NetBrain® Integrated Edition 7.1

Embedded Map Quick Start Guide

Version 7.1a | Last Updated 2018-11-16

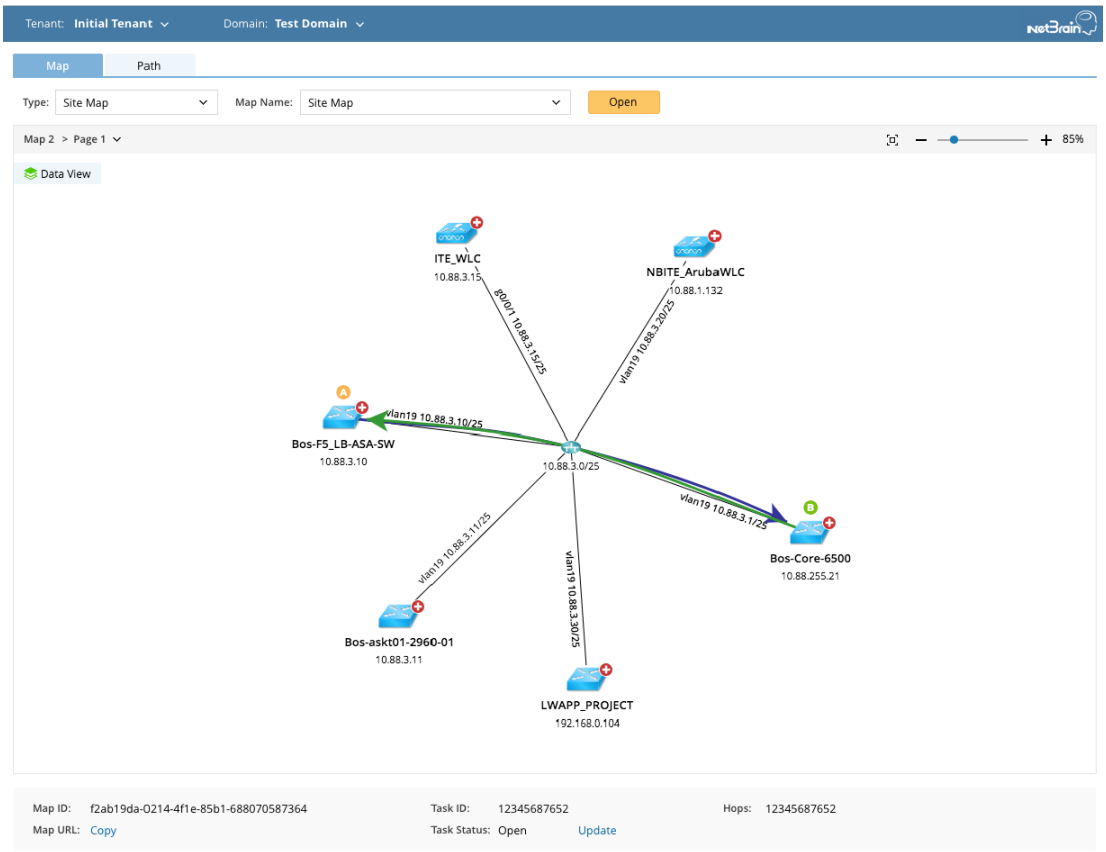
Contents

1.Overview

Many service providers and large enterprises benefit from their powerful web portals which offer seamless integrations with various well-established network management systems. NetBrain Embedded Map is a technology offered by NetBrain, which integrates a highly dynamic and easily deployable network map into client web portal by providing them with a set of pre-defined iframes and API endpoints.

User can choose either of the following ways to consume NetBrain Embedded Map technology:

- View site maps, device group maps, and maps in the **Public** folder.
- View path maps by calculating paths.



2.Set Up Embedded Map in Your Web Portal

Follow the steps below to properly set up NetBrain Embedded Map in your web portal.

> **Tip:** It is highly recommended to set the size of the iframe as 1200 x 800 pixels (width x height) in your portal page head.

Workflow

The pseudo code below describes the high-level workflow to embed a NetBrain map into your portal.

```
1. Modify the web.config file of your NetBrain Web Server to allow the iframe to render NetBrain
web page.
2. Reference the Web Server script library in the portal.
3. Initialize NetBrain instance.
4. Construct the drop-down menu for Tenant.
5. Construct the drop-down menu for Domain.
6. Construct the drop-down menu for Site/Device Group/Public Map File.
7. Browse and open a specific map.
8. Construct the text box and drop-down menu for path options.
9. Calculate a path and view the path result.
```

Deployment Process

1. Modify the **web.config** file of your NetBrain Web Server to enable iframe.
   - Append the **Content-Security-Policy** configuration to the bottom of the file. Replace the highlighted value with the actual domain name of your web portal.

