



Local HashiStack Development

Team Sessions

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Outline

Local HashiStack Development

Intro

Environment Setup

Stack Deployment

Conclusion



About Me

Example (Sicily 2021)

Love for programming & architecture & start-ups

- Olaf Marangone
- olmighty99@gmail.com
- <https://github.com/olmax99>





Feel free to try for yourselves

- <https://github.com/amanoxsolution/team-sessions-local-hashistack>

Find the original work here

- Original work (GitHub):
<https://github.com/marco-lancini/offensive-infrastructure/tree/master/hashistack/part2>_{hashistack}
- Original article:
<https://www.marcolancini.it/2019/blog-offensive-infrastructure-hashistack/>



Requirements

"Sorry!" Only tested for Linux!!

- libvirt could be complemented with VirtualBox



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Thanks to Tux



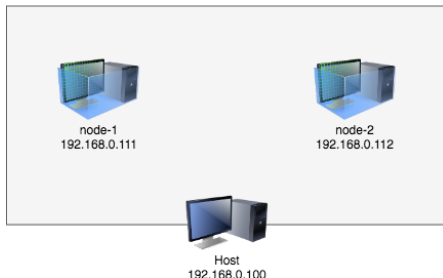
Local Setup

```
$ vagrant up --provider=libvirt  
$ docker-compose up --build
```

Vagrant

- **Vagrantfile** (Ruby) defines VM setup
- Install Go and Levant (think Helm or Ansible Jinja for Nomad)
- Ansible controller runs from Docker

Example (Host and two Nodes)





Traefik (Before you start)

- Traefik requires custom template (i.e. fork it, and modify)
- Modify according to example
- <https://github.com/olmax99/ansible-traefik/commit/a2a7297a2bf3f71cae442e4f9e051db103ef0ef4>

Replace endpoints dynamically

```
traefik_bind_ip --> {{ traefik_consul_master }}
```

```
traefik_consul_master --> {{ traefik_consul_master }}
```

- https://github.com/olmax99/ansible-traefik/blob/master/templates/traefik_v2.toml.j2



Vagrant Network

- Depending on local network, ip entries may vary

```
$ vagrant ssh node-1 -c "sudo ifconfig"
```

Match local ip address entries

ansible/inventory/hosts as well as

../group_vars/service_traefik/service_traefik.yml



Ansible

- Controller provided by Docker
- SSH access enabled in `entrypoint.sh`
- Loads Ansible `requirements.yml`

```
- src: geerlingguy.docker
- src: brianshumate.consul
- src: brianshumate.vault
- src: brianshumate.nomad
- src: https://github.com/olmax99/ansible-traefik
```



Ansible-Galaxy

- <https://galaxy.ansible.com/brianshumate/consul>
- <https://galaxy.ansible.com/brianshumate/vault>
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Thanks to Bryan

- Everything moved to
<https://github.com/ansible-community>
now









Stack

HashiStack

1. Provides local DNS and health checks
2. Needs unsealing
3. Docker cluster deployments
4. Ingress (external, i.e. web app)

Services

 <i>Consul</i>	Service Discovery.
 <i>Vault</i>	Secrets Management.
 <i>Nomad</i>	Applications Management.
 <i>Docker</i>	Applications Containerization.
 <i>Dnsmasq</i>	Internal Hostnames Resolution.
 <i>Traefik</i>	Reverse Proxy.



Running

Consul & Nomad

Services 5 total

Service	Health Checks	Tags
consul	1	
httpserv0-job0	2	traefik.tags-service traefik.frontend.rule-PathPrefix
nomad-clients	4	http
nomad-servers	4	gcp http iam
zook	2	active

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simple-server-job0

Type: service | Priority: 10

Allocation: 100% 1

Overview Definitions Versions Deployments Allocations Evaluations

Latest Deployment: 100% 100% 5 minutes ago

Cancelled: 0 / 0 Placed: 1 Decided: 1 Healthy: 1 Unhealthy: 0 Destroyed: 0

Show deployment task status and allocations

Task Groups

Name	Count	Allocation Status: 1	Reserved CPU	Reserved Memory	Reserved Disk
simple-server-job0	1	100%	250 MB	200 MB	200 MB

Traefik

PROVIDERS HEALTH V1.7.30 / MAROILLES DOCUMENTATION

Filter by name or id ...

consul consul_catalog docker

FRONTEENDS

frontend-consul

Route Rule: host=consul.service.consul

Entry Points: http

Backend: backend-consul

frontend-httpserv0-job0

Route Rule: pathPrefix=/static/

Entry Points: http

Backend: backend-httpserv0-job0

BACKENDS

backend-consul

Server: http://192.168.122.111:8500 Weight: 1

backend-httpserv0-job0

Server: http://192.168.122.112:8000 Weight: 1

backend-nomad-clients

Server: http://192.168.122.111:4646 Weight: 1

Server: http://192.168.122.112:4646 Weight: 1



But What Else Do I Really Need?

- A lot of stuff not provided in this local setup.

Theorem (More Advanced Production Features)

- *Automated Vault unsealing*
- *Encrypted Traffic*
- *Admin Vpn access*



Questions??

Thanks for your attention.

- Good Luck! Have Fun..

