



# **Getting started with Active IQ Unified Manager**

Active IQ Unified Manager 9.7

NetApp  
April 17, 2024

This PDF was generated from <https://docs.netapp.com/us-en/active-iq-unified-manager-97/api-automation/reference-intended-audience-for-this-guide.html> on April 17, 2024. Always check docs.netapp.com for the latest.

# Table of Contents

- Getting started with Active IQ Unified Manager ..... 1
  - Audience for this content ..... 1
  - Active IQ Unified Manager API access and categories ..... 1
  - REST services offered in Active IQ Unified Manager ..... 2
  - API version in Active IQ Unified Manager ..... 3
  - Storage resources in ONTAP ..... 4

# Getting started with Active IQ Unified Manager

Active IQ Unified Manager provides a set of APIs to manage your storage resources on the supported storage systems through a RESTful web service interface for any third-party integration.

The *Unified Manager API Developer's Guide* provides you with information about APIs and sample codes. The information provided in the guide enables you to create RESTful clients of NetApp Manageability software solutions for managing NetApp systems. The APIs are based on the Representational State Transfer (REST) architectural style.

Unified Manager provides API offerings for storage management in your NetApp environment. All the four REST operations Create, Read, Update, and Delete (also known as CRUD) are supported.

## Audience for this content

The topics here are intended for developers creating applications that interface with the Active IQ Unified Manager software through REST APIs.

Storage administrators and architects, can refer to this information to gain a basic understanding of how the Unified Manager REST APIs can be used to build client applications to manage and monitor NetApp storage systems.

You should use this information if you want to use the storage provider, ONTAP cluster, and management administration APIs for managing your storage.



You must have one of the following roles: Operator, Storage Administrator, or Application Administrator. You must know the IP address or fully qualified domain name of the Unified Manager server on which you want to execute the REST APIs.

## Active IQ Unified Manager API access and categories

The Active IQ Unified Manager APIs enable you to manage and provision storage objects in your environment. You can also access the Unified Manager web UI to perform some of these functions.

### Constructing a URL to directly access REST APIs

You can access the REST APIs directly through a programming language, such as Python, C#, C++, JavaScript, and so forth. Enter the host name or IP address and the URL to access the REST APIs in the format

`https://<hostname>/api`



The default port is 443. You can configure the port as required by your environment.

### Accessing the online API documentation page

You can access the *API Documentation* reference content page that is packaged along with the product to

display the API documentation, as well as to manually issue an API call (on the interface, for example, Swagger). You can access this documentation on clicking the **Menu Bar > Help button > API Documentation**

Alternatively, enter the host name or IP address and the URL to access the REST API page in the format

<https://<hostname>/docs/api/>

## Categories

The API calls are organized into functionally based on the areas or categories. To locate a specific API, click the applicable API category.

The REST APIs provided with Unified Manager help you to perform administrative, monitoring, and provisioning functions. The APIs are grouped under the following categories.

- **datacenter**

This category contains the APIs that help you to view and manage your datacenter storage objects. The REST APIs under this category provide information about the clusters, nodes, aggregates, volumes, LUNs, file shares, namespaces, and other elements in your data center.

- **management-server**

The APIs under the **management-server** category contain the `jobs` API. Jobs are operations that are scheduled for asynchronous execution related to managing of storage objects or workloads on Unified Manager.

- **storage-provider**

This category contains all of the provisioning APIs required for managing and provisioning file shares, LUNs, Performance Service Levels, and Storage Efficiency Policies. The APIs also enable you to configure access endpoints, Active Directories, as well as assign Performance Service Levels and Storage Efficiency Policies on storage workloads.

## REST services offered in Active IQ Unified Manager

You should be aware of the REST services and operations offered, before you start using the Active IQ Unified Manager APIs.

The provisioning and administrative APIs that are used for configuring the API server support the read (GET) or write (POST, PATCH, DELETE) operations. The following are some examples of the GET, PATCH, POST, and DELETE operations that are supported by the APIs:

- Example for GET: `GET /datacenter/cluster/clusters` retrieves cluster details in your data center. The maximum number of records that is returned by the GET operation is 1000.



The APIs enable you to filter, sort, and order the records by supported attributes.

- Example for POST: `POST /datacenter/svm/svms` creates a custom Storage Virtual Machine (SVM).
- Example for PATCH: `PATCH /datacenter/svm/svms/{key}` modifies the properties of an SVM, using its unique key.

