

vCloud API Specification

vCloud Director 1.5

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Contents

vCloud API Specification	5
vCloud API Specification	7
Summary of vCloud API Browsing Requests	7
Summary of vCloud API Provisioning Requests	8
Summary of vCloud API vApp and Virtual Machine Operations Requests	9
Summary of vApp Reconfiguration Requests	11
Summary of Vm Reconfiguration Requests	11
Index	15

vCloud API Specification

The *vCloud API Specification* summarizes the user operations supported by version 1.5 of the vCloud API.

VMware provides many different APIs and SDKs for various applications and goals. This specification provides information about the vCloud API for developers that are interested in creating RESTful clients of VMware vCloud Director.

Revision History

The *vCloud API Specification* is revised with each release of the product or when necessary. A revised version can contain minor or major changes.

Table 1. Revision History

Revision Date	Description
01SEP11	API Version 1.5
30AUG10	API Version 1.0
14APR10	API Version 0.9

Intended Audience

This guide is intended for software developers who are building VMware Ready Cloud Services, including interactive clients of VMware vCloud Director. This guide assumes you are familiar with Representational State Transfer (REST) and RESTful programming conventions, the Open Virtualization Format Specification, and VMware Virtual machine technology. Familiarity with other widely-deployed technologies such as XML, HTTP, and the Windows or Linux operating systems is also assumed.

Related Publications

The *VMware vCloud Director Administrator's Guide* and *VMware vCloud Director User's Guide* contain detailed information about many of the objects and operations referred to in this guide. Most users of the vCloud API will find the information in those documents valuable when developing client applications. To access the current versions of these and other VMware books, go to <http://www.vmware.com/support/pubs>.

vCloud API Specification

This specification summarizes the user operations supported by version 1.5 of the vCloud API.

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Summary of vCloud API Browsing Requests

Browsing requests provide read-only access to a cloud and the objects it contains.

- *API-URL* is a URL of the form `https://vcloud.example.com/api`.
- *id* is a unique identifier.

Request URLs are always available when you GET the representation of the object on which they operate. URL forms are for reference purposes only.

Table 2. Summary of vCloud API Browsing Requests

Operation	Request	Request Body	Response
Show login URL and list of supported API versions	GET <i>API-URL</i> /versions	None	SupportedVersions
Log in [NEW]	POST <i>API-URL</i> /sessions	None	Session
Log out [NEW]	DELETE <i>API-URL</i> /session	None	200 OK
Log in [DEPRECATED]	POST <i>API-URL</i> /login	None	OrgList
Log out [DEPRECATED]	POST <i>API-URL</i> /login	None	200 OK

Table 2. Summary of vCloud API Browsing Requests (Continued)

Operation	Request	Request Body	Response
Retrieve a list of entry points for browsing operations [NEW]	GET <i>API-URL/session</i>	None	200 OK
Retrieve a list of organizations to which you have access	GET <i>API-URL/org/</i>	None	OrgList
Retrieve the contents of an organization	GET <i>API-URL/org/id</i>	None	Org
Retrieve properties of a network	GET <i>API-URL/network/id</i>	None	OrgNetwork
Retrieve the contents of a catalog	GET <i>API-URL/catalog/id</i>	None	Catalog
Retrieve properties of a catalog item	GET <i>API-URL/catalogItem/id</i>	None	CatalogItem
Retrieve the contents of a vDC	GET <i>API-URL/vdc/id</i>	None	Vdc
Retrieve properties of a media image	GET <i>API-URL/media/id</i>	None	Media
Retrieve a vApp template	GET <i>API-URL/vAppTemplate/vappTemplate-id</i>	None	VAppTemplate
Retrieve properties of a vApp	GET <i>API-URL/vApp/vapp-id</i>	None	VApp
Retrieve properties of a virtual machine	GET <i>API-URL/vApp/vm-id</i>	None	Vm

Summary of vCloud API Provisioning Requests

Provisioning requests add vApp templates and media to a vDC and a catalog. You can also use provisioning requests to copy, move, rename, and delete these objects.

