

Synology®

Synology Virtual Machine Manager

API Guide

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Table of Contents

Chapter 1: Introduction

Chapter 2: Get Started

| | |
|-----------------------|---|
| API Workflow..... | 5 |
| Making Requests..... | 6 |
| Parsing Response..... | 7 |
| Error Codes..... | 8 |
| Working example..... | 9 |

Chapter 3: Base API

| | |
|--------------------|----|
| SYNO.API.Auth..... | 11 |
|--------------------|----|

Chapter 4: Virtual Machine Manager API

| | |
|---|----|
| API List..... | 13 |
| SYNO.Virtualization.API.Task.Info..... | 13 |
| SYNO.Virtualization.API.Network..... | 15 |
| SYNO.Virtualization.API.Storage..... | 16 |
| SYNO.Virtualization.API.Host..... | 17 |
| SYNO.Virtualization.API.Guest..... | 18 |
| SYNO.Virtualization.API.Guest.Action..... | 24 |
| SYNO.Virtualization.API.Guest.Image..... | 26 |

Introduction

This API Guide explains how to expand your applications based on the APIs of Synology Virtual Machine Manager, allowing your applications to interact with Virtual Machine Manager on DSM via HTTP/HTTPS requests and responses.

In this guide, you will find the structure and detailed specifications of various Virtual Machine Manager APIs. "Chapter 2: Get Started" describes a basic guideline on how to use these APIs, which we suggest reading all the way through before you jump into the API specifications. "Chapter 3: Base API" and "Chapter 4: Virtual Machine Manager API" list all available APIs and their details.

Get Started

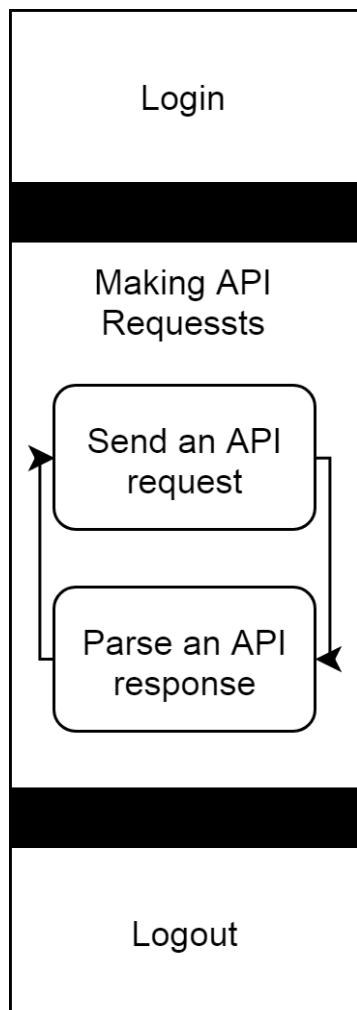
Before developing your own applications with Virtual Machine Manager APIs, you are recommended to have a basic understanding of some API concepts and procedures.

This chapter explains how to execute and complete API processes in five sections:

- API Workflow: A brief introduction on how to work with Virtual Machine Manager APIs
- Making Requests: A further elaboration on how to construct API requests
- Parsing Response: Description of how to parse response data
- Error Codes: Lists all error codes that might be returned from Virtual Machine Manager APIs
- Working Example: An example of requesting information of a specific virtual machine from a Synology NAS.

API Workflow

The following workflow shows how to make your application interact with Virtual Machine Manager APIs.



- **Step 1: Log in**

In order to make your application interact with Virtual Machine Manager, your application needs to log in with an account and password first. The login process is simply making a request to SYNO.API.Auth API with the `login` method. If successful, the API returns an authorized session ID. You should keep it and pass it when making other API requests.

- **Step 2: Making API Requests**

Once successfully logged in, your application can start to make requests to all available Virtual Machine Manager APIs. In the next section "Making Requests", there will be instructions on how to form a valid API request and how to decode response information.

- **Step 3: Log out**

After finishing with the steps above, your application can end the login session by making another request to SYNO.API.Auth API with the `logout` method.

Making Requests

There are five basic elements used to construct a valid request to any API.

- API name: Name of the API requested
- Version: Version of the API requested
- Path: Path of the API. The Virtual Machine Manager API uses `entry.cgi` as its path.
- `_sid`: Authorized session ID. Each API request should pass it, which is retrieved from the response of `login` API.
- The syntax for the request is as follows:

```
GET /webapi/<CGI_PATH>?api=<API_NAME>&version=<VERSION>&method=<METHOD> [&<PARAMS>] [&_sid=<SID>]
```

Here `<PARAMS>` represents the parameters for the requested method, and it is optional. Please note that all parameters need to be escaped. Commas "," are replaced by slashes "\", and slashes "\" are replaced by double-slashes "\\", because commas "," are used to separate multiple elements in a parameter. Password-relative parameters do not need to be escaped, including `passwd` and `password` parameter.

