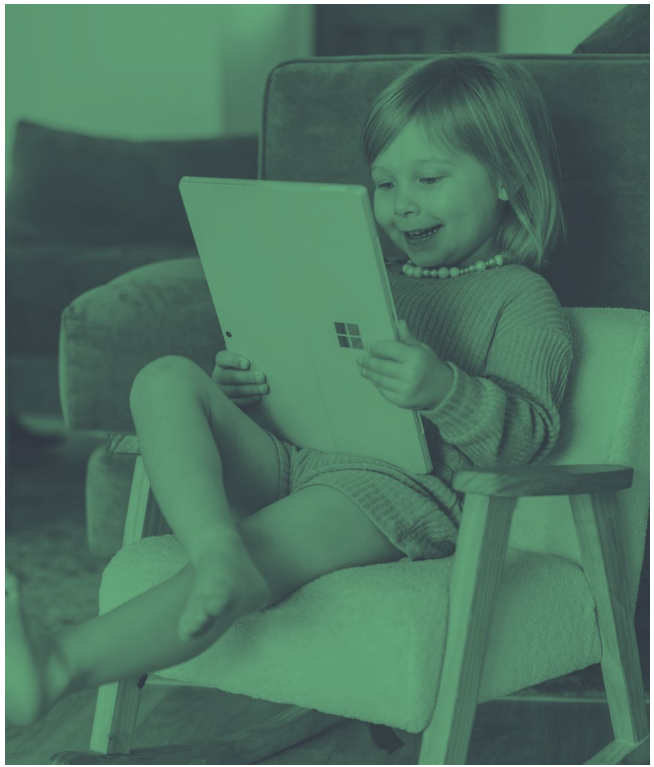
Reprenez le contrôle de votre bash en devenant un ninja de la CLI ! 😎

David Aparicio @dadideo

Disclaimer



- 17h45 / 18h15
  (Re) Découvrir les outils UNIX, Grégoire Pineau
- - Bash
- + Configuration
- + Outils

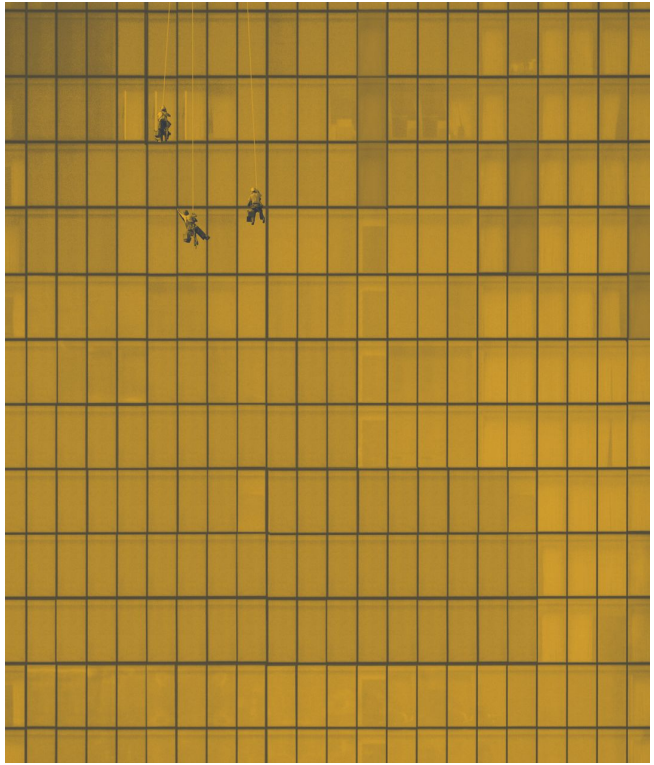
Programme

- Intro: Terminal & Shell
- Développement
- Réseau & Perfs
- Astuces
- Conclusion

Outil de prédilection

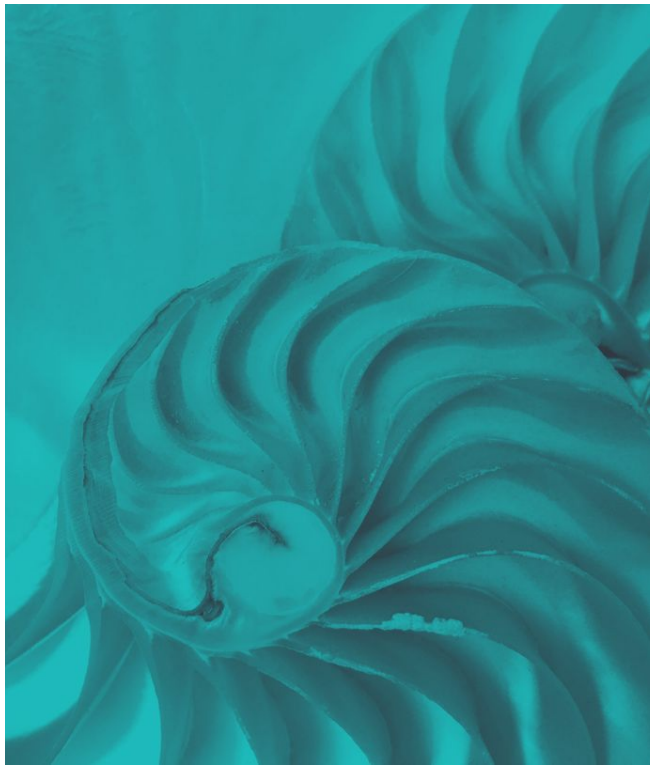
- Interpréteur de commande (cmd)
- Interface système (shell)
- Infrastructure logicielle (framework)
- Extensions / Thèmes (plugins)

Interpréteur de commande



- Terminal / Konsole
- Terminator
- iTerm
- Alacritty / Warp
- Cmd / Cmder
- Windows Terminal

