" >> README.md
git add README.md
git commit -m "first commit"
git push -u origin master

[master (root-commit) 6ca5366] first commit
 1 file changed, 1 insertion(+)
 create mode 100644 README.md
Counting objects: 3, done.
Writing objects: 100% (3/3), 228 bytes | 228.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
To github.com:leyrer/BALCCON2K19Demo.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

```
$ hub issue create -m "Error 451 Unavailable for legal reasons"
"BALCCON2K19 Demo Issue"
https://github.com/leyrer/BALCCON2K19Demo/issues/1

$ hub issue

    #1  Error 451 Unavailable for legal reasons


$ hub issue show 1
# Error 451 Unavailable for legal reasons

* created by @leyrer on 2019-09-15 13:09:07 +0000 UTC
```

lab

- Wrapper (embrace and expand) for git
- Better support for Gitlab (and Github)
  - fork, pull-requests, create repo, clone, …
  - Tab Completion
- https://github.com/zaquestion/lab

```
leland ~
$ 
```

tig

- ncurses-based text-mode interface for git
- Browse Changes
- Pager for git commands

- https://jonas.github.io/tig/

DEMO TIME

```
fonseca@antimatter: /home/fonseca/src/git/cogito

commit 35dd3a46a9d5b244072467edca15581d08f5adc2
Author: Petr Baudis <pasky@suse.cz>
Date:    Fri May 5 10:47:41 2006 +0200

    cg-commit --no-hooks and use it when shelving changes

    We do not want any hooks since this is an internal and temporary shelving
    commit.
---
 cg-commit |    8 +++++++-
 cg-switch |    2 +-
 2 files changed, 8 insertions(+), 2 deletions(-)


diff --git a/cg-commit b/cg-commit
index f8c8e0d..4ec2b33 100755
--- a/cg-commit
+++ b/cg-commit
@@ -86,6 +86,9 @@ #    and the commit information. This is fo
 #      might not actually _have_ any object database. This option is
 #      normally not interesting.
 #
+# --no-hooks:: Do not call any commit hooks
+#      Do not call any commit hooks during the commit.
+#
 # -p, --review:: Show and enable editing of changes being committed
 #      Show changes being commited as a patch appended to the commit message
 #      buffer. Changes made to the patch will be reapplied before completing
@@ -212,6 +215,7 @@ copy_commit=
 msgs=()
 msgfile=
 quiet=
+no_hooks=
 while optparse; do
        if optparse --author=; then
                load_author "$OPTARG" force
@@ -241,6 +245,8 @@ while optparse; do
                msgfile="$OPTARG"
        elif optparse -c=; then
[diff] 35dd3a46a9d5b244072467edca15581d08f5adc2 - line 13 of 66 (19%)
```

lynis

- console-based
- Auditing, system hardening, compliance testing
- hub clone CISOfy/lynis
- ./lynis audit system

- https://cisofy.com/lynis/

```
-[ Lynis 2.7.4 Results ]-

Great, no warnings

Suggestions (44):
----------------------------
* Set a password on GRUB bootloader to prevent altering boot configuration (e.g. boot in single user mode without password) [BOOT-5122
]
      https://cisofy.com/lynis/controls/BOOT-5122/


* Run pwck manually and correct any errors in the password file [AUTH-9228]
      https://cisofy.com/lynis/controls/AUTH-9228/

* Install a PAM module for password strength testing like pam_cracklib or pam_passwdqc [AUTH-9262]
      https://cisofy.com/lynis/controls/AUTH-9262/

* Configure minimum password age in /etc/login.defs [AUTH-9286]
      https://cisofy.com/lynis/controls/AUTH-9286/

* Configure maximum password age in /etc/login.defs [AUTH-9286]
      https://cisofy.com/lynis/controls/AUTH-9286/

* Default umask in /etc/login.defs could be more strict like 027 [AUTH-9328]
      https://cisofy.com/lynis/controls/AUTH-9328/

* Default umask in /etc/init.d/rc could be more strict like 027 [AUTH-9328]
      https://cisofy.com/lynis/controls/AUTH-9328/

* To decrease the impact of a full /home file system, place /home on a separate partition [FILE-6310]
      https://cisofy.com/lynis/controls/FILE-6310/

* To decrease the impact of a full /tmp file system, place /tmp on a separate partition [FILE-6310]
      https://cisofy.com/lynis/controls/FILE-6310/
```

top

- Lists currently running processes on the system
- CPU, RAM load
- Refreshes every 3 seconds

- Default tool in most Linux distriutions

```
top - 07:58:07 up 5 days, 18:17,  2 users,  load average: 1,02, 0,92, 0,85
Tasks: 266 total,   2 running, 201 sleeping,   0 stopped,   0 zombie
%Cpu(s):  4,7 us,  2,5 sy,  0,1 ni, 92,6 id,  0,2 wa,  0,0 hi,  0,0 si,  0,0 st
KiB Mem : 46,1/8043756  [||||||||||||||||||||||||||||||||||||||||||||||||||             ]
KiB Swap:  2,2/8265724  [|||                                                            ]

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU %MEM     TIME+ COMMAND
 1202 root      20   0  695400 114200  83812 S   3,3  1,4  43:35.23 /usr/lib/xorg/Xorg -core :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten +
 2761 leyrer    20   0 3789096 301124 156744 S   3,3  3,7  62:57.59 cinnamon --replace
 1467 leyrer    20   0 2481760 387344 168956 S   1,3  4,8   4:48.03 /usr/lib/firefox/firefox
 6694 leyrer    20   0  536652  25056  16452 S   1,3  0,3   0:00.12 gnome-screenshot --area --clipboard
15181 leyrer    20   0 1069196  90592  53528 S   1,3  1,1   3:22.73 /usr/bin/python3 /usr/share/cinnamon/cinnamon-settings/cinnamon-settings.py netwo+
  994 message+  20   0   49396   4908   3012 S   1,0  0,1   6:08.82 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-a+
 8522 leyrer    20   0  153312   5500   3372 S   0,7  0,1   3:08.81 tmux new-session -s work -n TaskWarrior -d watch "task proj && tmux resize-pane -+
   10 root      20   0       0      0      0 I   0,3  0,0   2:36.52 [rcu_sched]
  240 root      -2   0       0      0      0 S   0,3  0,0   1:03.07 [i915/signal:0]
  528 root       0 -20       0      0      0 I   0,3  0,0   0:00.01 [kworker/u17:2-r]
  680 root     -51   0       0      0      0 S   0,3  0,0  10:06.34 [irq/31-iwlwifi]
  991 avahi     20   0   46652   4932   3104 S   0,3  0,1   1:06.27 avahi-daemon: running [Betty.local]
 1120 root      20   0       0      0      0 I   0,3  0,0   0:00.04 [kworker/0:0-eve]
 1349 root      20   0       0      0      0 D   0,3  0,0   0:00.06 [kworker/u16:3+e]
 1542 root      20   0  439544   6424   5160 S   0,3  0,1   2:27.81 /usr/lib/upower/upowerd
 2547 leyrer    20   0  220776   4484   4208 S   0,3  0,1   0:08.42 /usr/lib/at-spi2-core/at-spi2-registryd --use-gnome-session
 3432 leyrer    31  11 7934236 129704   7164 S   0,3  1,6 114:03.62 /app/bin/syncthing -no-browser
 4134 leyrer    20   0  166004   4092   3340 R   0,3  0,1   0:00.30 top
 7785 leyrer    20   0 4039928 814208 550424 S   0,3 10,1  17:36.63 /app/Signal/signal-desktop --type=renderer --no-sandbox --enable-features=SharedA+
 7998 leyrer    20   0 1976936 243220 117844 S   0,3  3,0   0:45.21 /usr/lib/firefox/firefox -contentproc -childID 6 -isForBrowser -prefsLen 7131 -pr+
17357 leyrer    20   0  787884  47788  24928 S   0,3  0,6   2:13.66 /usr/lib/gnome-terminal/gnome-terminal-server
29867 leyrer    20   0  498400   7920   6816 S   0,3  0,1   0:12.53 /usr/lib/gvfs/gvfsd-dnssd --spawner :1.13 /org/gtk/gvfs/exec_spaw/6
32010 leyrer    20   0 1698528 254480 130884 S   0,3  3,2   0:45.05 /usr/lib/libreoffice/program/soffice.bin --impress --splash-pipe=5
    1 root      20   0  225756   7440   5092 S   0,0  0,1   0:07.54 /sbin/init splash
    2 root      20   0       0      0      0 S   0,0  0,0   0:00.06 [kthreadd]
    3 root       0 -20       0      0      0 I   0,0  0,0   0:00.00 [rcu_gp]
    4 root       0 -20       0      0      0 I   0,0  0,0   0:00.00 [rcu_par_gp]
    6 root       0 -20       0      0      0 I   0,0  0,0   0:00.00 [kworker/0:0H-kb]
    8 root       0 -20       0      0      0 I   0,0  0,0   0:00.00 [mm_percpu_wq]
    9 root      20   0       0      0      0 S   0,0  0,0   0:05.52 [ksoftirqd/0]
   11 root      20   0       0      0      0 I   0,0  0,0   0:00.00 [rcu_bh]
   12 root      rt   0       0      0      0 S   0,0  0,0   0:01.64 [migration/0]
```

atop

- ASCII full-screen performance monitor
- With kernel module netatop, it even shows network activity per process/thread.
- Permanent logging of resource utilization