Sample Web Config File

<../Web/NetBrainNGClient/src/NetBrainNG/dist/web.config>

```
<httpProtocol>
  <customHeaders>
    <remove name="X-Frame-Options"/>
    <remove name="X-Content-Type-Options"/>
    <remove name="X-XSS-Protection"/>
    <remove name="Strict-Transport-Security"/>

    <add name="X-Frame-Options" value="SAMEORIGIN"/>
    <add name="X-Content-Type-Options" value="nosniff"/>
    <add name="X-XSS-Protection" value="1; mode=block"/>
    <add name="Strict-Transport-Security" value="max-age=31536000; includeSubDomains;
preload"/>
    <add name="Content-Security-Policy" value="frame-ancestors http://ite.netbraintech.com"/>
  </customHeaders>
```

> **Tip:** To learn more about the HTTP Content-Security-Policy response header, click here.

2. Reference the script library of your NetBrain Web Server in the portal. This script library provides an interface to call NetBrain APIs in the subsequent deployment.

```
<script src="http(s)://<your NetBrain Web Server
address>/js/nb.embedmap.netbraintools.min.js"></script>
```

3. Initialize NetBrain instance.

```
var netbrain, map;

var options = {
    netbrainUrl: 'http(s)://your NetBrain Web Server address', //required
    ssoAlias: 'sso',   //required
    virtualDir: '/'   //optional. The path of the virtual directory where NetBrain is deployed.
};

NetbrainTools.createNetbrainInstance(options)
    .then(function(netbrainInstance) {
        netbrain = netbrainInstance;
    })
    .then(initBinds)
    .catch(logError);
```

> **Note:** Before proceeding to initialize NetBrain instance, please ensure `netbrainInstance` is accessible. `netbrainInstance` contains all NetBrain APIs for Embedded Map deployment. Failing to fetch `netbrainInstance` will cause error prompt indicating 'create netbrain instance failed'.

Sample <netbrainInstance>

```
{

    api: object,

    createMap: function,

    relogin: function

}
```

4. Construct the drop-down list for the **Tenant** field.

```
netbrain.api
    .getTenants({})
    .then(function(result) {
        var tenants = result.tenants;
        console.log(tenants); // render your UI list here
    });
```

Following output example is shown here for reference purposes:


```
{
  "tenants": [
    {
      "tenantId": "6b2ac0ce-5817-831f-4d79-acfc62aa2920",
      "tenantName": "xxf_tenant"
    },
    {
      "tenantId": "e58f795c-8262-126f-fa04-90210bfcbe6c",
      "tenantName": "xxf_sdn_tenant"
    },
    {
      "tenantId": "fc29f127-35af-20cc-797e-0caec793cc26",
      "tenantName": "rwang_tenant"
    },
    {
      "tenantId": "06b63b6c-698e-f5fb-c249-082036df95e1",
      "tenantName": "MIMIC"
    },
    {
      "tenantId": "42a296d4-d8ca-5a6c-5e0c-ecdc393f0ff7",
      "tenantName": "gcui_test"
    }
  ],
  "statusCode": 790200,
  "statusDescription": "Success."
}
```


> **Tip:** For more details about how to leverage NetBrain API to retrieve the tenant list, see Get all accessible tenants.

5. Construct the drop-down list for the **Domain** filed.

> **Note:** Make sure to replace the highlighted values with the desired `tenantId` value.

```
netbrain.api
    .getDomains({
        tenantId: '6b2ac0ce-5817-831f-4d79-acfc62aa2920'
    })
    .then(function(result) {
        var Domains = result.domains;
        console.log(Domains); // render your UI list here
    });
```

Following output example is shown here for reference purposes:


```
{
  "domains": [
    {
      "domainId": "debfbef3-fa56-45f0-82b1-a90e20154454",
      "domainName": "xxf_domain"
    },
```

```
    {
      "domainId": "10c05674-0b3b-4b4e-b672-87ae32eace98",
      "domainName": "normaluser"
    },
    {
      "domainId": "b9e6e637-eab0-4024-905f-3906756f2fb9",
      "domainName": "ertret"
    }
  ],
  "statusCode": 790200,
  "statusDescription": "Success."
}
```

> **Tip:** For more details about how to leverage NetBrain API to retrieve the domain list from one of your NetBrain tenants, see Get all accessible domains of a tenant.

6. Construct the **Site Map/Device Group Map/Public Map** drop-down list.

> **Note:** Site Map/Device Group Map/Public Map are hard-coded categories. Following APIs are designed for the purposes of rendering map list when corresponding map type is selected.