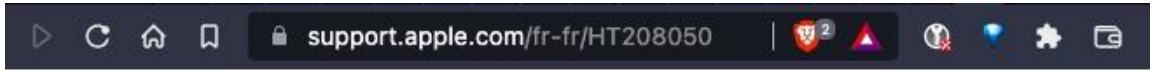
Interface système



- Bash
- Zsh
- Fish
- Ksh
- Tcsh
- Powershell / DOS
- WSL2

https://hyperpolyglot.org/unix-shells

Par défaut, ça dépend



Utiliser zsh comme shell par défaut sur votre Mac

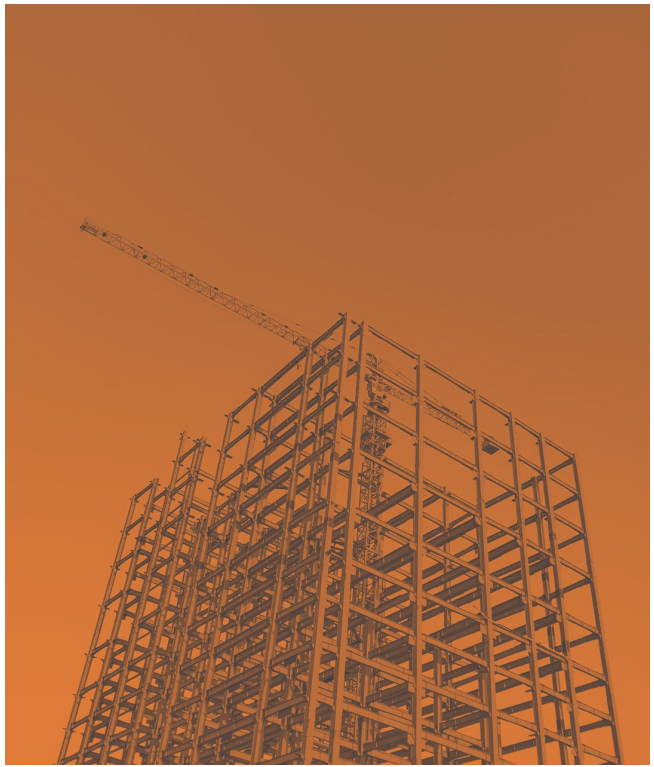
À partir de macOS Catalina, le Mac utilise zsh comme shell d'accès par défaut et shell interactif. Vous pouvez également définir zsh comme valeur par défaut dans les versions antérieures de macOS.

Par défaut, votre Mac utilise zsh ou bash comme interpréteur de ligne de commande pour le shell d'accès et le shell interactif :

- **zsh** (Z shell) est le shell par défaut pour tous les comptes d'utilisateur nouvellement créés, à partir de macOS Catalina.
- **bash** est le shell par défaut sous macOS Mojave et versions antérieures.

zsh est hautement compatible avec le shell Bourne (sh) et globalement compatible avec bash, avec quelques différences. Pour plus d'informations sur zsh et son système exhaustif de complétion de ligne de commande, saisissez `man zsh` dans Terminal.

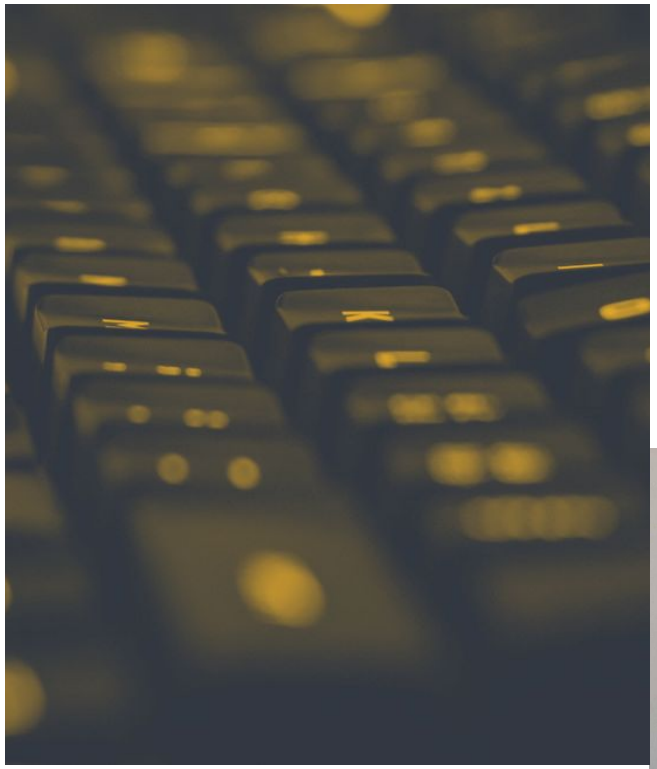
Infrastructure logicielle, Plugins



- Oh My Zsh / Oh-My-Fish
- Spaceship / Spacefish
- Starship (Cross/Rust)

```
rocket on  master via  v1.36.0
❯ sudo -s

root in rocket on  master via  v1.36.0
❯ exit

rocket on  master via  v1.36.0 took 4s
❯ vim ~/.config/starship.toml
```