- https://www.atoptool.nl/

```
ATOP - robin                    2012/10/25  13:08:11               y--------                    10s elapsed
PRC | sys     1.16s | user    1.40s | #proc     330 | #tslpi    450 | #tslpu      0 | #zombie      0 | #exit        0 |
CPU | sys       10% | user      12% | irq        0% | idle      376% | wait       2% | curf 1.20GHz | curscal   49% |
CPL | avg1     0.03 | avg5     0.07 | avg15    0.02 | csw     66844 | intr    49036 |              | numcpu      4 |
MEM | tot      3.5G | free   767.6M | cache    1.8G | buff   329.2M | slab    368.1M | shmem   50.0M | shrss    6.9M |
SWP | tot      4.0G | free     2.9G |               |               |               | vmcom    2.2G | vmlim    5.8G |
DSK |            sda | busy      2% | read        0 | write      27 | MBr/s    0.00 | MBw/s    0.67 | avio 7.85 ms |
NET | transport     | tcpi   30862 | tcpo    21031 | udpi        1 | udpo        0 | tcpao       0 | tcppo       0 |
NET | network       | ipi    30865 | ipo     21031 | ipfrw       0 | deliv   30863 | icmpi       0 | icmpo       0 |
NET | p5p1       28% | pcki   30862 | pcko    21029 | si    28 Mbps | so 5571 Kbps | erri        0 | erro        0 |

  PID   TID  TCPRCV TCPRASZ  TCPSND TCPSASZ UDPRCV UDPRASZ UDPSND UDPSASZ    BANDWI    BANDWO  NET CMD           1/3
24858     -   20163    1438   10328      71      0       0      0       0   23 Mbps  588 Kbps  70% ssh
24970     -   10703     582   10703     582      0       0      0       0 4983 Kbps 4983 Kbps  30% attract
24857     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% scp
 3011     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% Xorg
 2213     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% cgrulesengd
24755     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% atop
 3550     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% multiload-appl
 3550  3550       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% multiload-appl
18308     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% gnome-terminal
18308 18308       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% gnome-terminal
 3554     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% clock-applet
 3554  3554       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% clock-applet
24925     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% gnome-power-ma
 2184     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% irqbalance
    4     -       0       0       0       0      0       0      0       0    0 Kbps    0 Kbps   0% ksoftirqd/0
```

htop

- Interactive process monitor
- Actively developed since 2004
- Tree view !!!

- http://hisham.hm/htop/

DEMO TIME

```
    ⏻

   1 [|||||||||||                                          1.3%]    Tasks: 37, 49 thr; 1 running
   2 [|||||||||||                                         10.0%]    Load average: 0.96 0.63 0.61
   3 [||||||                                               2.0%]    Uptime: 02:45:52
   4 [||||                                                 2.0%]
  Mem[||||||||||||||||||||||||||||||||                754/3830MB]
  Swp[                                                    0/0MB]

    PID USER      PRI  NI  VIRT   RES   SHR S CPU CPU% MEM%   TIME+  Command
    705 hisham     20   0  2944   840   692 S   2  0.0  0.0  0:00.01  ├─ /usr/bin/dbus-daemon --fork --print-pid 5 --print-address 7 --sessio
    704 hisham     20   0  3772   596   432 S   2  0.0  0.0  0:00.00  ├─ dbus-launch --autolaunch=48133a1b5d2c363218a9104d4c04c7ec --binary-s
    672 hisham     20   0 66268  9768  3816 S   3  0.0  0.2  0:00.13  ├─ urxvt -cr green -fn *-lode-* -fb *-lode-* -fi *-lode-* -fbi *-lode-*
    673 hisham     20   0  9036  3864  2060 S   3  0.0  0.1  0:00.34  │  └─ zsh
    577 hisham     20   0 13508  5688  2544 S   4  0.0  0.1  0:02.76  ├─ xterm -bg black -fg white -title XTerm -u8
    578 hisham     20   0  8220  2868  1848 S   4  0.0  0.1  0:00.05  │  └─ zsh
  14240 hisham     20   0  6864  2088  1240 R   1  1.3  0.1  0:16.32  │     └─ htop -d 15
    568 hisham     20   0 71580 56012  6372 S   1  0.0  1.4  0:01.39  ├─ urxvt -cr green -fn *-lode-* -fb *-lode-* -fi *-lode-* -fbi *-lode-*
    569 hisham     20   0  9740  4600  2064 S   3  0.7  0.1  0:01.31  │  └─ zsh
    516 root       20   0  2464   408   216 S   3  0.0  0.0  0:00.00  ├─ dhcpcd eth0
    410 hisham     20   0  6772  1376  1112 S   4  0.0  0.0  0:00.00  ├─ /bin/sh /System/Links/Executables/firefox
    414 hisham     21   1 1034M  559M 38448 S   1  0.7 14.6 54:37.78  │  └─ /Programs/Firefox/27.0.1/bin/../firefox/firefox
    405 root       20   0  4268   708   640 S   2  0.0  0.0  0:00.00  ├─ /System/Links/Executables/agetty tty1 9600
    391 hisham     20   0 78840 27112  3856 S   3  0.0  0.7  0:02.51  ├─ urxvt -cr green -fn *-lode-* -fb *-lode-* -fi *-lode-* -fbi *-lode-*
    392 hisham     20   0  9860  4668  2052 S   4  0.0  0.1  0:01.22  │  └─ zsh
    765 root       20   0  5964  1140   952 S   3  0.0  0.0  0:00.05  │     └─ /bin/su root
    775 root       20   0  8388  2948  1748 S   1  0.0  0.1  0:00.05  │        └─ zsh
    327 root       20   0  4268   716   640 S   4  0.0  0.0  0:00.00  ├─ /System/Links/Executables/agetty tty6 9600
    326 root       20   0  4268   712   640 S   1  0.0  0.0  0:00.00  ├─ /System/Links/Executables/agetty tty5 9600
    325 root       20   0  4268   712   640 S   3  0.0  0.0  0:00.00  ├─ /System/Links/Executables/agetty tty4 9600
    324 root       20   0  4268   712   640 S   4  0.0  0.0  0:00.00  ├─ /System/Links/Executables/agetty tty3 9600
    323 root       20   0  2672  1076   876 S   1  0.0  0.0  0:00.00  ├─ /bin/login --
    328 hisham     20   0  8500  2880  1868 S   1  0.0  0.1  0:00.10  │  └─ -zsh
    335 hisham     20   0  6904  1504  1220 S   1  0.0  0.0  0:00.01  │     └─ sh /System/Links/Executables/startx
    351 hisham     20   0  3552   700   608 S   4  0.0  0.0  0:00.00  │        └─ xinit /Users/hisham/.xinitrc -- /usr/bin/X :0 -auth /Users/
    363 hisham     20   0  9280  3296  1612 S   4  0.0  0.1  0:01.23  │           ├─ twm
    375 hisham     20   0     0     0     0 Z   3  0.0  0.0  0:00.00  │           │  ├─ 2monitors
    374 hisham     20   0  6772  1412  1144 S   1  0.0  0.0  0:00.02  │           │  └─ /bin/sh /Users/hisham/bin/flash_screensaver_daemon.sh
   7724 hisham     20   0  5424   268   224 S   2  0.0  0.0  0:00.00  │           │     └─ sleep 300
    352 root       20   0  145M 80588 45592 S   2  1.3  2.1  2:06.76  │           └─ /usr/bin/X :0 -auth /Users/hisham/.serverauth.335
    360 root       20   0  145M 80588 45592 S   4  0.0  2.1  0:00.00  │              ├─ X
    359 root       20   0  145M 80588 45592 S   3  0.0  2.1  0:02.70  │              └─ X
    310 messagebu  20   0  2944   888   720 S   2  0.0  0.0  0:00.00  ├─ /bin/dbus-daemon --system
    208 root       20   0  2220   648   556 S   1  0.0  0.0  0:00.04  ├─ syslogd -n -m 0
    207 root       20   0  3748  2212   544 S   3  0.0  0.1  0:00.05  ├─ klogd -n
    143 root       20   0  5224  1420   912 S   1  0.0  0.0  0:01.36  └─ /lib/udev/udevd --daemon

F1Help  F2Setup F3SearchF4FilterF5Tree  F6SortByF7Nice -F8Nice +F9Kill  F10Quit
```

apachetop

- console-based
- monitoring threads & overall performance
- multiple Apache logfiles

