



NetBrain® Integrated Edition 10.1

NetBrain GCP Quick Setup Guide

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1. Set Up GCP API Access

1.1. Overview

NetBrain IE system retrieves the data from Google Cloud Platform (GCP) via REST API as a **Service Account** or **OAuth Client**. To enable NetBrain IE to retrieve the GCP data, you need to:

- ✓ Enable GCP APIs
- ✓ Set up Service Account (Recommended)
- ✓ Set up OAuth 2.0 Client (Alternative)

1.2. Enable GCP APIs

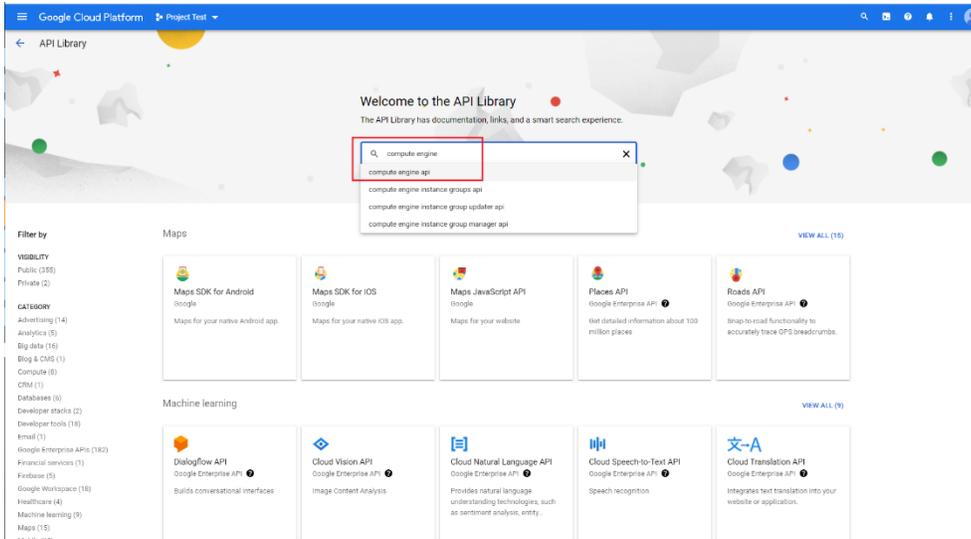
NetBrain IE system requires access to the following GCP APIs:

- **Compute Engine API**
- **Cloud Logging API**
- **Cloud Resource Manager API**
- **Cloud DNS API**
- **Service Usage Viewer**
- **Stackdriver Monitoring API**

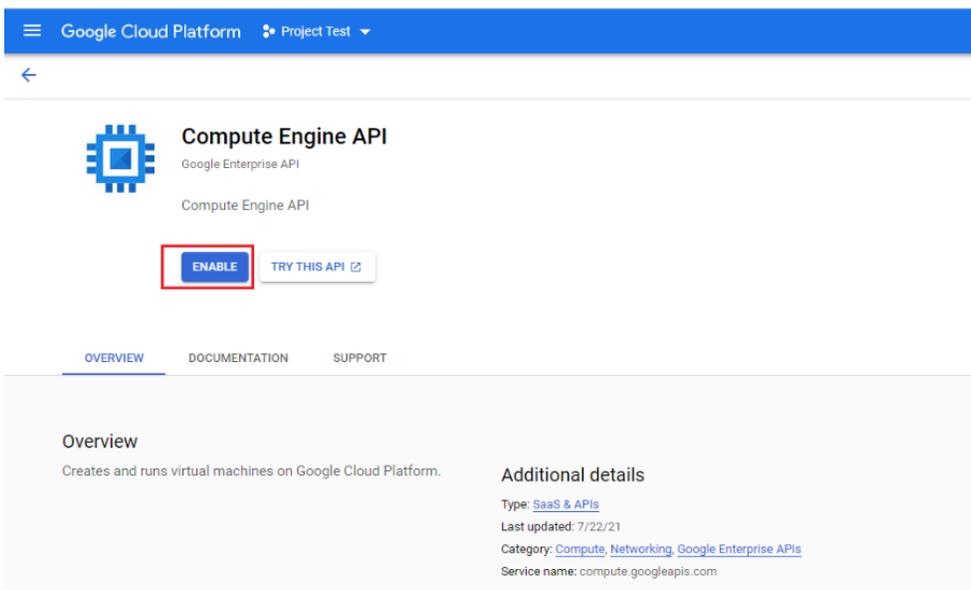
Follow these steps to enable the required API libraries:

1. In the GCP Console, go to the **API Library** page.

2. Search or browse the library to find the required APIs like **Compute Engine API**.



3. Select **Compute Engine API** to open it. Click **ENABLE**.



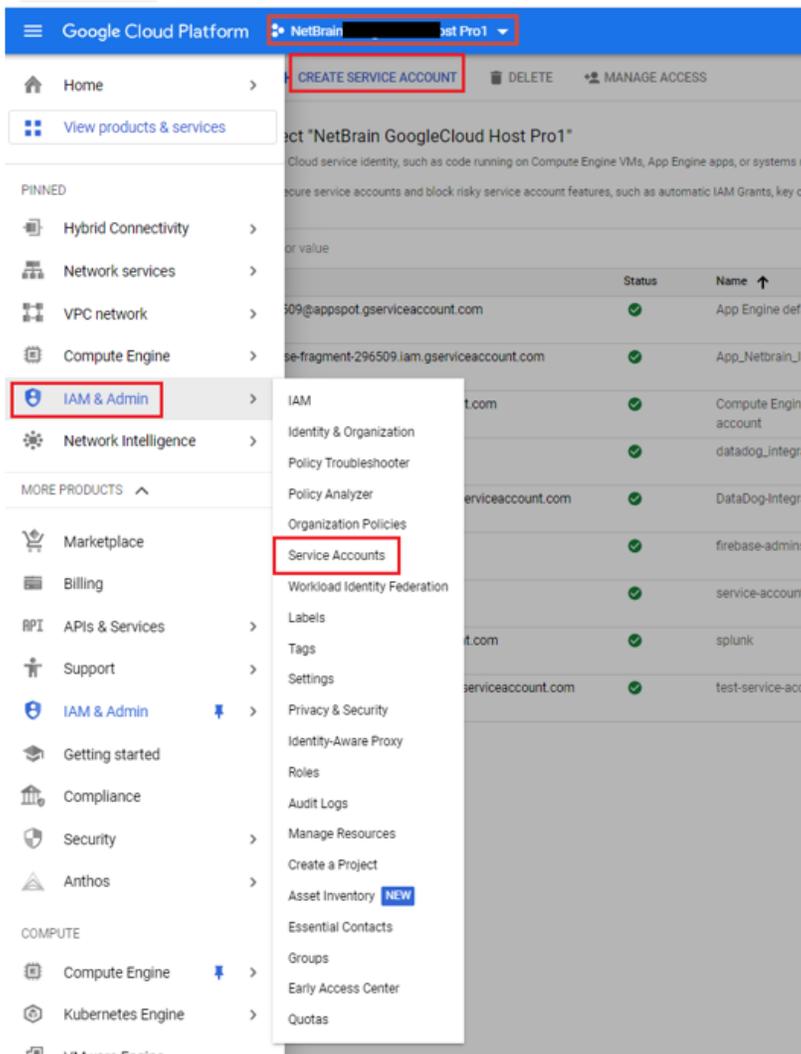
4. Repeat steps 2 and 3 to enable all other required APIs.

1.3. Set Up Service Account

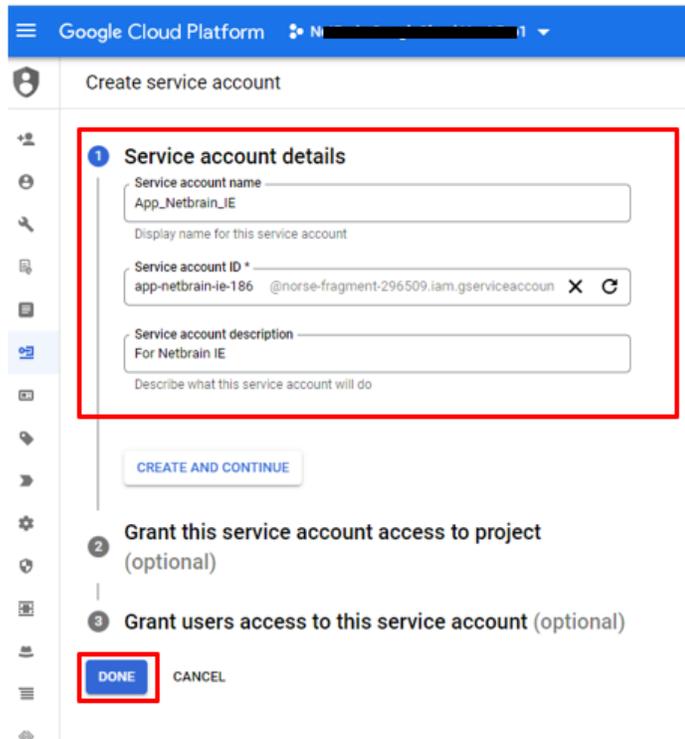
1.3.1. Create Service Account

Follow these steps to create a service account for the NetBrain IE system:

