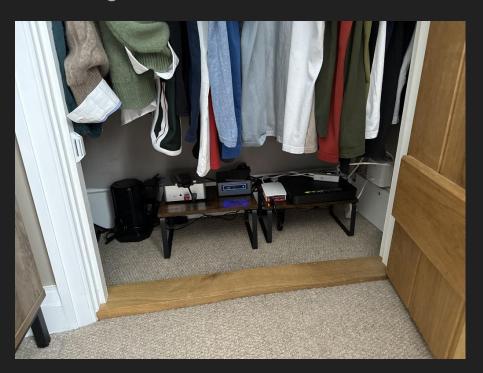
Infrastructure as Code - VPS provisioning and configuration on Hetzner Cloud

By Daniel Brennand #iwork4dell

About Me

- Service Delivery Engineer at Dell Technologies
- RHCSA / RHCE
- Homelab and self-hosting
- PC and Board games **
- Let's talk about:
 - Ansible (obviously)
 - Infrastructure as Code
 - Linux
 - Proxmox
 - K8s
 - o And more!



What is Infrastructure as Code (IaC)?

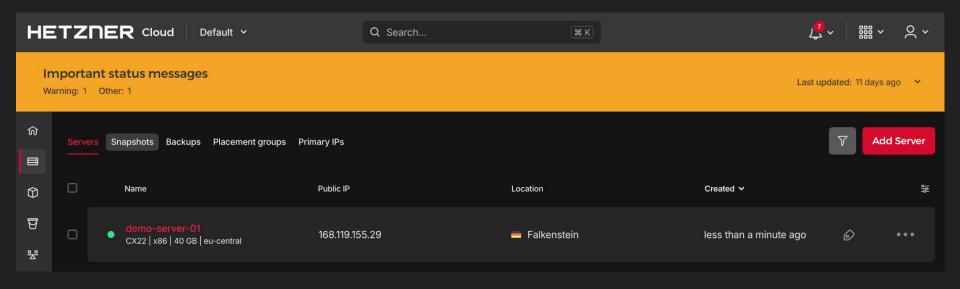
- Manage infrastructure desired state as code.
- Define what is deployed.
- Automate infrastructure lifecycle.
- Integrate with version control (Git) for reviewing/auditing infrastructure changes.
- Key benefits: repeatable, consistent.
- Popular IaC tooling: Ansible, Terraform or OpenTofu (Terraform Fork).

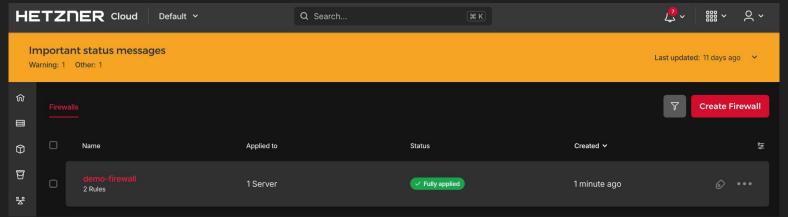
What is Hetzner Cloud?

- Cloud provider based in Germany.
- Datacenters in Germany, Finland, USA and Singapore.
- Virtual Private Server (VPS), Storage, Load Balancer services etc.
- Great REST APIs.
- CLI, Ansible collection, Terraform provider etc.
- I have no affiliation with Hetzner Cloud.

