

Deployment

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studiegebied **handelswetenschappen &**

bedrijfskunde

bachelor in de **Toegepaste Informatica**

campus **Kortrijk**

academiejaar **2023-2024**

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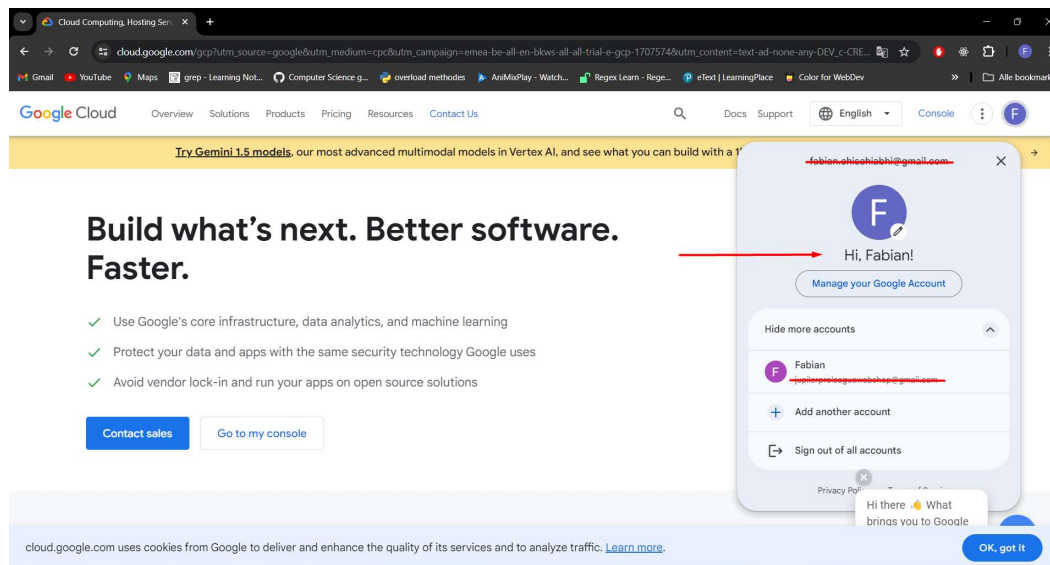
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Inhoud

