GOOGLE CLOUD MEETUPS

HAPPTIQ × POSEDIO

Herzlich Willkommen

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Agenda

Date: 31.03.2022 Time: 17:30 Location: Talent Garden

17:45 - 18:00	**Introduction**
18:00 - 18:45	**Topic #1 + Quiz**: Cloud Management with Infrastructure as Code (Terraform) - Harald Haas, happtiq
18:45 - 19:00	**Break & Networking**
19:00 - 19:45	**Topic #2 + Quiz:** Google CNRM - Hands on - Damjan Gjurovski, Posedio
19:45 - 20:30	**Networking**

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Google Cloud

Michael Sußmann

Google Cloud Austria

POSEDIO

Cloud Consulting

Gegründet:

- ❏ 2020

Mitarbeiter:

- ❏ 15 ExpertInnen

Firmensitz:

- ❏ Wien

Region:

- ➢ Österreich
- ➢ Deutschland
- ➢ Schweiz

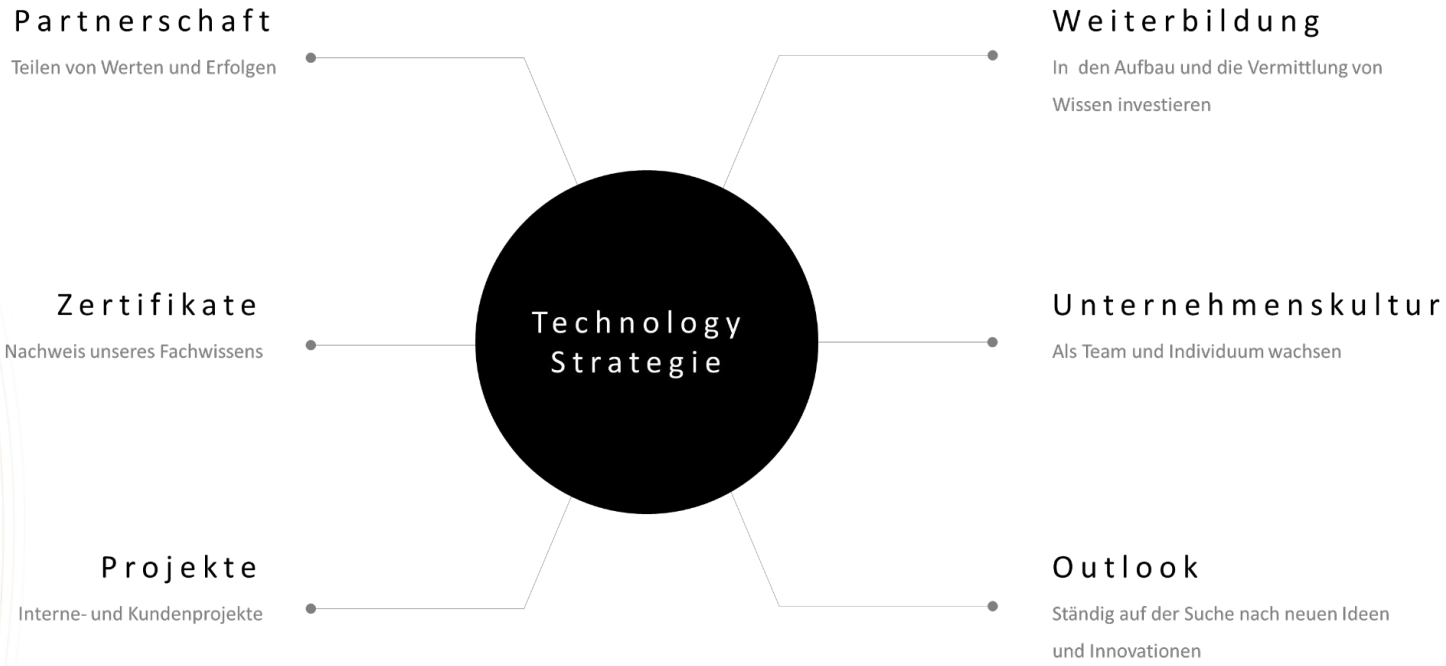
Industrien:

