

STORAGE DEVELOPER CONFERENCE



BY Developers FOR Developers

Virtual Conference
September 28-29, 2021

Simplifying Client Interactions with SMI-S using PyWBEM

Using SMI-S 1.8.0 Mock Servers

Michael Walker

Background

- Pywbem and pywbemtools are python packages that provide access to WBEM Servers.
 - Pywbem provides a python API for accessing WBEM Servers
 - Pywbemtools include a Command Line interface for accessing WBEM Servers via command prompts
- They also provide a mechanism for mocking WBEM Servers, including SMI-S Servers
- Mock servers can be extremely useful for developing applications and tools on your local system

Uses of Mock Servers

- Explore SMI-S 1.8.0 features
 - The mock servers support the WBEM Server Profile and Advanced Metrics for Arrays (both are new in SMI-S 1.8.0)
- Develop Tools to be used with SMI-S Servers
- Develop client software for SMI-S Servers
- As a local test environment for testing tools and applications

Publicly available SMI-S 1.8.0 Mock Servers

- A publicly available GitHub repository can be found here:
 - https://github.com/FarmerMike252/SMI-S_Mocks
- The mock servers were developed to illustrate some of the new features in SMI-S 1.8.0 (which is now [an ISO Standard](#))
 - The link to the ISO Standard is: iso.org/search.html?q=24775
- A set of “Quick Start Guides” are also in the repository
 - These guides are designed to help IT users find useful information (e.g., Hardware, product, software, capacity and performance information) in an SMI-S server.
 - The guides are pywbemcli (part of pywbemtools) command line scripts to access WBEM servers (the scripts work on the Array mock server).
 - These guides are illustrated in video's on the SNIA pywbem page: <https://www.snia.org/pywbem>
 - The Quick Start Guides folder also contains the presentation used in the installation and setup video (for installing python, virtual environments, pywbem and pywbem tools).

Github Mocks

FarmerMike252/SMI-S_Mocks: A

github.com/FarmerMike252/SMI-S_Mocks

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FarmerMike252 / SMI-S_Mocks

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FarmerMike252 Added text to the readme file. c72d60e on Jun 13 28 commits

ArrayMock	Updated the mock load programs to exploit caching of a mock.	9 months ago
NASHeadMock	Updated the mock load programs to exploit caching of a mock.	9 months ago
QuickStartGuides	Fixed the Quick Start Guide for Capacity (from a duplicate of Product).	5 months ago
ServerMock	Updated the mock load programs to exploit caching of a mock.	9 months ago
WBEMServerMock	Updated the mock load programs to exploit caching of a mock.	9 months ago
Readme.md	Added text to the readme file.	last month

About

A prototype of a repo of SMI-S Mocks using pywbem

Readme

Releases

No releases published
[Create a new release](#)

