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Overview

The NetApp Import Utility for SnapCenter and Virtual Storage Console is a standalone utility that imports backups from Virtual Storage Console for VMware vSphere (VSC) 6.x and provides the following commands:

- `SCV-Import` command
Imports to SnapCenter Plug-in for VMware vSphere 3.0.1 or later
- `Appliance-Import` command
Imports to VSC Appliance 7.0 or later

Features

- Dry run option to see what will be imported without performing the import.
- You can import backups within a specified time range.
- You can specify which storage systems to import.
- You can import from only one storage system or import only one backup to test the system or to retrieve a backup that was deleted on the SnapCenter Plug-in for VMware vSphere.
- You can import VSC backup jobs.
- You can store default input arguments in the property file `.\cli-parameters.txt`.
The CLI input argument has a higher priority. A sample file is provided with the utility package.
- The utility generates a report showing the backup name, the SnapCenter job name, and the import status. This provides a list of which backups were imported and which backups were not compatible and, therefore, were not imported.

Importing to the SnapCenter Plug-in for VMware vSphere

Description

The utility imports only VSC backup jobs that were performed using NetApp SnapManager for Virtual Infrastructure (SMVI) and using SVM management LIFs on ONTAP 8.2.2 or later.

- The utility imports storage system connections, backup jobs metadata, and backup metadata.
After VSC backup jobs are imported, you can use the backups for restore, mount, and attach operations and scheduled backups will continue to run in SnapCenter.
- The utility does not delete VSC metadata, therefore, you can go back and import again.
NOTE: However, when you delete a SnapCenter Plug-in for VMware vSphere backup, all associated Snapshot copies for that backup are also deleted. Therefore, if you delete an imported backup, you cannot go back and import that backup from VSC again.
- The utility does not import on-demand backup jobs, mount metadata, and backups on non-compliant systems.

NOTE: The utility only imports backup jobs on storage systems that are compatible with the SnapCenter Plug-in for VMware vSphere. For example, backups stored on ONTAP 7-Mode systems and backups stored on ONTAP systems using a cluster management LIF are not compatible.

NOTE: The utility only imports backup jobs from the VSC host on which the utility is running.

Prerequisites

- You must have installed SnapCenter Server 3.0.1 or later.
- You must have installed SnapCenter Plug-in for VMware vSphere 3.0.1 or later.
- You must configure SnapCenter Plug-in for VMware vSphere for the vCenter that manages the backup jobs you want to import.

Workflow

1. Install SnapCenter Server 3.0.1 or later.
2. Install SnapCenter Plug-in for VMware vSphere 3.0.1 or later.
The plug-in must be configured for the same vCenter that VSC uses.
3. Copy the utility from the NetApp ToolChest onto the VSC host that contains the backups you want to import, and extract the zip files.
NOTE: The utility uses the java instance in VSC, which you can override by setting "`java_home`".
4. Suspend the vCenter Server SMVI to stop all VSC backup jobs.
5. From the command line, start the import for that VSC host by using the "`SCV-Import`" command.
You can use "`SCV-Import -help`" command to see all the command options.
NOTE: Due to a limitation in Java, the password prompt first displays an asterisk (*). Just overwrite that asterisk with your password.
6. After an import operation is completed, a report is generated in the "`. \report`" directory.
7. After successful import, log on to SnapCenter Plug-in for VMware vSphere GUI in vCenter and do the following:
 - a. Use the SCV GUI in vCenter to check, and if necessary modify, the schedule in for each imported resource group.
 - b. Use the SCV GUI in vCenter to perform an on-demand backup for each imported resource group.

Command options

- **All:** Loops, in sequence, through all the below command options.
- **Storage systems:** Imports storage connections from VSC to the Plug-in for VMware vSphere.
- **Backup jobs:** Imports VSC backup job metadata then creates a resource group, policy, and schedule in SnapCenter, managed by the SnapCenter Plug-in for VMware vSphere.
- **Backups:** Imports only the backup metadata to the SnapCenter Plug-in for VMware vSphere so that you can perform restore and mount operations from the Plug-in for VMware vSphere GUI in vCenter. This option skips on-demand SMVI backups in VSC because they do not have a policy or schedule associated with them.
- **Force** option: You can use this option to re-import a VSC backup.
- **Dryrun** option: The command runs but does not actually import storage connections or backup metadata. You can use this option to determine which storage systems, backup jobs and backups are compatible with SnapCenter and will be imported.

