

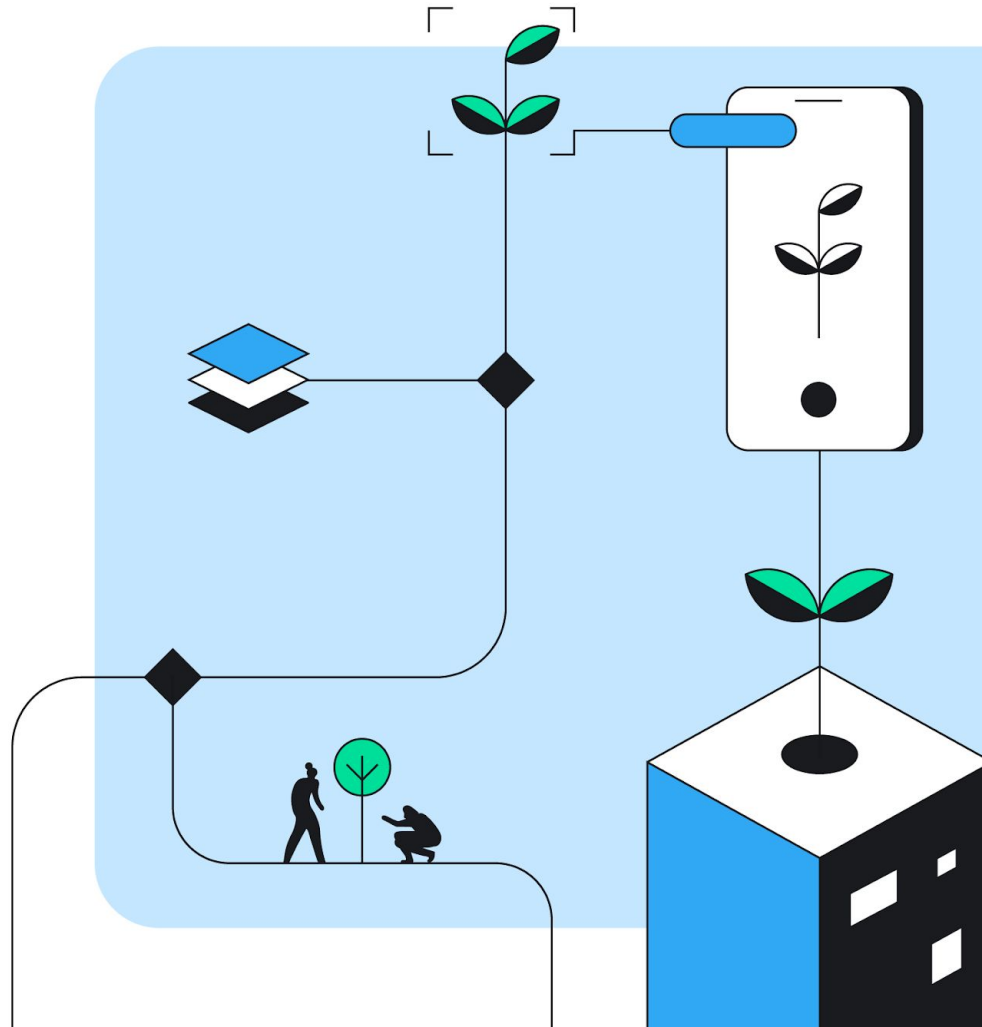
**Impact the Future**

International Women's Day 2024

# Friendly shell environment setup

Karn Wong

Platform Engineer, Data Cafe Thailand



# A CLI nerd who loves a blinking cursor too much

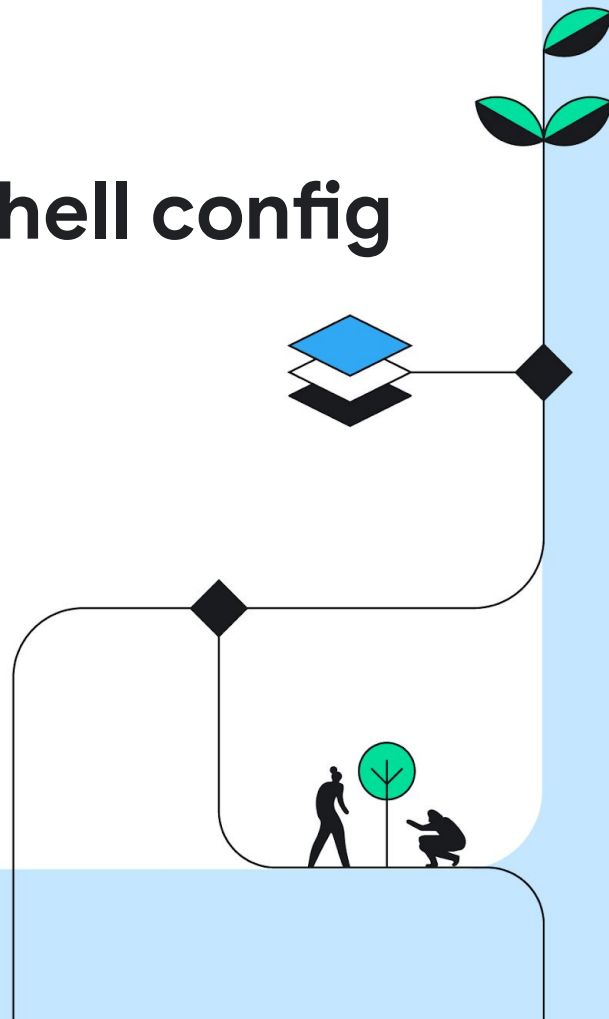
Karn Wong

Platform Engineer, Data Cafe Thailand

<https://karnwong.me>

## Current issues with default shell config

1. Lack of colors
2. Everything looks the same
3. Not obvious whether there is a typo or an executable doesn't exist
4. Important information are not displayed