The following example demonstrates how you can make a request to the [SYNO.Virtualization.API.Guest](#) version 1 with `list` method on your DiskStation, whose address is `http://myds.com:port` (default port for HTTP is 5000 or 5001 for HTTPS). The corresponding parameters are:

```
API name:SYNO.Virtualization.API.Guest
version: 1
path: entry.cgi
method: list
params: additional=true
```

And the request will look like this:

```
http://myds.com:port/webapi/entry.cgi?api=SYNO.Virtualization.API.Guest&version=1&method=list&additional=true&_sid=LJIqUIm26nz4g1510RS1801599
```

Parsing Response

All API responses are encoded in the JSON format, and the JSON response contains elements as follows:

| Key | Value | Description |
|---------|---------------------|--|
| success | true/false | "true": the request finishes successfully; "false": the request fails with an error data. |
| data | <JSON-Style Object> | The data object contains all response information described in each method. |
| error | <JSON-Style Object> | The data object contains error information when a request fails. The basic elements are described in the next table. |

Following describes the format of error information in error element.

| Key | Value | Description |
|--------|---------------------|--|
| code | Error Code | An error code will be returned when a request fails. |
| errors | <JSON-Style Object> | The object contains detailed error information of request. Note: When there is no detailed information, this errors element won't be responded. |

Example 1

Response to an valid request to get information of a virtual machine.

Request:

```
http://myds.com:port/webapi/entry.cgi?api=SYNO.Virtualization.API.Guest&version=1&method=get&_sid=LJIqUIm26nz4g1510RS1801599&guest_name=win10
```

Success Response:

```
{
    "data": {
        "autorun": 0,
        "description": "",
        "guest_id": "89f5bde5-9230-417e-b597-f2fd4f4ebd54",
        "guest_name": "win10",
        "status": "shutdown",
        "storage_id": "a5428b34-0fdb-456f-8339-f16224e4c860",
        "storage_name": "Synology - VM Storage 1",
        "vcpu_num": 2,
        "vdisks": [
            {
                "controller": 1,
                "unmap": false,
                "vdisk_id": "07342e0e-14eb-4583-aba6-b1448f1bd13b",
                "vdisk_size": 25600
            }
        ],
        "vnics": [
            {
                "mac": "02:11:32:2c:2f:7b",
                "model": 2,
                "network_id": "bffffe844-3dee-46fd-a1cc-00d2cae7b767",
                "network_name": "Default VM Network",
                "vnic_id": "34e8d21f-fdd6-41cd-bcae-a23b002cb873"
            }
        ],
        "vram_size": 2048
    },
    "success": true
}
```

Note that to demonstrate examples clearly, only the data object is included in the response examples given in the following sections.

Example 2

Response to an invalid request to get information of a virtual machine without specifying the virtual machine's name.

Request:

```
http://myds.com:port/webapi/entry.cgi?api=SYNO.Virtualization.API.Guest&version=1&method=get&_sid=LJIqUIm26nz4g1510RS1801599
```

Failure Response:

```
{
    "success": false,
    "error": {
        "code": 401
    }
}
```

Error Codes

These error codes are used in the Virtual Machine Manager API. The error code of base api is specified in the base api section.

| Code | Description |
|------|---|
| 101 | No parameter of API, method or version. |
| 102 | The requested API does not exist. |
| 103 | The requested method does not exist. |
| 104 | The requested version does not support the function. |
| 105 | The login session does not have permission. |
| 106 | Session timeout. |
| 401 | Bad parameter. |
| 402 | Operation failed. |
| 403 | Name conflict. |
| 404 | The number of iSCSI LUNs has reached the system limit. Note: vdisk is based on iSCSI LUN, which is also limited by the system. |
| 500 | The cluster is frozen. More than half of the hosts are offline. |
| 501 | The cluster is in the incompatible mode. Please upgrade to a compatible DSM version and try again. |
| 600 | The cluster is not ready. |
| 601 | The host is offline. |
| 700 | The storage is invalid. |
| 900 | Failed to set a host to a virtual machine. |
| 901 | The virtual machine does not have a host. |
| 902 | Failed to power on a virtual machine due to insufficient CPU threads. |
| 903 | Failed to power on a virtual machine due to insufficient memory. |
| 904 | The status of virtual machine is online. |
| 905 | MAC conflict. |
| 906 | Failed to create virtual machine because the selected image is not found. |
| 907 | The status of virtual machine is offline. |
| 908 | Failed to power on a virtual machine due to insufficient CPU threads for reservation on the host. |
| 909 | Failed to power on the virtual machine because there is no corresponding networking on the host. |
| 910 | Only the VirtIO hard disk controller can be used to boot the virtual machine remotely. |
| 911 | Virtual machines with UEFI enabled cannot be powered on remotely. |
| 1000 | Cannot find task_id. |
| 1001 | Need Virtual Machine Manager Pro. |
| 1400 | The result of image creating is partial success. |

| Code | Description |
|-------------|---|
| 1600 | The virtual machine has been successfully edited. However, errors occurred while reserving the memory or CPU on the HA hosts. |

Working example

The following demonstrates a working example for requesting information of a specific virtual machine from the DiskStation. To follow this example, simply replace the DiskStation address used in the example (myds.com:port) with your DiskStation address and paste the URL to a browser, and the JSON response will show up in a response page.

