GCNV Extension - Quick Start Guide

A simple guide to install and use the Google Cloud NetApp Volumes Extension in VS Code.

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Prerequisites

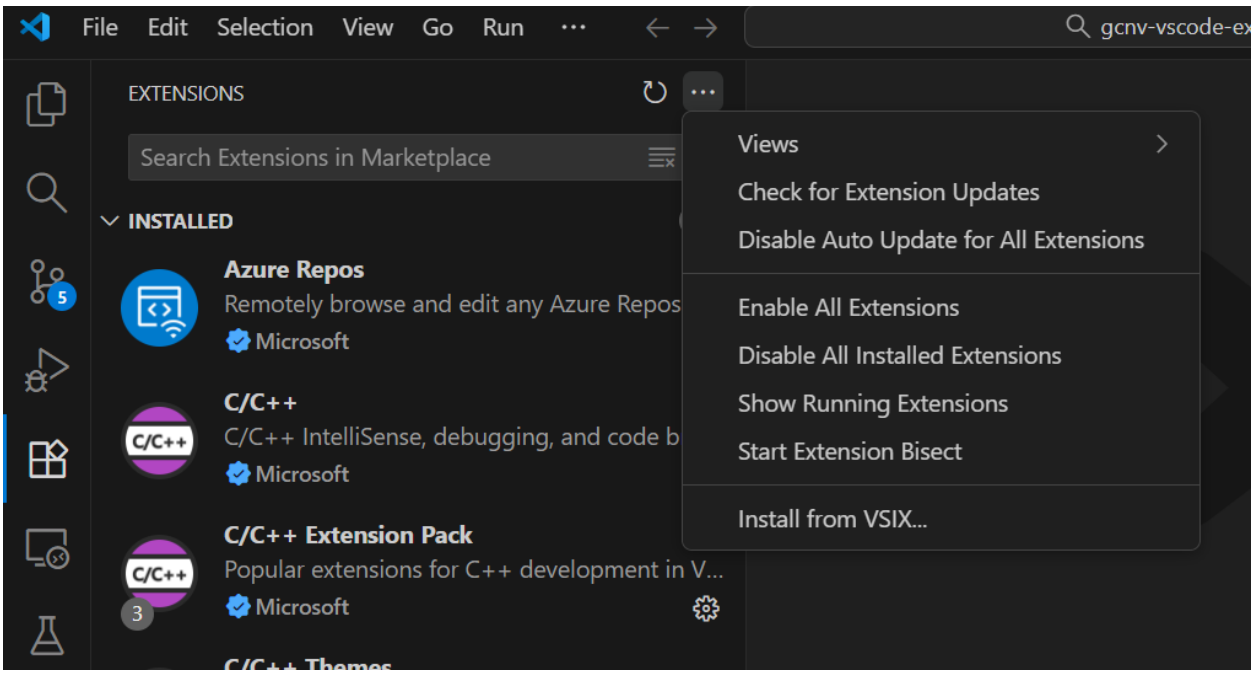
Before you start, make sure you have:

