

Modern CLI tools

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Today's goal

Learn CLI tools you have not heard about. Increase your productivity





Don't spew on UIs

- 🍏 UIs solve different issues 🍊
- ⏮ UIs help to reduce complexity
- ❓ UIs will help newcomers
- 🏆 UIs look nicer
- 🐐 GOAT: The web!







Why CLI tools then?

-  Scripting
-  Speed
-  Flexibility
-  Automation

Why CLI tools then?

-  Process safety
-  **Expert mode**
-  Issue: Outdated distribution packages
-  Do one thing and do it well!

Modern CLI tools?

-  Many tools still stem from the early UNIX times
-  Rise of the developer
-  UTF8
-  Colors
-  Faster terminals
-  Debugging (ephemeral containers, no local logs, remote)

New languages

- Rust
- Go
- Crystal
- JVM: GraalVM, Kotlin Native, Scala Native
- Zig
- V

New languages

- Binary as a result, best startup time
- No C/memory management learning required
- Faster development

Shell - zsh

- in combination with `oh-my-zsh`
- scripting syntax similar to `bash`
- lots of plugins for easier development

```
~ kubectl --namespace community delete pod --selector app=contributor-program
```

Shell - alternatives

- bash
- fish
- nushell

```
/home/jonathan/Source/nushell(main)> █
```

Shell Prompt - GBT

```
# GBT status prompt configuration
export GBT_CARS='Status, Dir, Git, Sign'
export GBT_CAR_DIR_DEPTH='3'
export GBT_CAR_SIGN_FORMAT=' '
export GBT_CAR_DIR_BG='55;55;55'
export GBT_CAR_DIR_FG='cyan'
export GBT_CAR_GIT_BG='80;80;80'
export GBT_CAR_GIT_FG='green'
export GBT_CAR_GIT_DIRTY_FG='light_red'
PROMPT='$(gbt $?)'
```

Shell Prompt - GBT

```
presentations/marpit-presentations/modern-cli-tools > ? master x > dsads  
zsh: command not found: dsads  
x > presentations/marpit-presentations/modern-cli-tools > ? master x > pwd  
/Users/alr/elastic/presentations/2020/presentations/marpit-presentations/modern-cli-tools  
presentations/marpit-presentations/modern-cli-tools > ? master x > █
```

Shell Prompt - Starship

```
> ls
└─ benchmarks      └─ client          └─ elasticsearch.iws  └─ libs            └─ plugins          └─ settings.gradle
└─ build            └─ CONTRIBUTING.md └─ gradle             └─ LICENSE.txt     └─ qa               └─ test
└─ build.gradle    └─ dev-tools      └─ gradle.properties └─ licenses        └─ README.asciidoc └─ TESTING.asciidoc
└─ buildSrc        └─ distribution  └─ gradlew            └─ modules         └─ rest-api-spec   └─ Vagrantfile
└─ checkstyle_ide.xml └─ docs           └─ gradlew.bat        └─ NOTICE.txt     └─ server           └─ x-pack

elasticsearch on  master [$] via v15.0.2 via v2.2.14 on alexander.reelsen@elastic.co
> █
```

Shell aliases

Make sure you alias what you type often!



w/d



Shell history search

- Ctrl+R triggers history search
- **Extremely powerful**
- Ensure your history gets written after command execution instead of logout

```
~ kubectl --namespace community logs --selector app=cloud-challenge -f  
bck-i-search: kube_
```

