

# Cloud Computing Exercise – 1

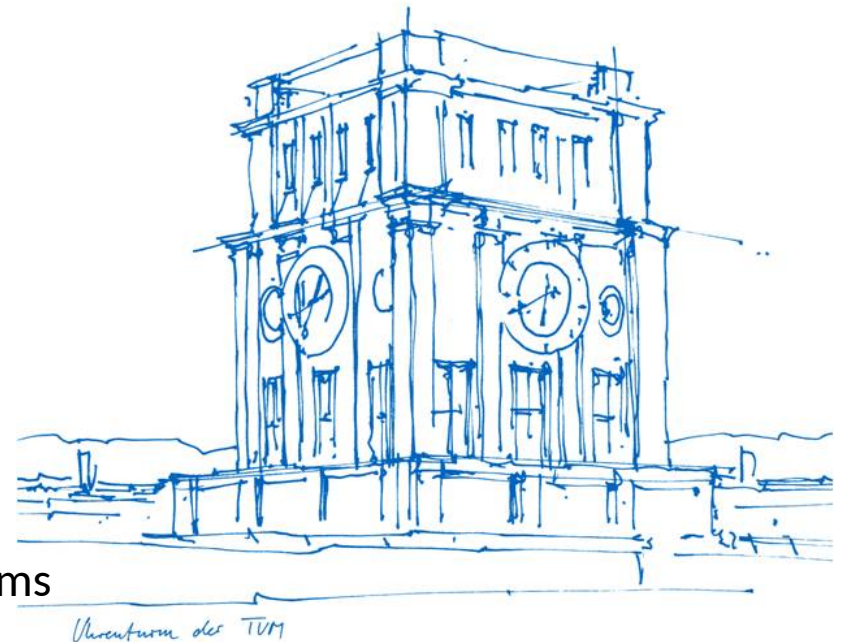
## VM Creation

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# GCP VM Creation

# GCP Registration Link

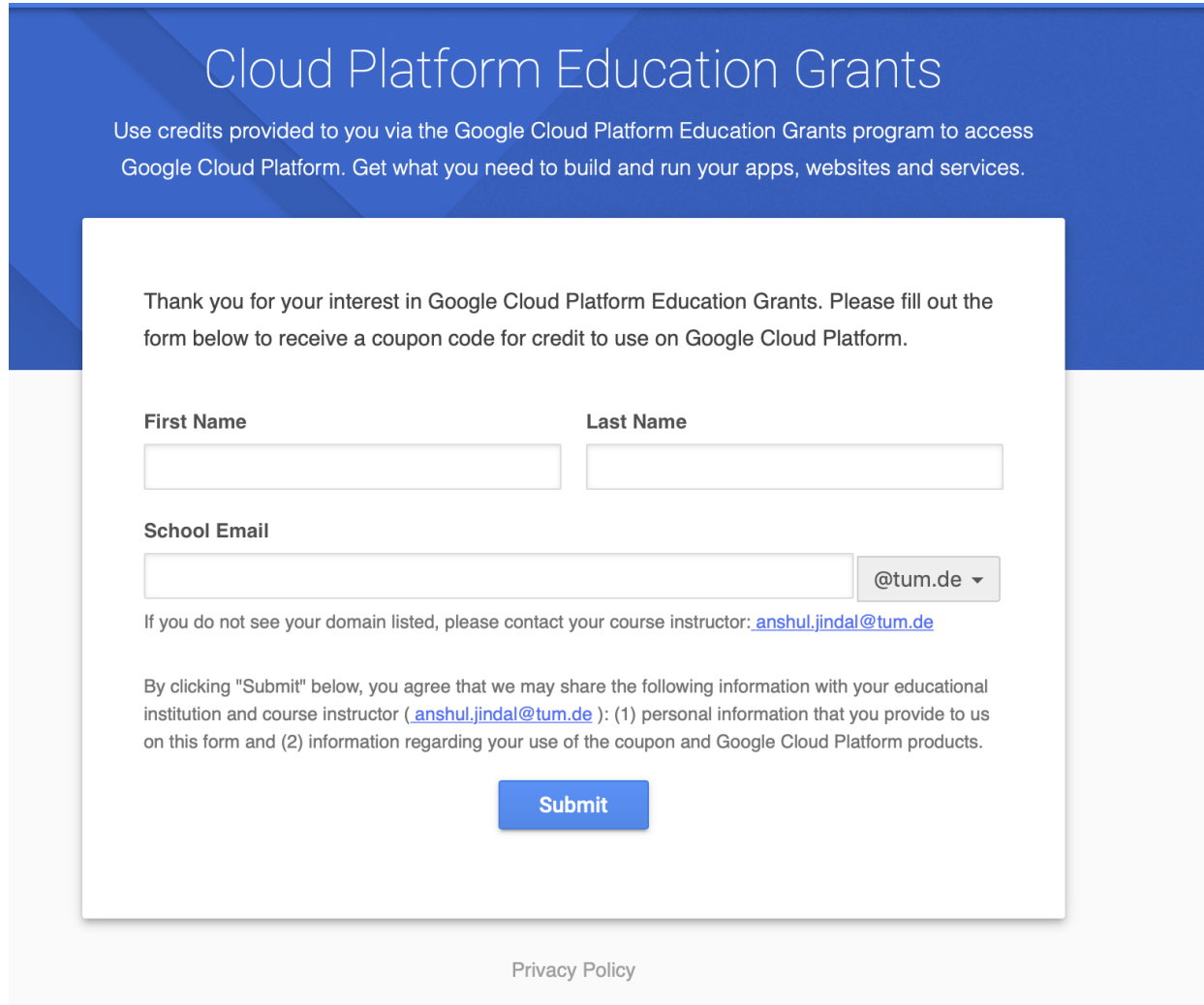


- Click on the given GCP registration link: Will be added on Piazza and Moodle
- Instructions:

Will be added on Piazza and Moodle

# GCP Registration

- After clicking the link, fill the below shown information.
- Use official TUM email id only.



The screenshot shows the 'Cloud Platform Education Grants' registration page. At the top, it says 'Cloud Platform Education Grants' and 'Use credits provided to you via the Google Cloud Platform Education Grants program to access Google Cloud Platform. Get what you need to build and run your apps, websites and services.' Below this is a white form box with the text: 'Thank you for your interest in Google Cloud Platform Education Grants. Please fill out the form below to receive a coupon code for credit to use on Google Cloud Platform.' The form contains three input fields: 'First Name', 'Last Name', and 'School Email'. The 'School Email' field has a dropdown menu showing '@tum.de'. Below the form, there is a link to the course instructor's email: [anshul.jindal@tum.de](mailto:anshul.jindal@tum.de). A disclaimer states: 'By clicking "Submit" below, you agree that we may share the following information with your educational institution and course instructor ( [anshul.jindal@tum.de](mailto:anshul.jindal@tum.de) ): (1) personal information that you provide to us on this form and (2) information regarding your use of the coupon and Google Cloud Platform products.' A blue 'Submit' button is at the bottom of the form. A 'Privacy Policy' link is at the bottom of the page.

Cloud Platform Education Grants

Use credits provided to you via the Google Cloud Platform Education Grants program to access Google Cloud Platform. Get what you need to build and run your apps, websites and services.

Thank you for your interest in Google Cloud Platform Education Grants. Please fill out the form below to receive a coupon code for credit to use on Google Cloud Platform.

