

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

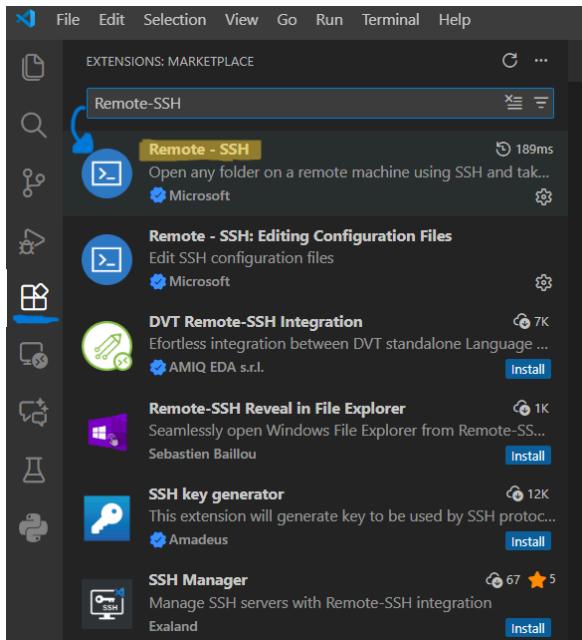
Steps for Prerequisites

Step 1: Installing VS Code

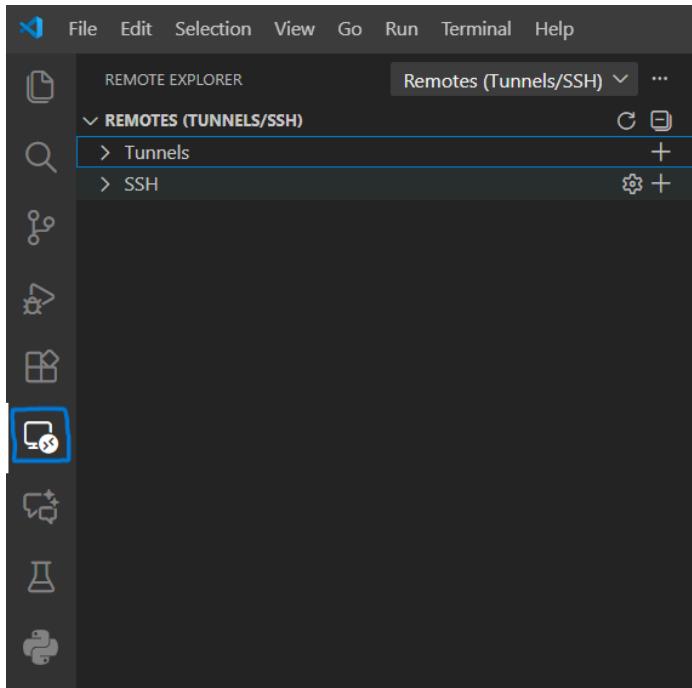
Download here: <https://code.visualstudio.com/>

Step 2: Install Remote-SSH Extension

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

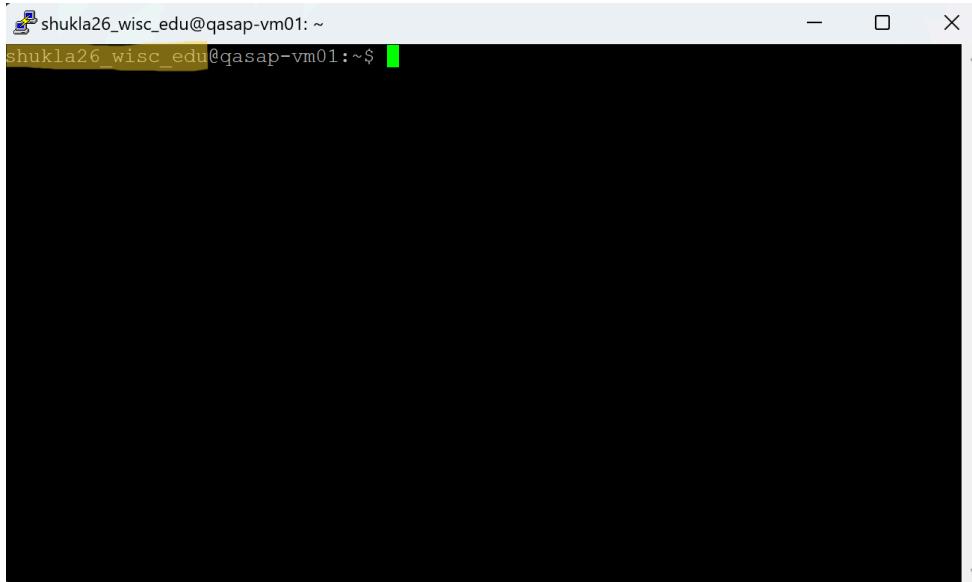


- Reload VS Code by exiting out of it!
- After opening it up you should see:



Step 3: Seeing Your GCP Username

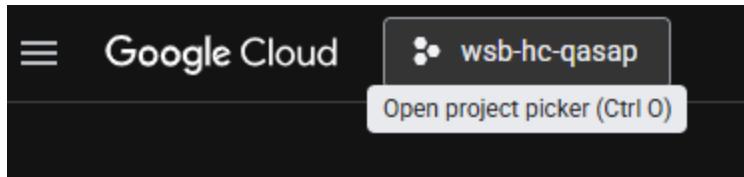
- Follow the steps to open a Google Cloud SDK Shell from `docs/gcloud_sdk_setup`
- After logging into the GCP VM you should be able to see this:
 - The highlighted part before the ‘@’ is the username



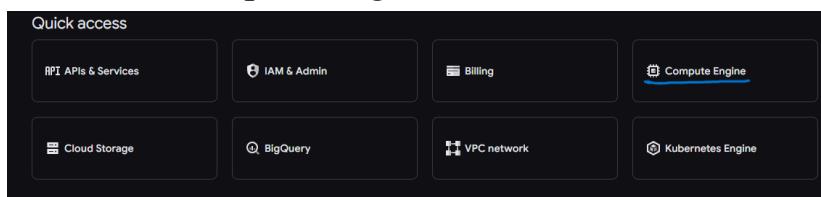
A screenshot of a terminal window titled "shukla26_wisc_edu@qasap-vm01: ~". The window shows a single line of text: "shukla26_wisc_edu@qasap-vm01:~\$". The first part of the line, "shukla26_wisc_edu", is highlighted with a yellow background, indicating it is the user's username.

Step 4: Finding the External IP Address

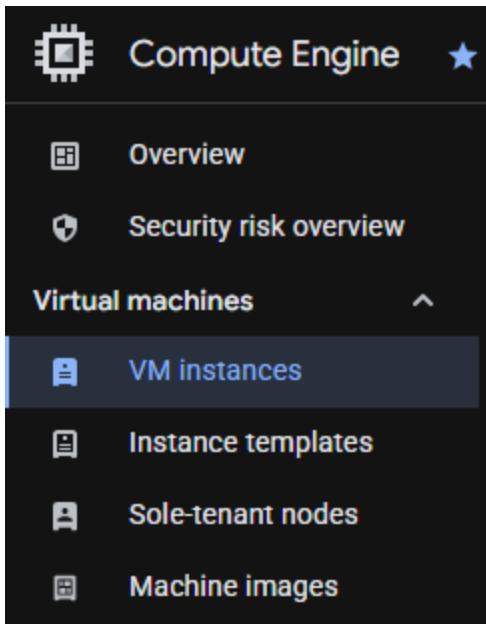
- Login to <https://console.cloud.google.com/>
- Go to your specific project in the top task bar



- Click on “Compute Engine”



- Go into VM Instances



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

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

Related actions

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.*

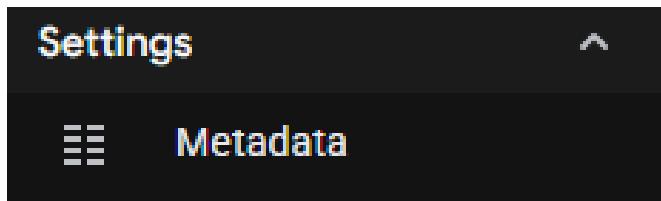
Add Your Public Key to the GCP VM

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”

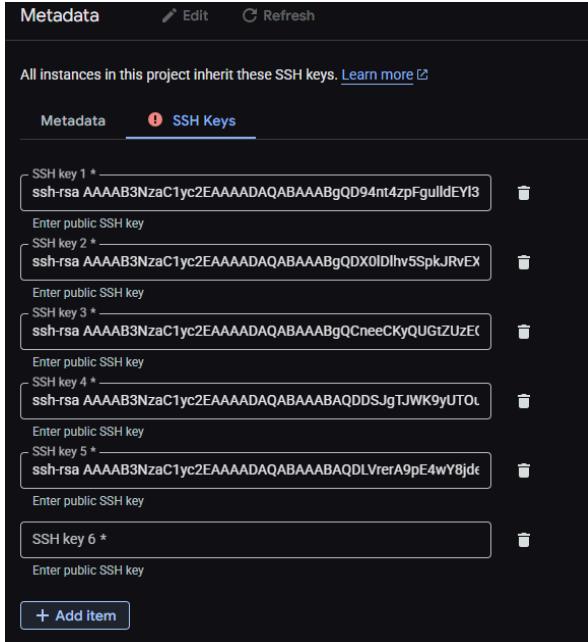


- After pressing Metadata, you see all of the ssh keys → Press “Edit”