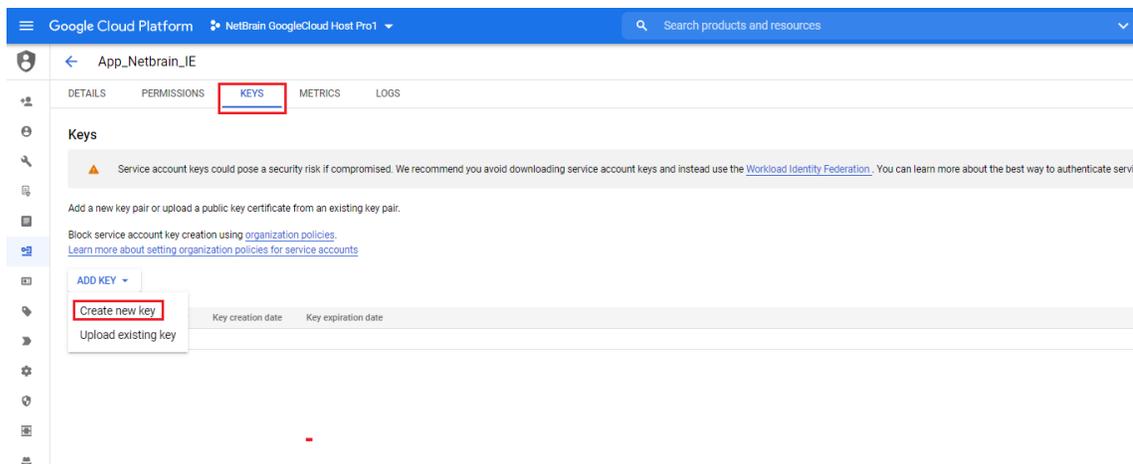
1. In the GCP Console, go to **IAM & Admin** → **Service Accounts** page, select **PROJECT**, and click **CREATE SERVICE ACCOUNT**.



2. Add a new service account. Click **DONE**.



3. Go back to the service account page and click the service account created for the NetBrain IE system. On the **KEYS** tab, click **ADD KEY > Create new key**.



4. Select **JSON** in the **Key type** field and click **CREATE** to create a service account key. The key file in JSON format will be downloaded automatically. The file has the private key ID and value.

Create private key for "App_Netbrain_IE"

Downloads a file that contains the private key. Store the file securely because this key can't be recovered if lost.

Key type

JSON
Recommended

P12
For backward compatibility with code using the P12 format

CANCEL CREATE

5. Save this file in a folder you can remember. You will need this key to set up the GCP API Server later.

```
no-86d2fc.json - Notepad
File Edit Format View Help
{
  "type": "service_account",
  "project_id": "nor-86d2fc",
  "private_key_id": "69fe903de8014",
  "private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvgIBADANBgkqhkiG9w0BAQEFAASCBKggwggSkAgEAAoIBAQLAJksD9JB=5Zs\nM8/AYUgn+1vOQr0r4FVhxlJNgk1x4oogKJq9Ktjt/cvumMEhhoichZQrjZUmMPL\nnu4aBY3iUdptAm/c0VmvZ2eKxwQYguIa/quMSVtxX01ZmmC4MMDTsFDKAZVt13U\n\\nq6qR68bTF+fbf2od6c81e8LU0ioFp/JCMgTpJeiJmnoUJvc40ZADwMjUmC8Cea\n\\n4jPgCy6/6D6UJfkSgeV3DFpUyuc3he7z3jDwkzXPC07zmqewjMI/jy6/bH0tI\n\\nXl7Up/MgnVVEIx8MoZ3WqBLu1\n\\n7xw7dSYVRH+P1X705P2Nuaz9EhBrAapFxFVa\n\\n9FfMX84E06WkjxvoaJaFxLi1iSuaBbl4MLRyfpIdJHkoy4kIU7AeucPxyK/cJYI\n\\nmlMmqAH+XwZGF80b59ZV/+tpq0Vv1UK9C8Nvc14bMRHgc+3ZQTOcRBqrE12T1Gqq\n\\nknfjuAWs5K6yRCGlec3odD5az91ShMKF2AD7urMe1R1EJKizeFG/1+RLVu//9d\n\\nbpnB9sCIRUPk+vxph33YxttU\n\\nP/cpF+HGuFPVgPLuQywoa/PH51e4dYMGrs\n\\n02P+3ko-QloIeW0111iW+V0KqQDTFAxzUMU+50NzPX1e4gdP5n51lqJf2Uq+\\nYs2dwGHSk1g1sMGCKFRfWFKFzEb2cgcIlSAmMoYJKFDG1vo9o4KHHTVWss1SG\n\\n8k2Jn42Wm/234J0JoXs/9Xe+Ztv4f-c0Ms9s/XGsE0T6Kkc07mm184v19ub0J1+X\n\\nD438o1yFPQkBgQcshj9Wx9QF\n\\nsybU0ltnIY8pdy+K7Zm+Usk0QKBgG7q\n\\nj8HuIyejoTm/RFX3tA1qdBlsrInq3U66jxJCnyrF5Cy85RKGSaEcB8xNuDtznl\n\\nM61cJKJXkwjBqzvVuCh7I0gbwag/zzh585cBVX04XhqJEd0rdj7hQhm9Jxdl\n\\nTpGe+H2e5ZHrd0+Zf9XN80YVWx6HSS1EdR9S8Fpa0GBAIN37yFejYS4tpmAv1\n\\nKrsU5QvE2fteeDKYSZVb5d05X\n-----END PRIVATE KEY-----\n",
  "client_email": "test1-2640norse-fragment-296509.iam-gserviceaccount.com",
  "client_id": "11472928317209746905",
  "auth_uri": "https://accounts.google.com/o/oauth2/auth",
  "token_uri": "https://oauth2.googleapis.com/token",
  "auth_provider_x509_cert_url": "https://www.googleapis.com/oauth2/v1/certs",
  "client_x509_cert_url": "https://www.googleapis.com/robot/v1/metadata/x509/test1-2640norse-fragment-296509.iam-gserviceaccount.com"
}
```

Note: Copy all the private_key value inside the double quotation marks for Step 3 in section 1.3.3 Set Up API Server, shown as below.

```
"private_key": "-----BEGIN PRIVATE KEY-----\nMIIEvgIBADANBgkqhkiG9w0BAQEFAASCBKggwggSkAgEAAoIBAQDX6tcpf6t4R7Za\n\\nHPU8c/f7YT1eyIgwcm/KykNk2m\n\\nVvqTLWpWf8M31rNhyBRUOKw6OpUldk+Yeb1TdSDFbcNradpE+8RxeZ315fApyFyx\n\\nbtZUGwUqHnxsP1q2nyhx/GGLJ649SpzVnN9B5\n\\n81eP67F1ssE30adh74r37A6qr\\nOxyJeZyfwmtiejycqZ8nvL8PM\n-----END PRIVATE KEY-----\n",
"client_email": "testserviceaccount@norse-fragment-296509.iam.gserviceaccount.com",
```

1.3.2. Assign IAM Permissions

There are different approaches to assign your IAM permissions to the service principal created before based on various scenarios and needs. Recommended best practices are shown below,

Best Practices 1:

Scenario: Discover resources of all the Projects under the Organization.

Permissions assignment approach: Assign all the required permissions (or system roles) under the Organization.

Organization Roles Required:

- Browser (ID: roles/browser)
- Compute Organization Security Policy User (ID: roles/compute.orgSecurityPolicyUser)
- Compute Viewer (ID: roles/compute.viewer)
- DNS Reader (ID: roles/dns.reader)
- Logs Viewer (ID: roles/logging.viewer)
- Monitoring Viewer (ID: roles/monitoring.viewer)
- Private Logs Viewer (ID: roles/logging.privateLogViewer)
- Service Usage Viewer (ID: roles/serviceusage.serviceUsageViewer)

Best Practices 2:

Scenario: Discover resources of some Projects under the Organization.

Permissions assignment approach: Assign the Organization required permission or system roles under Organization level. And assign the Project required permission or system roles under Project level.

Organization Role Required:

- Browser (ID: roles/browser)
- Compute Organization Security Policy User (ID: roles/compute.orgSecurityPolicyUser)
- Logs Viewer (ID: roles/logging.viewer)
- Monitoring Viewer (ID: roles/monitoring.viewer)
- Private Logs Viewer (ID: roles/logging.privateLogViewer)
- Service Usage Viewer (ID: roles/serviceusage.serviceUsageViewer)

Projects Role Required:

- Compute Viewer (ID: roles/compute.viewer)
- DNS Reader (ID: roles/dns.reader)

The principal of these best practices is to ensure the resources discovered by NetBrain should be assigned with IAM permission in the organization-scope or project-scope properly.

