Cloud Computing Applications and Services

(Aplicações e Serviços de Computação em Nuvem)

Google Cloud Platform
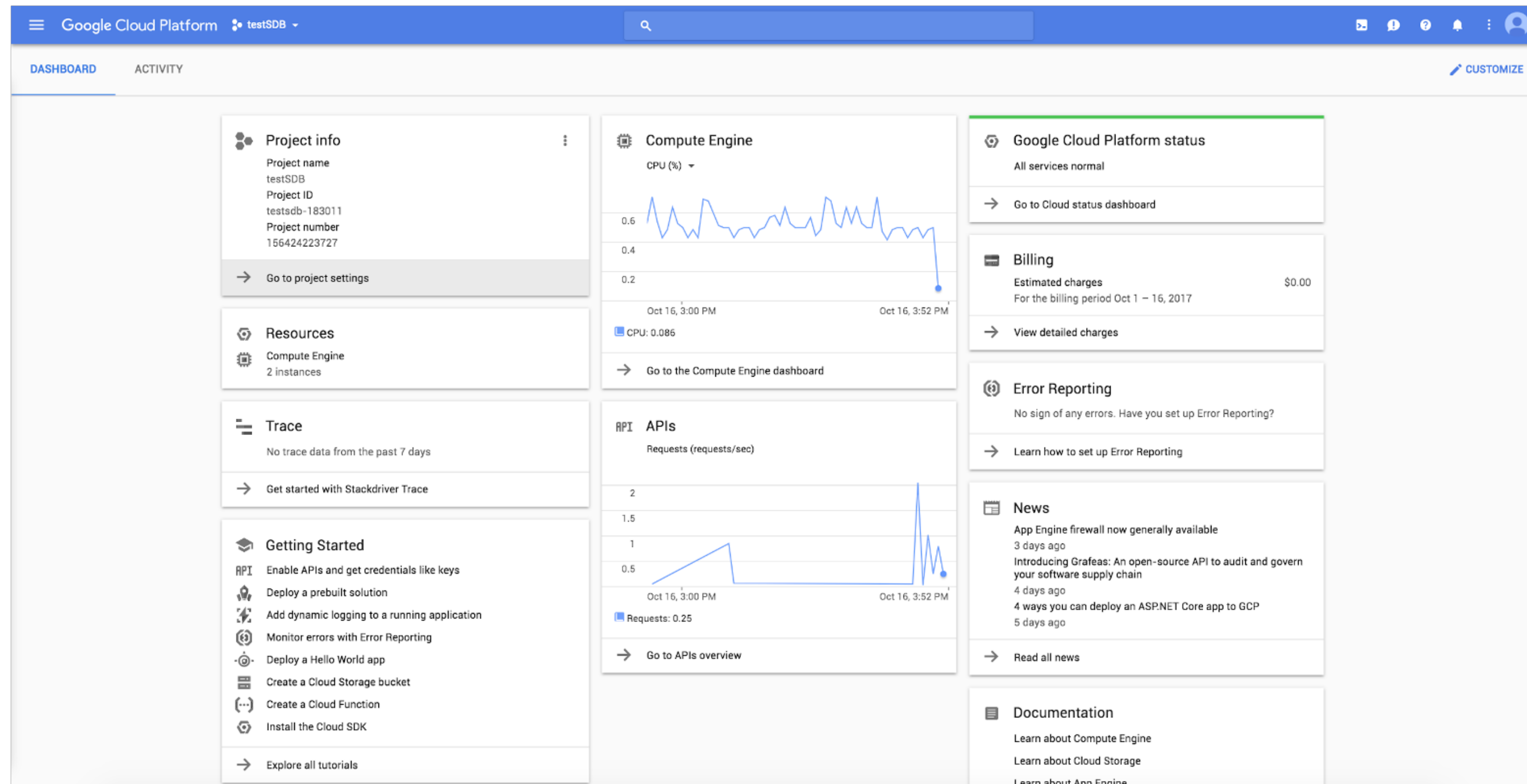
University of Minho