- *API-URL* is a URL of the form `https://vcloud.example.com/api`.
- *id* is a unique identifier.

Request URLs are always available when you GET the representation of the object on which they operate. URL forms are for reference purposes only.

Table 3. Summary of Provisioning Requests

Operation	Request	Request Body	Response
Upload OVF to create a vApp template.	POST <i>API-URL/vdc/id/action/uploadVAppTemplate</i>	UploadVAppTemplateParams	VAppTemplate
Download a vApp template as OVF.	GET <i>download-URL</i>	None	Depends on file type
Enable a vApp template for download.	POST <i>API-URL/vAppTemplate/vAppTemplate-id/action/enableDownload</i>	None	Task

Table 3. Summary of Provisioning Requests (Continued)

Operation	Request	Request Body	Response
Disable a vApp template for download.	POST <i>API-URL/vAppTemplate/vAppTemplate-id/action/disableDownload</i>	None	204 No Content
Upload a media image.	POST <i>API-URL/vdc/id/media</i>	Media	Media
Copy or move a media image.	POST <i>API-URL/vdc/id/action/cloneMedia</i>	CloneMediaParams	Media
Copy or move a vApp template.	POST <i>API-URL/vdc/id/action/cloneVAppTemplate</i>	CloneVAppTemplateParams	VAppTemplate
Copy or move a vApp.	POST <i>API-URL/vdc/id/action/cloneVApp</i>	CloneVAppParams	VApp
Change the name or description of a vApp template.	PUT <i>API-URL/vAppTemplate/vappTemplate-id</i>	VAppTemplate	Task
Change the name or description of a vApp.	PUT <i>API-URL/vApp/vapp-id</i>	VApp	Task
Change the name or description of a media image.	PUT <i>API-URL/media/id</i>	Media	Task
Delete a vApp template, vApp, or media image.	DELETE <i>object-URL</i>	None	Task
Add an item to a catalog.	POST <i>API-URL/catalog/id/catalogItems</i>	CatalogItem	CatalogItem
Remove an item from a catalog.	DELETE <i>API-URL/catalog/id/catalogItem/id</i>	None	204 No content
Control access to catalogs.	POST <i>API-URL/catalog/id/action/controlAccess</i>	ControlAccessParams	ControlAccessParams
Retrieve the owner of a media object. [NEW]	GET <i>API-URL/media/id/owner</i>	None	Owner
Retrieve the owner of a vApp template [NEW]	GET <i>API-URL/vAppTemplate/vappTemplate-id/owner</i>	None	Owner
Retrieve the owner of a vApp [NEW]	GET <i>API-URL/vApp/id/owner</i>	None	Owner
Update the owner of a vApp [NEW]	PUT <i>API-URL/vApp/id/owner</i>	Owner	204 No Content
Update the owner of a catalog [NEW]	PUT <i>API-URL/vApp/id/owner</i>	Owner	204 No Content

Summary of vCloud API vApp and Virtual Machine Operations Requests

These vCloud API operations requests create, manage, operate, and delete vApps and the virtual machines that they contain.

- *API-URL* is a URL of the form `https://vcloud.example.com/api`.

- *id* is a unique identifier.
- *VApp-or-Vm-URL* is a URL of the form *API-URL/vApp/vapp-id* (for a VApp object) or *API-URL/vApp/vm-id* (for a Vm object)
- *Vm-URL* is a URL of the form *API-URL/vApp/vm-id*

Request URLs are always available when you GET the representation of the object on which they operate. URL forms shown in the table are for reference purposes only.