# Bland colors, not anymore!

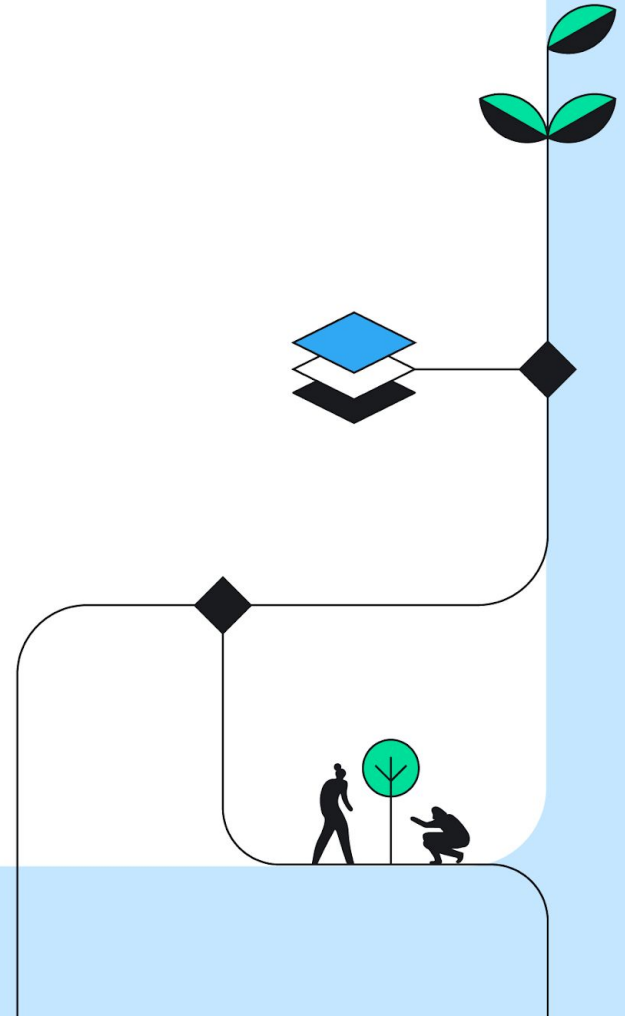


# Impact the Future

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## ls -> eza

```
> ls
fish
setup
starship
🔥 Dockerfile
📄 LICENSE
📖 README.md
```





## ls -lah -> eza

```
> ls -lah
Permissions Size User Date Modified Name
drwxr-xr-x@ - kahnwong 25 Feb 13:03 .git
drwxr-xr-x@ - kahnwong 12 Dec 2023 .idea
drwxr-xr-x@ - kahnwong 12 Dec 2023 fish
drwxr-xr-x@ - kahnwong 12 Dec 2023 setup
drwxr-xr-x@ - kahnwong 12 Dec 2023 starship
.rw-r--r--@ 6 kahnwong 12 Dec 2023 .gitignore
.rw-r--r--@ 1.4k kahnwong 12 Dec 2023 !.pre-commit-config.yaml
.rw-r--r--@ 79 kahnwong 12 Dec 2023 Dockerfile
.rw-r--r-- 1.1k kahnwong 25 Feb 13:03 LICENSE
.rw-r--r-- 719 kahnwong 25 Feb 13:03 README.md
```

# Impact the Future

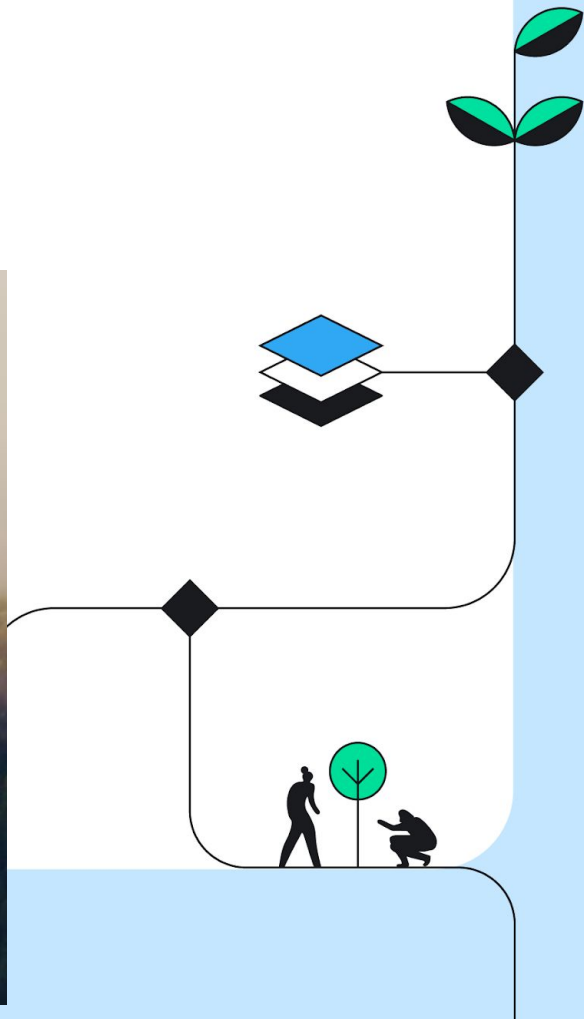
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## cat -> bat

```
> cat setup/darwin.sh

File: setup/darwin.sh

1  #!/bin/bash
2
3  #####
4  # prep mac
5  #####
6  if [[ $(uname -s) == 'Darwin' ]]; then
7      echo "===== Installing xcode cli development tool
8      s ====="
9      xcode-select --install
10
11      if [[ $(uname -m) == 'arm64' ]]; then
12          echo "===== Installing rosetta ====="
13          /usr/sbin/softwareupdate --install-rosetta --agree
14          -to-license
15          fi
16      fi
```

