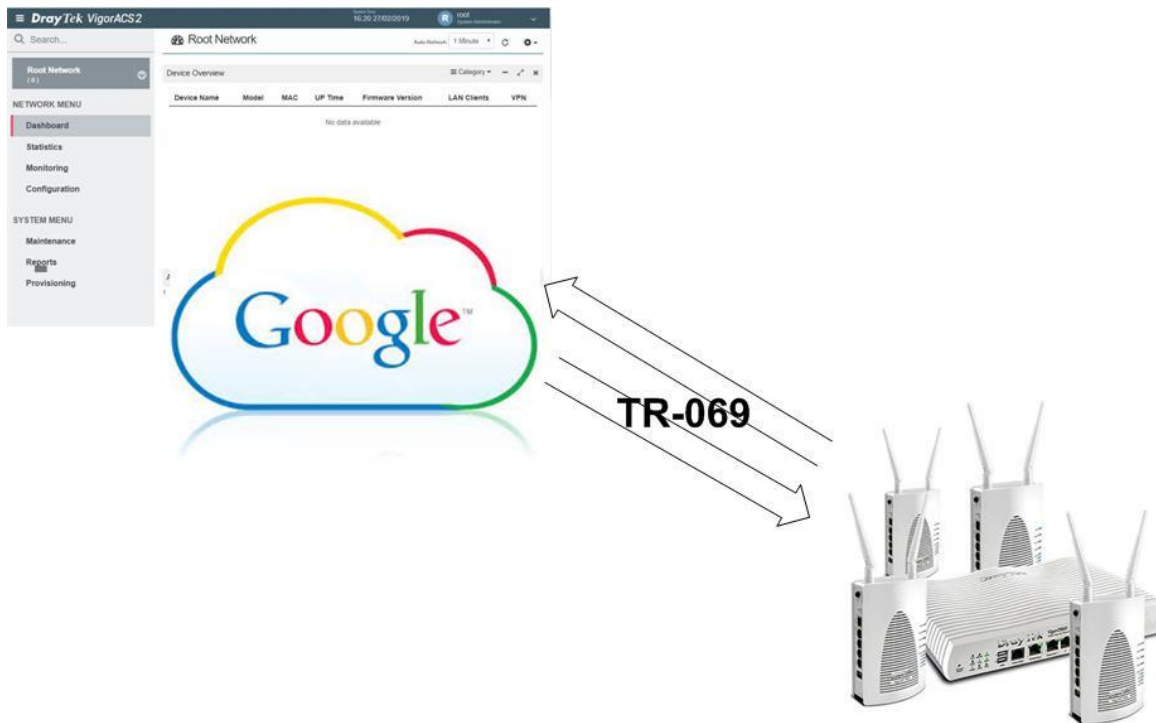


## How to install VigorACS 2 in Google Cloud

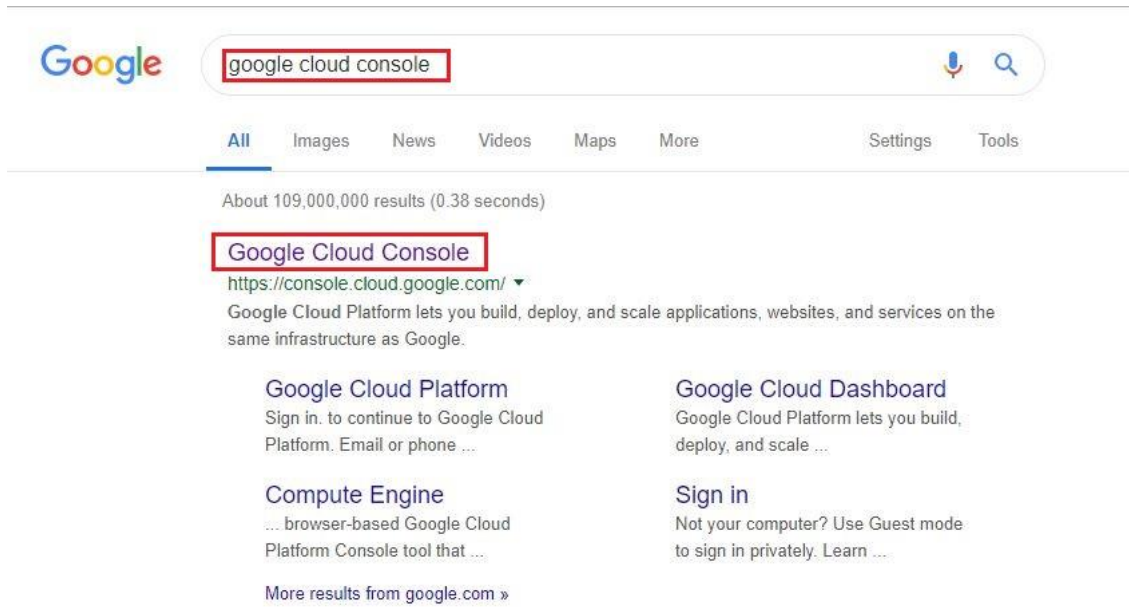
VigorACS 2 is a TR-069 based centralised management system for DrayTek's Vigor devices. It is a management tool that would help Network Engineers and Systems Integrators to configure, monitor and manage DrayTek devices remotely from the comfort of their offices or homes.

Google Cloud allows you to set up a cloud-based management system running VigorACS 2.

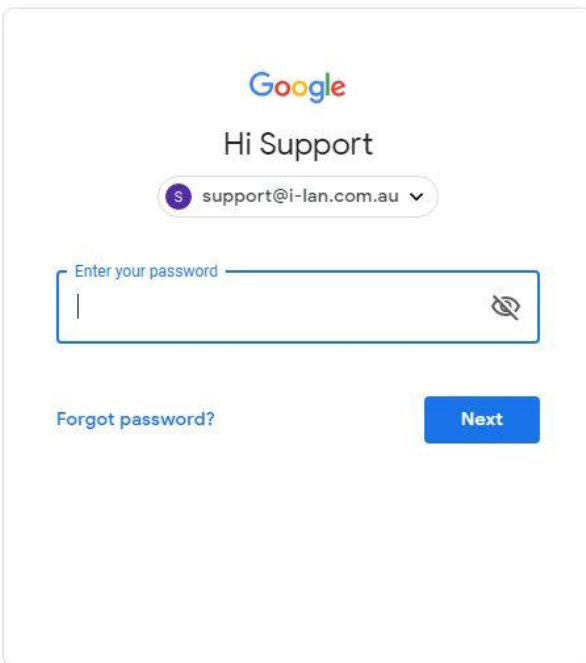
This guide shows you on how to install VigorACS 2 in Linux CentOS 7 using Google Cloud as our infrastructure server.



- I. Accessing Google Cloud.
  - a. Search **Google Cloud Console**.