- ➢ Manufacturing
- ➢ Einzelhandel
- ➢ Banken

Unsere Werte

- ★ Kunden im Fokus
- ★ Qualität
- ★ Teamarbeit

GOOGLE CLOUD FOKUS




HAPPTIQ
Your reliable and competent partner in
innovative cloud solutions and integrations

Born in the Cloud

- Gegründet im März 2020
- Google Cloud Partner seit Mai 2020
- Fokus
  - GCP mit Applikations- und Infrastruktur Modernisierung
  - Google Workspace

- 18 Google Cloud Professional Certs
- 4 Google Cloud Authorized Trainer
- 50 Kunden in DACH
- 12 Google Cloud Expertisen
- 4 Public Customer Success Stories

*“Our **mission** is to enable companies to focus on their core business by leveraging cloud native technologies.”*

*“Our **vision** is a world where IT just works.”*

Q&A

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Cloud Management with Infrastructure as Code: **Terraform**

HAPPTIQ

Harald “Harry” Haas

Co Founder, happtiq

Was ist **Infrastructure as Code?**

“Mit Infrastructure as Code (IaC) können Sie die Erstellung Ihrer Google Cloud-Ressourcen automatisieren.”

Was sind die **Vorteile?**

- Infrastruktur bei Bedarf schnell aufbauen
- Kann zur Kostenreduktion einfach zerstört werden, wenn sie nicht benötigt wird
- Identische Infrastruktur für Entwicklung, Test & Produktion
- In die CI/CD Pipeline integrierbar
- Reproduzierbare Deployment Prozesse
- Kann als Teil des Disaster-Recovery genutzt werden
- Verwaltung von Ressourcenabhängigkeiten und Komplexität

GitOps vs ClickOps

- Automatisches Deployment möglich
- Code als Dokumentation
- Reduzierte Fehleranfälligkeit, da kein “Misclick” möglich
- Automatische Sanity Checks möglich
- Auswirkungen (zumeist) schon vor dem ausführen auf einen Blick sichtbar
- Änderungen an der Infrastruktur in Code History einsichtbar

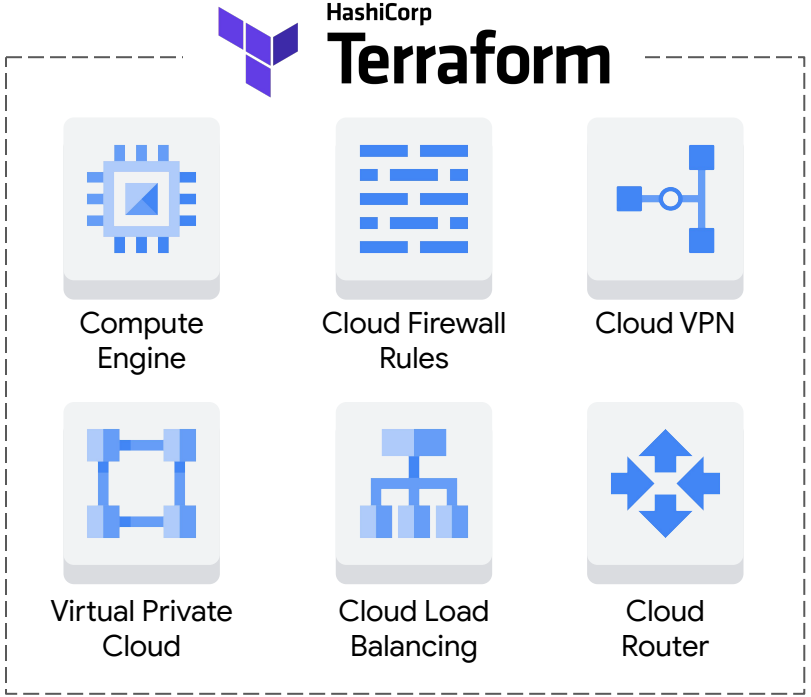
Optionen in der Google Cloud

Cloud Deployment Manager

Terraform

Warum Terraform?