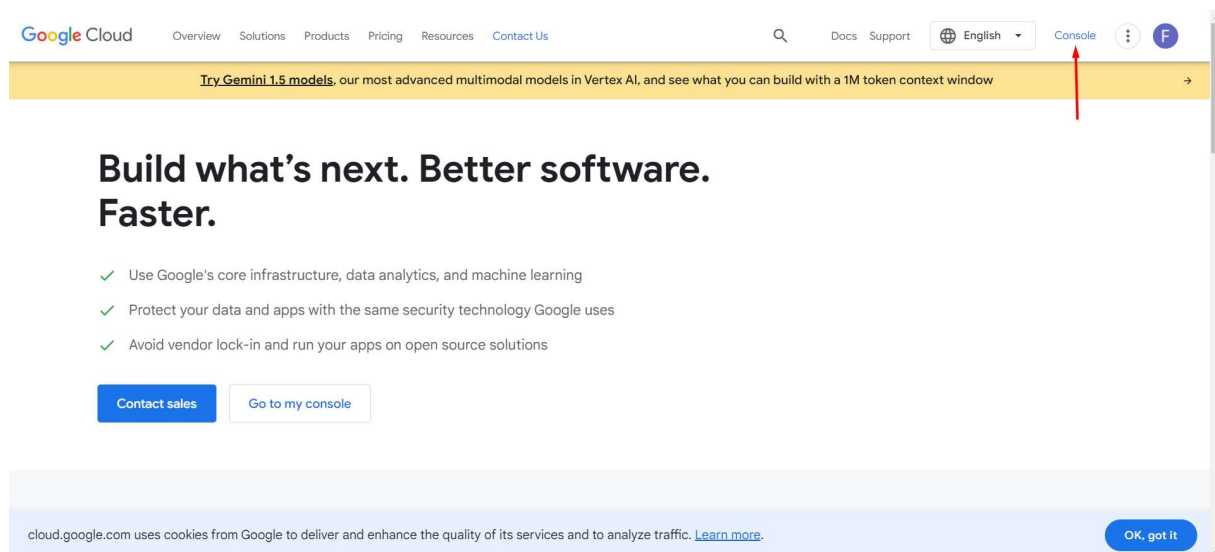
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| 1 - Documentatie..... | 5 |
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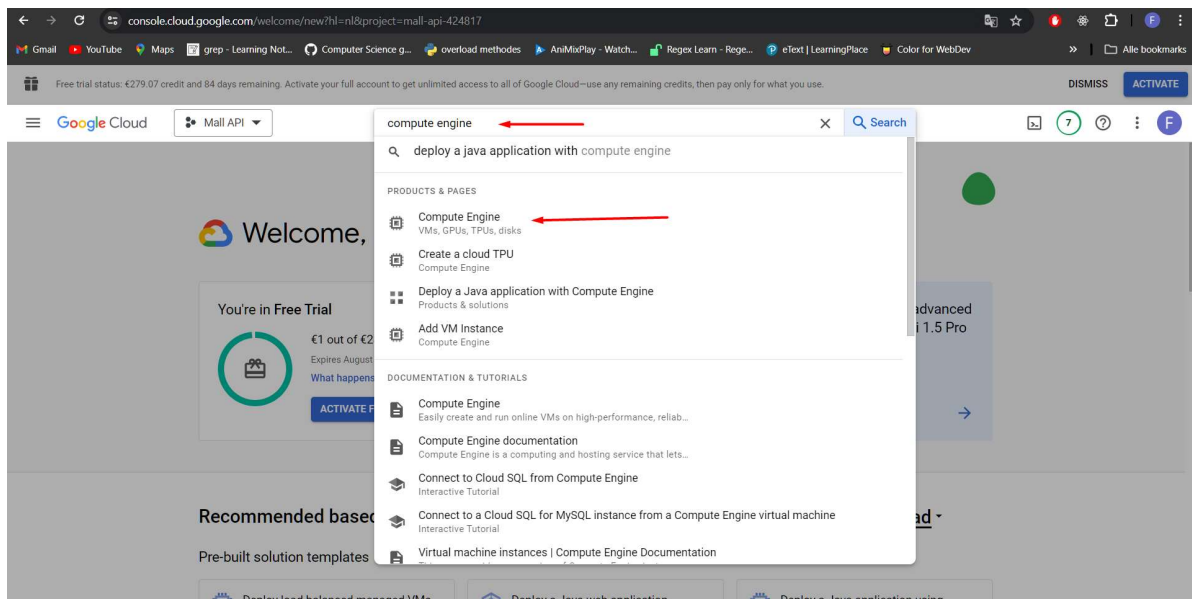
1 - Documentatie

De deployment gebeurt met behulp van Google Cloud platform. Vooraleer je kunt beginnen, moet je eerst een google account aanmaken en zorgen dat je credit card ermee gelinkt is.



Je klikt op de *Console* knop naast het icoontje van je account en zorgt dat je *Compute Engine* hebt staan. Dit kan je doen door in de zoekbalk *Compute Engine* in te tikken. Het kan zelfs zijn dat je het moet inschakelen, klik dan op *Enable API*.