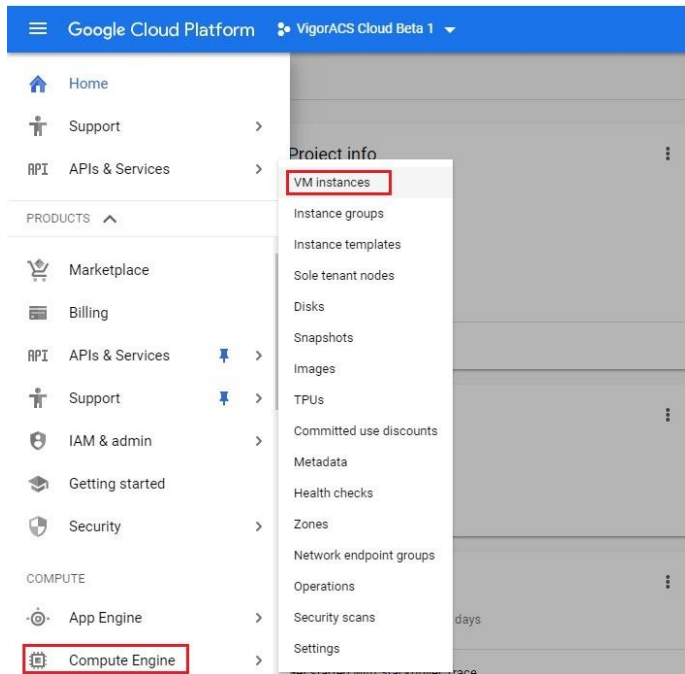


b. Login using your email account.

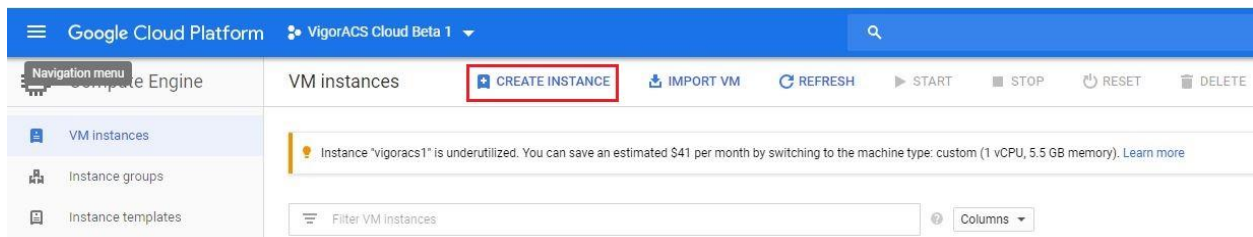


English (United States) ▾ Help Privacy Terms

- II. Creating a Virtual Machine Instance.
  - a. Go to **Compute Engine**>>**VM Instances**.



b. Select **“Create an Instance”**.



- c. Enter name as **“vigoracs”**.
- d. Select region as **“australia-southeast1 (Sydney)”** and zone as **“australia-southeast1-b”**.
- e. Select number of processors cores and memory (**2vCPU, 7.5 GB memory**).
- f. Under Firewall select **“Allow HTTP Traffic and Allow HTTPS traffic”**.
- g. Select **“Change”** to change the Operating system to **CentOS 7**.
- h. Select **“Create”** to create the VM instance.

## ← 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 ?

### Region ?

### Zone ?

### Machine type

Customize to select cores, memory and GPUs.

[Customize](#)

Upgrade your account to create instances with up to 96 cores

### Container ?

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

### Boot disk ?



New 10 GB standard persistent disk

Image

Debian GNU/Linux 9 (stretch)

[Change](#)

### Identity and API access ?

#### Service account ?

#### Access scopes ?

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

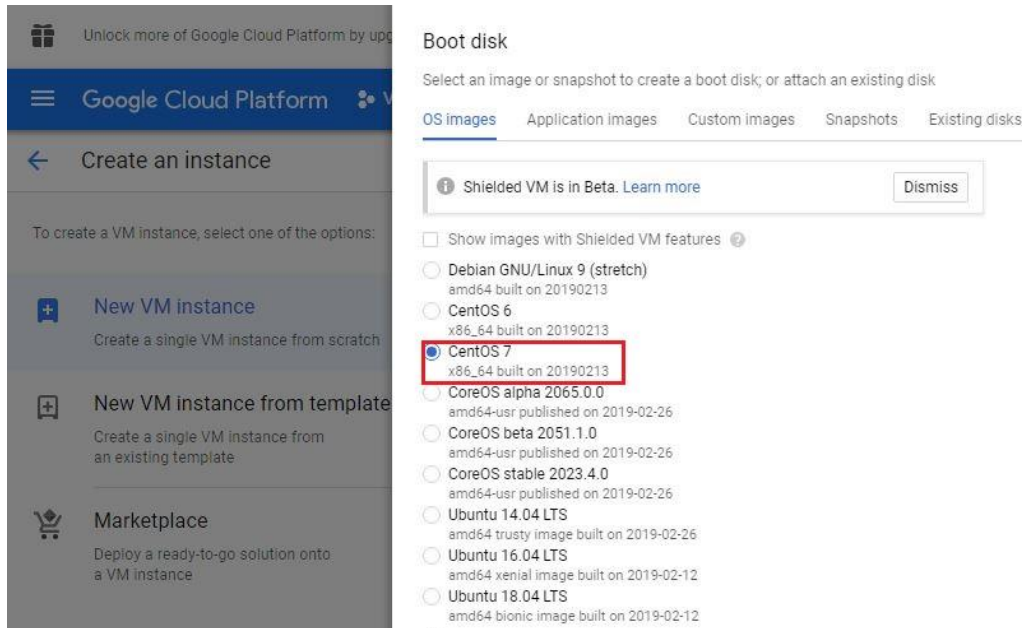
### Firewall ?

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

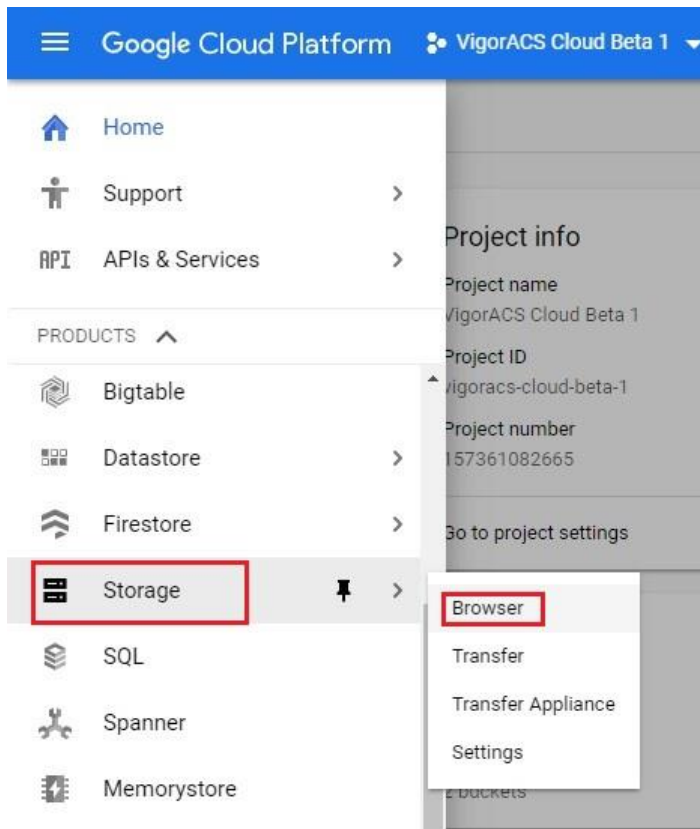
- Allow HTTP traffic
- Allow HTTPS traffic