First Name

Last Name

School Email  @tum.de ▼

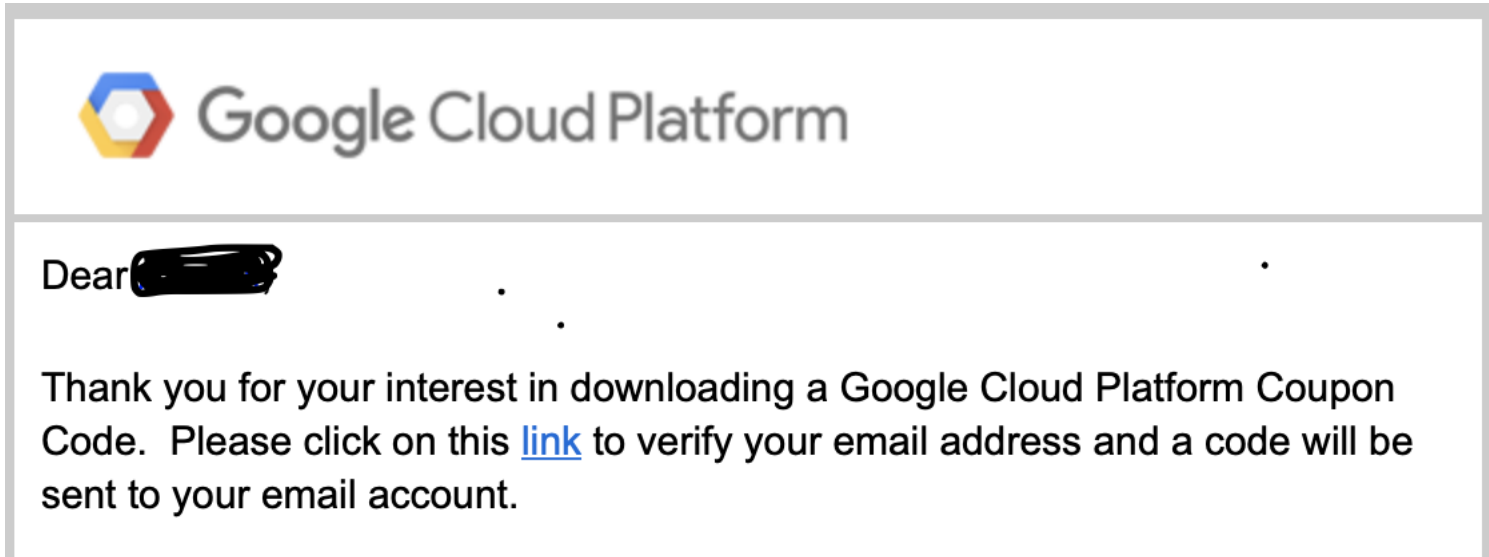
If you do not see your domain listed, please contact your course instructor: [anshul.jindal@tum.de](mailto:anshul.jindal@tum.de)

By clicking "Submit" below, you agree that we may share the following information with your educational institution and course instructor ( [anshul.jindal@tum.de](mailto:anshul.jindal@tum.de) ): (1) personal information that you provide to us on this form and (2) information regarding your use of the coupon and Google Cloud Platform products.

[Privacy Policy](#)

