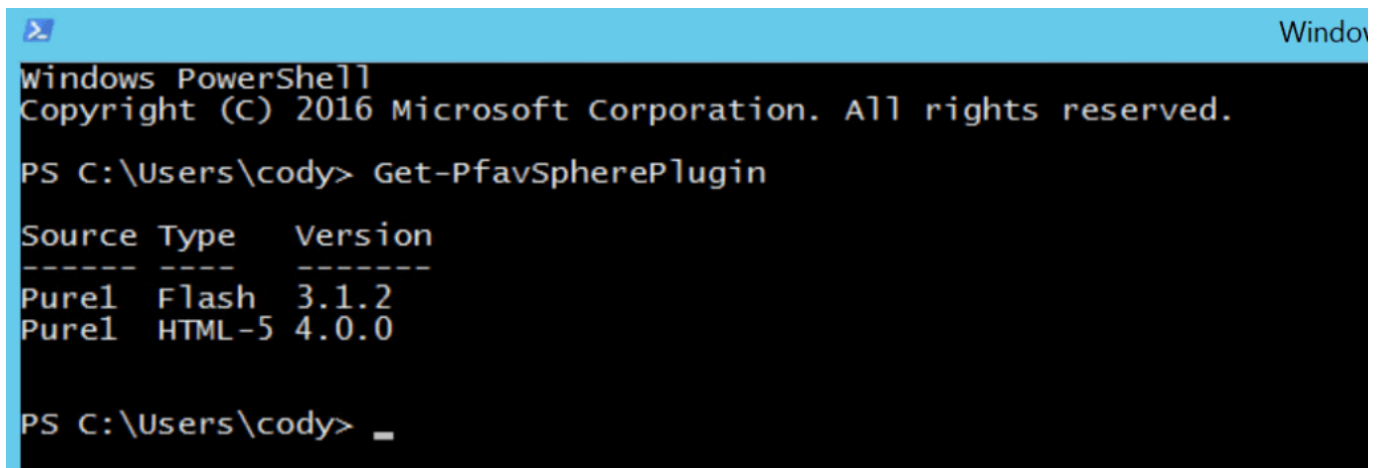


Installing the Pure Storage vSphere Plugin with PowerShell



```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\cody> Get-PfavSpherePlugin

Source Type      Version
-----
Pure1   Flash       3.1.2
Pure1   HTML-5        4.0.0

PS C:\Users\cody> _
```

A common question I hear is “can I install the Pure vSphere Plugin via PowerShell?” and my answer has been up until now, “sorry no :(”

But I was asked it twice last week and I decided to actually think about it? Why couldn't it be automated? Just because we host in in the FlashArray and it is normally installed via our GUI? That GUI has to be executing code to do the install.

Installing a vSphere plugin is really two steps. First registering the plugin as an extension (this says what the plugin is, what version, etc). And then actually installing the plugin files to the vCenter. In a normal situation, someone logs into our GUI, connect to the vCenter and then runs the “install” which is really just registering the extension. In that registered extension, there is a link to where the plugin files can be downloaded from. This is step 2. At some point after registration, the vSphere Client downloads the files. In the Flash version, it happened the next time you logged in (this is why logging in took so long the first time you logged in after installing plugin). In the HTML-5 vSphere Client, this happens in the background, so there is no delay in logging in.

Okay. So there are two hurdles to doing this:

1. What API do you call to register the plugin? What information is needed to populate it?
2. Once the plugin is installed where is the plugin? Where do I tell vSphere to download from?

The first problem was easy to solve. There is an API method in ExtensionManager called `updateExtension()` and `registerExtension()`. These respectively update a plugin and register a new one.

In PowerCLI, (once you've connected to vCenter) you can get this fairly easily:

```
[crayon-6514e0cd876ae944346110/]
```

How to build the extension spec will of course vary between every vendors plugins, but the key part is registering the download location. Which is problem #2.

So on the FlashArray, we host the plugin on the array controllers, and someone can login to the GUI (or CLI) and run the installation. That process registers the extension and the download URL is that arrays management IP and the plugin zip.

Nothing special about this. So what I did is bypassed the GUI and just rewrote it in PowerShell.

In the module I manage (PureStorage.FlashArray.VMware) I added two new cmdlets, Install-PfavSpherePlugin and Get-PfavSpherePlugin in the 1.2.1.0 release.

Let's walk through those, but first another point.

