**Secure VM access via Cloud Shell on Google Cloud Platform**

* Start VM on the VM instances page in Computer Engine
* Start Google Shell in GCP
  + Click the ‘Activate Cloud Shell’ button at the top right of the window

Graphical user interface, text, application, chat or text message

Description automatically generated

* + The shell command window should open at the bottom of the screen

**Use Cloud Shell, gcloud to initialize VM terminal within cloud shell utilizing IAM privileges:**

* + gcloud compute ssh --project=PROJECT\_ID --zone=ZONE VM\_NAME

PROJECT\_ID: project ID, can be copied from project home screen

ZONE: zone the instance exists on

VM\_NAME: name of VM

e.g. gcloud compute ssh --project=soils-dsm-2026-class5 --zone=us-west4-a dw-highmem-instance

PROJECT\_ID: soils-dsm-2026-class5

ZONE: us-west4-a

VM\_NAME: dw-highmem-instance

* + Authorize if prompted. Complexity of authorization will depend on whether it’s the first time this VM has been authorized. For the first time, follow these steps:
    - Type ‘gcloud auth login’
    - click yes
    - click link
    - choose account
    - continue for cloud SDK
    - allow
    - use copy button for authorization code
    - paste authorization code into Google Shell (up arrow twice)
    - yes – dynamically creating
    - enter, enter for passkey

**Initialize VM on custom port utilizing IAM privileges to sign into RStudio Server:**

* + gcloud compute start-iap-tunnel INSTANCE\_NAME INSTANCE\_PORT --local-host-port=localhost:VIEW\_PORT

INSTANCE\_NAME: name of your VM

INSTANCE\_PORT: the port set-up to access RStudio Server

VIEW\_PORT: any 8000 number, just as long as it is different than the INSTANCE\_PORT, 8000, 8080, 8181, 8282 are all valid examples.  
  
e.g. gcloud compute start-iap-tunnel dw-highmem-instance 8787  --local-host-port=localhost:8000

INSTANCE\_NAME: dw-highmem-instance

INSTANCE\_PORT: 8787

VIEW\_PORT: 8000

* + Authorize if prompted. Complexity of authorization will depend on whether it’s the first time this VM has been authorized. For the first time, follow these steps:
    - Type ‘gcloud auth login’
    - click yes
    - click link
    - choose account
    - continue for cloud SDK
    - allow
    - use copy button for authorization code
    - paste authorization code into Google Shell (up arrow twice)
    - yes – dynamically creating
    - enter, enter for passkey
* Use web preview to change port to the number used for VIEW\_PORT
  + The command for local port 8000 may return an error message indicating the port is not available, thus needs to be changed.
  + Web preview button is an icon in the command window   
    Graphical user interface, text, application, chat or text message

    Description automatically generated
  + Click on change port  
    Graphical user interface, text, application, chat or text message

    Description automatically generated
  + Enter the new port number and click Change and Preview  
    Graphical user interface, text, application

    Description automatically generated
* Log into RStudio Server in the window/tab that opens.