Management, security, disks, networking, sole tenancy

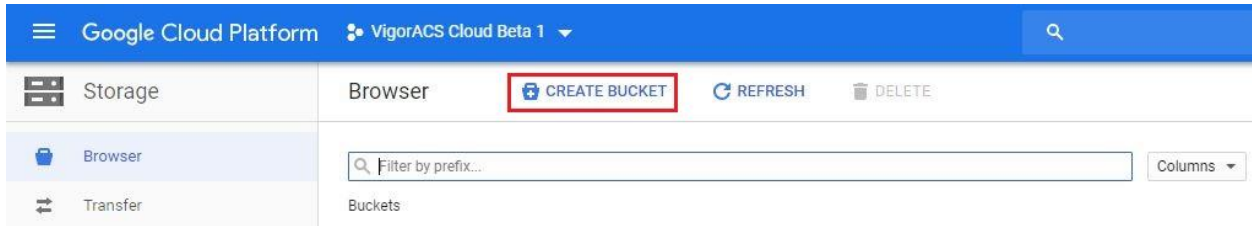
[Create](#)[Cancel](#)



- III. Creating a storage Bucket in Google Cloud and upload Vigor ACS2 installer.
  - a. Go to **Storage>>Browser**

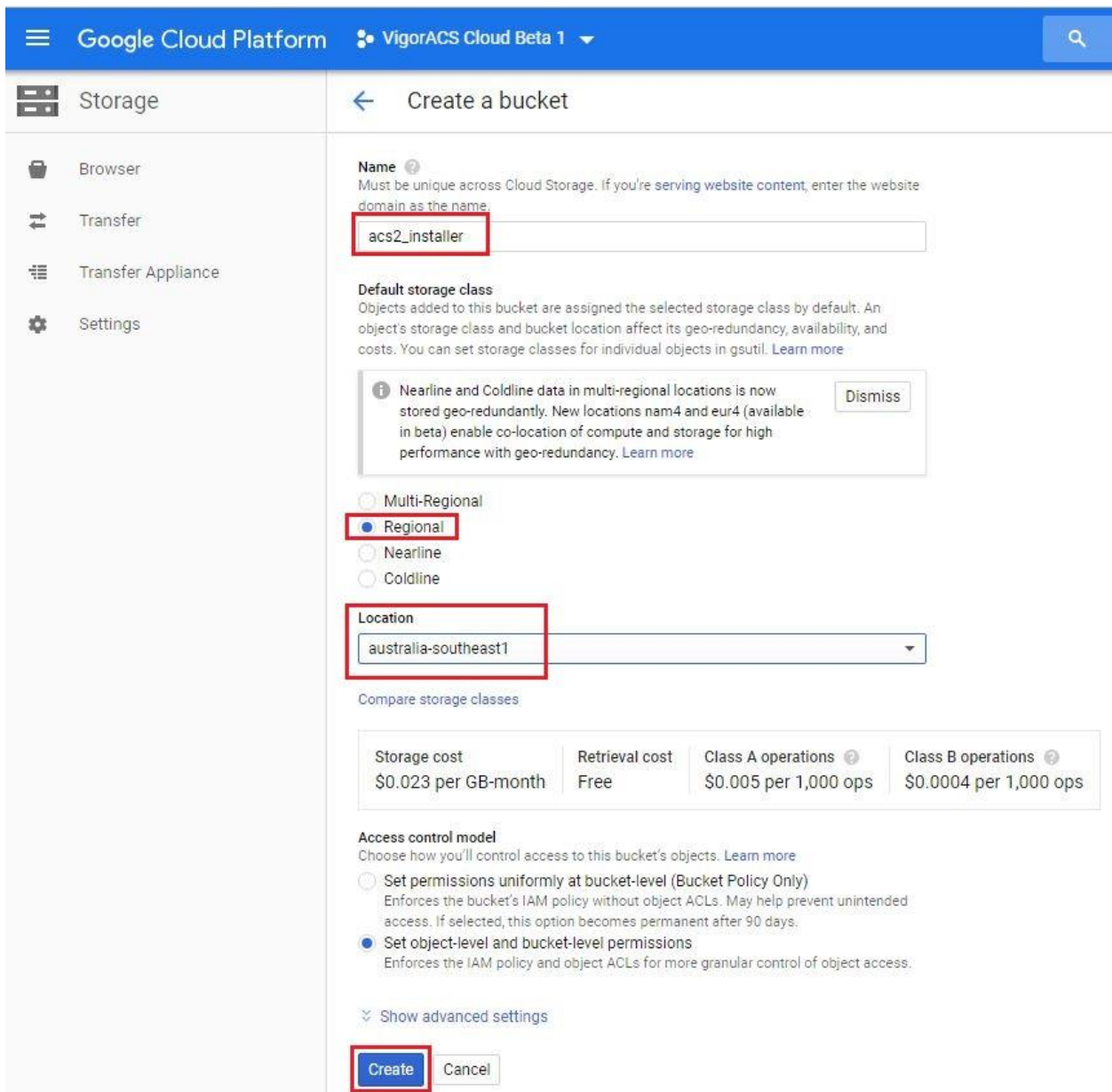


b. Select **“Create Bucket”**.