# GCP Registration Cont..

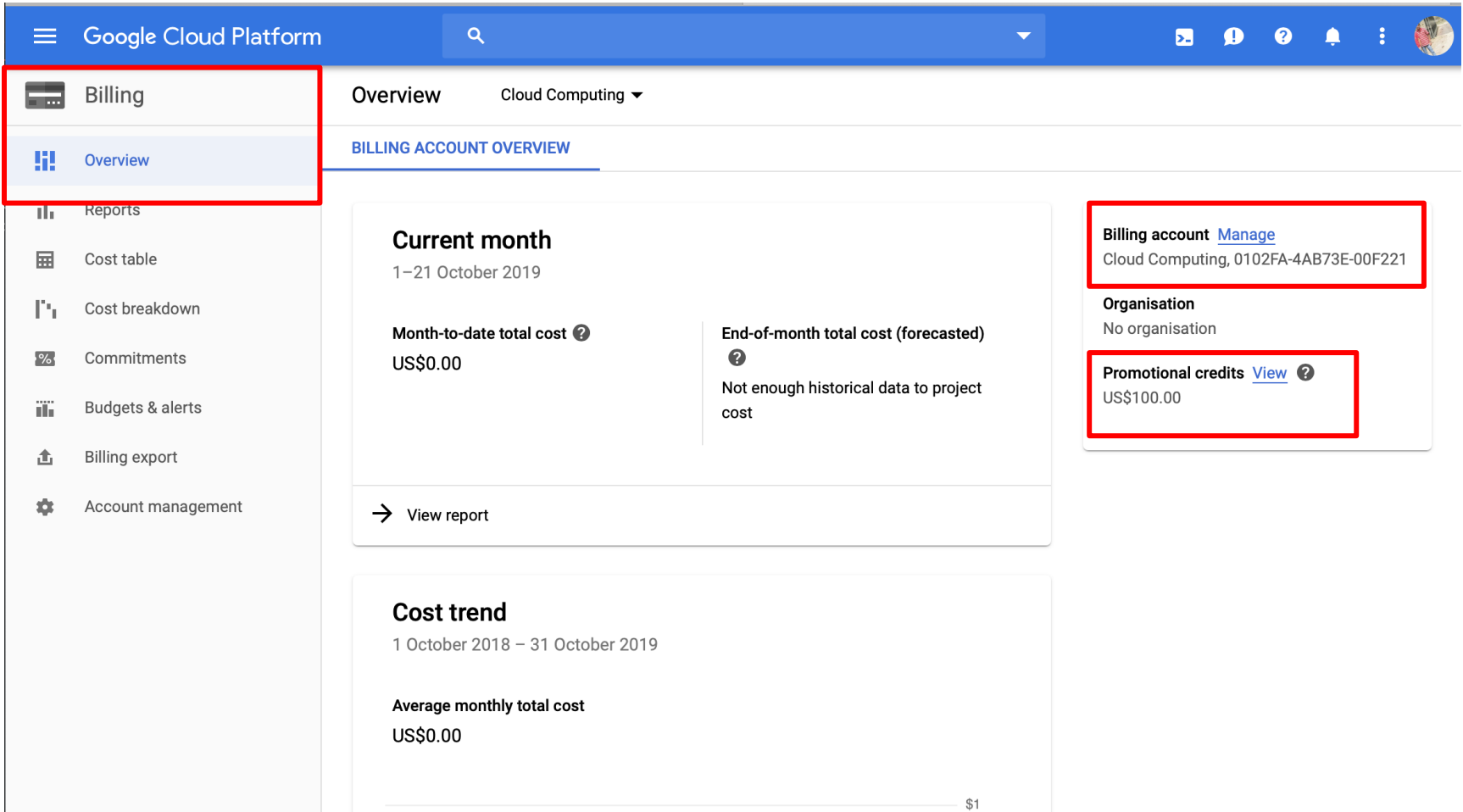
- After submitting the information you will receive an email like this:



- Verify the email id and you will then get the coupon code to your email.
- Click the link in the new email from GCP to redeem it .

# Login into GCP : Home page

Below is the homepage displayed, after logging into GCP



Google Cloud Platform

Overview Cloud Computing

**BILLING ACCOUNT OVERVIEW**

**Current month**  
1–21 October 2019

Month-to-date total cost <sup>?</sup>  
US\$0.00

End-of-month total cost (forecasted) <sup>?</sup>  
Not enough historical data to project cost

