

College of Computer Training (CCT)

Assignment Cover Page

Module Title:

Cloud Computing

Assignment Title:

Autoscaling and NLB in a cloud-based environment

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Link:

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Academic Year:

Year 1 ☐

Year 2 ☒

Year 3 ☐

DECLARATION

I, the above-named student, confirm that by submitting, or causing the attached assignment to be submitted, to CCT, I have not plagiarised any other person's work in this assignment and except where appropriately acknowledged, this assignment is my own work, has been expressed in my own words, and has not previously been submitted for assessment.

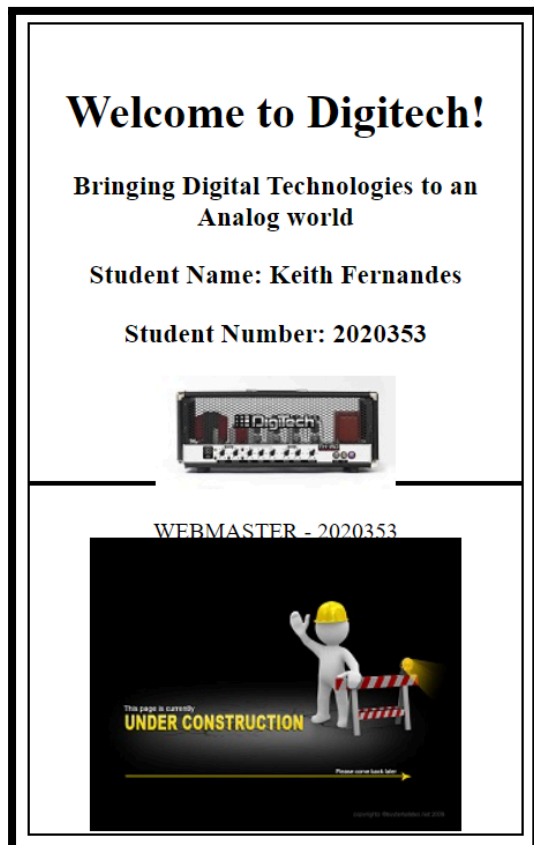
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Computech

Computech has giving consultancy for Digitech, and their requirement was to migrate their network operation to the Google Cloud Platform. So that a test version of the Digitech website, setting up Autoscaling and Network Load Balancing, followed by monitoring and stress testing of the test website and record their results was also required.

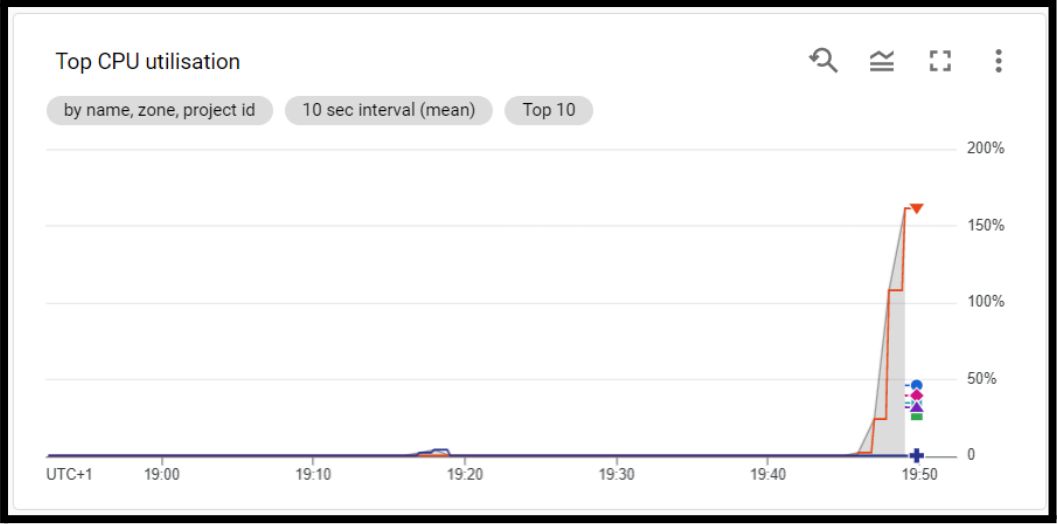
Bellow we can see attached the documents that certify that everything went through perfectly in the way was required by Digitech.



Proven picture of the website working.

Name ↑	Instances	Template	Group type	Creation time	Recommendation	Auto-scaling	Zone
digitech-europe-group	1	digitech-global-template	Managed	Dec 6, 2021, 6:39:17 pm UTC+01:00		On: Target CPU utilisation 60%	europe-west2 (3/3)
digitech-usa-group	1	digitech-global-template	Managed	Dec 6, 2021, 6:43:24 pm UTC+01:00		On: Target CPU utilisation 60%	us-central1 (3/4)

Proven picture of two instance groups.