Site drop-down list

> **Note:** Make sure to replace the highlighted values with your specific request parameters.

```
netbrain.api
    .getSites({
        tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
        domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480',
        sitePath: 'My Network' //referring to Site Map
    })
    .then(function(result) {
        var sites = result.sites;
        console.log(sites);
    });
```

Following output example is shown here for reference purposes:

```
{
  "sites": [
    {
      "siteId": "13e91c22-ffc8-4a31-82ad-786ae976c31e",
      "sitePath": "My Network/USXACanada",
      "isContainer": true,
      "children": [
        "e2eaad3f-b829-4715-87c0-72eb1f038274",
        "718a69b0-448b-4645-b0de-466adf88423d"
      ],
      "siteType": 1
    },
```

```
    {
      "siteId": "97a22e99-a042-4366-8ecc-d69bd32adc42",
      "sitePath": "My Network/USXACanada/United States of
America/MASSACHUSETTS/CANTON/Canton_NB1",
      "isContainer": false,
      "siteType": 2
    },
    {
      "siteId": "8ea30269-b348-4ca4-86fc-79557881a6f3",
      "sitePath": "My Network/USXACanada/United States of
America/MASSACHUSETTS/CANTON/Canton_NB2",
      "isContainer": false,
      "siteType": 2
    },
    // ...
    {
      "siteId": "732e8ab6-6b69-417d-ad03-2cc447100166",
      "sitePath": "My Network",
      "isContainer": true,
      "children": [
        "13e91c22-ffc8-4a31-82ad-786ae976c31e",
        "a3a9d329-fcdd-49d9-9669-9ec205d587c2",
        "74a72061-0412-428d-8448-6cbd3f9c70b1",
        "d2628098-be31-49b5-befc-167e9f1e9d88"
      ],
      "siteType": 0
    }
  ],
  "statusCode": 790200,
  "statusDescription": "Success."
}
```

Device Group drop-down list

> **Note:** Make sure to replace the highlighted values with your specific request parameters.

```
netbrain.api
    .getDeviceGroups({
        tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
        domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480'
    })
    .then(function(result) {
        var deviceGroups = result.deviceGroups;
        console.log(deviceGroups);
    });
```

Following output example is shown here for reference purposes:

```
{
  "deviceGroups": [
    {
    "id": "8196020b-b223-4bc8-8178-ac4da95b1695",
    "name": "#BGP 64512",
    "type": 2
```

```
  },
  {
    "id": "fbd027f2-24c9-4616-a6bd-62b7613b07e1",
    "name": "#BGP 65000",
    "type": 2
  },
  {
    "id": "f84008dd-a406-4b30-b71a-18e66b4a7d68",
    "name": "#BGP 65012",
    "type": 2
  }
  ],
  "statusCode": 790200,
  "statusDescription": "Success."
}
```

Public Map File drop-down list

> **Note:** Make sure to replace the highlighted values with your specific request parameters.

```
netbrain.api
    .getPublicFiles({
        tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
        domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480',
        folderId: '',
        fileTypes: [ 0, 11 ]
    })
    .then(function(result) {
        var files = result.Items;
        console.log(files);
    });
```

Following output example is shown here for reference purposes:

```
{
    "items":[

        {
            "originalId":"267752c5-c01b-8ee3-d5aa-8fec88da8927",
            "id":"28337b50-25a0-40df-a0c8-20b79dce3f42",
            "name":"Public/test",
            "type":0
        },
        {
            "originalId":"267752c5-c01b-8ee3-d5aa-8fec88da8927",
            "id":"ff4e2847-2692-4a55-932c-b58978baaf2a",
            "name":"Public/Map3",
            "type":11
        },
        {
            "originalId":"7a249ae9-8dab-435d-88fa-5c698356c069",
            "id":"4a6cd1a3-558f-4288-acf3-e13825ea28af",
            "name":"Public/test/Map1cgc",
```

```
            "type":11
        }
    ],
    "statusCode":790200,
    "statusDescription":"Success."
}
```

> **Tip:** For more details about the corresponding APIs, refer to Get Site, Get Device Group or Get File respectively.

7. Browse a specific map.

   1) Create a map instance.

> **Note:** `mapContainer` is a container div used to render returned map instance.

```
netbrain.createMap($('#mapContainer').get(0) ).then(function(mapInstance) {
    map = mapInstance;
});
```

   2) Verify `mapInstance` has been generated.

```
if (mapInstance) {
    openMap(param);
} else {
    netbrainInstance.createMap(mapOption.container).then(function (instance) {
        mapInstance = instance;
        openMap(param);
    });
}
```

   3) Open a specific map.

> **Note:** Make sure to replace the highlighted values with your specific request parameters.

