



## **DevOps Lab**

# **CLOUD COMPUTE - GCP**

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## **Compute: Virtual Machine creation**

### **Home task**

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CONFIDENTIAL | Effective Date: 16-Dec-19

## TASK 1

It's aiming to gain knowledge about the mechanisms of VMs creation in Google Cloud.

Create Virtual Machine in Google cloud by the following ways:

- gcp-ui (complete Lab: [google codelabs: VM creation](#))
- gcloud
- terraform (all settings should be provided via variables (tfvars), add URL ("http://IP.Address/") to output )

Virtual Machine Properties:

- InstanceName : nginx-`${creation-way}`
- Region: us-central1
- Zone: us-central1-c
- Type: General Purpose, n1, 1CPU 4.5GB RAM, Disk SSD 35Gb;
- OS: Centos7
- Allow http,https traffic
- Labels:
  - o ServerType=NginxServer
  - o OSFamily=RedHat
  - o WayOfInstallation=`${creation-way}`
- The instance should be protected for deletion.
- VM should have the up and running Nginx (automatically provisioned after VM is started via yum, default configuration)
- The instance is running in **default** network

P.S.:

For **gcp-ui** way please use the following guide for reference:

<https://cloud.google.com/compute/docs/quickstart-linux>

For **gcloud** way please use the following guide for reference:

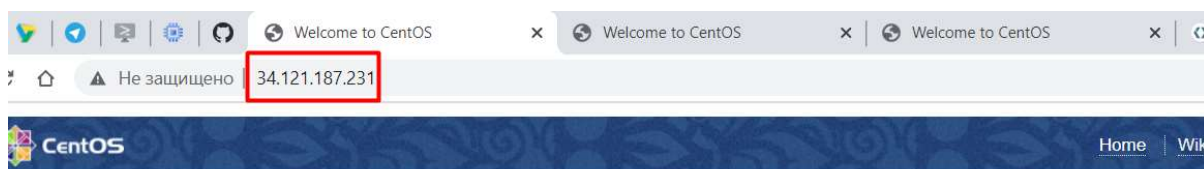
<https://cloud.google.com/ai-platform/deep-learning-vm/docs/quickstart-cli>

For **terraform** way please use the following guide for reference:

[https://www.terraform.io/docs/providers/google/guides/getting\\_started.html](https://www.terraform.io/docs/providers/google/guides/getting_started.html)

<https://cloud.google.com/community/tutorials/managing-gcp-projects-with-terraform>

Name	Zone	Recommendation	In use by	Internal IP	External IP	Connect
<input type="checkbox"/> nginx-gcloud	us-central1-c			10.128.0.6 (nic0)	34.122.86.158	SSH
<input type="checkbox"/> nginx-gcp-ui	us-central1-c			10.128.0.7 (nic0)	34.121.187.231	SSH
<input type="checkbox"/> nginx-terraform	us-central1-c			10.128.0.8 (nic0)	35.238.237.88	SSH

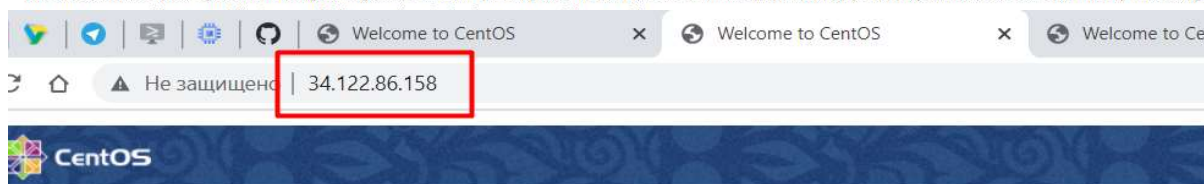


## Welcome to CentOS

### The Community ENTERprise Operating System

CentOS is an Enterprise-class Linux Distribution derived from sources freely provided to the public by Red Hat, Inc. for Red Hat Enterprise Linux. CentOS aims to be functionally compatible. (CentOS mainly changes packages to remove upstream vendor branding and artwork.)

