

# Dell Virtual Storage Integrator (VSI) v8.6 – Import certificates via CLI with keytool.

NOTE: This was tested on a fresh deployment of VSI and the target vCenter Server had the previous VSI plugin removed.

The vCenter Server was initially added via the VSI Initial Setup without importing any certificates or switching on or SSL, to confirm connectivity was OK.

The logging level was set to DEBUG

The image displays two screenshots of the VSI Initial Setup wizard interface.

**Left Screenshot: Welcome to VSI**

- Header:** VSI Initial Setup
- Progress List:**
  - 1 Welcome to VSI (Active)
  - 2 Import vCenter Certificates
  - 3 Register vCenter Server(s)
  - 4 Ready to Register
- Main Content:** Welcome to the VSI Plugin registration! Please follow this wizard to register your vCenter or Enhanced Linked Mode vCenter(s) with VSI.
- Action:** NEXT button

**Right Screenshot: Import vCenter Certificates**

- Header:** VSI Initial Setup
- Progress List:**
  - 1 Welcome to VSI
  - 2 Import vCenter Certificates (Active)
  - 3 Register vCenter Server(s)
  - 4 Ready to Register
- Instructions:** If your vCenter uses a 3rd party or intermediate certificate. Please import the certificate chain into VSI for SSL connectivity. Otherwise click NEXT to skip.
- Action:** IMPORT button
- Form:** Name (dropdown menu), Certificate Chain (text area with a funnel icon)
- Toggle:** ☐ Enable SSL: vCenter(s)
- Navigation:** BACK button, NEXT button

VSI Initial Setup

1 Welcome to VSI

2 Import vCenter Certificates

3 Register vCenter Server(s)

4 Ready to Register

Register vCenter Server(s)

ⓘ Please enter the vCenter FQDN or IP for the vCenters you would like to register with VSI.  
Note: vCenters must be *standalone* or part of the **same enhanced linked mode group**.

Must be a user with Administrator privileges

Username: administrator@vsphere.local

Password: .....

Confirm Password: .....

vCenters: mc-vcsa-v-201a.momusconsulting.com

BACK

NEXT

VSI Initial Setup

1 Welcome to VSI

2 Import vCenter Certificates

3 Register vCenter Server(s)

4 Ready to Register

Ready to Register

Review your selections and click Finish to complete

vCenter(s)

Ip or FQDN

mc-vcsa-v-201a.momusconsulting.com

BACK

FINISH

VSI Initial Setup

1 Welcome to VSI

2 Import vCenter Certificates

3 Register vCenter Server(s)

4 Ready to Register

Ready to Register

Review your selections and click Finish to complete

✔ VSI is registered successfully with vCenter(s). Please navigate back to your vCenter: <https://mc-vcsa-v-201a.momusconsulting.com>

CLOSE

Dell Community Forum - <https://www.dell.com/community/VMware/Virtual-Storage-Integrator-VSI-v8-6-Install-quot-VSI-services/m-p/7823127>

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vSphere - com.dellemc.vsi.plugin x +

https://mc-vcsa-v-201a.momusconsulting.com/ui/app/plugin/com.dellemc.vsi.plugin/com.dellemc.vsi.plugin~HOME\_VIEW~~HOME\_VIEW?rpxcld=com.del...


vm vSphere Client Menu Search in all environments Administrator@VSPHERE.LOCAL

Dell EMC VSI INSTANCE 10.1.1.92:443

Dell EMC VSI
 


- Dashboard
- vCenter Servers
- Storage Systems
- Certificates
- Users/Groups

### Integration Services



**Server/Plugin Management:** 10.1.1.92  
**Status:** Connected  
**Version:** 1.6.0.5418  
**Last Setup:** 3/9/21, 10:07 AM  
[Download Logs](#)