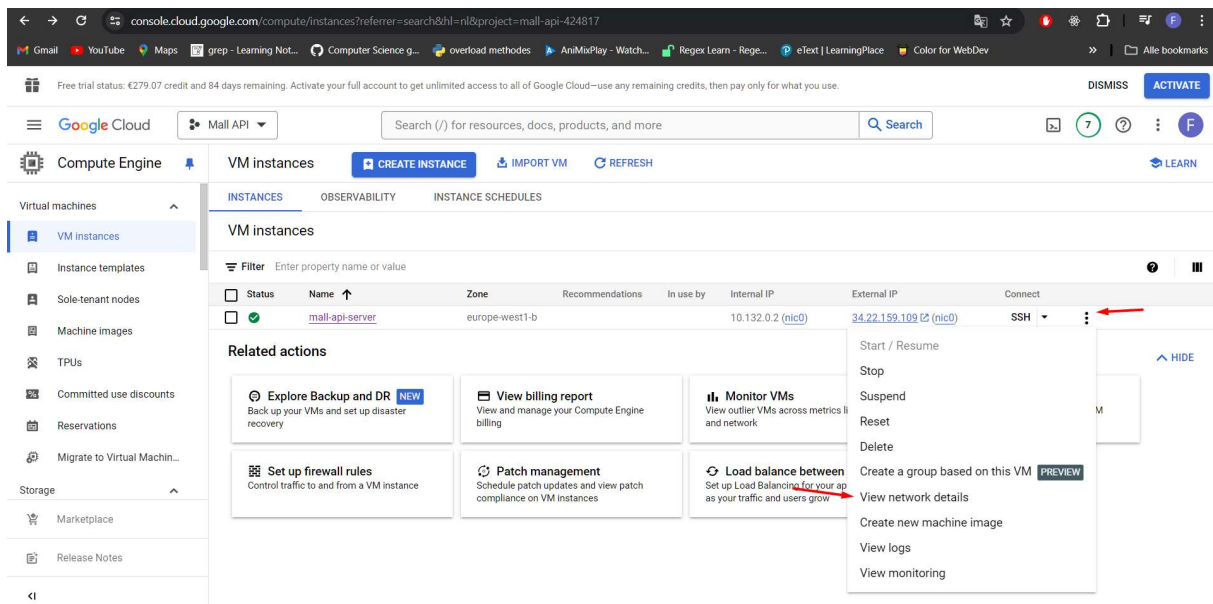




Ga naar *VM instance* en klik op *create instance* en zorg dat de volgende vereisten voldaan zeker gedaan zijn

- Region: europe-west1 (Belgium)
- Zone: europe-west1-b
- Machine configuration: E2
- Machine type: e2- micro (2 vCPU, 1 GB memory)
- Boot disk operating system: Ubuntu 22.04 LTS
- Firewall: allow HTTP en HTTPS

Klik dan op *create*. Ga vervolgens naar de *network details* van je gemaakte virtuele machine.



Free trial status: €279.07 credit and 84 days remaining. Activate your full account to get unlimited access to all of Google Cloud—use any remaining credits, then pay only for what you use. [DISMISS](#) [ACTIVATE](#)

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VPC network [Network interface details](#) [LEARN](#)

Selected network interface: nic0

Network interface details

| Name | Network | Subnetwork | Primary internal IP address | Alias IP ranges | IP stack type | External IP address | Network Service Tier |
|------|-------------------------|-------------------------|-----------------------------|-----------------|---------------|---------------------|----------------------|
| nic0 | default | default | 10.132.0.2 | — | IPv4 | 34.22.159.109 | Premium |

VM instance details

| Name | Zone | Network tags | Service account | IP forwarding |
|---------------------------------|----------------|------------------------|--|---------------|
| mail-api-server | europe-west1-b | http-server, https-... | 902889697019-compute@developer.gserviceaccount.com | Off |

Firewall and routes details

[FIREWALLS](#) [ROUTES](#)

Filter Enter property name or value

| Name | Enforcement order | Type | Deployment scope | Rule priority | Targets | Source | Destination |
|----------------------|-------------------|--------------------|------------------|---------------|---------|--------|-------------|
| ▶ vpc-firewall-rules | 1 | VPC firewall rules | Global | | | | |

Recommended for you

- [List applicable routes for a VM network interface](#) [Help document](#)
View applicable routes for a VM's network interface, which is the list of routes that you can use for egress traffic.
- [View and understand Firewall Insights](#) [Help document](#)
View insights that help you understand the usage patterns of your firewall rules.
- [Review and optimize firewall rules](#) [Help document](#)
View rules applied to a VM in the last 30 days.
- [Create and run Connectivity Tests](#) [Help document](#)
Check connectivity between network endpoints. Connectivity Tests analyzes your configuration and, in some cases, performs live data plane analysis between the endpoints.

console.cloud.google.com/net-security/firewall-manager/firewall-policies/list?hl=nl&project=mail-api-424817

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Network Security [Firewall policies](#) [CREATE FIREWALL POLICY](#) [CREATE FIREWALL RULE](#) [LEARN](#)

Secure Web Proxy

Cloud Armor

- Cloud Armor policies
- Adaptive Protection
- Cloud Armor Service Tier

Cloud IDS

- IDS Dashboard
- IDS Endpoints
- IDS Threats

Cloud NGFW

- Dashboard
- [Firewall policies](#)

Firewall policies

| <input type="checkbox"/> | Name | Type | Targets | Filters | Protocols / ports | Action | Priority | Network | Logs |
|--------------------------|--|---------|---------------|------------|------------------------------------|--------|----------|-------------------------|------|
| <input type="checkbox"/> | allow-incoming-port-3000 | Ingress | 902889697019- | IP ranges: | tcp:3000 | Allow | 1000 | default | Off |
| <input type="checkbox"/> | default-allow-http | Ingress | http-server | IP ranges: | tcp:80 | Allow | 1000 | default | Off |
| <input type="checkbox"/> | default-allow-https | Ingress | https-server | IP ranges: | tcp:443 | Allow | 1000 | default | Off |
| <input type="checkbox"/> | default-allow-icmp | Ingress | Apply to all | IP ranges: | icmp | Allow | 65534 | default | Off |
| <input type="checkbox"/> | default-allow-internal | Ingress | Apply to all | IP ranges: | tcp:0-65535 udp:0-65535 icmp | Allow | 65534 | default | Off |
| <input type="checkbox"/> | default-allow-rdp | Ingress | Apply to all | IP ranges: | tcp:3389 | Allow | 65534 | default | Off |
| <input type="checkbox"/> | default-allow-ssh | Ingress | Apply to all | IP ranges: | tcp:22 | Allow | 65534 | default | Off |

Network firewall policies

Firewall policies let you group several firewall rules so that you can update them all at once.