Step 1: Login

You can log in a session by requesting SYNO.API.Auth API version 3 located at `/webapi/auth.cgi`.

Request:

```
http://myds.com:port/webapi/auth.cgi?api=SYNO.API.Auth&method=login&version=3&account=admin&password=synology&format=sid&session=dsm_info
```

Response:

```
{
  "data": {
    "sid": "gsj3ZsA3jYoqU1510RS1801599"
  },
  "success": true
}
```

Step 2: Request a Virtual Machine Manager API

After a session is logged in, you can continue to call the method of getting information about a virtual machine in SYNO.Virtualization.API.Guest. And the `get` can be requested by excluding the `additional` parameter.

Request:

```
http://myds.com:port/webapi/entry.cgi?api=SYNO.Virtualization.API.Guest&version=1&method=get&_sid=gsj3ZsA3jYoqU1510RS1801599&guest_name=win10
```

Response:

```
{
  "data": {
    "autorun": 0,
    "description": "",
    "guest_id": "89f5bde5-9230-417e-b597-f2fd4f4ebd54",
    "guest_name": "win10",
    "status": "shutdown",
    "storage_id": "a5428b34-0fdb-456f-8339-f16224e4c860",
    "storage_name": "Synology - VM Storage 1",
    "vcpu_num": 2,
    "vdisks": [
      {
        "controller": 1,
        "unmap": false,
        "vdisk_id": "07342e0e-14eb-4583-aba6-b1448f1bd13b",
        "vdisk_size": 25600
      }
    ],
    "vnics": [
      {
        "mac": "02:11:32:2c:2f:7b",
        "model": 2,
        "network_id": "bffffe844-3dee-46fd-a1cc-00d2cae7b767",
        "network_name": "Default VM Network",
        "vnic_id": "34e8d21f-fdd6-41cd-bcae-a23b002cb873"
      }
    ]
  }
}
```

```
        "vram_size":2048
    },
    "success":true
}
```

From the response, you can see that there is a vDisk on this virtual machine and its size is 25,600 MB. More details about the response can be found in the next section.

Step 3: Logout

When finished with the procedure, you should log out of the current session. The session will be ended by calling the `logout` method in `SYNO.API.Auth`. If you want to log out a specific session, you can pass the `_sid` parameter.

Example:

```
http://myds.com:port/webapi/auth.cgi?api=SYNO.API.Auth&method=logout&version=3&_sid=gsj3ZsA3jYoqU1510RS1801599
```

Base API

SYNO.API.Auth

Overview

Availability: Since DSM 4.0

Version: 3 (Since DSM 4.2), 2 (Since DSM 4.1)

Method

Login

Request:

| Parameter | Description | Availability |
|-----------|--|--------------|
| account | Log in account name. | 1 and later |
| passwd | Log in account password. | 1 and later |
| session | Log in session name. | 1 and later |
| format | Returned format of session ID. Following are the two possible options and the default value is cookie. cookie: The login session ID will be set to "id" key in cookie of HTTP/HTTPS header of response. sid: The login sid will only be returned as response JSON data and "id" key will not be set in cookie. | 2 and later |
| otp_code | Reserved key. DSM 4.2 and later support a 2-step verification option with an OTP code. If it's enabled, the user is required to have a verification code to log in to DSM sessions. However, WebAPI doesn't support it yet. | 3 and later |

Example:

```
GET /webapi/auth.cgi?api=SYNO.API.Auth&method=login&version=3&account=admin&passwd=synology&format=sid&session=dsm_info
```

Response:

<data> object definitions:

| Parameter | Description | Availability |
|-----------|--|--------------|
| sid | Authorized session ID. When the user logs in with format=sid, cookie will not be set and each API request should provide a request parameter _sid=< sid > along with other parameters. | 2 and later |

Example:

```
{
    sid: "ohOCjwhHhwghw"
}
```

Logout

Request:

| Parameter | Description | Availability |
|-----------|-----------------------|--------------|
| sid | Sid to be logged out. | 1 and later |

Example:

```
GET /webapi/auth.cgi?api=SYNO.API.Auth&method=logout&version=3&_sid=SfkOW.k9HeuP.1510RS1801599
```

Response:

No specific response. It returns an empty success response if completed without error.