Lsd

```
2020/presentations/marpit-presentations ▶ master x ▶ ls -l
drwxr-xr-x alr staff 512 B 6 months ago  📁 app-search-introduction
.rw-r--r-- alr staff 5.2 KB 6 months ago  📄 app-search-introduction.md
drwxr-xr-x alr staff 1.0 KB 6 months ago  📁 elastic-stack-improve-ci
.rw-r--r-- alr staff 13 KB 6 months ago   📄 elastic-stack-improve-ci.md
drwxr-xr-x alr staff 352 B 3 months ago   📁 elasticsearch-backwards-compatibility
.rw-r--r-- alr staff 14 KB 3 months ago   📄 elasticsearch-backwards-compatibility.md
.rw-r--r-- alr staff 24 KB 7 months ago   📄 elasticsearch-digging-deeper-into-fulltext-search.md
drwxr-xr-x alr staff 448 B 3 months ago   📁 elasticsearch-finding-relevancy-improving-your-application-search-bar
.rw-r--r-- alr staff 6.5 KB 3 months ago   📄 elasticsearch-finding-relevancy-improving-your-application-search-bar.md
drwxr-xr-x alr staff 512 B 8 months ago   📁 elasticsearch-introduction
.rw-r--r-- alr staff 8.4 KB 8 months ago   📄 elasticsearch-introduction.kibana
.rw-r--r-- alr staff 6.8 KB 8 months ago   📄 elasticsearch-introduction.md
drwxr-xr-x alr staff 96 B a year ago      📁 elasticsearch-java-client
.rw-r--r-- alr staff 11 KB 9 months ago   📄 elasticsearch-java-client.md
drwxr-xr-x alr staff 192 B 7 months ago   📁 elasticsearch-spring-boot
.rw-r--r-- alr staff 10 KB 4 months ago   📄 elasticsearch-spring-boot.md
drwxr-xr-x alr staff 512 B 4 months ago   📁 images
.rw-r--r-- alr staff 687 B 4 months ago   📄 Makefile
drwxr-xr-x alr staff 256 B 37 minutes ago  📁 modern-cli-tools
.rw-r--r-- alr staff 2.7 KB 30 seconds ago 📄 modern-cli-tools.md
drwxr-xr-x alr staff 14 KB 2 days ago     📁 node_modules
.rw-r--r-- alr staff 183 KB 2 days ago     {} package-lock.json
.rw-r--r-- alr staff 131 B 2 days ago      {} package.json
.rw-r--r-- alr staff 1.2 KB 6 months ago   📄 README.md
drwxr-xr-x alr staff 192 B 7 months ago   📁 seccomp
.rw-r--r-- alr staff 16 KB 4 months ago   📄 seccomp.md
drwxr-xr-x alr staff 128 B now           📁 themes
2020/presentations/marpit-presentations ▶ master x ▶
```

lsd

- a better `ls`
- colored output
- relative/absolute timestamps
- file type icons (nerdfonts)
- tree view
- total directory size view

bat

```
33  ```
34  marp -s . -I . -w --allow-local-files
35  ```
36
37  Then open http://localhost:8080/ and click on the presentation. Live reloading
38  should work as usual.
39
40  # TODO
41
42  * Do more CSS styling to make this nicer
43  * Add comments for better explanations
44
```

```
2020/presentations/marpit-presentations > master x cat package.json
```

File: package.json

```
1  {
2    "name": "marp-demos",
3    "devDependencies": {
4      "@marp-team/marp-cli": "0.23.0",
5      "@mermaid-js/mermaid-cli": "8.8.1"
6    }
7  }
```

```
2020/presentations/marpit-presentations > master x cat Makefile
```

File: Makefile

```
1  all: pdf html
2
3  pdf:
4    ./node_modules/.bin/marp --theme-set . --pdf elasticsearch-digging-deeper-into-fulltext-search.md -o elasticsearch-digging-deeper-into-fulltext-search.pdf --allow-local-files
5    ./node_modules/.bin/marp --theme-set . --pdf elasticsearch-java-client.md -o elasticsearch-java-client.pdf --allow-local-files
6
7  html:
8    ./node_modules/.bin/marp --theme-set . --html elasticsearch-digging-deeper-into-fulltext-search.md -o elasticsearch-digging-deeper-into-fulltext-search.html --allow-local-files
9    ./node_modules/.bin/marp --theme-set . --html elasticsearch-java-client.md -o elasticsearch-java-client.html --allow-local-files
10
11  server:
12    marp -s . -I . -w --allow-local-files
```

bat

- cat with wings
- Syntax highlighting & themes
- Line highlighting
- Range snippets (no more `cat | head | tail` parties)
- git integration
- builtin pagination

fd

```
2020/presentations/marpit-presentations > master x fd md
README.md
app-search-introduction/demo-communication.mmd
app-search-introduction.md
elastic-stack-improve-ci.md
elasticsearch-backwards-compatibility.md
elasticsearch-digging-deeper-into-fulltext-search.md
elasticsearch-finding-relevancy-improving-your-application-search-bar.md
elasticsearch-introduction.md
elasticsearch-java-client.md
elasticsearch-spring-boot.md
modern-cli-tools.md
seccomp.md
2020/presentations/marpit-presentations > master x
```