Required build-in Role for Org:

- Browser (ID: roles/browser)
- Compute Organization Security Policy User (ID: roles/compute.orgSecurityPolicyUser)
- Logs Viewer (ID: roles/logging.viewer)
- Monitoring Viewer (ID: roles/monitoring.viewer)
- Private Logs Viewer (ID: roles/logging.privateLogViewer)
- Service Usage Viewer (ID: roles/serviceusage.serviceUsageViewer)

Required built-in roles for Projects:

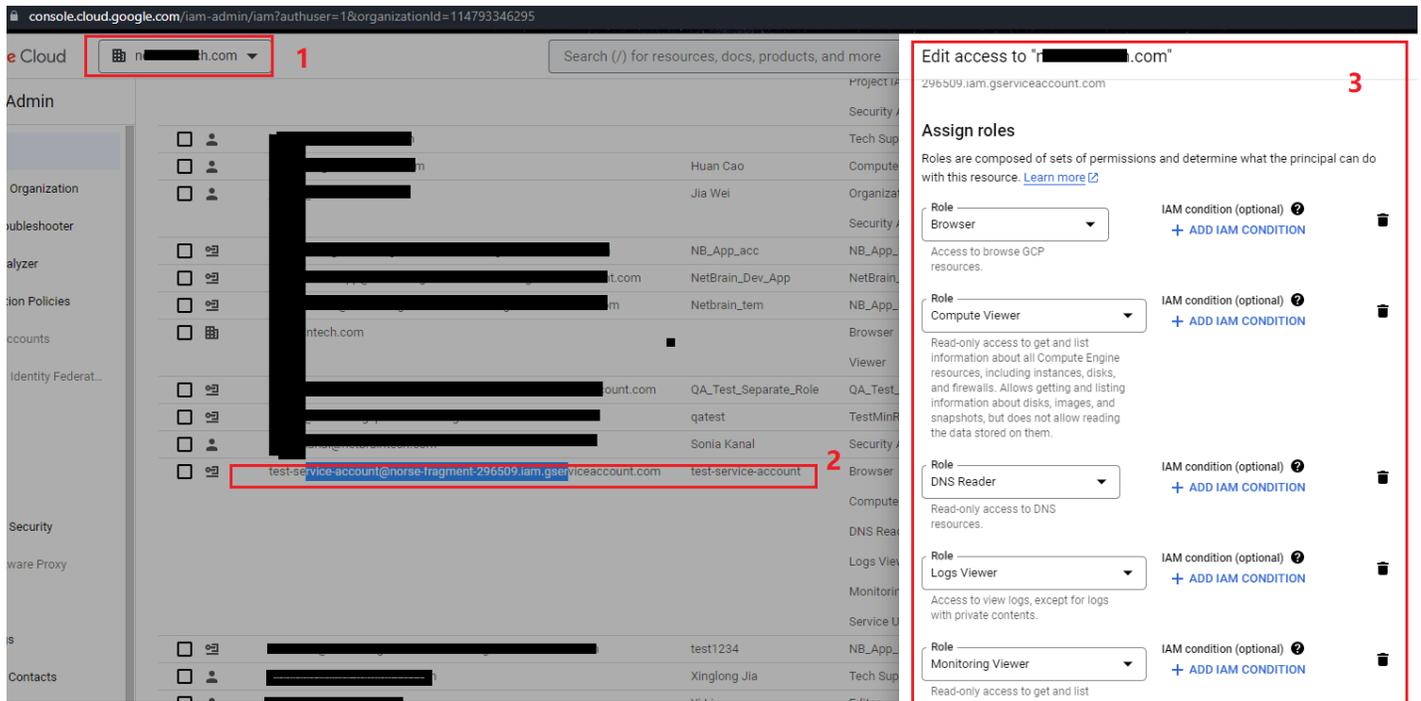
- Compute Viewer (ID: roles/compute.viewer)
- DNS Reader (ID: roles/dns.reader)
- Logs Viewer (ID: roles/logging.viewer)
- Monitoring Viewer (ID: roles/monitoring.viewer)
- Private Logs Viewer (ID: roles/logging.privateLogViewer)

- Service Usage Viewer (ID: roles/serviceusage.serviceUsageViewer)

1. Go to **IAM & Admin** → **IAM**, select the **GCP Organization or Project** from the top drop-down menu and click **GRANT ACCESS**.

The screenshot shows the Google Cloud IAM & Admin console. The top navigation bar includes the Google Cloud logo and a search bar. The left sidebar contains the 'IAM & Admin' menu with sub-items like 'IAM', 'Identity & Organization', 'Policy Troubleshooter', etc. The main content area is titled 'IAM' and shows 'Permissions for organization "netbraintech.com"'. A red box labeled '1' highlights the organization name 'netbraintech.com' in the top navigation. Another red box labeled '2' highlights the 'IAM' menu item in the sidebar. A third red box labeled '3' highlights the 'GRANT ACCESS' button. A fourth red box labeled '4' highlights the 'New principals' input field, which contains the email address 'te...@i.gserviceaccount.com'. A fifth red box labeled '5' highlights the 'Role' dropdown menu, which is set to 'Compute Viewer'. The 'Compute Viewer' role description is visible below the dropdown. The interface also includes a 'Filter' section and a table of principals with checkboxes for selection.

2. Paste the service account email under the **New principals**, select the system role required in the Role field, and click **SAVE**.

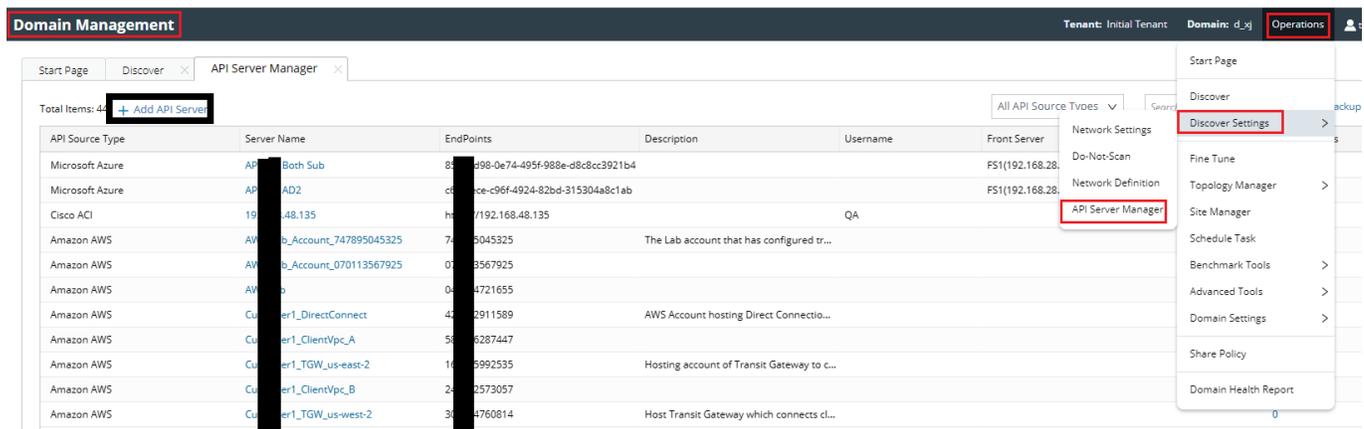


1.3.3. Set Up API Server

Note: Before setting up your API server, read NetBrain Requirements for API Server [Setup](#) first.

Follow these steps to set up a NetBrain GCP API Server:

1. Log in to your NetBrain IE system.
2. On the **Domain Management** page, select **Operations** → **Discover Settings** → **API Server Manager**, and click **+ Add API Server**.



3. Set up the GCP API Server via Service Account.

The screenshot shows a dialog box titled "Add External API Server" with a close button (X) in the top right corner. The dialog contains the following fields and controls:

- * Server Name:** Text input field containing "App_Netbrain_IE".
- Description:** Text input field containing "For NetBrain IE API Access".
- * API Source Type:** Dropdown menu set to "Google Cloud".
- * Access Method:** Dropdown menu set to "Service Account".
- * Endpoint(OAuth Client/Service Account):** Text input field containing "Input OAuth Client ID/Service Account Email".
- * Organization ID:** Text input field containing "Input Google Cloud Organization ID".
- * Private Key:** Text input field containing "Input Google Cloud Private Key Content".
- * Front Server/Front Server Group:** Dropdown menu set to "select".

At the bottom of the dialog, there is a "Managed Devices: 0" indicator, a "Test" button, a "Cancel" button, and an "OK" button.

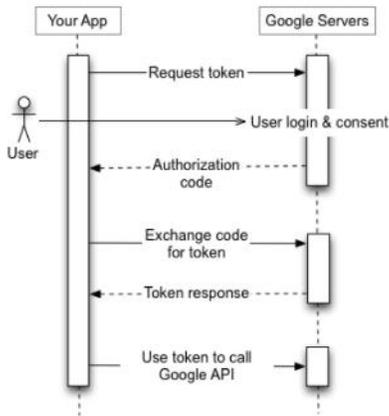
Add **External API Server** configuration using the following information.

- ✓ **Server Name:** a unique name.
- ✓ **Description:** an optional field to describe this server.
- ✓ **API Source Type:** select **Google Cloud**.
- ✓ **Access Method:** select **Service Account**.
- ✓ **Endpoint:** **service account** in email format just created. See step 2 of section [1.3.1 Create Service Account](#).
- ✓ **Organization ID:** your actual GCP Organization ID.
- ✓ **Private Key:** key value. See step 5 of section [1.3.1 Create Service Account](#). You can copy it from the downloaded JSON file.
- ✓ **Front Server:** select one front server which can access GCP.

Note: If you have any issues while setting up an API server, contact **NetBrain Support**.