API Error Code

| Code | Description |
|------|--|
| 400 | No such account or incorrect password. |
| 401 | Account disabled. |
| 402 | Permission denied. |
| 403 | 2-step verification code required. |
| 404 | Failed to authenticate 2-step verification code. |

Virtual Machine Manager API

API List

The following table is the overview of all defined Virtual Machine Manager APIs in this chapter. All Virtual Machine Manager APIs are required to log in with SYNO.API.Auth.

| API Name | Description |
|--------------------------------------|--|
| SYNO.Virtualization.API.Task.Info | Task related operation. |
| SYNO.Virtualization.API.Network | Network related operation. |
| SYNO.Virtualization.API.Storage | Storage related operation. |
| SYNO.Virtualization.API.Host | Host related operation. |
| SYNO.Virtualization.API.Guest | Virtual machine related operation. |
| SYNO.Virtualization.API.Guest.Action | Some methods to operate virtual machine. |
| SYNO.Virtualization.API.Guest.Image | Image related operation. |

SYNO.Virtualization.API.Task.Info

Description

Some operations take a certain amount of time. In order not to block caller too long, these operations are designed as non-blocking APIs. Non-blocking APIs will provide a `task_id` for user to track task status. The API in SYNO.Virtualization.API.Task.Info provide method to list all tasks, get the result from a task, and clear a specific task.

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

List all tasks.

Availability:

Since version 1

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Task.
Info&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|-------------|---------------|--------------|
| task_ids | StringArray | All task ids. | 1 and later |

Example:

```
{
    "data": {
        "task_ids": [
            "@administrators/virtualization_api_image_create5BAD9BFFF2889659",
            "@administrators/virtualization_api_image_create5BB19071A059F890"
        ]
    },
    "success": true
}
clear
```

Description:

Clear a task.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------|---------------|--------|---------------|--------------|
| task_id | Specify task. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Task.Info&method=clear&version=1&task_id=@administrators/virtualization_api_image_create5BB19071A059F890
```

Response:

No specific response. It returns an empty successful response if completed without error.

Example:

```
{
    "success": true
}
get
```

Description:

Get information from a task id.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------|---------------|--------|---------------|--------------|
| task_id | Specify task. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Task.Info&method=get&version=1&task_id=@administrators/virtualization_api_image_create5BB19071A059F890
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|-------------------|--|--------------|
| finish | Boolean | Whether the task is finished or not. | 1 and later |
| task_info | JSON-Style Object | The information of a task. The structure depends on the non-blocking task. | 1 and later |

Example:

```
{  
    "data": {  
        "finish": true,  
        "task_info": {  
            "auto_clean_task": true,  
            "image_id": "54383227-c541-4e60-9cac-5da98b2dd88a",  
            "progress": 100,  
            "status": "create"  
        }  
    },  
    "success": true  
}
```

SYNO.Virtualization.API.Network

Description

Network related operation

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

List all network groups.

Availability:

Since version 1

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.  
Network&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|------------------|-----------------------------|--------------|
| networks | JSON-Style Array | Array of <network> objects. | 1 and later |

<network> object definition:

| Parameter | Type | Description | Availability |
|--------------|--------|---------------------|--------------|
| network_id | String | Network group id. | 1 and later |
| network_name | String | Network group name. | 1 and later |

Example:

```
{  
    "data": {  
        "networks": [  
            {  
                "network_id": "bfff844-3dee-46fd-a1cc-00d2cae7b767",  
                "network_name": "Default VM Network"  
            }  
        ]  
    },  
    "success": true  
}
```

SYNO.Virtualization.API.Storage

Description

Storage related operation

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

List all storages.

Availability:

Since version 1

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.  
Storage&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|------------------|-----------------------------|--------------|
| storages | JSON-Style Array | Array of <storage> objects. | 1 and later |

<storage> object definition:

| Parameter | Type | Description | Availability |
|--------------|---------|--|--------------|
| host_id | String | The host id of the host where the storage resides. | 1 and later |
| host_name | String | The host name of the host where the storage resides. | 1 and later |
| size | Integer | The size of this storage in MB. This value is only available when the host is not missing. | 1 and later |
| status | String | The status of this storage. (online/missing/unavailable/degraded/crashed/full/provision_warning) | 1 and later |
| storage_id | String | The id of this storage. | 1 and later |
| storage_name | String | The name of this storage. | 1 and later |
| used | Integer | Used size in MB. This value is only available when the host is not missing. | 1 and later |
| volume_path | String | The volume path of this storage. | 1 and later |

Example:

```
{  
    "data": {  
        "storages": [  
            {  
                "host_id": "08fdc48c-4b79-4647-bbb6-7b2f4c6f7aca",  
                "host_name": "Synology",  
                "size": 302227,  
                "status": "online",  
                "storage_id": "afb50893-8453-414c-b294-60e4cd2fffc93",  
                "storage_name": "Synology - VM Storage 1",  
                "used": 32276,  
                "volume_path": "/volumel"  
            }  
        ]  
    },  
    "success": true  
}
```

SYNO.Virtualization.API.Host

Description

Host related operation

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

List all hosts.

Availability:

Since version 1

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.  
Host&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|------------------|--------------------------|--------------|
| hosts | JSON-Style Array | Array of <host> objects. | 1 and later |

<host> object definition:

| Parameter | Type | Description | Availability |
|----------------|---------|---|--------------|
| free_cpu_core | Integer | The free CPU threads on this host. This value is only available when the host is not missing. | 1 and later |
| free_ram_size | Integer | The free memory size of this host in MB. This value is only available when the host is not missing. | 1 and later |
| host_id | String | The id of this host. | 1 and later |
| host_name | String | The name of this host. | 1 and later |
| status | String | The host status. (running/inaccessible/network_warn/control_unavail) | 1 and later |
| total_cpu_core | Integer | Total CPU threads of host. This value is only available when the host is not missing. | 1 and later |
| total_ram_size | Integer | Total memory size in MB. This value is only available when the host is not missing. | 1 and later |

Example:

```
{  
    "data": {  
        "hosts": [  
            {  
                "free_cpu_core": 32,  
                "free_ram_size": 6656,  
                "host_id": "08fdc48c-4b79-4647-bbb6-7b2f4c6f7aca",  
                "host_name": "Synology",  
                "status": "running",  
                "total_cpu_core": 32,  
                "total_ram_size": 8192  
            }  
        ]  
    },  
    "success": true  
}
```

SYNO.Virtualization.API.Guest

Description

Virtual machine related operation

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

List all virtual machines.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|--|---------|---------------|--------------|
| additional | Optional. Determine whether to show additional information or not. | Boolean | false | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.
Guest&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|------------------|---------------------------|--------------|
| guests | JSON-Style Array | Array of <guest> objects. | 1 and later |

<guest> object definition:

| Parameter | Type | Description | Availability |
|--------------|------------------|---|--------------|
| autorun | Integer | 0: off 1: last state 2: on | 1 and later |
| description | String | The description of the guest. | 1 and later |
| guest_id | String | The id of this guest. | 1 and later |
| guest_name | String | The name of this guest. | 1 and later |
| status | String | The guest status. (running/shutdown/inaccessible/booting/shutting_down/moving/stor_migrating/creating/importing/preparing/ha_standby/unknown/crashed/undefined) | 1 and later |
| storage_id | String | The id of storage where the guest resides. | 1 and later |
| storage_name | String | The name of storage where the guest resides. | 1 and later |
| vcpu_num | Integer | The number of vcpu. | 1 and later |
| vdisks | JSON-Style Array | Array of <vdisk> objects. | 1 and later |
| vncs | JSON-Style Array | Array of <vnic> objects. | 1 and later |
| vram_size | Integer | The memory size of this guest in MB. | 1 and later |

<vdisk> object definition:

| Parameter | Type | Description | Availability |
|------------|---------|--|--------------|
| controller | Integer | 1: VirtIO 2: IDE 3: SATA | 1 and later |
| unmap | Boolean | Determine whether to enable space reclamation. | 1 and later |
| vdisk_id | String | The id of this vDisk. | 1 and later |
| vdisk_size | Integer | The vDisk's size of this guest in MB. | 1 and later |

<vnic> object definition:

| Parameter | Type | Description | Availability |
|--------------|---------|--|--------------|
| mac | String | MAC address of this vNIC. | 1 and later |
| model | Integer | 1: VirtIO 2: e1000 3: rtl8139 | 1 and later |
| network_id | String | The id of the network group which this vNIC connects to. | 1 and later |
| network_name | String | The name of the network group which this vNIC connects to. | 1 and later |
| vnic_id | String | The id of this vNIC. | 1 and later |

Example:

```
{
    "data": {
        "guests": [
            {
                "autorun": 0,
                "description": "",
                "guest_id": "49dee62c-8ea2-465b-9dff-815025f91bba",
                "guest_name": "syno",
                "status": "shutdown",
                "storage_id": "afb50893-8453-414c-b294-60e4cd2fffc93",
                "storage_name": "Synology - VM Storage 1",
                "vcpu_num": 1,
                "vdisks": [
                    {
                        "controller": 1,
                        "unmap": false,
                        "vdisk_id": "ec671cf8-87f7-456a-9903-b865b2ec2980",
                        "vdisk_size": 10240
                    }
                ],
            }
        ],
    }
}
```