- https://github.com/JeremyJones/Apachetop

```
last hit: 16:48:42          atop runtime:  0 days, 00:06:46                16:48:50
All:              150 reqs (    0.4/sec)        747.5K ( 2019.5B/sec)     5102.7B/req
2xx:       121 (80.7%) 3xx:      21 (14.0%) 4xx:      8 ( 5.3%) 5xx:        0 ( 0.0%)
R ( 30s):          26 reqs (    0.9/sec)        182.1K ( 6216.7B/sec)     7173.1B/req
2xx:        24 (92.3%) 3xx:       1 ( 3.8%) 4xx:      1 ( 3.8%) 5xx:        0 ( 0.0%)

 REQS REQ/S    KB KB/S URL
    3  0.10  97.9  3.4*/
    2  0.11   0.3  0.0 /xmedia/theme/plume-cms-powered.png
    1  0.03   1.6  0.1 /plugins/jqueryplugin/ajaxCallback.js
    1  0.04  13.0  0.5 /plugins/jqueryplugin/form.js
    1  0.04   8.5  0.4 /IMG/jpg/poussee_vectorielle_su_37.jpg
    1  0.05  10.6  0.5 /IMG/jpg/tuyere_Mig_29_OVT_1.jpg
    1  0.05   6.0  0.3 /squelettes/warstyle.css
    1  0.05   5.4  0.3 /IMG/jpg/poussee_vectorielle_f22.jpg
    1  0.04   4.1  0.2 /plugins/jqueryplugin/jq-corner.js
    1  0.06   8.3  0.5 /IMG/jpg/mig_29-2-62257.jpg
    1  0.08   0.2  0.0 /divers/factory/dist/ecrire/
    1  0.08   0.4  0.0 /squelettes/design/fond_bouton.jpg
    1  0.10   6.2  0.6 /xmedia/theme/default/style.css
    1  0.10   1.4  0.1 /xmedia/theme/default/layout.css
    1  0.11   0.2  0.0 /xmedia/theme/default/img/dotted.png
    1  0.11   0.7  0.1 /xmedia/theme/default/img/background.png
    1  0.11   0.3  0.0 /xmedia/theme/default/img/sstar.png
    1  0.11  16.0  1.8 /xmedia/theme/default/img/header.jpg
    1  0.12   0.2  0.0 /xmedia/theme/default/img/puce.png
    1  0.12   0.2  0.0 /xmedia/theme/default/img/bulle.png
```

ngxtop

- Console based
- Real-time metrics for nginx server

- https://github.com/lebinh/ngxtop

```
$ ngxtop
running for 411 seconds, 64332 records processed: 156.60 req/sec

Summary:
|   count |   avg_bytes_sent |   2xx |   3xx |   4xx |   5xx |
|---------+------------------+-------+-------+-------+-------|
|   64332 |         2775.251 | 61262 |  2994 |    71 |     5 |

Detailed:
| request_path                          |   count |   avg_bytes_sent |   2xx |   3xx |   4xx |   5xx |
|---------------------------------------+---------+------------------+-------+-------+-------+-------|
| /abc/xyz/xxxx                         |   20946 |          434.693 | 20935 |     0 |    11 |     0 |
| /xxxxx.json                           |    5633 |         1483.723 |  5633 |     0 |     0 |     0 |
| /xxxxx/xxx/xxxxxxxxxxxx               |    3629 |         6835.499 |  3626 |     0 |     3 |     0 |
| /xxxxx/xxx/xxxxxxxx                   |    3627 |        15971.885 |  3623 |     0 |     4 |     0 |
| /xxxxx/xxx/xxxxxxx                    |    3624 |         7830.236 |  3621 |     0 |     3 |     0 |
| /static/js/minified/utils.min.js      |    3031 |         1781.155 |  2104 |   927 |     0 |     0 |
| /static/js/minified/xxxxxxx.min.v1.js |    2889 |         2210.235 |  2068 |   821 |     0 |     0 |
| /static/tracking/js/xxxxxxxx.js       |    2594 |         1325.681 |  1927 |   667 |     0 |     0 |
| /xxxxx/xxx.html                       |    2521 |          573.597 |  2520 |     0 |     1 |     0 |
| /xxxxx/xxxx.json                      |    1840 |          800.542 |  1839 |     0 |     1 |     0 |
```

mytop

- Console based
- threads and overall performance
- MySQL 3.22.x, 3.23.x, and 4.x server

- https://jeremy.zawodny.com/mysql/mytop/

```
MySQL on localhost (4.1.20)                            up 11+11:03:03 [09:48:24]
 Queries: 123.8M  qps:   131 Slow:    11.4k         Se/In/Up/De(%):     78/04/06/03
          qps now:   108 Slow qps:  0.0  Threads:    31 (   1/   0) 78/03/07/03
 Cache Hits: 60.9M Hits/s: 64.5 Hits now:   53.4  Ratio: 63.1% Ratio now: 63.3%
 Key Efficiency: 100.0%  Bps in/out:   4.1k/599.8   Now in/out: 39.5k/567.9k


      Id      User        Host/IP           DB      Time    Cmd Query or State
      --      ----        -------           --      ----    --- ----------
  233817    _user        localhost        ▬         0    Sleep
  233822     user        localhost        ▬         0    Sleep
  233851  ▪▪ user        localhost        ▌▪        0    Sleep
  233888     user        localhost        ▪         0    Sleep
  233910  ▮▮ user        localhost        ▪         0    Sleep
  233915    _user        localhost        ▬         0    Query SELECT DISTINCT year(FROM_UNI
  233918    _user        localhost        ▬         0    Query show full processlist
  233704  ▪▪ user        localhost        ▌▪        1    Sleep
  233907     user        localhost        ▪         1    Sleep
  233838  ▮▮ user        localhost        ▪         2    Sleep
  233854    _user        localhost        ▬         2    Sleep
  233859    _user        localhost        ▪         2    Sleep
  233875  ▪▪ user        localhost        ▌▪        2    Sleep
  233887     user        localhost        ▪         2    Sleep
  233894  ▮▮ user        localhost        ▪         2    Sleep
  233895    _user        localhost        ▬         3    Sleep
  233853    _user        localhost        ▬         4    Sleep
  233863  ▪▪ user        localhost        ▌▪        4    Sleep
  233890     user        localhost        ▪         4    Sleep
```

pg_top

- Console based
- top cpu PostgreSQL processes

- sudo yum install pg_top
- sudo apt-get install pgtop
- https://git.postgresql.org/gitweb/?p=pg_top.git;a=summary

```
last pid: 20111;  load avg:  2.79,  1.64,  1.07;      up 42+09:15:31  18:55:59
21 processes: 14 sleeping, 7 uninterruptable
CPU states:  8.4% user,  0.1% nice,  4.5% system, 61.4% idle, 25.7% iowait
Memory: 2758M used, 1180M free, 18M buffers, 2406M cached
Swap: 76K used, 8189M free, 72K cached

  PID USERNAME PRI NICE   SIZE    RES STATE    TIME   WCPU     CPU COMMAND
20052 markwkm   20    0    58M    12M disk     0:00  0.80%   9.58% postgres: markwk
20059 markwkm   20    0    54M    10M disk     0:00  0.60%   7.19% postgres: markwk
20058 markwkm   20    0    46M 3688K disk     0:00  0.38%   4.59% postgres: markwk
20055 markwkm   20    0    46M 3640K disk     0:00  0.35%   4.19% postgres: markwk
20061 markwkm   20    0    46M 3672K disk     0:00  0.33%   3.99% postgres: markwk
20098 markwkm   20    0    47M 6292K disk     0:00  0.03%   0.40% postgres: markwk
20110 markwkm   20    0    46M 3512K disk     0:00  0.00%   0.00% postgres: markwk
20112 markwkm   20    0    46M 4032K sleep    0:00  0.00%   0.00% postgres: markwk
20091 markwkm   20    0    46M 2632K sleep    0:00  0.00%   0.00% postgres: markwk
20080 markwkm   20    0    46M 2632K sleep    0:00  0.00%   0.00% postgres: markwk
20092 markwkm   20    0    46M 2628K sleep    0:00  0.00%   0.00% postgres: markwk
20081 markwkm   20    0    46M 2628K sleep    0:00  0.00%   0.00% postgres: markwk
20071 markwkm   20    0    46M 2628K sleep    0:00  0.00%   0.00% postgres: markwk
20072 markwkm   20    0    46M 2624K sleep    0:00  0.00%   0.00% postgres: markwk
20105 markwkm   20    0    46M 2624K sleep    0:00  0.00%   0.00% postgres: markwk
20099 markwkm   20    0    46M 2624K sleep    0:00  0.00%   0.00% postgres: markwk
20094 markwkm   20    0    46M 2624K sleep    0:00  0.00%   0.00% postgres: markwk
```