CentOS is developed by a small but growing team of core developers. In turn the core developers are supported by an active user community including :

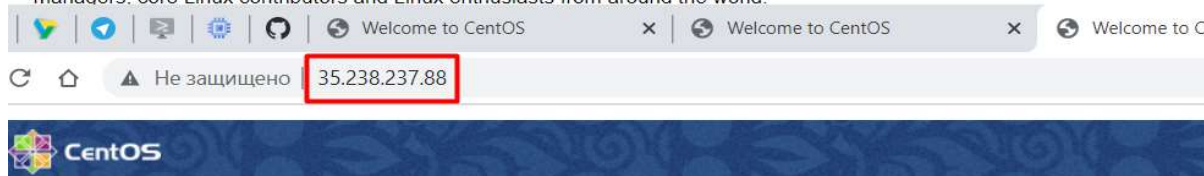


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```
Enter a value: yes
google_compute_instance.default: Creating...
google_compute_instance.default: Still creating... [10s elapsed]
google_compute_instance.default: Creation complete after 16s [id=projects/devops1]
Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
Outputs:
URL = http://35.238.237.88
Dzmitry Mezhva@NAME-BQNMOMNSO MINGW64 /c/ter/google-cloud-module/Day2 (dmezhva)
```

## TASK 2

It's aiming to gain knowledge about the mechanisms of Persistent disk creation in Google Cloud.

Create Persistent Disk and attach it to one of existing Virtual machine (nginx-gcp-ui).

- 1) Complete Lab [google codelabs: persistent disk](#) with using your VM name
- 2) Create terraform configuration to do the same via terraform (use VM: nginx-gcp-terraform).

For reference:

- [google compute disk](#)
- [google compute attached disk](#)

```
root@nginx-gcp-ui:~ - Google Chrome
ssh.cloud.google.com/projects/devopslab2020-288208/zones/
[root@nginx-gcp-ui ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        2.1G    0 2.1G   0% /dev
tmpfs           2.1G    0 2.1G   0% /dev/shm
tmpfs           2.1G  8.5M 2.1G   1% /run
tmpfs           2.1G    0 2.1G   0% /sys/fs/cgroup
/dev/sda2       35G   2.2G  33G   7% /
/dev/sda1       200M   12M  189M   6% /boot/efi
tmpfs          430M    0 430M   0% /run/user/0
tmpfs          430M    0 430M   0% /run/user/1000
/dev/sdb       197G   61M 187G   1% /mnt/mydisk
[root@nginx-gcp-ui ~]#
```

```
root@nginx-terraform:~ - Google Chrome
ssh.cloud.google.com/projects/devopslab2020-288208/zone
[root@nginx-terraform ~]# df -h
Filesystem      Size  Used Avail Use% Mounted on
devtmpfs        2.1G    0 2.1G   0% /dev
tmpfs           2.1G    0 2.1G   0% /dev/shm
tmpfs           2.1G  8.4M 2.1G   1% /run
tmpfs           2.1G    0 2.1G   0% /sys/fs/cgroup
/dev/sda2       35G   2.1G  33G   6% /
/dev/sda1       200M   12M  189M   6% /boot/efi
tmpfs          430M    0 430M   0% /run/user/1000
/dev/sdb       197G   61M 187G   1% /mnt/mydisk
[root@nginx-terraform ~]#
```

All reports/code please place into repository:

<https://github.com/MNT-Lab/google-cloud-module> into appropriate branches: *first char of name + surname*.

For example:

Student: Siarhei Ivanou

Branch Name: **sivanou**

Format depends on case: README.md/scripts/terraform files

**Email pattern: [MNT-CD-10.2]-FirstName-LastName**

Email should contain the link to personalized branch.