



Synology Virtual Machine Manager

API Guide

THIS DOCUMENT CONTAINS PROPRIETARY TECHNICAL INFORMATION WHICH IS THE PROPERTY OF SYNOLOGY INCORPORATED AND SHALL NOT BE REPRODUCED, COPIED, OR USED AS THE BASIS FOR DESIGN, MANUFACTURING, OR SALE OF APPARATUS WITHOUT WRITTEN PERMISSION OF SYNOLOGY INCORPORATED



Synology Inc.
© 2015-2019 Synology Inc.
All rights reserved.

No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, mechanical, electronic, photocopying, recording, or otherwise, without prior written permission of Synology Inc., with the following exceptions: Any person is hereby authorized to store documentation on a single computer for personal use only and to print copies of documentation for personal use provided that the documentation contains Synology's copyright notice.

The Synology logo is a trademark of Synology Inc.

No licenses, express or implied, are granted with respect to any of the technology described in this document. Synology retains all intellectual property rights associated with the technology described in this document. This document is intended to assist application developers to develop applications only for Synology-labelled computers.

Every effort has been made to ensure that the information in this document is accurate. Synology is not responsible for typographical errors.

Synology Inc.
9F, No.1, Yuan Dong Rd.,
Banqiao, New Taipei 22063,
Taiwan

Synology and the Synology logo are trademarks of Synology Inc., registered in the United States and other countries.

Marvell is registered trademarks of Marvell Semiconductor, Inc. or its subsidiaries in the United States and other countries.

Freescale is registered trademarks of Freescale Semiconductor, Inc. or its

subsidiaries in the United States and other countries.

Other products and company names mentioned herein are trademarks of their respective holders.

Even though Synology has reviewed this document, SYNOLOGY MAKES NO WARRANTY OR REPRESENTATION, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO THIS DOCUMENT, ITS QUALITY, ACCURACY, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE. AS A RESULT, THIS DOCUMENT IS PROVIDED "AS IS," AND YOU, THE READER, ARE ASSUMING THE ENTIRE RISK AS TO ITS QUALITY AND ACCURACY. IN NO EVENT WILL SYNOLOGY BE LIABLE FOR DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT OR INACCURACY IN THIS DOCUMENT, even if advised of the possibility of such damages.

THE WARRANTY AND REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHERS, ORAL OR WRITTEN, EXPRESS OR IMPLIED. No Synology dealer, agent, or employee is authorized to make any modification, extension, or addition to this warranty.

Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

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

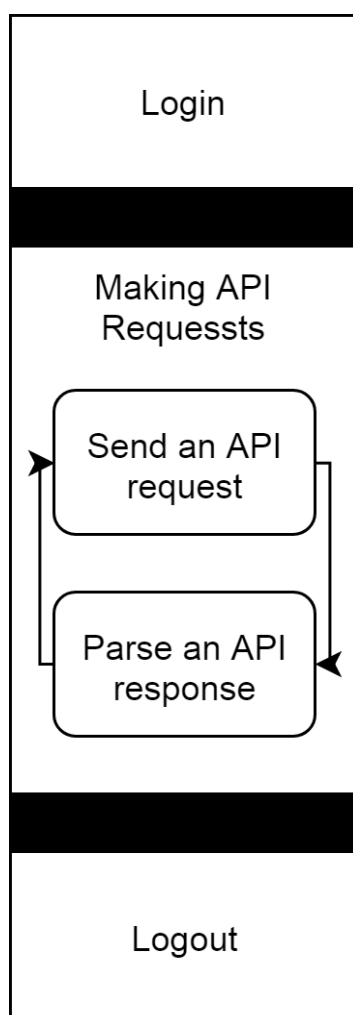
Before developing your own applications with Virtual Machine Manager APIs, you are recommended to have a basic understanding of some API concepts and procedures.

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 a 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://mys.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 in 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 (mysds.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://mysds.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://mysds.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://mys.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 <code>cookie</code> . <code>cookie</code> : The login session ID will be set to "id" key in cookie of HTTP/HTTPS header of response. <code>sid</code> : 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 <code>format=sid</code> , <code>cookie</code> will not be set and each API request should provide a request parameter <code>_sid=< sid></code> 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
<code>task_ids</code>	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": "bffffe844-3dee-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-b294-60e4cd2ffc93",
        "storage_name": "Synology - VM Storage 1",
        "used": 32276,
        "volume_path": "/volume1"
      }
    ]
  },
  "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
vdisk	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
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-b294-60e4cd2ffc93",
        "storage_name": "Synology - VM Storage 1",
        "vcpu_num": 1,
        "vdisk": [
          {
            "controller": 1,
            "unmap": false,
            "vdisk_id": "ec671cfd-87f7-456a-9903-b865b2ec2980",
            "vdisk_size": 10240
          }
        ]
      }
    ]
  }
}
```

```

    "vnics": [
      {
        "mac": "02:11:32:21:f2:1b",
        "model": 1,
        "network_id": "bffffe844-3dee-46fd-alc00d2cae7b767",
        "network_name": "Default VM Network",
        "vnic_id": "600eada2-73f0-40ef-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/inaccessiblen/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

<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": {
    "autorun": 0,
    "description": "",
    "guest_id": "49dee62c-8ea2-465b-9dff-815025f91bba",
    "guest_name": "syno",
    "status": "shutdown",
    "storage_id": "afb50893-8453-414c-b294-60e4cd2ffc93",
    "storage_name": "Synology - VM Storage 1",
    "vcpu_num": 1,
    "vdisks": [
      {
        "controller": 1,
        "unmap": false,
        "vdisk_id": "ec671cfd-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": "600eada2-73f0-40ef-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
vnics	Array of <vnic> object.	JSON-Style Array	(None)	1 and later
vdisks	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&vdisk_size=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
<code>auto_clean_task</code>	Boolean	Determine whether to automatically clean task info when the task finishes.	1 and later
<code>guest_id</code>	String	The id of a created guest.	1 and later
<code>progress</code>	Integer	Progress of this task.	1 and later
<code>status</code>	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
<code>guest_id</code>	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-b294-60e4cd2ffc93",
            "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 image_id or image_name should be given.	String	(None)	1 and later
image_name	Optional. The image name to specify an image. Note: At least image_id or image_name 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-b294-60e4cd2ffc93%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
}
```