Demo

```
demos/ansible/meetup-nov-21 on // ansible-meetup-nov-21 [?] via 😞 v3.12.3 (meetup-nov-21)
> ansible-playbook -i inventory/inventory.yml provision-playbook.yml
[WARNING]: Platform darwin on host localhost is using the discovered Python interpreter at
/Users/dab/.virtualenvs/meetup-nov-21/bin/python3.12, but future installation of another Python interpreter
could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [localhost]
changed: [localhost]
changed: [localhost]
changed: [localhost]
changed: [localhost] => (item={'name': 'demo-server-01', 'server type': 'cx22', 'image': 'ubuntu-24.04', 'labels
': {'instance type': 'demo'}, 'location': 'fsn1'})
localhost
                   changed=4
                                   failed=0
                                         skipped=0
              : ok=5
                          unreachable=0
                                                rescued=0
                                                       ignored
=0
```





```
demos/ansible/meetup-nov-21 on  ansible-meetup-nov-21 [?] via  v3.12.3 (meetup-nov-21) took 27s
ansible-playbook -i inventory/hcloud.yml post-deploy-playbook.yml
[WARNING]: Platform darwin on host demo-server-01 is using the discovered Python interpreter at
/Users/dab/.virtualenvs/meetup-nov-21/bin/python3.12, but future installation of another Python interpreter
could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
ok: [demo-server-01]
The authenticity of host '49.12.242.94 (49.12.242.94)' can't be established.
ED25519 key fingerprint is SHA256:ZklEkk8pwrz7XZYpfdNLrDHo1gVT3qfXPO9MEtNlHWg.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
ok: [demo-server-01]
ok: [demo-server-01]
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/validate/validate.yml for demo-server-01
ok: [demo-server-01] => {
   "changed": false,
   "msg": "Your distribution, Ubuntu 24.04 (x86 64), is supported by NGINX Open Source."
```

```
ok: [demo-server-01] => {
 "changed": false,
 "msg": "All assertions passed"
ok: [demo-server-01] => {
 "changed": false,
 "msg": "All assertions passed"
ok: [demo-server-01] => {
 "changed": false,
 "msg": "All assertions passed"
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/prerequisites/prerequisites.yml for demo-server-01
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/prerequisites/install-dependencies.yml for demo-server-
```

01

skipping: [demo-server-01]

changed: [demo-server-01]

```
changed: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01] => (item=security/ca root nss)
skipping: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01]
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/keys/setup-keys.yml for demo-server-01
skipping: [demo-server-01]
```

skipping: [demo-server-01]

```
ok: [demo-server-01]
changed: [demo-server-01]
skipping: [demo-server-01]
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/opensource/install-oss.yml for demo-server-01
included: /Users/dab/.ansible/roles/nginxinc.nginx/tasks/opensource/install-debian.yml for demo-server-01
changed: [demo-server-01] => (item=deb [signed-by=/usr/share/keyrings/nginx-archive-keyring.gpg] https://nginx.o
rg/packages/mainline/ubuntu/ noble nginx)
changed: [demo-server-01] => (item=deb-src [signed-by=/usr/share/keyrings/nginx-archive-keyring.gpg] https://ngi
nx.org/packages/mainline/ubuntu/ noble nginx)
```

changed: [demo-server-01] changed: [demo-server-01]

skipping: [demo-server-01]

```
skipping: [demo-server-01]
changed: [demo-server-01]
ok: [demo-server-01]
```

skipping: [demo-server-01]

```
skipping: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01]
skipping: [demo-server-01]
changed: [demo-server-01]
changed: [demo-server-01]
unreachable=0 failed=0
                  skipped=23
demo-server-01
      : ok=23
        changed=8
                     rescued=0
                        ignored
```

=0







O 168.119.155.29

Hello Ansible Meetup from Nginx!

```
demos/ansible/meetup-nov-21 on / ansible-meetup-nov-21 via 🕹 v3.12.3 (meetup-nov-21) took 24s
) ansible-playbook -i inventory/inventory.yml deprovision-playbook.yml
[WARNING]: Platform darwin on host localhost is using the discovered Python interpreter at
/Users/dab/.virtualenvs/meetup-nov-21/bin/python3.12, but future installation of another Python interpreter
could change the meaning of that path. See https://docs.ansible.com/ansible-
core/2.17/reference_appendices/interpreter_discovery.html for more information.
changed: [localhost]
changed: [localhost]
changed: [localhost] => (item={'name': 'demo-server-01', 'server type': 'cx22', 'image': 'ubuntu-24.04', 'labels
': {'instance type': 'demo'}, 'location': 'fsn1'})
changed: [localhost]
localhost
                    changed=4
                           unreachable=0
                                     failed=0
                                            skipped=0
                                                   rescued=0
                                                          ignored
               : ok=4
=0
```

fatal: [demo-server-01]: UNREACHABLE! => {"changed": false, "msg": "Failed to connect to the host via ssh: root@ 78.47.216.66: Permission denied (publickey,password).", "unreachable": true}

Questions

Demo resources are available on GitHub:



Socials

- https://dbren.uk
- https://www.linkedin.com/in/dbrenuk
- https://twitter.com/dbrenuk
- contact@danielbrennand.com