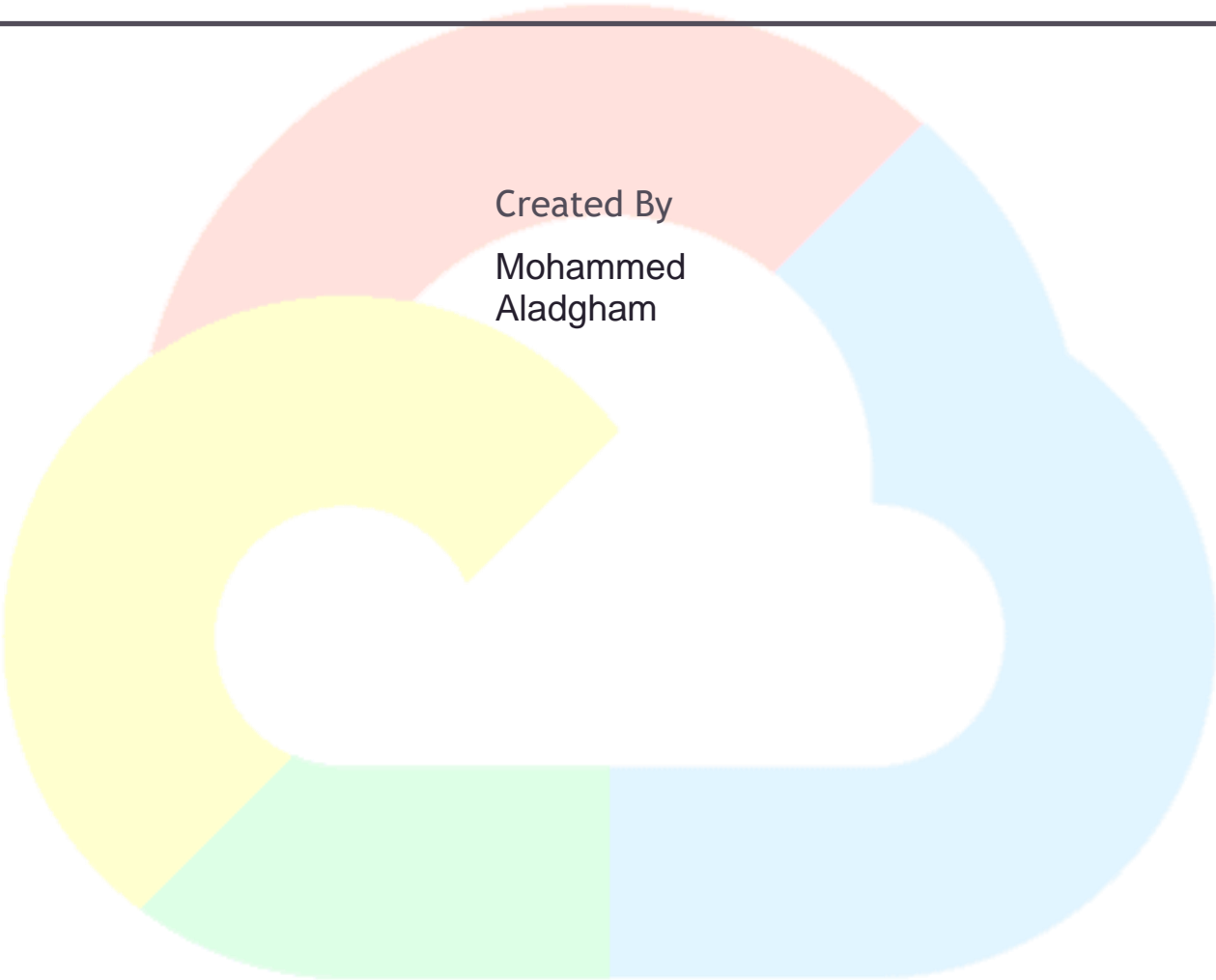


# Creating a MySQL Instance with Google Cloud SQL and website on VM instance

29 Steps

---



Created By  
Mohammed  
Aladgham

# Introduction

GradeHub is a website that students use to view their courses and grades. I chose google cloud platform because it's convenient, reliable and offers a lot of options to choose from VM instance, storage, databases etc.

In this project I chose E2 VM instance with Linux operating system for hosting the website it offers a good computing power and it can handle the traffic easily.

For the Database I went with Cloud SQL, why?

First off, scalability. I want my site to handle loads of students checking their grades at once. With Cloud SQL, it can scale up or down on demand. So, whether it's mid-term madness or end-of-semester chaos, GradeHub stays smooth.

And let's talk reliability. Cloud SQL comes with high availability and automatic backups, meaning the data is safe and the site stays up, no matter what.

Security? Check. Cloud SQL encrypts data both at rest and in transit. so, I can rest easy knowing those grades are for student eyes only.

Now, here's the kicker: it's a managed service. That means Google takes care of all the boring stuff like patches and updates. I just get to focus on making your site awesome without sweating the small stuff.

integration? Cloud SQL plays nicely with other Google services like Compute Engine and BigQuery. So, if I ever want to expand my site, it's a breeze.

Cost-wise, I only pay for what I use, and Google offers some nifty discounts to keep my budget reasonable.

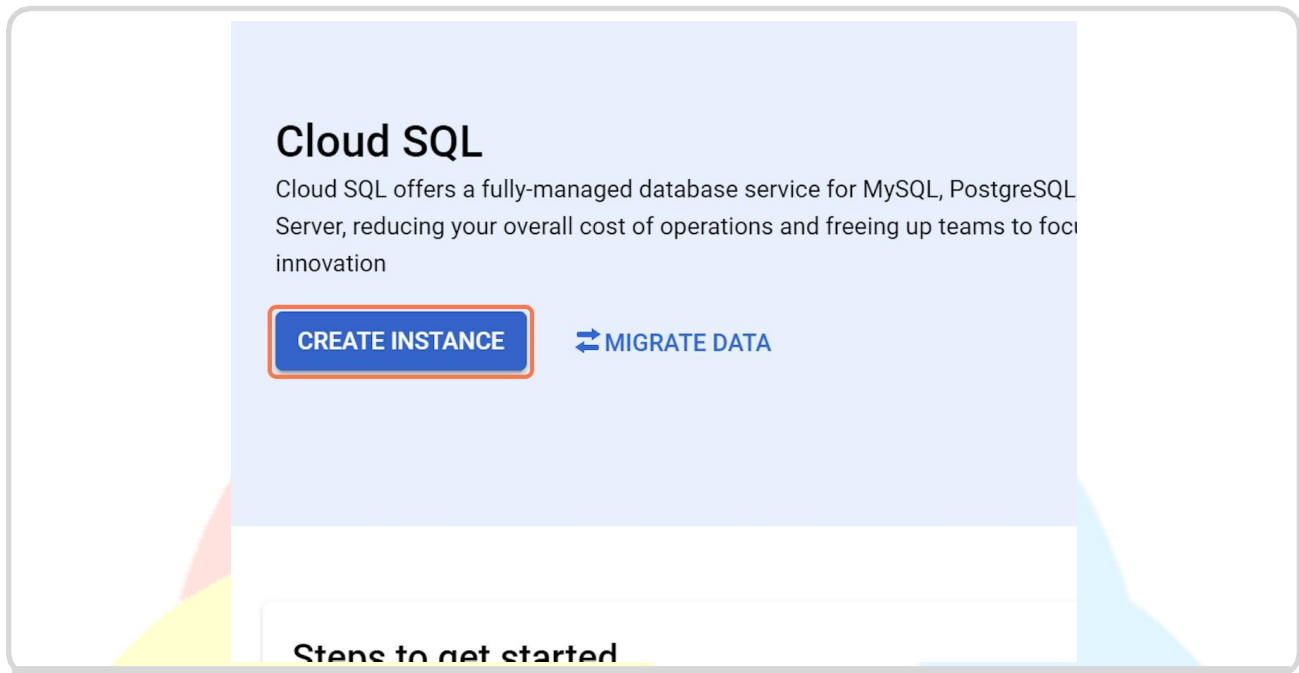
Plus, MySQL? It's like the Swiss Army knife of databases. Widely used, tons of resources out there, so my team won't be stuck scratching their heads when they need help.