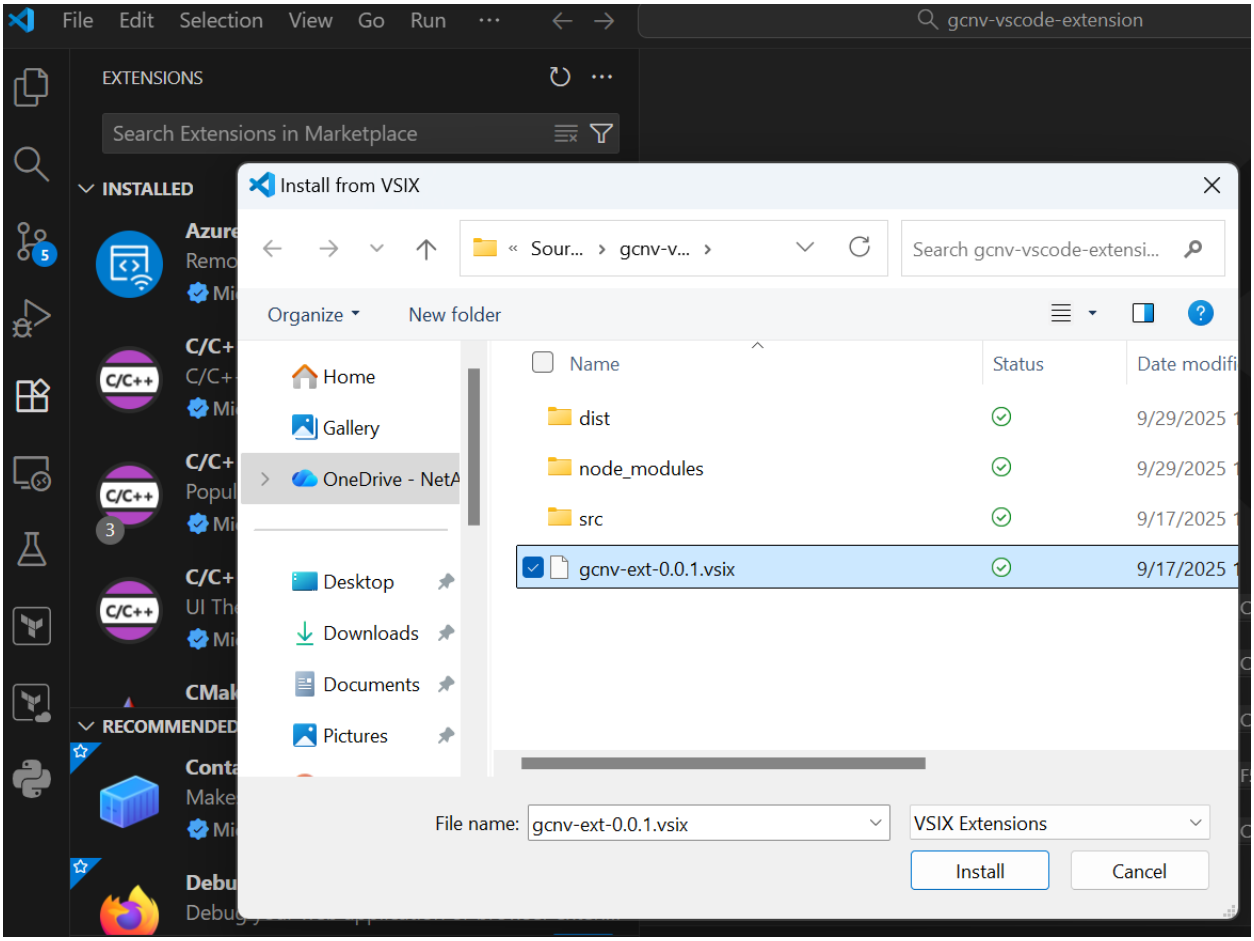
- VS Code (version 1.77.0 or higher)
- Google account with access to Google Cloud NetApp Volumes
- Google Cloud Account with Google API, Google compute API services enabled. It is crucial that you have Cloud Resource Manager API enabled under “APIs & Services”.
    - Also ensure under “IAM & Admin / IAM” in Google Cloud, your email has “Owner” and “Service Usage Admin” roles

Installation

Install the Extension

1. Download the VSIX package using the link provided below.
2. Latest extension is gcnv-vscode-extension-1.0.1.vsix
3. Launch VS Code.
4. Navigate to Extensions (`Ctrl+Shift+X` or `Cmd+Shift+X`).
5. Select the three-dot menu then “Install from VSIX.”
6. Choose the package downloaded in Step 2.
7. Select Install to complete the process.





Activate the Extension

After installation, the extension will automatically activate. You'll see the "**Google Cloud Netapp Volumes**" icon in the VS Code sidebar and "Google cloud NetApp Volumes" in the solution Explorer window.