powertop

- Console based

- Diagnose issues related to power consumption and power management

- https://01.org/powertop/

DEMO TIME

```
>> Bad          Enable SATA link power management for host4
   Bad          Enable SATA link power management for host5
   Bad          Enable SATA link power management for host3
   Bad          Enable SATA link power management for host1
   Bad          Enable SATA link power management for host2
   Bad          Enable SATA link power management for host0
   Bad          Enable Audio codec power management
   Bad          Runtime PM for I2C Adapter i2c-1 (i915 gmbus vga)
   Bad          Runtime PM for I2C Adapter i2c-2 (i915 gmbus panel)
   Bad          Runtime PM for I2C Adapter i2c-3 (i915 gmbus dpc)
   Bad          Runtime PM for I2C Adapter i2c-4 (i915 gmbus dpb)
   Bad          Runtime PM for I2C Adapter i2c-0 (i915 gmbus ssc)
   Bad          Runtime PM for I2C Adapter i2c-5 (i915 gmbus dpd)
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family PCI Express Root Port 2
   Bad          Runtime PM for PCI Device Intel Corporation 82579LM Gigabit Network Connection (Lewisville)
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family High Definition Audio Controller
   Bad          Runtime PM for PCI Device Intel Corporation Centrino Advanced-N 6205 [Taylor Peak]
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family 6 port Mobile SATA AHCI Controller
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family PCI Express Root Port 5
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family PCI Express Root Port 1
   Bad          Runtime PM for PCI Device Intel Corporation QM67 Express Chipset LPC Controller
   Bad          Runtime PM for PCI Device Intel Corporation 2nd Generation Core Processor Family DRAM Controller
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family USB Enhanced Host Controller #1
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family USB Enhanced Host Controller #2
   Bad          Runtime PM for PCI Device Ricoh Co Ltd PCIe SDXC/MMC Host Controller
   Bad          Runtime PM for PCI Device Intel Corporation 2nd Generation Core Processor Family Integrated Graphics Controller
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family SMBus Controller
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family PCI Express Root Port 4
   Bad          Runtime PM for PCI Device Intel Corporation 6 Series/C200 Series Chipset Family MEI Controller #1
   Good         VM writeback timeout
   Good         NMI watchdog should be turned off
   Good         Autosuspend for USB device EHCI Host Controller [usb2]
   Good         Autosuspend for USB device Integrated Camera [Chicony Electronics Co., Ltd.]
   Good         Autosuspend for unknown USB device 1-1 (8087:0024)
```

iotop

- Python program with a top like UI
- Current I/O usage by processes or thread

- http://guichaz.free.fr/iotop/

```
Total DISK READ :        0.00 B/s | Total DISK WRITE :        7.39 K/s
Actual DISK READ:        0.00 B/s | Actual DISK WRITE:        0.00 B/s
  TID  PRIO  USER     DISK READ  DISK WRITE  SWAPIN      IO>    COMMAND
  430 be/3 root         0.00 B/s    7.39 K/s  0.00 %   3.16 % [jbd2/dm-1-8]
    1 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % init splash
    2 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kthreadd]
    3 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [rcu_gp]
    4 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [rcu_par_gp]
    6 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kworker/0:0H-kblockd]
    8 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [mm_percpu_wq]
    9 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [ksoftirqd/0]
   10 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [rcu_sched]
   11 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [rcu_bh]
   12 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [migration/0]
   13 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [watchdog/0]
   14 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [cpuhp/0]
   15 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [cpuhp/1]
   16 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [watchdog/1]
   17 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [migration/1]
   18 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [ksoftirqd/1]
   20 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kworker/1:0H-kblockd]
   21 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [cpuhp/2]
   22 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [watchdog/2]
   23 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [migration/2]
   24 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [ksoftirqd/2]
   26 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kworker/2:0H-kblockd]
   27 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [cpuhp/3]
   28 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [watchdog/3]
   29 rt/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [migration/3]
   30 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [ksoftirqd/3]
   32 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kworker/3:0H-kblockd]
   33 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kdevtmpfs]
   34 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [netns]
   35 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [rcu_tasks_kthre]
   36 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kauditd]
   40 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [khungtaskd]
   41 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [oom_reaper]
   42 be/0 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [writeback]
   43 be/4 root         0.00 B/s    0.00 B/s  0.00 %   0.00 % [kcompactd0]
```

iftop

- Console based
- „Does for network usage what top(1) does for CPU usage"
- sudo iftop -i wlp3s0

- http://www.ex-parrot.com/pdw/iftop/

DEMO TIME

```
                  12,5Kb              25,0Kb              37,5Kb              50,0Kb              62,5Kb
────────────────────┼───────────────────┼───────────────────┼───────────────────┼───────────────────┼

Betty                              => google-public-dns-a.google.com          544b    332b    479b
                                   <=                                         544b    377b    547b
224.0.0.251                        => 10.1.2.187                                0b      0b      0b
                                   <=                                        1,06Kb    697b    232b
255.255.255.255                    => 10.1.2.88                                 0b      0b      0b
                                   <=                                           0b     694b    231b
239.255.255.250                    => 10.1.3.20                                 0b      0b      0b
                                   <=                                         612b     490b    326b
224.0.0.251                        => 10.1.3.82                                 0b      0b      0b
                                   <=                                         896b     488b    955b
224.0.0.252                        => 10.1.1.192                                0b      0b      0b
                                   <=                                         244b     244b    325b
Betty                              => ec2-34-225-240-173.compute-1.amazonaws.co  0b    139b     46b
                                   <=                                           0b      84b     28b
224.0.0.251                        => 10.1.3.134                                0b      0b      0b
                                   <=                                           0b     219b    454b
Betty                              => leyrer.priv.at                            0b     106b     35b
                                   <=                                           0b     106b     35b
Betty                              => contrib.legoff.be                         0b      74b     25b
                                   <=                                           0b     116b     39b
224.0.0.251                        => 10.1.1.235                                0b      0b      0b
                                   <=                                         688b     138b     69b
────────────────────────────────────────────────────────────────────────────────────────────────────
TX:            cum:    3,15KB   peak:   4,83Kb                       rates:   544b     652b    859b
RX:                   18,1KB            10,4Kb                              4,52Kb   4,07Kb  4,84Kb
TOTAL:                21,3KB            14,9Kb                              5,05Kb   4,71Kb  5,68Kb
```

Nethogs

- Console based
- Groups bandwidth by process

- https://github.com/raboof/nethogs

```
NetHogs version 0.8.5-2

  PID USER   PROGRAM                                            DEV      SENT      RECEIVED
21543 leyrer /usr/lib/thunderbird/thunderbird                  wlp3s0   7.221     257.032 KB/sec
21475 leyrer ssh                                               wlp3s0   0.103       0.192 KB/sec
21724 root   /usr/bin/keepassxc-proxy                          wlp3s0   0.018       0.030 KB/sec
21707 root   /usr/bin/keepassxc-proxy                          wlp3s0   0.000       0.000 KB/sec
 3575 leyrer /app/bin/syncthing                                wlp3s0   0.000       0.000 KB/sec
 7485 leyrer ..pp/Signal/signal-desktop --type=renderer --no-sandbox -- wlp3s0 0.000 0.000 KB/sec
21166 leyrer /usr/bin/keepassxc-proxy                          wlp3s0   0.000       0.000 KB/sec
 7981 leyrer /usr/lib/firefox/firefox                          wlp3s0   0.000       0.000 KB/sec
    ? root   unknown TCP                                                0.000       0.000 KB/sec


TOTAL                                                                   7.343     257.255 KB/sec
```

ss – socket statistics

- Console based
- netstat replacement
- Part of Iproute2 package

- https://wiki.linuxfoundation.org/networking/iproute2

DEMO TIME

```
$ ss -S
Total: 999
TCP:    45 (estab 13, closed 15, orphaned 0, timewait 8)

Transport Total       IP          IPv6
RAW         1         0           1
UDP         24        15          9
TCP         30        24          6
INET        55        39          16
FRAG        0         0           0
```

dstat

- Console based
- versatile replacement for vmstat, iostat and ifstat

- http://dag.wiee.rs/home-made/dstat/

DEMO TIME

usr	sys	idl	wai	stl	cpu process		latency process		read	writ	recv	send
3	1	96	0	0	firefox	0.8	firefox	941	0	0	1605B	0
3	1	96	0	0	firefox	1.2	firefox	1773	0	0	1796B	94B
3	1	96	0	0	WebExtensions	0.5	firefox	2771	0	32k	216B	0
7	1	92	0	0	gnome-screens	2.2	firefox	2500	0	8192B	291B	94B
3	1	96	0	0	firefox	1.0	firefox	1501	0	0	904B	0
3	1	96	0	0	firefox	0.8	kworker/3:2-m	4545	0	0	0	0
3	1	96	0	0	WebExtensions	0.8	firefox	941	0	0	150B	0
2	1	96	0	0	firefox	0.8	firefox	1056	0	0	0	383B
5	2	93	0	0	Xorg	1.5	firefox	1004	0	0	60B	0
4	1	94	1	0	firefox	0.8	rcu_sched	776	0	28k	1782B	94B
6	2	92	0	0	firefox	4.0	firefox	2724	0	0	1348B	0
5	2	93	0	0	firefox	1.5	firefox	987	0	0	280B	0
4	1	95	0	0	firefox	1.0	firefox	1326	0	0	1105B	0
3	1	96	0	0	firefox	0.8	firefox	1622	0	0	1010B	0
8	2	90	0	0	firefox	7.2	firefox	1449	0	32k	1454B	188B
5	1	94	0	0	firefox	2.8	firefox	1368	0	0	2470B	0
3	1	96	0	0	firefox	1.2	kworker/2:3-e	3166	0	0	2345B	0
4	2	95	0	0	thunderbird	1.2	firefox	1067	0	0	2252B	2011B
3	1	96	0	0	firefox	1.0	firefox	1051	0	252k	865B	1016B
4	1	95	1	0	firefox	1.5	firefox	1135	0	76k	993B	0
3	1	96	0	0	firefox	1.0	firefox	924	0	0	195B	0
2	1	94	3	0	firefox	0.8	firefox	853	0	56k	75B	0
3	1	97	0	0	firefox	1.0	firefox	1922	0	0	352B	0
3	1	97	0	0	firefox	0.5	firefox	1084	0	0	988B	234B
4	0	96	0	0	firefox	1.0	firefox	1097	0	0	290B	562B
4	1	95	0	0	firefox	1.2	firefox	1295	0	0	150B	0
8	5	87	0	0	syncthing	9.0	watch	2952	0	48k	93B	2538B

