



NetApp SolidFire Python SDK Release Notes

Version: v1.1

9/20/16

Copyright Information

Copyright © 1994-2016 NetApp, Inc. All Rights Reserved.

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 document may be protected by one or more U.S. patents, foreign patents, or pending applications.

RESTRICTED RIGHTS LEGEND: Use, duplication, or disclosure by the government is subject to restrictions as set forth in subparagraph (c)(1)(ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.277-7103 (October 1988) and FAR 52-227-19 (June 1987).

Trademark Information

NetApp, the NetApp logo, AltaVault, ASUP, AutoSupport, Campaign Express, Cloud ONTAP, Clustered Data ONTAP, Customer Fitness, Data ONTAP, DataMotion, Fitness, Flash Accel, Flash Cache, Flash Pool, FlexArray, FlexCache, FlexClone, FlexPod, FlexScale, FlexShare, FlexVol, FPolicy, GetSuccessful, LockVault, Manage ONTAP, Mars, MetroCluster, MultiStore, NetApp Insight, OnCommand, ONTAP, ONTAPI, RAID DP, RAID-TEC, SANtricity, SecureShare, Simplicity, Simulate ONTAP, SnapCenter, Snap Creator, SnapCopy, SnapDrive, SnapIntegrator, SnapLock, SnapManager, SnapMirror, SnapMover, SnapProtect, SnapRestore, Snapshot, SnapValidator, SnapVault, StorageGRID, Tech OnTap, Unbound Cloud, WAFL, SolidFire, Element, Active IQ, SolidFire Helix and the helix design and other names are trademarks or registered trademarks of NetApp, Inc., in the United States, and/or other countries. All other brands or products are trademarks or registered trademarks of their respective holders and should be treated as such. A current list of NetApp trademarks is available on the web at <http://www.netapp.com/us/legal/netapptmlist.aspx>.

TABLE OF CONTENTS

- Introduction 4
- Support Matrix 4
- Python SDK Dependencies 4
 - PycURL 4
- Pre-Installation Steps 4
 - Ubuntu 4
 - RHEL/CentOS 4
- Installing the SolidFire Python SDK from PyPI 5
- Installing the SolidFire Python SDK from Source Control 5
- What's New in this Release 5
 - New SolidFire SDK API Methods 6
 - All SolidFire SDK API Methods 8
- Contacting SolidFire SDK Support12

Introduction

The SolidFire Python SDK is a collection of software modules and libraries that facilitate integration and orchestration between proprietary systems and third-party applications. The Python SDK allows developers to deeply integrate SolidFire system API with their Python programming language. The SolidFire Python SDK reduces the amount of additional coding time required for integration.

The Python SDK is available from [PyPI](#), [GitHub](#), and [BrickFTP](#).

The intended audience for this document is Python developers who are responsible for integrating SolidFire into other applications.

Support Matrix

The SolidFire Python SDK supports the following software.

Component	Version
Python	Python 2: 2.7 and later Python 3: 3.3 or later
SolidFire Element OS	7 and 8

Python SDK Dependencies

PycURL

The SolidFire Python SDK depends on the PycURL library, which depends on an installed SSL library. If the installation fails due to PycURL, it is most likely due to a missing SSL dependency. OpenSSL is the recommended SSL backend for all Linux flavors.

Pre-Installation Steps

The following pre-installation steps are required before installing the SolidFire Python SDK. Instructions are specific to Python 2.7 with examples of Python 3.3 and later examples in the comments.

Ubuntu

```
sudo apt-get install python-pip # or python3-pip
sudo apt-get install libffi-dev libssl-dev libcurl4-openssl-dev
sudo apt-get install python-dev # or python3.3-dev python3.4-dev python3.5-dev
pip install pyopenssl ndg-httpsclient pyasn1 # use the correct version of pip (i.e. pip3.3)
```

RHEL/CentOS

```
yum install epel-release
yum groupinstall 'Development Tools'
yum -y install python-setuptools python-pip python-wheel
# or python3-setuptools python3-pip python3-wheel
yum -y install libffi-devel openssl-devel libcurl
yum -y install python-devel # or python3.3-devel python3.4-devel python3.5-devel
pip install pyopenssl ndg-httpsclient pyasn1 # use the correct version of pip (i.e. pip3.3)
```

Installing the SolidFire Python SDK from PyPI

You can globally install the SolidFire Python SDK from [PyPI](#) using pip.

Prerequisites

- pip version 1.3 or later must be installed globally.