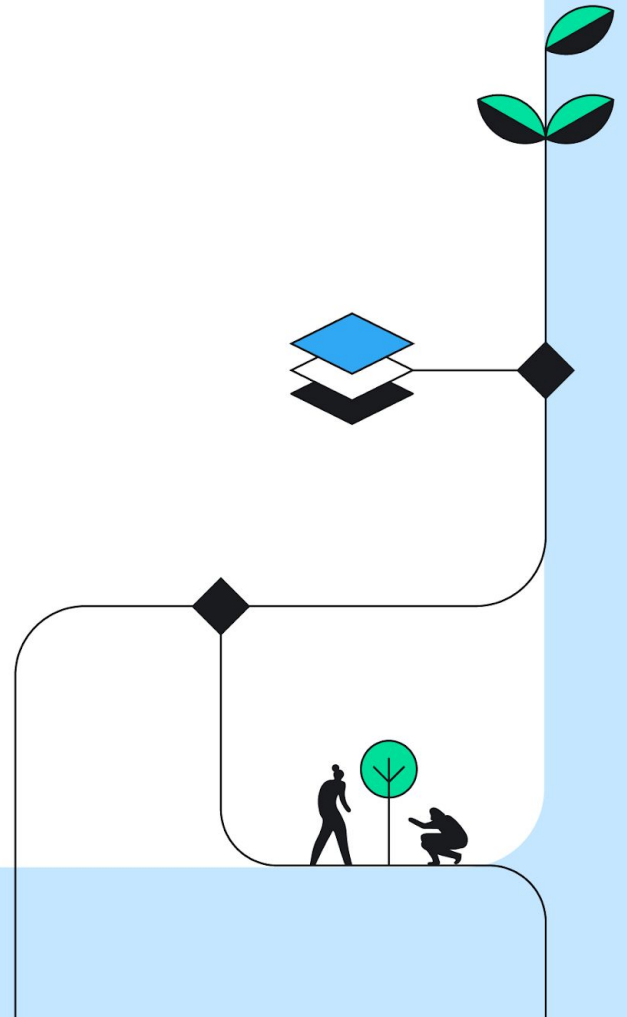


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# echo

```
> echo "foo"
```





## Executable doesn't exist

```
> dockr ps|
```

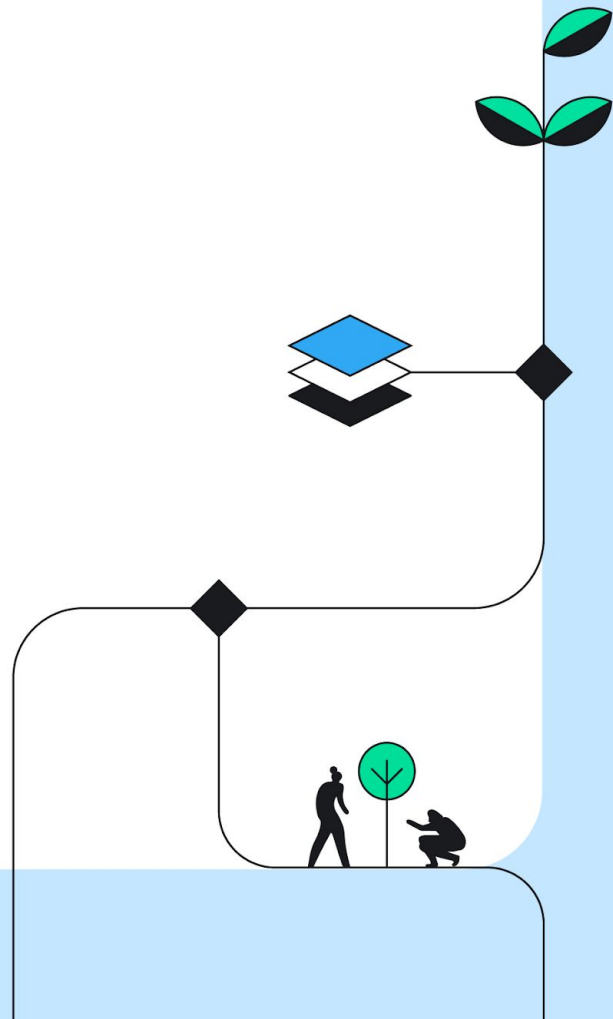
```
> docker ps|
```

this means executable does exist



## Chained command

```
> docker ps | grep postgres|
```



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## grep



```
> docker images | grep alpine  
postgres  
postgis/postgis
```

```
15.4-alpine  
15-3.3-alpine
```

```
b3bcb0ef48d7  
5c31842a05f0
```

```
4 months ago  
6 months ago
```

```
242MB  
428MB
```



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## df -> duf

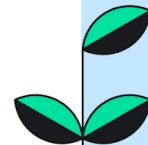
10 local devices						
MOUNTED ON	SIZE	USED	AVAIL	USE%	TYPE	FILESYSTEM
/	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s1s1
/System/Volumes/Data	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s5
/System/Volumes/Hardware	500.0M	19.2M	480.8M	3.8%	apfs	/dev/disk1s3
/System/Volumes/Preboot	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s2
/System/Volumes/Update	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s4
/System/Volumes/VM	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s6
/System/Volumes/iSC Preboot	500.0M	19.2M	480.8M	3.8%	apfs	/dev/disk1s1
/System/Volumes/xarts	500.0M	19.2M	480.8M	3.8%	apfs	/dev/disk1s2
/Volumes/com.apple.TimeMachine.localsnapshots/Backups.backupdb/Karn's MacBook Pro (M3)/2024-02-25-151432/Data	926.4G	366.9G	559.5G	39.6%	apfs	com.apple.TimeMachine.2024-02-25-151432.local@dev/disk3s5
/nix	926.4G	366.9G	559.5G	39.6%	apfs	/dev/disk3s7
1 special device						
MOUNTED ON	SIZE	USED	AVAIL	USE%	TYPE	FILESYSTEM
/dev	201.0K	201.0K	0B	100.0%	devfs	devfs