So, Cloud SQL gives scalability, reliability, security, easy management, seamless integration, cost-effectiveness, and a tried-and-true database solution.

It's like the cherry on top of my student grades website.

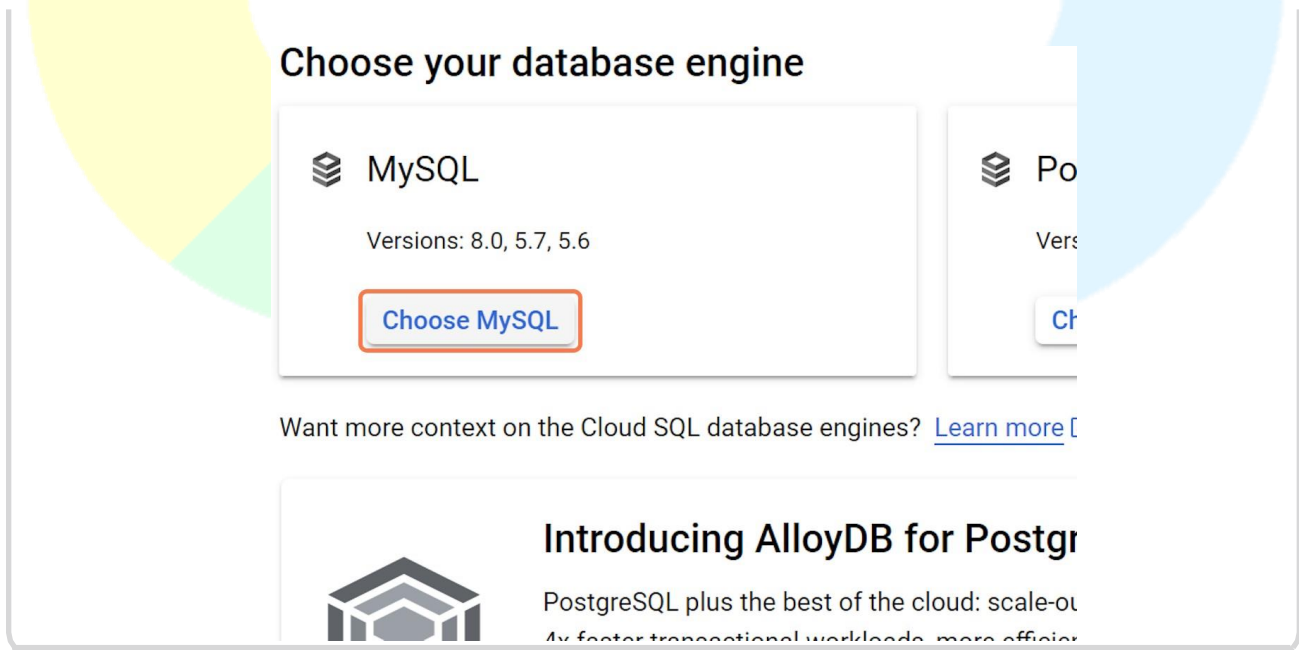
## STEP 1

### Click on CREATE INSTANCE



## STEP 2

### Click on Choose MySQL



STEP 3

Type the name of the instance.

Google Cloud

My First Project

Search (/) for resources, docs, ...

Search

Create a MySQL instance

Instance info

Instance ID \*

students

Use lowercase letters, numbers, and hyphens. Start with a letter.

Password \*

Set a password for the root user. [Learn more](#)

☐ No password

PASSWORD POLICY

Database version \*

MySQL 8.0

SHOW MINOR VERSIONS

Choose a Cloud SQL edition

A Cloud SQL edition determines foundational characteristics of your instance and cannot be changed later. Choose based on your price and performance needs. [Learn more](#)

Pricing estimate

\$2.21 per hour (estimated)

That's about \$52.94 per day.

Feature usage and traffic costs are not included.

SHOW COST BREAKDOWN

Summary

Cloud SQL Edition	Enterprise
Region	us-central1
DB Version	MySQL 8.0
vCPUs	8 vCPUs
Memory	64 GB
Data Cache	Enabled
Storage	250 GB
Connections	Public IP
Backup	Automatic
Availability	Multi-availability
Point-in-time recovery	Enabled

STEP 4

Type your password.

Google Cloud

My First Project

Search (/) for resources, docs, ...

Search

Create a MySQL instance

Instance info

Instance ID \*

students

Use lowercase letters, numbers, and hyphens. Start with a letter.

Password \*

.....

Set a password for the root user. [Learn more](#)

☐ No password

PASSWORD POLICY

Database version \*

MySQL 8.0

SHOW MINOR VERSIONS

Pricing

\$2.21 per hour (estimated)

That's about \$52.94 per day.

Feature usage and traffic costs are not included.

SHOW COST BREAKDOWN

Summary


Cloud SQL Edition	Enterprise
Region	us-central1
DB Version	MySQL 8.0
vCPUs	8 vCPUs
Memory	64 GB
Data Cache	Enabled
Storage	250 GB
Connections	Public IP
Backup	Automatic
Availability	Multi-availability
Point-in-time recovery	Enabled

STEP 5

Click on Show password

mens. Start with a letter.

GENERATE

[more](#) 

Show password

STEP 6

Click on CREATE INSTANCE

Flags

No flags set.

