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# Rewritten in Rust: Modern Alternatives of Command-Line Tools

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# Shell   # Rust

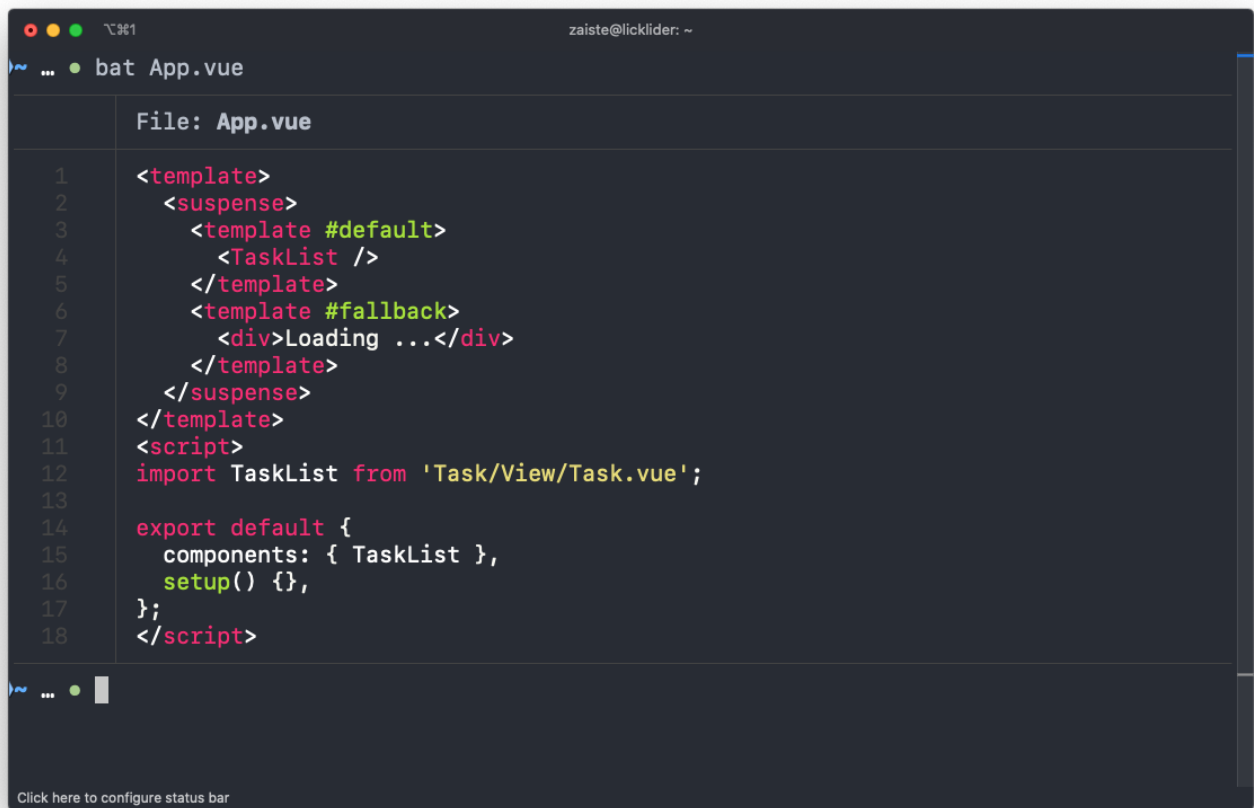
2020-07-30 · 4 min read

Shell is the essential tool for every programmer. The more familiar you become with the available tools, the more efficient you can be with using your computer. Here's a list of command-line tools written in Rust that aim to provide modern, often much faster, alternatives to the existing shell commands.

## bat

---

`bat` is a `cat` clone with syntax highlighting and Git integration that works on Windows, MacOS and Linux. It provides syntax highlighting for many file extensions by default.



```
File: App.vue
1  <template>
2    <suspense>
3      <template #default>
4        <TaskList />
5      </template>
6      <template #fallback>
7        <div>Loading ...</div>
8      </template>
9    </suspense>
10 </template>
11 <script>
12 import TaskList from 'Task/View/Task.vue';
13
14 export default {
15   components: { TaskList },
16   setup() {},
17 };
18 </script>
```