1.4. Set Up OAuth 2.0 Client

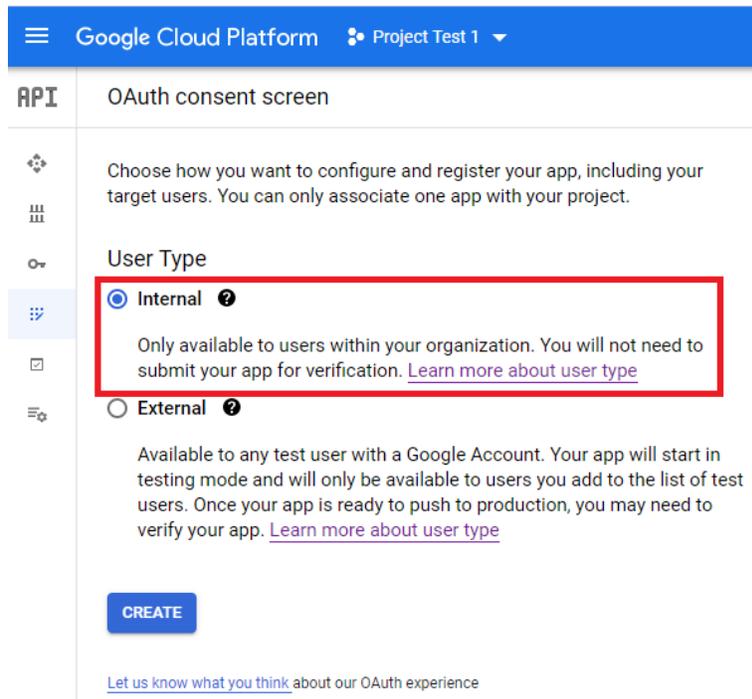
Google APIs use [OAuth 2.0 protocol](#) for authentication and authorization. To allow a client application such as the NetBrain IE system, you need to set up the OAuth consent screen and then create an OAuth 2.0 client. NetBrain system will request an access token from the Google Authorization Server, extract the token from the response, and send the token back with the Google API.



1.4.1. Set Up OAuth Consent Screen

To set up OAuth Consent Screen for each project, refer to the GCP official guide:

<https://support.google.com/cloud/answer/10311615?hl=en#>.

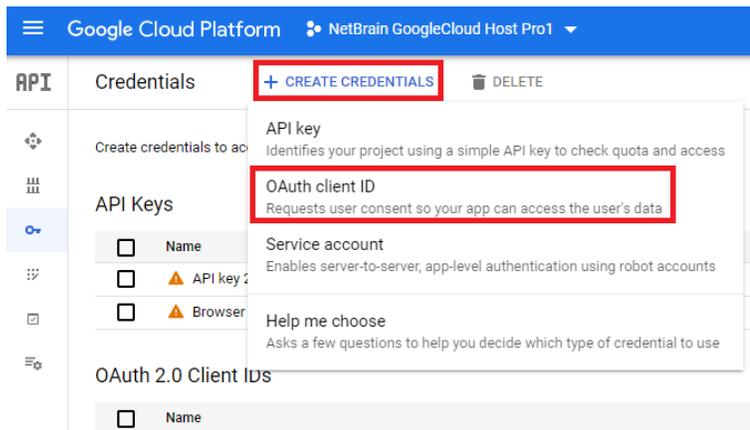


Note: For security purposes, using the Internal User Type is highly recommended.

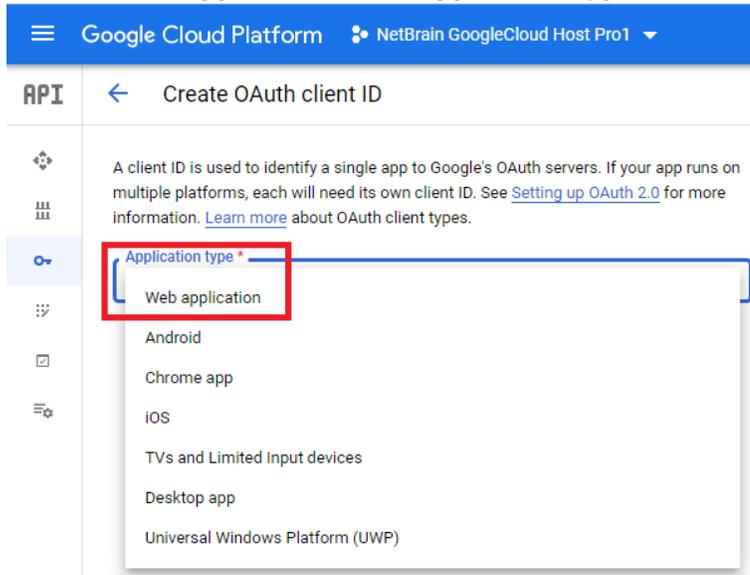
1.4.2. Create OAuth Client & Credential

Follow these steps to create an OAuth Client and credential:

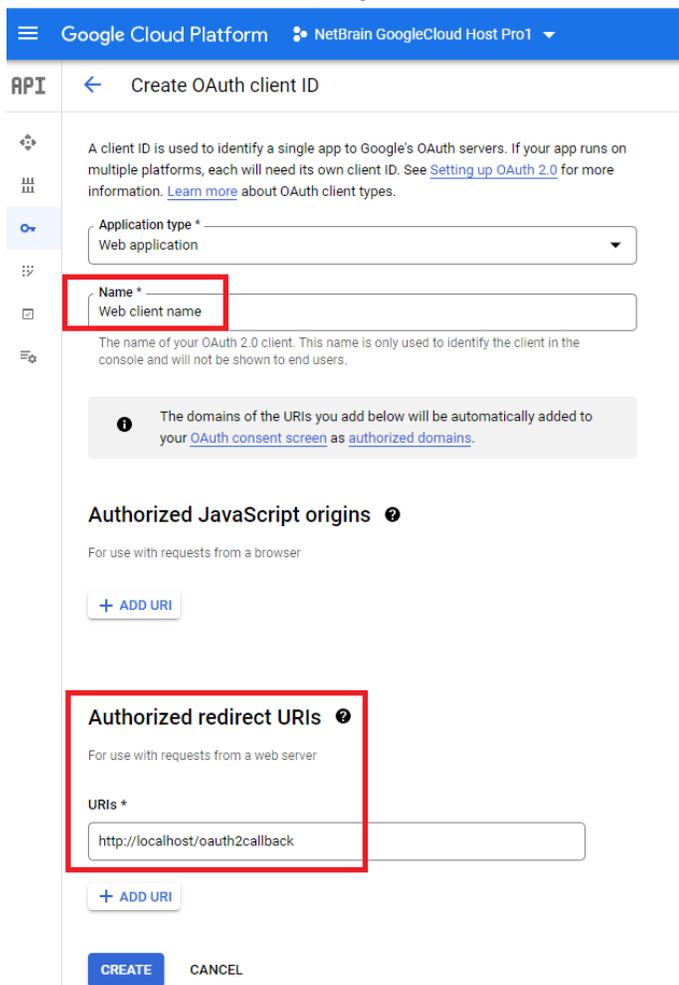
1. In the GCP Console, go to **APIs & Services** → **Credentials** page, click **CREATE CREDENTIALS**, and select **OAuth client ID**.



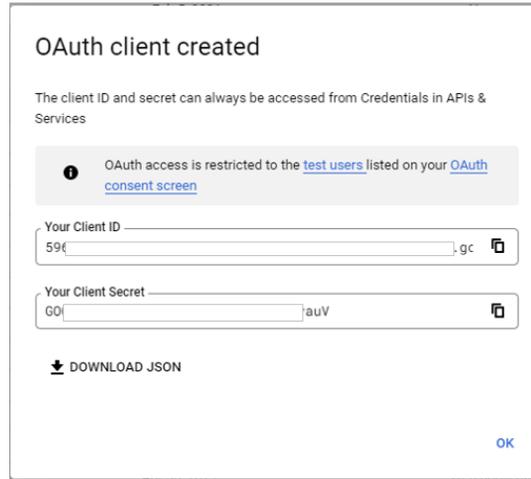
2. Select **Web application** in the **Application type** field.



3. Set the name and add **<http://localhost/oauth2callback>** as Authorized redirect URLs. Click **CREATE**.



4. Click **DOWNLOAD JSON** to download the OAuth credential JSON file locally. The client ID and secret are saved in this file, and you need this information while setting up the API server in the NetBrain IE system.



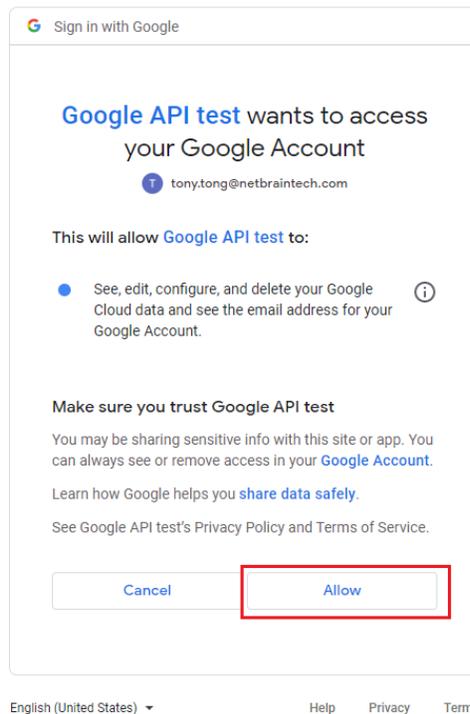
1.4.3. Obtain Refresh Token

Follow these steps to obtain a refresh token from GCP via a built-in GCP OAuth Client Tool:

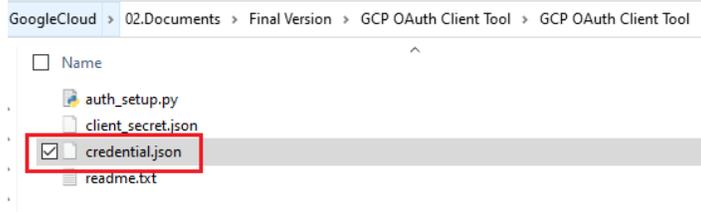
1. Download the GCP OAuth Client Tool from the link: <http://download.netbraintech.com/tools/GCP-OAuthClientTool.zip>. Unzip the file **GCP-OAuthClientTool.zip** to a folder.
2. Rename the **OAuth credential JSON** file as **client_secret.json**, downloaded in step 4 of section [1.5.2 Create OAuth Client & Credential](#), and move it to the same folder with **auth_setup.py** in the GCP OAuth Client Tool folder.