Open a site map

```
map.open({
    siteId: siteId,
    tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
    domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480'
}).then(function () {
    // ...
});
```

Open a device group map

```
map.open({
    deviceGroupId: deviceGroupId, //referring to the output 'id' in Step 6
    tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
    domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480'
```

```
}).then(function () {
    // ...
});
```

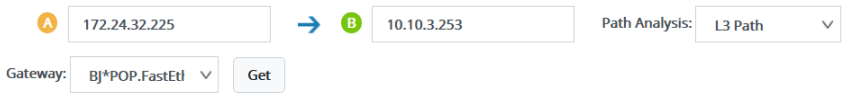
Open a map in the Public file

```
map.open({
    mapId: mapId, // referring to the output 'originalID' in Step 6
    tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
    domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480'
}).then(function () {
    // ...
});
```

4) Refresh a map.

```
map.refresh();
```

8. Construct the text box and drop-down menu for path options. For more details about Path Analysis and Gateway APIs, refer to Calculate a path and Get the gateway of a device.



9. Verify `mapInstance` has been generated.

```
if (mapInstance) {
    map.calculatePath (pathData);
} else {
    netbrainInstance.createMap(mapOption.container).then(function (instance) {
        mapInstance = instance;
        map.calculatePath (pathData);
    });
}
```

10. Calculate a path and view the result.

> **Note:** Make sure to replace the highlighted values with your specific request parameters.

1) Calculate a path.

```
map.calculatePath({
    tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c', //required
    domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480', //required
    sourceIP: '10.10.3.253', //required
    sourcePort: 0,
    sourceGwIP: '10.10.3.253',
    sourceGwDev: 'GW2Lab',
    sourceGwIntf: 'GigabitEthernet0/0.10',
    destIP: '172.24.32.225', //required
    destPort: 0,
    pathAnalysisSet: 1,
    protocol: 4,
    isLive: 1
```

```
}).then(function (result) {
    var taskId =result.taskId
    // ...
});
```

2) View the path result.

```
netbrain.api.getPathResult({
    tenantId: 'e58f795c-8262-126f-fa04-90210bfcbe6c',
    domainId: 'b3752773-f37f-4a3e-b547-062d2c0a0480',
    taskId: 'b69c0af1-73ce-49e7-8cc7-59ce8ce5eb37'
}).then(function (result) {
    var hoplist =result.hopList
    // ...
});
```

Following output example is shown here for reference purposes:

```
{
  "hopList": [
    {
      "hopId": "b1612e9f-491f-4edf-9e40-156052b0f708",
      "srcDeviceName": "GW2Lab",
      "inboundInterface": "GigabitEthernet0/1",
      "mediaName": "172.24.30.0/30",
      "dstDeviceName": "NY_Router",
      "outboundInterface": "FastEthernet0/0",
      "nextHopIdList": [
        "97f40ee6-dee0-4b1f-a723-fec130292aa0"
      ]
    },
    {
      "hopId": "97f40ee6-dee0-4b1f-a723-fec130292aa0",
      "srcDeviceName": "NY_Router",
      "inboundInterface": "Vlan100",
      "mediaName": "172.24.30.4/30",
      "dstDeviceName": "NY_POPP",
      "outboundInterface": "Ethernet0/1",
      "nextHopIdList": [
        "6846b938-a666-412c-99b8-9e400a80b6b7"
      ]
    },
    {
      "hopId": "6846b938-a666-412c-99b8-9e400a80b6b7",
      "srcDeviceName": "NY_POPP",
      "inboundInterface": "Ethernet0/0",
      "mediaName": "172.24.31.64/26",
      "dstDeviceName": "NY-core-bak",
      "outboundInterface": "FastEthernet0/0",
      "nextHopIdList": [
        "63d88b57-201e-41e3-85f3-a5965c450d52"
      ]
    },
    {
      "hopId": "63d88b57-201e-41e3-85f3-a5965c450d52",
      "srcDeviceName": "NY-core-bak",
```

```
      "inboundInterface": "FastEthernet0/1.1",
      "mediaName": "172.24.31.192/26",
      "dstDeviceName": "BJ*POP",
      "outboundInterface": "FastEthernet0/1",
      "nextHopIdList": []
    }
  ],
  "statusCode": 790200,
  "statusDescription": "Success."
}
```


Tip: For more details about the path APIs, refer to the following API documentations:

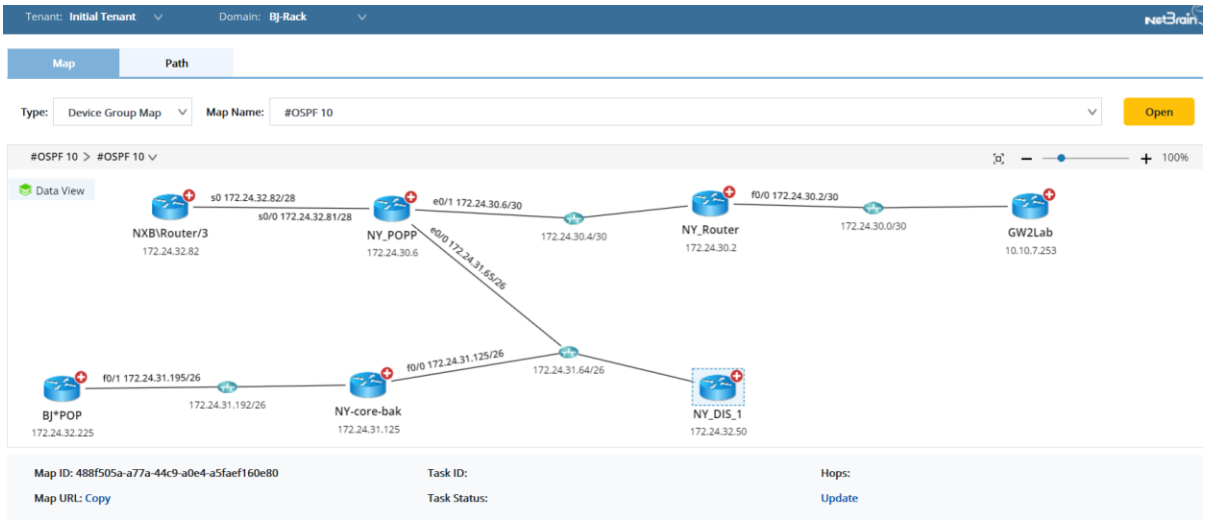
- Calculate a path
- Get the gateway of a device
- Get the status of a path

3.Working with Embedded Map User Interface

Follow the steps below to view an embedded map in your portal.

Example 1: Open a device group map.

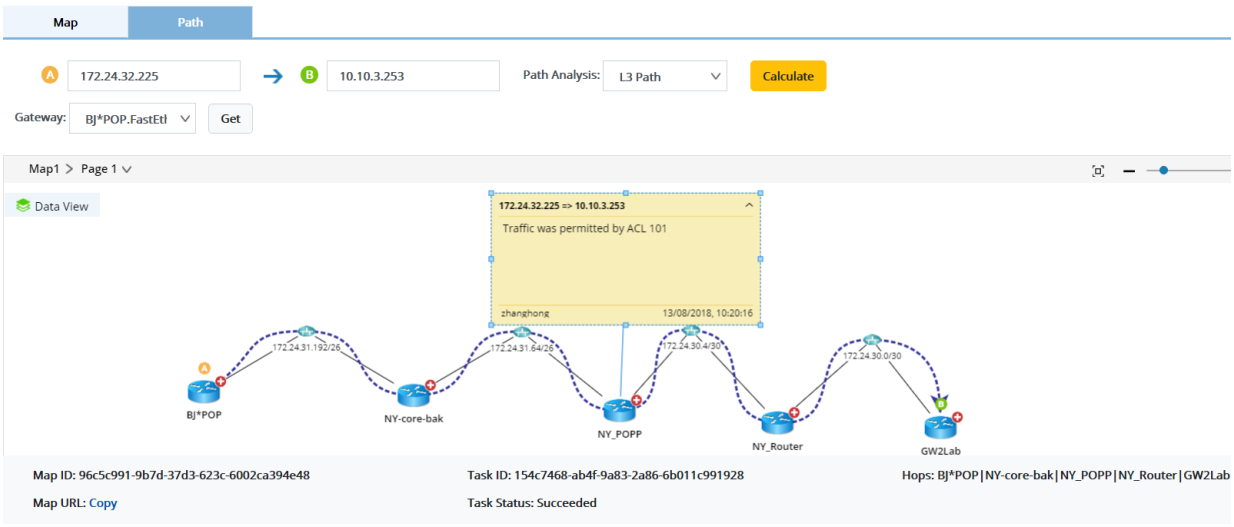
1. Log into your portal and navigate to the NetBrain page.
2. Select the desired tenant and domain.
3. Select **Device Group Map** from the **Type** drop-down menu.
4. Select a map from the **Map Name** drop-down menu.
5. Click **Open**.



Example 2: Calculate a path.

1. Log into your portal and navigate to the NetBrain page.
2. Select the desired tenant and domain.
3. Create a map by calculating a path.
   1) Enter the source IP and click **Get** to obtain the gateway list of the source device.
   2) Enter the destination IP and select a path analysis method.
   3) Click **Calculate** to start the path calculation.

> **Note:** The calculation uses live data as data source by default.