## [GitHub](#)

### exa

`exa` is a modern replacement for `ls`, the default command-line program in Unix/Linux for listing directory contents. `exa` supports icons with the `--icons` flag.

```

doom-emacs · fix-faq-link ... • exa
bin  docs      init.el      init.test.el  Makefile  README.md
core early-init.el init.example.el LICENSE      modules
doom-emacs · fix-faq-link ... • exa -l
drwxr-xr-x  - zaiste 24 May 2019 bin
drwxr-xr-x  - zaiste 24 May 2019 core
drwxr-xr-x  - zaiste 24 May 2019 docs
.rw-r--r-- 808 zaiste 24 May 2019 early-init.el
.rw-r--r-- 4.5k zaiste 24 May 2019 init.el
.rw-r--r-- 9.0k zaiste 24 May 2019 init.example.el
.rw-r--r-- 261 zaiste 24 May 2019 init.test.el
.rw-r--r-- 1.1k zaiste 24 May 2019 LICENSE
.rw-r--r-- 1.3k zaiste 24 May 2019 Makefile
drwxr-xr-x  - zaiste 24 May 2019 modules
.rw-r--r-- 8.8k zaiste 24 May 2019 README.md
doom-emacs · fix-faq-link ... •

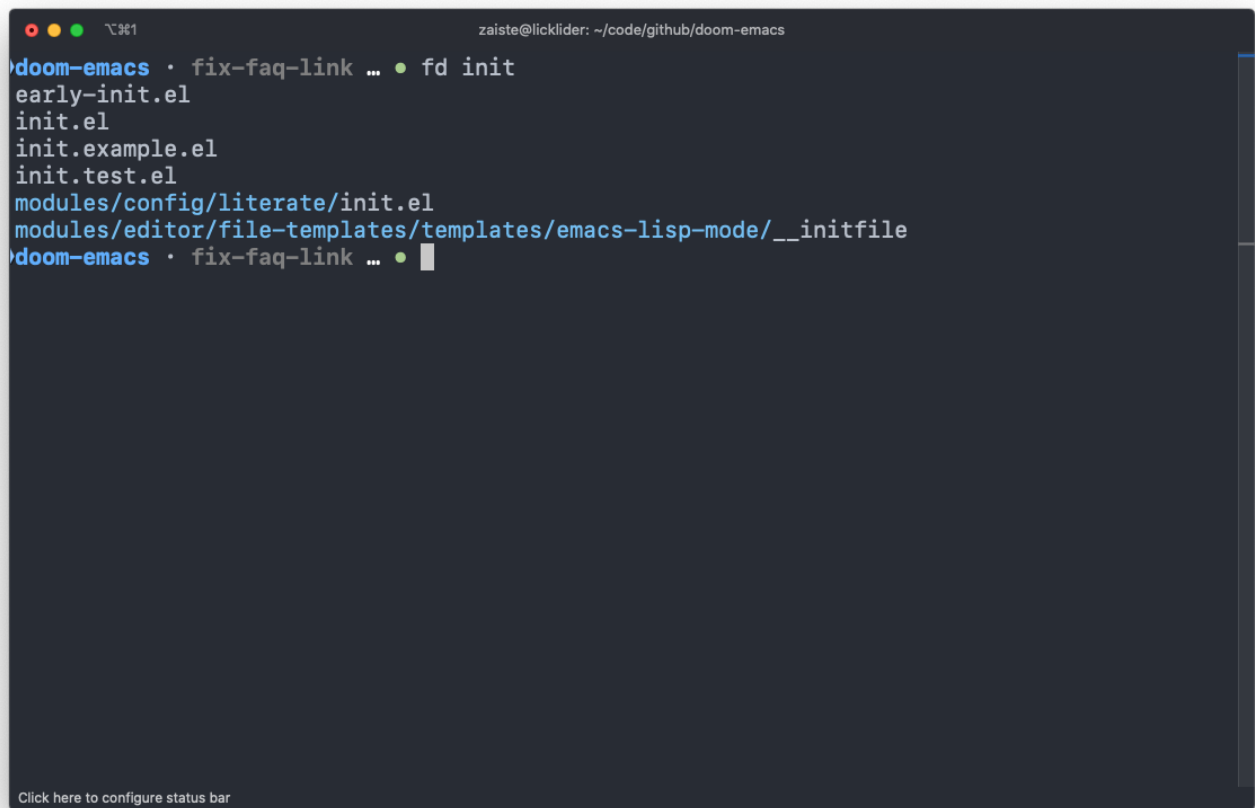
```

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## GitHub

### fd

`fd` is a fast and user-friendly alternative to `find`, the built-in command-line program in Unix/Linux for walking a file hierarchy. `fd` provides opinionated defaults for the most common use cases. To find a specific file by name, you write `fd PATTERN` instead of `find -iname '*PATTERN*'`. `fd` is also extremely fast and it comes with a ton of options like ignoring hidden directories, files and patterns from `.gitignore` by default.



```
doom-emacs · fix-faq-link ... • fd init
early-init.el
init.el
init.example.el
init.test.el
modules/config/literate/init.el
modules/editor/file-templates/templates/emacs-lisp-mode/__initfile
doom-emacs · fix-faq-link ... •
```

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## [GitHub](#)

### procs

---

`procs` is a modern replacement for `ps`, the default command-line program in Unix/Linux for getting information about processes. It provides convenient, human-readable (and colored) output format by default.