fd

- a better find, very similar syntax
- colors!
- takes `.gitignore` into account
- case-insensitive by default
- regexes
- parallel command execution (when used with `-x`)

ripgrep

```
2020/presentations/marpit-presentations > master x rg Crystal
modern-cli-tools.md
57:* Crystal

seccomp.md
20:- Using Seccomp in high level languages (Java, Crystal, Python)
454:# Using seccomp in Crystal
459:# Using seccomp in Crystal
628:- Libraries: [libseccomp](https://github.com/seccomp/libseccomp) including python integration, [go-seccomp-bpf](https://github.com/elastic/go-seccomp-bpf), [seccomp.cr](https://github.com/S-YOU/seccomp.cr) for [Crystal](https://crystal-lang.org/)

elastic-stack-improve-ci.md
409:# Crystal Output (single XML file)
2020/presentations/marpit-presentations > master x
```


ripgrep

- It's **fast!**
- match patterns across newlines
- takes `.gitignore` into account
- skips dot files and binary files
- recursive && regexing by default
- replacement of matched text
- `ripgrep-all` to search in binary files

htop

```
1[|||||] 9.3%] 5[|||||] 6.0%]
2[|] 0.7%] 6[|] 0.7%]
3[|||||] 10.6%] 7[|||||] 4.0%]
4[|] 0.0%] 8[|] 0.0%]
Mem[|||||] 8.07G/16.0G] Tasks: 442, 1256 thr; 1 running
Swp[|||||] 9.83G/11.0G] Load average: 1.70 1.71 1.79
Uptime: 11 days, 07:38:17
```

PID	USER	PRI	NI	VIRT	RES	S	CPU%	MEM%	TIME+	Command
21248	alr	32	0	8632M	835M	?	0.2	5.1	1h34:45	/Applications/Vivaldi.app/Contents/MacOS/Vivaldi
21279	alr	17	0	9872M	715M	?	0.1	4.4	1h10:32	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
21271	alr	17	0	9359M	643M	?	0.0	3.9	1h29:09	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
60359	alr	17	0	10.5G	469M	?	0.0	2.9	4:37.30	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
84795	alr	17	0	28.6G	465M	?	0.0	2.8	26:02.74	/Applications/Slack.app/Contents/Frameworks/Slack Helper (Renderer).
22145	alr	17	0	9496M	338M	?	0.0	2.1	1h17:45	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
21463	alr	17	0	9392M	236M	?	0.1	1.4	16:28.52	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
4588	alr	24	0	4959M	186M	?	0.3	1.1	25:02.32	./kibana-7.10.2-darwin-x86_64/bin/./node/bin/node ./kibana-7.10.2-d
17462	alr	17	0	9005M	175M	?	5.3	1.1	1:28.83	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
19262	alr	17	0	8980M	152M	?	0.0	0.9	0:16.27	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
9486	alr	17	0	5764M	150M	?	0.1	0.9	1:15.81	/Users/alr/.sdkman/candidates/java/15.0.2-open/bin/java --add-opens
21263	alr	17	0	5284M	150M	?	1.3	0.9	3h11:25	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
21909	alr	17	0	9362M	146M	?	0.0	0.9	14:23.89	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
17023	alr	24	0	5261M	141M	?	4.1	0.9	1:51.37	/Applications/iTerm.app/Contents/MacOS/iTerm2
70869	alr	17	0	13.1G	139M	?	0.0	0.9	4:10.32	/Applications/Spotify.app/Contents/Frameworks/Spotify Helper (Render
19460	alr	17	0	8966M	138M	?	0.0	0.8	0:01.64	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
2631	alr	24	0	5950M	120M	?	0.0	0.7	49:35.84	/Applications/Slack.app/Contents/MacOS/Slack
8659	alr	17	0	4884M	115M	?	0.0	0.7	6:33.97	/System/Library/Services/AppleSpell.service/Contents/MacOS/AppleSpel
70858	alr	24	0	5522M	107M	?	0.4	0.7	23:40.75	/Applications/Spotify.app/Contents/MacOS/Spotify
17461	alr	17	0	5108M	103M	?	0.0	0.6	0:21.06	node /Users/alr/elastic/presentations/2020/presentations/marpit-pres
22460	alr	17	0	9106M	99M	?	0.0	0.6	3:04.65	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
21274	alr	17	0	8835M	98M	?	0.0	0.6	4:05.04	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
19263	alr	17	0	8725M	99832	?	0.0	0.6	0:00.90	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
68559	alr	17	0	5146M	95160	?	1.7	0.6	1h52:17	/System/Applications/Utilities/Activity Monitor.app/Contents/MacOS/A
21269	alr	17	0	9116M	81668	?	0.0	0.5	1:01.61	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
51959	alr	17	0	9302M	76524	?	0.2	0.5	10:07.76	/Applications/Vivaldi.app/Contents/Frameworks/Vivaldi Framework.fram
865	alr	17	0	5140M	74176	?	0.0	0.4	5:54.54	/System/Library/CoreServices/Finder.app/Contents/MacOS/Finder