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## ps -> procs

PID:▲	User	TTY	CPU [%]	MEM [%]	CPU Time	Command
384	kahnwong		0.0	0.2	00:00:49	/System/Library/CoreServices/loginwindow.app/Contents
641	kahnwong		0.0	0.0	00:00:17	/usr/sbin/distnoted agent
642	kahnwong		0.0	0.0	00:00:22	/usr/sbin/cfprefsd agent
644	kahnwong		0.0	0.0	00:00:06	/usr/libexec/UserEventAgent (Aqua)
651	kahnwong		0.0	0.0	00:00:02	/usr/sbin/universalaccessd launchd -s
654	kahnwong		0.0	0.2	00:00:38	/System/Library/CoreServices/WindowManager.app/Conten
656	kahnwong		0.0	0.2	00:00:22	/System/Library/CoreServices/Dock.app/Contents/MacOS/
657	kahnwong		0.0	0.1	00:00:04	/usr/libexec/rapportd
658	kahnwong		0.0	0.1	00:00:04	/usr/libexec/lsd
659	kahnwong		0.0	0.3	00:00:49	/System/Library/CoreServices/ControlCenter.app/Conten
660	kahnwong		0.0	0.1	00:00:40	/System/Library/CoreServices/SystemUIServer.app/Conte
663	kahnwong		0.0	0.4	00:01:27	/System/Library/CoreServices/Finder.app/Contents/MacO
671	kahnwong		0.0	0.1	00:00:10	/usr/libexec/secd
673	kahnwong		0.0	0.1	00:00:07	/usr/libexec/nsurlsessiond
676	kahnwong		0.0	0.1	00:00:02	/usr/sbin/usernoted
679	kahnwong		0.0	0.1	00:00:39	/System/Library/PrivateFrameworks/ExchangeSync.framework
682	kahnwong		0.0	0.1	00:00:01	/usr/libexec/pboard



## grep -> rg

```
> rg fish
Dockerfile
8:CMD fish

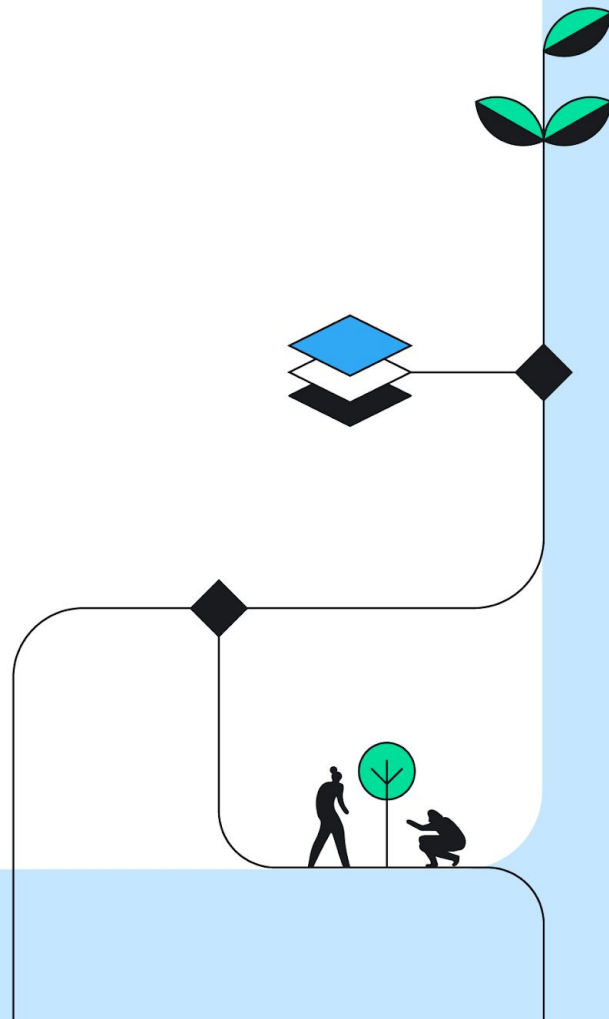
README.md
9:docker run -it vm-init fish
30:- [fish](https://github.com/fish-shell/fish-shell) - shell

fish/config.fish
5:set fish_escape_delay_ms 3000
7:# suppress fish_greeting message
8:set -g fish_greeting
28:starship init fish | source
31:zoxide init fish | source
34:mcfly init fish | source
```



## grep - for files -> fd

```
> fd sh
fish/
fish/config.fish
fish/shell.fish
setup/darwin.sh
setup/debian.sh
starship/
starship/starship.toml
```





## Markdown -> glow

```
glow README.md
```

### VM Init

Based on <https://github.com/kahnwong/nix>

### ## Docker

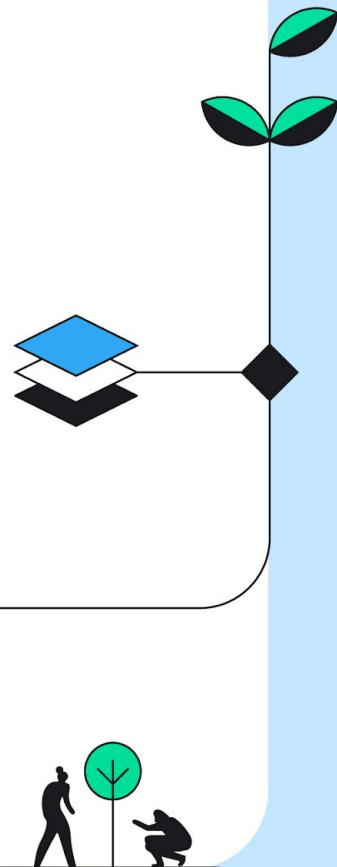
```
docker build -t vm-init .  
docker run -it vm-init fish
```

