Great! Here's a **step-by-step complete guide** from scratch for:

- 1. Creating a GCP account
- 2. Setting up a VM instance
- 3. Installing MySQL on the VM
- 4. Connecting the VM to VS Code
- 5. Running your full-stack (Node.js, MySQL, etc.) app
- 6. Deploying your app
- 7. Connecting a GoDaddy domain

1. Create a GCP Account

- 1. Go to https://cloud.google.com
- 2. Click on Get Started for Free
- 3. Sign in with your Google account
- 4. Provide billing info (you get \$300 free credits for 90 days)
- 5. Agree to terms → your GCP account is ready

2. Create a VM Instance

- 1. Go to the **Google Cloud Console**: https://console.cloud.google.com
- 2. Navigate to Compute Engine → VM Instances
- 3. Click "Create Instance"

4. Fill the form:

Name: your-vm-name

Region/Zone: choose your closest region

Machine Type: e2-micro or e2-medium (based on need)

o Boot disk: Ubuntu 22.04 LTS

Check Allow HTTP and HTTPS under Firewall

- 5. Click Create
- 6. Once running, note down the **external IP** (you'll need it later)

3. SSH into VM and Install Required Software

Open the terminal in GCP VM via SSH

Then run the following:

```
bash
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# Update packages
sudo apt update && sudo apt upgrade -y
# Install Node.js
sudo apt install nodejs npm -y
# Install MySQL Server
sudo apt install mysql-server -y
# Secure MySQL (set root password, remove test DB, etc.)
sudo mysql_secure_installation
```

Create MySQL user & database:

bash

```
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sudo mysql -u root -p

sql
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CREATE DATABASE hitaishihealthcare;
CREATE USER 'naveenteja'@'%' IDENTIFIED BY 'yourpassword';
GRANT ALL PRIVILEGES ON hitaishihealthcare.* TO 'naveenteja'@'%';
FLUSH PRIVILEGES;
EXIT;
```

4. Allow External MySQL Access (Optional)

If you want to connect to MySQL remotely (from your PC/VS Code):

1. Edit MySQL config:

```
bash
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sudo nano /etc/mysql/mysql.conf.d/mysqld.cnf

2. Change:

ini
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bind-address = 127.0.0.1

to:
ini
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bind-address = 0.0.0.0

3. Restart MySQL:
```

bash

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```
sudo systemctl restart mysql
```

- 4. Allow port in GCP firewall:
 - Go to VPC Network > Firewall rules
 - Create a new rule:

■ Name: allow-mysql

■ Targets: All instances

Port: 3306

■ Source IP: 0.0.0.0/0 (for testing, restrict later)

5. Connect VM to VS Code

- 1. Install Remote SSH extension in VS Code
- 2. Press Ctrl+Shift+P → search for Remote-SSH: Connect to Host
- 3. Add the VM IP to your SSH config:
 - Open ~/.ssh/config file

Add:

```
arduino
CopyEdit
Host gcp-vm
    HostName <YOUR_EXTERNAL_IP>
    User <your-username> # usually "ubuntu"
    IdentityFile ~/.ssh/google_compute_engine
```

4. VS Code will connect to VM

🔽 6. Upload and Run Full Stack App

1. Create a folder in VM:

bash CopyEdit mkdir ~/hitaishi cd ~/hitaishi

- 2. Upload your project files using:
 - Git (git clone)
 - o Or drag-drop in VS Code SSH window
- 3. Install dependencies:

bash CopyEdit npm install

4. Start your server:

bash CopyEdit node server.js

5. If using a frontend (e.g., React/HTML), host using express.static() or nginx.

7. Make Your App Public (Deployment)

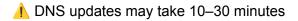
1. Use a process manager to keep app running:

```
bash
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sudo npm install -g pm2
pm2 start server.js
pm2 startup
pm2 save
```

- 2. Open the necessary ports:
 - Create firewall rules for port 3000 or your app's port

8. Connect GoDaddy Domain to GCP VM

- 1. Go to GoDaddy > My Products > DNS
- 2. Edit A record:
 - o Name: @
 - Value: Your VM external IP
- 3. Optional: Add a CNAME for www



9. Add HTTPS (Optional but Recommended)

Install Nginx + Certbot for free SSL:

bash

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```
sudo apt install nginx -y
sudo apt install certbot python3-certbot-nginx -y
```

Then:

bash

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sudo certbot --nginx

Final Checklist

Ste p	Task	Done ?
V	GCP account created	V
V	VM created and running	V
V	Node.js and MySQL installed	V
V	Full-stack code uploaded and running	V
V	Connected domain from GoDaddy	V
V	HTTPS and public IP working	V

After editing server.js or route files:

bash

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sudo pm2 restart server

This restarts your app with the new code.