pretyping

```
~ prettyping 1.1.1.1
0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210
220 230 ∞
PING 1.1.1.1 (1.1.1.1): 56 data bytes
-----
1/155 ( 0%) lost; 13/ 15/ 63ms; last: 15ms
0/ 60 ( 0%) lost; 13/ 15/ 36/ 1ms (last 60)
```

hyperfine

```
/tmp> hyperfine --warmup 5 'cat test1 > /dev/null' --prepare 'sudo purge'
```

```
Benchmark #1: cat test1 > /dev/null
```

```
Time (mean ± σ):      36.5 ms ±   3.1 ms   [User: 1.2 ms, System: 17.8 ms]
```

```
Range (min ... max):  33.5 ms ... 43.3 ms   10 runs
```

```
/tmp> hyperfine --warmup 5 'cat test1 > /dev/null'
```

```
Benchmark #1: cat test1 > /dev/null
```

```
Time (mean ± σ):      3.8 ms ±   0.6 ms   [User: 0.8 ms, System: 2.9 ms]
```

```
Range (min ... max):  2.8 ms ... 7.0 ms   363 runs
```

```
Warning: Command took less than 5 ms to complete. Results might be inaccurate.
```

```
/tmp> █
```

JSON coloring

```
~> curl -s localhost:9200 | jq -C .  
{  
  "name": "rhincodon",  
  "cluster_name": "elasticsearch",  
  "cluster_uuid": "qp5uSkQWTPCkdieecxYM3A",  
  "version": {  
    "number": "7.11.1",  
    "build_flavor": "default",  
    "build_type": "tar",  
    "build_hash": "ff17057114c2199c9c1bbecc727003a907c0db7a",  
    "build_date": "2021-02-15T13:44:09.394032Z",  
    "build_snapshot": false,  
    "lucene_version": "8.7.0",  
    "minimum_wire_compatibility_version": "6.8.0",  
    "minimum_index_compatibility_version": "6.0.0-beta1"  
  },  
  "tagline": "You Know, for Search"  
}
```

JSON selection

```
~> curl -s localhost:9200 | jq -C '.version.number'  
"7.11.1"  
~> █
```

JSON selection

```
~> echo '{ "array" : [ {"name" : "Alex", "age" : 37} , {"name":"Paul", "age":43}] }' | jq -C
```

```
{
  "array": [
    {
      "name": "Alex",
      "age": 37
    },
    {
      "name": "Paul",
      "age": 43
    }
  ]
}
```

```
~> echo '{ "array" : [ {"name" : "Alex", "age" : 37} , {"name":"Paul", "age":43}] }' | jq -C '.array | min_by(.name)'
```

```
{
  "name": "Alex",
  "age": 37
}
```

```
~> echo '{ "array" : [ {"name" : "Alex", "age" : 37} , {"name":"Paul", "age":43}] }' | jq -C '[.array[].age] | add'
```

```
80
```

```
~> █
```

fzf

```
curl -s 'localhost:9200/_cat/indices?format=json' \  
  | jq -C -r \ '[ .[] | select ( .index | startswith(".") | not) ] | sort_by(.index) | .[].index' \  
  | fzf
```



```
curl -s 'localhost:9200/_cat/indices?format=json' \  
  | jq -C -r \ '[ .[] | select ( .index | startswith(".") | not) ] | sort_by(.index) | .[].index' \  
  | fzf
```

```
alr@rhincodon:~  
~ curl -s 'localhost:9200/_cat/indices?format=json' | jq -C -r '[ .[] | select ( .index | startswith(".") | not) ] | sort_  
by(.index) | .[].index' | fzf
```

bandwhich

Total Up / Down: 498Bps / 1.39KiBps

Utilization by process name

Process	Connections	Up / Down
Spotify	7	152Bps / 492Bps
Slack Helper	2	0Bps / 461Bps
<UNKNOWN>	41	256Bps / 24Bps
Viv[...].per	10	0Bps / 220Bps
Vivaldi	2	70Bps / 130Bps
mDN[...].der	2	0Bps / 95Bps
postgres	1	19Bps / 0Bps