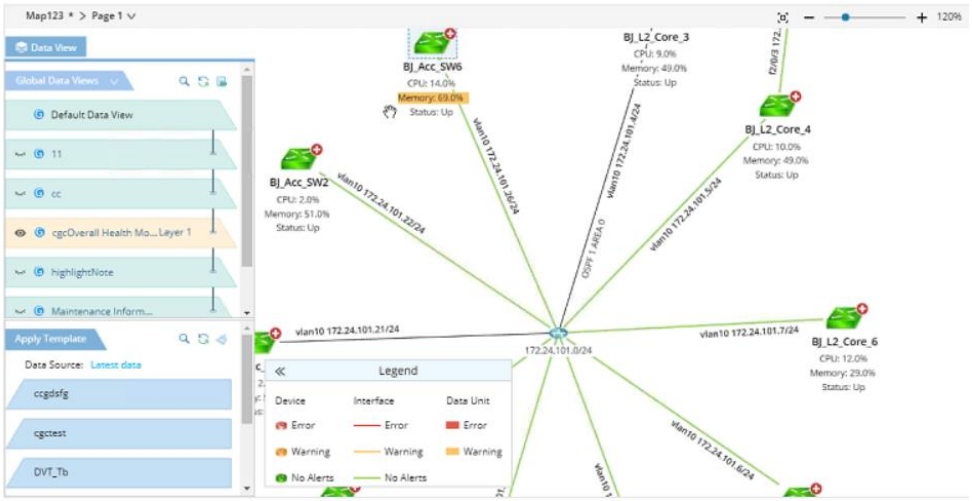
Embedded Map Operation

You can perform the following operations on an embedded map.

Applying data views

1. On the map page, click the icon to launch the **Data View** pane. It lists all the data views applicable to the current map page.
2. In the **Data View** pane, select a global data view to apply. Data units in this data view are highlighted with different background colors.

> **Tip:** You can switch between different data views in the Data View pane to suit your specific project needs.

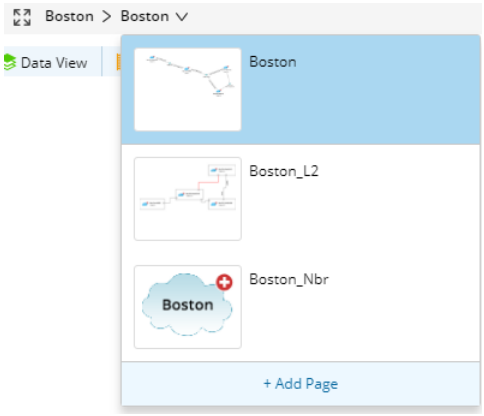


Fitting to Screen

On the upper-right corner of a map, you can click the icon to adjust the display ratio of your map to fit your screen.

Browsing more map pages

Click the map name and select more maps from the drop-down menu.



Zooming to view more data details

In an embedded map, you can zoom in the map to show more data details over an interface link.

> **Note:** Following functionalities are currently not supported by Embedded Map.
> - Executing a Runbook
> - Running a Qapp
> - Extending Neighbor
> - Operations in the right-click menu
> - Pointing to a link or data to show the corresponding configuration in a tip window

4. NetBrain APIs for Embedded Map Deployment

Table below lists the NetBrain APIs you may use to deploy the NetBrain Embedded Map.

Category	APIs
Tenant and Domain List	▪ Get all accessible tenants ▪ Get all accessible domains of a tenant
Site	▪ Get child sites of a specific site
Device Group	▪ Get device group list
File	▪ Get file list
Path	▪ Calculate a path ▪ Get path calculation result ▪ Get the gateway information of a device ▪ Stop a path

4.1. Get all accessible tenants

This function returns a list of accessible tenants (including tenant ID and names). The returned tenant list varies by the user privileges you use to log in. To retrieve a full list of all available tenants, you must log in with admin permissions.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Tenants	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials. **Example:** `{ "token": "301ebdd8-0045-429d-8807-c51b8db7f5f0" }`

Response

Parameter	Type	Description	Example
tenants	array	A list of all accessible tenants.	`{ "tenants": [ { "tenantId": "3e75247a-309c-4231-96a5-823b6cb1e78d", "tenantName": "bos_office" }, { "tenantId": "5a75247a-309c-4231-96a5-823b6cb1e78d", "tenantName": "ny_office" } ] }`
tenantId	string	The tenant ID.	
tenantName	string	The tenant name.	
statusCode	integer	Code issued by NetBrain server indicating the execution result.	
statusDescription	string	The explanation of the status code.	

4.2. Get all accessible domains of a tenant

This function returns a list of accessible domains in a specific tenant. The returned accessible domains vary by the user privileges you use to log in. To retrieve a full list of domains in a specified tenant, you must log in with system admin or tenant admin permissions.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Domains	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
tenantId *(query)*	Unique identifier for the tenant from which you desire to retrieve the domain information. tenantId can be retrieved from get all accessible tenants.

Response

Parameter	Type	Description	Example
domains	array	A list of all accessible domains.	{ "domains": [{ "domainId": "4e75247a-309c-4231-96a5-823b6cb1e78d", "domainName": "domain1" }, { "domainId": "5e75247a-309c-4231-96a5-823b6cb1e78d", "domainName": "domain2" }] }
domainId	string	The domain ID.	
domainName	string	The domain name.	
statusCode	integer	Code issued by NetBrain server indicating the execution result.	
statusDescription	string	The explanation of the status code.	