### Plugin Setup



1	vCenters	<span>✓</span>	+
-	Storage Systems	<span>⚠</span>	+

▼ Dell EMC VSI





 vCenter Servers

 Certificates

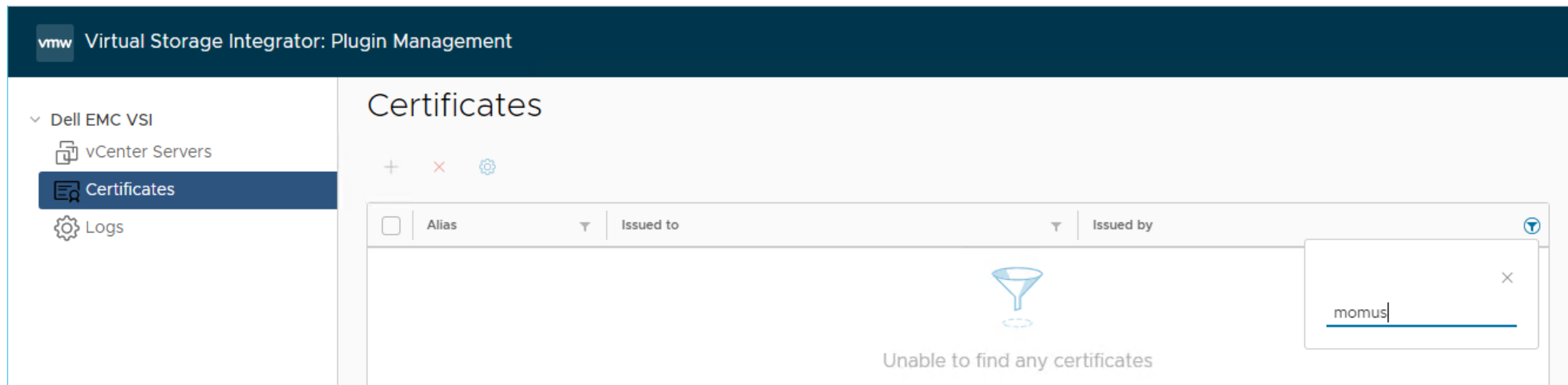
 Logs

## vCenter Servers



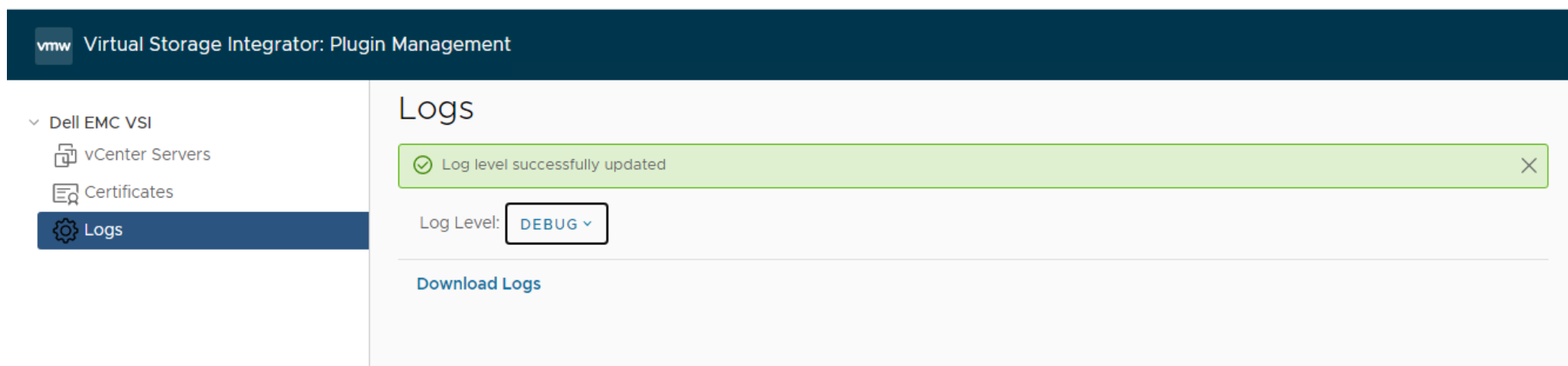
<input type="checkbox"/>	vCenter Name	Username	IP Address	Plugin Version	Connect Status	Update/Registration Date										
<input type="checkbox"/> ▼	 mc-vcsa-v-201a.momusco nsulting.com	Administrator@VSPHERE.LOCAL	10.10.1.21	✓ 8.6.0.292 1	<div>Connected</div> <div>Not Secure</div>	3/9/21, 10:14 AM										
<div>Certificates</div> <div><div>+</div><div>×</div></div> <table><thead><tr><th><input type="checkbox"/></th><th>Alias</th><th>Issued to</th><th>Issued by</th><th>Expires</th></tr></thead><tbody><tr><td colspan="5"><div><div>Unable to find any certificates</div></div></td></tr></tbody></table> <div>1 - 6 of 0 Certificates</div>							<input type="checkbox"/>	Alias	Issued to	Issued by	Expires	<div><div>Unable to find any certificates</div></div>				
<input type="checkbox"/>	Alias	Issued to	Issued by	Expires												
<div><div>Unable to find any certificates</div></div>																

Confirmed none of my certs are pre-existing.