Utilization by remote address

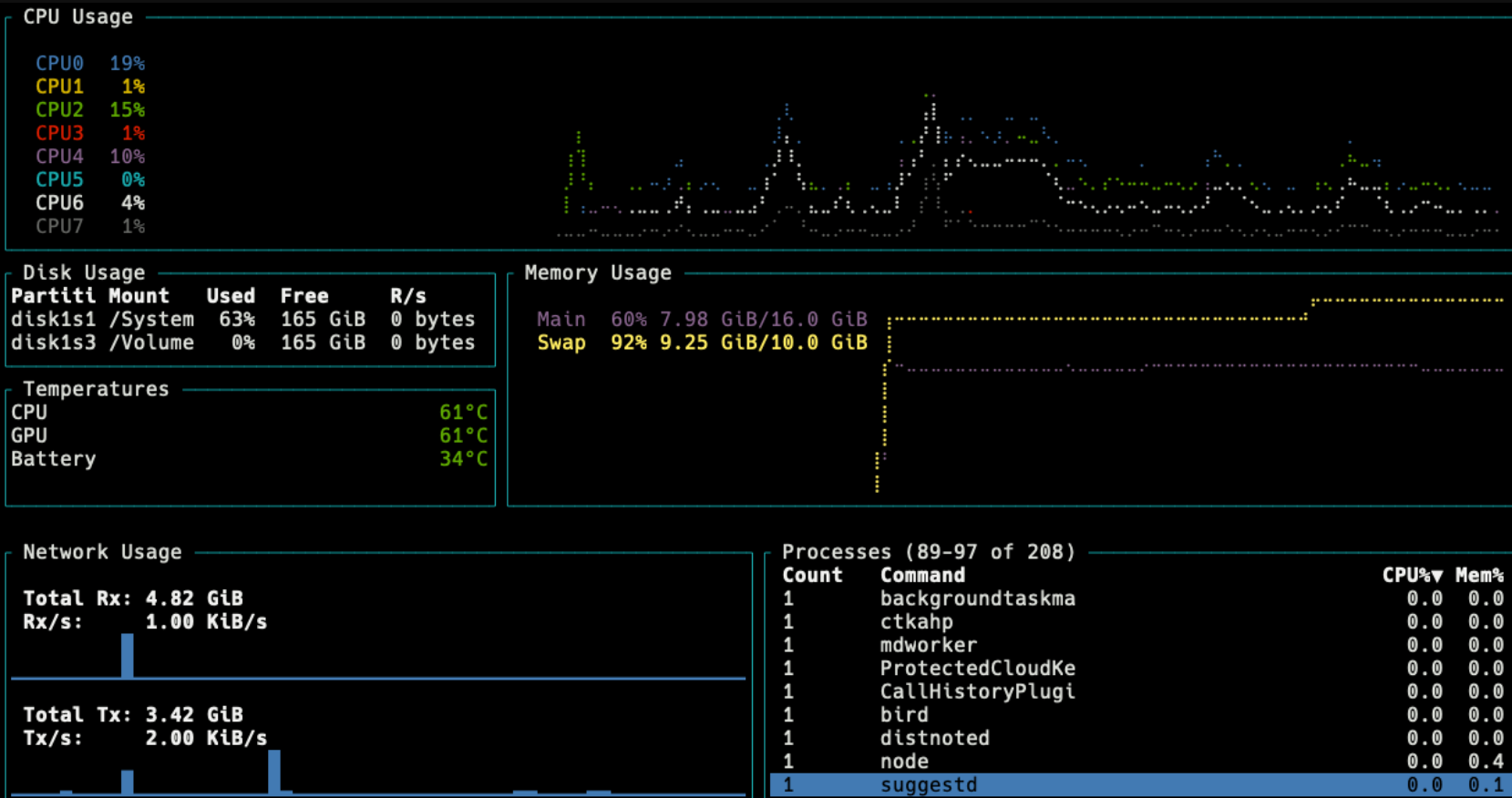
Remote Address	Up / Down
ec2-[...].com.	0Bps / 461Bps
192.168.178.36	0Bps / 390Bps
rhin[...].box.	0Bps / 223Bps
239.255.255.250	213Bps / 0Bps
muc1[...].net.	0Bps / 151Bps
localhost.	147Bps / 0Bps
localhost.	128Bps / 0Bps
fe80[...].baa6	0Bps / 63Bps
fritz.box.	0Bps / 55Bps
ec2-[...].com.	0Bps / 17Bps
199.232.192.64	0Bps / 12Bps
199.232.192.134	0Bps / 12Bps