2024-2025

Google Cloud Platform

https://cloud.google.com

Create a Project

◉ Create a project

> ‣ Associate billing account (check e-mail for coupon)
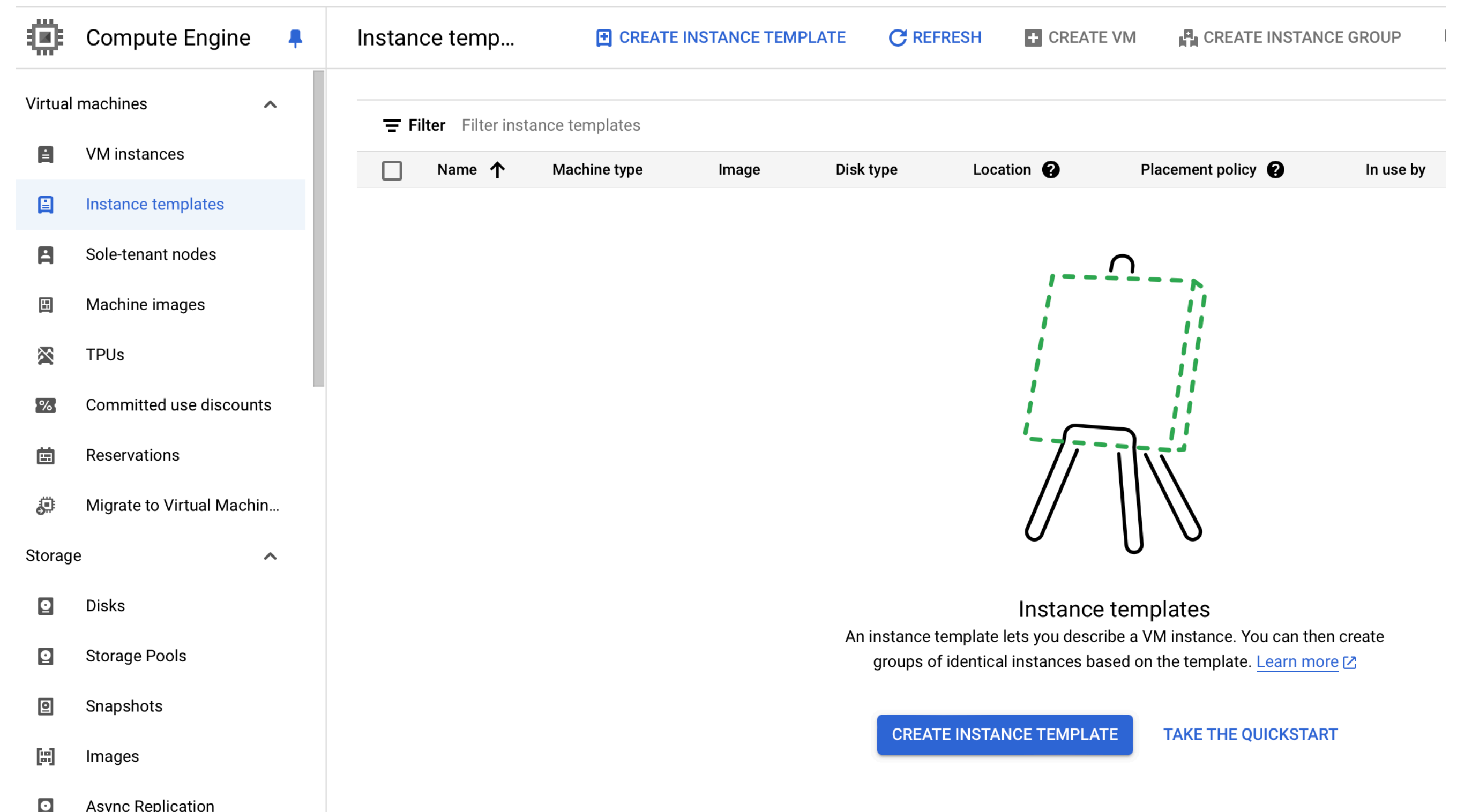
> ‣ Each account has 50$

Configure SSH Keys

◉ Go to Side Bar → Compute Engine → Settings → Metadata

‣ Click on "SSH KEYS"

‣ Click on "EDIT"

‣ Click on "ADD ITEM"

– Add the content of your SSH Public key

Create a Template

● To create a template:

1. Go to Side Bar → Compute Engine → Instance Templates
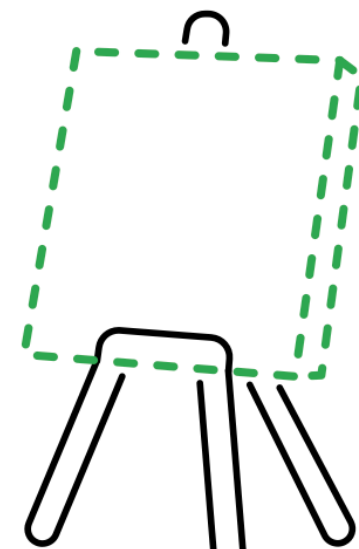
2. Click on "CREATE INSTANCE TEMPLATE"

Create a Template

◉ Choose a name for the template

◉ Select the region and the machine configuration

▸ **Note:** Different regions and different machine configurations will have different costs. Choose it wisely!

Create a Template

◉ Choose the Machine type

‣ **Note:** The machine type also has an impact on the budget. Choose it wisely!

Create a Template

◉ Under the "Boot disk" section, click on "CHANGE" and choose "Ubuntu" as the OS, and "Ubuntu 24.04 LTS" as the Version.