PID	User	TTY	CPU:▼ [%]	MEM [%]	CPU Time	Command
1361	zaiste		17.6	1.1	00:08:51	/System/Library/CoreServices/Finder.app/Content
84115	zaiste		9.5	0.5	00:04:38	/Applications/iTerm.app/Contents/MacOS/iTerm2
78864	zaiste		1.8	0.2	00:04:08	/System/Library/Frameworks/WebKit.framework/Ver
511	zaiste		0.8	0.1	00:23:52	/Library/Little Snitch/Little Snitch Agent.app/
658	zaiste		0.0	0.0	00:00:00	/usr/libexec/neagent
890	zaiste		0.0	0.0	00:00:00	/System/Library/Frameworks/AudioToolbox.framework
568	zaiste		0.0	0.1	00:00:15	/System/Library/PrivateFrameworks/CalendarNotif
44359	zaiste		0.0	1.7	00:01:20	/Applications/Visual Studio Code - Insiders.app
1441	zaiste		0.0	0.0	00:00:00	/System/Library/Frameworks/Metal.framework/Vers
1355	zaiste		0.0	0.0	00:00:03	/System/Library/Frameworks/QuickLook.framework/
2405	zaiste		0.0	0.0	00:00:03	/System/Library/PrivateFrameworks/CoreRecents.f
1653	zaiste		0.0	0.0	00:00:44	/System/Library/CoreServices/Siri.app/Contents/
51488	zaiste	s021	0.0	0.0	00:00:47	/Applications/Xcode.app/Contents/Developer/usr/
824	zaiste		0.0	0.0	00:00:02	/System/Library/CoreServices/CoreLocationAgent.
509	zaiste		0.0	0.0	00:00:04	/System/Library/PrivateFrameworks/CloudServices
593	zaiste		0.0	0.0	00:00:03	/System/Library/PrivateFrameworks/AppSSO.framework
650	zaiste		0.0	0.0	00:00:01	/System/Library/CoreServices/pbs
1401	zaiste		0.0	0.0	00:00:34	/Library/Little Snitch/Little Snitch Helper.app
53887	zaiste	s009	0.0	0.0	00:01:28	/Applications/Xcode.app/Contents/Developer/usr/
1404	zaiste		0.0	0.0	00:00:00	/System/Library/CoreServices/SocialPushAgent.ap
39024	zaiste		0.0	0.1	00:00:21	/Applications/Google Chrome.app/Contents/Framework
1504	zaiste		0.0	0.0	00:00:00	SafeEjectGPUAgent
54495	zaiste		0.0	0.4	00:00:34	/Applications/Google Chrome.app/Contents/Framework
537	zaiste		0.0	0.0	00:00:00	/usr/libexec/networkserviceproxy
598	zaiste		0.0	0.0	00:00:35	/usr/libexec/swcd
711	zaiste		0.0	0.0	00:00:01	/System/Library/PrivateFrameworks/CloudPhotoSer

## [GitHub](#)

### sd

`sd` is an intuitive find & replace command-line tool, it is an alternative to `sed`, the built-in command-line program in Unix/Linux for parsing and transforming text (). `sd` has simpler syntax for replacing all occurrences and it uses the convenient regex syntax that you already know from JavaScript and Python. `sd` is also 2x-11x faster than `sed`.

`sed` is a programmable text editor, with search and replace being a common use case. In that light, `sd` is more like `tr`, but on steroids. (thanks [/u/oleid](#) for the suggestion).

```

doom-emacs · fix-faq-link ... • sd emacs vim # instead of: sed s/emacs/vim/g

```

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## GitHub

### dust

`dust` is a more intuitive version of `du`, the built-in command-line program in Unix/Linux for displaying disk usage statistics. By default `dust` sorts the directories by size.

```

doom-emacs · fix-faq-link ... • dust
160K  autoload
480K  core
104K  default
112K  config
112K  app
140K  completion
344K  tools
392K  ui
108K  text-mode
332K  templates
356K  file-templates
576K  editor
128K  org
908K  lang
2.7M  modules
1.6M  pack-bba813345e836c0536077cb075f4742a7bf566e1.idx
15M   pack-bba813345e836c0536077cb075f4742a7bf566e1.pack
17M   pack
17M   objects
17M   .git
20M   .

```

Directory	Size	Percentage
autoload	160K	1%
core	480K	2%
default	104K	0%
config	112K	1%
app	112K	1%
completion	140K	1%
tools	344K	2%
ui	392K	2%
text-mode	108K	1%
templates	332K	2%
file-templates	356K	2%
editor	576K	3%
org	128K	1%
lang	908K	4%
modules	2.7M	13%
pack-bba813345e836c0536077cb075f4742a7bf566e1.idx	1.6M	8%
pack-bba813345e836c0536077cb075f4742a7bf566e1.pack	15M	75%
pack	17M	83%
objects	17M	83%
.git	17M	84%
.	20M	100%



[GitHub](#)

## starship

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The minimal, blazing-fast, and infinitely customizable prompt for any shell.