Utilization by connection

Connection	Process	Up / Down
<en8>:52260 => ec2-3-123-21[...].te.amazonaws.com.:443 (tcp)	Slack Helper	0Bps / 437Bps
<en8>:50024 => 192.168.178.36:1900 (udp)	Spotify	0Bps / 260Bps
<en8>:64007 => muc11s04-in-f14.1e100.net.:443 (udp)	Viv[...].per	0Bps / 151Bps
<en8>:50024 => 239.255.255.250:1900 (udp)	Spotify	142Bps / 0Bps
<lo0>:1900 => rhincodon.fritz.box.:50024 (udp)	Spotify	0Bps / 142Bps
<en8>:62503 => 192.168.178.36:1900 (udp)	Vivaldi	0Bps / 130Bps
<lo0>:1900 => rhincodon.fritz.box.:62503 (udp)	Spotify	0Bps / 70Bps
<en8>:62503 => 239.255.255.250:1900 (udp)	Vivaldi	70Bps / 0Bps
<en8>:5353 => fe80::464e:6dff:fe25:baa6:5353 (udp)	mDN[...].der	0Bps / 63Bps
<en8>:5353 => fritz.box.:5353 (udp)	mDN[...].der	0Bps / 31Bps
<en8>:80 => fritz.box.:37113 (tcp)	<UNKNOWN>	0Bps / 24Bps
<en8>:52259 => ec2-3-123-21[...].te.amazonaws.com.:443 (tcp)	Slack Helper	0Bps / 24Bps
<lo0>:50894 => localhost.:50894 (udp)	postgres	19Bps / 0Bps

Press <SPACE> to pause. Use <TAB> to rearrange tables. (DNS queries hidden).

ytop



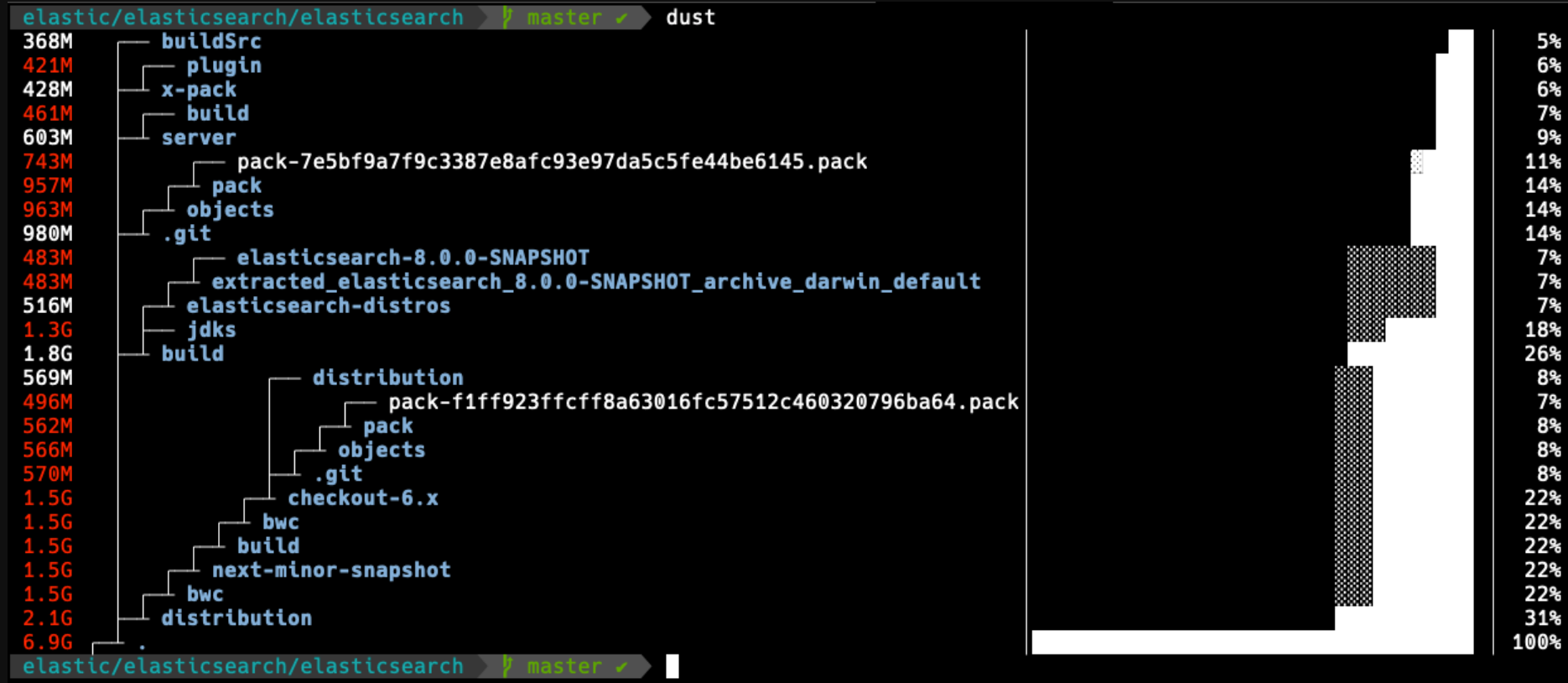
procs

```
~ > procs -p disable java -t
```