The logging level was set to DEBUG

NOTE: The logging level displayed is reset back to INFO when the page is refreshed. The logs still seem to contain DEBUG detail, so I assume this is UI a bug 😊



## Importing the certificates with Keytool

The 4 certificates were placed in /opt/files as .pem files.

```
root@photon [ ~ ]# docker exec -it iapi bash
bash-4.3# ls -l /opt/files/
total 32
-rw-r--r-- 1 root root 2256 Mar  5 12:38 MomusInterCA_05-03-2021.pem
-rw-r--r-- 1 root root 1888 Mar  5 12:37 MomusRootCA_05-03-2021.pem
-rw-r--r-- 1 root root 2057 Mar  9 10:07 iapi_cert.pem
-rw-r--r-- 1 root root 3272 Mar  9 10:07 iapi_key.pem
-rw-r--r-- 1 root root 1732 Mar  8 13:00 mc-vcsa-v-201a-machine.pem
-rw-r--r-- 1 root root 2746 Mar  8 11:41 mc-vcsa-v-201a-vmca.pem
drwxr-x--- 2 root root 4096 Jan 20 09:04 vsi-plugin
-rw-r----- 1 root root  918 Jan 20 09:02 vsi-plugin.zip
bash-4.3#
bash-4.3# /opt/java/openjdk/jre/bin/keytool -storepass changeit -import -alias momusrootca -file /opt/files/MomusRootCA_05-03-2021.pem -keystore ${JAVA_HOME}/jre/lib/security/cacerts -noprompt
Certificate was added to keystore
bash-4.3# /opt/java/openjdk/jre/bin/keytool -storepass changeit -import -alias momusinterca -file /opt/files/MomusInterCA_05-03-2021.pem -keystore ${JAVA_HOME}/jre/lib/security/cacerts -noprompt
Certificate was added to keystore
bash-4.3# /opt/java/openjdk/jre/bin/keytool -storepass changeit -import -alias mc-vcsa-v-201a-vmca -file /opt/files/mc-vcsa-v-201a-vmca.pem -keystore ${JAVA_HOME}/jre/lib/security/cacerts -noprompt
Certificate was added to keystore
bash-4.3# /opt/java/openjdk/jre/bin/keytool -storepass changeit -import -alias 10.10.1.21 -file /opt/files/mc-vcsa-v-201a-machine.pem -keystore ${JAVA_HOME}/jre/lib/security/cacerts -noprompt
Certificate was added to keystore
bash-4.3#
bash-4.3# /opt/java/openjdk/jre/bin/keytool -list -storepass changeit -keystore ${JAVA_HOME}/jre/lib/security/cacerts | grep
'momus\|mc-\|10.10.1.'
10.10.1.21, Mar 9, 2021, trustedCertEntry,
mc-vcsa-v-201a-vmca, Mar 9, 2021, trustedCertEntry,
momusinterca, Mar 9, 2021, trustedCertEntry,
momusrootca, Mar 9, 2021, trustedCertEntry,
bash-4.3#
bash-4.3# exit
root@photon [ ~ ]# docker restart iapi
iapi
root@photon [ ~ ]#
```

Confirmed my certs are now available.

vm

vSphere Client

Menu

Search in all environments

Administrator@VSPHERE.LOCAL

Dell EMC VSI INSTANCE 10.1.1.92:443

Dashboard

vCenter Servers

Storage Systems

Certificates

Users/Groups

Alias

Issued to

Issued by

Expires

momusrootca

CN=MomusRootCA

CN=MomusRootCA

Thu Dec 29 22:41:00 UTC 2050

momusinterca

CN=MomusInterCA, DC=momusconsulting, DC=com

CN=MomusRootCA

Tue Mar 05 11:49:00 UTC 2041

mc-vcsa-v-201a-vmca

CN=mc-vcsa-v-201a-VMCA, OU=Momus Labs, O=Momus Consulting, L=Basingstoke, ST=Hampshire, C=GB

CN=MomusInterCA, DC=momusconsulting, DC=com

Sat Mar 07 11:30:00 UTC 2026

10.10.1.21

OU=Momus Labs, O=Momus Consulting, L=Basingstoke, ST=Hampshire, C=GB, CN=mc-vcsa-v-201a.momusconsulting.com

CN=mc-vcsa-v-201a-VMCA, OU=Momus Labs, O=Momus Consulting, L=Basingstoke, ST=Hampshire, C=GB

Wed Mar 08 11:30:00 UTC 2023


1 - 4 of 4 Certificates

Dell Community Forum - <https://www.dell.com/community/VMware/Virtual-Storage-Integrator-VSI-v8-6-Install-quot-VSI-services/m-p/7823127>

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## Enabled SSL

### Update SSL Settings

 Verify SSL certificates have imported before enabling SSL connections.