Packages

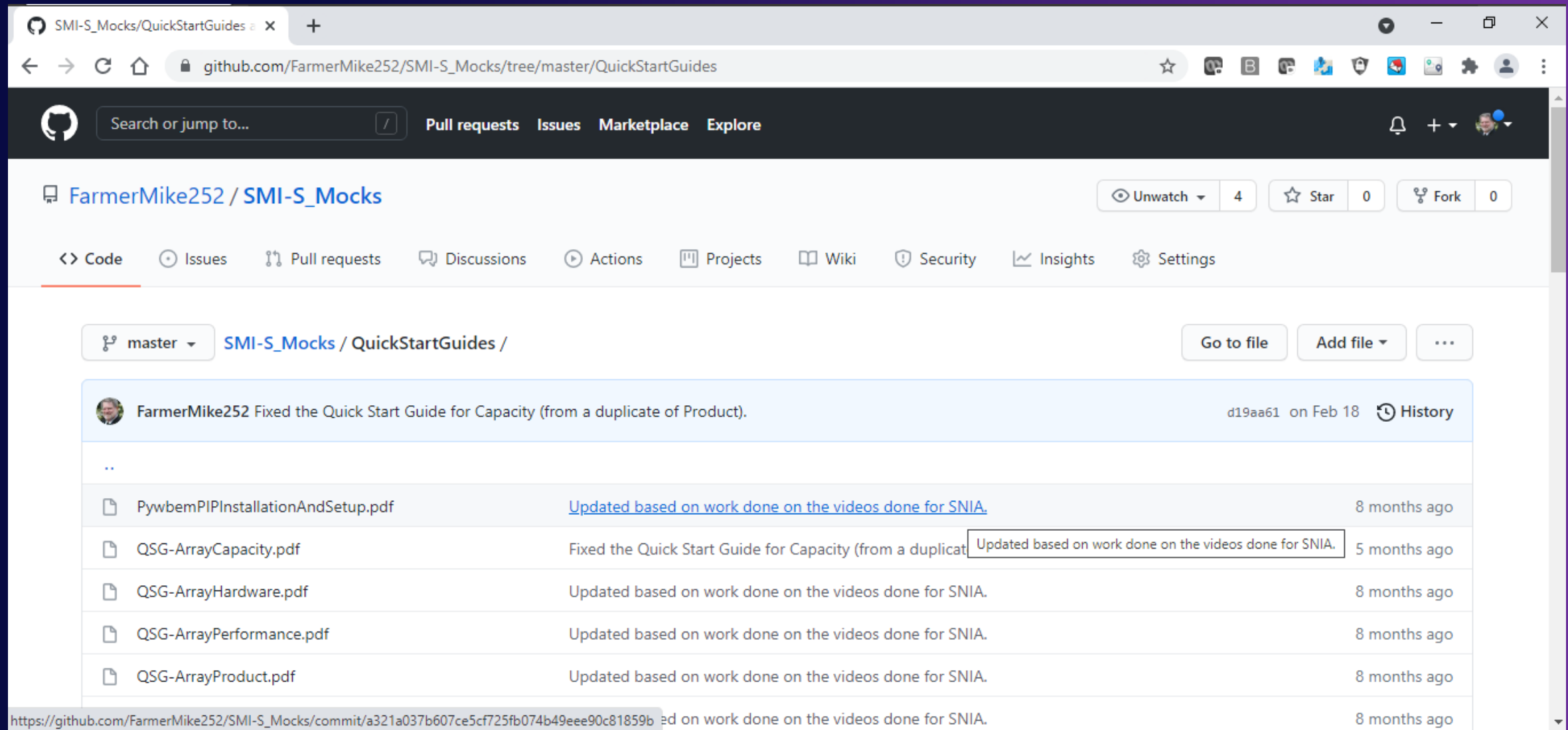
No packages published

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STORAGE DEVELOPER CONFERENCE

SDC 21

Setup Presentation



SMI-S_Mocks/QuickStartGuides

github.com/FarmerMike252/SMI-S_Mocks/tree/master/QuickStartGuides

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Go to file Add file ...

FarmerMike252 Fixed the Quick Start Guide for Capacity (from a duplicate of Product). d19aa61 on Feb 18 History

..

PywbemPIPIInstallationAndSetup.pdf	Updated based on work done on the videos done for SNIA.	8 months ago
QSG-ArrayCapacity.pdf	Fixed the Quick Start Guide for Capacity (from a duplicate of Product). Updated based on work done on the videos done for SNIA.	5 months ago
QSG-ArrayHardware.pdf	Updated based on work done on the videos done for SNIA.	8 months ago
QSG-ArrayPerformance.pdf	Updated based on work done on the videos done for SNIA.	8 months ago
QSG-ArrayProduct.pdf	Updated based on work done on the videos done for SNIA.	8 months ago

https://github.com/FarmerMike252/SMI-S_Mocks/commit/a321a037b607ce5cf725fb074b49eee90c81859b Updated based on work done on the videos done for SNIA. 8 months ago

The ISO Standard

The screenshot shows the ISO.org website with a search query of 24775. The page features a navigation bar with links to Standards, About us, News, Taking part, and Store. A search bar and a shopping cart icon are also present. The main content area displays 27 results found in 1 millisecond. On the left, there is a filter section with options for All Results, Standards (18), and Documents (9). Below the filter, there is a section titled 'LOOKING FOR THE FINER DETAILS?' with a link to 'Advanced search for standards'. The search results list two standards: ISO/IEC 24775-8:2021 and ISO/IEC 24775-7:2021.

← → ↺ 🏠 iso.org/search.html?q=24775

ISO Standards About us News Taking part Store 🔍 🛒 EN ▼ MENU

FILTER

- ALL RESULTS
- STANDARDS (18)
- DOCUMENTS (9)

LOOKING FOR THE FINER DETAILS?

Customize your search by combining multiple criteria

[Advanced search for standards »](#)