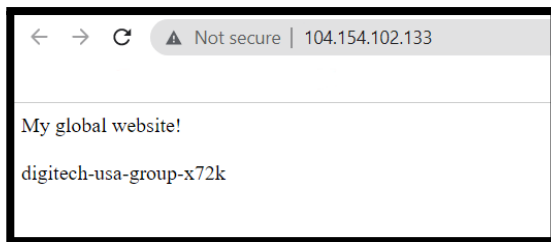
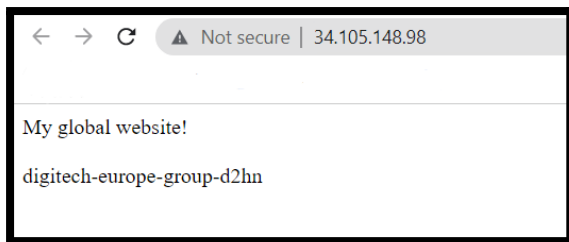
Proven picture of the stress in the maximum and after getting back only to two instances below.

INSTANCES INSTANCE SCHEDULE

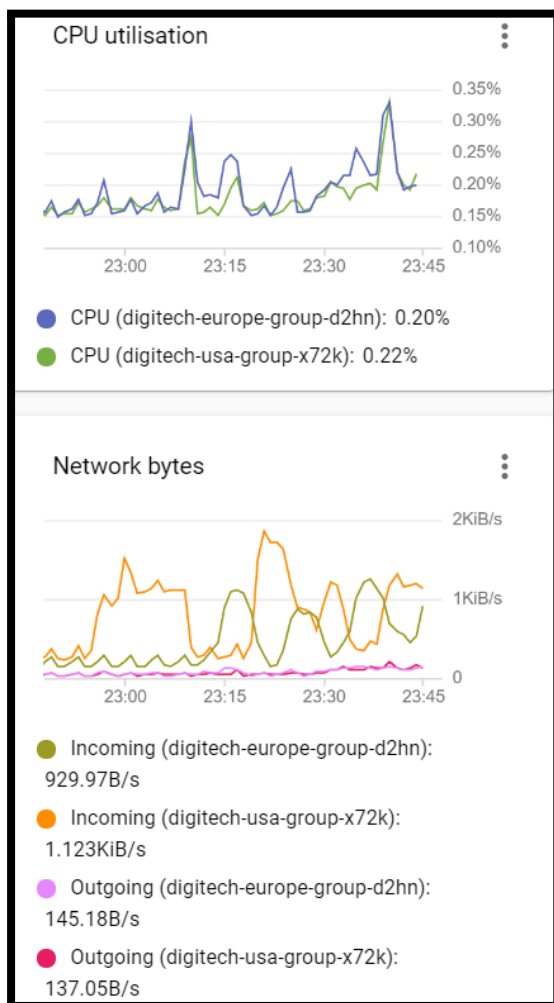
VM instances are highly configurable virtual machines for running workloads on Google infrastructure. [Learn more](#)