### ## Debian

```
git clone https://github.com/kahnwong/vm-init.git  
cd vm-init  
bash setup/debian.sh
```

### ## Darwin

```
git clone https://github.com/kahnwong/vm-init.git  
cd vm-init  
bash setup/darwin.sh
```





## git diff

```
> git diff
Δ programs/starship/starship.toml

• 7: discharging_symbol = "⚡"

7 threshold = 30
8 style = "bold red"
9
10 [aws]
11 disabled = false
12 format = "[$profile]($style) "
13 style = "bold #F79400"
14 # [aws.region_aliases]
15 # ap-southeast-2 = "au"
16 # ap-southeast-1 = "sg"
17
18 [gcloud]
19 # format = '[$symbol$account(@$domain)(\($project\))](($style) '
20 # format = 'on [$symbol(@$domain)(\($region\))](($style) '
21 format = '[$symbol(@$domain)(\($project\))](($style) '

7 threshold = 30
8 style = "bold red"
9
10 [gcloud]
11 disabled = true
12 # format = '[$symbol$account(@$domain)(\($project\))](($style) '
13 # format = 'on [$symbol(@$domain)(\($region\))](($style) '
14 format = '[$symbol(@$domain)(\($project\))](($style) '
```





# And you can click in terminals!



## vim -> nvchad

```
1 FROM debian:12-slim
2
3 WORKDIR /opt
4
5 COPY . .
6 RUN bash setup/debian.sh
7
8 CMD fish
```

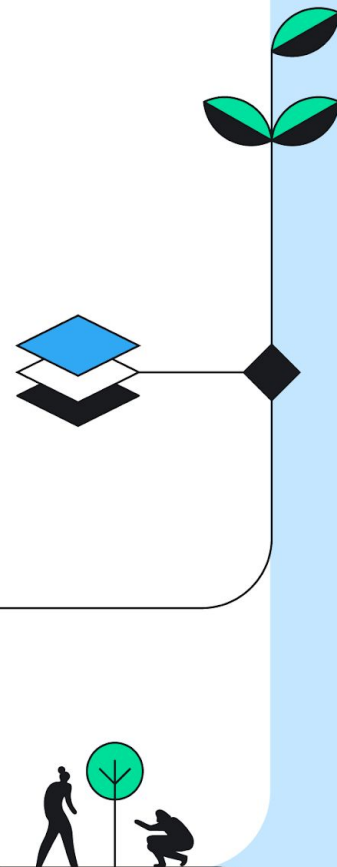
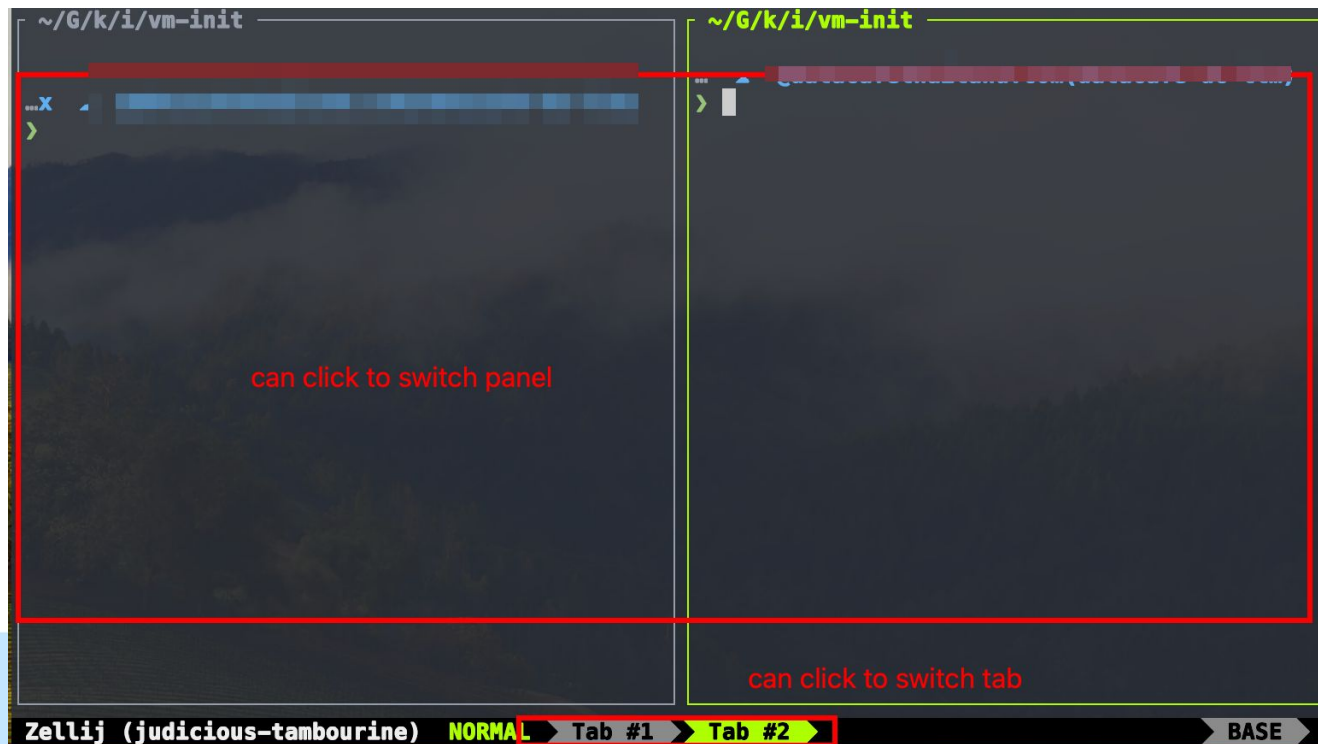
can click to jump cursor

NORMAL Dockerfile master

vm-init Bot



## tmux -> zellij





# Did I mention autocomplete?



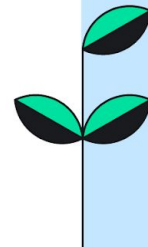


## Autocomplete - executables

```
> docker images | grep alpine
```

<u>docker</u>	( <i>command link</i> )	<u>docker-credential-gcr</u>	( <i>command link</i> )
<u>docker-compose</u>	( <i>command link</i> )	<u>docker-credential-osxkeychain</u>	( <i>command link</i> )
<u>docker-credential-desktop</u>	( <i>command link</i> )	<u>docker-image-tool.sh</u>	( <i>command link</i> )
<u>docker-credential-ecr-login</u>	( <i>command link</i> )	<u>docker-index</u>	( <i>command link</i> )
<u>docker-credential-gcloud</u>	( <i>command link</i> )		