3. Double-click the **auth_setup.py** file and run it automatically to install Python library files.



Finally, the refresh token will show up on the website browser. Also, a JSON file named **credential.json** will be created automatically in the same folder as **client_secret.json** in the GCP OAuth Client Tool folder.



7. Store the file in a local folder. Use the client ID, client secret, and refresh token value to set up the GCP API Server later.

```
credential.json | readme.txt
1 {
2   "token":
3   "ya29.a0ARrdaM81I8TtEo0_hGw2 V15eLh4rGM_gH1DS-981ZVXxqykv8312zrib9cV55i_oCm9s-MQhXxuvugyRrOsHrMgVDAwPBtmyPcmd9nLpTT1jtwiqhnVgSMJF
4   8_gBxvfOzzeKwhf2WF7Utdu",
5   "refresh_token": "1//0dAuXO: AAGA0SNwF-L9IrgpgiuLgaRF2SVn2Hg67aS2dpb8zF0zAxXD10jcNrHTZet0oPAQTWwqORip1W9HpcIzE",
6   "token_uri": "https://oauth2.googleapis.com/token",
7   "client_id": "596315864195 fkv748ta615245ro5no7.apps.googleusercontent.com",
8   "client_secret": "GOCSPX- ib-t4Tcj7CRbhayv",
9   "scopes": [
10  "https://www.googleapis.com/auth/cloud-platform"
11 ]
12 }
```

Note: If you have issues obtaining the refresh token, contact **NetBrain Support**.

If you want to remove the existing credential access or obtain a refresh token again, follow these steps:

- 1) Click **Manage credential access** to remove the credential access.

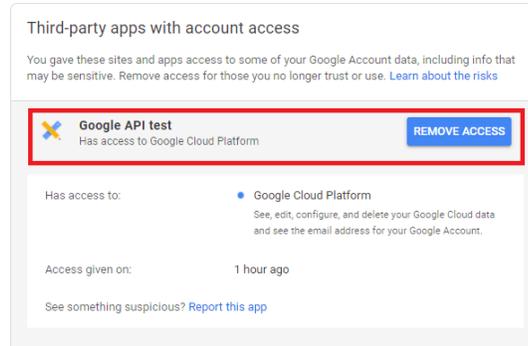
[Authorize Credential](#)

[Manage credential access](#)

Go directly to the authorization flow. If there are stored credentials, you still might not be prompted to reauthorize the application.
Manage third-party apps with account access. After removing credential access, you can fetch refresh token gain.

2) Select the 3rd-party apps that need to remove access and click **REMOVE ACCESS**.

← Apps with access to your account



3) Click **OK** to confirm.

Remove access?

Google API test will no longer have access to your Google Account. You'll need to grant access if you want to use this app or service again.

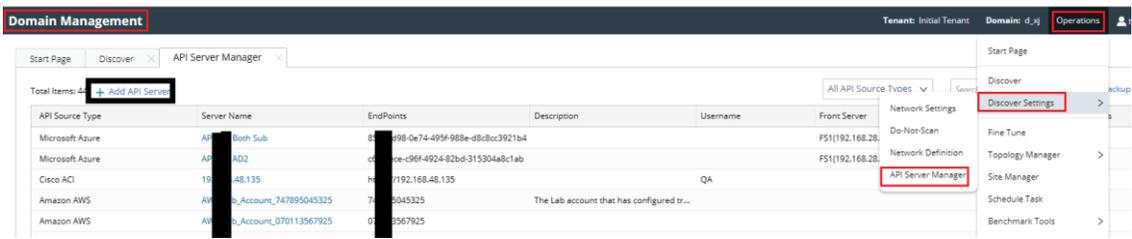
Cancel **OK**

1.4.4. Set Up API Server

Note: Before setting up your API server, read NetBrain Requirements for API Server [Setup](#) first.

Follow these steps to set up a NetBrain GCP API Server via OAuth Client:

1. Log in to your NetBrain IE system, select **Operations** → **Discover Settings** → **API Server Manager** in the **Domain Management** page, and click the **+ Add API Server**.



2. Set up the GCP API Server via OAuth Client.

Add External API Server
✕

* Server Name:

Description:

* API Source Type: ▼

* Access Method: ▼

* Endpoint(OAuth Client/Service Account):

Account):

* Client Secret:

* Organization ID:

* Refresh Token:

* Front Server/Front Server Group: ▼

Managed Devices: 0

Test
Cancel
OK

Add **External API Server** configuration using the following information.

- ✓ **Server Name:** a unique name.
- ✓ **Description:** an optional field to describe this server.
- ✓ **API Source Type:** Select **Google Cloud**.
- ✓ **Access Method:** Select **OAuth 2.0 Client**.
- ✓ **Endpoint:** OAuth 2.0 Client ID. Refer to step 7 of section [1.4.3 Obtain Refresh Token](#). You can copy it from the downloaded JSON file.
- ✓ **Client Secret:** refer to step 7 of section [1.4.3 Obtain Refresh Token](#). You can copy it from the downloaded JSON file.
- ✓ **Organization ID:** your actual GCP Organization ID.

- ✓ **Refresh Token:** refer to step 7 of section [1.4.3 Obtain Refresh Token](#). You can copy it from the downloaded JSON file.
- ✓ **Front Server/Front Server Group:** select the front server/front server group that can access GCP.

Note: If you have any issues with the setup of an API server, contact **NetBrain Support**.

2. Start GCP Discovery

2.1. Discover Cloud Resources via APIs

Follow these steps to discover GCP networking resources via APIs:

1. Log in to your NetBrain IE system.
2. Click **Discover** on the **Domain Management** page.

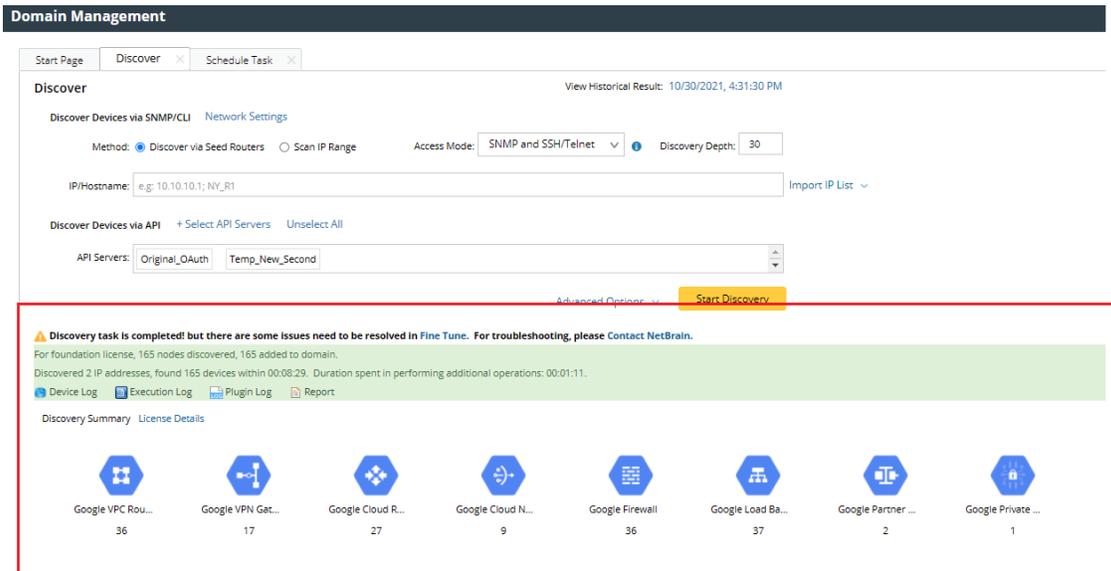
The screenshot shows the 'Domain Management' interface. At the top, there's a 'Start Page' button highlighted with a red box. Below it, the 'Discover' button is also highlighted with a red box. The interface displays various metrics and a table of current users.

Username	ClientType	Machine Name	IP Address	Browser	Login Time	End Session
tonyong (NetBrain)						
Session2	IE			Chrome	11/26/2021, 9:10:39 AM	
skanal (NetBrain)						
Session1	IE			Chrome	11/26/2021, 8:54:40 AM	End Session

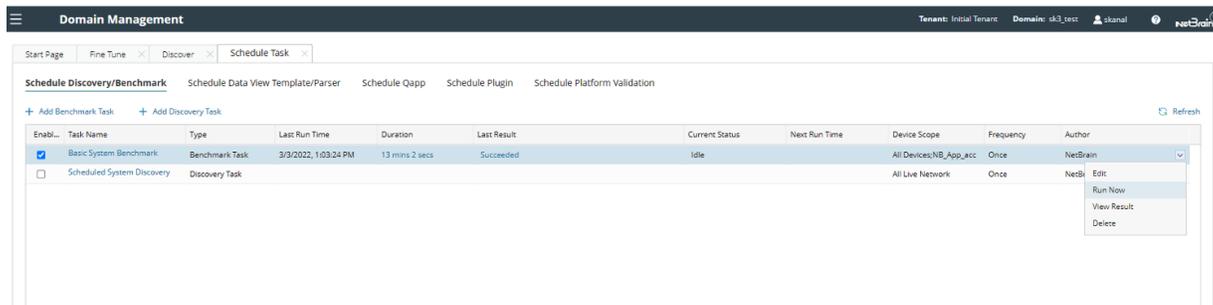
3. Click **+ Select API Servers**. Select the GCP API Server that you created. Click **Start Discovery** to start the GCP discovery.