saidar

- Console based
- System statistics overview

- https://libstatgrab.org/

```
Hostname : Betty          Uptime : 08:06:05          Date : 2019-06-01 06:13:44

Load 1   :    0.77  CPU Idle  : 93.42%  Running  :      53  Zombie     :       0
Load 5   :    0.77  CPU System:  2.03%  Sleeping :     178  Total      :     242
Load 15  :    0.73  CPU User  :  5.32%  Stopped  :       0  No. Users  :       2

Mem Total :   7855M  Swap Total:   8071M  Mem Used  : 48.68%  Paging in :       0
Mem Used  :   3824M  Swap Used :      0B  Swap Used :  0.00%  Paging out:      28
Mem Free  :   4031M  Swap Free :   8071M  Total Used: 24.01%

Disk Name       Read        Write       Network Interface       rx        tx
loop0            0B           0B         wlp3s0               1034B      141B
loop1            0B           0B         lo                    542K      542K
loop2            0B           0B         enp0s25                0B        0B
loop3            0B           0B
loop4            0B           0B         Mount Point            Free      Used
loop5            0B           0B         /sys                   0B          -
loop6            0B           0B         /proc                  0B          -
loop7            0B           0B         /dev                 3893M      0.00%
sda              0B        28672B        /dev/pts               0B          -
sda1             0B           0B         /run                 784M       0.19%
sda2             0B           0B         /                    186G      31.22%
sda5             0B        28672B        /sys/kernel/securit    0B          -
dm-0             0B        28672B        /dev/shm             3876M      1.31%
dm-1             0B        32768B        /run/lock            5116K      0.08%
dm-2             0B           0B         /sys/fs/cgroup       3927M      0.00%
                                         /sys/fs/cgroup/unif    0B          -
Total            0B         116K         /sys/fs/cgroup/syst    0B          -
                                         /sys/fs/pstore         0B       -/sys/fs/cgroup/devi    0B     -/
```

discus

- Console based
- Colourised Disk Space Usage

- http://www.raincrazy.com/software/discus

Mount	Total	Used	Avail	Prcnt	Graph
/run	785.5 MB	1.5 MB	784.1 MB	0.2%	[----------]
/	285.06 GB	84.47 GB	200.59 GB	29.6%	[***-------]
+l/security	0 KB	0 KB	0 KB	0.0%	[----------]
/dev/shm	3.84 GB	41.6 MB	3.79 GB	1.1%	[----------]
/run/lock	5.0 MB	4 KB	5.0 MB	0.1%	[----------]
+/fs/cgroup	3.84 GB	0 KB	3.84 GB	0.0%	[----------]
+up/unified	0 KB	0 KB	0 KB	0.0%	[----------]
+up/systemd	0 KB	0 KB	0 KB	0.0%	[----------]
+/fs/pstore	0 KB	0 KB	0 KB	0.0%	[----------]
+up/devices	0 KB	0 KB	0 KB	0.0%	[----------]
+oup/cpuset	0 KB	0 KB	0 KB	0.0%	[----------]
+group/rdma	0 KB	0 KB	0 KB	0.0%	[----------]
+pu,cpuacct	0 KB	0 KB	0 KB	0.0%	[----------]
+up/hugetlb	0 KB	0 KB	0 KB	0.0%	[----------]
+perf_event	0 KB	0 KB	0 KB	0.0%	[----------]
+up/freezer	0 KB	0 KB	0 KB	0.0%	[----------]
+s,net_prio	0 KB	0 KB	0 KB	0.0%	[----------]
+oup/memory	0 KB	0 KB	0 KB	0.0%	[***-------]
+group/pids	0 KB	0 KB	0 KB	0.0%	[----------]
+roup/blkio	0 KB	0 KB	0 KB	0.0%	[----------]
+infmt_misc	0 KB	0 KB	0 KB	0.0%	[----------]
+nel/config	0 KB	0 KB	0 KB	0.0%	[----------]
+rnel/debug	0 KB	0 KB	0 KB	0.0%	[----------]
+dev/mqueue	0 KB	0 KB	0 KB	0.0%	[----------]
+onnections	0 KB	0 KB	0 KB	0.0%	[----------]
+/hugepages	0 KB	0 KB	0 KB	0.0%	[----------]

nmon

- Console based
- Monitor anything
- Data Analysis

- http://nmon.sourceforge.net/pmwiki.php

DEMO TIME

```
 CPU Utilisation
---------------------------+-------------------------------------------------+
CPU User%  Sys% Wait%  Idle|0          |25         |50        |75        100|
  1   6.1   3.0   0.0  90.9|UUUs                 >                           |
  2   3.6   1.5   0.0  94.9|U      >                                         |
  3  13.8   1.5   0.0  84.6|UUUUUU                  >                        |
  4   4.5   2.0   0.0  93.5|UUs             >                                |
---------------------------+-------------------------------------------------+
Avg   7.1   2.0   0.1  90.7|UUUs               >                             |
---------------------------+-------------------------------------------------+
 Memory and Swap
PageSize:4KB    RAM-Memory  Swap-Space      High-Memory    Low-Memory
Total (MB)        7855.2      8072.0        - not in use   - not in use
Free  (MB)         778.1      8072.0
Free Percent        9.9%      100.0%
Linux Kernel Internal Memory (MB)
                     Cached=    3044.0    Active=    4341.4
Buffers=    558.6 Swapcached=       0.0  Inactive =    2104.8
Dirty  =      3.5 Writeback =       0.0  Mapped   =     667.0
Slab   =    498.5 Commit_AS =    7979.8 PageTables=      51.2
 Network I/O
I/F Name Recv=KB/s Trans=KB/s packin packout insize outsize Peak->Recv Trans
  wlp3s0      3.8        1.7     23.0    13.0   168.5  137.5     106.0     4.0
      lo    271.1      271.1     34.5    34.5  8051.3 8051.3    1624.8  1624.8
  enp0s25     0.0        0.0      0.0     0.0     0.0    0.0       0.0     0.0
 Disk I/O ─/proc/diskstats──mostly in KB/s───Warning:contains duplicates─
DiskName Busy  Read WriteKB|0         |25        |50        |75       100|
Totals Read-MB/s=0.0     Writes-MB/s=0.0    Transfers/sec=0.0           |

dm-0       6% 1021.6     0.0|RRR
```

nmon data file: **sampleD.nmon**

Configuration	Top Summary	Top Commands

Physical CPU	Pool Idle	CPU Util.	CPU Use	RunQ	pSwitch	SysCall	ReadWrite	ForkExec	File I/O	Real Mem	Virt Mem

FS Cache	Paging	Swaping

Network	Net Packets	Net Size	Adapter KBs	Adapter Tps	Disk Busy	Unstacked	Disk Read	Unstacked	Disk Write	Unstacked

Disk BSize	Disk Xfer	Disk Service	Disk Read Service	Disk Write Service	Disk Wait	JFS	IPC