4.3. Get child sites of a specific site

This function returns a list of child sites of a specified site.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Sites/ChildSites	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
sitePath*required *(query)*	The full path of a site, for example, My Network/NA/US.

Response

Parameter	Type	Description	Example
sites	array	A list of all child sites.	{ "sites": [{ "siteId": "47e5d1c1-5ddc-4e5f-b37c-21616193dd36", "sitePath": "My Network/C0/L4", "isContainer": false, "siteType": 2 }, { "siteId": "020cb2a2-d192-4c29-a9bd-53787d866f85", "sitePath": "My Network/C0", "isContainer": true, "children": ["47e5d1c1-5ddc-4e5f-b37c-21616193dd36", "16d1cd8e-eb8e-42ca-a19d-54d7a7fbd2a2", "c36eb043-a30f-4b58-b05f-957f845c40e3", "688bc6b2-3b34-42ff-96a2-c06687d2c03a", "6348e733-1c6b-4d76-8926-2d20622cf164", "3ed2ccba-9a00-48d7-9af0-a17e9aa8ccfb"],
siteId	string	The site ID.	
sitePath	string	The full path of a site.	
siteType	integer	The type of a site. ▪ 0: root site ▪ 1: container site ▪ 2: leaf site	
isContainer	bool	Whether it is a container site.	
children	array	List of child sites of the specified container site.	
statusCode	integer	Code issued by NetBrain server indicating the execution result.	
statusDescription	string	The explanation of the status code.	

Parameter	Type	Description	Example

			<pre> "siteType": 1
			        }
			    ],
			    "statusCode": 790200,
			    "statusDescription": "Success."
			}</pre>

4.4. Calculate a Path

This function is used to calculate a path between two endpoints. The result will be returned in the form of a path ID, and you can use the path ID in the Get Path Calculation Result as the request parameter to get each hop information of the path.

Resource Information

Method	URL	Required authentication
POST	/V1/CMDB/Path/Calculation	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
body*required *(body)*	The request body contains the following parameters: ▪ sourceIP*(string): IP address of the source device. ▪ sourcePort (integer): Source protocol port, for example, 23 for telnet. This parameter can be null. ▪ sourceGwIP* (string): Gateway for path calculation. ▪ sourceGwDevice* (string): Hostname of the gateway device. ▪ sourceGwIntf* (string): Name of the gateway interface. ▪ destIP*(string): IP address of the destination device. ▪ destPort (integer): Destination protocol port, for example, 23 for telnet. This parameter can be null. ▪ pathAnalysisSet* (integer): Path type used to calculate. ○ 1: L3 Path ○ 2: L2 Path ○ 3: L3 Active Path ▪ protocol* (integer): Application protocol, for example, IPv4. ▪ isLive (integer): Data source used to calculate the path. ○ 0: use data from the current baseline. ○ 1: use data via live access. **Example**:

```
{
  "sourceIP": "10.10.3.253",
  "sourcePort": 0,
  "sourceGwIP": "10.10.3.253",
  "sourceGwDev": "GW2Lab",
  "sourceGwIntf": "GigabitEthernet0/0.10",
  "destIP": "172.24.32.225",
  "destPort": 0,
  "pathAnalysisSet": 1,
  "protocol": 4,
```

Name	Description
	<pre> "isLive": 1 }</pre>

Response

Parameter	Type	Description	Example

taskId	string	The ID of the task.	<pre>{
			  "taskId": "string",
			  "statusCode": 790200,
			  "statusDescription": "success"
			}</pre>

statusCode	integer	Code issued by NetBrain server indicating the execution result.	
statusDescription	string	The explanation of the status code.	

4.5. Get the gateway information of a device

This function returns the gateway information of a device based on its IP or hostname.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Path/Gateways	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
ipOrHost*required *(query)*	The IP or hostname of a device.

Response

Parameter	Type	Description	Example

gatewayList	array	A list of returned gateway devices. The list contains the following parameters:
		▪ ip (string): the IP address of a gateway.
		▪ deviceName (string): the hostname of a gateway.
		▪ IntfName (string): the name of the gateway interface.
			<pre>{
			  "statusCode": 790200,
			  "statusDescription": "success",
			  "gatewayList": [
			  {
			  "ip": "string",
			  "devName": "string",
			  "intfName": "string"
			  }
			  ]
			}</pre>

statusCode	integer	Code issued by NetBrain server indicating the execution result.	
statusDescription	string	The explanation of the status code.	

4.6. Get path calculation status

This function returns the path status.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Path/{taskID}/Status	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
taskId*required *(query)*	The task ID retrieved from Calculate a Path.