[GitHub](#)

## ripgrep

---

`ripgrep` is an extremely fast alternative to `grep`, the built-in command-line program in Unix/Linux for searching files by pattern. `ripgrep` is a line-oriented search tool that recursively searches your current directory for a regex pattern. By default, `ripgrep` respects `.gitignore` and automatically skips hidden files, directories and binary files.



[GitHub](#)

## tokei

`tokei` is a program that displays statistics about your code. It shows the number of files, total lines within those files and code, comments, and blanks grouped by language.

```

=====
Language      Files    Lines    Code    Comments    Blanks
=====
BASH           4       697     652       15         30
Batch          1        25      18         1          6
C++            2        25      20         0          5
Emacs Lisp    473    35363   26533    4162     4668
Fish           1         3        1         1          1
Go             2        16      12         0          4
HTML           2        25      14         8          3
JavaScript     2        25      22         2          1
JSON           2        27      27         0          0
Lua            2        40      39         0          1
Makefile       1        77      53        12         12
Org            61     4147   3361        18       768
PHP            1         7        4         0          3
Ruby           1         3        1         1          1
Rust           1         5        4         0          1
TOML           1         5        5         0          0
YAML           1        15      13         0          2
=====
Markdown       9       344        0       280         64
|- BASH        1         2        2         0          0
(Total)        346     346        2       280         64
=====
Total          570    40851   30781    4500     5570
=====

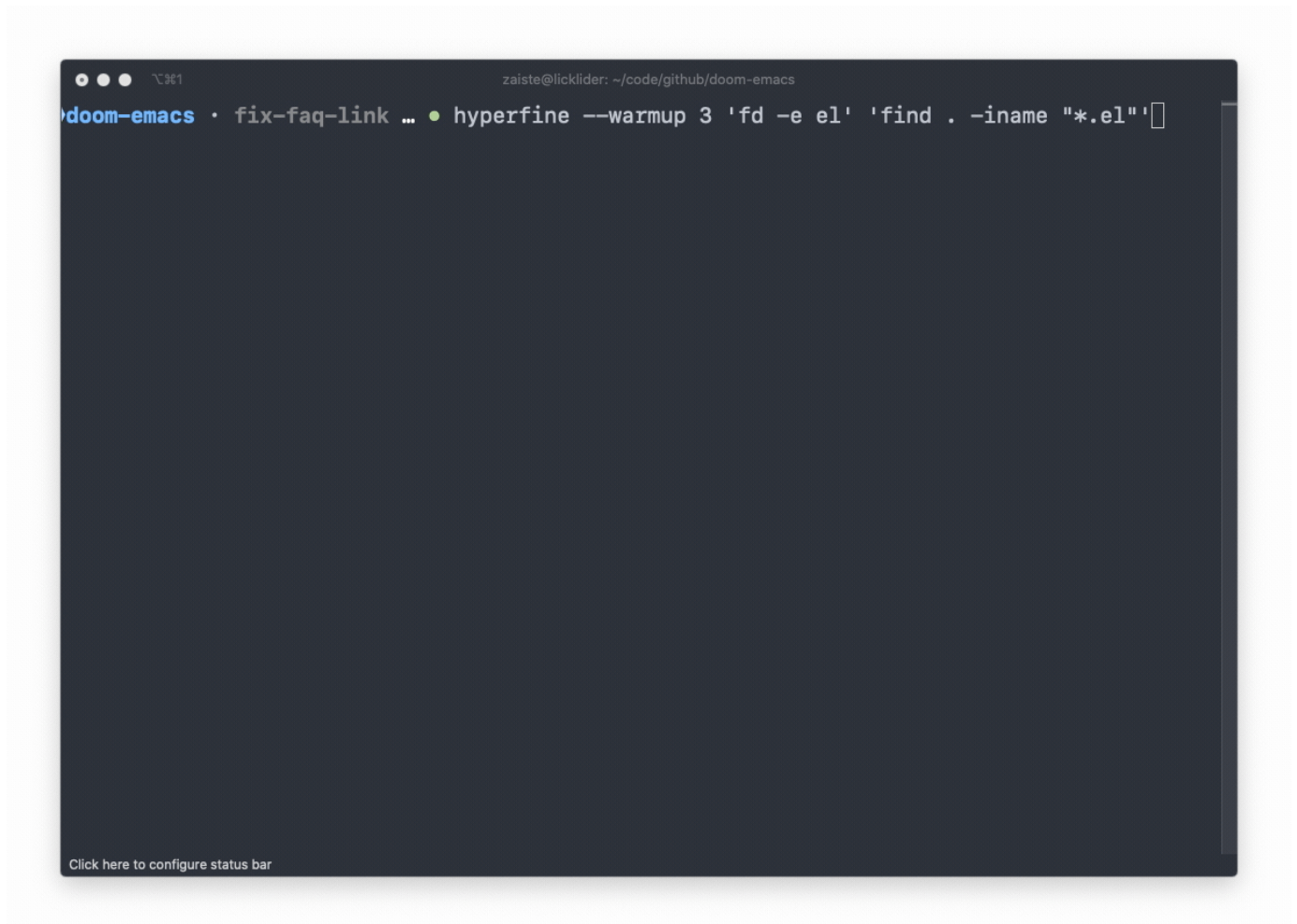
```

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## hyperfine

`hyperfine` is a command-line benchmarking tool. Among many features, it provides statistical analysis across multiple runs, support for arbitrary shell commands, constant feedback about the benchmark progress and current estimates and more.