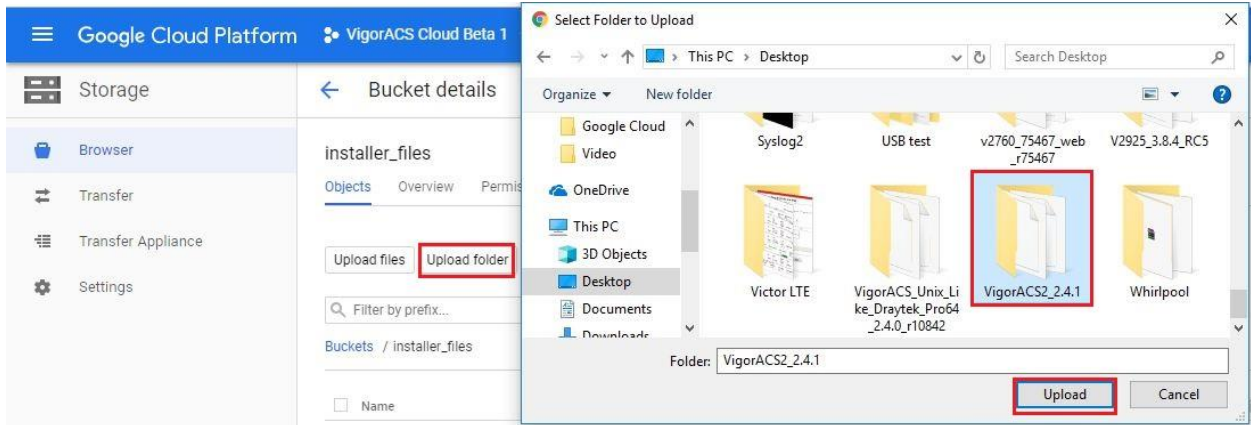


c. Enter name as **“acs\_installer”**

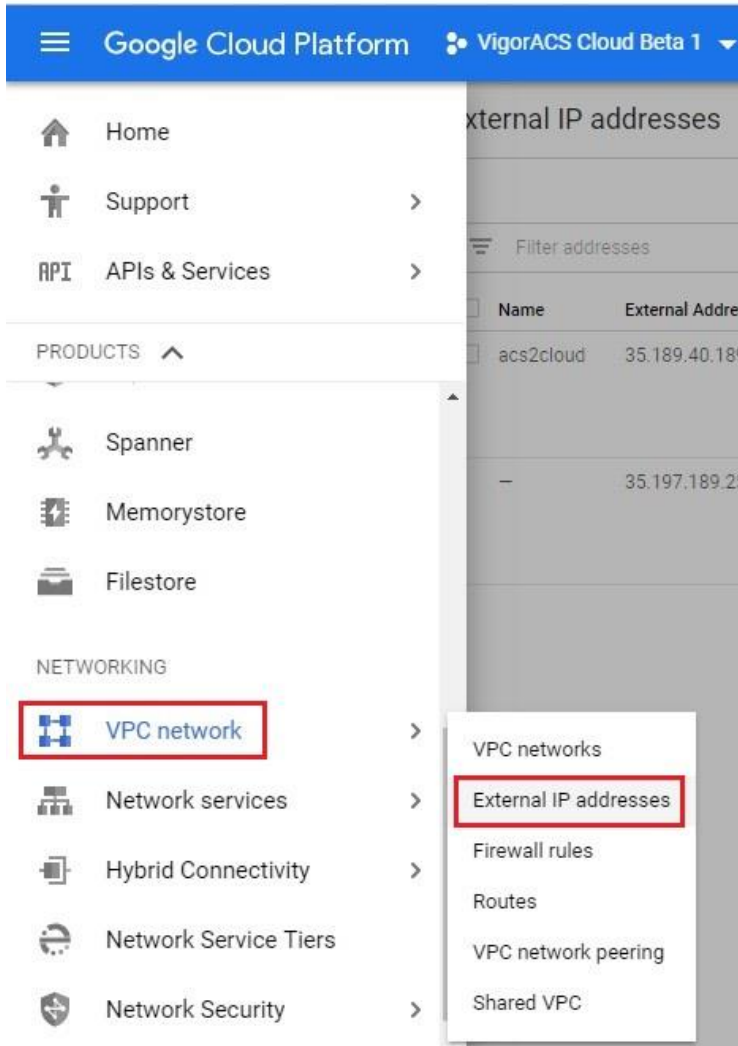
d. Select Default storage class as **“Regional”**, location as **“australia-southeast1”** and then click **“Create”**.



e. Now select **“Upload folder”** and select the folder **VigorACS2\_2.4.1** and click **“Upload”**.



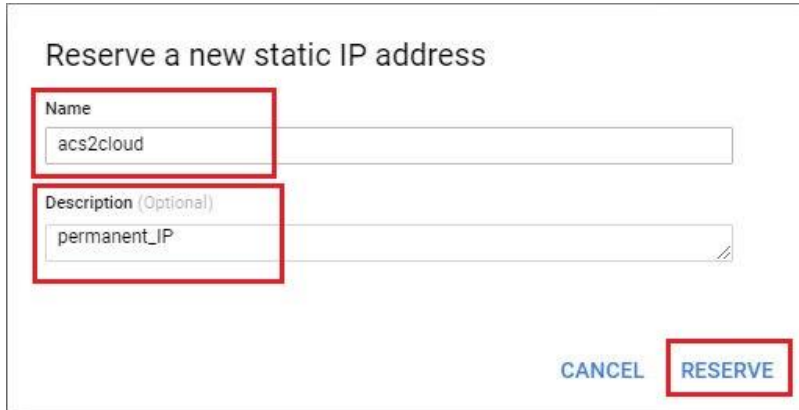
- IV. Set the VM instance IP address to static.
  - a. Go to **VPC network>>External IP addresses**.



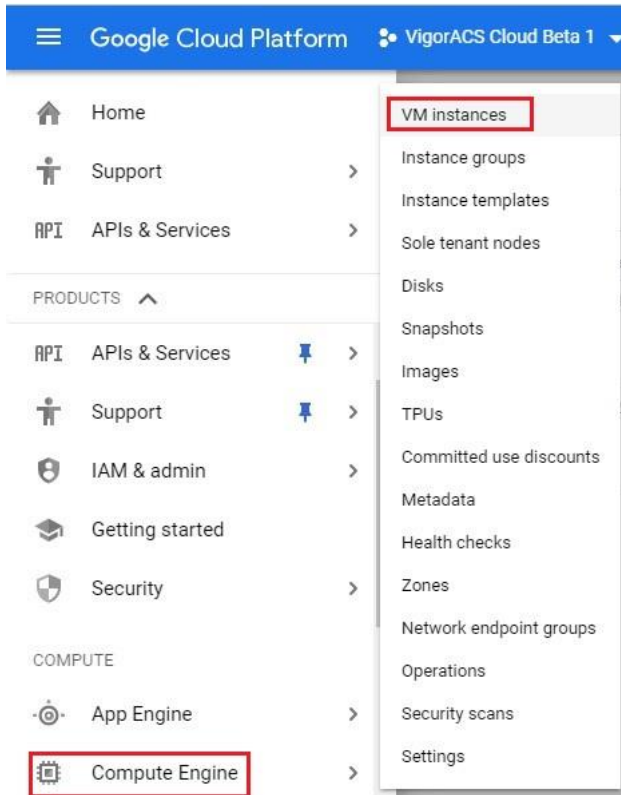
b. By default, the IP address is set to **Ephemeral**, so we will need to set it as **Static**.



c. Enter name as **acs2cloud**, description as **permanent\_IP** and click **Reserve**.

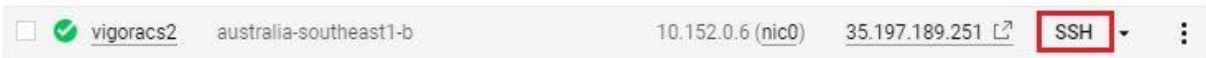


- V. Manage the VM instance via SSH.
  - a. Go to **Compute Engine**>>**VM instances**.