```

        "vnics": [
            {
                "mac": "02:11:32:21:f2:1b",
                "model": 1,
                "network_id": "bfff844-3dee-46fd-a1cc-00d2cae7b767",
                "network_name": "Default VM Network",
                "vnic_id": "600ead2-73f0-40ef-a824-4e53322b36a6"
            }
        ],
        "vram_size": 1024
    }
]
},
"success": true
}

```

get

Description:

Get information of a specific virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|--|---------|---------------|--------------|
| additional | Optional. Determine whether to show additional information or not. | Boolean | false | 1 and later |
| guest_id | Optional. The guest id used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |
| guest_name | Optional. The guest name used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest&method=get&version=1&guest_name=syno
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|--------------|------------------|---|--------------|
| autorun | Integer | 0: off 1: last state 2: on | 1 and later |
| description | String | The description of the guest. | 1 and later |
| guest_id | String | The id of this guest. | 1 and later |
| guest_name | String | The name of this guest. | 1 and later |
| status | String | The guest status. (running/shutdown/inaccessible/booting/shutting_down/moving/stor_migrating/creating/importing/preparing/ha_standby/unknown/crashed/undefined) | 1 and later |
| storage_id | String | The id of storage where the guest resides. | 1 and later |
| storage_name | String | The name of storage where the guest resides. | 1 and later |
| vcpu_num | Integer | The number of vCPU. | 1 and later |
| vdisks | JSON-Style Array | Array of <vdisk> objects. | 1 and later |
| vnics | JSON-Style Array | Array of <vnic> objects. | 1 and later |
| vram_size | Integer | The memory size of this guest in MB. | 1 and later |

<vdisk> object definition:

| Parameter | Type | Description | Availability |
|------------|---------|--|--------------|
| controller | Integer | 1: VirtIO 2: IDE 3: SATA | 1 and later |
| unmap | Boolean | Determine whether to enable space reclamation. | 1 and later |

| Parameter | Type | Description | Availability |
|------------|---------|---------------------------------------|--------------|
| vdisk_id | String | The id of this vDisk. | 1 and later |
| vdisk_size | Integer | The vDisk's size of this guest in MB. | 1 and later |

<vnics> object definition:

| Parameter | Type | Description | Availability |
|--------------|---------|--|--------------|
| mac | String | MAC address of this vNIC. | 1 and later |
| model | Integer | 1: VirtIO 2: e1000 3: rtl8139 | 1 and later |
| network_id | String | The id of the network group which this vNIC connects to. | 1 and later |
| network_name | String | The name of the network group which this vNIC connects to. | 1 and later |
| vnic_id | String | The id of this vNIC. | 1 and later |

Example:

```
{
    "data": {
        "autorun": 0,
        "description": "",
        "guest_id": "49dee62c-8ea2-465b-9dff-815025f91bba",
        "guest_name": "syno",
        "status": "shutdown",
        "storage_id": "afb50893-8453-414c-b294-60e4cd2fffc93",
        "storage_name": "Synology - VM Storage 1",
        "vcpu_num": 1,
        "vdisks": [
            {
                "controller": 1,
                "unmap": false,
                "vdisk_id": "ec671cf8-87f7-456a-9903-b865b2ec2980",
                "vdisk_size": 10240
            }
        ],
        "vnics": [
            {
                "mac": "02:11:32:21:f2:1b",
                "model": 1,
                "network_id": "bffffe844-3dee-46fd-a1cc-00d2cae7b767",
                "network_name": "Default VM Network",
                "vnic_id": "600ead2-73f0-40ef-a824-4e53322b36a6"
            }
        ],
        "vram_size": 1024
    },
    "success": true
}
set
```

Description:

Set the property of a specific virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------|--|--------|---------------|--------------|
| guest_id | Optional. The guest id used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |

| Parameter | Description | Value | Default Value | Availability |
|----------------|--|---------|---------------|--------------|
| guest_name | Optional. The guest name used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |
| autorun | Optional. 0: off 1: last state 2: on | Integer | (None) | 1 and later |
| description | Optional. The description of the guest. | String | (None) | 1 and later |
| new_guest_name | Optional. The new guest name of the guest. | String | (None) | 1 and later |
| vcpu_num | Optional. The vCPU number. | Integer | (None) | 1 and later |
| vram_size | Optional. The memory size in MB. | Integer | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest&method=set&version=1&guest_name=syno&vcpu_num=2
```

Response:

No specific response. API returns an empty successful response if completed without any error.