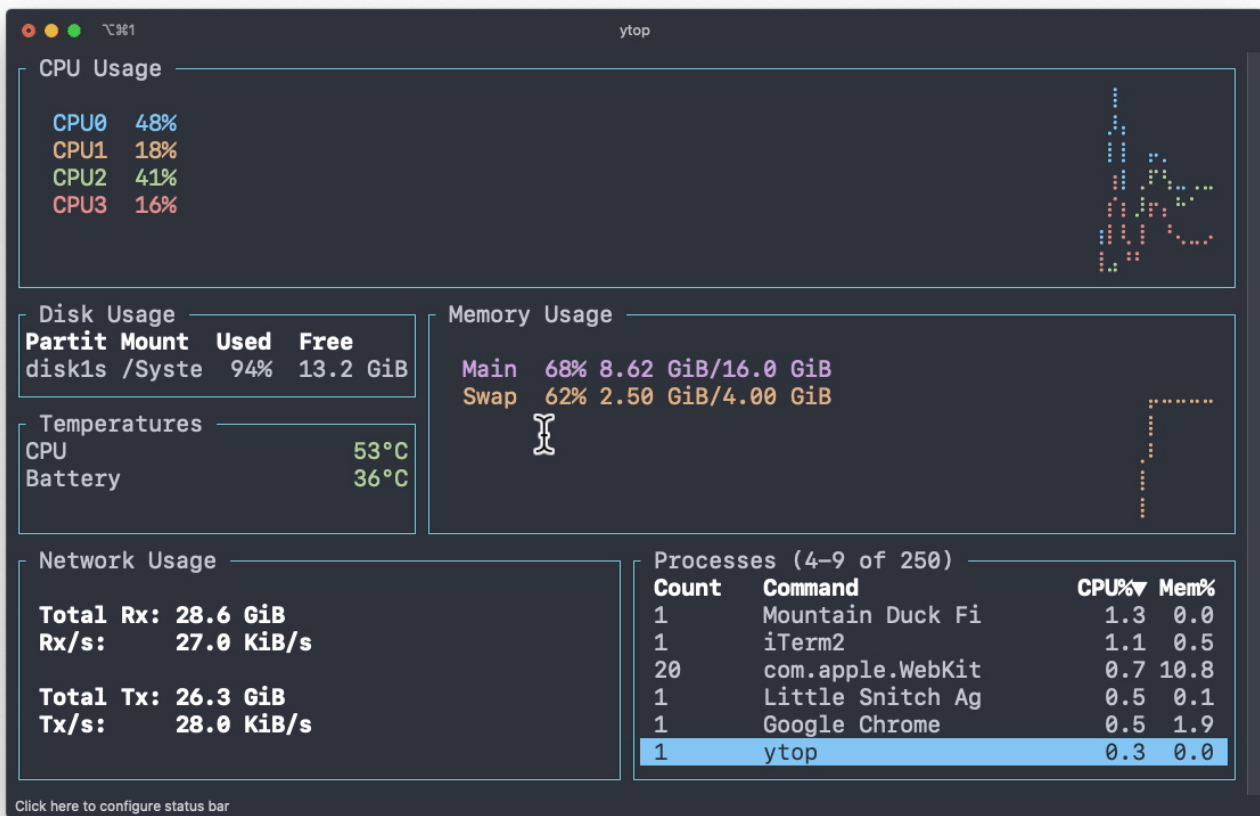




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## ytop

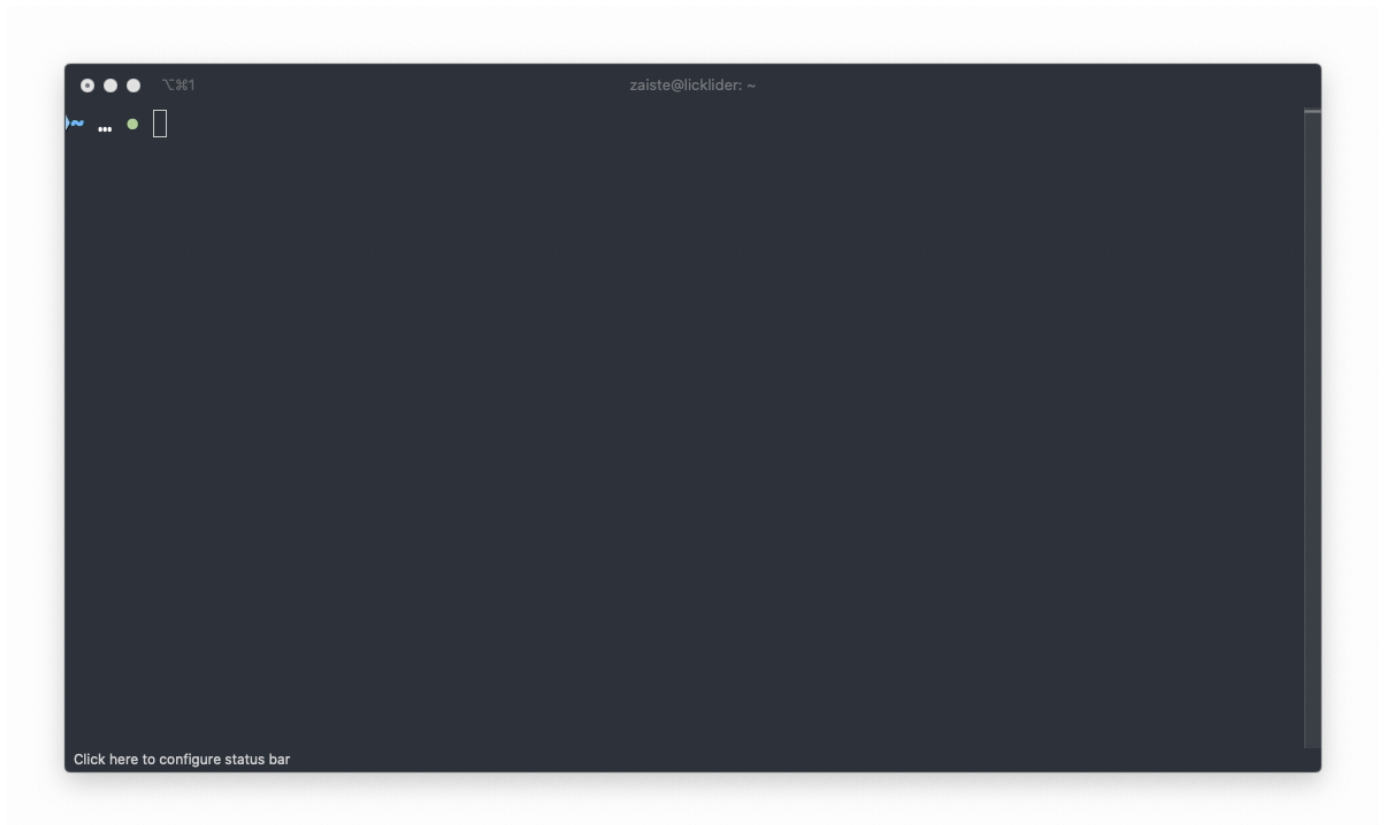
`ytop` is an alternative to `top`, the built-in command-line program in Unix/Linux for displaying information about processes.



[GitHub](#)

## tealdeer

`tealdeer` is a very fast implementation of [tldr](#), a command-line program for displaying simplified, example based and community-driven man pages.



[GitHub](#)

