

# Setting Up GCP VSCode for SSH

## Overview

These are the instructions for a simple way to SSH into the GCP VM through VS Code.

Using this way you should be able to run the different local projects such as `grading_feature` and `scoring_page` in our Github.

## Prerequisites

Before starting, make sure you have the following:

- Make sure you are connected to UW Madison VPN (Global Protect)
- VS Code installed and running
- Remote SSH extension within VS Code installed
- Your GCP VM username (ex: `user_wisc_edu`)
- VM's external IP address

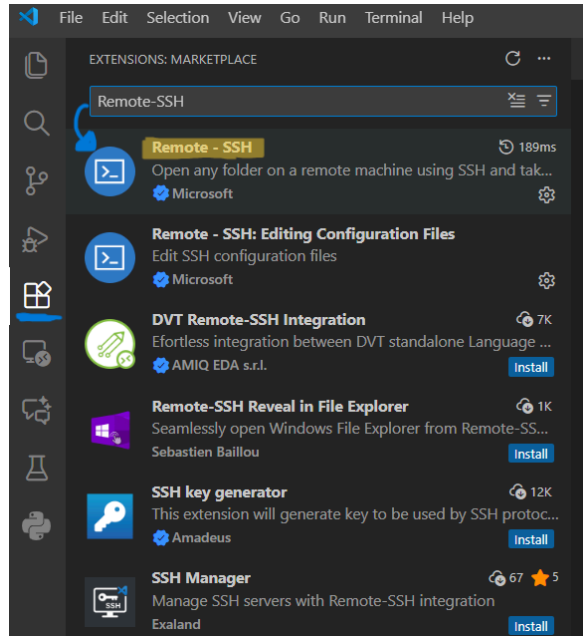
## Steps for Prerequisites

### Step 1: Installing VS Code

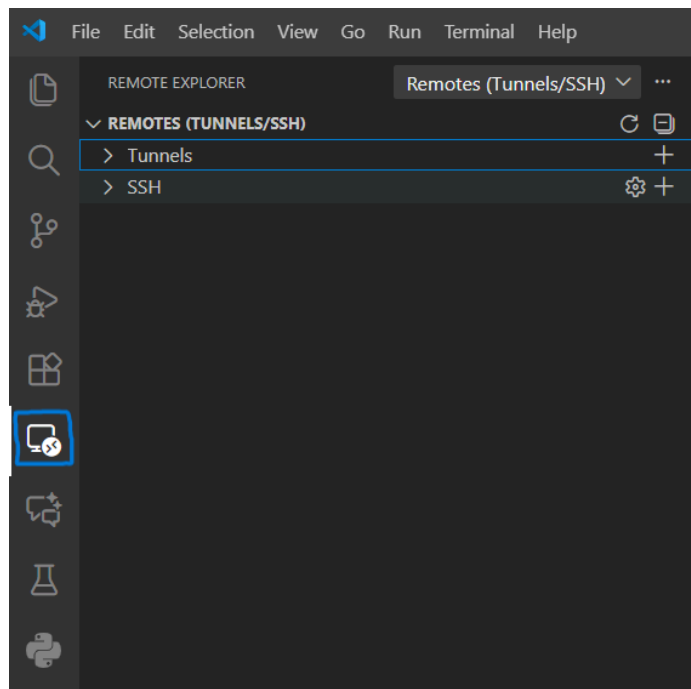
Download here: <https://code.visualstudio.com/>

### Step 2: Install Remote-SSH Extension

- Look up “Remote SSH” on the extensions search function, install the first one that shows up like below:

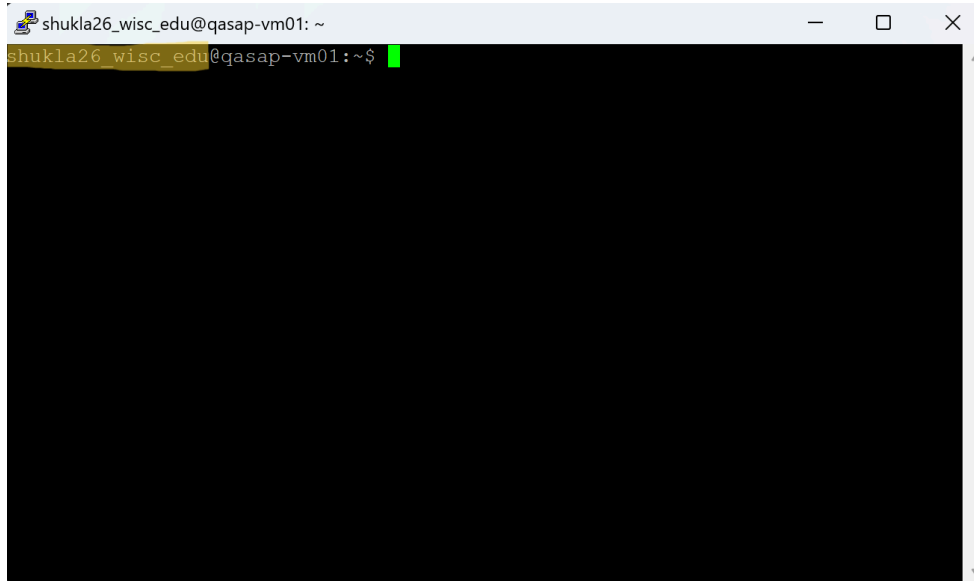


- **Reload** VS Code by exiting out of it!
- After opening it up you should see:



## Step 3: Seeing Your GCP Username

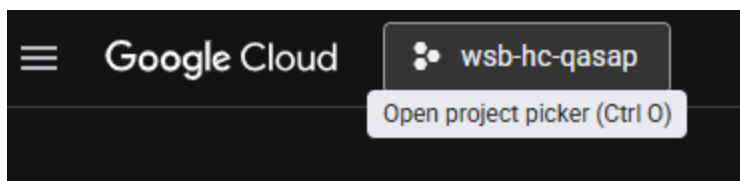
- Follow the steps to open a Google Cloud SDK Shell from docs/gcloud\_sdk\_setup
- After logging into the GCP VM you should be able to see this:
  - The highlighted part before the '@' is the username



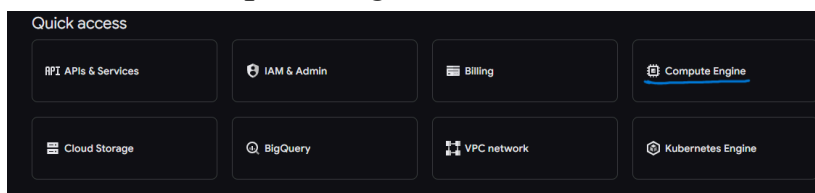
A screenshot of a terminal window. The title bar shows 'shukla26\_wisc\_edu@qasap-vm01: ~'. The terminal content shows 'shukla26\_wisc\_edu@qasap-vm01:~\$' with a green cursor. The text 'shukla26\_wisc\_edu' is highlighted in yellow.

## Step 4: Finding the External IP Address

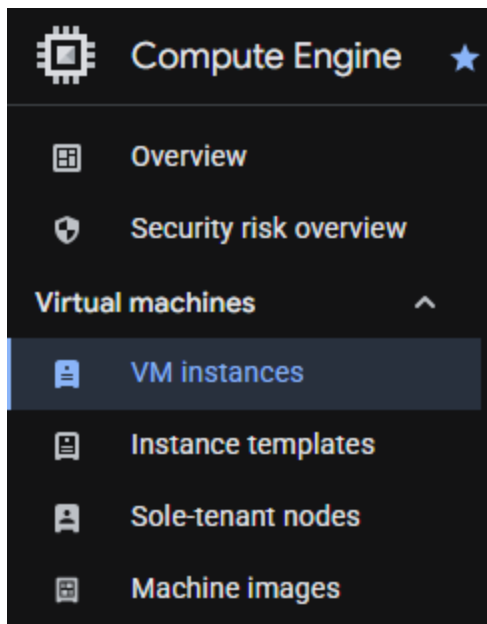
- Login to <https://console.cloud.google.com/>
- Go to your specific project in the top task bar



- Click on “Compute Engine”



- Go into VM Instances



- Go to your specific VM and there's the external IP Address

<input type="checkbox"/> Status	Name ↑	Zone	Recommendations	In use by	Internal IP	External IP	Connect
<input type="checkbox"/>	<a href="#">qasap-vm01</a>	us-east4-c	Save \$47 / mo		10.4.0.2 ( <a href="#">nic0</a> )	34.85.213.190 ( <a href="#">nic0</a> )	SSH ▾ ⋮
Related actions							<a href="#">Copy to clipboard</a>

## Create an SSH Key (if you don't already have one)

Everyone connecting to the VM must have their own SSH keypair.