Authentication Setup

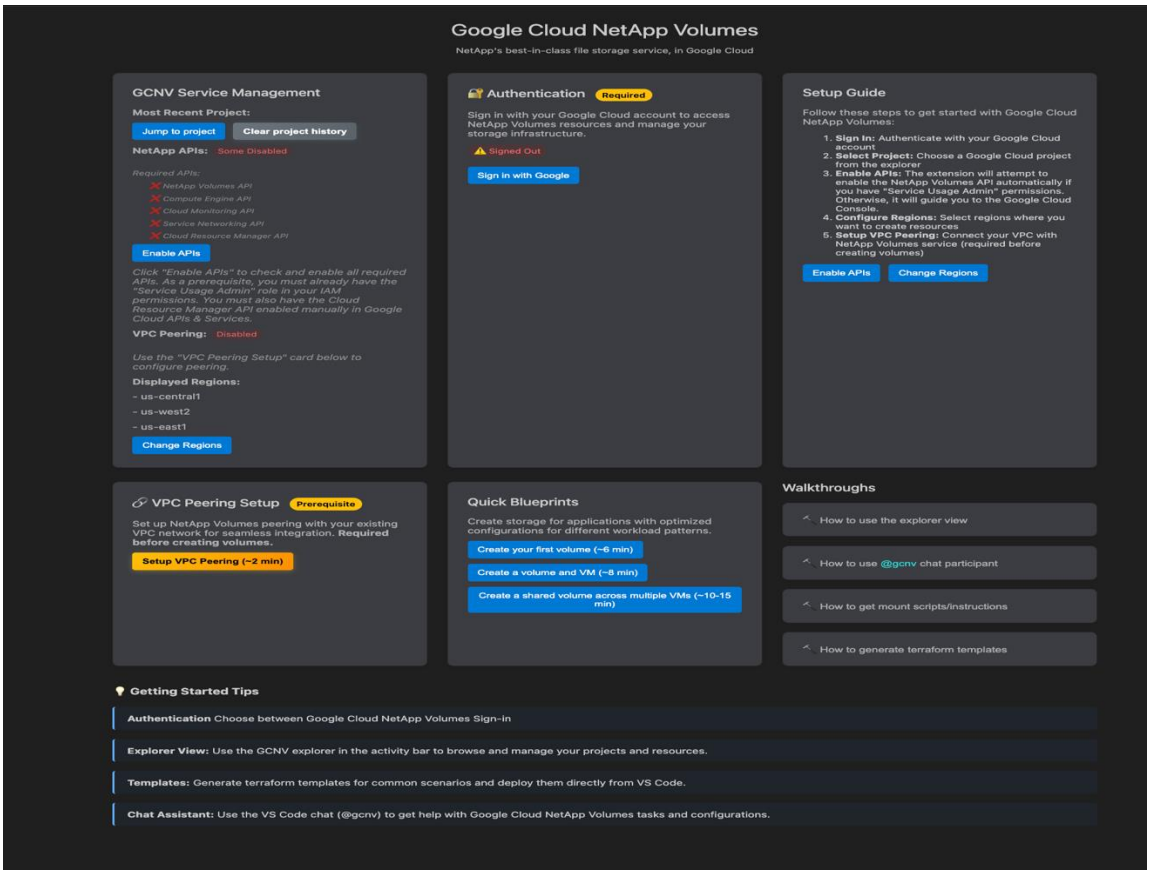
As a pre-requisite to either login option, you will need to set up OAuth. To do this:

1. Go to "APIs & Services" in Google Cloud
2. Go to "OAuth consent screen"
    a. If you haven't set up Oauth at all, click on "Get Started" in the Overview page
        i. For App name, just say "vscode-gcnv" or something similar. Add your email.
        ii. If you have a netapp organization account, select "Internal" for the audience. Otherwise, you need to select "External".
            1. Note that, if the audience is "External", you also will need to take the extra step of navigating to "Audience" and adding your email as a test user.
    b. If you have set up Oauth before, or you went through the above steps (i) and (ii), now navigate to "Clients" and "Create client"
        i. Select Application type = "Desktop App"
        ii. Specify whatever name you like and click "Create"
        iii. Copy down the Client ID and Client secret. These are what is asked on login to the vscode extension.

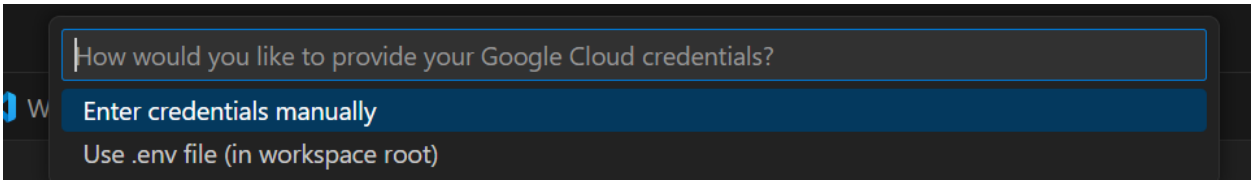
Now that we have gone through how to get your credentials, see "Option A" or "Option B" on the next page for how to login.