→ View report

**Cost trend**  
1 October 2018 – 31 October 2019

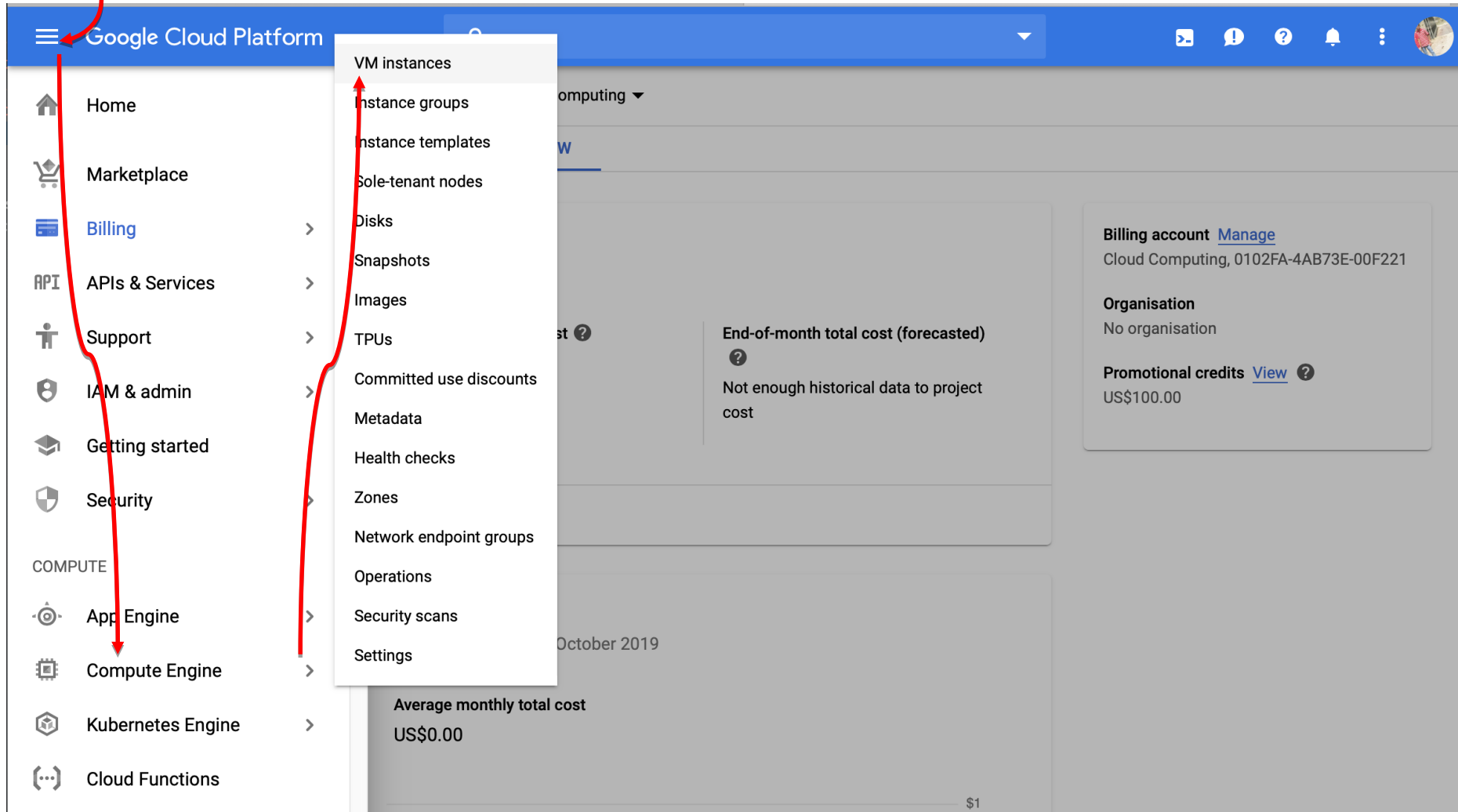
Average monthly total cost  
US\$0.00

**Billing account** [Manage](#)  
Cloud Computing, 0102FA-4AB73E-00F221

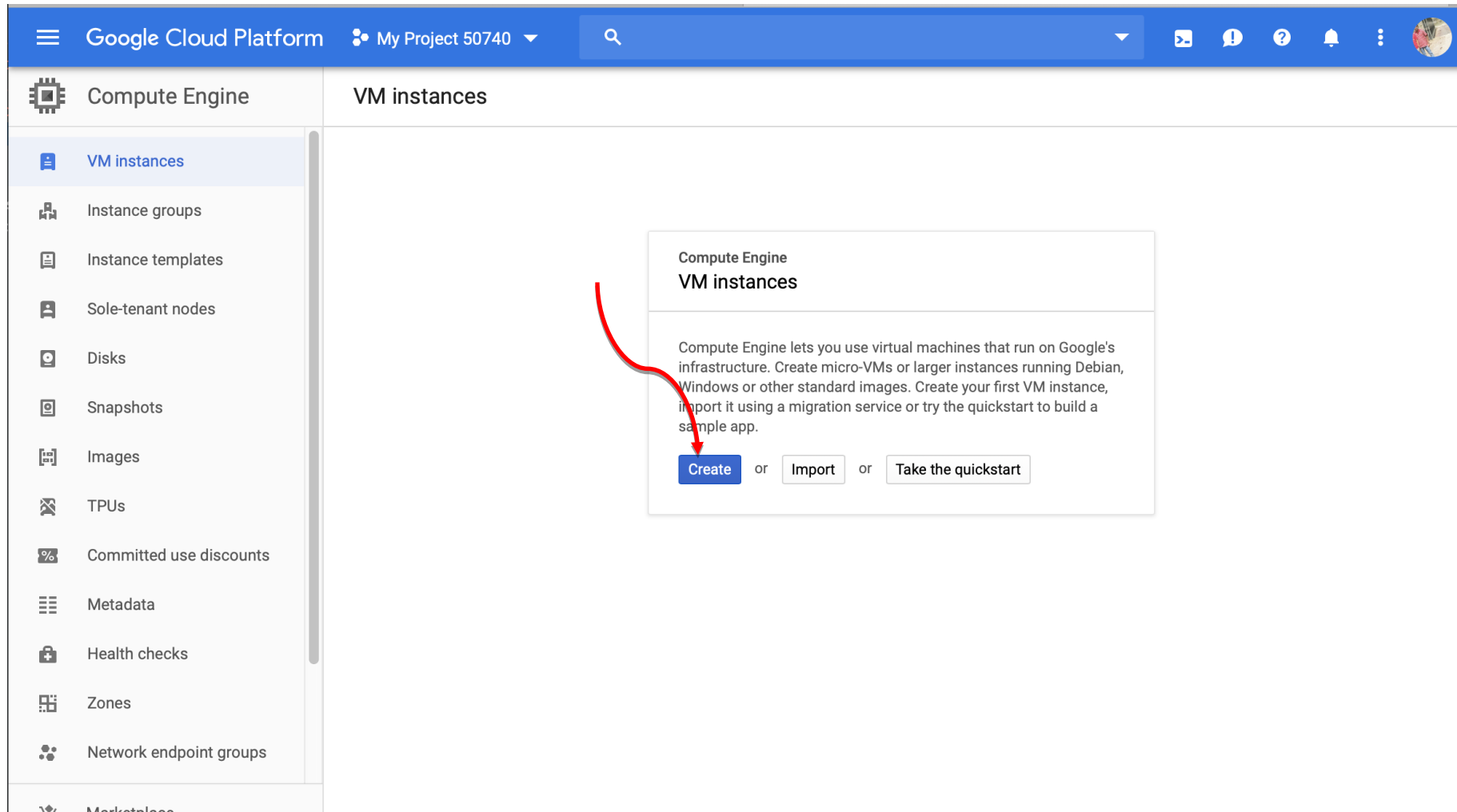
**Organisation**  
No organisation

**Promotional credits** [View](#) <sup>?</sup>  
US\$100.00

# Start a VM: Step1



# Start a VM: Step2



The screenshot shows the Google Cloud Platform console interface. At the top, the header bar includes the Google Cloud Platform logo, the project name 'My Project 50740', a search bar, and various utility icons. The left sidebar contains a navigation menu with icons and labels for different services: Compute Engine, VM instances, Instance groups, Instance templates, Sole-tenant nodes, Disks, Snapshots, Images, TPUs, Committed use discounts, Metadata, Health checks, Zones, Network endpoint groups, and Marketplace. The main content area is titled 'VM instances' and features a 'Compute Engine VM instances' card. This card contains a description of Compute Engine and three buttons: 'Create', 'Import', and 'Take the quickstart'. A red arrow originates from the 'Create' button and points to the 'VM instances' link in the left sidebar.



# Start a VM: Step 3

## Create an instance

To create a VM instance, select one of the options:



### New VM instance

Create a single VM instance from scratch