When you re-run any of the import commands, the utility checks the files in the “etc” folder, which are used to track previously imported metadata, and skips any imports that have already been performed. However, if you need to re-import some VSC backups, you can do either of the following:

- Use the `-force` option.
- Delete the files in the “etc” folder and then run the commands.
If you choose to delete the files, the best practice is to first backup the files in the “etc” folder and then delete the contents of the folder.

Recommended command sequence

- Run the below commands in dry run mode to verify what metadata will be imported.
 1. `storage_systems`
 2. `backup_jobs`
 3. `backups`
- Once you have verified that run the commands in normal mode to import the metadata.

Example commands

The following command examples show how you can restrict imports; for example, how to import only VCS backups on specified systems, or within a specified time range.

SCV-Import -help

```
Administrator: Command Prompt
C:\NetApp-Import-Tool>SCV-Import -help

SCV-Import
Imports backup metadata from NetApp Virtual Storage Console(VSC) to NetApp SnapCenter Plug-in for VMware VSphere.

usage: SCV-Import [storage_systems|backup_jobs|backups|all] [-backupEndTime <backup end time>] [-backupJobList <job name
list>] [-backupList <backup name list>] [-backupStartTime <backup start time>] [-dryrun] [-force] [-help]
[-scHost <hostname>] [-scPassword <password>] [-scPort <port>] [-scUser <username>] [-scvHost <hostname>]
[-storageSystemList <ip list>] [-vCenterIPAddress <hostname>] [-vCenterPassword <password>] [-vCenterPort <port>]
[-vCenterUser <username>] [-vscInstallationPath <vsc path>]

Commands
storage_systems: Imports Storage Systems; C-Mode SVM 8.2.2 or higher
backup_jobs: Imports Backup Jobs.
backups: Imports Backups.
all: Imports all three types of backup metadata.

Options
-backupEndTime <backup end time>      Backup end time in YYYY-MM-DDThh:mm:ss format. Example "2017-10-10T10:10:10".
Used with the command backups.
-backupJobList <job name list>         Colon : separated Backup Job Name list to be imported. Used with the command
backup_jobs
-backupList <backup name list>         Colon : separated Backup Name list to be imported. Used with the command backups
-backupStartTime <backup start time>   Backup start time in YYYY-MM-DDThh:mm:ss format. Example "2017-10-10T10:10:10".
Used with the command backups.
-dryrun                               Dry run the command without importing data to the SnapCenter Server.
-force                                Import data to SnapCenter Server even if it has been imported before.
-help                                 Prints out command help.
-scHost <hostname>                    SnapCenter Server Hostname or IP.
-scPassword <password>                SnapCenter Server Password.
-scPort <port>                        SnapCenter Server Port Number when non-default is used.
-scUser <username>                    SnapCenter Server Username.
-scHost <hostname>                    SnapCenter Plug-in for VMware vSphere (SCV) Hostname or IP.
-storageSystemList <ip list>          Colon ':' separated Storage IP address list to be imported. Used with the
command storage_systems
-vCenterIPAddress <hostname>          vCenter IP Address.
-vCenterPassword <password>           vCenter password.
-vCenterPort <port>                  vCenter port.
-vCenterUser <username>               vCenter administrator user name.
-vscInstallationPath <vsc path>       VSC installation path if it was installed on non-default path.

C:\NetApp-Import-Tool>
```

SCV-Import -all

The following example runs all the SCV-Import commands, in the following sequence: storage_systems, backup_jobs, backups.