Top 20 processes by CPU correlation between CPU-seconds(Total), Character-I/O(Total), Memory-Size(Max) for each Command Name
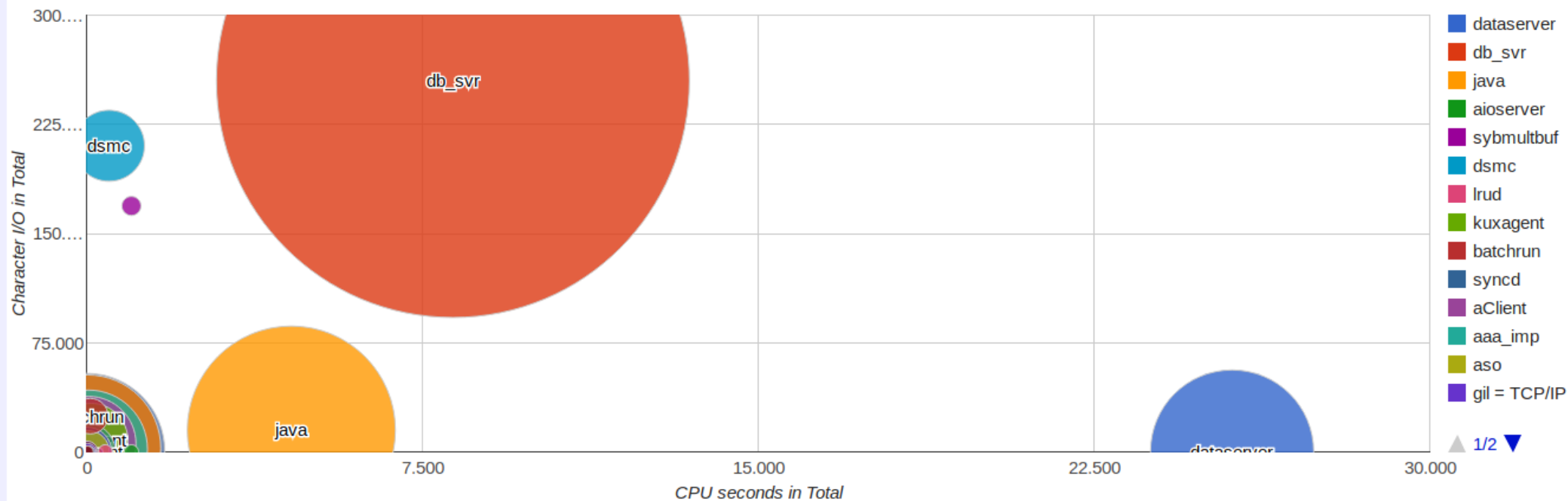
Legend:
- dataserver
- db_svr
- java
- aioserver
- sybmultbuf
- dsmc
- lrud
- kuxagent
- batchrun
- syncd
- aClient
- aaa_imp
- aso
- gil = TCP/IP

1/2

System Summary vm160 09/12/2014

PhysicalCPU   IO/sec
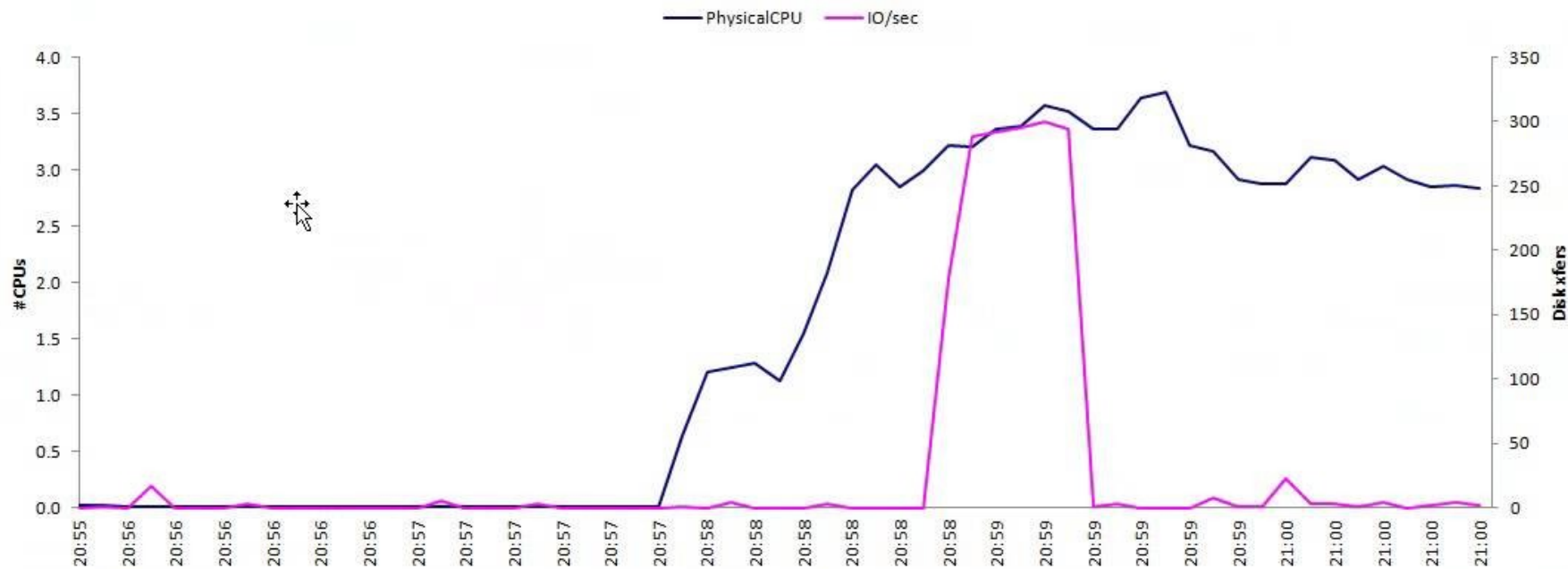
| | Samples | | 59 | First | | 20:55:52 | Last | 21:00:48 |

| Total System I/O Statistics | | | VP_CPU: | User% | Sys% | Wait% | Idle% | CPU% | PhysCPU |
| Avg tps during an interval: | | 29 | Avg | 24.1 | 0.9 | 0.0 | 14.9 | 39.9 | 1.6 |

SYS_SUMM AAA BBBB BBBC BBBD BBBL BBBN BBBP BBBV LPAR CPU_SUMM DISK_

Ready

kubetail

- Console based
- Validate format, select portions, transform with XSLT, edit XML

- https://github.com/johanhaleby/kubetail

```
Will tail 3 logs...
nginx-fbj71
nginx-k96sc
nginx-v80zx
[nginx-v80zx] 172.20.52.108 - - [23/Mar/2017:00:58:21 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 100.96.2.1 - - [23/Mar/2017:00:58:22 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 100.96.1.1 - - [23/Mar/2017:00:58:23 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 172.20.52.108 - - [23/Mar/2017:00:58:24 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 100.96.2.1 - - [23/Mar/2017:00:58:25 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 100.96.1.1 - - [23/Mar/2017:00:58:27 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 172.20.52.108 - - [23/Mar/2017:00:58:28 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 172.20.62.199 - - [23/Mar/2017:00:58:29 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 100.96.1.1 - - [23/Mar/2017:00:58:30 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 172.20.52.108 - - [23/Mar/2017:00:58:31 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 172.20.62.199 - - [23/Mar/2017:00:58:33 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 172.20.52.33 - - [23/Mar/2017:00:58:34 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-fbj71] 172.20.52.108 - - [23/Mar/2017:00:58:35 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-fbj71] 100.96.2.1 - - [23/Mar/2017:00:58:36 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-fbj71] 172.20.52.33 - - [23/Mar/2017:00:58:37 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 172.20.52.108 - - [23/Mar/2017:00:58:39 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 100.96.2.1 - - [23/Mar/2017:00:58:40 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 172.20.52.33 - - [23/Mar/2017:00:58:41 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-v80zx] 172.20.52.108 - - [23/Mar/2017:00:58:42 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
[nginx-k96sc] 172.20.62.199 - - [23/Mar/2017:00:58:43 +0000] "GET / HTTP/1.1" 200 269 "-" "curl/7.51.0"
```