Option A: Manual OAuth Credentials

1. On the welcome page

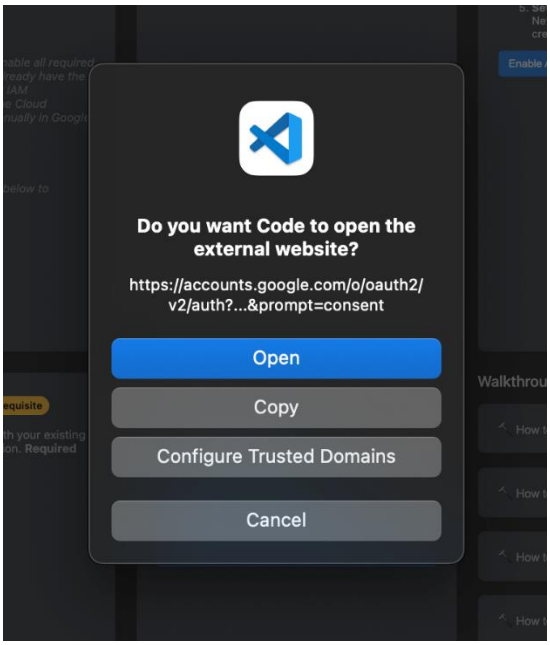


1. Select the “Sign In with Google” button.
2. You will then be prompted with two options:



3. Select the first option. You will then be prompted for your client ID. Paste that in and hit enter.
4. You will then be prompted for your secret, paste that in and hit enter.

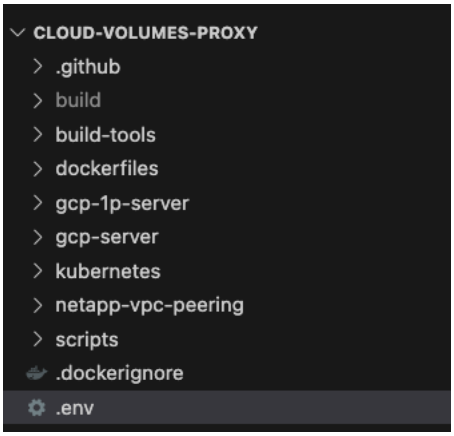
5. Next, you will see this prompt in the image below. Click on “Open”:



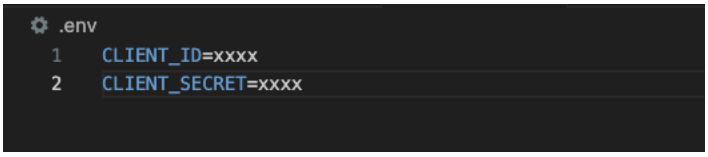
6. Google will then tell you to choose an account; select yours and complete the sign in process.

Option B: Using an Environment (.env) file

1. If you don't want to manually enter your client id and secret every time you log in, you can store these in a .env file. Open up your repository that you are working in, and create a new ".env" file in the root directory of the repository. Ensure it is called ".env" and not anything else.