- Open Source
  - Starker Community Support
- Multi-Cloud Support
  - Kein Vendor Lock-In
- Deklarative Sprache
- Template-driven
- First Class Tool
  - Google Provider wird vom Google Cloud Terraform Team & HashiCorp gepflegt
  - Vorinstalliert in der Cloud Shell



Terraform Sprache

```
resource "google_compute_network" "default" {
  name = "${var.network_name}"
  auto_create_subnetworks = false
}

<BLOCK TYPE> "<BLOCK LABEL>" "<BLOCK LABEL>" {
  # Block body
  <IDENTIFIER> = <EXPRESSION> # Argument
}
```

Live Demo

Stay in touch

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linkedin.com/in/haraldhaas/

Q&A Harry

Link zur Umfrage

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QUIZ

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Cloud Consulting

Q&A

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WHO AM I

- Software engineering TU Wien
- Java & Kotlin
- React & Javascript/Typescript
- Kubernetes - CKA
- Google Cloud - Professional Cloud Architect

- Co-founder & Head of Technology

POSEDIO

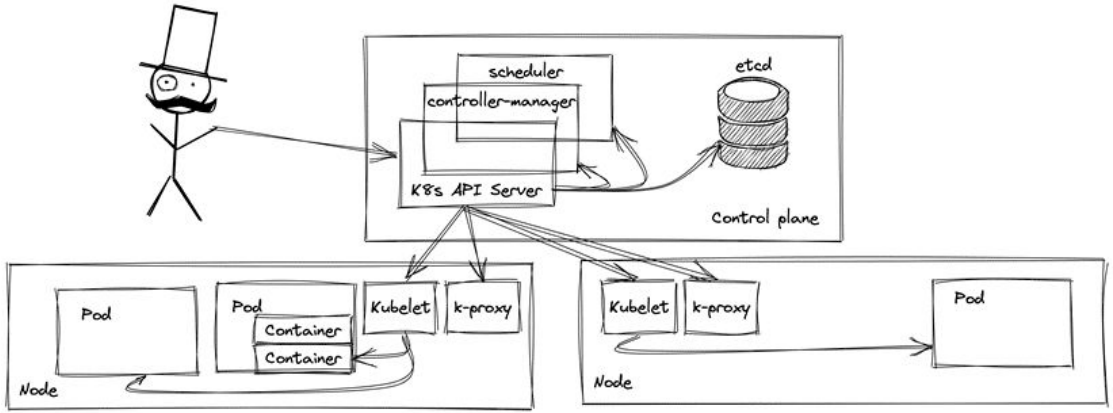
Google Config Connector - Agenda

Manage Google resources through the Kubernetes API

1. Just another Infrastructure as Code tool – why would we use it?
2. What is the difference between Google CNRM and Terraform?
3. Enough talk – lets see it work!
4. Failure modes – what happens when it all goes wrong?
5. End on a happy note - how it all works in real life

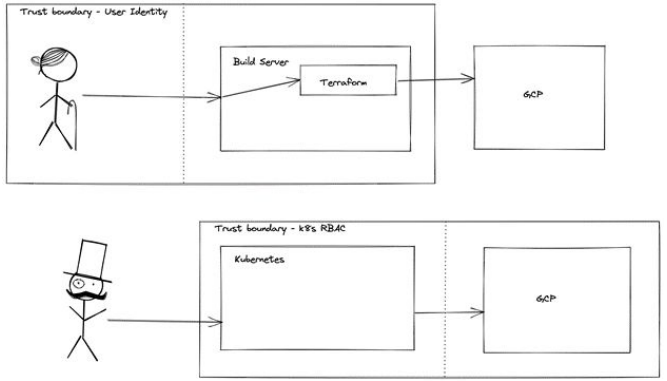
Back to basics – Kubernetes API

- REST API
- Persistent state storage
- Declarative state
- Reconciliation mechanism
- RBAC and permissions system
- Operators



Terraform vs. Google CNRM

- 3-way merge of state vs. reconciliation
- Kubernetes vs. standalone executable
- RBAC
- Ecosystem