- Example for DELETE: `DELETE /storage-provider/access-endpoints/{key}` deletes an access endpoint from a LUN, SVM, or file share by using its unique key.

The REST operations that can be performed by using the APIs depend on the role of the Operator, Storage Administrator, or Application Administrator user.

User role	Supported REST method
Operator	Read-only access to data. Users with this role can run all GET requests.
Storage Administrator	Read access to all data. Users with this role can run all GET requests.  Additionally, they have write access (to run PATCH, POST, and DELETE requests) to perform specific activities, such as managing, storage service objects, and storage management options.
Application Administrator	Read and write access to all data. Users with this role can run GET, PATCH, POST, and DELETE requests for all functions.

For more information about all the REST operations, see the *Online API documentation*.

## API version in Active IQ Unified Manager

The REST API URIs in Active IQ Unified Manager specifies a version number. For example, `/v2/datacenter/svm/svms`. The version number `v2` in `/v2/datacenter/svm/svms` indicates the API version used in a specific release. The version number minimizes the impact of API changes on the client software by sending back a response that the client can process.

The numerical part of this version number is incremental with respect to releases. URIs with a version number provide a consistent interface that maintains backward compatibility in future releases. You also find the same APIs without a version, for example `/datacenter/svm/svms`, that indicate the base APIs without a version. The base APIs are always the latest version of the APIs.



On the top right corner of your Swagger interface, you can select the version of the API to use. The highest version is selected by default. It is recommended that you use the highest version of a particular API (with respect to the incremental integer) available in your Unified Manager instance.

For all requests, you must explicitly request the API version that you want to use. When the version number is specified, the service does not return response elements that your application is not designed to handle. In REST requests, you should include the version parameter. The earlier versions of the APIs are eventually deprecated after a few releases. In this release, the `v1` version of the APIs is deprecated.

# Storage resources in ONTAP

The storage resources in ONTAP can be broadly classified into *physical storage resources* and *logical storage resources*. To effectively manage your ONTAP systems using the APIs provided in Active IQ Unified Manager, you must understand the storage resource model and the relationship between various storage resources.

- **Physical storage resources**

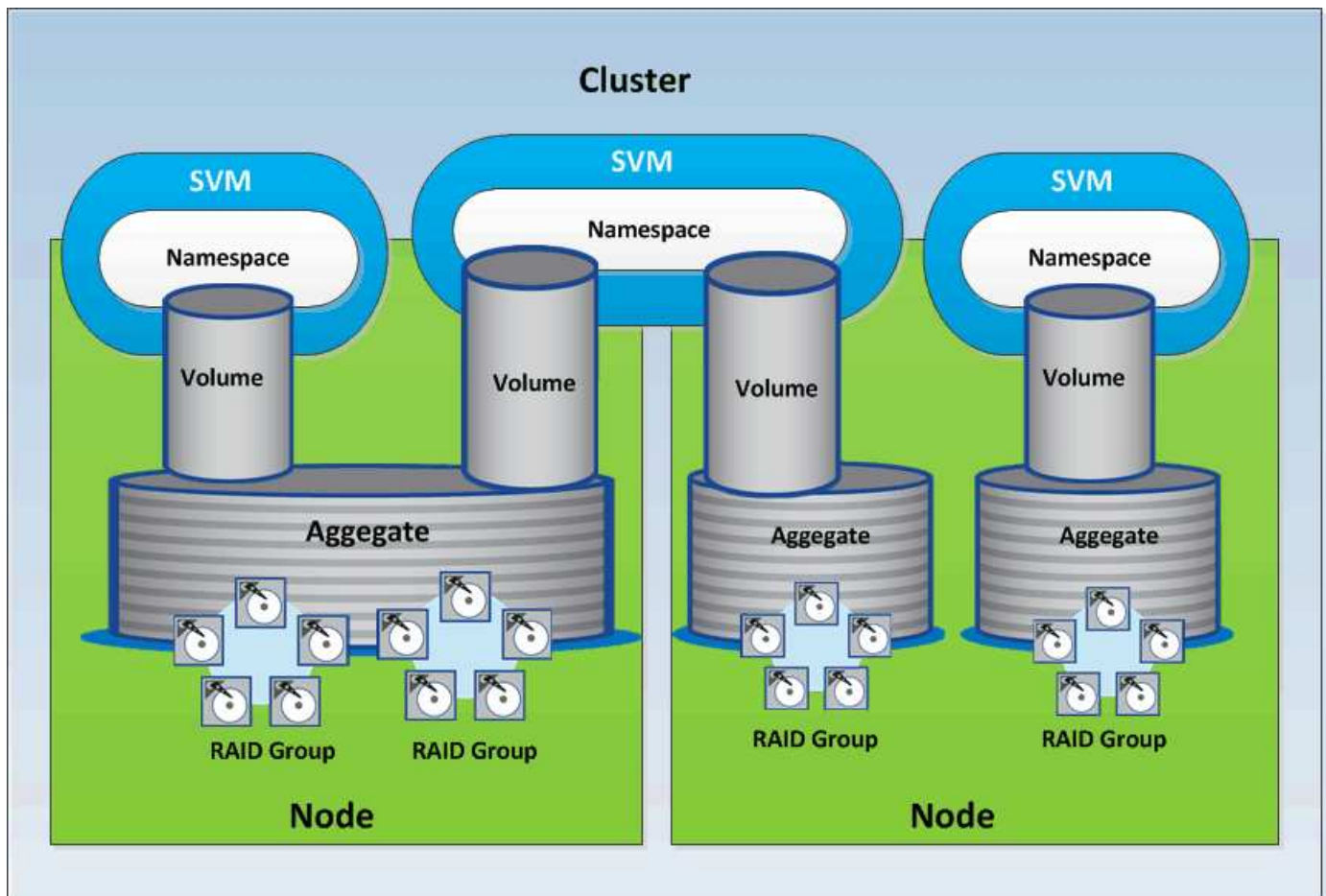
Refers to the physical storage objects provided by ONTAP. Physical storage resources include disks, clusters, storage controllers, nodes, and aggregates.