Query insights

Query insights disabled

Labels

No labels set

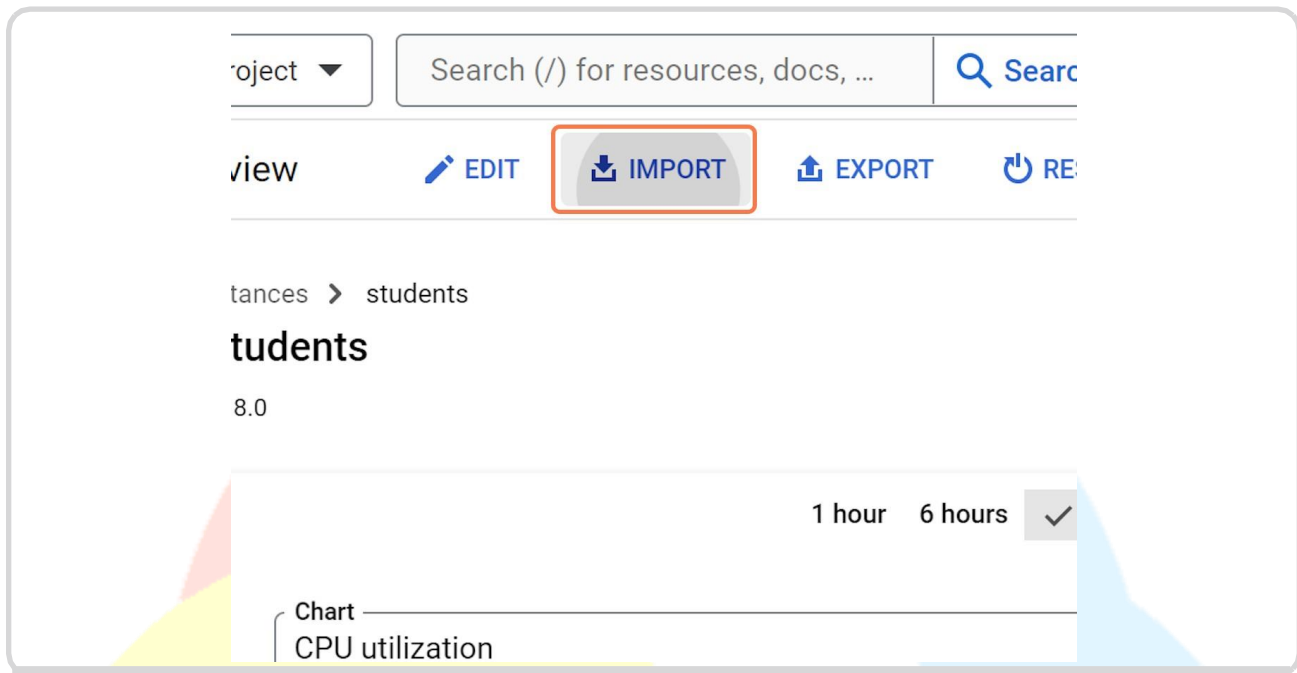
HIDE CONFIGURATION OPTIONS

CREATE INSTANCE

CANCEL

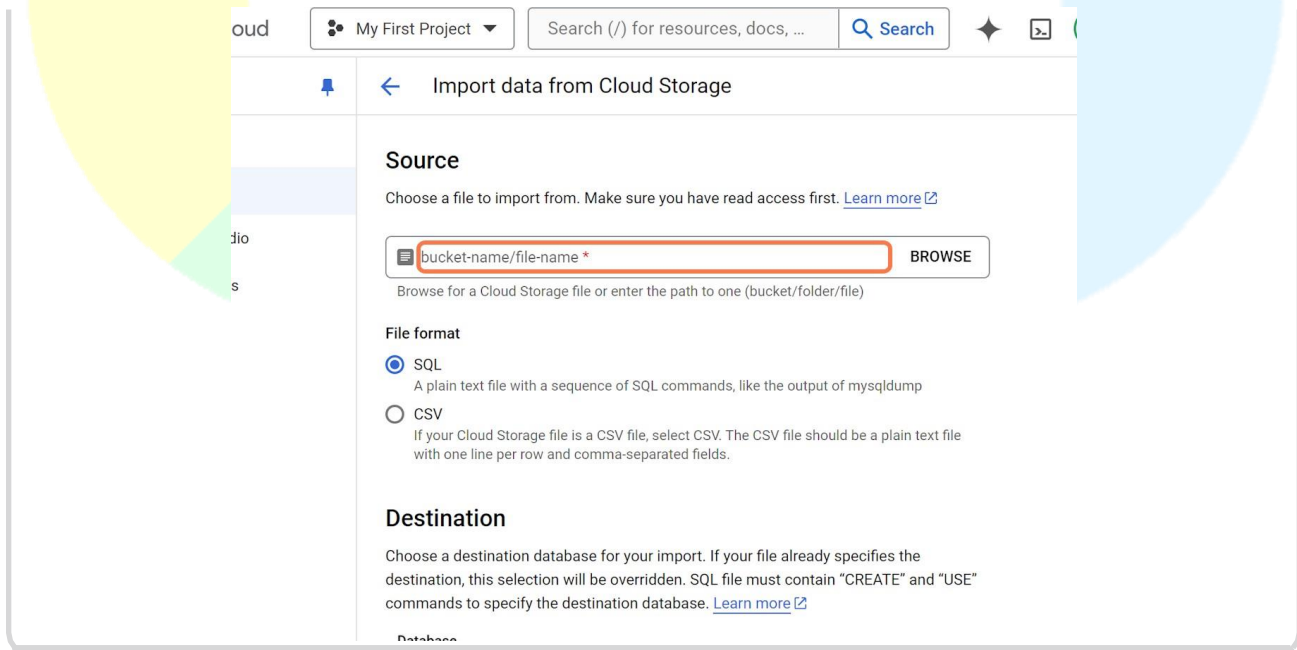
## STEP 7

### Click on **IMPORT**



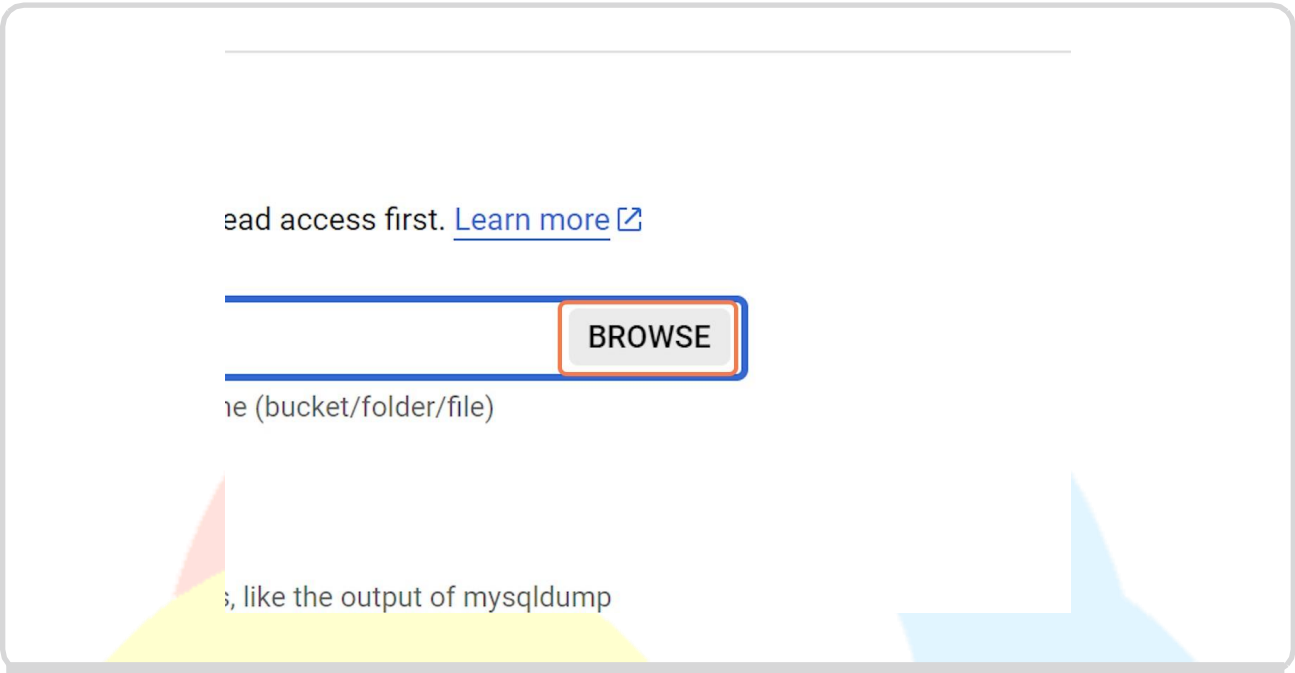
## STEP 8

### Click on **bucket-name/file-name**



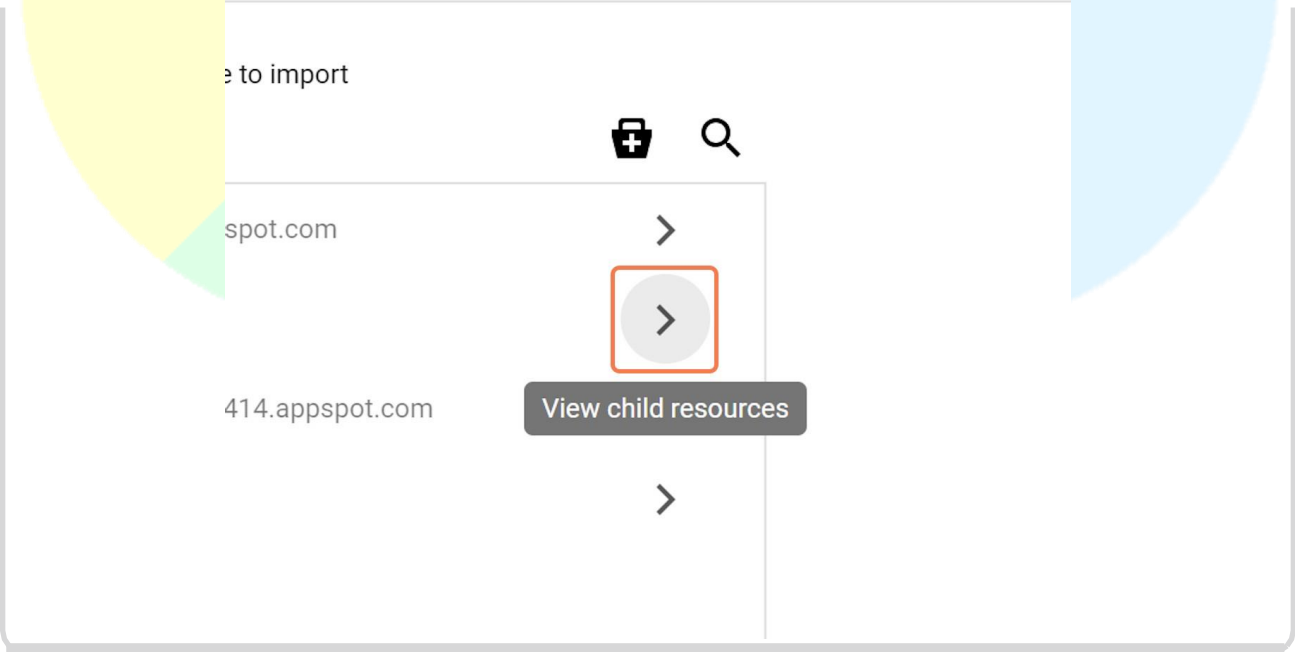
STEP B

Click on WROOSE



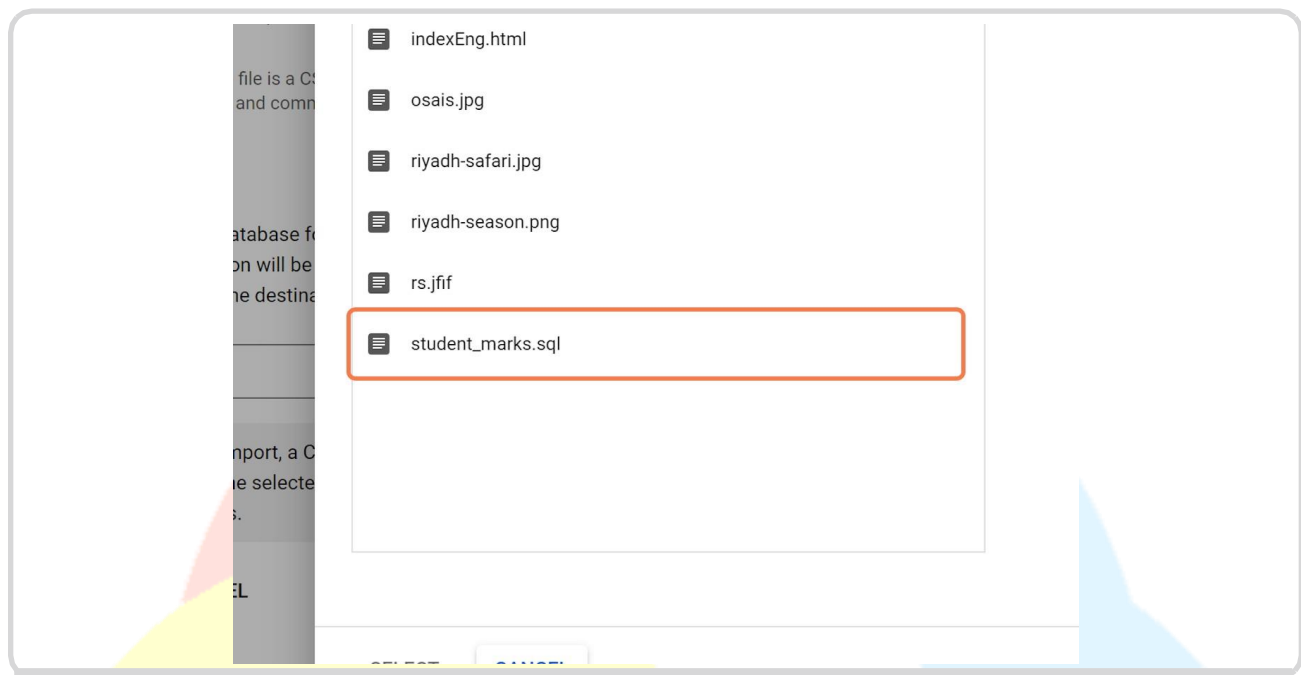
STEP 1g

Click on qcp-lab-2



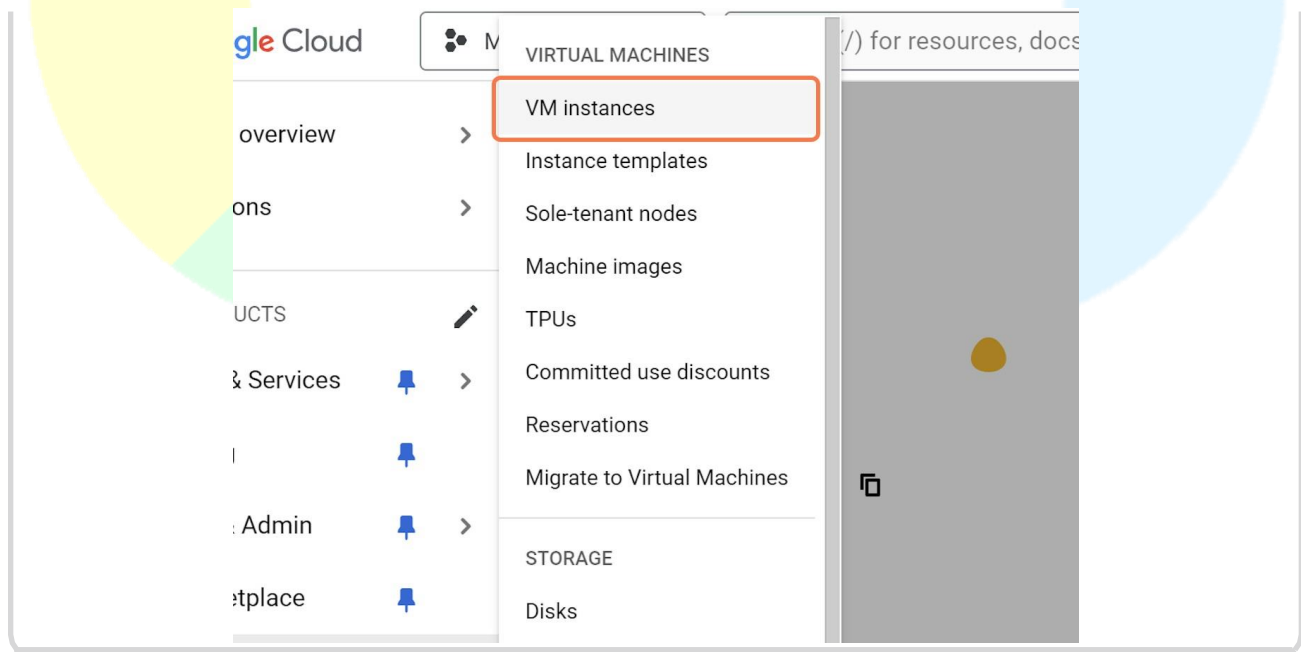
## STEP 11

### Choose the SQL file to import your tables



## STEP 12

### Click on VM instances





## STEP 13

### Click on CREATE INSTANCE

Storage with BigQuery and predict results using built-in ML. [Read more](#)

First Project  Search (/) for resources, docs, ... [Search](#)

VM instances **CREATE INSTANCE** [IMPORT VM](#)

**INSTANCES** OBSERVABILITY INSTANCE SCHEDULES

💡 3 instances could be resized to save you up to an estimated \$38 per month

VM instances

**Filter** Enter property name or value

Status	Name ↑	Zone	Recommend
--------	--------	------	-----------

## STEP 14

### Type the name of VM instance "webserver"

Storage with BigQuery and predict results using built-in ML. [Read more](#) [LEARN MORE](#) [DISC](#)

First Project  Search (/) for resources, docs, ... [Search](#) [EQUIVALENT CODE](#)

**Name \***

**MANAGE TAGS AND LABELS**

**Region \***  **Zone \***

Region is permanent Google will choose a zone on your behalf, maximizing VM obtainability. Zone is permanent.