☒ vCenter(s)  
☐ Unity System(s)  
☐ PowerMax System(s)  
☐ PowerStore System(s)  
☐ XtremIO System(s)

CANCEL

SAVE

vm vSphere Client

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Dell EMC VSI INSTANCE 10.1.1.92:443

▼ Dell EMC VSI

Dashboard

vCenter Servers

Storage Systems

**Certificates**

Users/Groups

SSL Settings have been updated successfully

+ × ⚙

<input type="checkbox"/>	Alias	Issued to	Issued by
<input type="checkbox"/>	utnuserfirstobjectca [jdk]	CN=UTN-USERFirst-Object, OU=http://www.usertrust.com, O=The USERTRUST Network, L=Salt Lake City, ST=UT, C=US	CN=UTN-USERFirst-Object, OU=http://www.usertrust.com, O=The USERTRUST Network, L=Salt Lake City, ST=UT, C=US
<input type="checkbox"/>	globalsignrootcar6 [jdk]	CN=GlobalSign, O=GlobalSign, OU=GlobalSign Root CA - R6	CN=GlobalSign, O=GlobalSign, OU=GlobalSign Root CA - R6



vm

vSphere Client

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Refresh

Help

Administrator@VSPHERE.LOCAL

Profile

Dell EMC VSI INSTANCE 10.1.1.92:443

Dell EMC VSI

Dashboard

vCenter Servers

Storage Systems

Certificates

Users/Groups

+

×

↺

	vCenter Name	Username	IP Address	Plugin Version	Connect Status	Update/Registr. Date
<input type="checkbox"/>	> mc-vcsa-v-201a.momusconsulting.com	Administrator@VSPHERE.L OCAL	10.10.1.21	✓ 8.6.0.2921	Disconnected Secure	3/9/21, 10:32

HTTP transport error: javax.net.ssl.SSLException: java.lang.IllegalArgumentException: Bad certificate chain: no root CA.

×

HTTP transport error: javax.net.ssl.SSLException: java.lang.IllegalArgumentException: Bad certificate chain: no root CA.

×

## Disabled SSL

Update SSL Settings

⚠

Verify SSL certificates have imported before enabling SSL connections.

×

☐ vCenter(s)

☐ Unity System(s)

☐ PowerMax System(s)

☐ PowerStore System(s)

☐ XtremIO System(s)

CANCEL

SAVE

vm

vSphere Client

Menu

Search in all environments

Administrator@VSPHERE.LOCAL

Dell EMC VSI INSTANCE 10.1.1.92:443

▼ Dell EMC VSI

Dashboard

**vCenter Servers**

Storage Systems

Certificates

Users/Groups

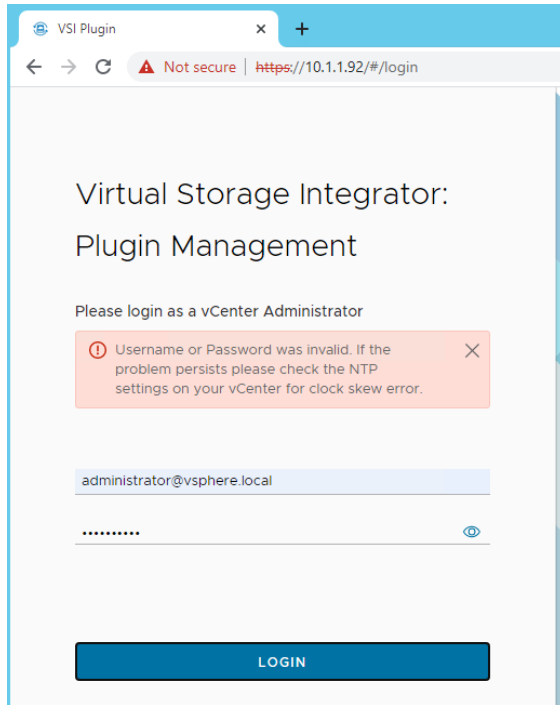
+ × ↺

<input type="checkbox"/>	vCenter Name	Username	IP Address	Plugin Version	Connect Status	Update/Registr Date
<input type="checkbox"/>	>  mc-vcsa-v-201a.momusconsulting.com	Administrator@VSPHERE.L OCAL	10.10.1.21	✓ 8.6.0.2921	<div>Connected</div> <div>Not Secure</div>	3/9/21, 10:32

Dell Community Forum - <https://www.dell.com/community/VMware/Virtual-Storage-Integrator-VSI-v8-6-Install-quot-VSI-services/m-p/7823127>

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Now unable to login to the VSI Plugin Management web page



Rebooted the VSI appliance – still unable to login – same error.

iapi-logs were retrieved via SCP.