If you include the `-scPassword` parameter, the utility passes the SnapCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-dryrun` parameter, the utility reports what will be imported but does not perform the import.

```
Administrator: Command Prompt - SCV-Import all -scHost 10.235.217.146 -scUser serengeti\administrator -scvHost 10.235.217.146 -vCenterIPAd...
C:\NetApp-Import-Tool>SCV-Import all -scHost 10.235.217.146 -scUser serengeti\administrator -scvHost 10.235.217.146
-vCenterIPAddress 10.225.180.142 -vCenterUser serengeti\Administrator
Please input SnapCenter Server password:****

*****
*
* NetApp Import Utility for SnapCenter and Virtual Storage Console *
*           Copyright 1994-2017 NetApp Inc.           *
*
*****

Connecting to SnapCenter Server host 10.235.217.146.
Successfully connected to SnapCenter Server host 10.235.217.146.

----- Starting Storage System Import -----
```

SCV-Import -storage_systems

The following example imports storage connections for the specified storage systems, from VSC to the SnapCenter Plug-in for VMware vSphere. If you do not specify the storage systems to import from, then the utility imports storage connections from all storage systems that are compatible with SnapCenter.

If you include the `-scPassword` parameter, the utility passes the SnapCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-dryrun` parameter, the utility reports what will be imported but does not perform the import.

```
Administrator: Command Prompt
C:\NetApp-Import-Tool>SCV-Import storage_systems -scHost 10.235.217.146 -scUser serengeti\administrator -storageSystemList 10.225.180.97:10.225.180.136
Please input SnapCenter Server password:****

*****
*
* NetApp Import Utility for SnapCenter and Virtual Storage Console *
*           Copyright 1994-2017 NetApp Inc.           *
*
*****

Connecting to SnapCenter Server host 10.235.217.146.
Successfully connected to SnapCenter Server host 10.235.217.146.

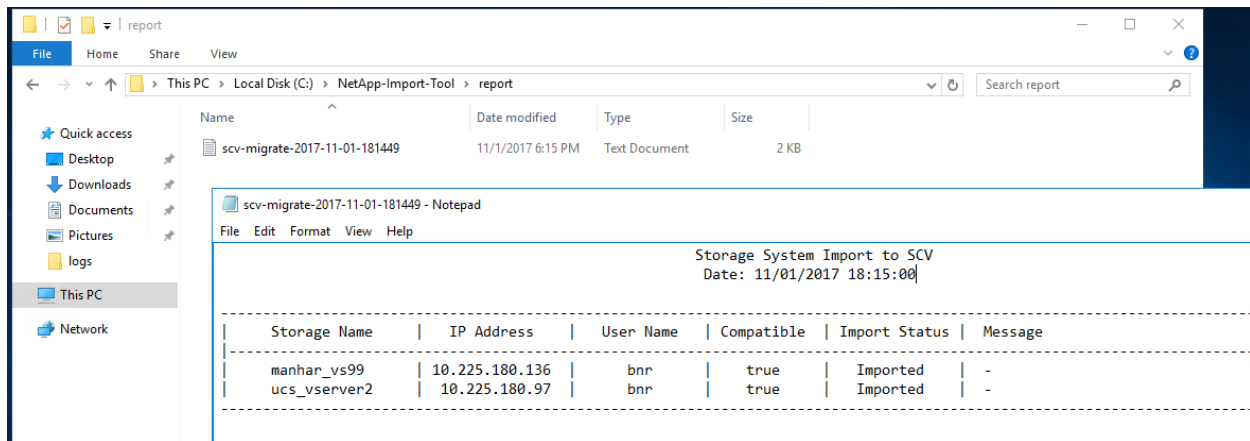
----- Starting Storage System Import -----

Checking compatibility for storage system manhar_vs99 with IP address 10.225.180.136
-----Pushing Storage Systems to Snapcenter-----
Storage System manhar_vs99, ipaddress 10.225.180.136, port 443, username bnr.
Adding Storage System details manhar_vs99 to SnapCenter Server.
Successfully added storage system.

Checking compatibility for storage system ucs_vserver2 with IP address 10.225.180.97
-----Pushing Storage Systems to Snapcenter-----
Storage System ucs_vserver2, ipaddress 10.225.180.97, port 443, username bnr.
Adding Storage System details ucs_vserver2 to SnapCenter Server.
Successfully added storage system.

C:\NetApp-Import-Tool>
```

The utility created the following report for this command:



SCV-Import -backup_jobs

The following example imports backup job metadata for specific backup jobs, from VSC to the SnapCenter Plug-in for VMware vSphere, and then creates similar resource groups, policies, and schedules in vCenter that are managed by the SnapCenter Plug-in for VMware vSphere. If you do not specify the backup jobs to import, then the utility imports all backup jobs that are compatible with SnapCenter.