| Username | Key |
|------------|------------|
| [REDACTED] | ssh-rsa... |

Equivalent REST

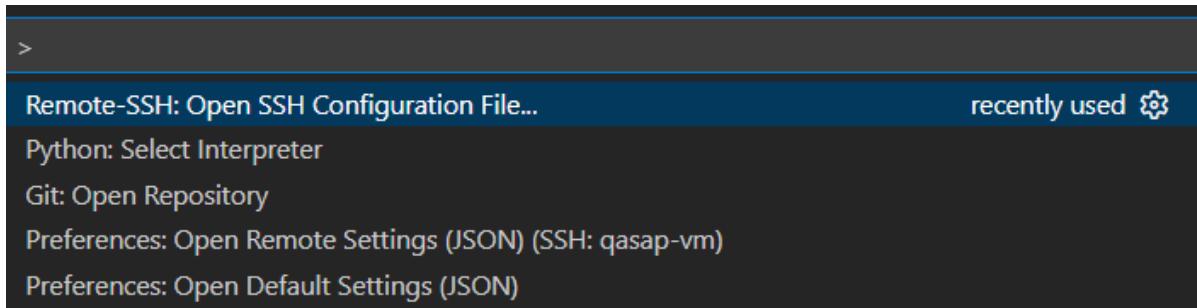
- After pressing Edit, this shows up and you add your copied **public** ssh-key into the empty box and press save:



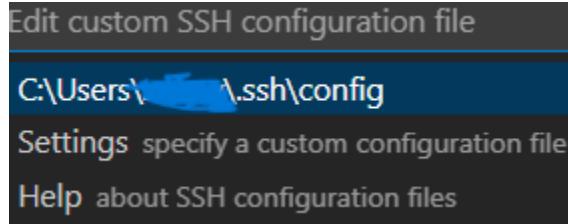
Connect through VS Code

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:

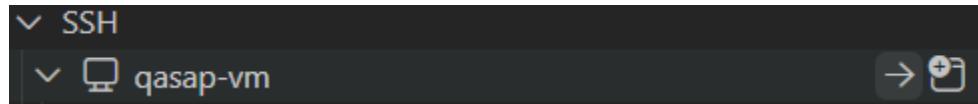


- After this add this into the top of the config file:
 - Make sure to have your IP address and username from the steps above

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

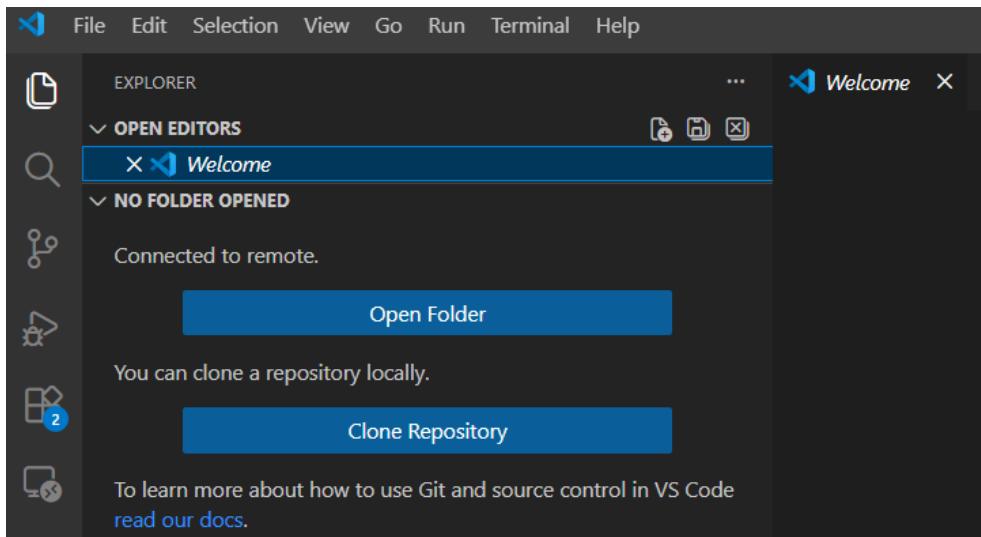
Step 2: SSH into the VM

- 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.