## bandwhich

---

`bandwhich` is a CLI utility for displaying current network utilization by process, connection and remote IP or hostname.

```

sudo bandwidth

Total Up / Down: 100.11KBps / 100.46KBps
Utilization by process name
Process                Connections          Up / Down
Adguard                 5                   99.35KBps / 99.50KBps
mDNS[...].nder          3                   65Bps / 904Bps
com.[...]king           1                   648Bps / 0Bps
Goog[...]lper           3                   52Bps / 28Bps
<UNKNOWN>               4                   0Bps / 28Bps

Utilization by remote address
Remote Address          Connections          Up / Down
e65-76.icpnet.pl.       1                   1.49KBps / 99.50KBps
localhost.              6                   98.51KBps / 0Bps
Zaistes-iPhone.         3                   65Bps / 456Bps
fe80::10b0:2dc9:aefa:fdb4 2                   0Bps / 464Bps
192.168.1.75            3                   34Bps / 40Bps
85.97.201.35.[...]rcontent.com. 1                   12Bps / 6Bps

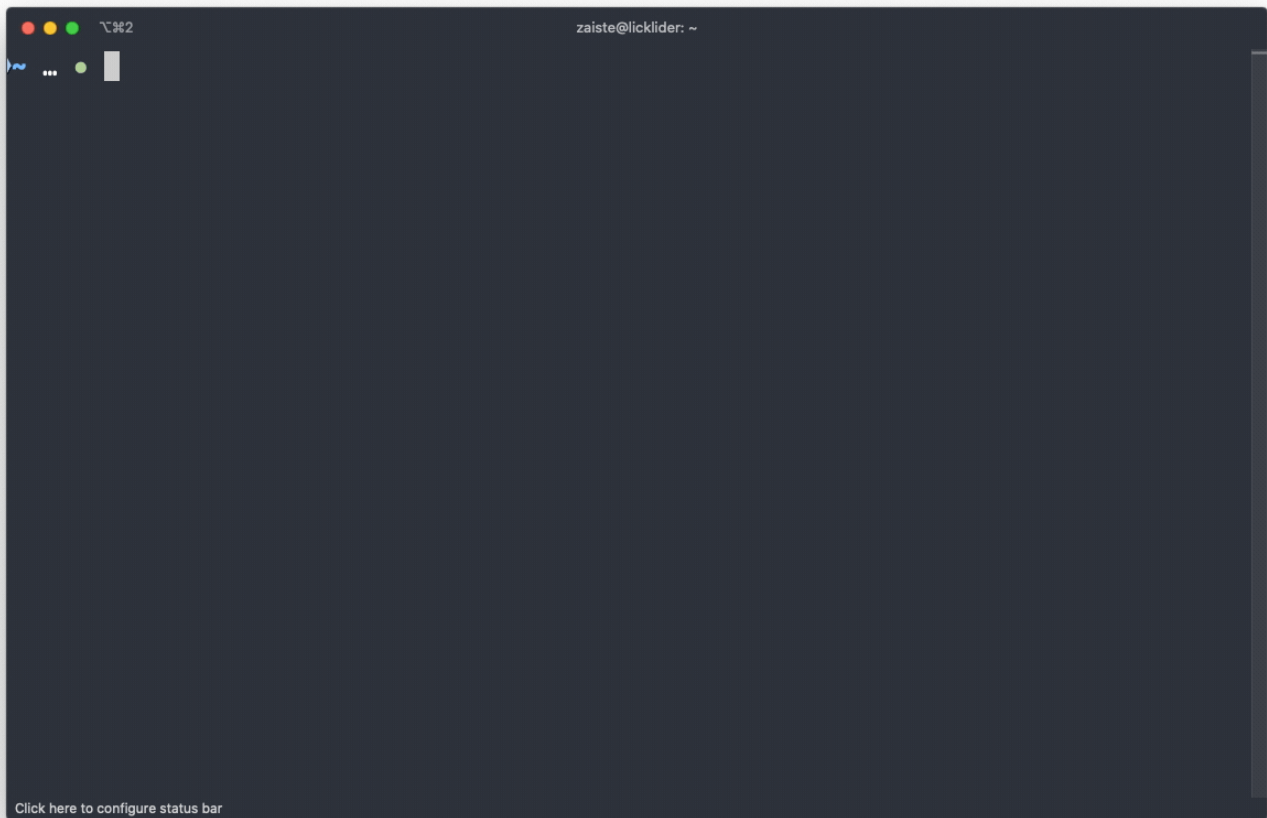
Press <SPACE> to pause. Use <TAB> to rearrange tables. (DNS queries hidden).
Click here to configure status bar

```

[GitHub](#)

## grex

`grex` is a command-line tool and library for generating regular expressions from user-provided test cases.



[GitHub](#)

## rmesg

`rmesg` is a `dmesg` implementation in Rust (and available as a library for Rust programs to consume kernel message logs.)