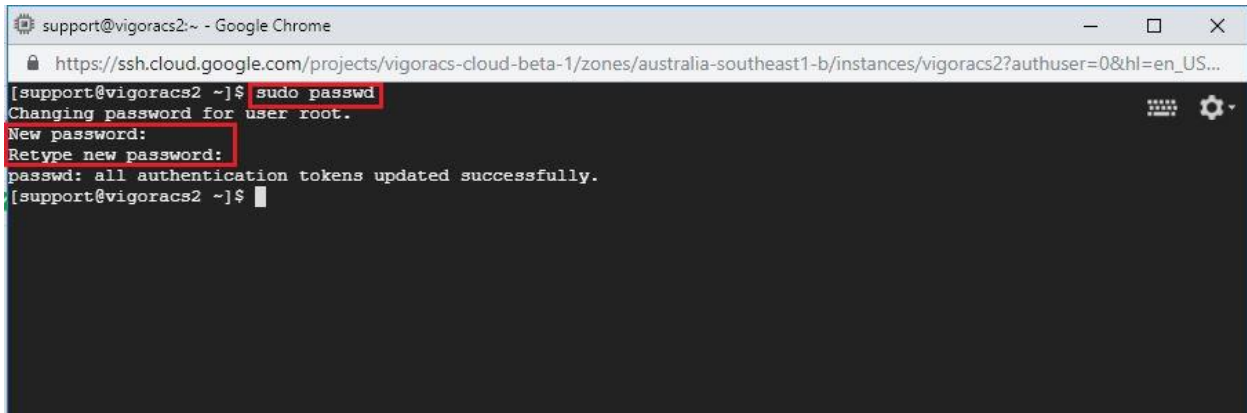


- b. Select “SSH” and wait for the SSH keys to transfer to VM instance.



## VI. Creating root password.

- a. Enter command “**sudo passwd**” and enter your preferred password.



## VII. Copy the Vigor ACS2 installer from the Bucket to the VM instance.

- a. Create a folder by entering the command “**mkdir installers**” (folder name is installers).
- b. Enter command “**gsutil cp -r gs://installer\_files/VigorACS2\_2.4.1 ./installers/**”  
**gsutil** – command to access the bucket.  
**cp** – copy  
**-r** – recursive  
**gs://installer\_files/VigorACS2\_2.4.1** – bucket directory path.  
**./installers/** - VM instance directory path

```

support@vigoracs2:/home/support - Google Chrome
https://ssh.cloud.google.com/projects/vigoracs-cloud-beta-1/zones/australia-southeast1-b/instances/vigoracs2?authuser=0&hl=en_US...
Password:
[root@vigoracs2 support]# mkdir installers
[root@vigoracs2 support]# gsutil cp -r gs://installer_files/VigorACS2_2.4.1 ./installers/
Copying gs://installer_files/VigorACS2_2.4.1/ImportPEM2Keystore.sh...
Copying gs://installer_files/VigorACS2_2.4.1/Install VigorACS Guide.txt...
Copying gs://installer_files/VigorACS2_2.4.1/Install VigorACS on Synology Guide.txt...
Copying gs://installer_files/VigorACS2_2.4.1/Quick Start Guide.txt...
/ [4 files] [ 14.6 KiB / 14.6 KiB]
=> NOTE: You are performing a sequence of gsutil operations that may
run significantly faster if you instead use gsutil -m cp ... Please
see the -m section under "gsutil help options" for further information
about when gsutil -m can be advantageous.

Copying gs://installer_files/VigorACS2_2.4.1/acs/VigorACS.zip...
=> NOTE: You are downloading one or more large file(s), which would
run significantly faster if you enabled sliced object downloads. This
feature is enabled by default but requires that compiled crcmod be
installed (see "gsutil help crcmod").

Copying gs://installer_files/VigorACS2_2.4.1/acs_install_conf.conf...
Copying gs://installer_files/VigorACS2_2.4.1/acs_lib.sh...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/httpport.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/httpsport.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/memory.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/startway.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/stunport.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/syslogport.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/bin/userhome.txt...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/conf/ssl_cert.pem...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/conf/ssl_key.pem...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/conf/tr069.keystore...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/deploy/server.xml...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/ACS-users.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/ACSServer-roles.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/ACSServer-users.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/auth.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/db-ip.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/db.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/db.properties.5.1.mysql...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/influxdb.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/jboss-roles.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/jboss-users.properties...
Copying gs://installer_files/VigorACS2_2.4.1/configbackup/props/jmx-console-roles.properties...

```

VIII. Installing dependencies, database and Vigor ACS2.

- a. Enter the command `"cd installers/VigorACS2_2.4.1/"`
- b. Allow root to execute install.sh file by entering the command `"chmod 755 install.sh"`
- c. Enter command `"./install.sh"` to run the Vigor ACS2 installer.
- d. Type `"y"` to proceed with the installation.

```

support@vigoracs2:/home/support/installers/VigorACS2_2.4.1 - Google Chrome
https://ssh.cloud.google.com/projects/vigoracs-cloud-beta-1/zones/australia-southeast1-b/instances/vigoracs2?authuser=0&hl=en_US...
Connected, host fingerprint: ssh-rsa 0 A2:DB:BA:08:DB:1C:BF:84:C0:BD:44:01:A4:99
:BF:69:68:AA:90:C1:06:C6:7E:AC:96:12:B9:93:82:E1:7E:AC
Last login: Thu Feb 28 14:34:49 2019 from 74.125.41.103
[support@vigoracs2 ~]$ su
Password:
[root@vigoracs2 support]# cd installers/VigorACS2_2.4.1/
[root@vigoracs2 VigorACS2_2.4.1]# chmod 755 install.sh
[root@vigoracs2 VigorACS2_2.4.1]# ./install.sh
ping IPv4 address success

entering /home/support/installers/VigorACS2_2.4.1/linux.....

We'll install the following packages for showing captcha (For some Linux version e.g. CentOS, Red Hat):
- epel-release
- curl
- cabextract
- xorg-x11-font-utils
- fontconfig
Install now (y/n)?
y