## Autocomplete - docker

```
> docker | images | grep alpine
attach      (Attach local standard input, output, and error streams to a running container)
build       (Build an image from a Dockerfile)
commit      (Create a new image from a container's changes)
cp          (Copy files/folders between a container and the local filesystem)
create      (Create a new container)
diff        (Inspect changes on a container's filesystem)
events      (Get real time events from the server)
exec        (Execute a command in a running container)
export      (Stream the contents of a container as a tar archive)
history     (Show the history of an image)
images      (List images)
import      (Create a new filesystem image from the contents of a tarball)
info        (Display system-wide information)
inspect     (Return low-level information on a container or image)
```



## Autocomplete - docker argument

```
> docker images | grep alpine
```

```
alerts  
alswl/excalidraw  
alswl/excalidraw-storage-backend
```

```
db  
excalidraw/excalidraw-room  
ghcr.io/livegrep/livegrep/indexer
```

```
maptiler/tileserver-gl
```

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

minio/minio

mlflow

moby/buildkit

mongo

pgvector/pgvector

postgis/postgis

postgres

python-base

python-base-jupyter

quay.io/coreos/etcd

redis

shouldideploytoday

test

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)

(Repository)



[illegible]



## Autocomplete - scp

```
> scp -r snikt:/opt/cisco/
...ikt:/opt/dashy/      (Remote Path)  ...ikt:/opt/minio/      (Remote Path)
...ikt:/opt/forgejo/    (Remote Path)  ...ikt:/opt/ntfy/       (Remote Path)
...ikt:/opt/gatus/      (Remote Path)  ...ikt:/opt/picoshare/  (Remote Path)
...ikt:/opt/linkding/    (Remote Path)  ...ikt:/opt/sourcegraph/ (Remote Path)
...ikt:/opt/livegrep/    (Remote Path)  ...ikt:/opt/wallabag/   (Remote Path)
...ikt:/opt/memos/       (Remote Path)
```



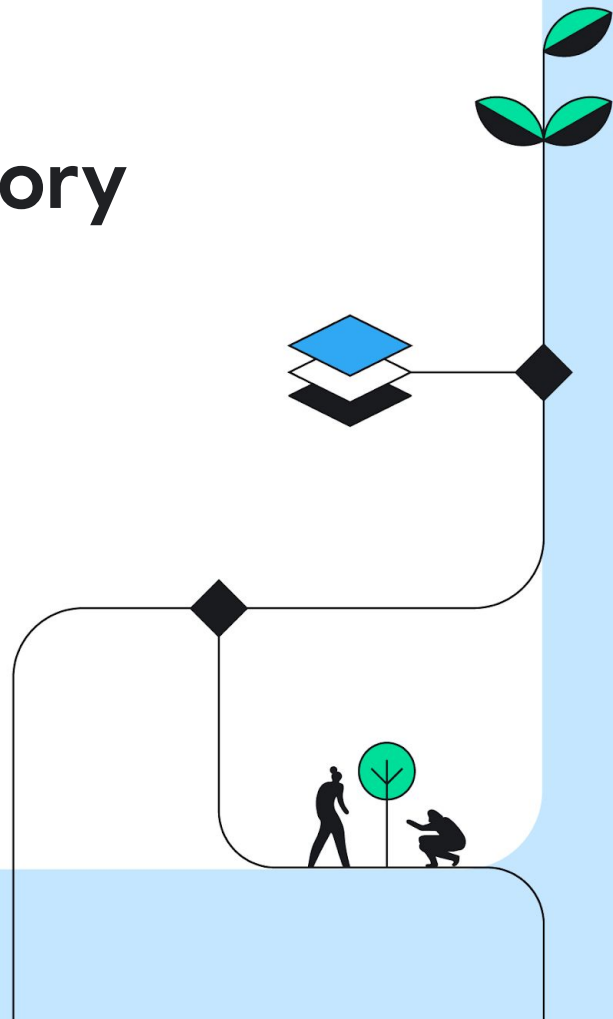


## Quality of life features



## Shell - autocomplete from history

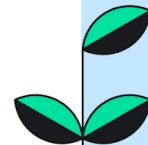
```
> docker| images | grep alpine
```

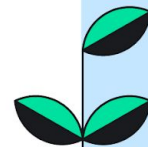


## Jump between directories -> zoxide

```
> z cloudflare
> | < 3/3
> 16.0 /Users/kahnwong/Git/kahnwong/infra/self-hosted/cloudflare
  2.0 /Users/kahnwong/Git/kahnwong/infra/fringe-division/cloudflare
  0.5 /Users/kahnwong/Git/kahnwong/infra/self-hosted/cloudflare/modules/cloudflare-pages

README.md      modules/      terraform.tfvars.sops
data.tf         pages.tf     variables.tf
dns.tf          providers.tf versions.tf
dns_email.tf   secrets.sops.yaml
dns_smtp_pop.tf terraform.tfvars
```





## Command cheat sheet -> tldr

```
> tldr kubectl
```

```
kubectl
```

Command-line interface for running commands against Kubernetes clusters.  
Some subcommands such as `kubectl run` have their own usage documentation.  
More information: <<https://kubernetes.io/docs/reference/kubectl/>>.