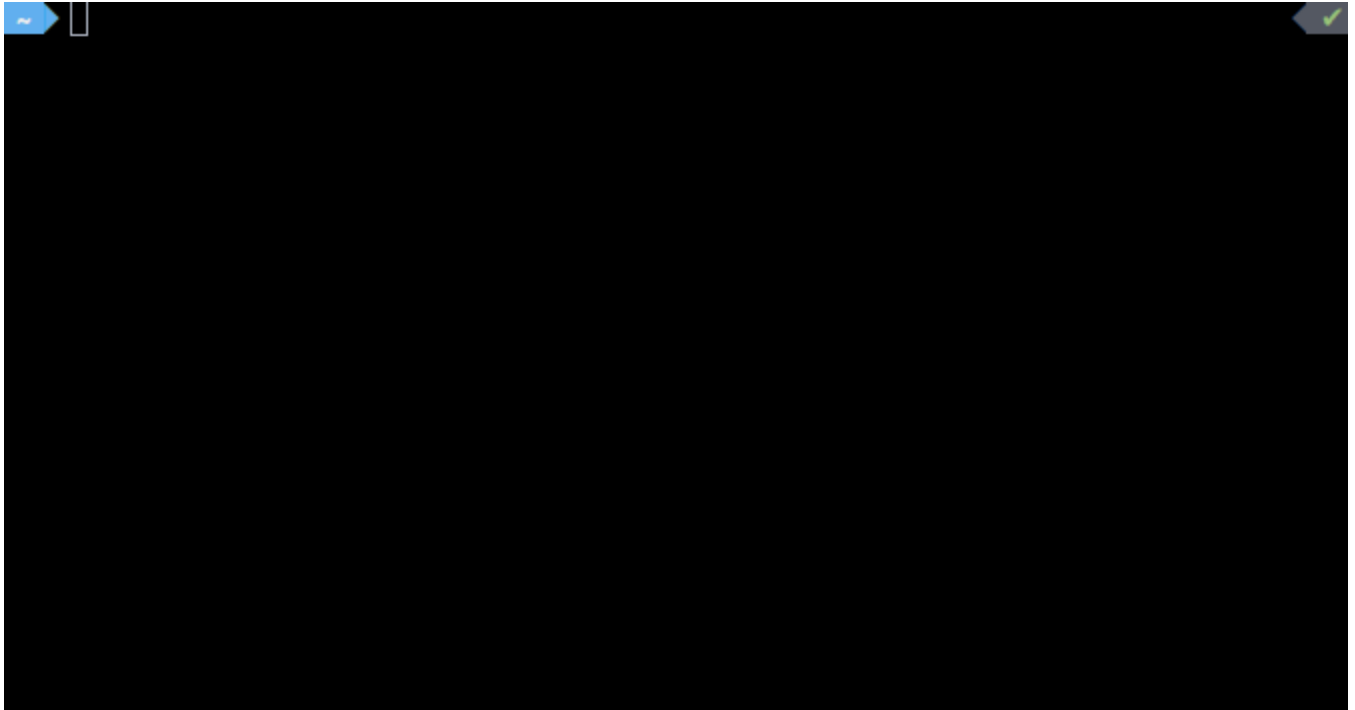
```
[root@19555de9a23f:~# rmesg
<5>[ 0.000000] Linux version 4.19.76-linuxkit (root@4abe09437d05) (gcc version 8.3.0 (Alpine 8.3.0)) #1 SMP Tue May 26 11:42:35 UTC 2020
<6>[ 0.000000] Command line: BOOT_IMAGE=/boot/kernel console=ttyS0 console=ttyS1 page_poison=1 vsyscall=emulate panic=1 root=/dev/sr0 text
<6>[ 0.000000] x86/fpu: Supporting XSAVE feature 0x001: 'x87 floating point registers'
<6>[ 0.000000] x86/fpu: Supporting XSAVE feature 0x002: 'SSE registers'
<6>[ 0.000000] x86/fpu: Supporting XSAVE feature 0x004: 'AVX registers'
<6>[ 0.000000] x86/fpu: xstate_offset[2]: 576, xstate_sizes[2]: 256
<6>[ 0.000000] x86/fpu: Enabled xstate features 0x7, context size is 832 bytes, using 'standard' format.
<6>[ 0.000000] BIOS-provided physical RAM map:
<6>[ 0.000000] BIOS-e820: [mem 0x0000000000000000-0x0000000000009fff] usable
<6>[ 0.000000] BIOS-e820: [mem 0x0000000000100000-0x0000000007ea96fff] usable
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007ea97000-0x0000000007eaa7fff] reserved
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007eaa8000-0x0000000007fb27fff] usable
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fb28000-0x0000000007fb7fff] reserved
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fb80000-0x0000000007fb87fff] ACPI data
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fb88000-0x0000000007fb8bfff] ACPI NVS
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fb8c000-0x0000000007ffcffff] usable
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fffd000-0x0000000007ffeffff] reserved
<6>[ 0.000000] BIOS-e820: [mem 0x0000000007fff0000-0x0000000007fffffff] usable
<6>[ 0.000000] NX (Execute Disable) protection: active
<6>[ 0.000000] efi: EFI v2.40 by BHYVE
<6>[ 0.000000] efi: SMBIOS=0x7fb59000 ACPI=0x7fb87000 ACPI 2.0=0x7fb87014
<6>[ 0.000000] SMBIOS 3.0 present.
<6>[ 0.000000] DMI: BHYVE, BIOS 1.00 03/14/2014
<6>[ 0.000000] tsc: Detected 2800.000 MHz processor
<6>[ 0.000281] tsc: Detected 2808.000 MHz TSC
<7>[ 0.000281] e820: update [mem 0x00000000-0x0000ffff] usable ==> reserved
<7>[ 0.000283] e820: remove [mem 0x000a0000-0x000fffff] usable
<6>[ 0.000285] last_pfn = 0x80000 max_arch_pfn = 0x400000000
<7>[ 0.000307] MTRR default type: uncachable
<7>[ 0.000308] MTRR variable ranges disabled:
```

[GitHub](#)

## zoxide

---

`zoxide` is a blazing fast autojumper, intended to completely replace the `cd` command. It allows you to change directories without typing out the entire path name.



[GitHub](#)

## Bonus: nushell

---

`nushell` is a new type of shell, written in Rust. Its goal is to create a modern shell alternative that's still based on the Unix philosophy, but adapted to the current era. It supports piping and filtering in a way similar to `awk` and `sed` with a column view so that you can combine operations like in `SQL`. (thanks [/u/matu3ba](#) for the suggestion).



## [GitHub](#)

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