Cloud-hosted Plugin

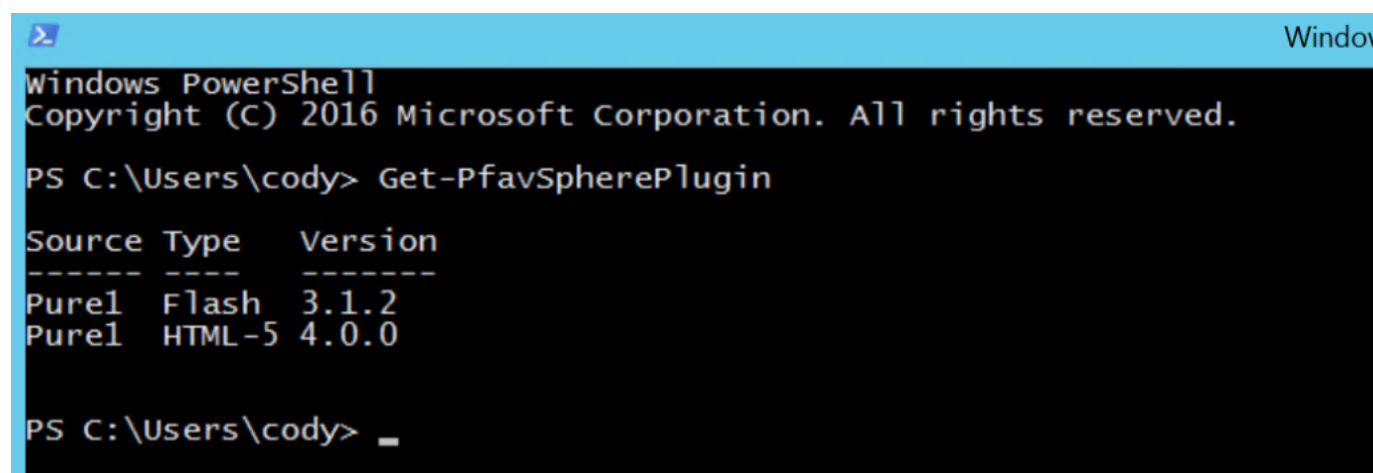
We are working on changing how the plugin is offered and delivered, but I made a small step in improving this process. As it stands, if you want a new plugin installed, you have to open a case with Pure support and we load the latest plugin on your array, and then you can push it to your various vCenters. Not the greatest system—which is what we are changing. But the full implementation of the change is still in the future.

So what I did is host the latest plugin versions on an S3 bucket, that is publicly accessible. So if you want the latest plugin, you do not even need to get it loaded on your array. Just run the cmdlet! I will post the latest versions of the plugins there as they release.

Get-PfavSpherePlugin

This tells you what plugins you have on an array, or what is out there hosted.

If you just run it without any parameters, you will only get what is on the cloud.



```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\cody> Get-PfavSpherePlugin

Source Type    Version
-----
Pure1   Flash     3.1.2
Pure1   HTML-5     4.0.0

PS C:\Users\cody> _
```

Of course, if your organization does not let you route out to this URL over 443, then it will return nothing.

Or you can pass in FlashArray connections, or IPs, or domain names. In this case, it will query the arrays for what versions they have. This will return the versions on those arrays and the ones on the cloud.

```
PS C:\Users\cody> Get-PfavSpherePlugin -source "10.21.202.52","flasharray-420-1","10.21.88.27","10.21.88.112"
Source                                     Type   Version
-----
flasharray-m20-1.purecloud.com           HTML-5 4.0.0
flasharray-420-1                         HTML-5 4.0.999999
flasharray-m50-1.purecloud.com           Flash  3.1.1
10.21.88.112                             Flash  3.1.2
Pure1                                     Flash  3.1.2
Pure1                                     HTML-5 4.0.0

PS C:\Users\cody> _
```

If you have connected arrays using new-pfaconnection, it will pick those up and query those arrays too

```
PS C:\Users\cody> new-pfaConnection -endpoint flasharray-m20-1 -credentials $creds -ignoreCertificateError -nonDefaultArray
Disposed      : False
EndPoint      : flasharray-m20-1
UserName      : pureuser
ApiVersion    : 1.13
Role          : ArrayAdmin
ApiToken      : 5a84371f-eee7-93d3-907c-5fdb326031c1

PS C:\Users\cody> Get-PfavSpherePlugin
Source                                     Type   Version
-----
flasharray-m20-1.purecloud.com           HTML-5 4.0.0
Pure1                                     Flash  3.1.2
Pure1                                     HTML-5 4.0.0
```