### New VM instance from template

Create a single VM instance from an existing template



### Marketplace

Deploy a ready-to-go solution onto a VM instance



#### Name ?

instance-1

#### Region ?

europa-west3 (Frankfurt)

#### Zone ?

europa-west3-c

#### Machine configuration ?

##### Machine family

General-purpose

Machine types for common workloads, optimised for cost and flexibility

##### Generation

First

Powered by Skylake CPU platform or one of its predecessors

#### Machine type

g1-small (1 vCPU, 1.7 GB memory)



vCPU

1 shared core

Memory

1.7 GB

#### CPU platform and GPU

#### Container ?

☐ Deploy a container image to this VM instance. [Learn more](#)

#### Boot disk ?



New 10 GB standard persistent disk

Image

Ubuntu 18.04 LTS

Change

#### Identity and API access ?

##### Service account ?

Compute Engine default service account

## Select region and zone

\$17.04 monthly estimate

That's about \$0.023 hourly

Pay for what you use: No upfront costs and per second billing

[Details](#)

## Select machine type

## Select OS and Disk space

# Start a VM: Step4

## Identity and API access ?

### Service account ?

Compute Engine default service account ▼

### Access scopes ?

- ☒ Allow default access
- ☐ Allow full access to all Cloud APIs
- ☐ Set access for each API

## Firewall ?

Add tags and firewall rules to allow specific network traffic from the Internet.

