



# **Configure and enable two-way SSL communication on Linux host**

**SnapCenter software**

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# Configure and enable two-way SSL communication on Linux host

## Configure two-way SSL communication on Linux host

You should configure the two-way SSL communication to secure the mutual communication between SnapCenter Server on Linux host and the plug-ins.

### Before you begin

- You should have configured the CA certificate for Linux host.
- You must have enabled two-way SSL communication on all the plug-in hosts and the SnapCenter Server.

### Steps

1. Copy **certificate.pem** to `/etc/pki/ca-trust/source/anchors/`.
  - ° `cp root-ca.pem /etc/pki/ca-trust/source/anchors/`
  - ° `cp certificate.pem /etc/pki/ca-trust/source/anchors/`
  - ° `update-ca-trust extract`
2. Add the certificates in the trust list of your Linux host.
  - ° `cp root-ca.pem /etc/pki/ca-trust/source/anchors/`
  - ° `cp certificate.pem /etc/pki/ca-trust/source/anchors/`
  - ° `update-ca-trust extract`
3. Verify if the certificates were added to the trust list. `trust list | grep "<CN of your certificate>"`
4. Update **ssl\_certificate** and **ssl\_certificate\_key** in the SnapCenter **nginx** file and restart.
  - ° `vim /etc/nginx/conf.d/snapcenter.conf`
  - ° `systemctl restart nginx`
5. Refresh the SnapCenter Server GUI link.
6. Update the values of the following keys in **SnapManager.Web.UI.dll.config** located at `_ /<installation path>/NetApp/snapcenter/SnapManagerWeb_` and **SMCoreServiceHost.dll.config** located at `/<installation path>/NetApp/snapcenter/SMCore`.
  - ° `<add key="SERVICE_CERTIFICATE_PATH" value="<path of certificate.pfx>" />`
  - ° `<add key="SERVICE_CERTIFICATE_PASSWORD" value="<password>"/>`
7. Restart the following services.
  - ° `systemctl restart smcore.service`
  - ° `systemctl restart snapmanagerweb.service`
8. Verify that the certificate is attached to the SnapManager web port. `openssl s_client -connect localhost:8146 -brief`
9. Verify that the certificate is attached to the smcore port. `openssl s_client -connect localhost:8145 -brief`
10. Manage password for SPL keystore and alias.
  - a. Retrieve SPL keystore default password assigned to the **SPL\_KEYSTORE\_PASS** key in SPL property file.
  - b. Change the keystore password. `keytool -storepasswd -keystore keystore.jks`

- c. Change the password for all the aliases of private key entries. `keytool -keypasswd -alias "<alias_name>" -keystore keystore.jks`
- d. Update the same password for the key **SPL\_KEYSTORE\_PASS** in *spl.properties*.
- e. Restart the service.

11. On plug-in Linux host, add the root and intermediate certificates in SPL plug-in's keystore.

- `keytool -import -trustcacerts -alias <any preferred alias name> -file <path of root-ca.pem> -keystore <path of keystore.jks mentioned in spl.properties file>`
- `keytool -importkeystore -srckeystore <path of certificate.pfx> -srcstoretype pkcs12 -destkeystore <path of keystore.jks mentioned in spl.properties file> -deststoretype JKS`
  - a. Check the entries in keystore.jks. `keytool -list -v -keystore <path to keystore.jks>`
  - b. Rename any alias if required. `keytool -changealias -alias "old-alias" -destalias "new-alias" -keypass keypass -keystore </path/to/keystore> -storepass storepas`

12. Update the value of **SPL\_CERTIFICATE\_ALIAS** in *spl.properties* file with the alias of **certificate.pfx** stored in *keystore.jks* and restart the SPL service: `systemctl restart spl`

13. Verify that the certificate is attached to the smcore port. `openssl s_client -connect localhost:8145 -brief`

## Enable SSL communication on Linux host

You can enable two-way SSL communication to secure the mutual communication between SnapCenter Server on Linux host and the plug-ins using PowerShell commands.

### Step

1. Perform the following to enable one-way SSL communication.
  - a. Log into SnapCenter GUI.
  - b. Click **Settings > Global Settings** and select **Enable certificate validation on SnapCenter Server**.
  - c. Click **Hosts > Managed Hosts** and select the plug-in host for which you want to enable one-way SSL.
  - d.  Click **key** icon, and then click **Enable certificate validation**.
2. Enable two-way SSL communication from the SnapCenter Server Linux host.
  - `Open-SmConnection`
  - `Set-SmConfigSettings -Agent -configSettings @{"EnableTwoWaySSL"="true"} -HostName <Plugin Host Name>`
  - `Set-SmConfigSettings -Agent -configSettings @{"EnableTwoWaySSL"="true"} -HostName localhost`
  - `Set-SmConfigSettings -Server -configSettings @{"EnableTwoWaySSL"="true"}`

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