Example:

```
{
    "success": true
}
```

delete

Description:

Delete a specific virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|--|--------|---------------|--------------|
| guest_id | Optional. The guest id used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |
| guest_name | Optional. The guest name used to specify a guest. Note: At least guest_id or guest_name should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest&method=delete&version=1&guest_name=syno
```

Response:

No specific response. API returns an empty successful response if completed without any error.

Example:

```
{
    "success": true
}
```

create

Description:

Create a virtual machine. Note: This API is non-blocking, which will return a task_id, and the result should be gotten from [SYNO.Virtualization.API.Task.Info/get](#).

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------------|---|------------------|---------------|--------------|
| auto_clean_task | Optional. Determine whether to auto clean task info when the task finishes. It will also be automatically cleaned a minute after the task finishes. | Boolean | true | 1 and later |
| storage_name | Optional. The name of storage where the guest resides. Note: At least storage_id or storage_name should be given. | String | (None) | 1 and later |
| storage_id | Optional. The id of storage where the guest resides. Note: At least storage_id or storage_name should be given. | String | (None) | 1 and later |
| vnic | Array of <vnic> object. | JSON-Style Array | (None) | 1 and later |
| vdisk | Array of <vdisk> object. | JSON-Style Array | (None) | 1 and later |
| guest_name | The guest name. | String | (None) | 1 and later |

<vdisk> object definition:

| Parameter | Description | Value | Default Value | Availability |
|-------------|--|---------|---------------|--------------|
| create_type | 0: Create an empty vDisk 1: Clone an existing image | Integer | (None) | 1 and later |
| vdisk_size | Optional. If create_type is 0, this field must be set. The created vDisk size in MB. | Integer | (None) | 1 and later |
| image_id | Optional. If create_type is 1, at least image_id or image_name should be given. The id of the image that is to be cloned. Note: Image type should be disk. | String | (None) | 1 and later |
| image_name | Optional. If the create_type is 1, at least image_id or image_name should be given. The name of the image that is to be cloned. Note: Image type should be disk. | String | (None) | 1 and later |

<vnic> object definition:

| Parameter | Description | Value | Default Value | Availability |
|--------------|---|--------|---------------|--------------|
| mac | Optional. MAC address. If not specified, a MAC address of this vNIC will be randomly generated. | String | (None) | 1 and later |
| network_id | Optional. Connected network group id. At least network_id or network_name should be given. Note: network_id can be an empty string to represent not being connected. | String | (None) | 1 and later |
| network_name | Optional. Connected network group name. At least network_id or network_name should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest&method=create&version=1&guest_name=syno&storage_id=afb50893-8453-414c-b294-60e4cd2ffc93&vdi_skis=%5B%7B%22create_type%22%3A0%2C%22vdisk_size%22%3A10240%7D%5D&vnics=%5B%7B%22network_id%22%3A%22%22%7D%5D
```

Response:

| Parameter | Type | Description | Availability |
|-----------|--------|--|--------------|
| task_id | String | The task id of this non-blocking task. | 1 and later |

Example:

```
{
    "data": {
        "task_id": "@users/virtualization_api_guest_create5BB3389D4A406062"
    },
    "success": true
}
```

task_info:

The structure of `task_info` from [SYNO.Virtualization.API.Task.Info/get](#).

| Parameter | Type | Description | Availability |
|-----------------|---------|--|--------------|
| auto_clean_task | Boolean | Determine whether to automatically clean task info when the task finishes. | 1 and later |
| guest_id | String | The id of a created guest. | 1 and later |
| progress | Integer | Progress of this task. | 1 and later |
| status | String | The status of this task. | 1 and later |

Example:

```
{
    "data": {
        "finish": true,
        "task_info": {
            "auto_clean_task": true,
            "guest_id": "00c8248d-90c2-4a6b-9072-f329203817d9",
            "progress": 100,
            "status": "create"
        }
    },
    "success": true
}
```

SYNO.Virtualization.API.Guest.Action

Description

Some methods to operate a virtual machine

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

poweron

Description:

Power on a virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------|---|--------|---------------|--------------|
| guest_id | Optional. The guest id to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |

| Parameter | Description | Value | Default Value | Availability |
|------------|---|--------|---------------|--------------|
| guest_name | Optional. The guest name to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |
| host_id | Optional. The host id to specify a target host. If neither <code>host_id</code> or <code>host_name</code> is not specified, it will follow auto select option in the cluster setting. | String | (None) | 1 and later |
| host_name | Optional. The host name to specify a target host. If neither <code>host_id</code> or <code>host_name</code> is not specified, it will follow auto select option in the cluster setting. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.Action
&method=poweron&version=1&guest_name=syno
```

Response:

No specific response. API returns an empty successful response if completed without any error.

Example:

```
{
    "success": true
}
```

poweroff

Description:

Force power off a virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|---|--------|---------------|--------------|
| guest_id | Optional. The guest id to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |
| guest_name | Optional. The guest name to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.Action
&method=poweroff&version=1&guest_name=syno
```

Response:

No specific response. API returns an empty successful response if completed without any error.

