



From "Free-Lunch" to Dog-Feeding

A Culinary Journey in Crafting IaC for Kairos Testing
and Building





About me



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Choices



Mousaka:
Preparation time: 2.5 hours

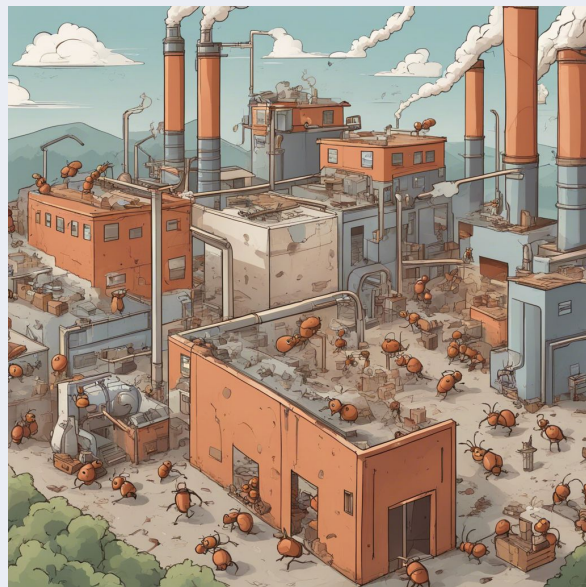


Burger with fries:
Preparation time: 0 hours



The problem

- 10 number of flavors
- 90 workflows on master branch
- multiple triggers per day
- up to 150G disk space per job
- up to 2 VMs per job
- KVM support





Possible solution

Github paid runners?

Cost \approx 2 x (same resources
in bare metal)





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Actual solution

Dog fooding!





Actual solution

Tools of the trade:

- Kairos (for Kubernetes)
- FluxCD (for Gitops)
- sops (for secrets)
- actions-runner-controller





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Solution steps

- Create a local cluster (k3d, kind)
- Create keys (sops, fluxcd)
- Create resources (actions-runner-controller)
- Test locally
- Create cloud cluster (Kairos)
- Deploy (3 commands)



Solution steps

<https://codeberg.org/dkarakasilis/infrastructure-as-code>



Solution steps

```
Context: k3d-iac
Cluster: k3d-iac
User: admin@k3d-iac
K9s Rev: v0.26.7 ⚡ v0.31.7
K8s Rev: v1.24.4+k3s1
CPU: 0%
MEM: 7%
```

NAMESPACE	NAME	PF	READY	RESTARTS	STATUS	CPU	MEM	%CPU/R	%CPU/L	R
actions-runner-system	action-runners-8cbj2-6m5hx	•	1/1	0	Running	1	319	n/a	n/a	a
actions-runner-system	action-runners-8cbj2-msdzk	•	1/1	0	Running	1	322	n/a	n/a	a
actions-runner-system	controller-manager-847d684969-jhq9m	•	2/2	0	Running	3	38	3	n/a	0
cert-manager	cert-manager-674445fb5b-h2j7z	•	1/1	0	Running	1	39	n/a	n/a	a
cert-manager	cert-manager-cainjector-6f7dcbf8b4-855fv	•	1/1	0	Running	1	38	n/a	n/a	a
cert-manager	cert-manager-webhook-cc66556ff-nbk6j	•	1/1	0	Running	1	20	n/a	n/a	a
docker-mirror	registry-685996884d-jtsfq	•	1/1	0	Running	1	15	n/a	n/a	a
flux-system	helm-controller-5cb9bb54dc-5n4sg	•	1/1	0	Running	1	25	1	0	0
flux-system	kustomize-controller-6b89b9bbc5-qp6xl	•	1/1	0	Running	2	113	2	0	6
flux-system	notification-controller-79c7bf49f-dmklv	•	1/1	0	Running	1	27	1	0	2
flux-system	source-controller-7b4c964968-4tbqw	•	1/1	0	Running	4	36	8	0	7
kube-system	coredns-b96499967-wmr7f	•	1/1	0	Running	3	27	3	n/a	9
kube-system	helm-install-traefik-2kxjc	•	0/1	1	Completed	0	0	n/a	n/a	a
kube-system	helm-install-traefik-crd-j7w9v	•	0/1	0	Completed	0	0	n/a	n/a	a
kube-system	local-path-provisioner-7b7dc8d6f5-k46wb	•	1/1	0	Running	2	16	n/a	n/a	a
kube-system	metrics-server-668d979685-h497c	•	1/1	0	Running	6	38	6	n/a	5
kube-system	svclb-traefik-c936842b-mzfwf	•	2/2	0	Running	0	0	n/a	n/a	a
kube-system	traefik-7cd4cff68-irmzc7	•	1/1	0	Running	1	37	n/a	n/a	a

<pod>



Outcome

- Is it working?
- Does it break?
- Making changes





Q & A

Thank you!

Reach out:

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members@kairos.io

[#kairos-io:matrix.org](https://matrix.org/join/kairos-io)