Filter Enter property name or value

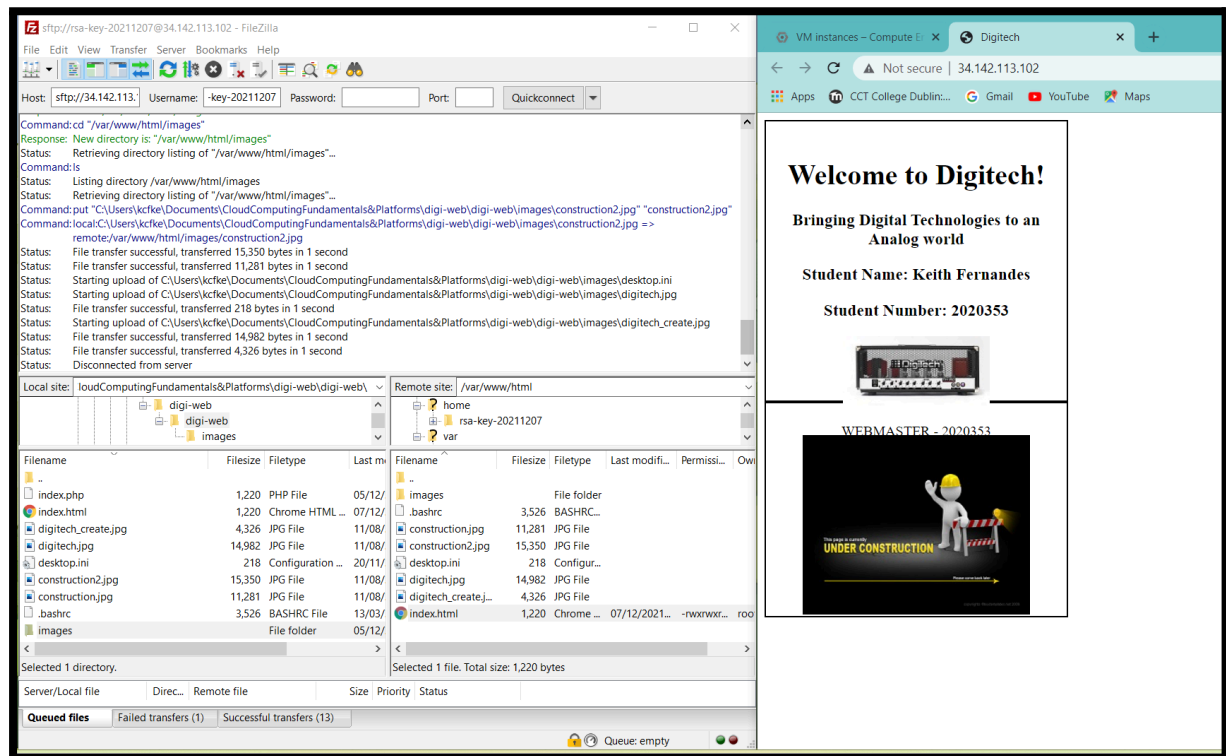
<input type="checkbox"/>	Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect	
<input type="checkbox"/>	✓	digitech-europe-group-d2hn	europa-west2-a		digitec... ▼	10.154.0.18 (nic0)	34.105.148.98 ↗	SSH ▼	⋮
<input type="checkbox"/>	✓	digitech-usa-group-x72k	us-central1-c		digitec... ▼	10.128.0.6 (nic0)	104.154.102.133 ↗	SSH ▼	⋮
<input type="checkbox"/>	⊙	linux-web	europa-west2-c			10.154.0.17 (nic0)	None	SSH ▼	⋮



Network load balancing obtained Statics IP addresses, using NBL cluster for the websites.



Upload Digitech using FileZilla



Using tools as PuTTYgen and FileZilla is also an alternative to upload a website into a Cloud Instance. As in the picture above we can see that the Website could work as well as using other methods to upload it.

Attach cloud storage to a webserver

To attach our storage to a webserver it does not take so long and are simples' steps. As soon as our bucket is created, we need to create a service account and give the right of an admin to use. Using the service account on the configuration of our Instance, changing it to our service account created. Then attach them together.

The image shows a screenshot of the Google Cloud Platform console and an SSH terminal window. The console displays the 'Basic information' tab for an instance named 'linux-vm-with-storage'. The terminal window shows the execution of the 'gsutil ls -r gs://mybigbucket-353/digi-web/' command, listing files and directories in the bucket.

Basic information	
Name	linux-vm-with-storage
Instance ID	378204837491402584
Description	None
Type	Instance
Status	Running
Creation time	Dec 7, 2021, 11:01:27 pm UTC+01:00
Zone	europe-west2-c
Instance template	None
In use by	None
Reservations	Automatically choose
Labels	None
Deletion protection	Disabled
Confidential VM service	Disabled
Preserved state size	0 GB

```
root@linux-vm-with-storage: /home/g2020353# gsutil ls -r gs://mybigbucket-353/digi-web/
gs://mybigbucket-353/digi-web/:
gs://mybigbucket-353/digi-web/.bashrc
gs://mybigbucket-353/digi-web/construction.jpg
gs://mybigbucket-353/digi-web/construction2.jpg
gs://mybigbucket-353/digi-web/desktop.ini
gs://mybigbucket-353/digi-web/digitech.jpg
gs://mybigbucket-353/digi-web/digitech_create.jpg
gs://mybigbucket-353/digi-web/index.html
gs://mybigbucket-353/digi-web/images/:
gs://mybigbucket-353/digi-web/images/construction.jpg
gs://mybigbucket-353/digi-web/images/construction2.jpg
gs://mybigbucket-353/digi-web/images/desktop.ini
gs://mybigbucket-353/digi-web/images/digitech.jpg
gs://mybigbucket-353/digi-web/images/digitech_create.jpg
root@linux-vm-with-storage: /home/g2020353#
```

Proven picture of Linux VM with storage using SSH as prove.

References & troubleshooting.

Visited on 07/12/2021 <https://www.youtube.com/watch?v=X48VuDVv0do>

To upload Digitech using filezilla I had to find a way of appearing the images as well, but it was also give an update to the images folder.