Response

Parameter	Type	Description	Example

statusCode	integer	Code issued by NetBrain server indicating the execution result.	{
			"statusCode":790200,
			"statusDescription":"success",
			"result":{
			"resultCode":1,
			"resultDescription":"Running"
			}
			}

statusDescription	string	The explanation of the status code.	
resultCode	integer	The status code of the specified path. ▪ 0: Initialized ▪ 1: Running ▪ 2: Succeeded ▪ 3: Failed ▪ 4: Canceled	
resultDescription	string	The explanation of the result code.	

4.7. Get path calculation result

This function returns the hop information of a path calculated through the Calculate a Path API.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/Path/Calculation/{taskID}/Result	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
taskID*required *(query)*	The task ID retrieved from Calculate a Path.

Response

Parameter	Type	Description	Example
statusCode	integer	Code issued by NetBrain server indicating the execution result.	{ "statusCode": 790200, "statusDescription": "success", "hopList": [{ "hopId": "string", "srcDeviceName": "string", "inboundInterface": "string", "mediaName": "string", "dstDeviceName": "string", "outboundInterface": "string", "nextHopIdList": ["7a09854d-1d87-4656-8556-a7b142fccb75"] }] }
statusDescription	string	The explanation of the status code.	
hopList	array	A list of hops along a path.	
hopId	string	The ID of a hop.	
srcDeviceName	string	The hostname of the source device.	
inboundInterface	string	The name of the inbound interface.	
mediaName	string	The media name.	
dstDeviceName	string	The hostname of the destination device.	
outboundInterface	string	The name of the outbound interface.	
nextHopIdList	array	A list of the IDs of next hops.	

4.8. Get device group list

This function returns a list of device groups.

Resource Information

Method	URL	Required authentication
GET	/V1/CMDB/DeviceGroups	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.

Response

Parameter	Type	Description	Example
deviceGroups	array	A list of all accessible domains.	{ "deviceGroups": [{ "id":"8196020b-b223-4bc8-8178-ac4da95b1695", "name":"#BGP 64512", "type":2 }, { "id":"fbd027f2-24c9-4616-a6bd-62b7613b07e1", "name":"#BGP 65000", "type":2 }, { "id":"fcdb1b8b-bffd-478f-a914-e867f6a87f86", "name":"retest", "type":0 }], "statusCode":790200, "statusDescription":"Success." }
id	string	The ID of a device group	
name	string	The name of a device group	
type	integer	The type of a device group. ▪ 0: Public ▪ 1: Private ▪ 2: System	

4.9. Get file list

This function returns a list of files contained in a specified folder.

Resource Information

Method	URL	Required authentication
POST	/V1/CMDB/Files/	Yes

Parameters

Name	Description
Token*required (header)	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.

Body*required (body)	The request body contains the following parameters:
	▪ folderId (string): The ID of the folder from which you want to get the files. Root folder (public folder) will be returned if folderId is null.
	▪ fileTypes*(array): the file types you want to retrieve. There are three file types:
	▪ 0: Folder
	▪ 11: Map
	▪ 21: Dashboard
	Example:
	{
	"folderId": "",
	"fileTypes": [0, 11 ,21]
	}

Response

Parameter	Type	Description	Example
items	array	A list of folders and files.	{ "items": [{ "id":"ad09aa07-b31d-4f42-a0aa-319697825b09", "name":"Public/Site Maps", "type":0 }, { "originalId":"75ff3cdf-dff4-48c6-a736-7a86e4374a29", "id":"2a19165f-a4a5-4488-ac5d-acdf9e287ed6", "name":"Public/New Folder/New Folder/New Map",
id	string	The ID of a folder in the file tree.	
name	string	The name of a file.	
originalId	string	The ID of a specific dashboard or file. (Used for Map or Dashboard type only.)	
type	integer	The type of a file. ▪ 0: Folder ▪ 11: Map ▪ 21: Dashboard	

Parameter	Type	Description	Example

			"type":11
			},
			{
			"originalId":"d2650deb-5276-44cb-be21-43e2b129380a",
			"id":"a84cdca3-3710-47b1-b037-665e38fd6d08",
			"name":"Public/New Folder(1)/New Map",
			"type":11
			}
			],
			"statusCode":790200,
			"statusDescription":"Success."
			}

4.10. Stop a path

This function is used to force stop a path calculation process.

Resource Information

Method	URL	Required authentication
Post	/V1/CMDB/Path/Calculation/Stop	Yes

Parameters

Name	Description
Token*required *(header)*	The token can be obtained by sending a POST request to the log in session endpoint and provide valid credentials.
taskId*required *(query)*	The task ID retrieved from Calculate a Path.

Response

Parameter	Type	Description	Example
statusCode	integer	Code issued by NetBrain server indicating the execution result.	{ "result": true, "statusCode": 790200, "statusDescription": "Success." }
statusDescription	string	The explanation of the status code.	
result	bool	The execution (force stop) result.	