27 RESULTS FOUND (1 MS)

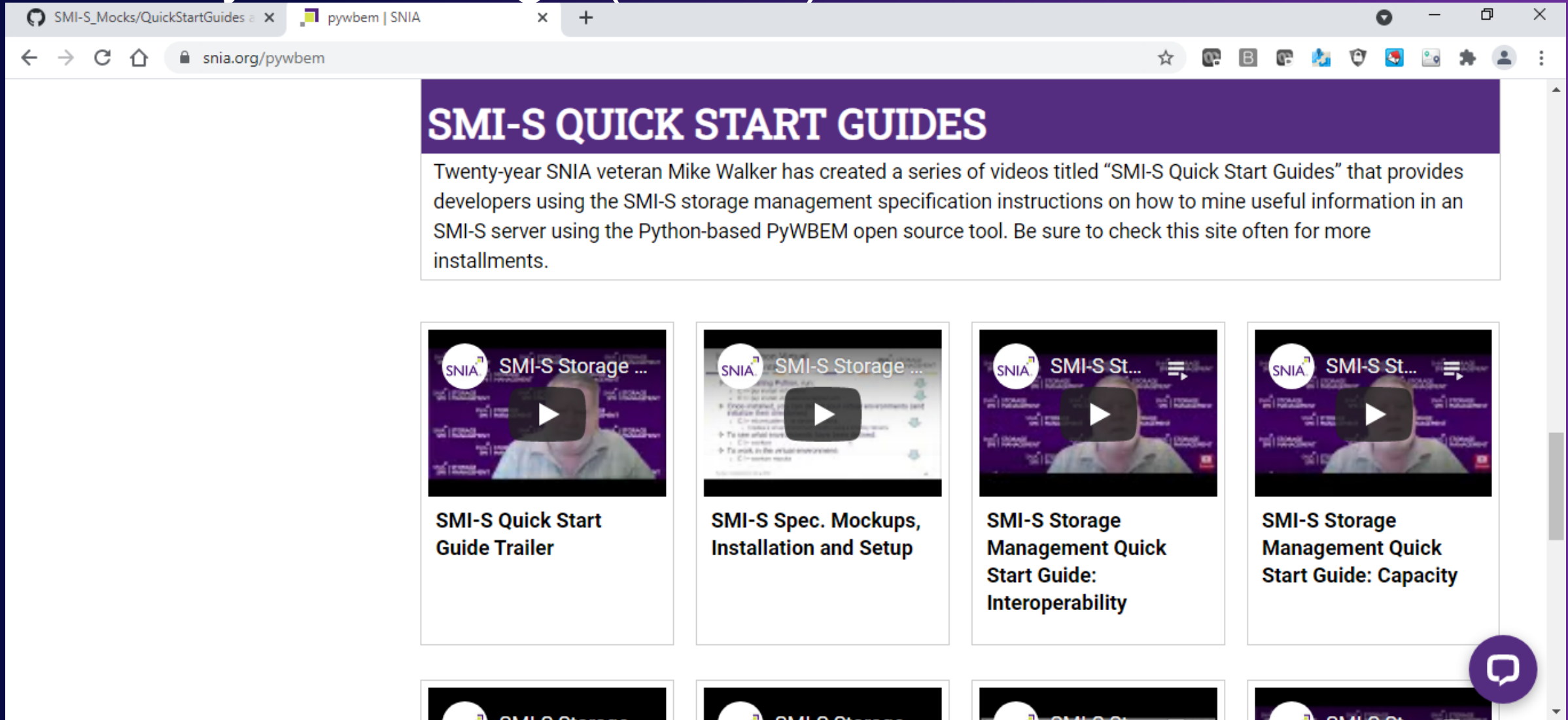
🔗 **ISO/IEC 24775-8:2021 INFORMATION TECHNOLOGY — STORAGE MANAGEMENT — PART 8: MEDIA LIBRARIES**

This version of the specification models various details of the following objects of the media library for monitoring. Library Drives Changer Devices Slots IO Slots SCSI Interfaces and SCSI and FC Target Ports Physical Tapes Physical Package Magazines In general, a CIM client can monitor the health and status of ...

🔗 **ISO/IEC 24775-7:2021 INFORMATION TECHNOLOGY — STORAGE MANAGEMENT — PART 7: HOST ELEMENTS**

The host-base storage portion of the Storage Management Technical Specification defines management profiles for autonomous, component and abstract profiles for management of host-based storage devices. The


SNIA Pywbem Page (videos)




The screenshot shows a web browser window with two tabs: 'SMI-S_Mocks/QuickStartGuides' and 'pywbem | SNIA'. The address bar shows 'snia.org/pywbem'. The main heading is 'SMI-S QUICK START GUIDES'. Below it, a paragraph states: 'Twenty-year SNIA veteran Mike Walker has created a series of videos titled “SMI-S Quick Start Guides” that provides developers using the SMI-S storage management specification instructions on how to mine useful information in an SMI-S server using the Python-based PyWBEM open source tool. Be sure to check this site often for more installments.' Below this, there are four video thumbnails, each with a play button icon and a title: 'SMI-S Quick Start Guide Trailer', 'SMI-S Spec. Mockups, Installation and Setup', 'SMI-S Storage Management Quick Start Guide: Interoperability', and 'SMI-S Storage Management Quick Start Guide: Capacity'. A chat bubble icon is visible in the bottom right corner of the page.

SMI-S QUICK START GUIDES


Twenty-year SNIA veteran Mike Walker has created a series of videos titled “SMI-S Quick Start Guides” that provides developers using the SMI-S storage management specification instructions on how to mine useful information in an SMI-S server using the Python-based PyWBEM open source tool. Be sure to check this site often for more installments.




SMI-S Quick Start Guide Trailer



SMI-S Spec. Mockups, Installation and Setup



SMI-S Storage Management Quick Start Guide: Interoperability



SMI-S Storage Management Quick Start Guide: Capacity

Using the mock servers

- Feel free to use the mock servers in the Github repository
- Download or clone the repository
- Each mock is made up of three files:
 - A leaflist xml file – which defines the classes (mofs) to be loaded into the mock server
 - An instance mof file – that contains instances to be loaded in the mock server
 - A mockload python program – that performs the loading of the classes and instances

These files need to be copied into your virtual environment working directory.



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