Bonus: tout au clavier

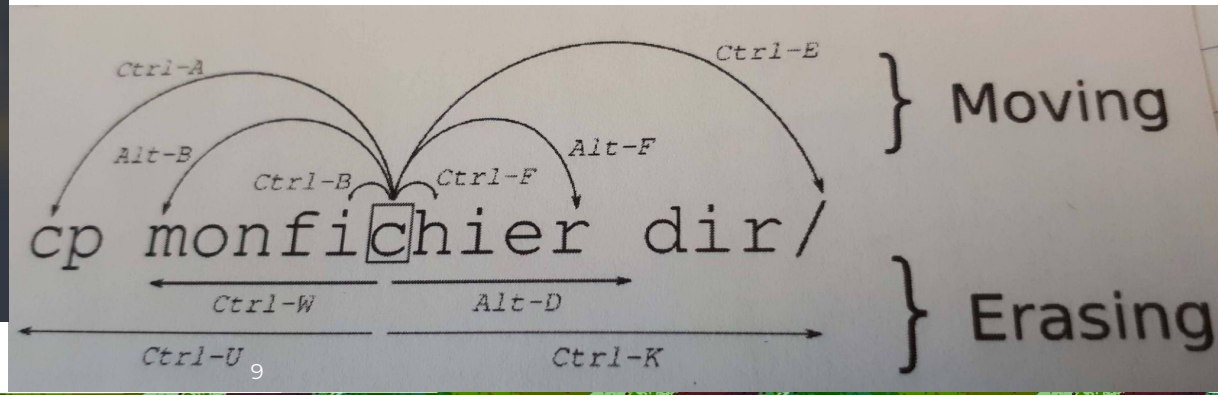


Fenêtres

- i3wm / xmonad
- rectangle
- amethyst / yabai
- bug.n / WinWM

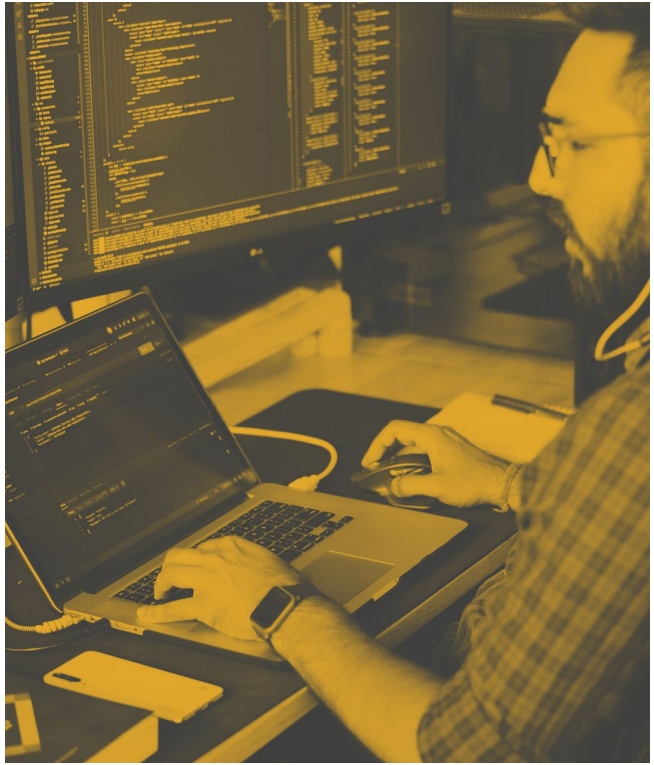
Onglets

- screen / tmux
- byobu / zettilj



Let's Code

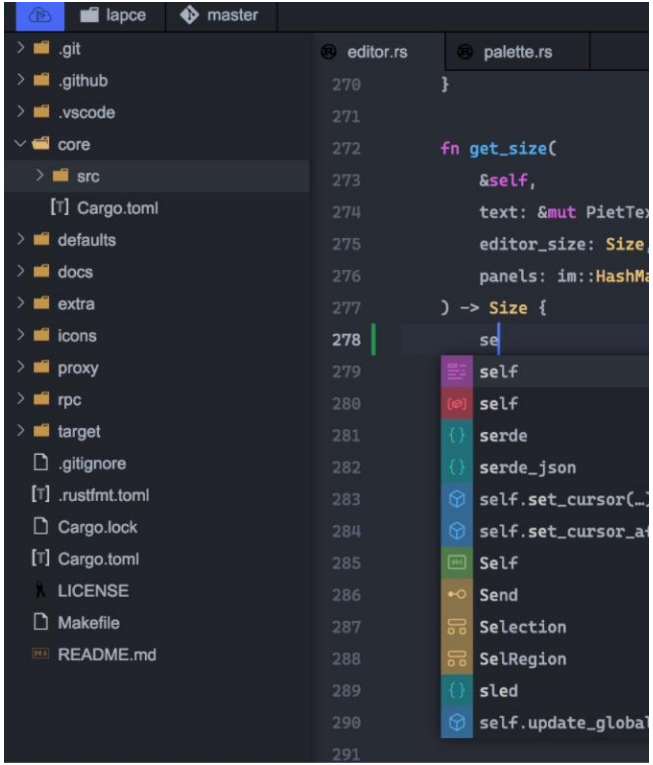
Espace de travail



- Choix du dossier, avec cd / ls
- Exa (ls)
- Zoxide (cd)

```
~
→ z 2022
2022etmoi on  prod is 📦 v0.0.1 via ● v17.8.0
→ pwd
/Users/daparicio/code/github.com/2022etmoi/2022etmoi
~
→ z website
website on  master [!?] via 🐹 v1.18 on 🐳 v20.10.13
→ pwd
/Users/daparicio/code/gitlab.com/davidaparicio/website
```

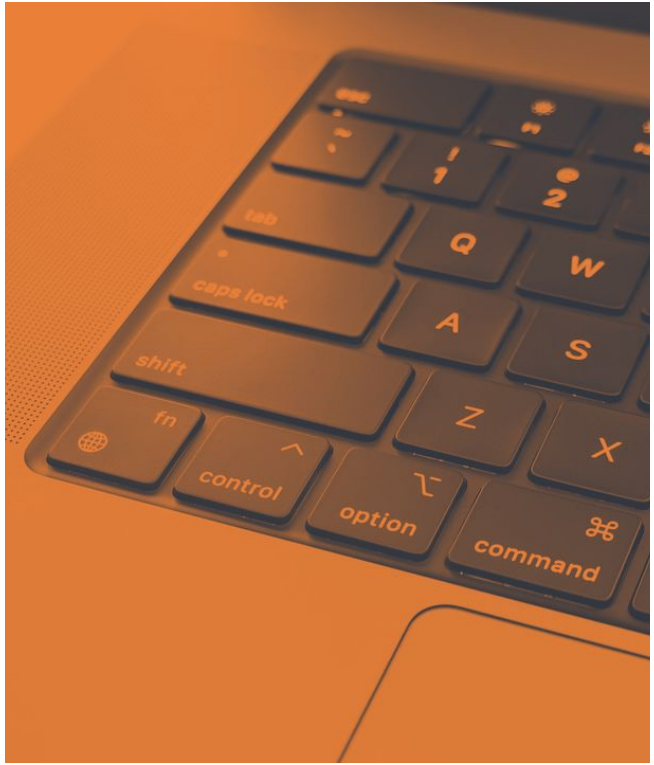
Vim ou Emacs ?