If you include the `-scPassword` parameter, the utility passes the SnapCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-vCenterPassword` parameter, the utility passes the vCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-dryrun` parameter, the utility reports what will be imported but does not perform the import.

```
Administrator: Command Prompt
C:\NetApp-Import-Tool>SCV-Import backup_jobs -scHost 10.235.217.146 -scUser serengeti\administrator -scvHost 10.235.217.146
-vCenterIPAddress 10.225.180.142 -vCenterUser serengeti\Administrator -backupJobList VSC_Span_VM_J001
Please input SnapCenter Server password:****

*****
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*****

Connecting to SnapCenter Server host 10.235.217.146.
Successfully connected to SnapCenter Server host 10.235.217.146.
Please input vCenter Server password:****
*Connecting to vCenter Server host https://10.225.180.142/sdk.
Successfully connected to vCenter Server host https://10.225.180.142/sdk.

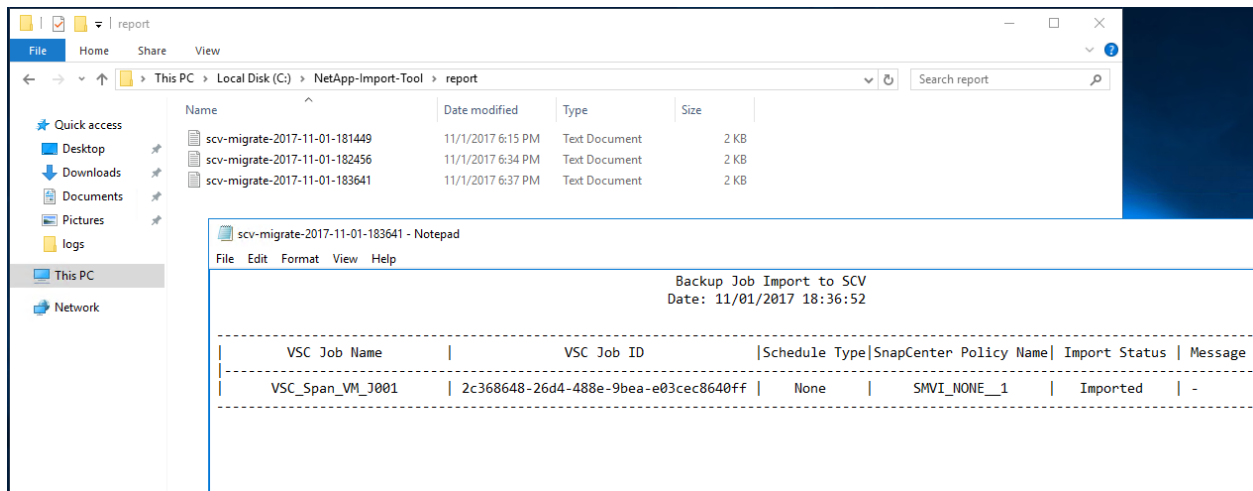
---- Starting Backup Job Import ----

Reading VSC Backup Job Metadata

Processing Job VSC_Span_VM_J001 with Job Id 2c368648-26d4-488e-9bea-e03cec8640ff
Creating policy on SnapCenter Server with policy name SMVI_NONE__1.
vm consistent snapshot: true, include independent disks: true
snapmirror update: false, snapvault update: false, with scheduler set to: None.
Policy with name SMVI_NONE__1 created successfully.
Policy Name: SMVI_NONE__1.
Creating Backup Job VSC_Span_VM_J001.
Protection group VSC_Span_VM_J001 created.

C:\NetApp-Import-Tool>
```

The utility created the following report for this command:



SCV-Import -backups

The following example imports backup metadata for backup jobs between a specified time range, from VSC to the SnapCenter Plug-in for VMware vSphere. If you do not specify the backups to import, then the utility imports all backups that are compatible with SnapCenter.