```

- e. Install the following below:
  - **press 1 and enter** to install mysql/mariadb
  - **press 3 and enter** to install influxdb
  - **press 4 and enter** to install or upgrade Java
  - **press 5 and enter** to install VigorACS

```

support@vigoracs2:/home/support/installers/VigorACS2_2.4.1 - Google Chrome
https://ssh.cloud.google.com/projects/vigoracs-cloud-beta-1/zones/australia-southeast1-b/instances/vigoracs2?authuser=0&hl=en_US...
* base: centos.melbourneitmirror.net
* epel: sg.fedora.ipserverone.com
* extras: mirror.lagoon.nc
* updates: mirror.ventraip.net.au
Package epel-release-7-11.noarch already installed and latest version
Nothing to do
Loaded plugins: fastestmirror
Loading mirror speeds from cached hostfile
* base: centos.melbourneitmirror.net
* epel: sg.fedora.ipserverone.com
* extras: mirror.lagoon.nc
* updates: mirror.ventraip.net.au
Package curl-7.29.0-51.el7.x86_64 already installed and latest version
Package cabextract-1.5-1.el7.x86_64 already installed and latest version
Package 1:xorg-x11-font-utils-7.5-21.el7.x86_64 already installed and latest version
Package fontconfig-2.13.0-4.3.el7.x86_64 already installed and latest version
Nothing to do
Loaded plugins: fastestmirror
msttcore-fonts-installer-2.6-1.noarch.rpm | 29 kB 00:00:00
Examining /var/tmp/yum-root-5GQXzM/msttcore-fonts-installer-2.6-1.noarch.rpm: msttcore-fonts-installer-2.6-1.noarch
/var/tmp/yum-root-5GQXzM/msttcore-fonts-installer-2.6-1.noarch.rpm: does not update installed package.
Error: Nothing to do

You must restart this ACS Server manually to finish the installation process

Notice:
* Installation ACS Server requires root privileges.
* After installing the ACS server, need to configure the Firewall to Allow HTTP and HTTPS port

[1] Install mysql/mariadb
[2] Change root password and security configuration of mysql/mariadb ( Default root password is blank )
[3] Install influxdb
[4] Install or Upgrade java
[5] Install VigorACS ( It will build one mysql/mariadb database : tr069 )
[6] Upgrade VigorACS ( It will upgrade local tr069 database )

*****For Remote Database Only*****
[7] Redirect the database path of VigorACS to remote host ( It will not upgrade remote database )

[8] Exit
input select num :

```

- f. Type **"y"** and **press enter** to continue creating ACS database.
- g. Type **"1"** and **press enter** to select Local side database.
- h. Type **"1"** and **press enter** to use ACS for Mysql.
- i. **Press enter** to use blank password for MySQL/MariaDB.
- j. Type **"y"** and **press enter** to test password for MySQL/MariaDB.

```
[Install VigorACS]

[Warning] It will clear the existing ACS database and create a new one.Do you want to continue? (y/n)
y
Do you want to use remote/local database? (1: Local side database, 2: Remote side database, Enter for Local side da
tabase)
1
Which Mysql do you want to use ? (1: ACS , 2: OS default, Enter for ACS mysql)
1
Starting vigoracsmysqld (via systemctl): [ OK ]
Please keyin password of root of MySQL/MariaDB.

Do you want to test password now ?(y/n)
y

Access Database Success
Restarting influxdb (via systemctl): [ OK ]
Start to install VigorACS....
Archive: VigorACS.zip
  creating: VigorACS/server/default/deploy/ACSServerAPP.ear/
  creating: VigorACS/server/default/deploy/ACSServerAPP.ear/ACSServer.war/
```

- IX. Starting database and ACS2.
  - a. Start mysql/mariadb, influxdb and VigorACS2.
    - **press 1 and enter** to start mysql/mariadb
    - **press 3 and enter** to start influxdb
    - **press 5 and enter** to start VigorACS

```
support@vigoracs2:/usr/local/vigoracs/VigorACS/bin - Google Chrome
https://ssh.cloud.google.com/projects/vigoracs-cloud-beta-1/zones/australia-southeast1-b/instances/vigoracs2?authuser=0&hl=en_US...
[root@vigoracs2 support]# cd /usr/local/vigoracs/VigorACS/bin
[root@vigoracs2 bin]# ./vigoracs.sh

Mysql process id : 4778 4866
Influxdb process id : 5654
Vigoracs process id : 6243

1. start mysql/mariadb
2. shutdown mysql/mariadb
3. start influxdb
4. shutdown influxdb
5. start VigorACS
6. shutdown VigorACS
7. edit bind IP of VigorACS Server(please keyin IP or servername)
8. set the MAX. and MIN. memory value of running java (It will be valid after restarting VigorACS )
9. view the MAX. and MIN. memory value of running java
10. exit
input select num :
█
```

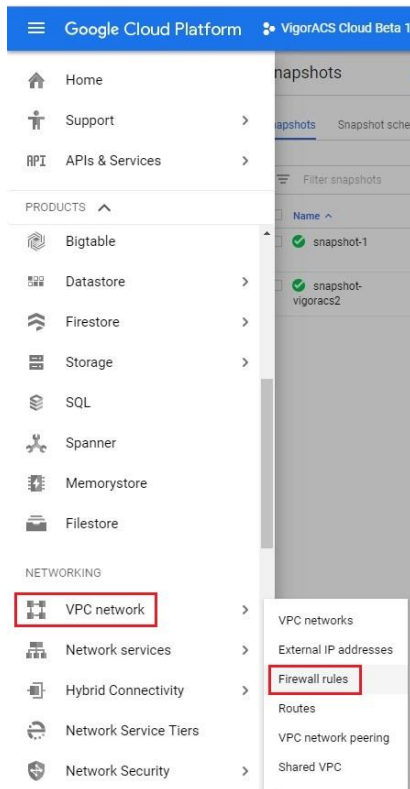
- b. Enter the following bellow after selecting 5 (start VigorACS).
  1. Bind IP to **0.0.0.0**
  2. Optional: enter http port **8844** instead of 80.
  3. Optional: enter https port **8443** instead of 443.
  4. **Press enter** to select default ports **347** and **514** for stun and syslog.
  5. **Press enter** to accept default **max memory** and **minimum memory**.

```
Vigoracs process id :
1. start mysql/mariadb
2. shutdown mysql/mariadb
3. start influxdb
4. shutdown influxdb
5. start VigorACS
6. shutdown VigorACS
7. edit bind IP of VigorACS Server(please keyin IP or servername)
8. set the MAX. and MIN. memory value of running java (It will be valid after restarting VigorACS )
9. view the MAX. and MIN. memory value of running java
10. exit
input select num :
5
Which ip address do you want to bind for VigorACS service ( x.x.x.x or Enter for bind 0.0.0.0 address)?
0.0.0.0
Which http port do you want to bind for VigorACS service ( port number or Enter for 80 port)?
8844
Which https port do you want to bind for VigorACS service ( port number or Enter for 443 port)?
3443
Which stun port do you want to bind for VigorACS service ( port number or Enter for 3478 port)?
3478
Which syslog port do you want to bind for VigorACS service ( port number or Enter for 514 port)?
514
How many memory do you want to set for VigorACS service? (Enter for default MAX Memory is 1024, MIN Memory is 900 MB)
MAX Memory What you want? (Unit: MB)
MIN Memory What you want? (Unit: MB)

Starting vigoracs:
[OK]

Mysql process id : 2882 3121
Influxdb process id : 6136
Vigoracs process id :
```

- X. Allowing http, https and tr-069 ports in Google Cloud firewall.
  - a. Go to **VPC Network>>Firewall rules**.