- Rust propose une liste prometteuse
- Lapce
- Ox
- Xi
- Kiro

- Bat (cat)
- Delta / Difftastic (diff)

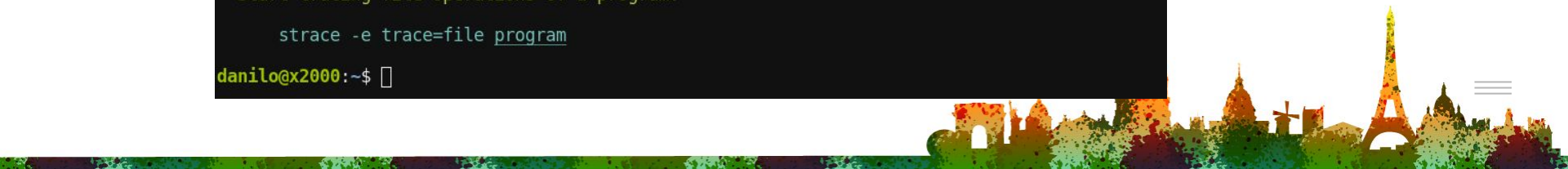
Gestion de versions



- pyenv / conda
- nvm / volta

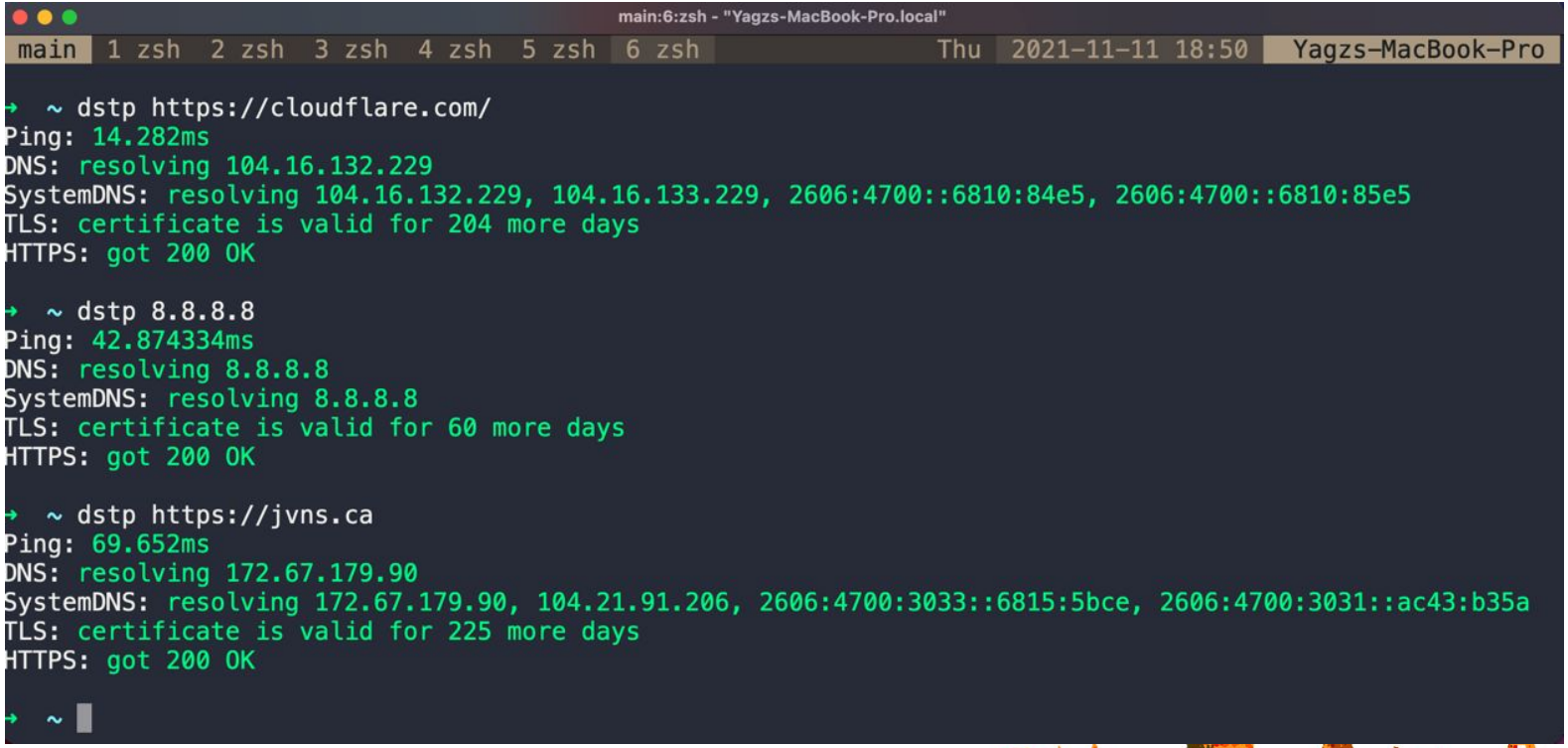
tldr / tealdeer

```
danilo@x2000:~$ tldr strace

  Troubleshooting tool for tracing system calls.

  Start tracing a specific process by its PID:

      strace -p pid

  Trace a process and filter output by system call:

      strace -p pid -e system call name

  Count time, calls, and errors for each system call and report a summary on program exit:

      strace -p pid -c

  Show the time spent in every system call:

      strace -p pid -T

  Start tracing a program by executing it:

      strace program

  Start tracing file operations of a program:

      strace -e trace=file program

danilo@x2000:~$
```