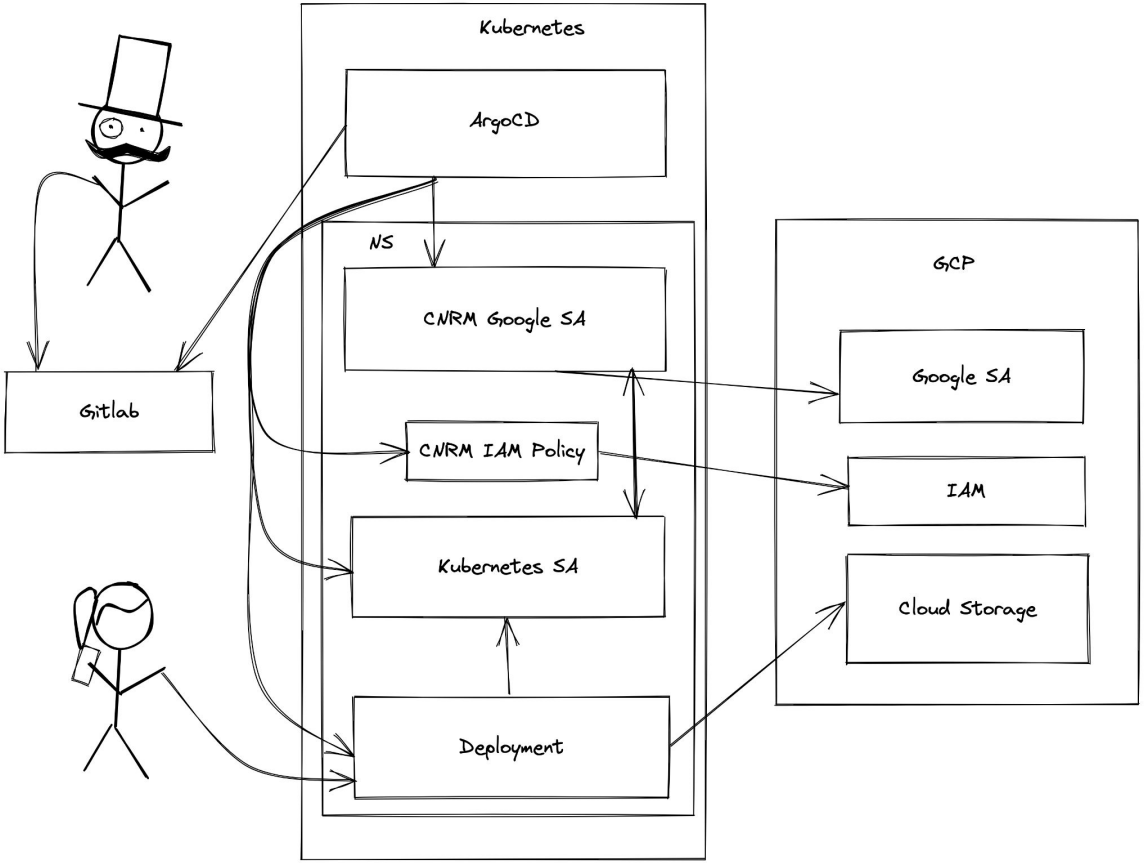

```
Error: GET                                    /api/v4/projects/710/deploy_keys/1242: 404 {message: 404 Project Not Found}

  with gitlab_deploy_key.store-gitlab-ci-development["710"],
  on deployment-key.tf line 17, in resource "gitlab_deploy_key" "store-gitlab-ci-development":
  17: resource "gitlab_deploy_key" "store-gitlab-ci-development" {
```

Lets see it in action

Failure Modes

Real life


Kubernetes
ArgoCD
NS
CNRM Google SA
CNRM IAM Policy
Kubernetes SA
Deployment
Gitlab
GCP
Google SA
IAM
Cloud Storage

Q&A Damjan

Link zur Umfrage

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QUIZ

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It’s Feedback time!

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Learn more...

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SAVE THE DATE!

#2 Meetup - 28.04.2022

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