If you include the `-scPassword` parameter, the utility passes the SnapCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-vCenterPassword` parameter, the utility passes the vCenter Server password in the command, otherwise you are prompted for the password.

If you include the `-dryrun` parameter, the utility reports what will be imported but does not perform the import.

```
Administrator: Command Prompt

C:\NetApp-Import-Tool>SCV-Import backups -scHost 10.235.217.146 -scUser serengeti\administrator -scvHost 10.235.217.146 -vCenterIPAddress 10.225.180.142 -vCenterUser serengeti\Administrator -backupList backup_VSC_Span_VM_J001_20170912192907 -backupStartTime 2017-09-12T10:00:00 -backupEndTime 2017-09-12T19:30:00
Please input SnapCenter Server password:****

*****
* NetApp Import Utility for SnapCenter and Virtual Storage Console *
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*****

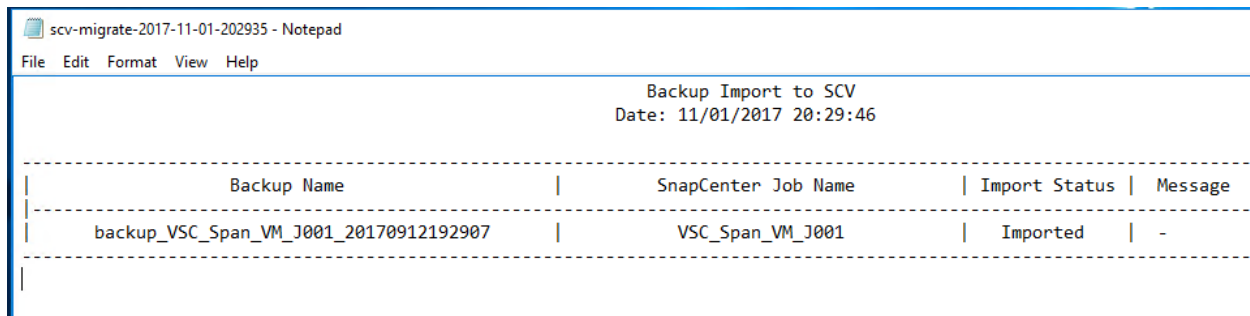
Connecting to SnapCenter Server host 10.235.217.146.
Successfully connected to SnapCenter Server host 10.235.217.146.
Please input vCenter Server password:****
*Connecting to vCenter Server host https://10.225.180.142/sdk.
Successfully connected to vCenter Server host https://10.225.180.142/sdk.

----- Starting Backup Import -----

List of backups to be imported: [backup_VSC_Span_VM_J001_20170912192907].
Reading backup data from file C:\Program Files\NetApp\Virtual Storage Console\smvi\server\repository\backups.xml.
Completed reading backup data from file.
Number of backups read from file: 1.
Processing backup backup_VSC_Span_VM_J001_20170912192907.
Imported backup successfully.

C:\NetApp-Import-Tool>
```

The utility created the following report for this command:



Backup Name	SnapCenter Job Name	Import Status	Message
backup_VSC_Span_VM_J001_20170912192907	VSC_Span_VM_J001	Imported	-

Importing to the VSC Appliance

Description

The utility imports only storage connections for Cluster Management LIFs and SVM Management LIFs from VSC 6.x to VSC 7.0 or later.

- The utility imports storage system connections for ONTAP 8.2.2 or later.
- The utility does not import backup jobs metadata, backup metadata, on-demand backup jobs, mount metadata, or backups on non-compliant systems.

NOTE: The utility imports only the connections for storage systems that were added using VSC. For storage systems that were added by using the VP Web CLI, you must manually add them again on the target appliance using the Web VLI.

Prerequisites

- You must have installed VSC Appliance 7.0 or later.

Workflow

1. Install VSC Appliance 7.0 or later.
2. Check vCenter credentials, and change if necessary.
3. Copy the utility from the NetApp ToolChest onto the VSC host that contains the storage systems you want to import, and extract the zip files.
NOTE: The utility uses the java instance in VSC, which you can override by setting "java_home".
4. From the command line, start the import for that VSC host by using the "Appliance-Import" command.
You can use "Appliance-Import -help" command to see all the command options.
5. After an import operation is completed, a report is generated in the ".\report" directory.