- ☒ Allow HTTP traffic
- ☒ Allow HTTPS traffic

Allow HTTP traffic for application to be accessed from outside VM.

## Availability policy

### Preemptibility

A preemptible VM costs much less, but lasts only 24 hours. It can be terminated sooner due to system demands. [Learn more](#).

Off (recommended) ▼

### On host maintenance

When Compute Engine performs periodic infrastructure maintenance, it can migrate your VM instances to other hardware without downtime

Migrate VM instance (recommended) ▼

### Automatic restart

Compute Engine can automatically restart VM instances if they are terminated for non-user-initiated reasons (maintenance event, hardware failure, software failure and so on)

On (recommended) ▼

⌵ [Less](#)

You will be billed for this instance. [Compute Engine pricing](#) [↗](#)

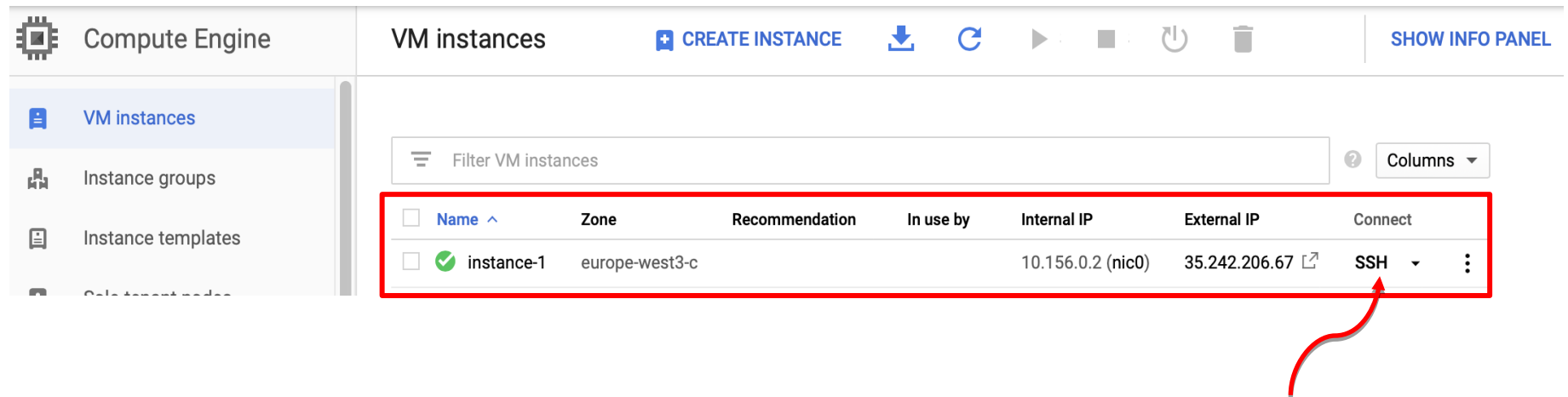
Create

Cancel

Equivalent [REST](#) or [command line](#)

# Start a VM: Step5

- SSH into VM



The screenshot shows the Google Cloud Platform 'Compute Engine' interface. The left sidebar contains a navigation menu with 'VM instances' selected. The main area is titled 'VM instances' and includes a 'CREATE INSTANCE' button and various action icons. Below this is a table of VM instances. The table has columns: Name, Zone, Recommendation, In use by, Internal IP, External IP, and Connect. A red box highlights the first instance, 'instance-1', which is in the 'europe-west3-c' zone. The 'Internal IP' is '10.156.0.2 (nic0)' and the 'External IP' is '35.242.206.67'. The 'Connect' column shows an 'SSH' button, which is pointed to by a red arrow.

Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
instance-1	europe-west3-c			10.156.0.2 (nic0)	35.242.206.67	SSH