2. The file contents should look like this:

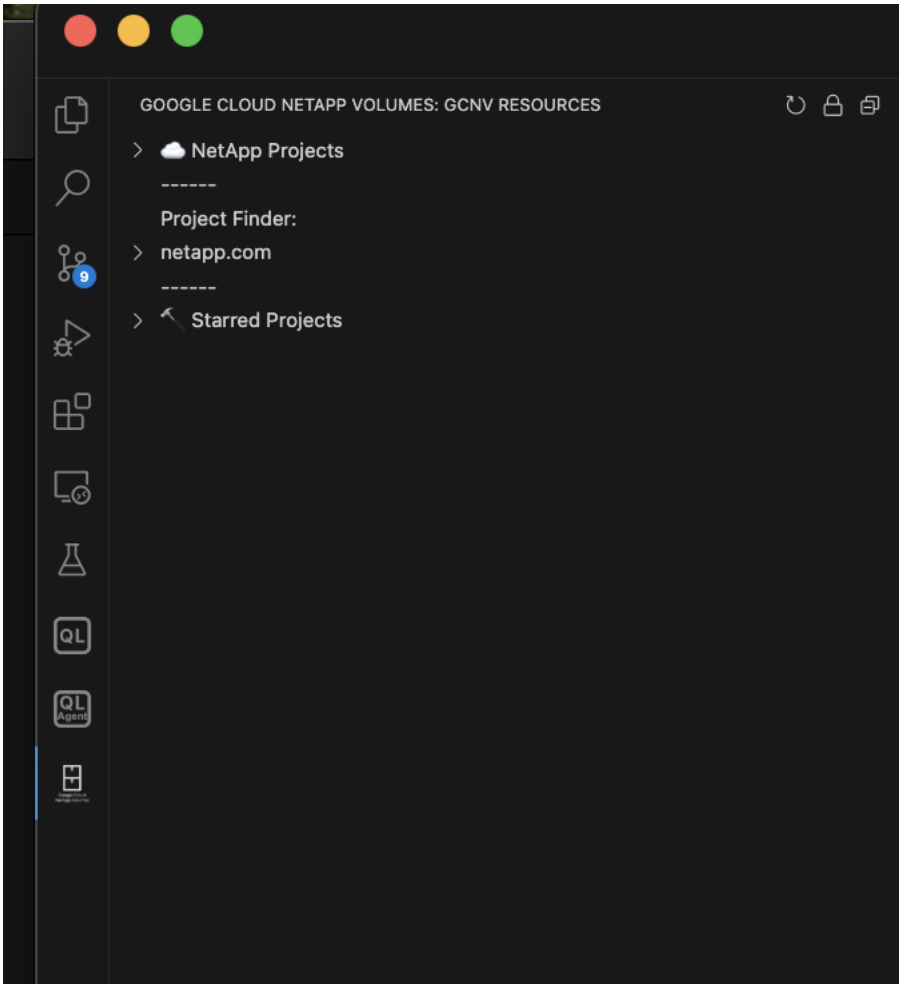


3. Now, you can click "Sign in with Google" and complete the sign in process as is described in Option A.

Quickstart

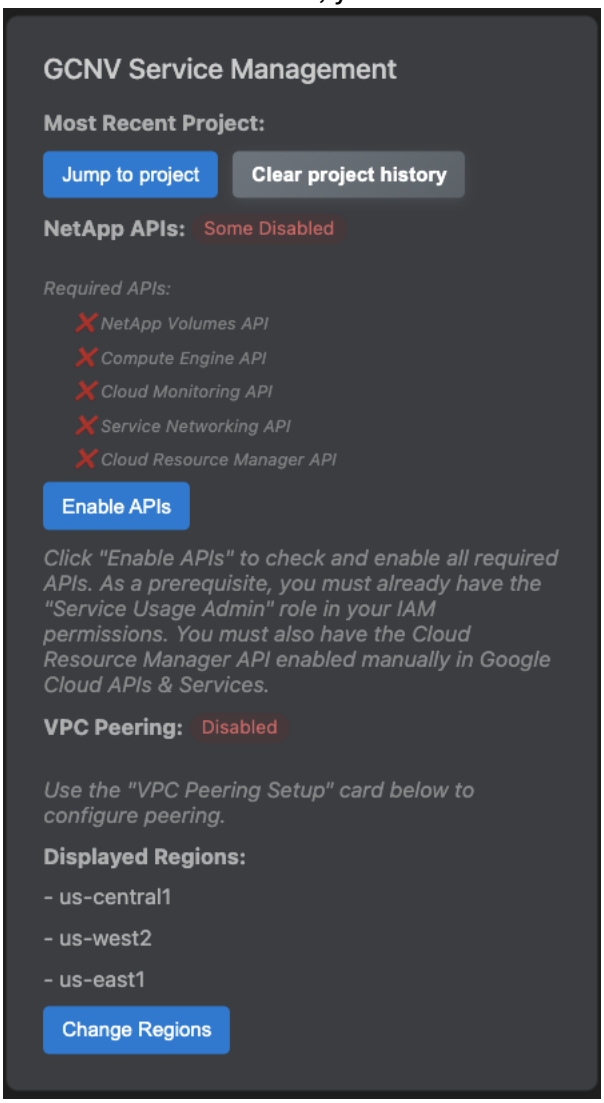
Welcome Page

1. Navigate to the Explorer view.



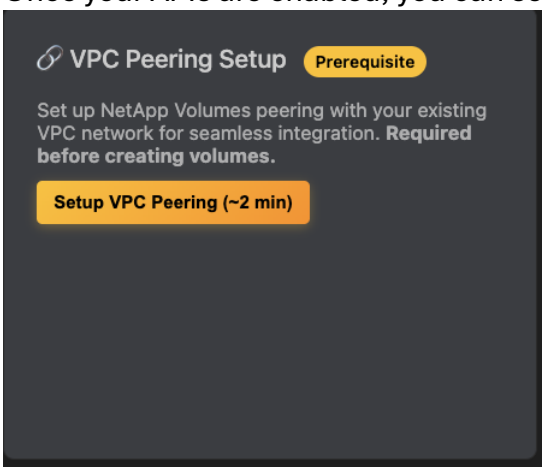
2. If you are on a non-org account, your projects should be listed under “NetApp Projects”. Otherwise, they will be under “netapp.com”. Navigate the tree, find and click on your project. When you click on your project, it will be cached for next time. If you have previously selected your project on your account, you will see it named under “Most Recent Project”. You can click “Jump to project’ to avoid navigating the tree a second time. Just remember to hit “Clear Project Data” when you are switching between accounts to clear the cache.