navi

Problème réseau ? Une solution

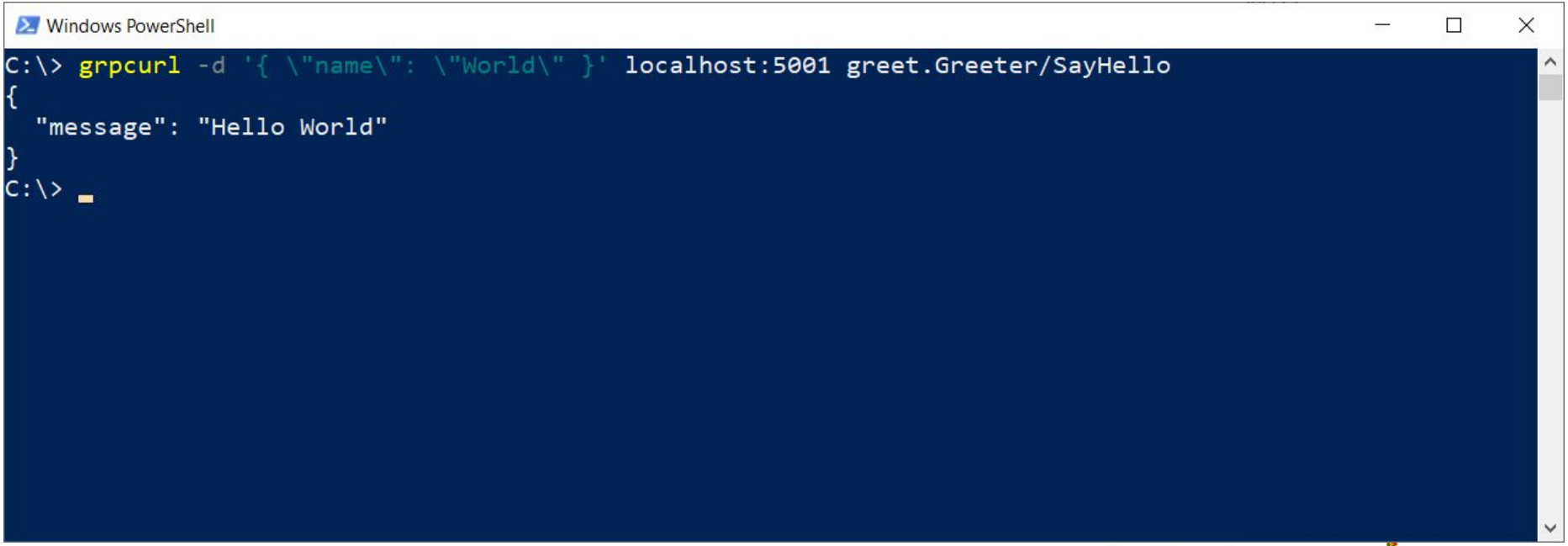


Test spécifique: httpie

```
[~] http PUT httpbin.org/put hello=world
HTTP/1.1 200 OK
Access-Control-Allow-Credentials: true
Access-Control-Allow-Origin: *
Connection: keep-alive
Content-Length: 452
Content-Type: application/json
Date: Thu, 06 Dec 2018 15:43:38 GMT
Server: gunicorn/19.9.0
Via: 1.1 vegur

{
    "args": {},
    "data": "{\"hello\": \"world\"}",
    "files": {},
```

```
[~] http httpbin.org/status/418
HTTP/1.1 418 I'M A TEAPOT
Access-Control-Allow-Credentials: true
Access-Control-Allow-Origin: *
Connection: keep-alive
Content-Length: 135
Date: Thu, 06 Dec 2018 15:40:14 GMT
Server: gunicorn/19.9.0
Via: 1.1 vegur
X-More-Info: http://tools.ietf.org/html/rfc2324

    -=[ teapot ]=-

       _...._
     .'  _ _ `.
    | ."` ^ `". _,
    \_;`"---"`|//
      |       ;/
      \_     _/
        `"""`
```