Command options

- **Storage systems:** Imports storage connections (Run As credentials) from VSC 6.x to VSC 7.0 or later.
- **Force** option: If a VSC storage system is detected, you can use this option to re-import a VSC storage system to the VSC Appliance.

- **Dryrun** option: The command runs but does not actually import storage system connections. You can use this option to determine which storage systems are compatible with VSC Appliance and will be imported.

When you re-run any of the import commands, the utility checks the files in the “etc” folder, which are used to track previously imported metadata, and skips any imports that have already been performed. However, if you need to re-import some VSC storage systems, you can do either of the following:

- Use the `-force` option.
- Delete the files in the “etc” folder and then run the commands.

If you choose to delete the files, the best practice is to first import the files in the “etc” folder and then delete the contents of the folder.

Example commands

The following command examples show how you can use the `Appliance-Migrate` command.

Appliance-Migrate -help

```
C:\Users\Administrator\Desktop\Migration\NetApp-Import-Tool>Appliance-Import -help

Appliance-Import
Imports Storage Systems from USC 6.x to Netapp USC Appliance.

usage: Appliance-Import [storage_systems] [-dryrun] [-force] [-help] [-storageSystemList <ip list>] [-vCenterPassword
<password>] [-vCenterUser <username>] [-vscApplianceIPAddress <ip address>] [-vscInstallationPath <vsc path>]

Commands
storage_systems: Imports Storage Systems; C-Mode SUM 8.2.2 or higher

Options
-dryrun                Dry run the command without importing data to the USC Appliance.
-force                Import data to USC Appliance even if it has been imported before.
-help                Prints out command help.
-storageSystemList <ip list> Colon ':' separated Storage IP address list to be imported. Used with the command

storage_systems
-vCenterPassword <password> vCenter password where USC Appliance is registered.
-vCenterUser <username> vCenter administrator user name where USC Appliance is registered.
-vscApplianceIPAddress <ip address> USC Appliance IP Address where Storage systems will Import.
-vscInstallationPath <vsc path> USC installation path if it was installed on non-default path.
```

Appliance-Migrate -storage_systems

The following example imports storage connections (Run As credentials) on the specified storage systems, from VSC to VSC Appliance. If you do not specify the storage systems to import from, then the utility imports storage connections from all the compatible storage systems to VSC Appliance.

If you include the `-dryrun` parameter, the utility reports what will be imported but does not perform the import.

```

C:\Users\Administrator\Desktop\Migration\NetApp-Import-Tool>Appliance-Import storage_systems -vscApplianceIPAddress 10.6
0.170.83 -vCenterUser administrator@vsphere.local -vCenterPassword Netapp1!

*****
*
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*
*****

=== USC Appliance Storage System Migration ===

Checking compatibility for storage system sti42-vsim-ucs511a with IP address 10.236.49.143
No ONTAP version number. Skip it.
Checking compatibility for storage system sti42-vsim-ucs511b with IP address 10.236.49.143
No ONTAP version number. Skip it.
Checking compatibility for storage system C1_sti42-vsim-ucs511a_1506699418 with IP address 10.236.149.245
-----Pushing Storage Systems to USC Appliance-----
Connecting to USC Appliance WSDL location: https://10.60.170.83:9060/wsapi/v1/vscWSApi?wsdl.
Successfully connected to USC Appliance WSDL.
Connecting to vCenter Server host .
Successfully connected to vCenter Server with session Id: edbe6a250076ceeaf1bcee5f827eb6ea79f14fcf
Importing 10.236.149.245 Storage System details to USC Appliance.
The storage system with IP : 10.236.149.245 has been imported successfully!.
Logging out from vCenter.
Successfully Logged out from vCenter.