- List information about a resource with more details:  
`kubectl get pod|service|deployment|ingress|... -o wide`
- Update specified pod with the label 'unhealthy' and the value 'true':  
`kubectl label pods name unhealthy=true`
- List all resources with different types:  
`kubectl get all`

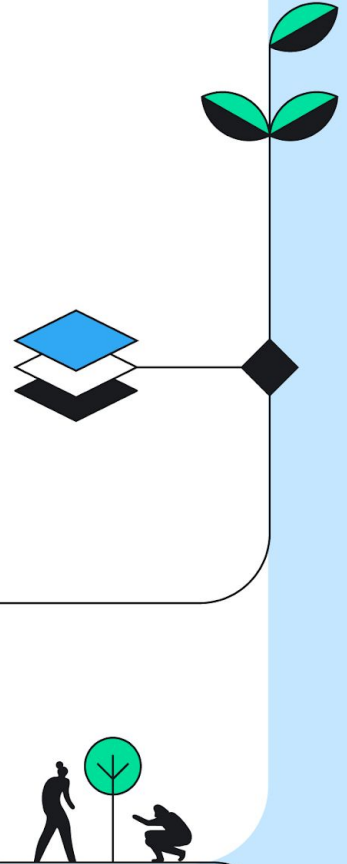
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## JSON -> fx

```
{
  "name": "shouldideploy",
  "description": "Should I Deploy today?",
  "author": "Alexis Sagrbossa",
  "license": "WTFPL",
  "version": "1.0.1",
  "repository": "https://github.com/baires/shouldideploy/",
  "scripts": {
    "precommit": "NODE_ENV=production lint-staged",
    "dev": "next -p 3001",
    "build": "next build",
    "start": "next start",
    "test": "jest",
    "lint": "next lint --dir pages --dir component --dir helpers --d",
    "format": "prettier-eslint --write $PWD/**/*.js"
  },
  "dependencies": {
    "@babel/eslint-parser": "^7.23.9",
    "@vercel/og": "^0.6.2",
    "date-fns": "^3.3.1",
    "next": "^14.1.0",
    "prettier-eslint-cli": "^8.0.1",
    "react": "^18.2.0",
    "react-dom": "^18.2.0"
  },
  "devDependencies": {"@types/jest": "..."},
  "husky": {
    "hooks": {
      "pre-commit": "npm run format && npm run lint"
    }
  },
  "engines": {
    "node": "18.x"
  }
}
```

can click to expand/collapse





**Important  
information should  
be displayed**



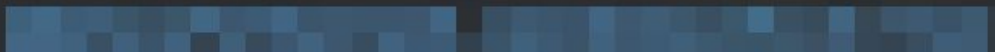




## Last command's runtime



nix on ↗ master



took 13s



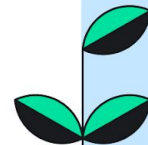
## Last command's status

```
vm-init on 🔄 master via 🐳 desktop-linux ☁️  
> echo "foo"  
foo  
  
vm-init on 🔄 master via 🐳 desktop-linux ☁️  
> |  
green = success
```

```
vm-init on 🔄 master via 🐳 desktop-linux ☁️  
> ls foo  
"foo": No such file or directory (os error 2)  
  
vm-init on 🔄 master via 🐳 desktop-linux ☁️  
> |  
red = failed
```




# Current GCP account & project

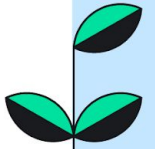


```
nix on  master  @datacafethailand.com(  ) took 13s  
> |
```



# Current AWS account & region

```
..master [!] on  [redacted]-prod-admin (ap-southeast-1)
```



## Current runtime version & venv

```
pgconn on 📌 master via 🐻 v1.21.7 ☁  
> |
```

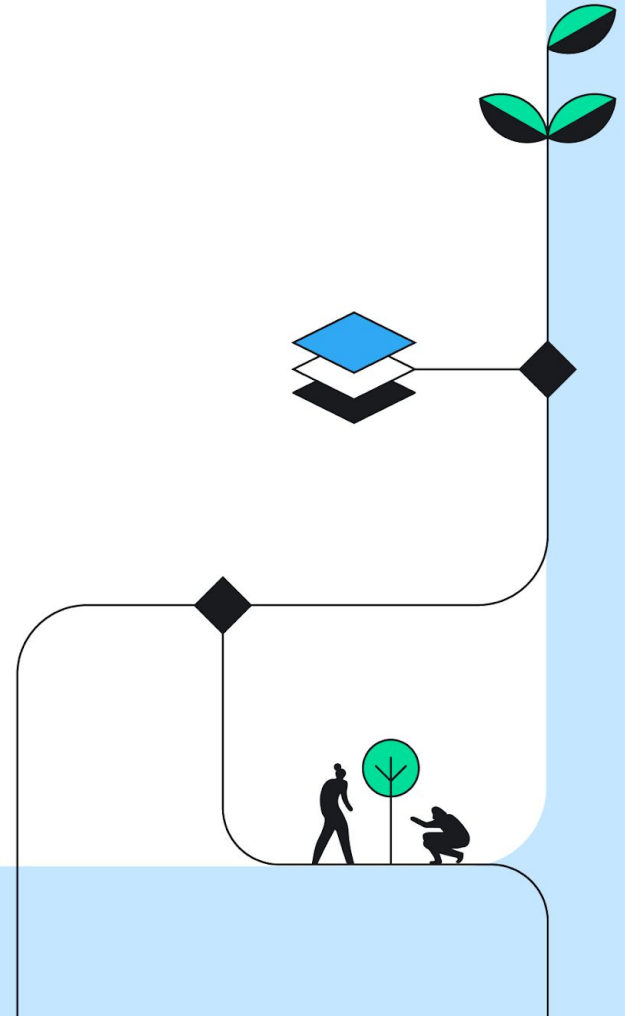
```
[REDACTED] on 📌 master via 📦 v18.19.0  
> |
```

```
jupyterlite on 📌 master via 🍄 v3.11.7 (jupyterlite-py3.11)  
> █
```