3. Navigate to the GCNV Service Management area of the welcome page. If you have some APIs not enabled, you will see something like this.

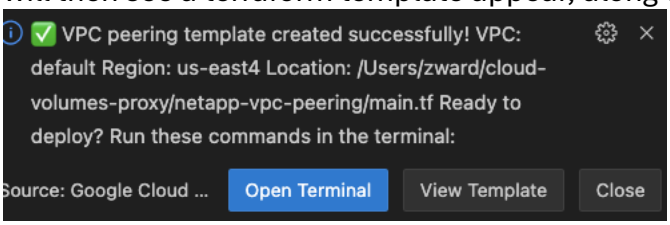


4. If you have selected your project, you will see that Cloud Resource Manager API is enabled (unlike in the above picture). It might be the case that the rest of the APIs are disabled. If you have the “Service Usage Admin” role properly set in your IAM permissions, you should be able to enable the rest of your APIs with the “Enable APIs” button.

5. Once your APIs are enabled, you can setup VPC peering in the “VPC Peering Setup”



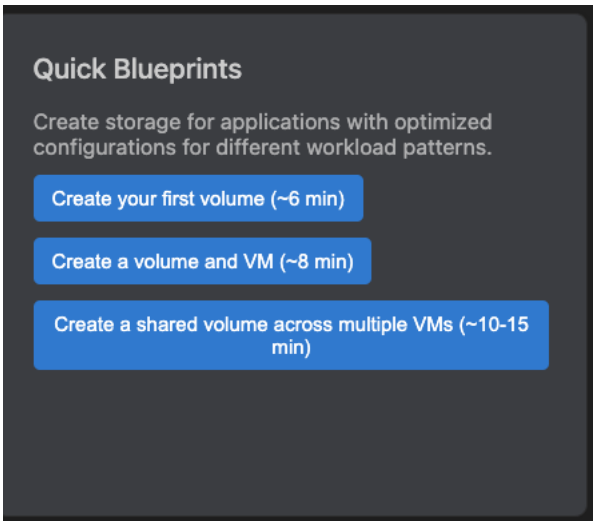
6. After clicking “Setup VPC Peering”, enter your VPC name and select your region. You will then see a terraform template appear, along with this in the bottom right corner



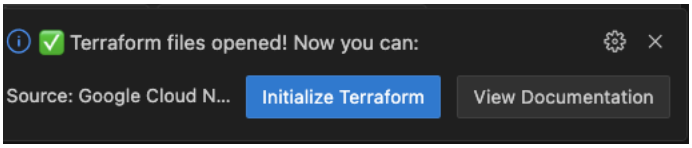
7. Click on “Open Terminal”, and you should see your terraform template initialized in a new terminal window within vscode. It is then on you to run “terraform plan -out=tfplan” or something similar, and to apply your plan via “terraform apply tfplan” or something similar.
8. After applying your terraform plan, you should see VPC peering get set up successfully. You are now set up to create pools, volumes, and more!

Quick Blueprints

1. You will see a blueprints section on the welcome page



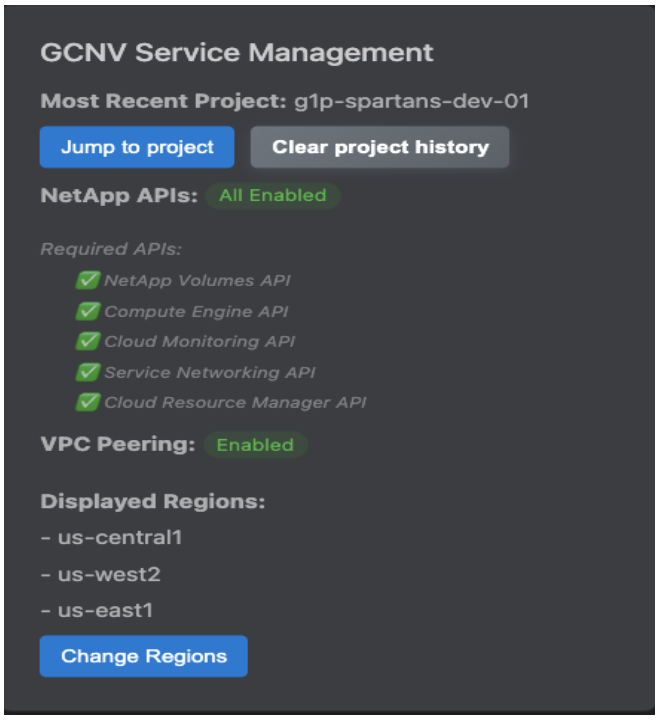
2. All of these blueprints work the same way as the VPC peering setup. You do the following:
    a. Click on one of the options,
    b. click “Initialize Terraform” in the bottom right of your vscode window