colorex

- Console based
- Colorize output
- cat access_log | colorex yellow:404

- https://github.com/aereal/colorex

```
kmandla@lv-c5551: ~$ python2 downloads/colorex/colorex -N /var/log/pacman.log | tail -58
[2014-07-31 21:39] [PACMAN] upgraded libarchive (3.1.2-6 -> 3.1.2-8)
[2014-07-31 21:39] [PACMAN] upgraded libcups (1.7.4-1 -> 1.7.5-1)
[2014-07-31 21:39] [PACMAN] upgraded libwbclient (4.1.9-1 -> 4.1.10-2)
[2014-07-31 21:39] [PACMAN] upgraded mkinitcpio (17-1 -> 18-1)
[2014-07-31 21:39] [PACMAN] upgraded smbclient (4.1.9-1 -> 4.1.10-2)
[2014-07-31 21:39] [PACMAN] upgraded tar (1.27.1-1 -> 1.28-1)
[2014-07-31 21:39] [PACMAN] upgraded xf86-video-intel (2.99.914-1 -> 2.99.914-2)
[2014-07-31 21:39] [PACMAN] upgraded xorg-server-common (1.16.0-5 -> 1.16.0-6)
[2014-07-31 21:39] [PACMAN] upgraded xorg-server (1.16.0-5 -> 1.16.0-6)
[2014-07-31 21:40] [PACMAN] upgraded youtube-dl (2014.07.25.1-1 -> 2014.07.30-1)
[2014-08-01 07:55] [PACMAN] Running 'pacman --color auto -S --noconfirm extra/ruby'
[2014-08-01 07:55] [PACMAN] installed libyaml (0.1.6-1)
[2014-08-01 07:55] [ALPM-SCRIPTLET] The default location of gem installs is $HOME/.gem/ruby
[2014-08-01 07:55] [ALPM-SCRIPTLET] Add the following line to your PATH if you plan to install using gem
[2014-08-01 07:55] [ALPM-SCRIPTLET] $(ruby -rubygems -e "puts Gem.user_dir")/bin
[2014-08-01 07:55] [ALPM-SCRIPTLET] If you want to install to the system wide location, you must either:
[2014-08-01 07:55] [ALPM-SCRIPTLET] edit /etc/gemrc or run gem with the --no-user-install flag.
[2014-08-01 07:55] [PACMAN] installed ruby (2.1.2-1)
[2014-08-01 08:20] [PACMAN] Running 'pacman -U /var/cache/pacman/pkg/rig-1.11-1-i686.pkg.tar.xz'
[2014-08-01 08:20] [PACMAN] installed rig (1.11-1)
[2014-08-01 08:30] [PACMAN] Running 'pacman --color auto -S --asdeps --needed --noconfirm extra/icu extra/taglib'
[2014-08-01 08:30] [PACMAN] installed icu (53.1-1)
[2014-08-01 08:30] [PACMAN] installed taglib (1.9.1-1)
[2014-08-01 08:30] [PACMAN] Running 'pacman --color auto -U --noconfirm /tmp/yaourt-tmp-kmandla/PKGDEST.aoX/music-file-organizer-1.0.1-1-i686.pkg.tar.xz'
[2014-08-01 08:30] [PACMAN] installed music-file-organizer (1.0.1-1)
[2014-08-01 08:37] [PACMAN] Running 'pacman -Rscn git'
[2014-08-01 08:51] [PACMAN] removed git (2.0.3-1)
[2014-08-01 08:51] [PACMAN] removed perl-error (0.17022-1)
[2014-08-01 15:33] [PACMAN] Running 'pacman --color auto -S --noconfirm extra/smartmontools'
[2014-08-01 15:33] [PACMAN] installed smartmontools (6.2-1)
[2014-08-01 16:22] [PACMAN] Running 'pacman --color auto -S --noconfirm community/jhead'
[2014-08-01 16:22] [PACMAN] installed jhead (2.97-2)
[2014-08-01 16:40] [PACMAN] Running 'pacman --color auto -S --asdeps --needed --noconfirm extra/cmake'
[2014-08-01 16:40] [PACMAN] installed cmake (3.0.0-3)
[2014-08-01 16:40] [PACMAN] Running 'pacman --color auto -U --noconfirm /tmp/yaourt-tmp-kmandla/PKGDEST.84h/clog-1.1.0-1-i686.pkg.tar.xz'
[2014-08-01 16:40] [PACMAN] installed clog (1.1.0-1)
[2014-08-01 18:16] [PACMAN] Running 'pacman -Rcsn co'
[2014-08-01 18:16] [PACMAN] Running 'pacman -Rcsn clog'
[2014-08-01 18:16] [PACMAN] removed clog (1.1.0-1)
[2014-08-01 18:26] [PACMAN] Running 'pacman --color auto -S --noconfirm hg'
[2014-08-01 18:26] [PACMAN] Running 'pacman --color auto -S --noconfirm extra/mercurial'
[2014-08-01 18:27] [PACMAN] installed mercurial (3.0.2-1)
[2014-08-01 18:40] [PACMAN] Running 'pacman -Rcsn music-file-organizer'
[2014-08-01 18:40] [PACMAN] removed music-file-organizer (1.0.1-1)
[2014-08-01 18:40] [PACMAN] removed icu (53.1-1)
[2014-08-01 18:40] [PACMAN] removed taglib (1.9.1-1)
[2014-08-01 18:40] [PACMAN] Running 'pacman --color auto -S --asdeps --needed --noconfirm extra/icu extra/taglib'
[2014-08-01 18:40] [PACMAN] installed icu (53.1-1)
[2014-08-01 18:40] [PACMAN] installed taglib (1.9.1-1)
[2014-08-01 18:40] [PACMAN] Running 'pacman --color auto -S --noconfirm extra/git'
[2014-08-01 18:41] [PACMAN] installed perl-error (0.17022-1)
[2014-08-01 18:41] [PACMAN] installed git (2.0.3-1)
[2014-08-01 18:41] [PACMAN] Running 'pacman --color auto -U --noconfirm /tmp/yaourt-tmp-kmandla/PKGDEST.1S2/music-file-organizer-git-1.0.4.gd7bc417-1-i686.pkg.tar.xz'
[2014-08-01 18:41] [PACMAN] installed music-file-organizer-git (1.0.4.gd7bc417-1)
[2014-08-01 18:51] [PACMAN] Running 'pacman -Rcsn music-file-organizer-git'
[2014-08-01 18:51] [PACMAN] removed music-file-organizer-git (1.0.4.gd7bc417-1)
[2014-08-01 18:51] [PACMAN] removed icu (53.1-1)
[2014-08-01 18:51] [PACMAN] removed taglib (1.9.1-1)

kmandla@lv-c5551: ~$
```

lolcat

- console-based
- Rainbows and unicorns!

- https://github.com/busyloop/lolcat

DEMO TIME

```
127.0.0.1 - - [01/Jun/2019:06:19:18 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:19 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:20 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:21 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:22 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:23 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:24 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:25 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:26 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:27 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:28 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:29 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:30 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:32 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:33 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:34 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:35 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:36 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:37 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:38 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:39 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:40 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:41 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:42 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:43 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:44 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:45 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:46 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:47 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:48 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:49 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:50 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
127.0.0.1 - - [01/Jun/2019:06:19:51 +0200] "GET /index.html HTTP/1.1" 200 550897 "-" "curl/7.58.0"
```

HTTP Prompt

- Interactive HTTP client
- Autocompletion
- Syntax highlighting
- Based on HTTPie(!) and prompt_toolkit
- http://http-prompt.com/

DEMO TIME

```
$ http-prompt http://httpbin.org
Version: 1.0.0
http://httpbin.org> cd post
http://httpbin.org/post> Authorization:'Bearer accesstoken'
http://httpbin.org/post> Content-Type:application/json
http://httpbin.org/post> username=foo password=bar
http://httpbin.org/post> httpie post
http POST http://httpbin.org/post password=bar username=foo
'Authorization:Bearer accesstoken' Content-Type:application/json
http://httpbin.org/post> post
HTTP/1.1 200 OK
…
Content-Type: application/json
{
    "args": {},
    "data": "{\"password\": \"bar\", \"username\": \"foo\"}",
    "files": {},
    "form": {},
    "headers": {
        "Accept": "application/json, */*",
        "Accept-Encoding": "gzip, deflate",
```

```
Version: 0.8.0
http://httpbin.org> cd post
http://httpbin.org/post> Authorization:'Bearer accesstoken'
http://httpbin.org/post> Content-Type:application/json
http://httpbin.org/post> username=foo password=bar
http://httpbin.org/post> httpie post
http POST http://httpbin.org/post password=bar username=foo 'Auth
orization:Bearer accesstoken' Content-Type:application/json
http://httpbin.org/post> post
    post                    POST request
    Proxy-Authorization     Proxy authorization credentials
    Proxy-Connection        Proxy connection options
    --proxy                 Specify proxy URL
    X-Forwarded-Proto       Originating protocol
    options                 OPTIONS request
    password                Body parameter (=bar)
```

XMLStarlet

- Console based
- Transform, query, validate, and edit XML documents

- http://xmlstar.sourceforge.net/overview.php

DEMO TIME

```
curl -s https://2k19.balccon.org/schedule.xml | xmlstarlet sel -
t -m '/schedule/day/room/event' -v "title" -n
```
Opening
The Road to Hell is Paved with Bad Passwords
No More Whack-a-Mole: How to Find and Prevent Entire Classes of Security Vulnerabil
ities
Infotainment systems hacking
Digital (Anti-)Forensics
Legitimate tools or weapons of mass compromise?
A BEAST and a POODLE celebrating SWEET32
spispy: Open source SPI flash emulation
Ultimate Mobile OPSEC
RPKI Validation
seccomp — Your Next Layer of Defence
Lessons learned while Pentesting Travel Industry
Intro: BalCCon Beginner CTF
Looking through Muddy Waters: Insight into TTPs of a Middle Eastern threat actor
The leak of billions of passwords