- **Logical storage resources**

Refers to the storage resources provided by ONTAP that are not tied to a physical resource. These resources are associated with a storage virtual machine (SVM, formerly known as Vserver), and they exist independently of any specific physical storage resource such as a disk, array LUN, or aggregate.

Logical storage resources include volumes of all types and qtrees, as well as the capabilities and configurations you can use with these resources, such as Snapshot copies, deduplication, compression, and quotas.

The following illustration shows the storage resources in a 2-node cluster:



## Copyright information

Copyright © 2024 NetApp, Inc. All Rights Reserved. Printed in the U.S. No part of this document covered by copyright may be reproduced in any form or by any means—graphic, electronic, or mechanical, including photocopying, recording, taping, or storage in an electronic retrieval system—without prior written permission of the copyright owner.

Software derived from copyrighted NetApp material is subject to the following license and disclaimer:

THIS SOFTWARE IS PROVIDED BY NETAPP “AS IS” AND WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY DISCLAIMED. IN NO EVENT SHALL NETAPP BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

NetApp reserves the right to change any products described herein at any time, and without notice. NetApp assumes no responsibility or liability arising from the use of products described herein, except as expressly agreed to in writing by NetApp. The use or purchase of this product does not convey a license under any patent rights, trademark rights, or any other intellectual property rights of NetApp.

The product described in this manual may be protected by one or more U.S. patents, foreign patents, or pending applications.

LIMITED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (b)(3) of the Rights in Technical Data -Noncommercial Items at DFARS 252.227-7013 (FEB 2014) and FAR 52.227-19 (DEC 2007).

Data contained herein pertains to a commercial product and/or commercial service (as defined in FAR 2.101) and is proprietary to NetApp, Inc. All NetApp technical data and computer software provided under this Agreement is commercial in nature and developed solely at private expense. The U.S. Government has a non-exclusive, non-transferrable, nonsublicensable, worldwide, limited irrevocable license to use the Data only in connection with and in support of the U.S. Government contract under which the Data was delivered. Except as provided herein, the Data may not be used, disclosed, reproduced, modified, performed, or displayed without the prior written approval of NetApp, Inc. United States Government license rights for the Department of Defense are limited to those rights identified in DFARS clause 252.227-7015(b) (FEB 2014).

## Trademark information

NETAPP, the NETAPP logo, and the marks listed at <http://www.netapp.com/TM> are trademarks of NetApp, Inc. Other company and product names may be trademarks of their respective owners.