- b. Select “**default-allow-http**” and click “**Edit**”
- c. Enter the VigorACS2 http port **8844** and click “**save**”.
- d. Do the same for the https, but enter port **8443**.

Google Cloud Platform | VigorACS Cloud Beta 1

Navigation menu: VPC networks, External IP addresses, **Firewall rules**, Routes, VPC network peering, Shared VPC

Firewall rules: + CREATE FIREWALL RULE, REFRESH, DELETE

Filter resources

Name	Type	Targets	Filters	Protocols / ports	Action	Priority	Network
<input type="checkbox"/> default-allow-http	Ingress	http-server	IP ranges: 0.0.0.0/0	tcp:8844	Allow	1000	default
<input type="checkbox"/> default-allow-https	Ingress	https-server	IP ranges: 0.0.0.0/0	tcp:8443	Allow	1000	default
<input type="checkbox"/> default-allow-icmp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	icmp	Allow	65534	default
<input type="checkbox"/> default-allow-internal	Ingress	Apply to all	IP ranges: 10.128.0.0/9	tcp:0-65535 udp:0-65535 icmp	Allow	65534	default
<input type="checkbox"/> default-allow-rdp	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:3389	Allow	65534	default
<input type="checkbox"/> default-allow-ssh	Ingress	Apply to all	IP ranges: 0.0.0.0/0	tcp:22	Allow	65534	default

Google Cloud Platform | VigorACS Cloud Beta 1

Navigation menu: VPC networks, External IP addresses, **Firewall rules**, Routes, VPC network peering, Shared VPC

← Firewall rule details | **EDIT** | DELETE

default-allow-http

Logs: Off view

Network: default

Priority: 1000

Direction: .

Protocols and ports

Allow all

Specified protocols and ports

tcp:8844

Disable rule

**Save** Cancel

Protocols and ports

- Allow all  
 Specified protocols and ports

tcp:8443

Disabling rule

Save

Cancel

e. Select **“Create Firewall Rule”**.



f. Enter the following below and leave others as default.

- Name – **tr-069**
- Target tags – **tr-069**
- Source IP ranges – **0.0.0.0/0**
- TCP – **8069**

g. Click **“Create”** to save the firewall rule.

## ← Create a firewall rule

Firewall rules control incoming or outgoing traffic to an instance. By default, incoming traffic from outside your network is blocked. [Learn more](#)

Name <sup>?</sup>

tr-069

Description (Optional)

Logs

Turning on firewall logs can generate a large number of logs which can increase costs in Stackdriver. [Learn more](#)

- On  
 Off

Network <sup>?</sup>

default

Priority <sup>?</sup>

Priority can be 0 - 65535 Check priority of other firewall rules

1000

Direction of traffic <sup>?</sup>

- Ingress  
 Egress

Action on match <sup>?</sup>

- Allow  
 Deny

Targets <sup>?</sup>

Specified target tags

Target tags

tr-069

Source filter <sup>?</sup>

IP ranges

Source IP ranges <sup>?</sup>

0.0.0.0/0

Second source filter <sup>?</sup>

None

Protocols and ports <sup>?</sup>

- Allow all  
 Specified protocols and ports

tcp :

8069

udp :

all

Other protocols

protocols, comma separated, e.g. ah, sctp

Disable rule

Create

Cancel

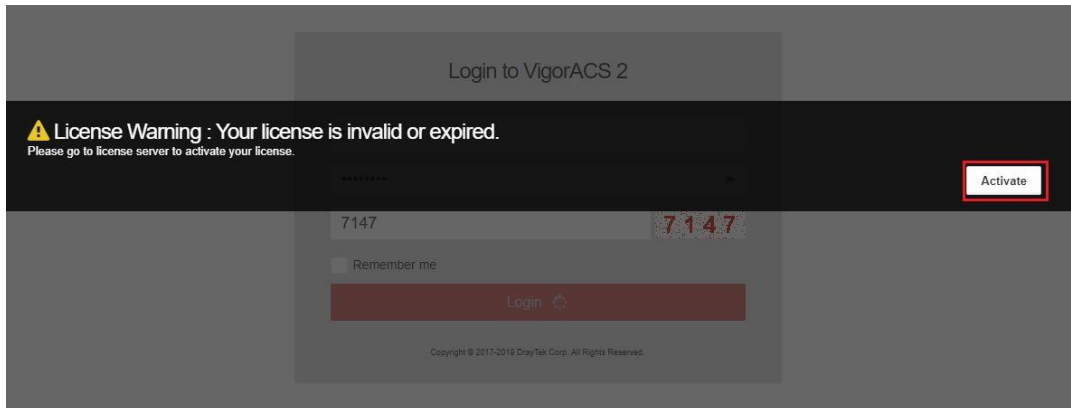


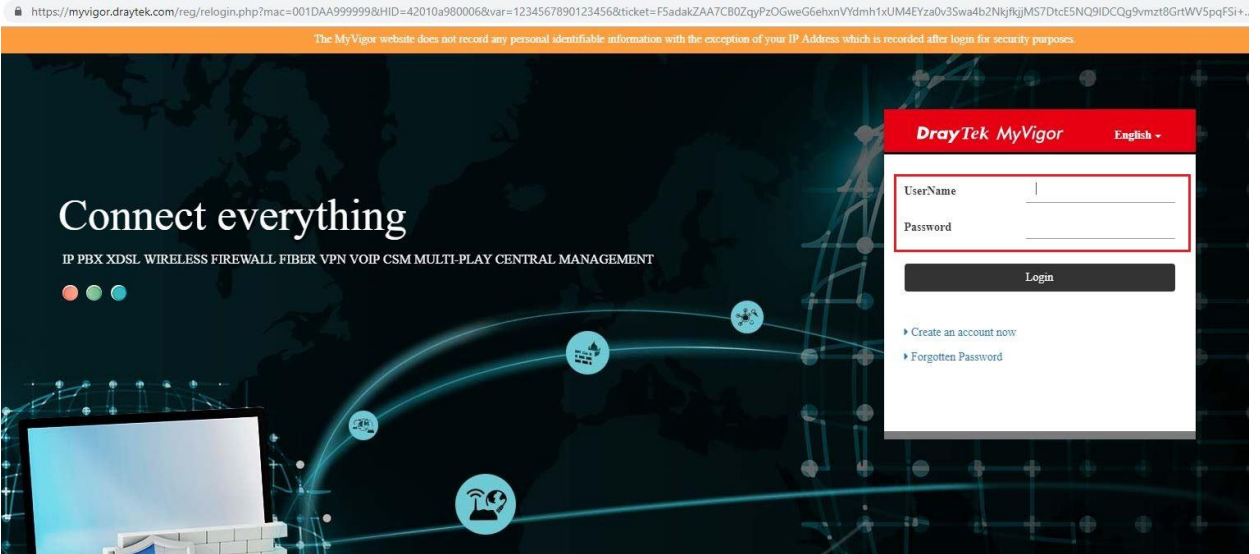
- XI. Accessing the Vigor ACS2 web interface and activating the trial license.
- a. Type the **public IP address, port number** and enter **username** as " **root**" and **password** as " **admin123**".