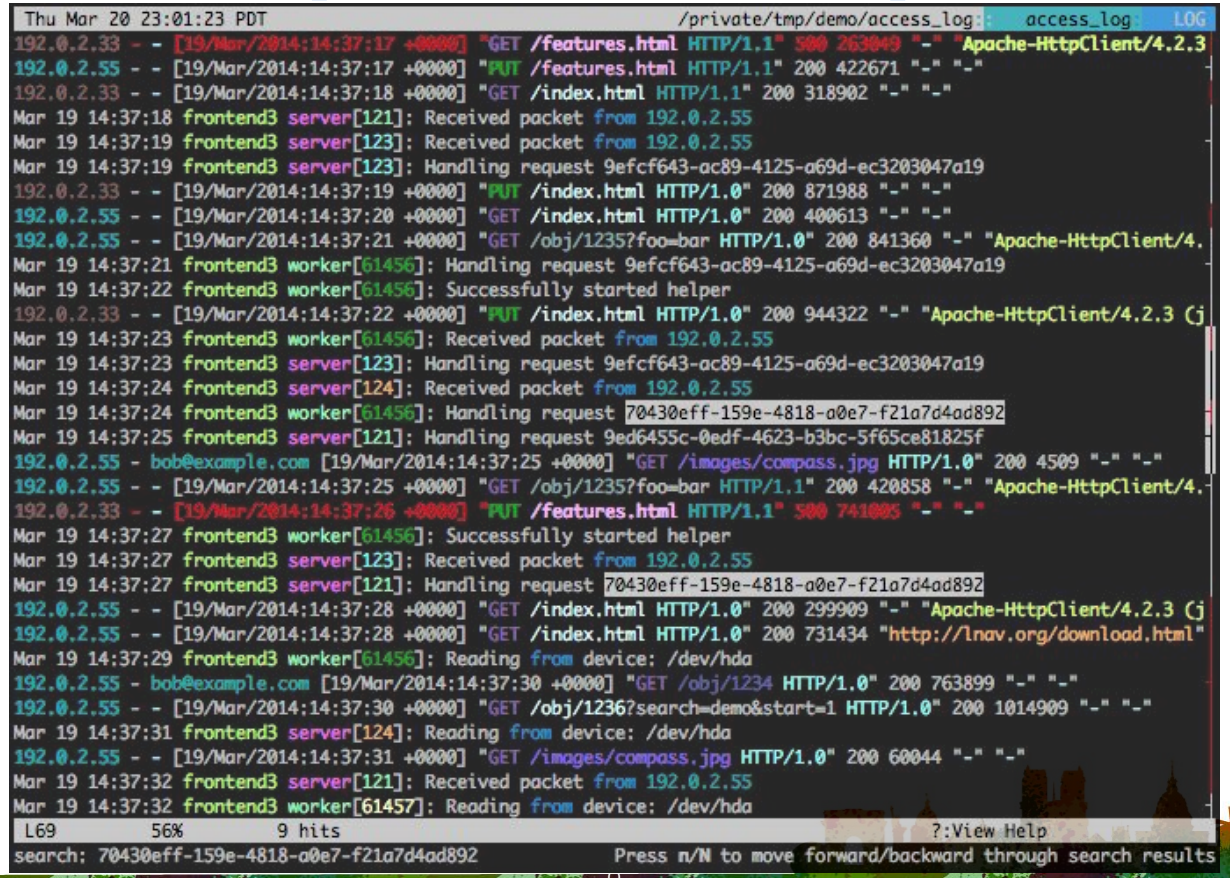
Test spécifique: gRPCurl



Perfs: ab / hey / hyperfine

```
▶ hyperfine --warmup 3 'fd -e jpg -uu' 'find -iname "*.jpg"'
```

Logs: lnav / multitail / GoAccess



vd: VisiData

name	<county	job_title	grade #	bas
ALVAREZ,JUAN M	FRESNO	GENERAL EDUCATION …	12	
BOYD,CLAUDE A	DISTRICT OF COLUMB…	OFC AUTOMATION CLE…	4	
BRITT,ROBERT E	DISTRICT OF COLUMB…	MISCELLANEOUS CLER…	5	
CASTRO,JESSICA	DISTRICT OF COLUMB…	ADMIN AND OFFICE S…	7	
CHASTANG,LINDA EAR…	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	14	
CHAVEZ,CHRISTINE	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	13	
CLIFFORD,CAROL L	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	0	
CORTEZ,SANDRA A	DISTRICT OF COLUMB…	GENERAL EDUCATION …	13	
DE LA GARZA,RUBY S	HIDALGO	GENERAL EDUCATION …	12	
DIAZ,VLADIMIR A	MIAMI-DADE	GENERAL EDUCATION …	12	
DOUGLAS,WALTER W	LEXINGTON	MISCELLANEOUS ADMI…	14	
FLORES,MARILOU	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	12	
GARDNER,KURT J	MADISON	MISCELLANEOUS ADMI…	13	
GOLDBERG,MARIA	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	15	
GONZALEZ,ROBERTO JR	IMPERIAL	GENERAL EDUCATION …	12	
GUY,DWIGHT N	LOGAN	MISCELLANEOUS ADMI…	13	
HARTSFIELD,LARRY D	GUILFORD	MISCELLANEOUS ADMI…	13	
HODGE,HORACE D	WALLER	MISCELLANEOUS ADMI…	12	
JAMES,KRISTEN	DISTRICT OF COLUMB…	MISCELLANEOUS CLER…	4	
JOHNSON,ALLISON C	EAST BATON ROUGE	MISCELLANEOUS ADMI…	13	
KOZISKI,STEPHANIE …	DISTRICT OF COLUMB…	MANAGEMENT AND PRO…	13	
MARTIN,KARLA A	DISTRICT OF COLUMB…	MISCELLANEOUS ADMI…	14	
MC LAREN,ANTONIO A	PETERSBURG	MISCELLANEOUS ADMI…	13	
MILLER,PIA M	DISTRICT OF COLUMB…	GENERAL BUSINESS A…	12	

FederalEmployeeSalaries-2012|

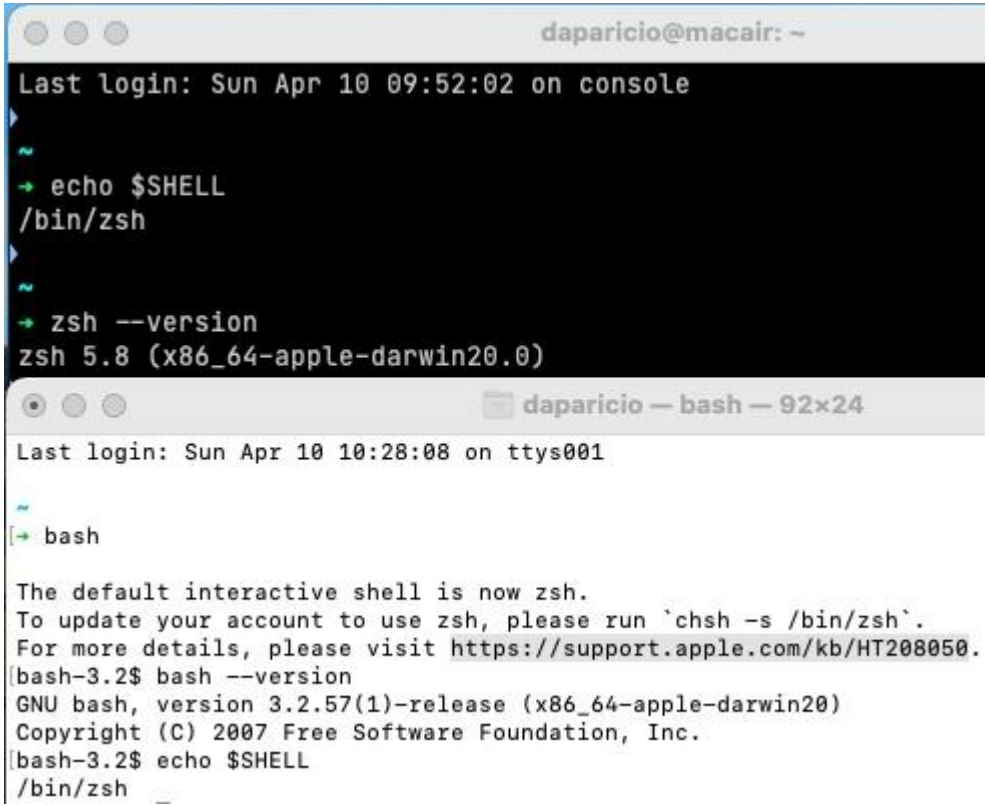
Complaint Type	count #	percent %	histogram
HEAT/HOT WATER	10207	0.46	**********
Animal in a Park	54	0.00	
PAINT/PLASTER	2664	0.12	***********
Sanitation Conditi…	1030	0.05	****
Other Enforcement	293	0.01	*
Street Light Condi…	4326	0.19	*******************
PLUMBING	2200	0.10	**********
Noise - Commercial	2456	0.11	**********
Noise - Residential	9163	0.40	**********
Noise - Street/Sid…	1778	0.08	********
Water System	2335	0.11	**********
Graffiti	423	0.02	**
Noise - Vehicle	844	0.04	***
Maintenance or Fac…	332	0.01	*
General Constructi…	1343	0.06	******
Drinking	64	0.00	
DOOR/WINDOW	1655	0.07	*******
Homeless Person As…	1879	0.08	********
Dirty Conditions	1446	0.06	******
Blocked Driveway	4910	0.22	**********
Animal Abuse	397	0.02	*
Lead	1934	0.09	*********