Procedure

NOTE: NetApp SolidFire recommends [virtualenv](#) to isolate your Python environment to only the required libraries.

1. Type the following command in pip:

```
pip install solidfire-sdk-python
```

2. Review the [GitHub](#) project page for examples of higher level classes and links to supplemental documentation.

Installing the SolidFire Python SDK from Source Control

You can install the SolidFire Python SDK from GitHub source control to edit the source code or clone the project for development purposes.

Procedure

NOTE: SolidFire recommends [virtualenv](#) to isolate your Python environment to only the required libraries.

1. Install the SolidFire Python SDK:

- Install from a branch in source control:

```
pip install -e git+https://github.com/solidfire/solidfire-sdk-python.git@develop#egg=solidfire-sdk-python
```

- Alternatively, create a local clone of the repository for development purposes or to inspect the source code:

```
git clone git@github.com:solidfire/solidfire-sdk-python.git
cd solidfire-sdk-python
git checkout develop
pip install -e "[dev,test, docs, release]"
python setup.py install
```

2. Append the SolidFire directory location to your **PYTHONPATH** environment variable. This enables you to use the SolidFire Python SDK in other Python scripts.

```
export PYTHONPATH=$PYTHONPATH:/path/to/sf-python-sdk/
```

3. Review the [GitHub](#) project page for examples of higher level classes and links to supplemental documentation.

What's New in this Release

The Python SDK version 1.1 release expands the available set of SolidFire Element OS version 8.0 Oxygen APIs.

New SolidFire SDK API Methods

The following new SolidFire API methods are available in Python wrappers in SolidFire Python SDK version 1.1:

Element OS 8
AddClusterAdmin
AddDrives
AddNodes
AddVirtualNetwork
ClearClusterFaults
CloneMultipleVolumes
CreateBackupTarget
CreateSchedule
CompleteClusterPairing
CompleteVolumePairing
DisableEncryptionAtRest
DisableSnmp
EnableEncryptionAtRest
EnableSnmp
GetAccountEfficiency
GetBackupTarget
GetClusterCapacity
GetClusterConfig
GetClusterFullThreshold
GetClusterInfo
GetClusterStats
GetClusterVersionInfo
GetCompleteStats
GetConfig
GetCurrentClusterAdmin
GetDriveHardwareInfo
GetDriveStats
GetLimits
GetNetworkConfig

Element OS 8
GetNodeStats
GetRawStats
GetSchedule
GetSnmpACL
GetSnmpInfo
GetSnmpState
GetSnmpTrapInfo
GetVolumeAccessGroupEfficiency
ListActiveNodes
ListActivePairedVolumes
ListAllNodes
ListBackupTargets
ListClusterAdmins
ListClusterFaults
ListClusterPairs
ListDriveHardware
ListDrives
ListEvents
ListISCSISessions
ListNodeStats
ListPendingNodes
ListSchedules
ListTests
ListUtilities
ListVirtualNetworks
ModifyBackupTarget
ModifyClusterAdmin
ModifyClusterFullThreshold
ModifySchedule
ModifyVirtualNetwork
ModifyVolumePair
RemoveBackupTarget

Element OS 8

RemoveClusterAdmin

RemoveClusterPair

RemoveDrives

RemoveNodes

RemoveVirtualNetwork

RemoveVolumePair

ResetDrives

SecureEraseDrives

SetClusterConfig

SetConfig

SetNetworkConfig

SetSnmpACL

SetSnmpInfo

SetSnmpTrapInfo

SnmpSendTestTraps

StartClusterPairing

StartVolumePairing

TestConnectEnsemble

TestConnectMvip

TestConnectSvip

TestDrives

TestPing

All SolidFire SDK API Methods

The following SolidFire API methods are available in Python wrappers in SolidFire Python SDK version 1.1:

Element OS 8

AddAccount

AddClusterAdmin

AddInitiatorsToVolumeAccessGroup

AddDrives

AddNodes

AddVirtualNetwork

Element OS 7

AddAccount

AddInitiatorsToVolumeAccessGroup

Element OS 8	Element OS 7
AddVolumesToVolumeAccessGroup	AddVolumesToVolumeAccessGroup
ClearClusterFaults	
CloneMultipleVolumes	
CloneVolume	CloneVolume
CompleteClusterPairing	
CompleteVolumePairing	
CreateBackupTarget	
CreateGroupSnapshot	CreateGroupSnapshot
CreateSchedule	
CreateSnapshot	CreateSnapshot
CreateVolume	CreateVolume
CreateVolumeAccessGroup	CreateVolumeAccessGroup
DeleteGroupSnapshot	DeleteGroupSnapshot
DeleteSnapshot	DeleteSnapshot
DeleteVolume	DeleteVolume
DeleteVolumeAccessGroup	DeleteVolumeAccessGroup
DisableEncryptionAtRest	
DisableSnmp	
EnableEncryptionAtRest	
EnableSnmp	
GetAccountByID	GetAccountByID
GetAccountByName	GetAccountByName
GetAccountEfficiency	
GetAPI	GetAPI
GetAsyncResult	GetAsyncResult
GetBackupTarget	
GetClusterCapacity	
GetClusterConfig	
GetClusterFullThreshold	
GetClusterInfo	
GetClusterStats	
GetClusterVersionInfo	

Element OS 8	Element OS 7
GetCompleteStats	
GetConfig	
GetCurrentClusterAdmin	
GetDriveHardwareInfo	
GetDriveStats	
GetLimits	
GetNetworkConfig	
GetNodeStats	
GetRawStats	
GetSchedule	
GetSnmpACL	
GetSnmpInfo	
GetSnmpState	
GetSnmpTrapInfo	
GetVolumeAccessGroupEfficiency	
GetVolumeEfficiency	GetVolumeEfficiency
GetVolumeStats	GetVolumeStats
ListAccounts	ListAccounts
ListActiveNodes	
ListActivePairedVolumes	
ListActiveVolumes	ListActiveVolumes
ListAllNodes	
ListBackupTargets	
ListClusterAdmins	
ListClusterFaults	
ListClusterPairs	
ListDeletedVolumes	ListDeletedVolumes
ListDriveHardware	
ListDrives	
ListEvents	
ListGroupSnapshots	ListGroupSnapshots
ListISCSISessions	

Element OS 8	Element OS 7
ListNodeStats	
ListPendingNodes	
ListSchedules	
ListSnapshots	ListSnapshots
ListTests	
ListUtilities	
ListVirtualNetworks	
ListVolumeAccessGroups	ListVolumeAccessGroups
ListVolumes	
ListVolumesForAccount	ListVolumesForAccount
ListVolumeStatsByAccount	ListVolumeStatsByAccount
ListVolumeStatsByVolume	ListVolumeStatsByVolume
ListVolumeStatsByVolumeAccessGroup	ListVolumeStatsByVolumeAccessGroup
ModifyAccount	ModifyAccount
ModifyBackupTarget	
ModifyClusterAdmin	
ModifyClusterFullThreshold	
ModifyGroupSnapshot	
ModifySchedule	
ModifySnapshot	
ModifyVirtualNetwork	
ModifyVolume	ModifyVolume
ModifyVolumeAccessGroup	ModifyVolumeAccessGroup
ModifyVolumePair	
PurgeDeletedVolume	PurgeDeletedVolume
RemoveAccount	RemoveAccount
RemoveBackupTarget	
RemoveClusterAdmin	
RemoveClusterPair	
RemoveDrives	
RemoveInitiatorsFromVolumeAccessGroup	RemoveInitiatorsFromVolumeAccessGroup
RemoveNodes	

Element OS 8	Element OS 7
RemoveVirtualNetwork	
RemoveVolumesFromVolumeAccessGroup	RemoveVolumesFromVolumeAccessGroup
RemoveVolumePair	
ResetDrives	
RestoreDeletedVolume	RestoreDeletedVolume
RollbackToGroupSnapshot	RollbackToGroupSnapshot
RollbackToSnapshot	RollbackToSnapshot
SecureEraseDrives	
SetClusterConfig	
SetConfig	
SetNetworkConfig	
SetSnmpACL	
SetSnmpInfo	
SetSnmpTrapInfo	
SnmpSendTestTraps	
StartClusterPairing	
StartVolumePairing	
TestConnectEnsemble	
TestConnectMvip	
TestConnectSvip	
TestDrives	
TestPing	

For more detail on SolidFire API methods, refer to the SolidFire Element API Reference Guide for your operating system.

Contacting SolidFire SDK Support

If you have any questions or comments about this product, contact ng-sf-host-integrations-sdk@netapp.com or reach out to the development community at [ThePub](#). Your feedback helps us focus our efforts on new features and capabilities.



1600 Pearl Street, Suite 200
Boulder, Colorado 80302

Phone: 720.523.3278

Email: info@solidfire.com

Web: www.solidfire.com

SolidFire Support: www.solidfire.com/support/

9/20/16