## Git branch & status

```
self-hosted on ↗ master [$?↑1]  
> |
```

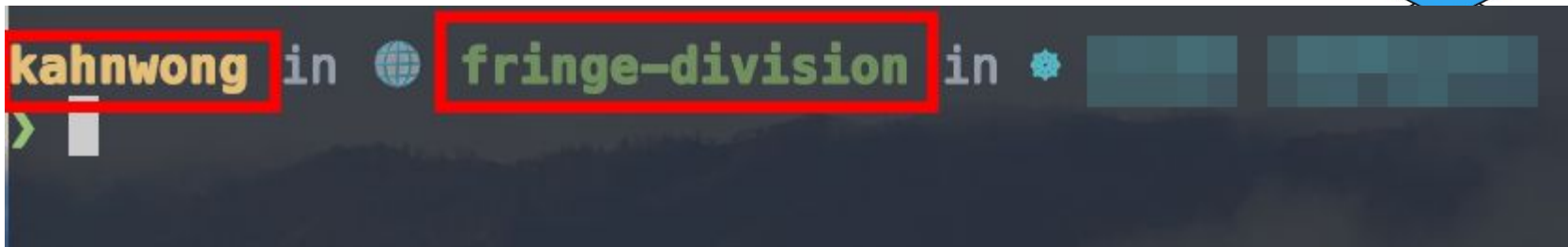


## Current kubernetes context & namespace

```
❄️ snikt (default) in snikt/deployments/default  
> |
```



# Active username & hostname (over SSH)



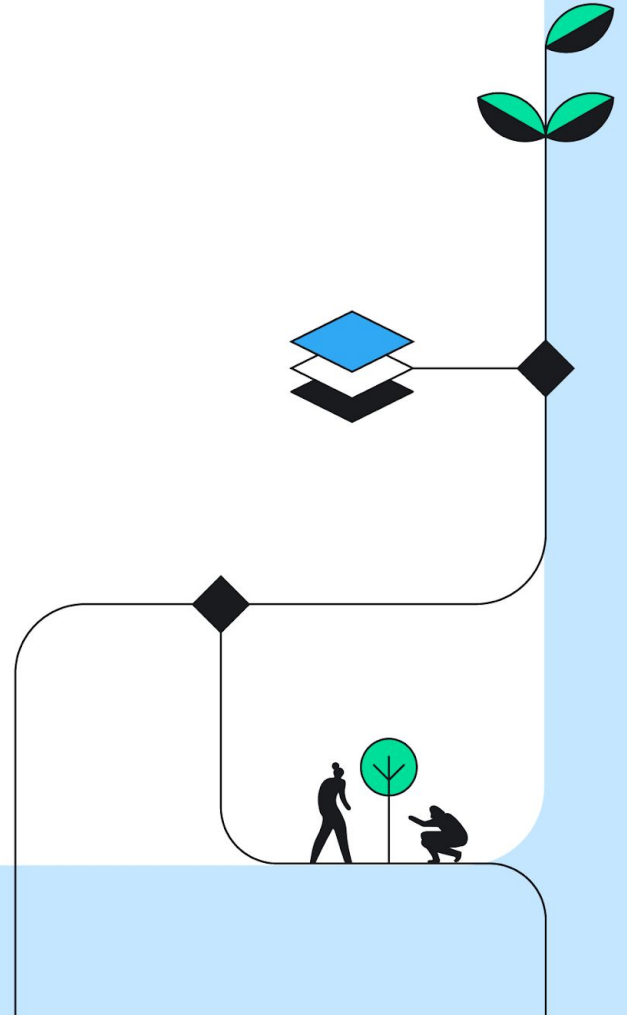


## Words from users





## Can I copy your setup?"



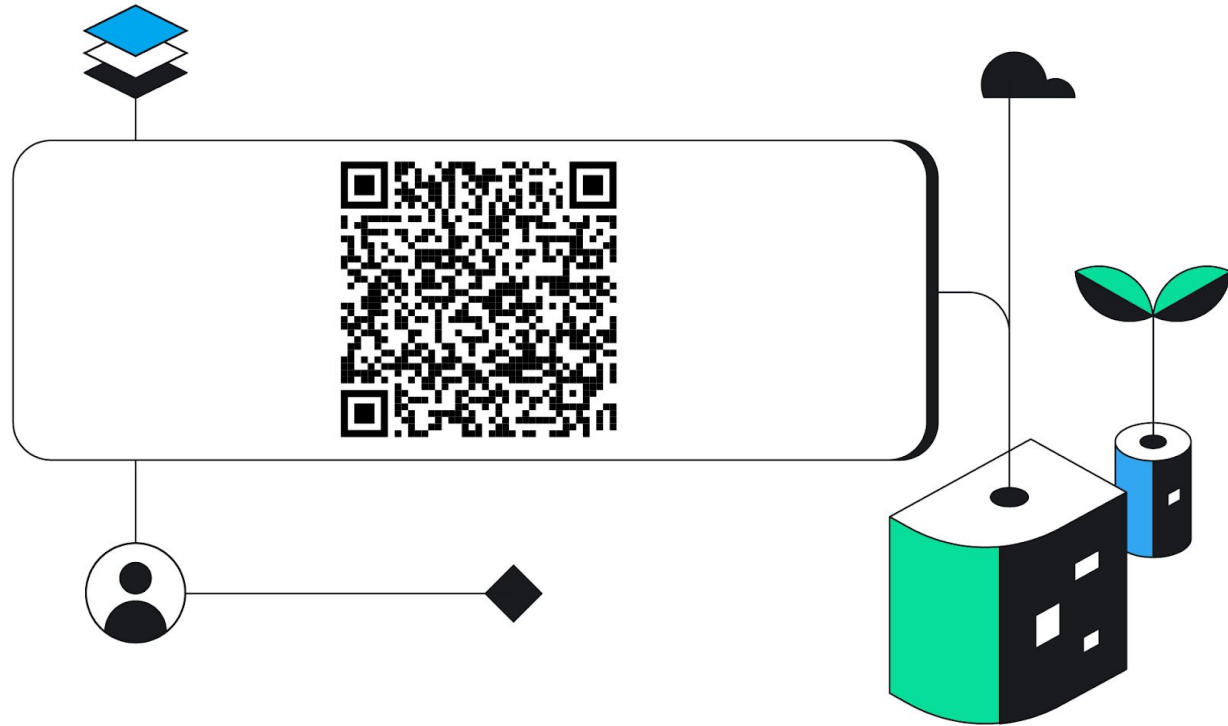
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<https://github.com/kahnwong/vm-init>

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## Further actions

1. Define commonly used tools
2. Implement setup script for teams

