



Software tools

ONTAP Automation

NetApp
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Software tools

Python client library

Overview of the Python client library

The NetApp ONTAP Python client library is a package you can install and use to write scripts that access the ONTAP REST API. It provides support for several underlying services, including connection management, asynchronous processing, exception handling, and error messages. By using the Python client library, you can quickly develop robust code to support the automation of ONTAP deployments.



NetApp maintains a GitHub repository containing code samples and other helpful information. You can navigate to the *examples* folder to access samples using the Python client library.

Related information

- [ONTAP REST Python GitHub repository](#)
- [ONTAP REST Python Client Library Examples](#)

Prepare to use the Python client library

You should prepare the local runtime environment before using the Python client library.

Package name and version

The name of the Python client library package is **netapp-ontap**. The version associated with the package is a combination of the ONTAP major and minor version numbers the library was generated from, along with a minor version for the client within the ONTAP release. For example, valid version numbers include: 9.6.1, 9.6.2, and 9.7.1.

Installation

You must use pip to install the netapp_ontap package from the Python Package Index (PyPi) web site.

Packages and documentation by ONTAP release

Each ONTAP release beginning with 9.6 has a PyPI package and associated documentation. See [Packages and documentation](#) for more information. Installation requirements are included with each package and include different versions of the following:

- python
- requests
- requests-toolbelt
- marshmallow

Packages and documentation

The Python client library is available for each ONTAP release beginning with 9.6. You should access the PyPI package and documentation based on the ONTAP release you are using.

ONTAP 9.15.1

- [PyPI: NetApp ONTAP 9.15.1](#)
- [NetApp PCL documentation for 9.15.1](#)

ONTAP 9.14.1

- [PyPI: NetApp ONTAP 9.14.1](#)
- [NetApp PCL documentation for 9.14.1](#)

ONTAP 9.13.1

- [PyPI: NetApp ONTAP 9.13.1](#)
- [NetApp PCL documentation for 9.13.1](#)

ONTAP 9.12.1

- [PyPI: NetApp ONTAP 9.12.1](#)
- [NetApp PCL documentation for 9.12.1](#)

ONTAP 9.11.1

- [PyPI: NetApp ONTAP 9.11.1](#)
- [NetApp PCL documentation for 9.11.1](#)

ONTAP 9.10.1

- [PyPI: NetApp ONTAP 9.10.1](#)
- [NetApp PCL documentation for 9.10.1](#)

ONTAP 9.9.1

- [PyPI: NetApp ONTAP 9.9.1](#)
- [NetApp PCL documentation for 9.9.1](#)

ONTAP 9.8

- [PyPI: NetApp ONTAP 9.8](#)
- [NetApp PCL documentation for 9.8](#)

ONTAP 9.7

- [PyPI: NetApp ONTAP 9.7](#)
- [NetApp PCL documentation for 9.7](#)

ONTAP 9.6

- [PyPI: NetApp ONTAP 9.6](#)
- [NetApp PCL documentation for 9.6](#)

Script to retrieve the cluster configuration

The following script provides a simple example of how to use the Python client library. You can run the script using Python 3 at the CLI to retrieve the ONTAP cluster configuration.

```

1  ##-----
2  #
3  # Description: Python script to retrieve the cluster configuration.
4  #
5  # Usage example:
6  #
7  # python3 get_cluster.py
8  #
9  #
10 # (C) Copyright 2024 NetApp, Inc.
11 #
12 # This sample code is provided AS IS, with no support or warranties of
13 # any kind, including but not limited for warranties of merchantability
14 # or fitness of any kind, expressed or implied. Permission to use,
15 # reproduce, modify and create derivatives of the sample code is
    granted
16 # solely for the purpose of researching, designing, developing and
17 # testing a software application product for use with NetApp products,
18 # provided that the above copyright notice appears in all copies and
19 # that the software application product is distributed pursuant to
    terms
20 # no less restrictive than those set forth herein.
21 #
22 ##-----
23 # For reading the password from the commandline
24 from getpass import getpass
25 # Global configuration for the library
26 from netapp_ontap import config
27 # Support for the connection to ONTAP
28 from netapp_ontap import HostConnection
29 # Specific API needed for this script
30 from netapp_ontap.resources import Cluster
31 # Create connection to the ONTAP management LIF
32 # (add verify=False if the certificate your cluster is serving is not
    trusted)
33 conn = HostConnection(
34     "<mgmt_ip>", username="admin", password=getpass("ONTAP admin
    password: "),
35 )
36 # Set connection as the default for all API calls
37 config.CONNECTION = conn
38 # Create new cluster object
39 clus = Cluster()
40 # Issue REST API call
41 clus.get()
42 # Display the cluster configuration

```

Blog articles

There are several blog articles available to help you better understand how to use the Python client library.

Simplify ONTAP REST API Consumption with the Python client library

This blog provides a good introduction to the features of the ONTAP Python client library.

www.netapp.com/blog/simplify-ontap-rest-api-consumption

Getting Started with ONTAP REST API Python Client Library

This is a three-part series of blogs covering more details about the Python client library.

Part 1: netapp.io/2020/06/09/ontap-rest-api-python-client-library-pt1

Part 2: netapp.io/2020/06/09/ontap-rest-api-python-client-library-pt2/

Part 3: netapp.io/2020/06/09/ontap-rest-api-python-client-library-pt3

PowerShell toolkit

Overview of the PowerShell Toolkit

NetApp provides support for using PowerShell to administer your ONTAP storage systems.

PowerShell

PowerShell is a program from Microsoft that you can use for task automation and configuration management. It includes a command line shell environment as well as a scripting language.

NetApp ONTAP PowerShell Toolkit

The NetApp.ONTAP PowerShell toolkit includes the PowerShell module for NetApp ONTAP. The toolkit supports ONTAP running in a variety of environments, including NetApp AFF and FAS systems, commodity hardware, and the cloud. The module includes over 2,400 cmdlets which collectively support storage administration on Windows hosts.

Download and install the ONTAP PowerShell Toolkit

There are two options available to download and install the NetApp ONTAP PowerShell toolkit.

NetApp support

You can download the PowerShell toolkit from the NetApp support site:

[NetApp.ONTAP PowerShell Toolkit](#)

PowerShell Gallery

You can download the PowerShell toolkit from PowerShell Gallery:

NetApp Manageability SDK

The NetApp Manageability SDK provides a set of ONTAPI API calls for developing applications to monitor and manage your ONTAP storage. Together with the OnCommand Workflow Automation package, the SDK supports your efforts to automate the manage of your ONTAP systems.



While the NetApp Manageability SDK and OnCommand Workflow Automation continued to be supported, the ONTAP REST API is the preferred and strategic technology to use when automating your ONTAP systems. See [ONTAPI disablement](#) for more information.

Download the SDK

You can download the NetApp Manageability SDK from the NetApp Support Site. The SDK supports several languages on the client side, including: Python, PowerShell, C, C++, Java, C#, VB.Net, and Ruby. Make sure to review the Interoperability Matrix Tool for information about the NetApp Manageability SDK and how it is supported with your version of ONTAP.

Use OnCommand Workflow Automation

You can also use the API provided with the SDK to automate management tasks without writing any scripts. OnCommand Workflow Automation (OnCommand WFA) provides several prepackaged workflows to deploy and run the management tasks. You can download the OnCommand WFA package from the NetApp Storage Automation Store.

Related information

- [NetApp Support Site](#)
- [NetApp Interoperability Matrix Tool](#)
- [NetApp Manageability SDK documentation](#)
- [OnCommand Workflow Automation documentation resources](#)
- [NetApp Automation Store](#)

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