Table 4. Summary of vCloud API Operations Requests

Operation	Request	Request Body	Response
Instantiate a vApp template	POST <i>API-URL/vdc/id/action/instantiateVAppTemplate</i>	InstantiateVAppTemplateParams	VApp
Compose a vApp	POST <i>API-URL/vdc/id/action/composeVApp</i>	ComposeVAppParams	VApp
Recompose a vApp to add or remove virtual machines	POST <i>API-URL/vApp/vapp-id/action/recomposeVApp</i>	RecomposeVAppParams	Task
Deploy a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/deploy</i>	DeployVAppParams	Task
Undeploy a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/undeploy</i>	UndeployVAppParams	Task
Power On a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/powerOn</i>	None	Task
Power Off a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/powerOff</i>	None	Task
Reset a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/reset</i>	None	Task
Suspend a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/suspend</i>	None	Task
Discard the Suspended State of a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/discardSuspendedState</i>	None	Task
Shut Down a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/shutdown</i>	None	Task
Reboot a vApp or Virtual Machine	POST <i>VApp-or-Vm-URL/action/reboot</i>	None	Task
Retrieve product sections of a vApp or virtual machine [NEW]	GET <i>VApp-or-Vm-URL/productSections</i>	None	ProductSectionList
Update product sections of a vApp or virtual machine [NEW]	PUT <i>VApp-or-Vm-URL/productSections</i>	ProductSectionList	Task
Retrieve product sections of a vApp template [NEW]	GET <i>API-URL/vAppTemplate/vappTemplate-id/productSections</i>	None	ProductSectionList
Update product sections of a vApp template [NEW]	PUT <i>API-URL/vAppTemplate/vappTemplate-id/productSections</i>	ProductSectionList	Task
Insert Media Into a Virtual Machine	POST <i>Vm-URL/action/insertMedia</i>	MediaInsertOrEjectParams	Task

Table 4. Summary of vCloud API Operations Requests (Continued)

Operation	Request	Request Body	Response
Eject Media from a Virtual Machine	POST <i>Vm-URL/action/ejectMedia</i>	MediaInsertOrEjectParams	Task
List Media Devices of a Virtual Machine	GET <i>Vm-URL/virtualHardwareSection/media</i>	None	RasdItemsList
Get a Request for User Input	GET <i>Vm-URL/question</i>	None	VmPendingQuestion
Provide Requested User Input	POST <i>Vm-URL/question/action/answer</i>	VmQuestionAnswer	204 No Content
Get a Screen Thumbnail for a Virtual Machine	GET <i>Vm-URL/screen</i>	None	Returns a screen thumbnail (Content-type: image/png) if one is available. Otherwise returns null (Content-Length: 0).
Get a Screen Ticket for a Virtual Machine	POST <i>Vm-URL/screen/action/acquireTicket</i>	None	ScreenTicket

Summary of vApp Reconfiguration Requests

vApp reconfiguration requests retrieve or update modifiable sections of a vApp.

- *API-URL* is a URL of the form `https://vcloud.example.com/api`.
- *id* is a unique identifier.

Request URLs are always available when you GET the representation of the object on which they operate. URL forms are for reference purposes only.

Table 5. Summary of vApp Reconfiguration Requests

Operation	Request	Request Body	Response
Retrieve vApp LeaseSettingsSection	GET <i>API-URL/vApp/vapp-id/leaseSettingsSection/</i>	None	LeaseSettingsSection
Update vApp LeaseSettingsSection	PUT <i>API-URL/vApp/vapp-id/leaseSettingsSection/</i>	LeaseSettingsSection	Task
Retrieve vApp StartupSection	GET <i>API-URL/vApp/vapp-id/startupSection/</i>	None	StartupSection
Update vApp StartupSection	PUT <i>API-URL/vApp/vapp-id/startupSection/</i>	StartupSection	Task
Retrieve vApp NetworkConfigSection	GET <i>API-URL/vApp/vapp-id/networkConfigSection/</i>	None	NetworkConfigSection
Update vApp NetworkConfigSection	PUT <i>API-URL/vApp/vapp-id/networkConfigSection/</i>	NetworkConfigSection	Task

Summary of Vm Reconfiguration Requests

Vm reconfiguration requests retrieve or update modifiable sections of a virtual machine (Vm object)

- *API-URL* is a URL of the form `https://vcloud.example.com/api`.
- *id* is a unique identifier.