Example:

```
{
    "success": true
}
```

shutdown

Description:

Turn off a virtual machine.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|---|--------|---------------|--------------|
| guest_id | Optional. The guest id to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |
| guest_name | Optional. The guest name to specify a guest. Note: At least <code>guest_id</code> or <code>guest_name</code> should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.Action
&method=shutdown&version=1&guest_name=syno
```

Response:

No specific response. API returns an empty successful response if completed without any error.

Example:

```
{
    "success": true
}
```

SYNO.Virtualization.API.Guest.Image

Description

Image related operation

Overview

Availability: Since Virtual Machine Manager 2.3.4-9027

Version: 1

Method

list

Description:

list all images.

Availability:

Since version 1

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.
Image&method=list&version=1
```

Response:

<data> object definitions:

| Parameter | Type | Description | Availability |
|-----------|------------------|---------------------------|--------------|
| images | JSON-Style Array | Array of <image> objects. | 1 and later |

<image> object definition:

| Parameter | Type | Description | Availability |
|------------|------------------|---|--------------|
| image_id | String | The id of this image. | 1 and later |
| image_name | String | The name of this image. | 1 and later |
| storages | JSON-Style Array | Array of <storage> objects. | 1 and later |
| type | String | The type of this image. (disk/vdsm/iso) | 1 and later |

<storage> object definition:

| Parameter | Type | Description | Availability |
|--------------|--------|---|--------------|
| status | String | The status of this storage.(online/missing/unavailable/degraded/crashed/full/provision_warning) | 1 and later |
| storage_id | String | The id of this storage. | 1 and later |
| storage_name | String | The name of this storage. | 1 and later |

Example:

```
{
    "data": {
        "images": [
            {
                "image_id": "17f119ed-1294-408d-b8af-5d7ccd6bc22c",
                "image_name": "final",
                "storages": [
                    {
                        "status": "online",
                        "storage_id": "afb50893-8453-414c-b294-60e4cd2fffc93",
                        "storage_name": "Synology - VM Storage 1"
                    }
                ],
                "type": "disk"
            }
        ]
    },
    "success": true
}
delete
```

Description:

Delete a specific image.

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|------------|--|--------|---------------|--------------|
| image_id | Optional. The image id to specify an image. Note: At least <code>image_id</code> or <code>image_name</code> should be given. | String | (None) | 1 and later |
| image_name | Optional. The image name to specify an image. Note: At least <code>image_id</code> or <code>image_name</code> should be given. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.Image&method=delete&version=1&image_name=syno
```

Response:

No specific response. API returns an empty successful response if completed without error.

Example:

```
{
    "success": true
}
create
```

Description:

Create a image. Note: This API is non-blocking and will return a `task_id`. The result should be gotten from [SYNO.Virtualization.API.Task.Info/get](#).

Availability:

Since version 1

| Parameter | Description | Value | Default Value | Availability |
|-----------------|--|-------------|---------------|--------------|
| auto_clean_task | Optional. Determine whether to automatically clean task info when the task finishes. It will be automatically cleaned in a minute after task finishes. | Boolean | true | 1 and later |
| storage_names | Optional. The name of storages where this image will reside. Note: At least storage_ids or storage_names should be given. | StringArray | (None) | 1 and later |
| storage_ids | Optional. The id of storages where this image will reside. Note: At least storage_ids or storage_names should be given. | StringArray | (None) | 1 and later |
| type | The image type. (disk/vdsm/iso) | String | (None) | 1 and later |
| ds_file_path | The file on the DiskStation. Note: the path should begin with a shared folder. | String | (None) | 1 and later |
| image_name | The image name. | String | (None) | 1 and later |

Example:

```
GET /webapi/entry.cgi?_sid=LJIqUIm26nz4g1510RS1801599&api=SYNO.Virtualization.API.Guest.Image&method=create&version=1&image_name=syno&storage_ids=%5B%22afb50893-8453-414c-b294-60e4cd2fffc93%22%5D&type=disk&ds_file_path=%2Fshare%2Fsyno.img
```

Response:

| Parameter | Type | Description | Availability |
|-----------|--------|--|--------------|
| task_id | String | The task id of this non-blocking task. | 1 and later |

Example:

```
{
    "data": {
        "task_id": "@administrators/virtualization_api_image_create5BB345F13F87E340"
    },
    "success": true
}
```

task_info:

The structure of task_info from [SYNO.Virtualization.API.Task.Info/get](#).

| Parameter | Type | Description | Availability |
|-----------------|---------|--|--------------|
| auto_clean_task | Boolean | Determine whether to automatically clean task info when the task finishes. | 1 and later |
| image_id | String | The id of a created image. | 1 and later |
| progress | Integer | Progress of this task. | 1 and later |
| status | String | The status of this task. | 1 and later |

Example:

```
{
    "data": {
        "finish": true,
        "task_info": {
            "auto_clean_task": true,
            "image_id": "54383227-c541-4e60-9cac-5da98b2dd88a",
            "progress": 100,
            "status": "create"
        }
    },
    "success": true
}
```