The screenshot shows the 'Discover' configuration page. The '+ Select API Servers' button is highlighted with a red box. Below it, the 'API Servers' dropdown menu is set to 'App_NetBrain_IE', which is also highlighted with a red box. The 'Start Discovery' button at the bottom right is highlighted with a red box.

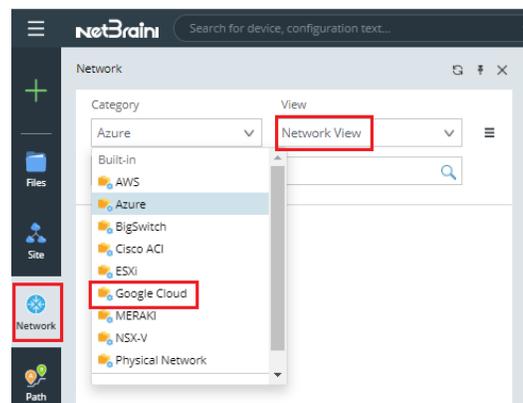
After the discovery finishes, the number of discovered objects will be displayed.



4. Click the **Scheduled Task** tab and run the **Basic System Benchmark**.

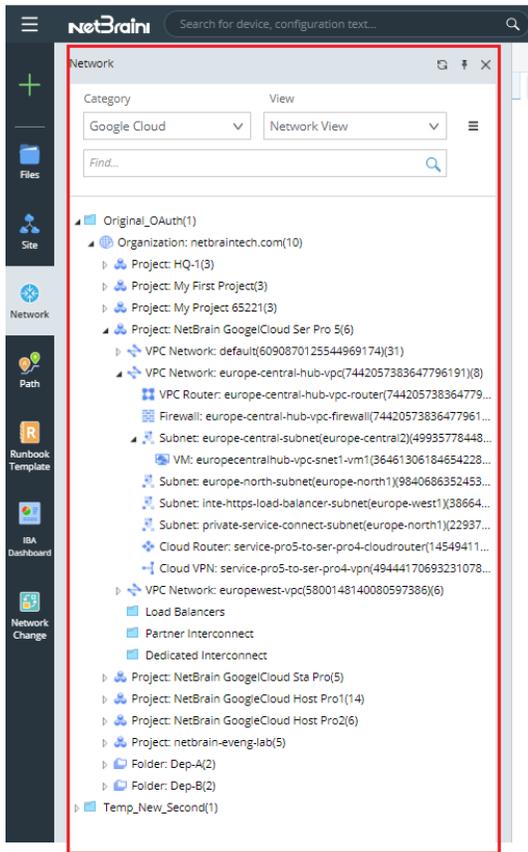


5. Open the network tree and select **Google Cloud** in the **Category** field to view the GCP resource. Select **Network View** in the **View** field.



Note: The Network View is only visible after the successful execution of the Basic System Benchmark.

All GCP resources discovered are displayed on the network tree. In addition, you can click a resource to open its context map.



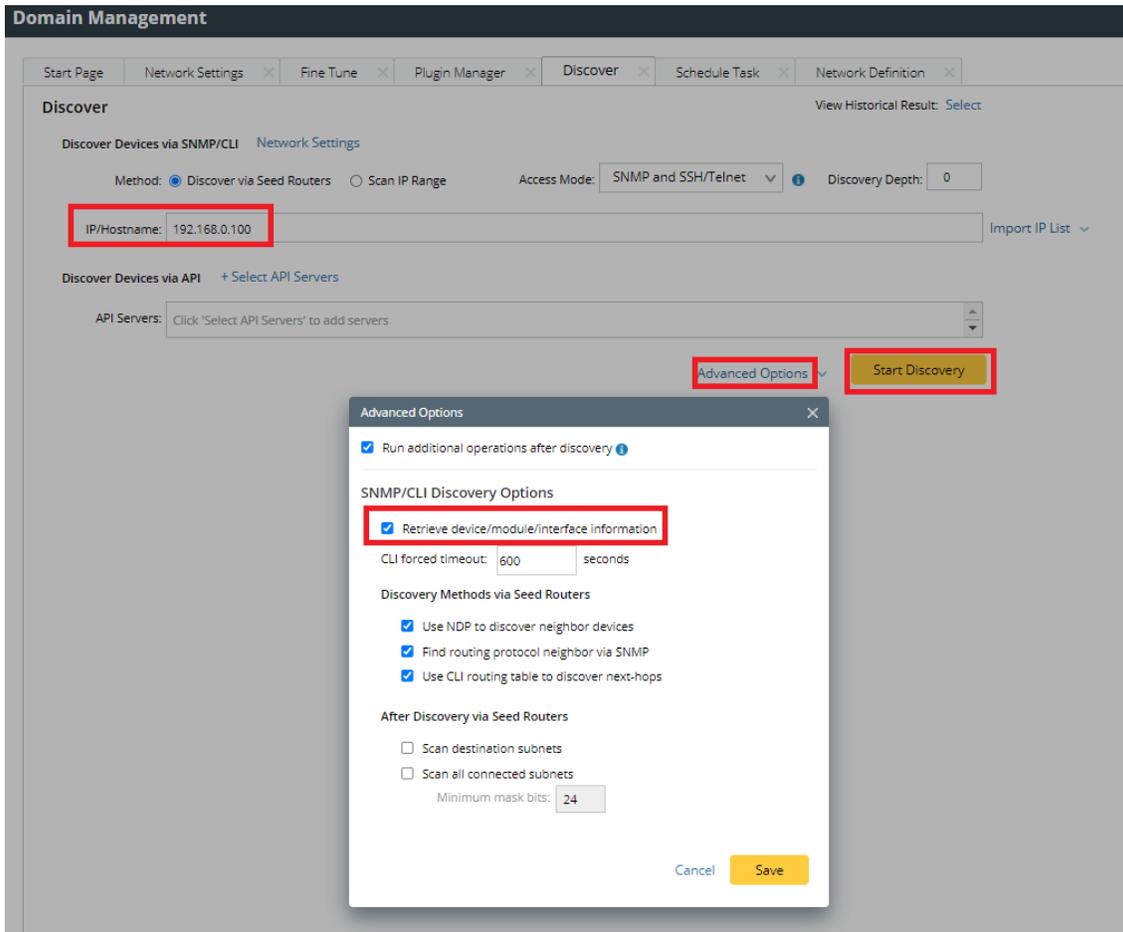
2.2. Discover Network Virtual Appliance

Network Virtual Appliance (NVA) can be loaded with any vendor's virtual machine (VM) images to support networking, security, and other functions. NetBrain supports visualizing the topology and path of GCP NVA after discovery and multi-source data merging.

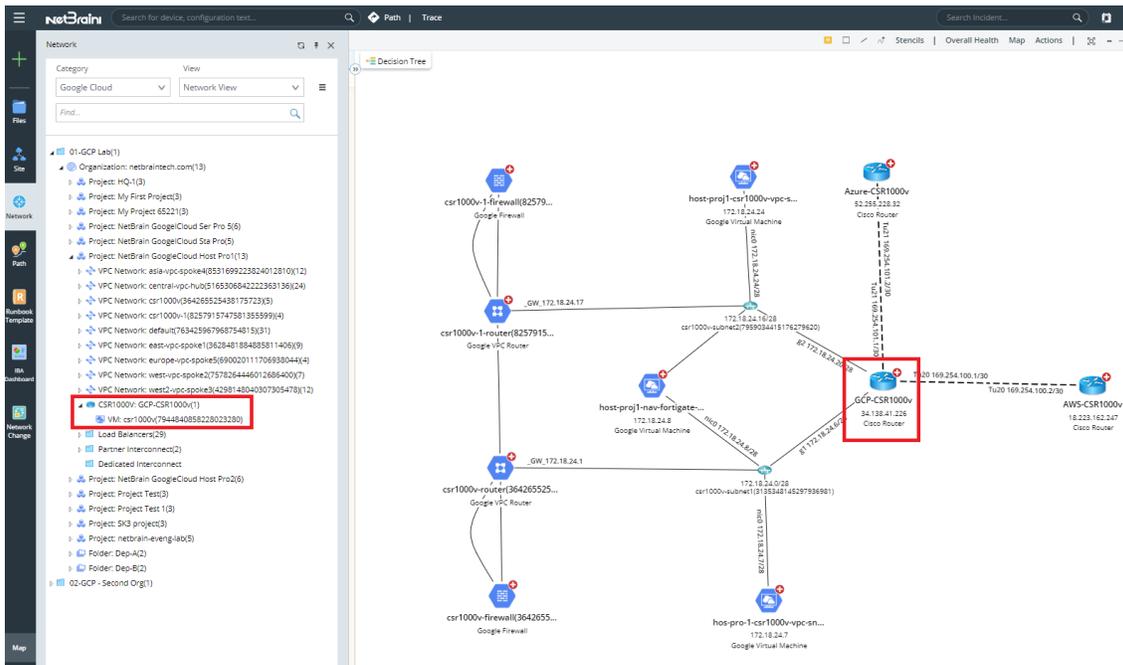
To discover the Network Virtual Appliance (NVA), you need to:

- ✓ Discover the Virtual Machine with Cloud API
- ✓ Discover Legacy Device with CLI

To perform the multi-source data merging properly via CLI discovery, go to the NetBrain IE **Discover** page, click the **Advanced Options**, and check **Retrieve device/module/interface information**.