311_Service_Requests_from_2010_to_Present_Complaint F 180 4% grouping

Une typo = Une solution

Astuces

Gardez un bash sous la main

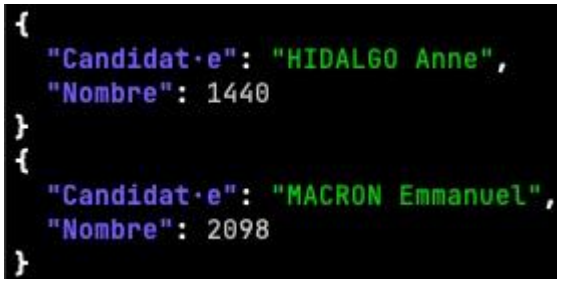


- Afin de tester, au préalable, vos scripts de déploiement, de configuration, sur une nouvelle infra
- Bash récent >= 4.2 (Février 2011)
- Et un coup d'oeil à la lib "ammlib"

```
PS4=' (${BASH_SOURCE##*/}:$LINENO
${FUNCNAME[0]:-main}) '
```

Assemblez vos commandes

```
curl -s
https://presidentielle2022.conseil-constitutionnel.fr/telechargeme
nt/parrainagestotal.json | jq -r -s '.[] | group_by(.Candidat)
|map({"Candidat·e": .[0].Candidat, Nombre: length}) |
sort_by(.Nombre) | .[]'
```



Composez vos commandes

```
du -x --max-depth=1|sort -rn|awk -F / -v c=$COLUMNS
'NR==1{t=$1} NR>1{r=int($1/t*c+.5); b="\033[1;31m"; for (i=0; i<r;
i++) b=b"#"; printf " %5.2f%% %s\033[0m %s\n", $1/t*100, b,
$2}'|tac
```

```
pi@raspberry:/# du -x --max-depth=1|sort -rn|awk -F / -v c=$COLUMNS 'NR==1{t=$1} NR>1{r=int($1/t*c+.5); b="\033[1;31m"; for (i=0; i<r; i++) b=b"#";
 printf " %5.2f%% %s\033[0m %s\n", $1/t*100, b, $2}'|tac
  0.00%  media
  0.00%  mnt
  0.00%  srv
  0.00%  lost+found
  0.14%  tmp
  0.26%  etc
  0.51% # root
  2.51% ### opt
  4.42% ###### boot
 17.40% ######################## home
 29.50% ######################################### var
 45.26% ################################################################ usr
```

Parlez-vous aux inconnus ?

Alors pourquoi acceptez-vous de faire :

curl -s <randomURL> | sudo bash

⚠️⚠️⚠️

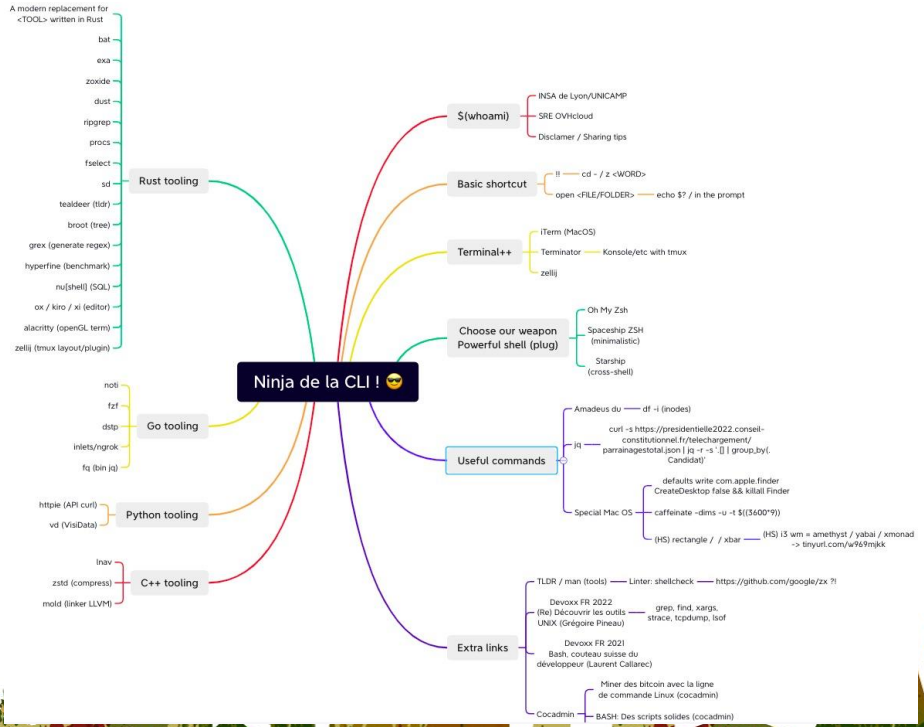
Sauvegardez vos .dotfiles

(aka vos fichiers de configurations)

```
vcsh init vim
vcsh vim add ~/.vimrc ~/.vim
vcsh vim commit -m 'Initial commit of my Vim configuration'
# optionally push your files to a remote
vcsh vim remote add origin <remote>
vcsh vim push -u origin master
# from now on you can push additional commits like this
vcsh vim push
# If all that looks a lot like standard git,
# that's no coincidence; it's a design feature.
```