### Generate a keypair on your laptop

Run this command in your terminal (Mac/Linux) or PowerShell (Windows):

```
ssh-keygen -t rsa -b 4096 -f ~/.ssh/google_compute_engine
```

- Press **Enter** for all prompts
- This will create:
  - **Private key:** `~/.ssh/google_compute_engine`
  - **Public key:** `~/.ssh/google_compute_engine.pub`

⚠ *Never share the private key.*

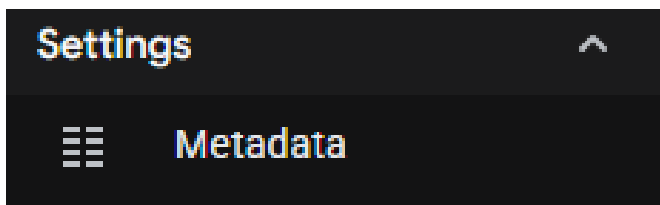
## Add Your Public Key to the GCP VM

### Open your public key

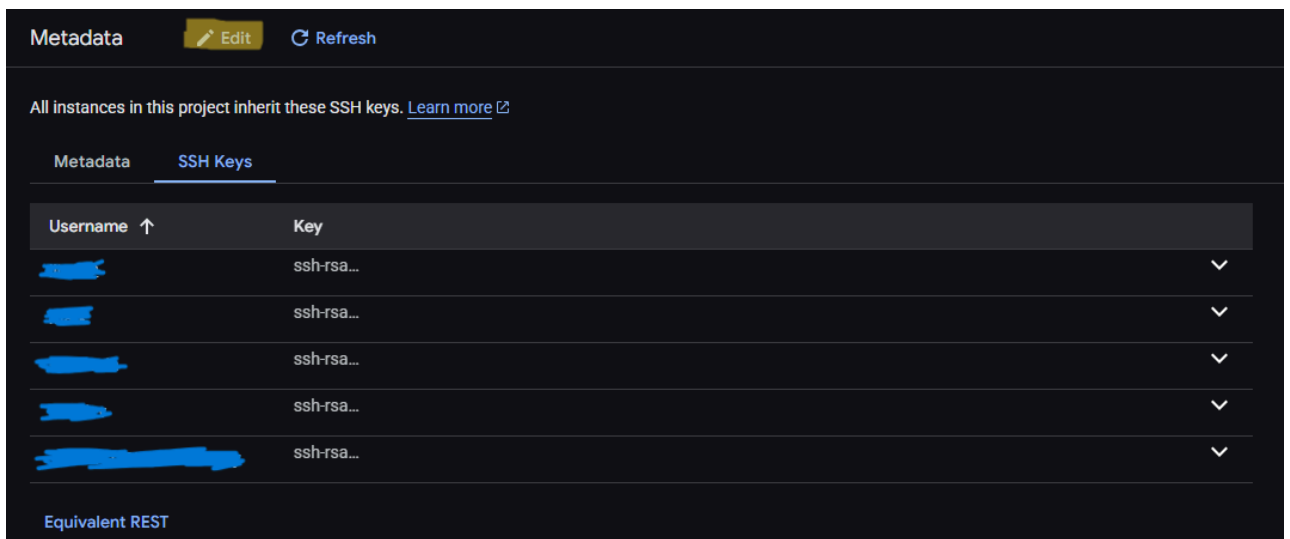
- `cat ~/.ssh/google_compute_engine.pub`
- **Copy** the full line, it starts with ``ssh-rsa``

### Add Key into Metadata GCP

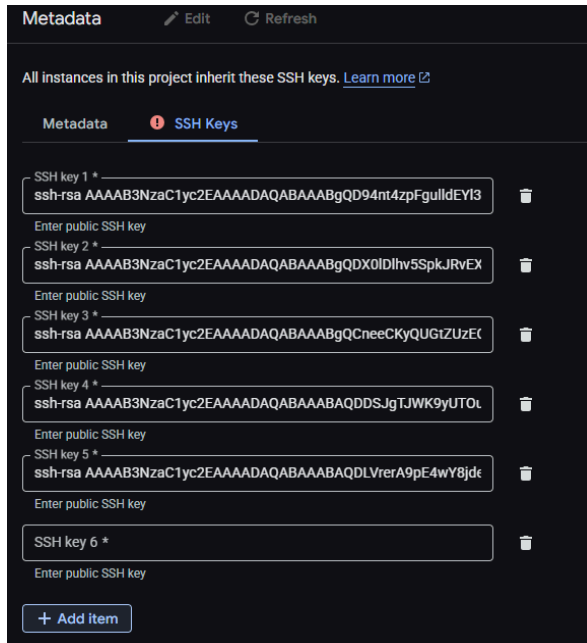
- Head to the “Compute Engine” page
- Scroll down the left panel and go into “Metadata”



- After pressing Metadata, you see all of the ssh keys → Press “Edit”