After the NVA multi-source data merging is finished, the GCP NVA device topology sample is shown below.



3. Set Up MPLS Cloud

Note: If you want to show the provider's MPLS network in the NetBrain IE system, you must set up the MPLS cloud by following NetBrain's MPLS setup instructions. If not, skip this section.

NetBrain GCP support requires excluding all the Google Cloud Router devices connected with MPLS Cloud because the Cloud Router in GCP is in the control plane and should not involve the data plane.

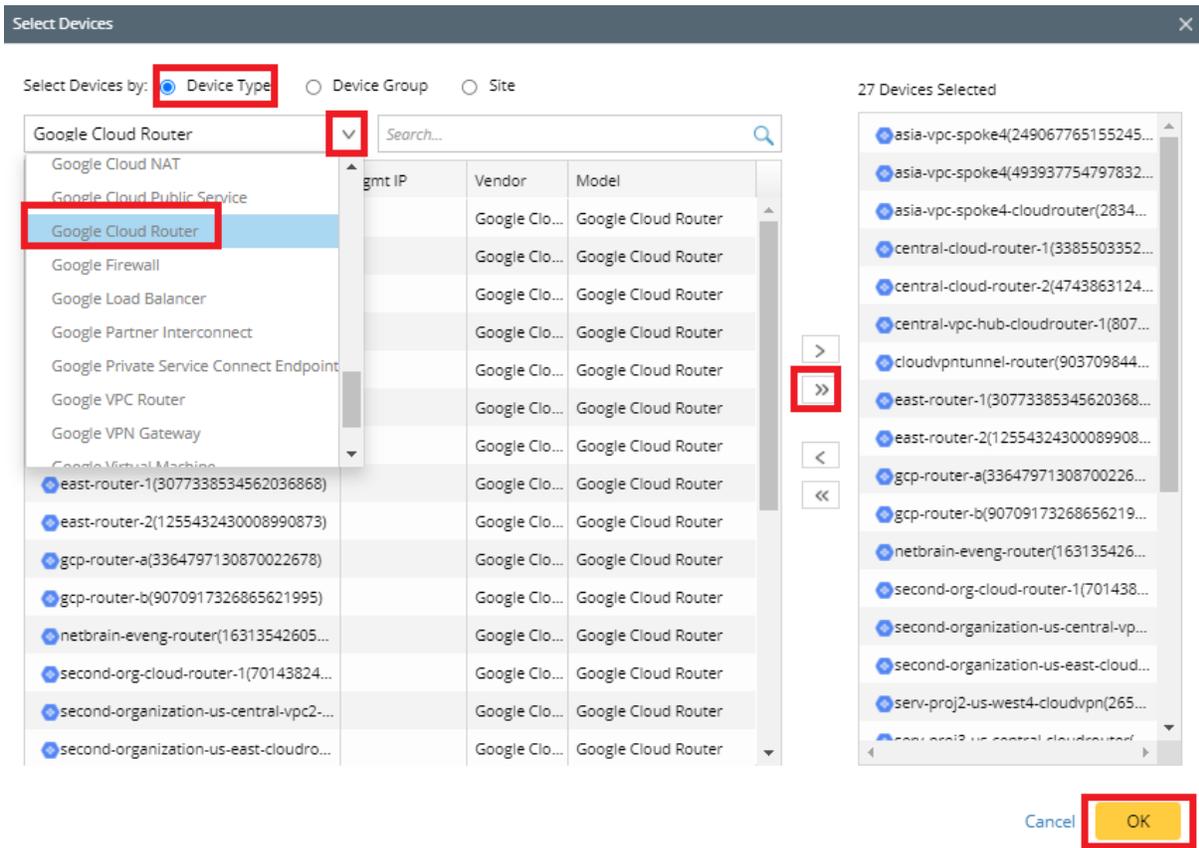
Follow these steps to exclude all the Google Cloud Router devices:

1. Log in to your NetBrain IE system.
2. Go to the Cloud Manager page from the **Fine Tune** tab of the **Domain Management** page. Add your new MPLS or edit the existing one, and select **Exclude Device**.

The screenshot shows the NetBrain Domain Management interface. The 'Fine Tune' tab is active, and the 'Cloud Manager' section is highlighted in the left sidebar. The main area displays a table of cloud configurations. The 'ATT_NetBond' cloud is selected, and the 'Edit Cloud' dialog is open. In the dialog, the 'Exclude Device' button is highlighted, and the 'Dynamic Searched' list shows 9 devices. The 'Edge Device Count' is 9.

Cloud Name	Cloud Type	Edge Device Count	Cloud Description
Google Cloud Storage	Google Cloud Public Se...	1	auto generated for Google Cloud Public Service
_for_Google_Cloud_In...	Internet Cloud	70	auto create for Google Cloud Internet Cloud
_for_Azure_Internet_C...	Internet Cloud	58	auto create for Azure Internet Cloud
_for_AWS_IGW	Internet Cloud	38	auto generated for AWS Internet Cloud
Amazon S3	AWS Public Service	5	auto generated for AWS Public Service
AWS Systems Manager	AWS Public Service	1	auto generated for AWS Public Service
Amazon API Gateway	AWS Public Service	1	auto generated for AWS Public Service
AWS App Mesh	AWS Public Service	1	auto generated for AWS Public Service
Amazon EC2	AWS Public Service	6	auto generated for AWS Public Service
Amazon SageMaker N...	AWS Public Service	1	auto generated for AWS Public Service
Amazon Dynamo DB	AWS Public Service	1	auto generated for AWS Public Service
AWS CloudTrail	AWS Public Service	1	auto generated for AWS Public Service
AWS PrivateLink Service	AWS Public Service	1	auto generated for AWS Public Service
ATT_NetBond	MPLS L3 VPN	9	

3. Select the **Google Cloud Router** from the drop-down menu, and click the **>>** icon to move all selected devices from left to right. Click **OK** to finish.



Note: Failure to exclude all the Google Cloud Router devices connected to MPLS may cause the path calculation issue. If you have any issue creating MPLS Cloud in the NetBrain IE system, contact **NetBrain Support**.

4. Set Up Benchmark Task to Auto-Update GCP Data

The discovery process only retrieves the basic data of your GCP network and builds L3 topology. After the discovery, you need to set up a NetBrain benchmark task to retrieve all data, including visual spaces and data views.

To create a benchmark for GCP resources, complete the following steps.

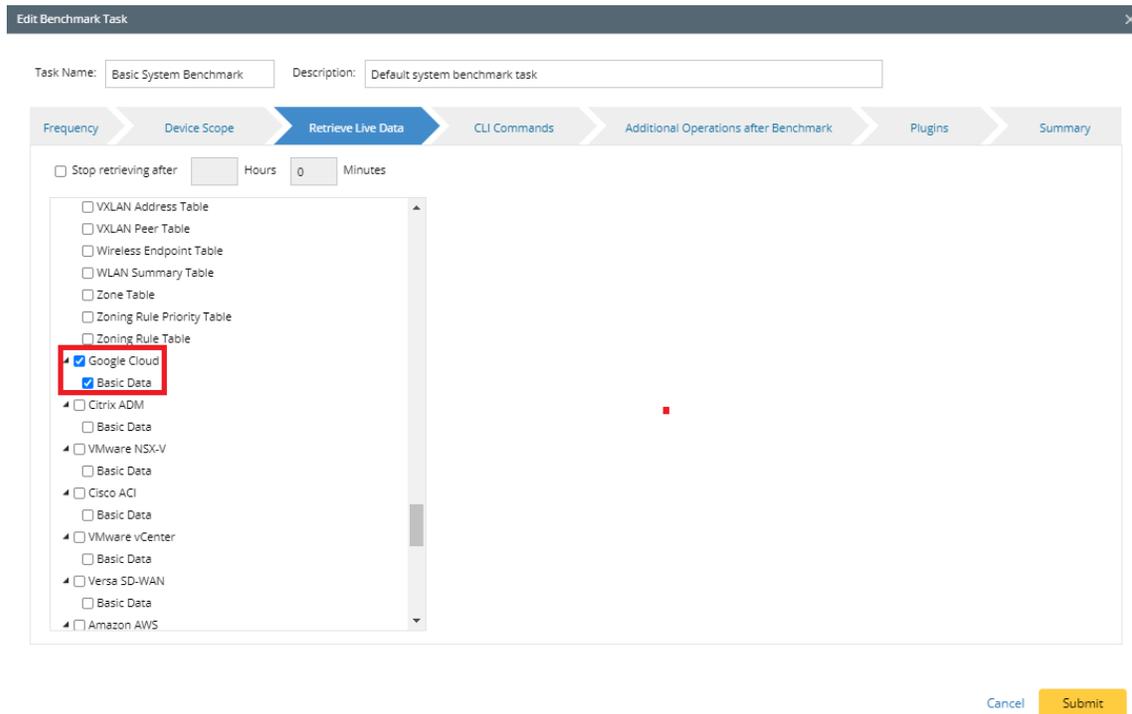
1. On the Start Page, click **Schedule Task**.
2. On the **Schedule Discovery/Benchmark** tab, click **Add Benchmark Task**.
3. On the **Frequency** tab, define the task frequency.
4. On the **Device Scope** tab, check the **Select external API servers to retrieve data** check box and select the API server for GCP.

The screenshot shows the 'Edit Benchmark Task' window. The 'Device Scope' tab is active. The 'Select external API servers to retrieve data' checkbox is checked. A table lists API source types, with 'Google Cloud' selected. The table has the following columns: API Source Type, Server Name, EndPoints, and Description.