**Machine configuration**

☒ General purpose ☐ Compute optimized ☐ Memory optimized ☐ Storage optimized **NEW** ☐ GPUs

Machine types for common workloads, optimized for cost and flexibility

Series	Description	vCPUs	Memory	Platform
N4	Flexible & cost-optimized	2 - 80	4 - 640 GB	Intel Emerald F

## STEP 15

### Check Allow http traffic.

VM instance from an image

to-go solution onto a

☒ Allow default access

☐ Allow full access to all Cloud

☐ Set access for each API

#### Firewall ?

Add tags and firewall rules to allow

☒ Allow HTTP traffic

☐ Allow HTTPS traffic

☐ Allow Load Balancer Health

#### Observability - Ops A

## STEP 16

### Check Allow https traffic.

VM instance from an image

to-go solution onto a

☐ Set access for each API

#### Firewall ?

Add tags and firewall rules to allow

☒ Allow HTTP traffic

☒ Allow HTTPS traffic

☐ Allow Load Balancer Health

#### Observability - Ops A

Monitor your system through collec

☐ Install Ops Agent for Monitor

STEP 17

Click on CREATE

☒ Allow HTTPS traffic

☐ Allow Load Balancer Health Checks

### Observability - Ops Agent

Monitor your system through collection of logs, metrics, and traces

☐ Install Ops Agent for Monitoring and Troubleshooting

### Advanced options

Networking, disks, security, management, and more

CREATE

CANCEL

EQUIVALENT

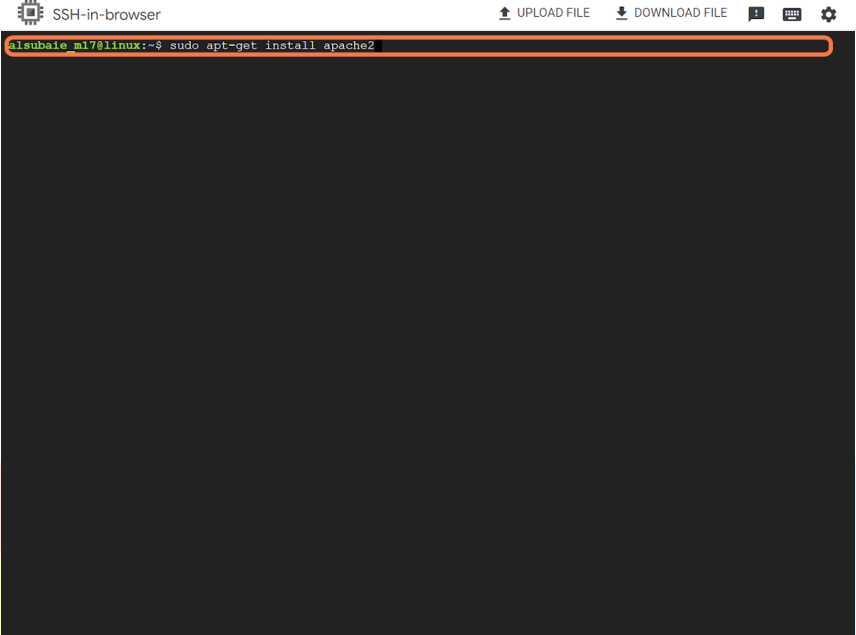
STEP 18

Click on SSH

Internal IP	External IP	Connect
10.128.0.5 ( <a href="#">nic0</a> )	<a href="#">34.68.152.31</a> ( <a href="#">nic0</a> )	SSH ▾ ⋮
10.128.0.4 ( <a href="#">nic0</a> )	<a href="#">34.28.162.36</a> ( <a href="#">nic0</a> )	SSH ▾ ⋮
10.128.0.3 ( <a href="#">nic0</a> )	<a href="#">34.30.39.121</a> ( <a href="#">nic0</a> )	RDP ▾ ⋮