Je maakt een firewall regel aan en zorg dat de volgende vereisten voldaan zeker gedaan zijn. Zie onderstaande afbeeldingen.

allow-incoming-port-3000

Description

allow incoming requests on port 3000

Logs

Off

[view in Logs Explorer](#)

Network

default

Priority

1000

Direction

Ingress

Action on match

Allow

Targets

Service account 902889697019-compute@developer.gserviceaccount.com

Source filters

IP ranges 0.0.0.0/0

Protocols and ports

tcp:3000

Enforcement

Enabled

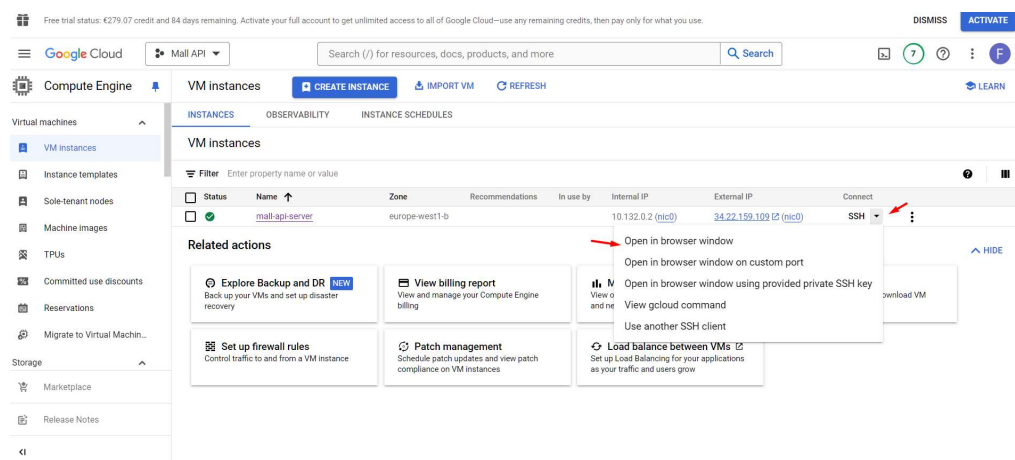
Insights

None

Hit count monitoring

—

Nadien start je jouw virtuele machine op.



The screenshot shows the Google Cloud console interface. At the top, there's a status bar indicating a free trial status with 4279.07 credit and 84 days remaining. Below this, the 'Compute Engine' section is active, showing 'VM instances'. A table lists VM instances, with one instance named 'mail-api-server' in the 'europe-west1-b' zone. The table columns include Status, Name, Zone, Recommendations, In use by, Internal IP, External IP, and Connect. A red arrow points to the 'SSH' button in the 'Connect' column. Below the table, there are several 'Related actions' cards, including 'Explore Backup and DR', 'View billing report', 'Set up firewall rules', 'Patch management', and 'Load balance between VMs'. A dropdown menu is open from the 'SSH' button, showing options like 'Open in browser window', 'Open in browser window on custom port', 'Open in browser window using provided private SSH key', 'View gcloud command', 'Use another SSH client', and 'Download VM'.

Je voert de volgende commando's uit:

- VM in het algemeen updaten: `sudo apt update`
- Node installeren: `Sudo apt install nodejs`
- NPM installeren: `sudo apt install npm`
- Docker installeren: `sudo apt install docker.io`
- Git project binnenhalen: `git pull [url]`
- Naar git project gaan: `cd [directory van git project]`
- Mongo runnen op docker: `sudo mongo run --rm -d -p 27017:27017 mongo`
- (optioneel) uitvoering van mongo controleren: `sudo docker ps`
- Waarden voor environment variabelen instellen
 - `Export NODE_ENV=production`
 - `Export IP=[IP-adres van VM]`
- PM2 package installeren (zorgt dat node server altijd runt ookal sluit je de venster van de VM): `npm install PM2`
- Node server runnen: `pm2 start app.js`

Je vervolgens het venster van je VM sluiten. Daarna kan je via je IP-adres en poortnummer je server raadplegen op het internet.