API Source Type	Server Name	EndPoints	Description
<input checked="" type="checkbox"/>	Google Cloud	App_NetBrain_IE	596315864195-hid7feh... Discovery for GCP...
<input type="checkbox"/>	Amazon AWS	07-AWS Lab	041444721655
<input type="checkbox"/>	Amazon AWS	05-AWS_Lab_Account_74...	747895045325
<input type="checkbox"/>	Amazon AWS	06-AWS_Lab_Account_07...	070113567925
<input type="checkbox"/>	Microsoft Azure	03-Azure Tenant with Tw...	f8b92556-1265-426e-be...
<input type="checkbox"/>	Microsoft Azure	04-Azure Tenant for Cro...	c6afdece-c96f-4924-82b...
<input type="checkbox"/>	Google Cloud	02-GCP - Second Org	744042742179-d18563hg...

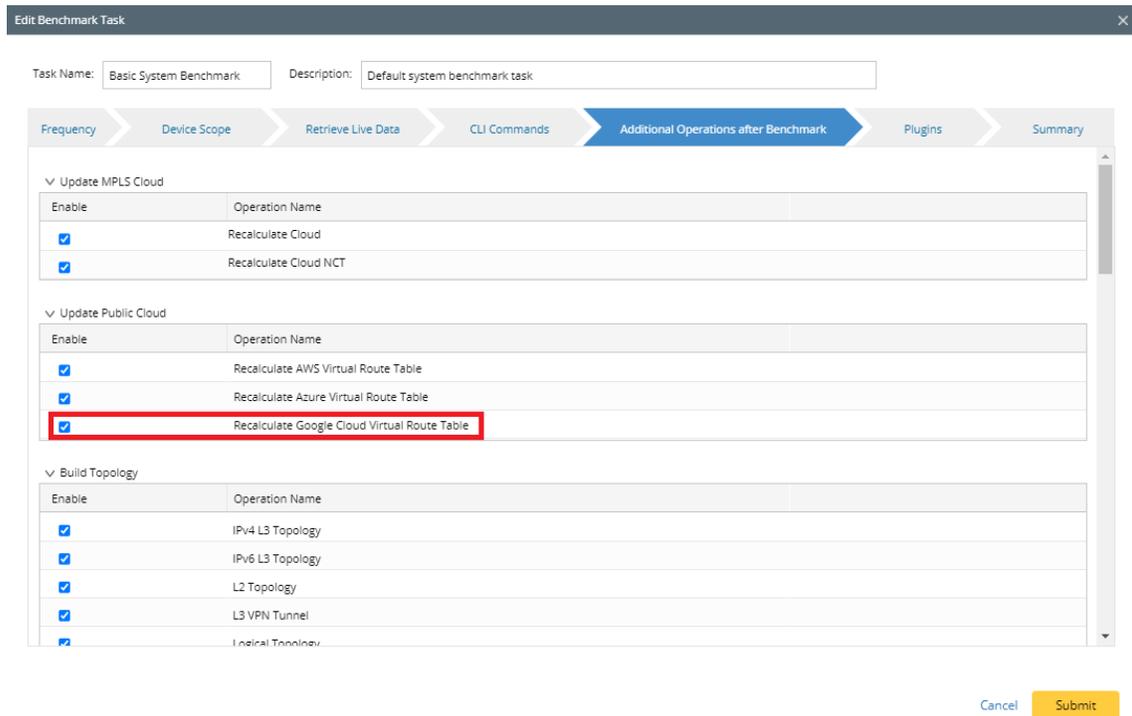
Note: It is highly recommended to re-use the “Basic System Benchmark” with a full benchmark task to ensure all GCP-connected physical or virtual devices are selected within the device scope.

5. On the **Retrieve Live Data** tab, select the **Google Cloud Basic Data** check box, keep the default selected GCP NCT tables as they are, and select **BGP Advertised Route Table**.



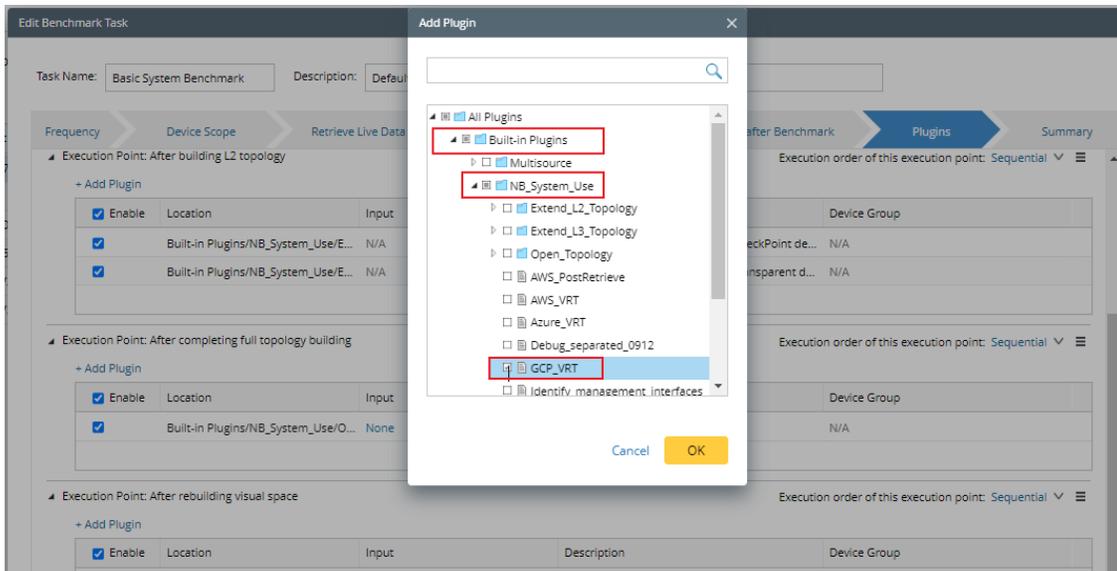
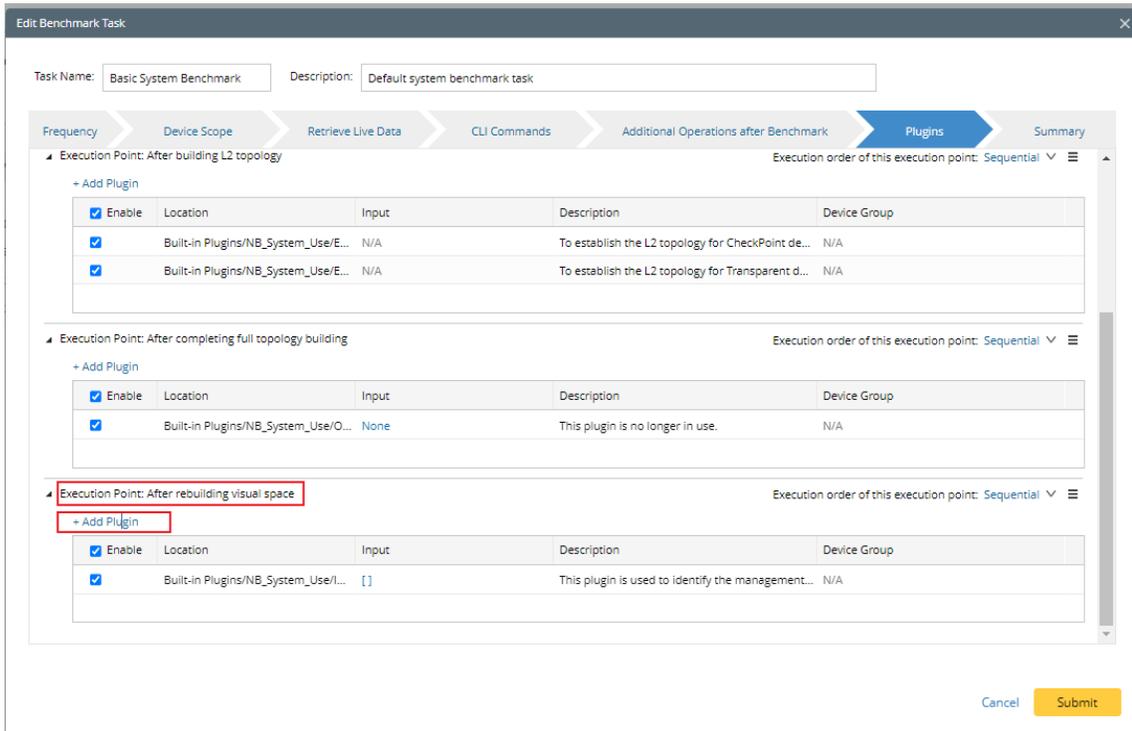
6. On the **Additional Operation After Benchmark** tab, select all the checkboxes for:

- Update MPLS Cloud
- Update Public Cloud (**Recalculate Google Cloud Virtual Route Table**)
- Update Build Topology



7. On the **Plugins** tab, add the GCP_VRT plugin following the steps below:

- Scroll down to **Execution Point: After rebuilding visual space** and Click on **Add Plugin**
- Navigate to **Built-in Plugins → NB_System_Use**
- Select **GCP_VRT** and click **“OK”**



8. Click **Submit**.

5. Appendix

5.1. NetBrain Requirements for API Server Setup

- The minimum resource unit for an API Server scope is a Project that includes all the resources under it. Therefore, NetBrain does not recommend separating resources under one Project to a different API Server.
- The API Server is associated with an Organization. Use IAM to control the project level of resources API discovery. If you have multiple Organizations, set up at least one API Server for each Organization.