## STEP 1B

Click on alsubaie@m17xlinu:~\$Usudoapt-getinstallapache2

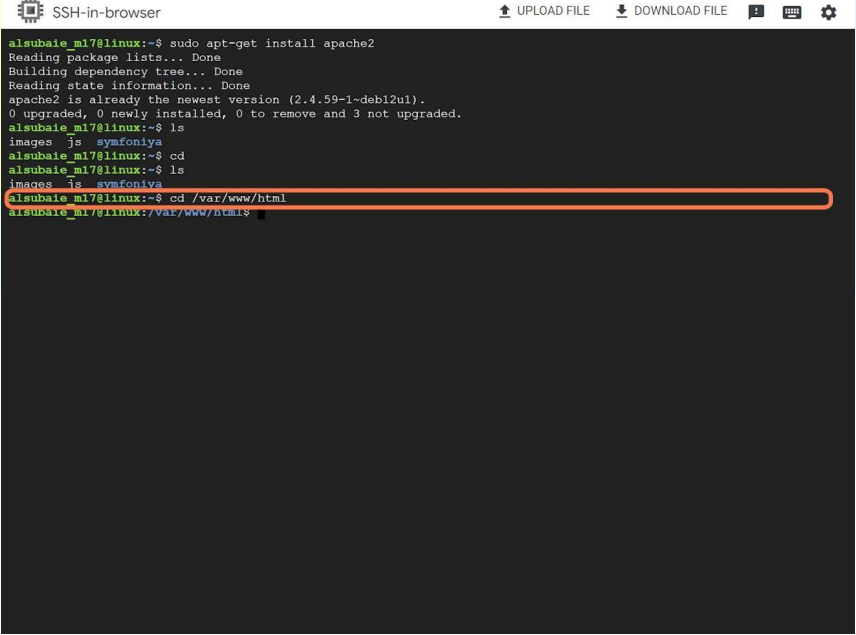


SSH-in-browser

alsubaie m17@linu:~\$ sudo apt-get install apache2

## STEP 2g

Type linux:~\$ cd/var/www/html

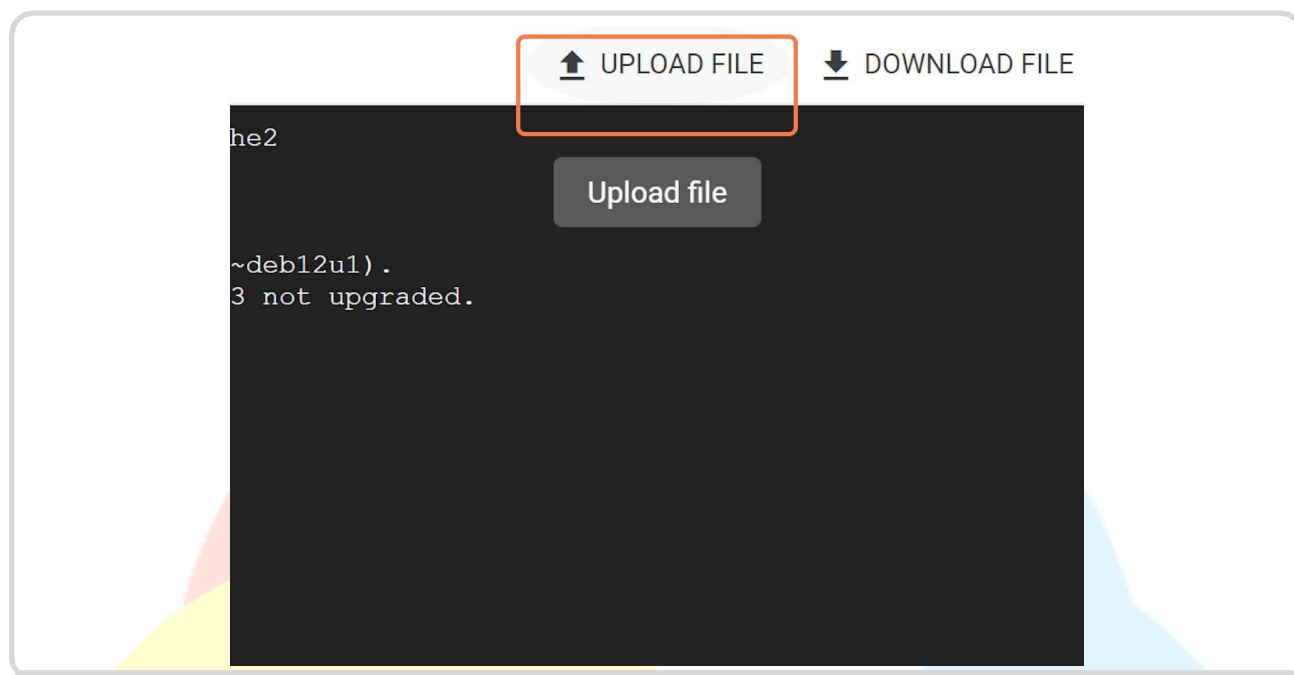


SSH-in-browser

alsubaie m17@linu:~\$ sudo apt-get install apache2  
Reading package lists... Done  
Building dependency tree... Done  
Reading state information... Done  
apache2 is already the newest version (2.4.59-1-deb12u1).  
0 upgraded, 0 newly installed, 0 to remove and 3 not upgraded.  
alsubaie m17@linu:~\$ ls  
images js symfonya  
alsubaie m17@linu:~\$ cd  
alsubaie m17@linu:~\$ ls  
images js symfonya  
alsubaie m17@linu:~\$ cd /var/www/html  
alsubaie m17@linu:/var/www/html\$