Also, there are two switch parameters. HTML and Flash. This will allow you to only return arrays that have that type of plugin:

```
PS C:\Users\cody> Get-PfavSpherePlugin -source "10.21.202.52","flasharray-420-1","10.21.88.27","10.21.88.112" -html
Source                                     Type   Version
-----
flasharray-m20-1.purecloud.com           HTML-5 4.0.0
flasharray-420-1                         HTML-5 4.0.999999
Pure1                                     HTML-5 4.0.0
```

Lastly, version. If you want to see who has what version, enter in the version.

```
Windows PowerShell
Copyright (C) 2016 Microsoft Corporation. All rights reserved.

PS C:\Users\cody> Get-PfavSpherePlugin -source "10.21.202.52","flasharray-420-1","10.21.88.27","10.21.88.112" -version 3.1.2
Source      Type   Version
-----
10.21.88.112 Flash  3.1.2
Pure1       Flash  3.1.2

PS C:\Users\cody>
```

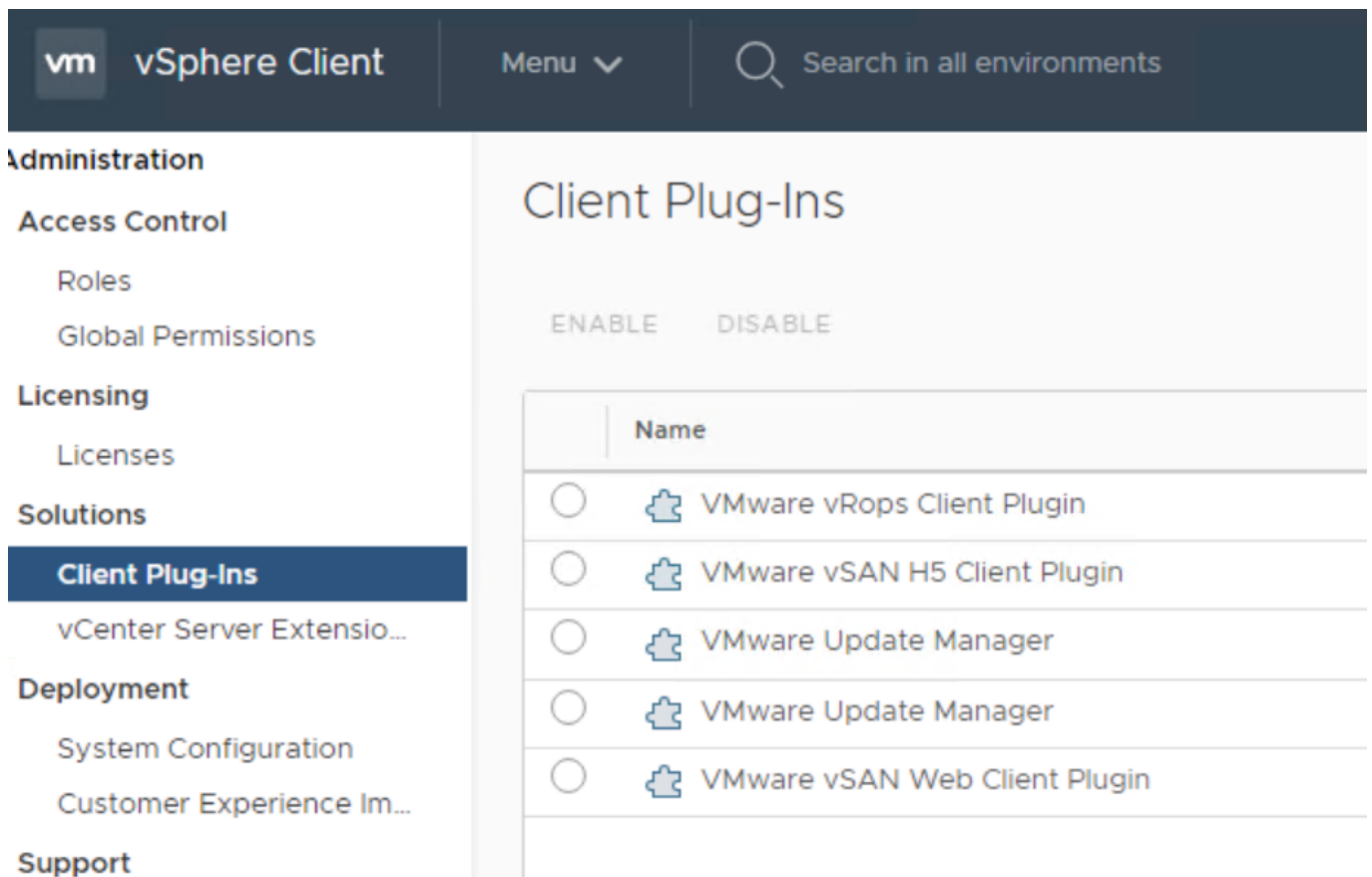
Install-PfavSpherePlugin

Install-PfavSpherePlugin actually installs the plugin.