Ultimate Plumber

- Console based

- Writing Linux pipes with instant live preview

- https://github.com/akavel/up

DEMO TIME

reptyr

- Console based
- re-pty programs
- reptyr PID

- https://github.com/nelhage/reptyr

DEMO TIME

```
$ wget http://cdimage.ubuntu.com/daily-live/current/eoan-desktop-amd64.iso -O /tmp/x.iso
--2019-06-01 08:00:08--  http://cdimage.ubuntu.com/daily-live/current/eoan-desktop-amd64.iso
Resolving cdimage.ubuntu.com (cdimage.ubuntu.com)... 91.189.88.168, 2001:67c:1360:8001::27
Connecting to cdimage.ubuntu.com (cdimage.ubuntu.com)|91.189.88.168|:80... connected.
HTTP request sent, awaiting response... 200 OK
Length: 2222653440 (2,1G) [application/x-iso9660-image]
Saving to: '/tmp/x.iso'

/tmp/x.iso                    0%[                              ]   8,17M   472KB/s    eta 76m 46s
[1]  + 8074 suspended  wget http://cdimage.ubuntu.com/daily-live/current/eoan-desktop-amd64.iso -O


$ reptyr 8074
/tmp/x.iso                    1%[                              ]  26,80M   473KB/s    eta 75m 49s
```

ttyd

- Console based
- Share your terminal over the web

- https://tsl0922.github.io/ttyd/

htop | zsh (Betty)

localhost:8081

```
  1  [||||||||||                                          10.7%]   Tasks: 160, 650 thr; 1 running
  2  [|||||||                                              7.3%]   Load average: 0.70 0.99 1.00
  3  [|||||||                                              7.4%]   Uptime: 10:00:42
  4  [||||||||||                                          11.2%]
Mem[|||||||||||||||||||||||||||||||||||||||||||||4.08G/7.67G]
Swp[                                                  0K/7.88G]

  PID USER      PRI  NI  VIRT   RES   SHR S CPU% MEM%   TIME+  Command
 7981 leyrer     20   0 2942M  558M  167M S  4.0  7.1 28:50.44 /usr/lib/firefox/firefox
 2418 leyrer     20   0 3626M  172M 76028 S  2.7  2.2 20:43.78 cinnamon --replace
 1353 root       20   0  670M  142M  112M S  2.7  1.8 10:54.38 /usr/lib/xorg/Xorg -core :0 -seat seat0 -auth /var/run/lightdm/root/:0 -nolisten tcp vt7 -novtswitch
31610 leyrer     20   0 1552M  125M 82852 S  2.7  1.6  0:10.35 /usr/lib/chromium-browser/chromium-browser --type=renderer --field-trial-handle=4996556114062131328,3284791342945215528,131072 -
14582 leyrer     20   0 1679M  185M  119M S  2.7  2.4  0:10.91 /usr/lib/firefox/firefox -contentproc -childID 141 -isForBrowser -prefsLen 8785 -prefMapSize 192912 -parentBuildID 2019052014540
 8242 leyrer     20   0 19.9G  378M 97164 S  1.3  4.8  6:19.22 /usr/lib/firefox/firefox -contentproc -childID 3 -isForBrowser -prefsLen 5733 -prefMapSize 192912 -parentBuildID 20190520145408
 5038 leyrer     20   0  147M  4820  3532 R  1.3  0.1  0:00.50 htop
 1077 messagebu  20   0 49172  5632  3736 S  1.3  0.1  0:42.14 /usr/bin/dbus-daemon --system --address=systemd: --nofork --nopidfile --systemd-activation --syslog-only
 8173 leyrer     20   0 2268M  319M  114M S  1.3  4.1 10:13.22 /usr/lib/firefox/firefox -contentproc -childID 2 -isForBrowser -prefsLen 1 -prefMapSize 192912 -parentBuildID 20190520145408 -gr
 8060 leyrer     20   0 2942M  558M  167M S  1.3  7.1  1:14.81 /usr/lib/firefox/firefox
 1851 root       20   0  429M  9276  7676 S  1.3  0.1  0:19.22 /usr/lib/upower/upowerd
  804 www-data   20   0 1970M 10460  5392 S  1.3  0.1  0:02.26 /usr/sbin/apache2 -k start
30916 leyrer     20   0 1144M  105M 80680 S  0.7  1.3  0:02.51 /usr/lib/chromium-browser/chromium-browser --type=gpu-process --field-trial-handle=4996556114062131328,3284791342945215528,13107
20638 leyrer     20   0 1808M  345M  130M S  0.7  4.4  2:46.65 /usr/lib/libreoffice/program/soffice.bin --impress file:///home/leyrer/leyrer-default-sync/Documents/Presentations/2019-05%20GPN
F1Help  F2Setup  F3Search  F4Filter F5Tree   F6SortBy F7Nice - F8Nice + F9Kill   F10Quit
```

```
$ ttyd -p 8081 zsh
[2019/06/01 08:07:18:0987] NOTICE: ttyd 1.4.4 (libwebsockets 2.4.2)
[2019/06/01 08:07:18:0987] NOTICE: tty configuration:
[2019/06/01 08:07:18:0987] NOTICE:   start command: zsh
[2019/06/01 08:07:18:0987] NOTICE:   close signal: SIGHUP (1)
[2019/06/01 08:07:18:0987] NOTICE:   terminal type: xterm-256color
[2019/06/01 08:07:18:0987] NOTICE:   reconnect timeout: 10s
[2019/06/01 08:07:18:0987] NOTICE: libuv support not compiled in
[2019/06/01 08:07:18:0988] NOTICE: Creating Vhost 'default' port 8081, 2 protocols, IPv6 off
[2019/06/01 08:07:25:0908] NOTICE: HTTP / - 127.0.0.1 (localhost)
[2019/06/01 08:07:25:1082] NOTICE: HTTP /auth_token.js - 127.0.0.1 (localhost)
```

WTF

- Console based
- Personal information dashboard

- https://wtfutil.com/

```
┌─────────────── Europe ───────────────┐┌────────────── Americas ──────────────┐┌──────────────────── My IP ────────────────────┐
│ Amsterdam     08:15 CEST   Jun 1      ││ Bahamas       02:15 EDT   Jun 1       ││         IP: 88.130.232.178                     │
│ Barcelona     08:15 CEST   Jun 1      ││ Chicago       01:15 CDT   Jun 1       ││   Hostname:                                    │
│ Berlin        08:15 CEST   Jun 1      ││ Denver        00:15 MDT   Jun 1       ││       City: Dortmund                           │
│ Copenhagen    08:15 CEST   Jun 1      ││ Iqaluit       02:15 EDT   Jun 1       ││     Region: Nordrhein-Westfalen                │
│ GMT           06:15 GMT    Jun 1      ││ New_York      02:15 EDT   Jun 1       ││    Country: DE                                 │
│ London        07:15 BST    Jun 1      ││ Sao_Paolo     03:15  -03  Jun 1       ││     Coords: 51.5208,7.5184                     │
│ Rome          08:15 CEST   Jun 1      ││ UTC           06:15 UTC   Jun 1       ││        Org: AS8881 1&1 Versatel Deutschland GmbH│
│ Stockholm     08:15 CEST   Jun 1      ││ Vancouver     23:15 PDT   May 31      ││                                                │
└───────────────────────────────────────┘└───────────────────────────────────────┘└────────────────────────────────────────────────┘
┌──────────── Todo 1 ────────────┐┌──── ~/.config/wtf/config.yml 2 ────┐┌───────── Staying safe ─────────┐┌──────────── ⚡ ────────────┐
│                                ││                                    ││ WiFi                           ││   Source: AC Power         │
│                                ││ wtf:                               ││  Network: LAN1                 ││                            │
│                                ││   colors:                          ││   Crypto: WPA2                 ││   Charge: 96%              │
│                                ││     background: black              ││                                ││Remaining: ∞               │
│                                ││     border:                        ││ Firewall                       ││    State: fully-charged    │
│                                ││       focusable: darkslateblue     ││   Status: N/A                  ││                            │
│                                ││       focused: orange              ││  Stealth: N/A                  ││                            │
│                                ││       normal: gray                 ││                                ││                            │
│                                │└────────────────────────────────────┘└────────────────────────────────┘└────────────────────────────┘
│                                │┌───────────────────────── HackerNews - topstories 3 ─────────────────────────────────────────────┐
│                                ││ 1. Justice Department Is Preparing Antitrust Investigation of Google (wsj.com)                  │
│                                ││ 2. Maine passes bill to prevent ISPs from selling browsing data without consent (techcrunch.com)│
│                                ││ 3. Lisp System Implementation (t3x.org)                                                         │
│                                ││ 4. Why Was Mini USB Deprecated in Favor of Micro USB? (electronics.stackexchange.com)           │
│                                ││ 5. Space firm founded by billionaire Paul Allen closing operations (reuters.com)                │
│                                ││ 6. California is cracking down on the gig economy (vox.com)                                      │
│                                ││ 7. Facebook reportedly argues there's no 'expectation of privacy' on social media (cnet.com)    │
│                                ││ 8. The degrowth movement wants to intentionally shrink the economy (vice.com)                   │
└────────────────────────────────┘└─────────────────────────────────────────────────────────────────────────────────────────────────┘
┌──────────── ResourceUsage ────────────┐┌──────────────────────────────────── df -h ────────────────────────────────────┐
│0 [                       ] 4%         ││ Filesystem              Size  Used Avail Use% Mounted on                        │
└───────────────────────────────────────┘└────────────────────────────────────────────────────────────────────────────────┘
```

no-more-secrets

- Console based
- For the visit from the TV studio

- https://wtfutil.com/

DEMO TIME

```
[brian@archtop ~]$ []
```

Questions, Tipps, More Tools?

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