

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**
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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
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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)
 - **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*)
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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

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```
Host gcp-vm
```

```
HostName <YOUR_EXTERNAL_IP>
```

```
User <your-username> # usually "ubuntu"
```

```
IdentityFile ~/.ssh/google_compute_engine
```

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4. VS Code will connect to VM

✓ 6. Upload and Run Full Stack App

1. Create a folder in VM:

```
bash
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mkdir ~/hitaishi
cd ~/hitaishi
```

2. Upload your project files using:

- Git (`git clone`)
- Or drag-drop in VS Code SSH window

3. Install dependencies:

```
bash
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npm install
```

4. Start your server:

```
bash
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node server.js
```

5. If using a frontend (e.g., React/HTML), host using `express.static()` or `nginx`.
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✓ 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
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✓ 8. Connect GoDaddy Domain to GCP VM

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

⚠ DNS updates may take 10–30 minutes

✓ 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

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

After editing `server.js` or route files:

bash

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```
sudo pm2 restart server
```

This restarts your app with the new code.