```

The utility created the following report for this command:

Storage System Import to VSC Appliance						
Date: 11/08/2017 08:20:30						
Storage Name	IP Address	User Name	Compatible	Import Status	Message	
sti42-vsim-ucs511a	10.236.49.143	admin	false	-	No ONTAP version number. Skip it	
sti42-vsim-ucs511b	10.236.49.143	admin	false	-	No ONTAP version number. Skip it	
C1_sti42-vsim-ucs511a_1506699418	10.236.149.245	admin	true	Imported	-	

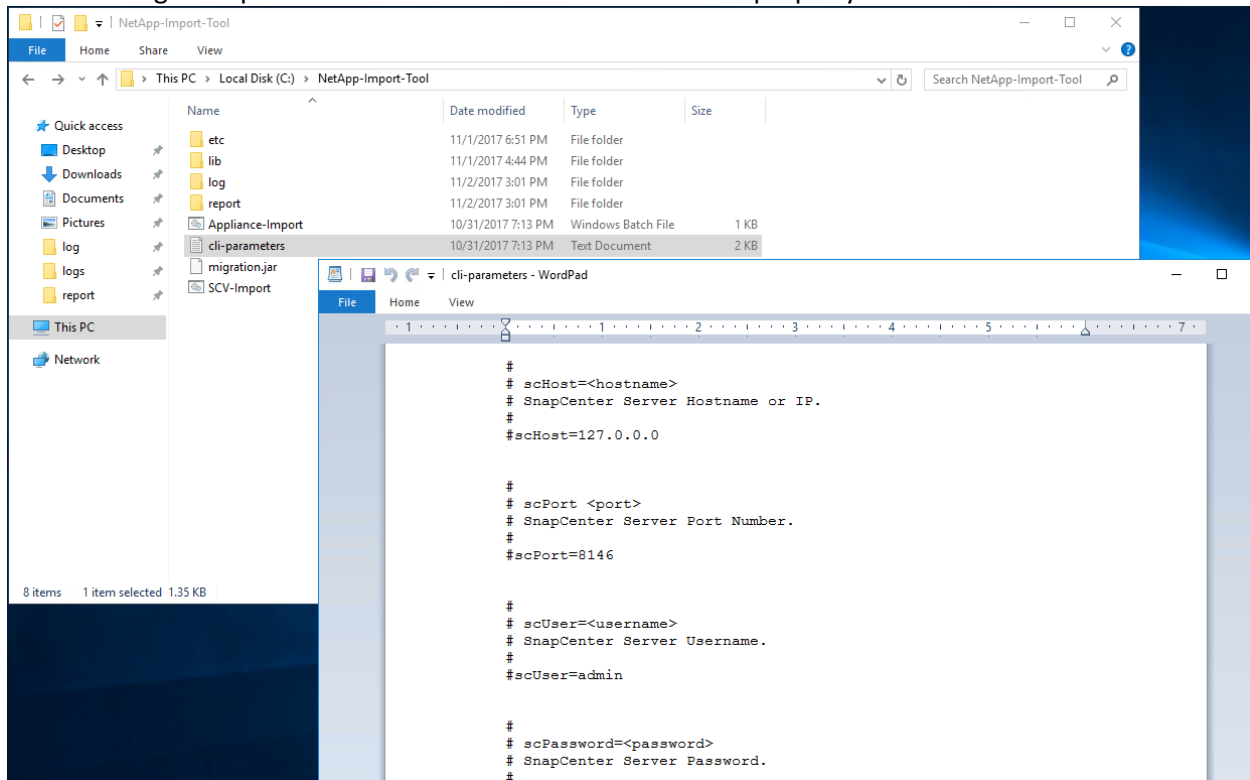
Running commands from a property file

If you do not want to manually enter command options on the command line, you can enter all your command options in a property file that will be read when the commands are executed.

To use the properties file, you must remove the # in front of the property name and update it with the value you want. For example, in the following example property file:

- You must change #scHost=127.0.0.0
- To scHost=10.10.10.10

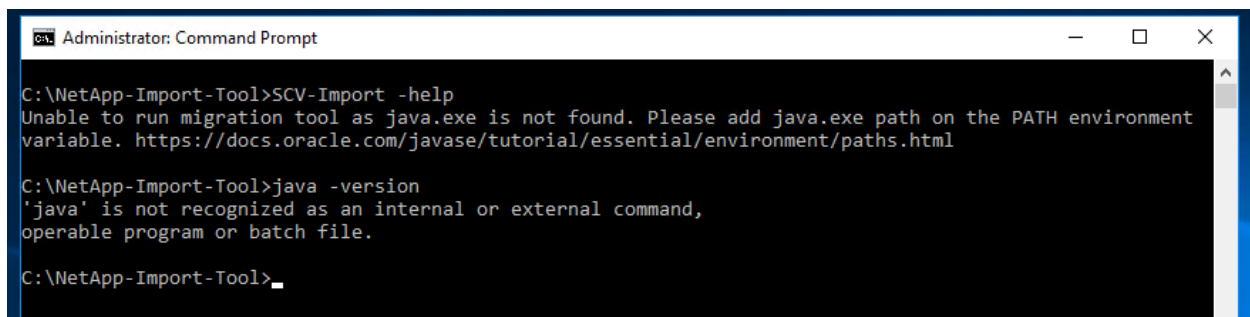
The following example shows the location and contents of the property file.



Troubleshooting

Java.exe not found

Description: Commands fail to run because java.exe is not found on the classpath.



Resolution: Add `java.exe` to classpath and verify that the `java -version` command works from command prompt.

Unable to connect to SnapCenter Server

Description: The command line displays an “Unable to connect...” error.

```
Administrator: Command Prompt

C:\NetApp-Import-Tool>SCV-Import storage_systems -scHost 10.235.217.145 -scUser serengeti\administrator
Please input SnapCenter Server password:****

*****
*
* NetApp Import Utility for SnapCenter and Virtual Storage Console *
*           Copyright 1994-2017 NetApp Inc.           *
*
*****

Connecting to SnapCenter Server host 10.235.217.145.
SnapCenter Server IP or Port information is not valid
ERROR: Unable to connect to SnapCenter Server host 10.235.217.145.
```

Resolution:

- Verify that `-scHost`, `-scUser`, and password are correct.
- The default port used by the SnapCenter Server REST API is 8146. If you want to connect to a different port, pass that port number to the command in the `-scPort` parameter.

Unable to connect to vCenter Server

Description: The command line displays an “Unable to connect...” error.

```
Administrator: Command Prompt

C:\NetApp-Import-Tool>SCV-Import backup_jobs -scHost 10.235.217.146 -scUser serengeti\administrator -scvHost 10.235.217.146
-vCenterIPAddress 10.232.208.172 -vCenterUser serengeti\Administrator
Please input SnapCenter Server password:****

*****
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*
*****

Connecting to SnapCenter Server host 10.235.217.146.
Successfully connected to SnapCenter Server host 10.235.217.146.
Please input vCenter Server password:****
Connecting to vCenter Server host https://10.232.208.172/sdk.
ERROR: Unable to connect to vCenter Server https://10.232.208.172/sdk. Please use valid vCenter Server info.
```

Resolution:

- Verify that `vcenterIPAddress`, `vcenterUser`, and password are correct.
- If you want to connect to a different port, pass that port number to the command in the `-vcenterPort` parameter.

Unable to connect to VSC Appliance WSDL

Description: The command line displays an "Unable to connect to VSC Appliance WSDL..." error.

```
C:\Users\Administrator\Desktop\Migration\NetApp-Import-Tool>Appliance-Import storage_systems
-vscApplianceIPAddress 10.60.170.185 -vCenterUser administrator@vsphere.local -vCenterPassword Netapp1!

*****
*                                     *
* NetApp Import Utility for SnapCenter and Virtual Storage Console *
*                                     *
*                                     *
*****

=== USC Appliance Storage System Migration ===

Checking compatibilty for storage system sti42-vsim-ucs511a with IP address 10.236.49.143
No ONTAP version number. Skip it.

Checking compatibilty for storage system sti42-vsim-ucs511b with IP address 10.236.49.143
No ONTAP version number. Skip it.

Checking compatibilty for storage system C1_sti42-vsim-ucs511a_1506699418 with IP address 10.
236.149.245
-----Pushing Storage Systems to USC Appliance-----
Unable to connect to USC Appliance WSDL. Please use valid USC Appliance info.
```

Resolution:

- Verify that -vscApplianceIPAddress is correct.
- Verify that the wsdl <https://<vscApplianceIPAddress>:9060/wsapi/v1/vscWSApi?wsdl> is accessible.