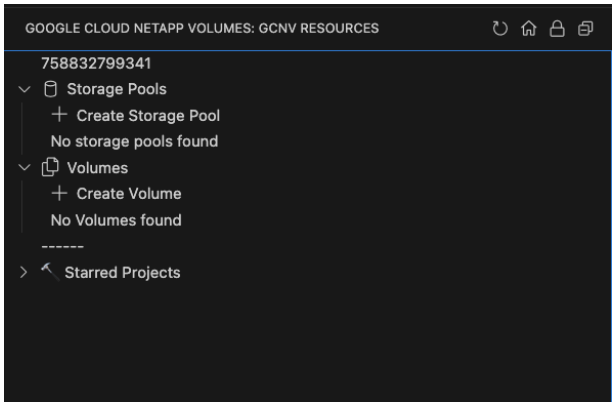
    c. Your template will be initialized, and it is on you to plan and apply the template.
        i. You might do something like “terraform plan -out=tfplan”, and you will be prompted to enter the important information like which region/zone you want, whether you want FLEX/STANDARD/PREMIUM/EXTREME service level, etc.
        ii. Once you have gone through the planning, apply your plan with “terraform apply tfplan”

Explore Your Resources

1. As a first step, navigate to GCNV Service Management and ensure your displayed regions is set to the regions you want to see when exploring resources



2. If you already have pools/volumes or you have run a blueprint and want to see the status of your resources, navigate back to the explorer view and expand the “Storage Pools” and “Volumes” dropdowns

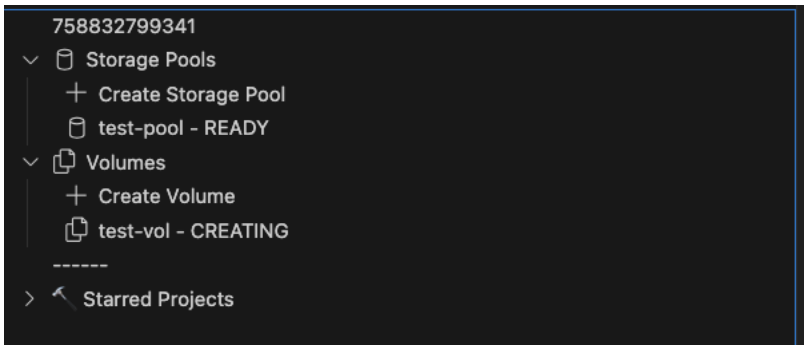


3. You can also create Storage Pools and Volumes from this view as well.

4. When you’ve created a pool, you will notice a “+” and a trash can icon.

You can click on the “+” to create a volume using this pool, and you can click on the trash can icon to delete the pool.

5. Each time you create a resource from the explorer view, it will refresh. However, manual refreshes may be required if your resources take some time to create.



6. If you want to delete your volume, you can also click on the trash can next to it

Configuring GCNV Resources

Creating a Storage Pool

- In the Explorer, Select the “Create Storage Pool” option under the “Storage Pools” dropdown
- **You will be prompted for the following details, one after the other**:
  - Name
  - Service level (flex/standard/premium/extreme)
  - Location
  - Capacity (limits depend on the service level)
  - VPC network to use
- **After you select your VPC, hit enter one more time and your pool will create. You will see this notification appear in the bottom right**