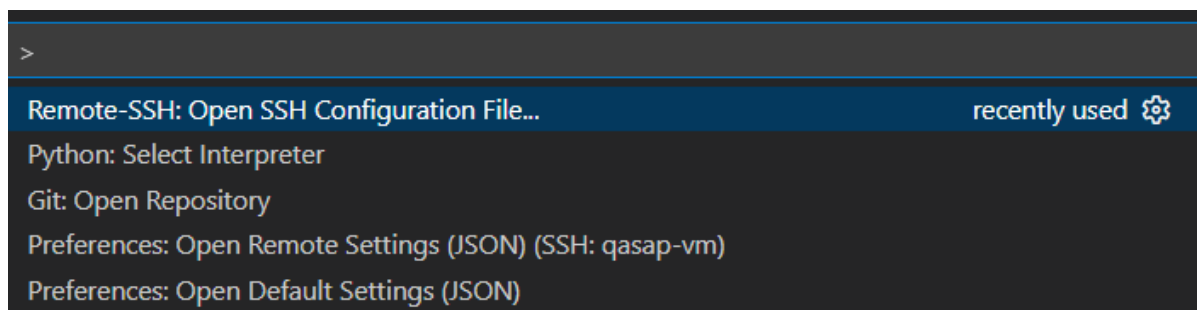
- After pressing Edit, this shows up and you add your copied **public** ssh-key into the empty box and press save:



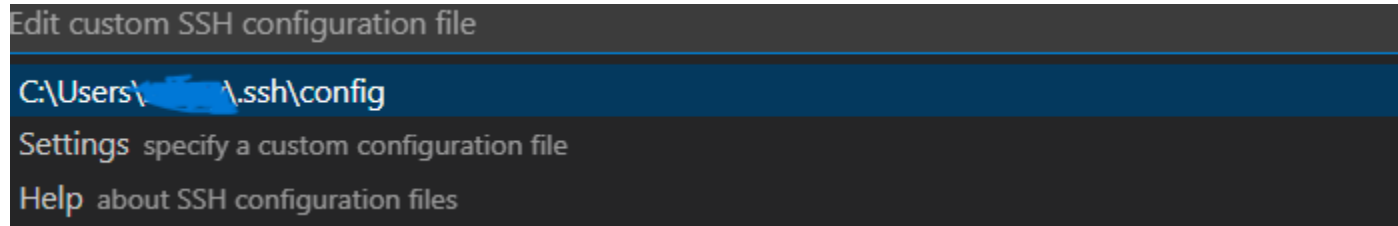
## Connect through VS Code

### Step 1: Open Config File

- Press 'Control + Shift + P' and type in Remote SSH: Open Configuration File



- Click into the first one that looks like this:



- After this add this into the top of the config file:
  - Make sure to have your IP address and username from the steps above

```
1 Host qasap-vm
2     HostName <VM_EXTERNAL_IP>
3     User <your_vm_username>
4     IdentityFile ~/.ssh/google_compute_engine
5     IdentitiesOnly yes
6
```

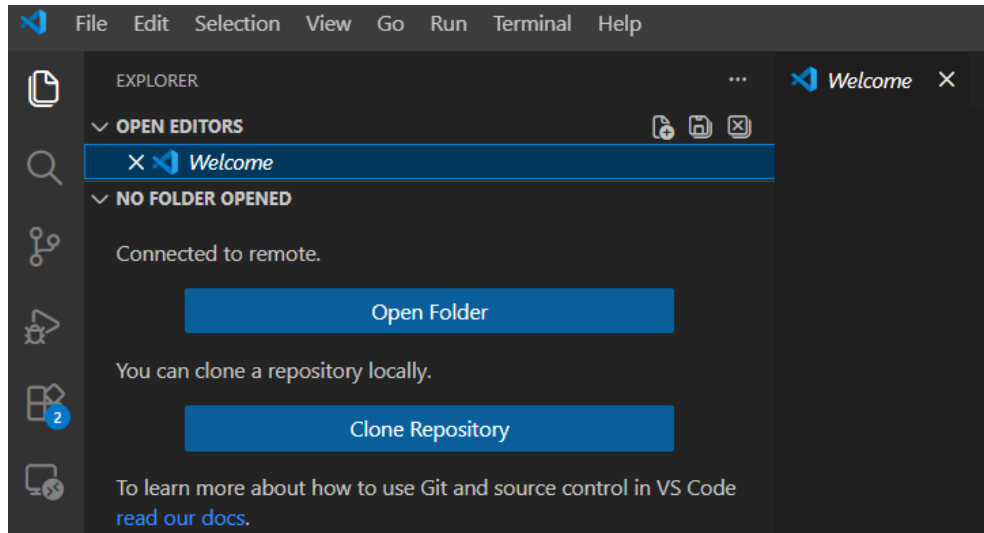
## Step 2: SSH into the VM

- Expand the SSH dropdown, and then connect using either the 2 icons on the right



## Step 3: Open Specific Folder in the VM after connecting

- Click the Folder tab and then open the specified folder!



## All Connected!

Note: If any issues arise, use Gen AI to solve them.