Create a Template

⊙ Under the "Firewall" section, select the options "Allow HTTP traffic" and "Allow HTTPS traffic".

Create a Template

◉ Click on "CREATE" to create the template.

Create a VM from a Template

⦿ To create a VM instance:

1. Go to Side Bar → Compute Engine → VM Instance

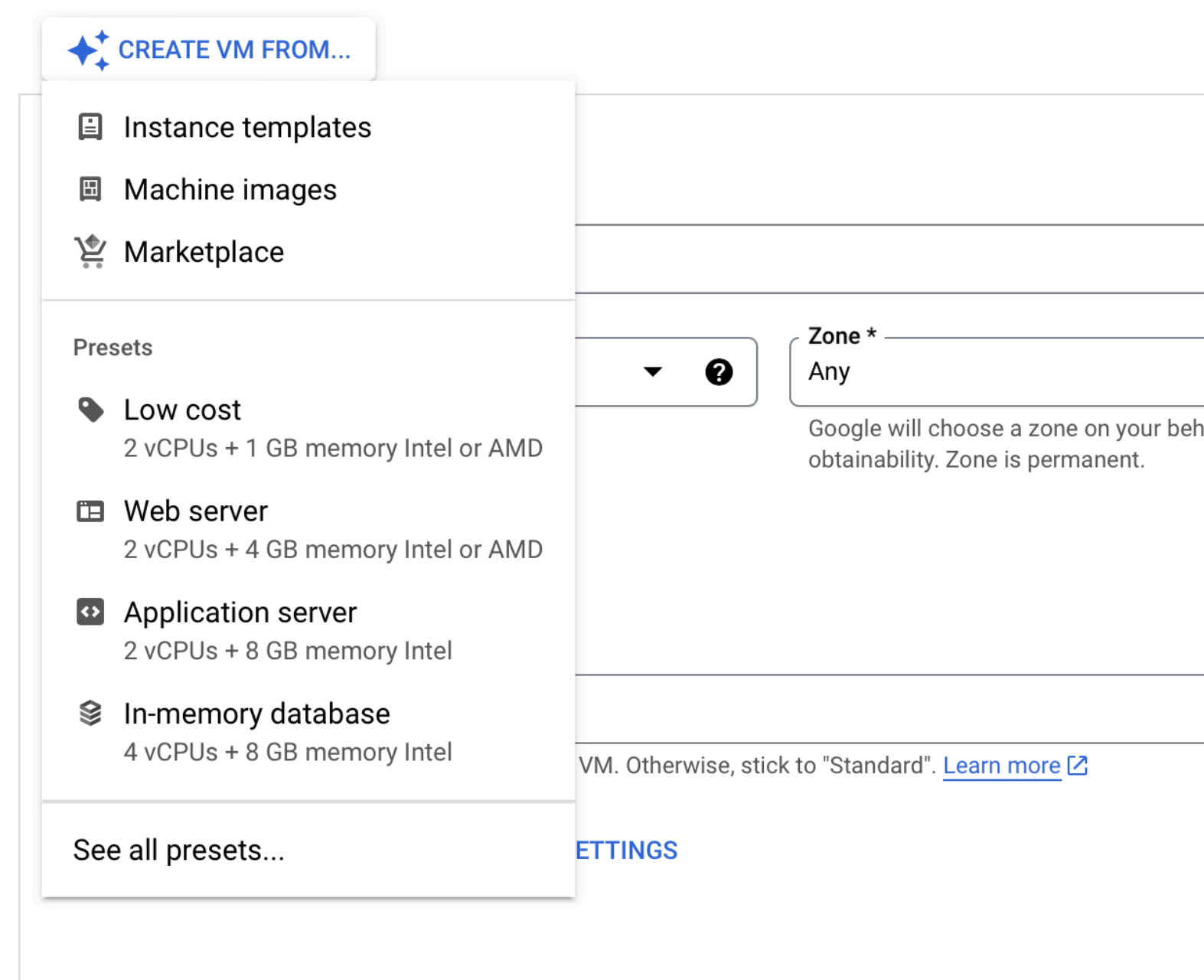2. Click on "CREATE INSTANCE"

3. Click on "CREATE VM FROM…"

Create a VM from a Template

◉ Go to Side Bar → Compute Engine → VM Instance

1. Click on "CREATE INSTANCE"

2. Click on "CREATE VM FROM…"

3. Click on "Instance templates", select your template and click on "CREATE"

Create a VM from a Template

◉ To change the VM's name:

    1. Stop the VM

    2. Click on the VM's name and then on "Edit"

    3. Rename the VM under the "VM instance name" option

    4. Click on "Save"

Using the VM

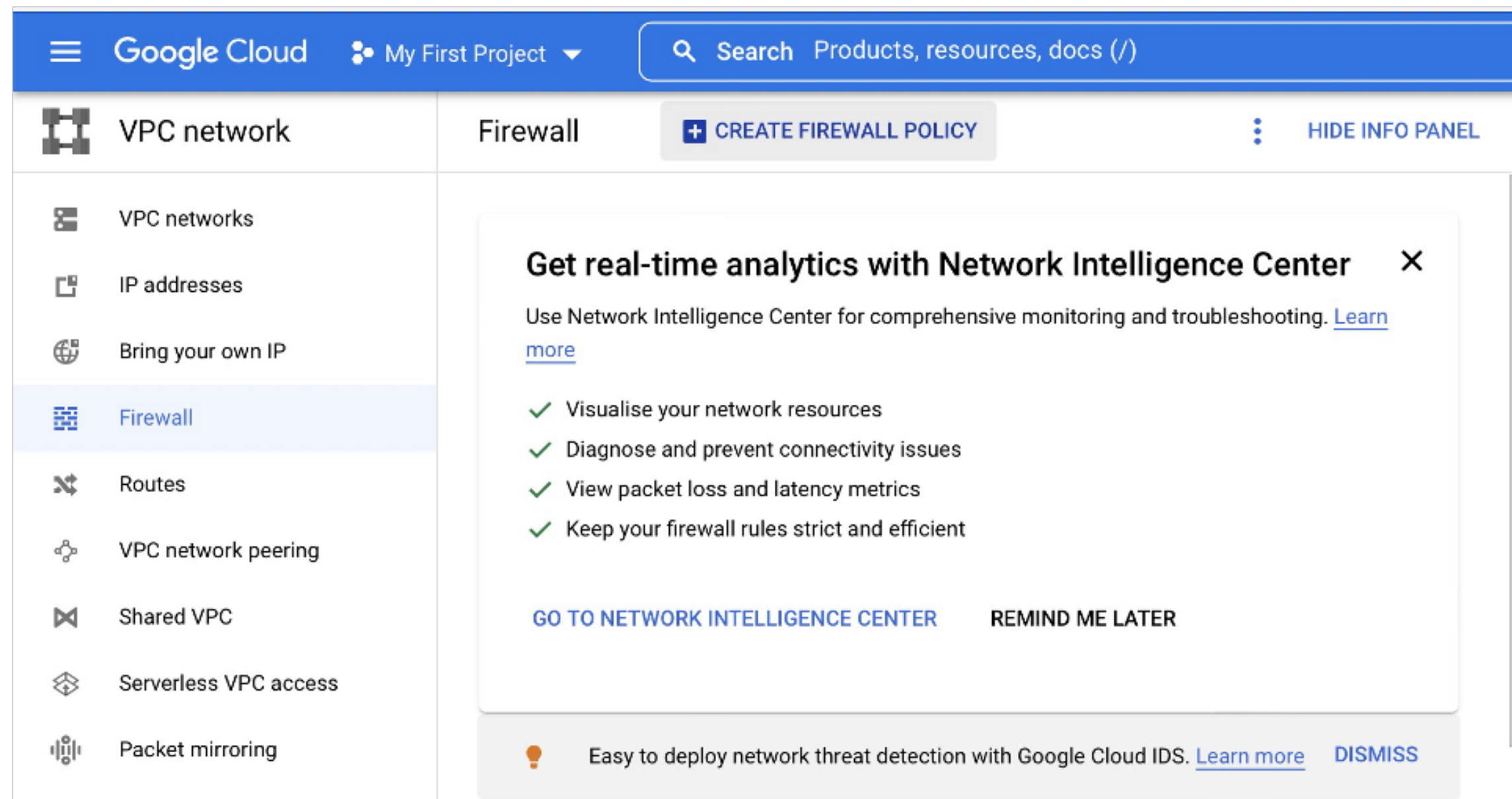◉ Use the SSH command to access the VM:

> ssh <username>@<vm_ip>

- ‣ If you manage your SSH keys in metadata, the <u>username</u> is what you specified when you created the SSH key.

- ‣ As the <u>IP</u>, you should use the VM's **external IP**.

◉ Once you are done working with the VM, **make sure you stop it!** Otherwise, it will keep consuming resources and wasting the budget.

Open Firewall Ports

1. Go to **VPC network** → **Firewall**

2. Create a new firewall policy

Open Firewall Ports

3. **Add a rule** with the following configurations:

- ‣ **Priority**: 0
- ‣ **Direction of traffic**: Ingress
- ‣ **Action on match**: allow
- ‣ **Target Type**: All instances in the network
- ‣ **Source IPv4 ranges**: 0.0.0.0/0
- ‣ **Protocols and ports**: Specified protocols and ports
  - ‣ Select **TCP**
    - ‣ **Ports**: <port>

Open Firewall Ports

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4. Associate policy with VPC networks

‣ **Select** default network

5. **Create** the policy