PID	User	TTY	CPU [%]	MEM [%]	CPU Time	Command
67348	alr		0.0	4.5	01:33:44	/Applications/IntelliJ IDEA CE.app/Contents/MacOS/idea
98102	alr		0.0	0.1	00:01:01	/Users/alr/.sdkman/candidates/java/15.0.1-open/bin/java --enable-preview -Dfile
28709	alr	s000	0.0	0.0	00:00:00	-zsh
28804	alr	s000	0.0	25.2	00:00:37	/Users/alr/.sdkman/candidates/java/current/bin/java -Xshare:auto -Des.networkad

```
~ > █
```

dust



version managers

- JVM: sdkman
- nodejs: nvm
- ruby: rvm
- Problem: per project requirements

direnv - unclutter your profile

`.envrc`

```
layout node
export NODE_VERSIONS=~/.nvm/versions/node
export NODE_VERSION_PREFIX='v'
use node 15.11.0
dotenv
```

direnv - unclutter your profile

.env

```
DB_USERNAME="sa"  
DB_PASSWORD=""  
DB_URL="jdbc:h2:mem:foo_in_memory;MODE=PostgreSQL;DB_CLOSE_DELAY=-1;DATABASE_TO_UPPER=false"
```

Run `direnv allow` after a change

envchain - store secrets securely

```
envchain --set my_app DB_PASSWORD
```

```
envchain ./gradlew run
```

Better diffs

```
/tmp /usr/bin/diff elasticsearch-old.yml elasticsearch.yml
23c23
< #node.name: node-1
---
> node.name: my-node-1
55c55
< #network.host: 192.168.0.1
---
> network.host: 192.168.0.1
x /tmp /usr/bin/diff -u elasticsearch-old.yml elasticsearch.yml
--- elasticsearch-old.yml      2021-03-08 16:39:06.000000000 +0100
+++ elasticsearch.yml         2021-03-08 16:42:43.000000000 +0100
@@ -20,7 +20,7 @@
#
# Use a descriptive name for the node:
#
-#node.name: node-1
+node.name: my-node-1
#
# Add custom attributes to the node:
#
@@ -52,7 +52,7 @@
#
# Set the bind address to a specific IP (IPv4 or IPv6):
#
-#network.host: 192.168.0.1
+network.host: 192.168.0.1
#
# Set a custom port for HTTP:
#
x /tmp
```

colordiff

```
x /tmp colordiff -u elasticsearch-old.yml elasticsearch.yml
--- elasticsearch-old.yml      2021-03-08 16:39:06.000000000 +0100
+++ elasticsearch.yml         2021-03-08 16:42:43.000000000 +0100
@@ -20,7 +20,7 @@
#
# Use a descriptive name for the node:
#
-#node.name: node-1
+node.name: my-node-1
#
# Add custom attributes to the node:
#
@@ -52,7 +52,7 @@
#
# Set the bind address to a specific IP (IPv4 or IPv6):
#
-#network.host: 192.168.0.1
+network.host: 192.168.0.1
#
# Set a custom port for HTTP:
#
```