A screenshot of the "Login to VigorACS 2" web interface. The form includes three input fields: "User Name", "Password", and "Validation Code". The "Validation Code" field contains the number "5218". Below the input fields is a "Remember me" checkbox and a red "Login" button. At the bottom, there is a small copyright notice: "Copyright © 2017-2019 DrayTek Corp. All Rights Reserved."

- b. After selecting " **Activate**" the VigorACS2 will redirect us to the **MyVigor** website to register our VigorACS and activate the 30 days trial license.





c. Select **“On”** under Status and **“Login to ACS”**.

My Information - My Products

Device Information

Device Name : ACSGC-2445  
Host ID : ACS190200051  
Model : VigorACS2 Series

Rename Add Main Key ACS License Help Transfer Back

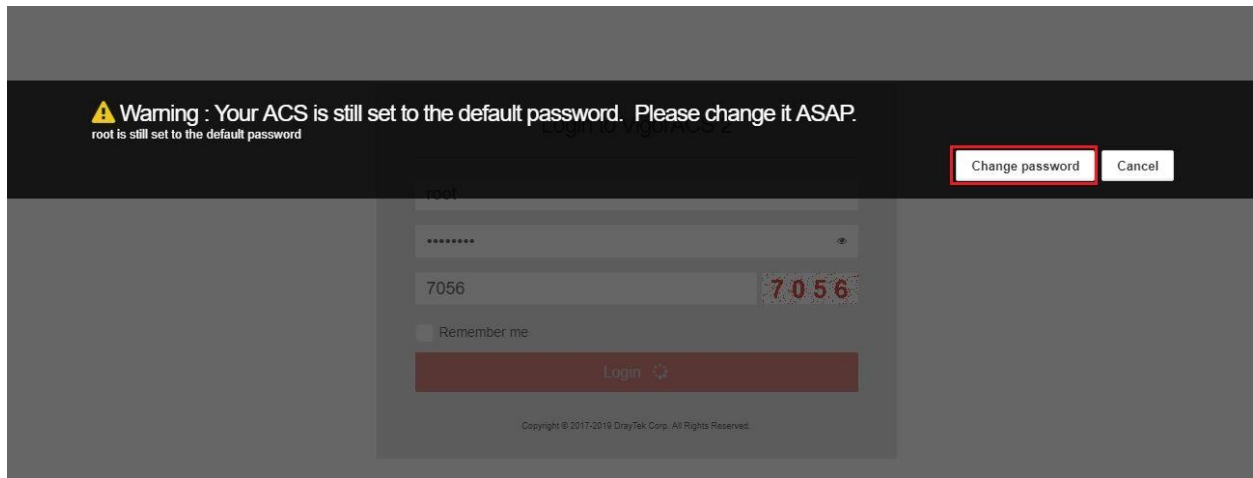
Service	Provider	Action	Status	Start Date	Expired Date	Nodes	Note
ACS	DT-ACS-2	Add Main Key	On	2019-02-26	2019-03-28	20	-

VigorACS License Information

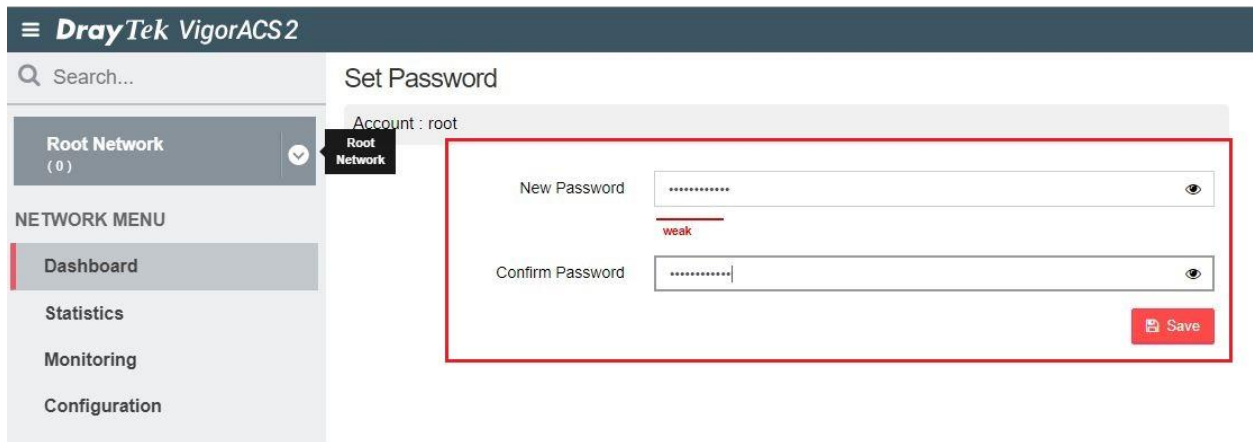
Operation	1000 : License Key OK
License id	00024e59
Start date	2019-02-26
Expire date	2019-03-28
Max node	00000020
Trial license	Yes

Login to ACS

d. Select **“Change password”** for security purposes.



e. **Enter new password** and confirm new password.



f. Go to **"About"**, to verify the License information on VigorACS2.

**DrayTek VigorACS2**

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Root Network (0)

NETWORK MENU

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**License Information**

License Information	
Host ID	ACS190200051
License ID	00024e59
License Type	Trial
Start Date	2019-02-26
Expire Date	2019-03-28
Max Node	20
Activate License	<a href="#">+ Click here to activate license</a>

- XII. Change the time zone to **AEDT (Australian Eastern Daylight Time)**.
- Enter the command "**date**" to verify the time zone.
  - Enter the command "**mv /etc/localtime /etc/localtime.bak**".
  - Enter the command "**ln -s /usr/share/zoneinfo/Australia/NSW /etc/localtime**".
  - Enter again the command "**date**" to verify the time zone – should be set to **AEDT**.

```

support@vigoracs2:/usr/local/vigoracs/VigorACS/bin - Google Chrome
https://ssh.cloud.google.com/projects/vigoracs-cloud-beta-1/zones/australia-southeast1-b/instances/vigoracs2?authuser=0&hl=en_US...
[root@vigoracs2 bin]# date
Wed Feb 27 03:41:14 UTC 2019
[root@vigoracs2 bin]# mv /etc/localtime /etc/localtime.bak
[root@vigoracs2 bin]# ln -s /usr/share/zoneinfo/Australia/NSW /etc/localtime
[root@vigoracs2 bin]# date
Wed Feb 27 14:42:11 AEDT 2019
[root@vigoracs2 bin]#

```