Here is its behavior:

- Defaults to installing the release on the cloud. Unless you specify a particular source
- Defaults to installing the [HTML-5](#) plugin, unless you specify -flash
- Requires confirmation. So it will interactively ask you if you want to install. This will tell you the existing version on your vCenter (if there is one) what version and type it wants to install/upgrade. You can bypass this with the -confirm:\$false parameter.
- It will block installation on vCenter 5.x, I haven't tested it, and nor do I plan to
- It will block installation of the HTML-5 plugin on any vCenter earlier than 6.5—we only support it with vCenter 6.5+
- If the same or newer version of that type (flash or HTML) plugin is installed, it will fail.

In my vCenter, I do not have any plugins installed:



The screenshot shows the vSphere Client interface. The top navigation bar includes the VMware logo, 'vSphere Client', a 'Menu' dropdown, and a search bar. The left sidebar is titled 'Administration' and contains sections for 'Access Control' (Roles, Global Permissions), 'Licensing' (Licenses), 'Solutions' (Client Plug-Ins, vCenter Server Extensio...), 'Deployment' (System Configuration, Customer Experience Im...), and 'Support'. The 'Client Plug-Ins' section is selected. The main content area is titled 'Client Plug-Ins' and has 'ENABLE' and 'DISABLE' buttons. Below these buttons is a table with a 'Name' column and a radio button for each plugin. All radio buttons are unselected, indicating that no plugins are currently installed.

	Name
<input type="radio"/>	VMware vRops Client Plugin
<input type="radio"/>	VMware vSAN H5 Client Plugin
<input type="radio"/>	VMware Update Manager
<input type="radio"/>	VMware Update Manager
<input type="radio"/>	VMware vSAN Web Client Plugin

So, I run the following:

```
[crayon-6514e0cd876ba394580686/]
```

The cmdlet returns the extension object, so you can store it, or out-null if you don't need it.

```

PS C:\Users\cody> Install-PfavSpherePlugin
Using Pure1 as the download location
Install HTML-5 plugin version 4.0.0 on vCenter test-vc?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): Y

Description      : VMware.Vim.Description
Key               : com.purestorage.purestoragehtml
Company          :
Type             :
Version          : 4.0.0
SubjectName      :
Server           : {VMware.Vim.ExtensionServerInfo}
Client           : {VMware.Vim.ExtensionClientInfo}
TaskList         :
EventList        :
FaultList        :
PrivilegeList    :
ResourceList     :
LastHeartbeatTime : 1/1/0001 12:00:00 AM
HealthInfo       :
OvfConsumerInfo  :
ExtendedProductInfo :
ManagedEntityInfo :
ShownInSolutionManager : False
SolutionManagerInfo :



```

Client Plug-Ins

ENABLE DISABLE

	Name	Vendor	Version
<input type="radio"/>	 Pure Storage Plugin	Pure Storage, Inc.	4.0.0
<input type="radio"/>	 VMware vRops Client Plugin	VMware, Inc.	6.7.0.30000
<input type="radio"/>	 VMware vSAN H5 Client Plugin	VMware, Inc.	6.7.0.30000

And you will see it download:

Recent Tasks		Alarms		
Task Name	Target	Status	Details	
Deploy plug-in	 test-vc.purecloud.com	✓ Completed	Pure Storage Plugin (com.purestorage.purestoragehtml:4.0.0)	
Download plug-in	 test-vc.purecloud.com	✓ Completed	Pure Storage Plugin (com.purestorage.purestoragehtml:4.0.0)	

Ready to use!

Deployment

System Configuration

Customer Experience Im...

Support

Upload File to Service R...

Certificates


Certificate Management

Single Sign On

Users and Groups


Configuration

 Global Inventory Lists ctrl + alt

 Policies and Profiles

 Auto Deploy

 Developer Center

 vRealize Operations

 Pure Storage

 Administration

 Update Manager

So the cmdlet has very similar options to the other one, specify the plugin type (-html or -flash) or the version (-version). It can also take in specific sources (FlashArray connections, FlashArray FQDNs or IPs).

```
PS C:\Users\cody> Install-PfavSpherePlugin -version 3.1.2
Using Pure1 as the download location
Install Flash plugin version 3.1.2 on vCenter test-vc?
[Y] Yes [A] Yes to All [N] No [L] No to All [S] Suspend [?] Help (default is "Y"): Y
```