icdiff

```
x /tmp icdiff elasticsearch-old.yml elasticsearch.yml
```

```
elasticsearch-old.yml
```

```
#
# ----- Node -----
#
# Use a descriptive name for the node:
#
#node.name: node-1
#
# Add custom attributes to the node:
#
#node.attr.rack: r1
#
#
# ----- Network -----
#
# Set the bind address to a specific IP (IPv4 or IPv6):
#
#network.host: 192.168.0.1
#
# Set a custom port for HTTP:
#
#http.port: 9200
#
```

```
/tmp
```

```
elasticsearch.yml
```

```
#
# ----- Node -----
#
# Use a descriptive name for the node:
#
#node.name: my-node-1
#
# Add custom attributes to the node:
#
#node.attr.rack: r1
#
#
# ----- Network -----
#
# Set the bind address to a specific IP (IPv4 or IPv6):
#
#network.host: 192.168.0.1
#
# Set a custom port for HTTP:
#
#http.port: 9200
#
```

Language	Files	Lines	Blanks	Comments	Code	Complexity
Java	15002	2544041	328818	292218	1923005	174961
YAML	1007	134857	14667	3163	117027	0
JSON	619	43138	18	0	43120	0
Plain Text	512	55353	9539	0	45814	0
Gradle	392	21555	2368	827	18360	0
Properties File	84	9803	228	637	8938	0
XML	60	4072	472	1133	2467	0
Groovy	31	4788	465	561	3762	334
BASH	25	814	143	214	457	74
SVG	23	1137	0	18	1119	0
Batch	21	849	154	2	693	169
Markdown	17	1675	397	0	1278	0
Shell	17	1070	129	164	777	72
SQL	12	859	4	561	294	0
XML Schema	12	3302	224	0	3078	0
TOML	10	5333	269	60	5004	137
Dockerfile	9	501	27	5	469	2
CSV	8	803	0	0	803	0
gitignore	6	72	16	17	39	0
HTML	5	81	0	16	65	0
CSS	3	327	30	3	294	0
Freemarker Template	3	7	0	0	7	0
License	3	285	44	0	241	0
Python	3	579	30	60	489	28
Emacs Lisp	1	88	10	0	78	4
JavaScript	1	40	8	2	30	9
Mustache	1	5	0	0	5	0
Powershell	1	32	3	1	28	0
Systemd	1	66	17	0	49	0
Total	17889	2835532	358080	299662	2177790	175790

Estimated Cost to Develop (organic) \$153,511,411
 Estimated Schedule Effort (organic) 74.866695 months
 Estimated People Required (organic) 102.527266

Processed 129081316 bytes, 129.081 megabytes (SI)

scc - source code analyzer

Honorable mentions

- GPU based terminal emulators: `alacritty` & `kitty`
- `exiftool`, remove exif data `exiftool -all= my.png`
- `tmux` - next session will be all about `tmux`!
- `sd`, a faster `sed` alternative
- `zoxide`, a new `cd` that remembers your most common paths

Honorable mentions

- rlwrap, a `readline` wrapper
- cli, the github cli tool
- taskwarrior, **the** CLI todo management tool

Missing

- Note taking tool, that automatically syncs in the cloud/via git
- Time tracking?
- What are your favourite tools? Feel free to ping (twitter, email, linkedin, whatever)

Write CLI tools

Command Line Interface Guidelines

Foreword

Introduction

Philosophy

Human-first design

Simple parts that work together

Consistency across programs

Saying (just) enough

Ease of discovery

Conversation as the norm

Robustness

Empathy

Chaos

Guidelines

The Basics

Help

Output

Errors

Arguments and flags

Interactivity

Subcommands

Robustness

Future-proofing

Signals and control characters

Configuration

Environment variables

Naming

Distribution

Analytics

Further reading

Resources

- direnv
- envchain
- fish shell
- Starship
- fd
- bat
- hyperfine

Resources

- [ripgrep](#)
- [ripgrep-all](#)
- [Grep tools feature comparison](#)
- [Rewritten in Rust: Modern Alternatives of Command-Line Tools](#)
- [Command Line Interface Guidelines](#)
- [A better zsh history](#)

Thanks for listening

Q & A

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