Conclusion

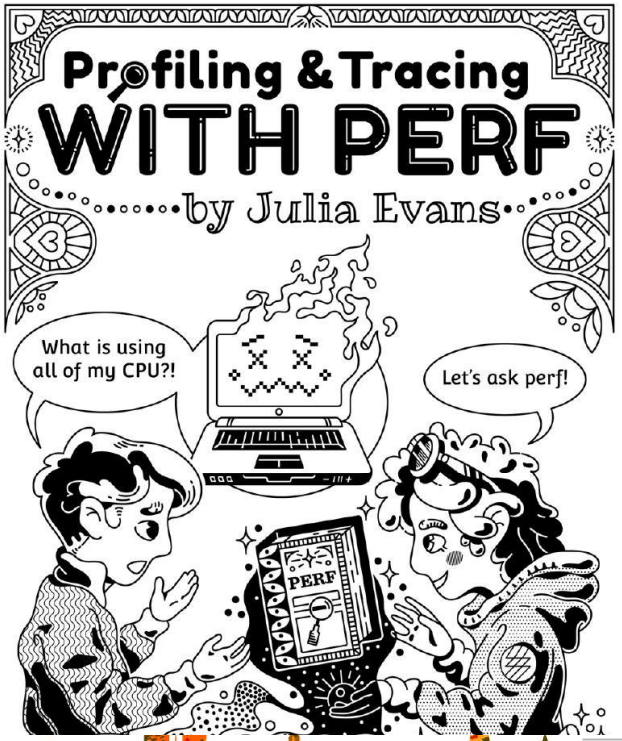
La méga-liste



Mindmap

Pour aller plus loin

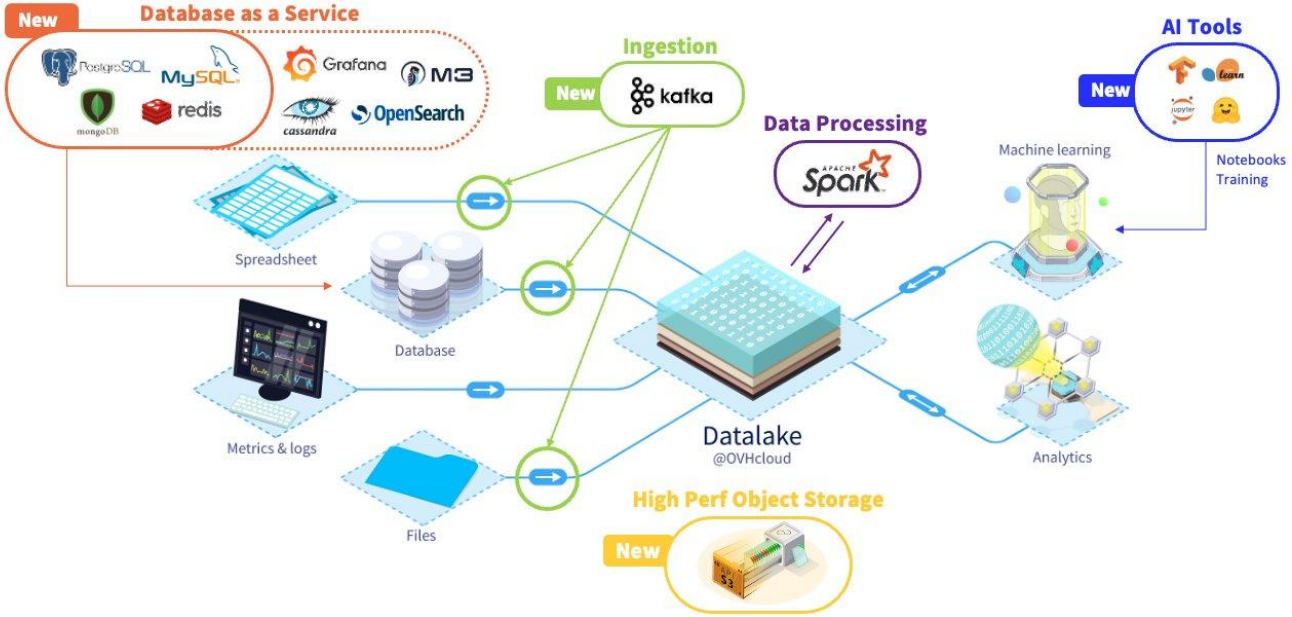
- Outils installables via homebrew / chocolatey / apt / yum…
- Les zines de Julia Evans
- Devoxx FR 2021: Bash, couteau suisse du développeur (Laurent Callarec)
- Cocadmin: tmux, 10 astuces CLI
- Understanding X in a visual way, de Aurélie Vache
- Rewritten in Rust: Modern Alternatives of Command-Line Tools (zaiste.net)



David Aparicio (@dadideo)

- 2015 INSA de Lyon / UNICAMP
- Facebook Open Academy / MIT AppInventor
- 2017 Dev(Sec)Ops @ AMADEUS (Nice, 2 ans)
- 2019 Data(Sec)Ops @ OVHcloud (Lyon, 3 ans)

GIS-DATA



careers.ovhcloud.com

Voulez-vous travailler avec David ?

Voici 3 offres dans l'équipe GIS :

IT Technical Leader

Développeur Python

Manager
Database Opensource

careers.ovhcloud.com

Merci

Slides disponibles sur mon site

J'ai besoin de vos retours
https://s.42l.fr/devoxxcli