Request URLs are always available when you GET the representation of the object on which they operate. URL forms are for reference purposes only.

Table 6. Summary of Vm Reconfiguration Requests

Operation	Request	Request Body	Response
Retrieve the NetworkConnectionSection of a virtual machine	GET <i>API-URL/vApp/vm-id/networkConnectionSection/</i>	None	NetworkConnectionSection
Update the NetworkConnectionSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/networkConnectionSection/</i>	NetworkConnectionSection	Task
Retrieve the GuestCustomizationSection of a virtual machine	GET <i>API-URL/vApp/vm-id/guestCustomizationSection/</i>	None	GuestCustomizationSection
Update the GuestCustomizationSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/guestCustomizationSection/</i>	GuestCustomizationSection	Task
Retrieve the OperatingSystemSection of a virtual machine	GET <i>API-URL/vApp/vm-id/operatingSystemSection/</i>	None	OperatingSystemSection
Update the OperatingSystemSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/operatingSystemSection/</i>	OperatingSystemSection	Task
Retrieve the VirtualHardwareSection of a virtual machine	GET <i>API-URL/vApp/vm-id/virtualHardwareSection/</i>	None	VirtualHardwareSection
Update the VirtualHardwareSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/virtualHardwareSection/</i>	VirtualHardwareSection	Task
Retrieve the CPU configuration of a virtual machine	GET <i>API-URL/vApp/vm-id/virtualHardwareSection/cpu</i>	None	ovf:Item
Update the CPU configuration of a virtual machine	PUT <i>API-URL/vApp/vm-id/virtualHardwareSection/cpu</i>	ovf:Item	Task
Retrieve the memory item from the VirtualHardwareSection of a virtual machine	GET <i>API-URL/vApp/vm-id/virtualHardwareSection/memory</i>	None	ovf:Item
Update the memory item in the VirtualHardwareSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/virtualHardwareSection/memory</i>	ovf:Item	Task
Retrieve virtual disk items from the VirtualHardwareSection of a virtual machine	GET <i>API-URL/vApp/vm-id/virtualHardwareSection/disks</i>	None	RasdItemsList
Update virtual disk items in the VirtualHardwareSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/virtualHardwareSection/disks</i>	RasdItemsList	Task

Table 6. Summary of Vm Reconfiguration Requests (Continued)

Operation	Request	Request Body	Response
Retrieve network card items from the VirtualHardwareSection of a virtual machine	GET <i>API-URL/vApp/vm-id/virtualHardwareSection/networkCards</i>	None	RasdItemsList
Update network card items in the VirtualHardwareSection of a virtual machine	PUT <i>API-URL/vApp/vm-id/virtualHardwareSection/networkCards</i>	RasdItemsList	Task

Index

B

browsing 7

C

catalog, to retrieve 7

catalog item, to retrieve 7

L

login URL, to obtain 7

M

media, to insert or remove virtual 9

media image

to copy, move, or delete 8

to upload or download 8

N

network, to retrieve 7

O

organizations, to list 7

P

ProductSection element, to retrieve or update 9

V

vApp

list of power operations 9

to change name or description 8

to compose or recompose 9

to deploy or undeploy 9

to view or modify lease settings 11

to view or modify network settings 11

to view or modify startup settings 11

vApp network, to view or modify
configuration 11

vApp template

to change name or description 8

to copy, move, or delete 8

to create from OVF 8

to download 8

to enable or disable for download 8

to instantiate 9

to relocate virtual machine from 9

to retrieve 7

vDC, to retrieve 7

virtual machine

to consolidate 9

to install VMware tools 9

to relocate 9

to upgrade hardware version 9

to view or modify CPU properties 11

to view or modify guest customization
properties 11

to view or modify memory settings 11

to view or modify network cards 11

to view or modify network connection 11

to view or modify operating system
properties 11

to view or modify virtual disks 11

Vm

list of power operations 9

pending question 9

to reboot or reset 9

to retrieve 7

VMware Tools

to install 9

to retrieve installed version 9