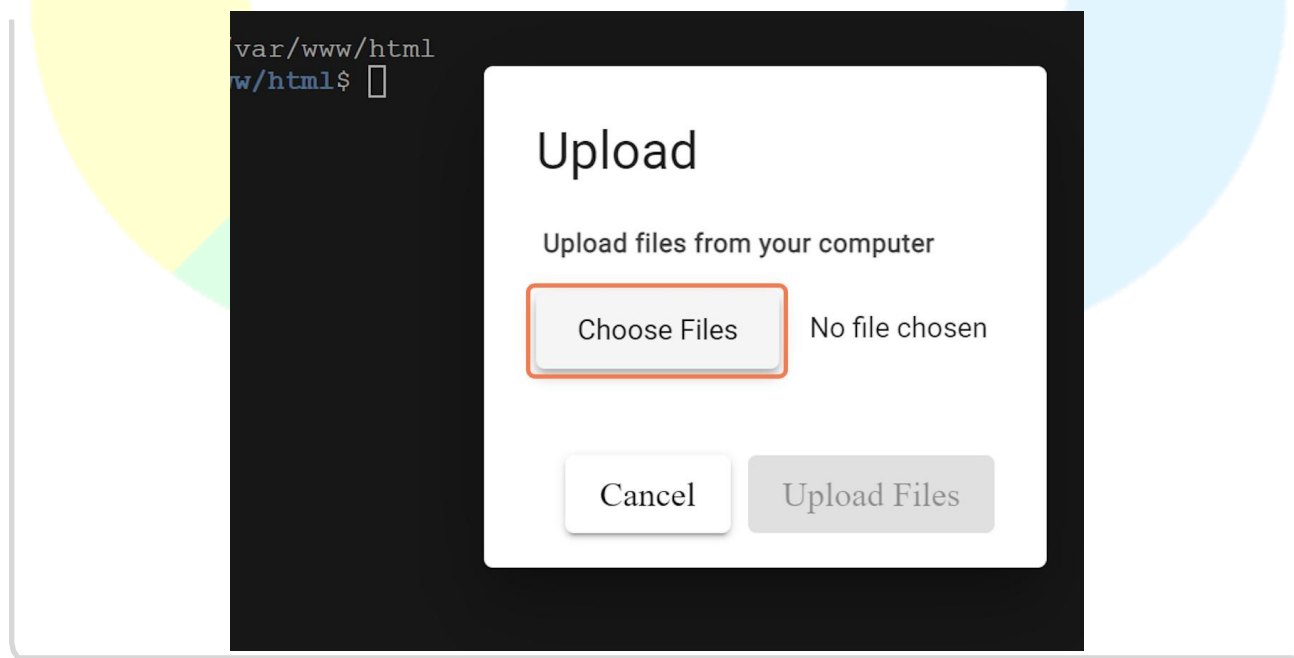
## STEP 21

Click on upload file



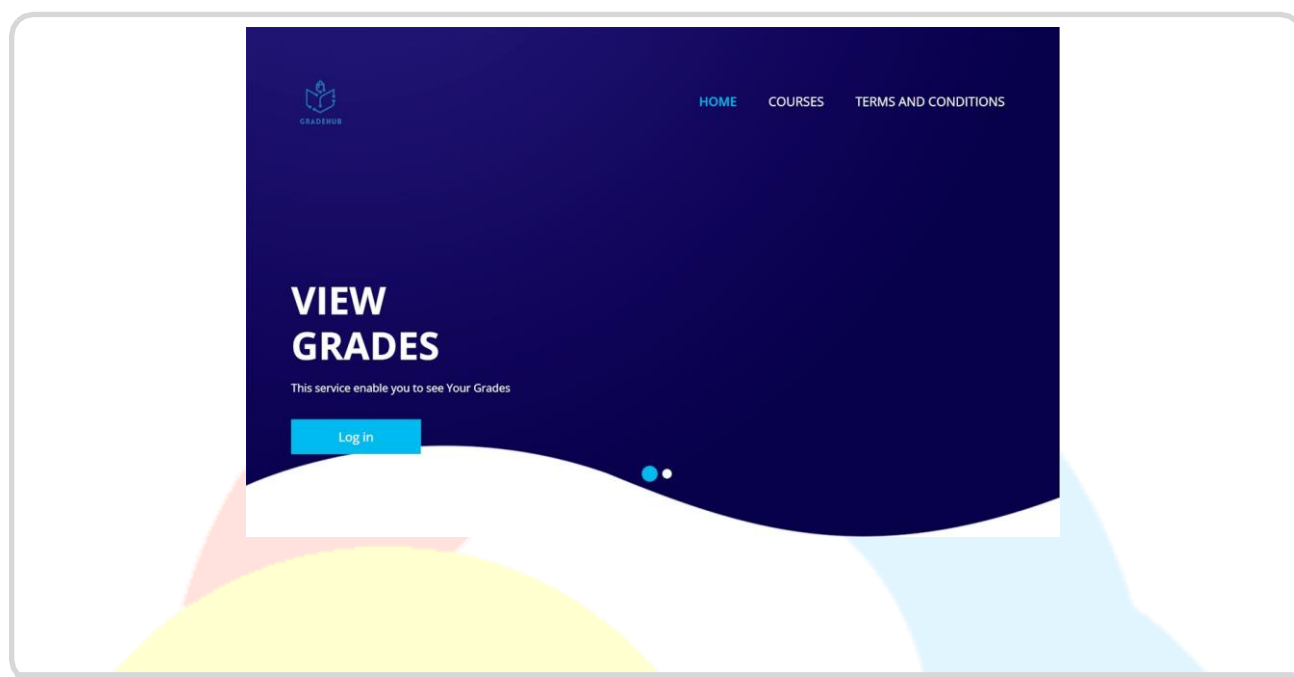
## STEP 22

Choose files



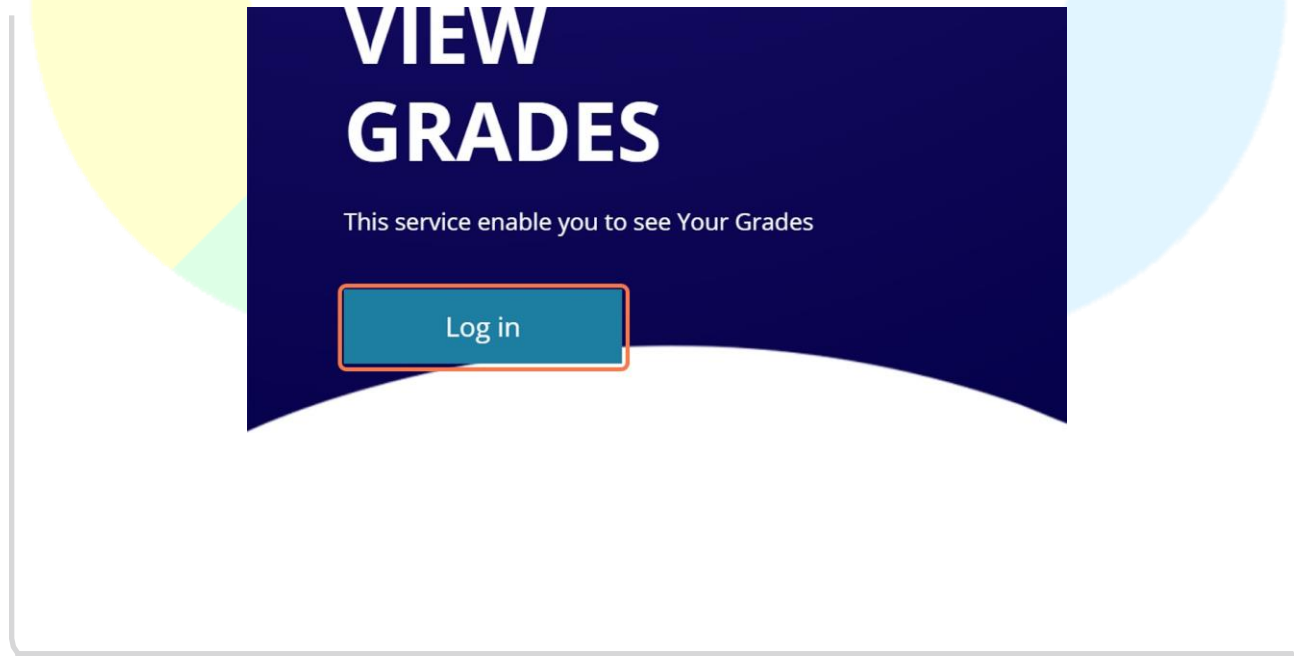
## STEP 23

Now we can access the the website Hia the VM instance external IP



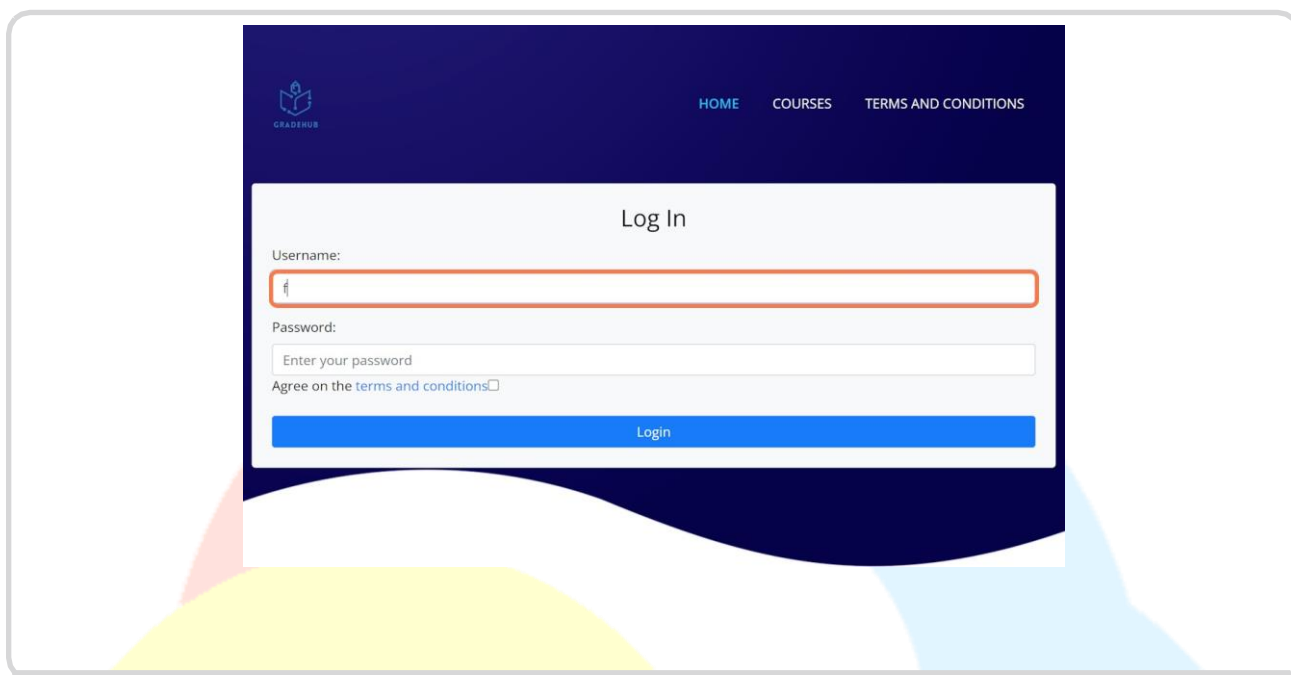
## STEP 24

Click on Log in



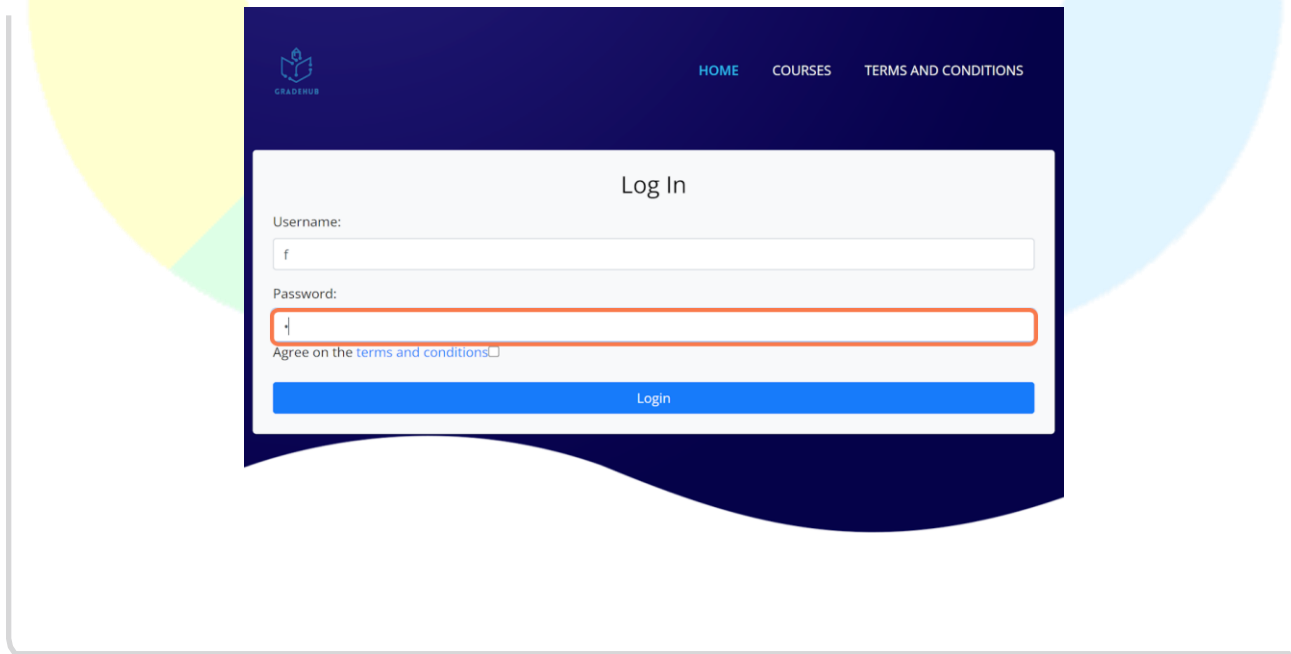
## STEP 25

Here I tried the login credentials that stored in the cloud instance



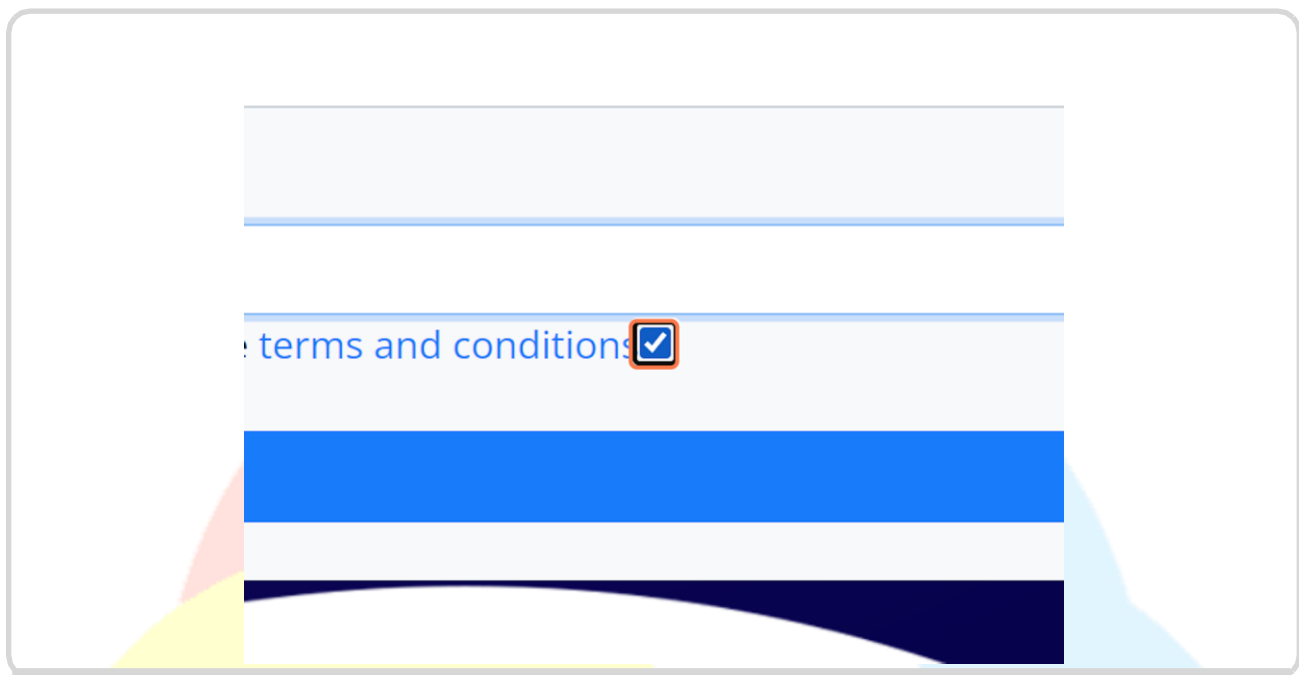
## STEP 26

Type password.



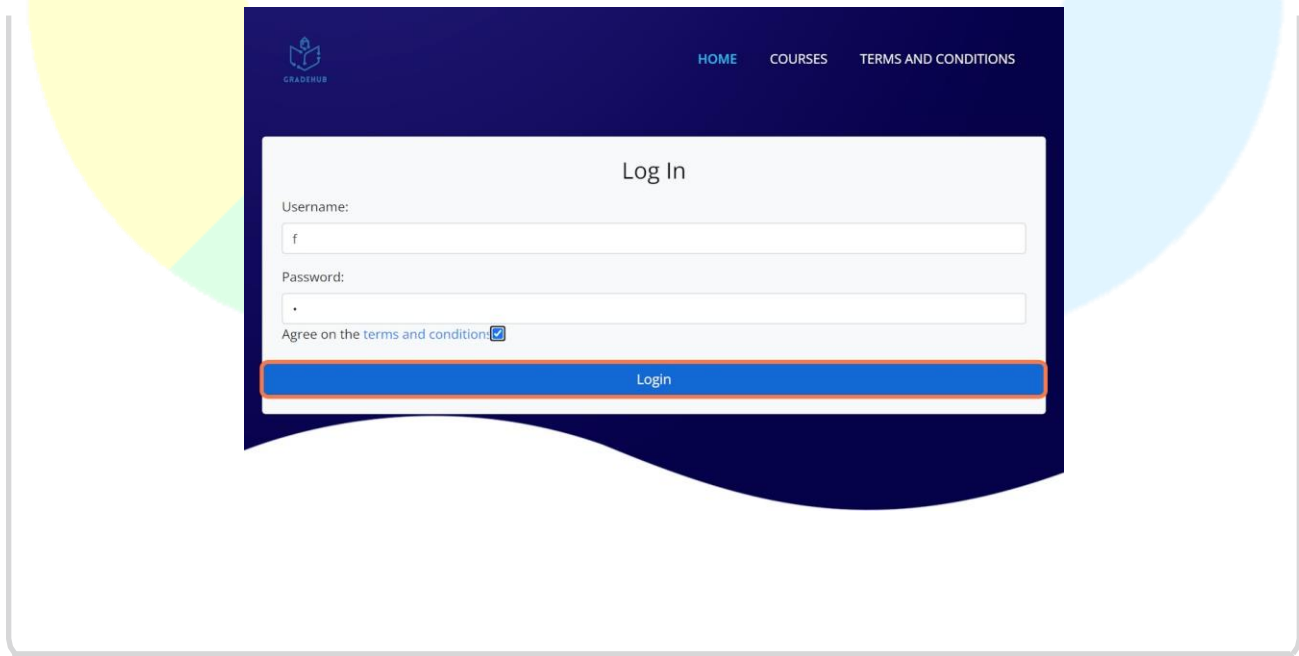
## STEP 27

Check Agree on the terms and conditions.



## STEP 28

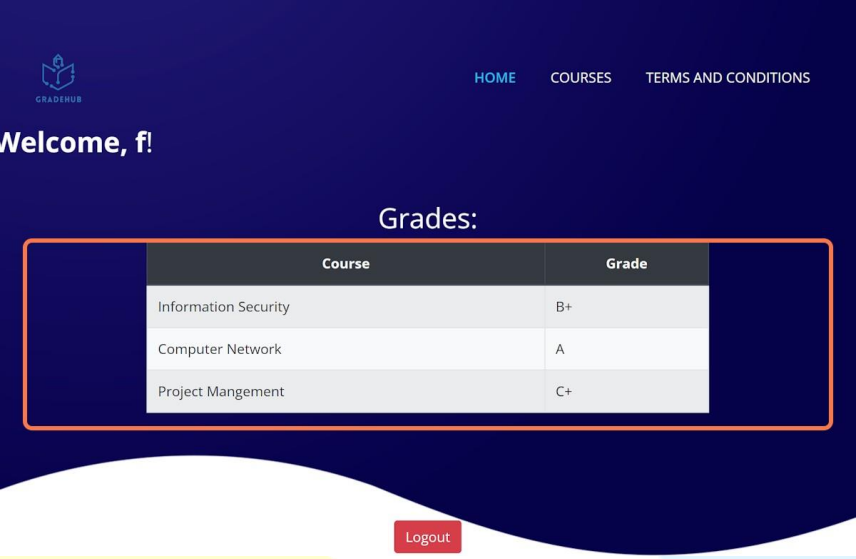
Click on Login





## STEP 2B

And here is the information based on the data that is stored in the cloud SQL



The screenshot shows a web application interface with a dark blue header. In the top left corner is a logo for 'GRADEHUB' featuring a book icon. In the top right corner are three navigation links: 'HOME', 'COURSES', and 'TERMS AND CONDITIONS'. Below the header, the text 'Welcome, f!' is displayed. The main content area is titled 'Grades:' and contains a table with two columns: 'Course' and 'Grade'. The table lists three courses and their corresponding grades. A red 'Logout' button is located at the bottom right of the main content area. The entire screenshot is framed by a light gray border. Below the screenshot, there is a large, stylized graphic consisting of three overlapping circular shapes in yellow, light green, and light blue.

Course	Grade
Information Security	B+
Computer Network	A
Project Mangement	C+