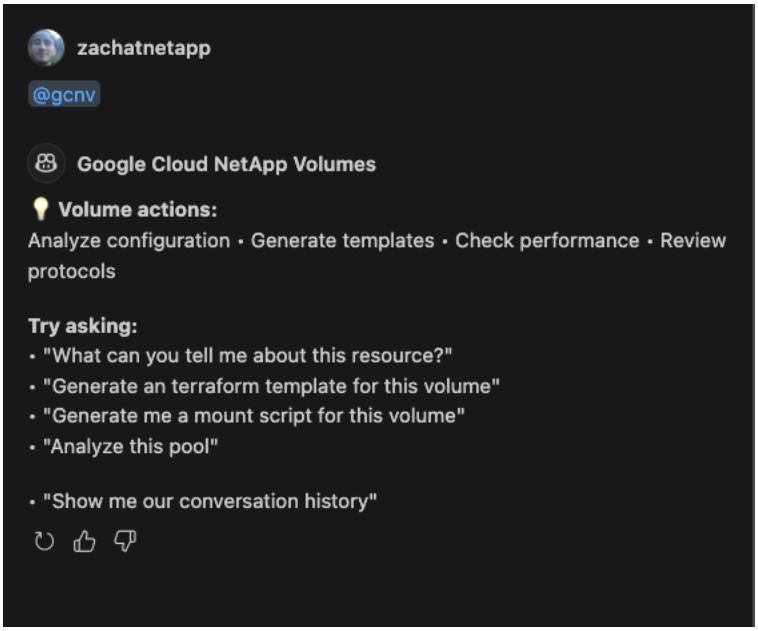
Creating a Volume

- In the Explorer, Select the “Create Volume” option under the “Volumes” dropdown. You can also hit the “+” icon next to a particular storage pool if you want to create a volume using that specific pool.
- **Choose** the "Create Volume" option.
- **Enter** the required volume details:
    - Name
    - Size (in GB)
    - Pool to use
    - Share name
- **After entering these details, hit enter one more time to complete the process. Note that for the protocol, we currently assume NFSV3.**

Getting AI Recommendations Using Chat Assistant

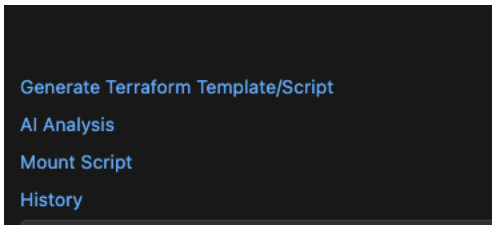
NOTE: Before you can take advantage of this chat assistant, you must ensure that you have github copilot set up with your github id as well as having github copilot properly set up within your vscode IDE.

- Select any resource within the GCNV Explorer.
- Navigate to GitHub Copilot and enter "@gcnv".



- Utilize the available options provided by @gcnv chat participant. Right now, this feature is in its infancy, but here's what is supported right now:
    - Asking about certain resources (i.e "Tell me about this volume/pool")
    - Advanced analysis (i.e "Analyze this pool/volume")
        - NOTE: Sometimes the AI will give subpar recommendations based on its analysis. These come across as Blocked Responses, which are available to you should you get curious. Sometimes, even the recommendations that are not blocked are pretty general and not yet perfected.

- There are also these options that appear at the bottom of the chat window after you've prompted @gcnv



    - **PLEASE NOTE: FOR THE ABOVE FOLLOW UPS TO APPEAR, THE FOLLOWING MUST BE TRUE:**
        - **(a) You are currently on "Ask" mode in copilot, not "Agent" mode**
        - **(b) You are currently opened up in a workspace in vscode (i.e , not in "global" mode)**

For these options, each one essentially asks the chat assistant a pre-formed prompt. For ease, you can click on these should you want a terraform template, volume mount script, or analysis of some resource. Remember to make sure you have the appropriate resource selected in the explorer view before these types of prompts.

Troubleshooting

Access blocked: gcnv-vscode has not completed the Google verification process.

Instructions:

- This error occurs when you are using a non-organizational account and have not added yourself as a test user.
- Navigate to APIs & Services
- Navigate to OAuth Consent Screen
- Navigate to Audience
- Add your email as a test user and try to log in again to the extension

Extension not loading

Solution:

- Restart VS Code.
- Ensure VS Code is version 1.104.0 or newer.
- Reinstall the extension if necessary.

Projects not found (in the explorer view)

Solution:

- If you have signed in successfully and the explorer view is saying “Projects not found”, most likely, the Cloud Resource Manager API is not enabled.
- Navigate to Google Cloud -> APIs & Services
- Click “+ Enable APIs and services” and search for “Cloud Resource Manager”
- Click Enable
- Reload the extension, sign in again and the issue should be fixed

You're Ready!

The GCNV Extension is now installed and configured. You can begin accessing your Google Cloud NetApp Volumes resources and utilize the available AI-powered features.

Next Steps:

- Browse your GCNV resources
- Create your first pool and volume
- Try out the blueprints and explorer view
- Try using @gcnv in GitHub Copilot