Configure SSL Secure Client with Local Authentication on FTD

Contents

Introduction

This document describes how to configure Cisco Secure Client (includes Anyconnect) with local authentication on Cisco FTD managed by Cisco FMC.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- SSL Secure Client configuration through Firepower Management Center (FMC)
- Firepower objects configuration through FMC
- SSL certificates on Firepower

Components Used

The information in this document is based on these software and hardware versions:

- Cisco Firepower Threat Defense (FTD) version 7.0.0 (Build 94)
- Cisco FMC version 7.0.0 (Build 94)
- Cisco Secure Mobility Client 4.10.01075

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Background Information

In this example, Secure Sockets Layer (SSL) is used to create Virtual Private Network (VPN) between FTD and a Windows 10 client.

From release 7.0.0, FTD managed by FMC supports local authentication for Cisco Secure Clients. This can be defined as either the primary authentication method, or as fallback in case the primary method fails. In this example, local authentication is configured as the primary authentication.

Before this software version Cisco Secure Client local authentication on FTD was only available on Cisco Firepower Device Manager (FDM).

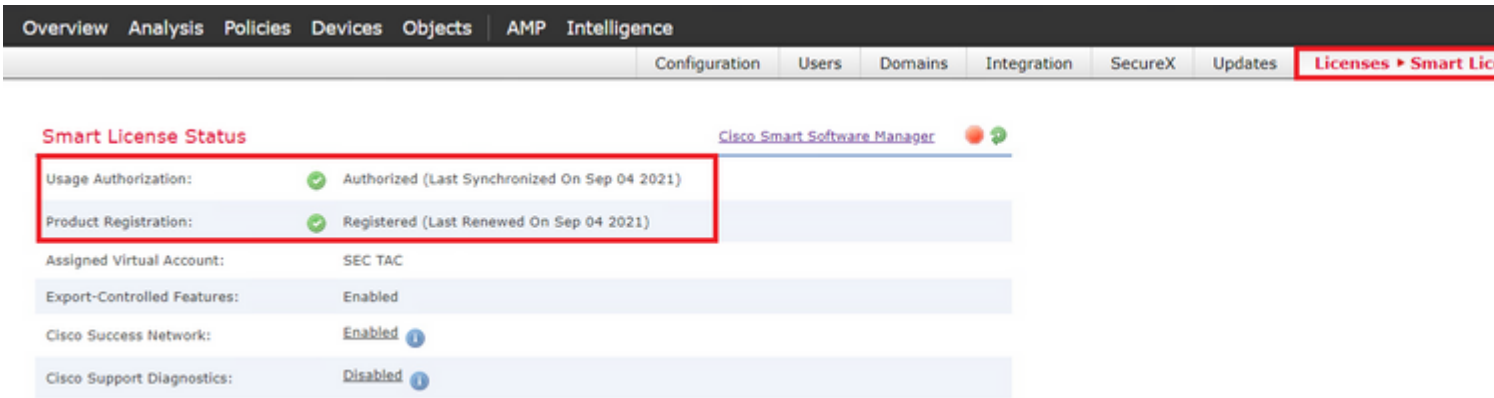
Configure

Configurations

Step 1. Verify Licensing

Before you configure Cisco Secure Client, the FMC must be registered, and be compliant to Smart Licensing Portal. You cannot deploy Cisco Secure Client if FTD does not have a valid Plus, Apex or VPN Only license.

Navigate to **System > Licenses > Smart Licenses** in order to validate the FMC is registered and compliant to Smart Licensing Portal.



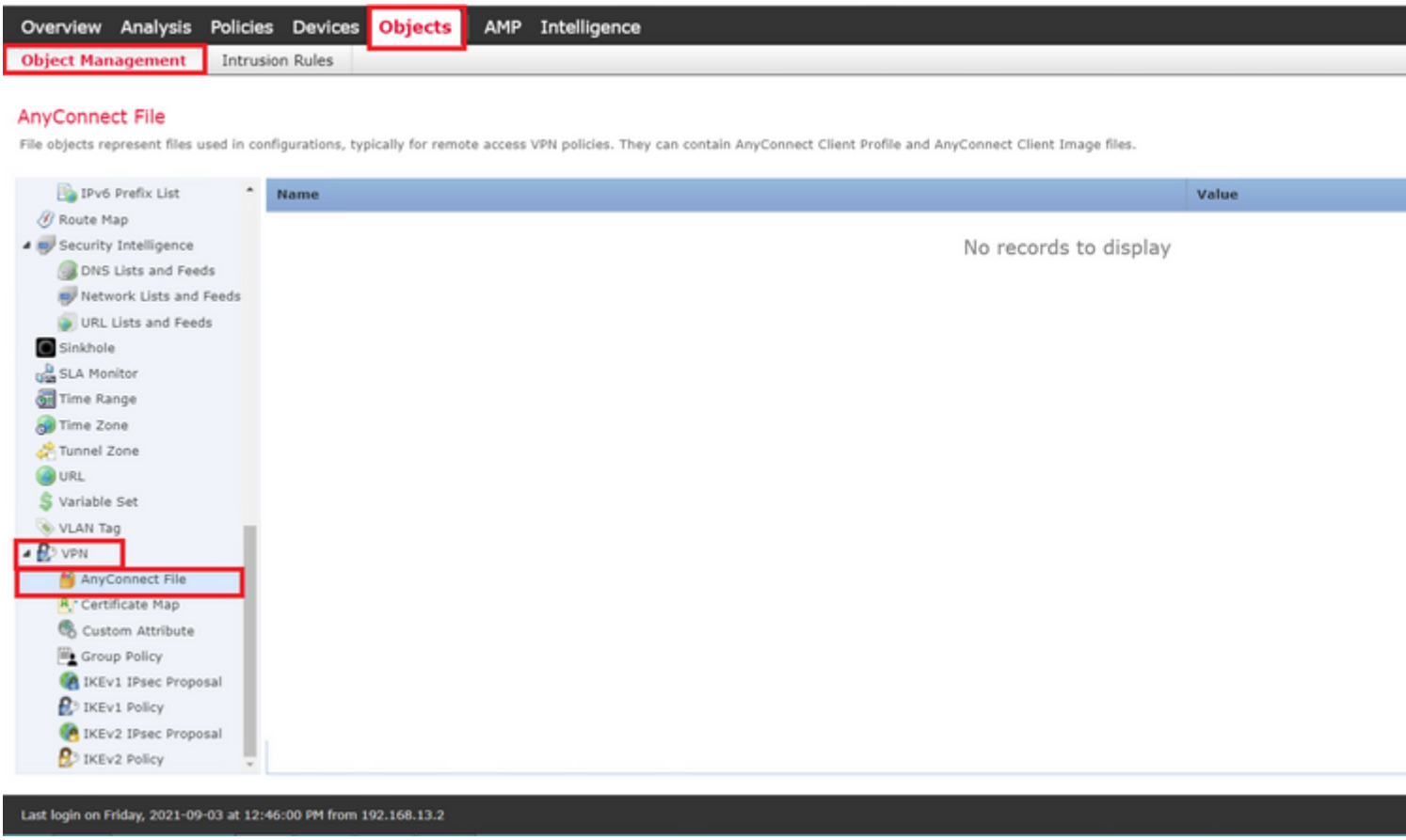
Scroll-down on the same page, on the bottom of the **Smart Licenses** chart you can see the different types of Cisco Secure Client (AnyConnect) licenses available and the devices subscribed to each one. Validate the FTD at hand is registered under any of these categories.

Step 2. Upload Cisco Secure Client Package to FMC

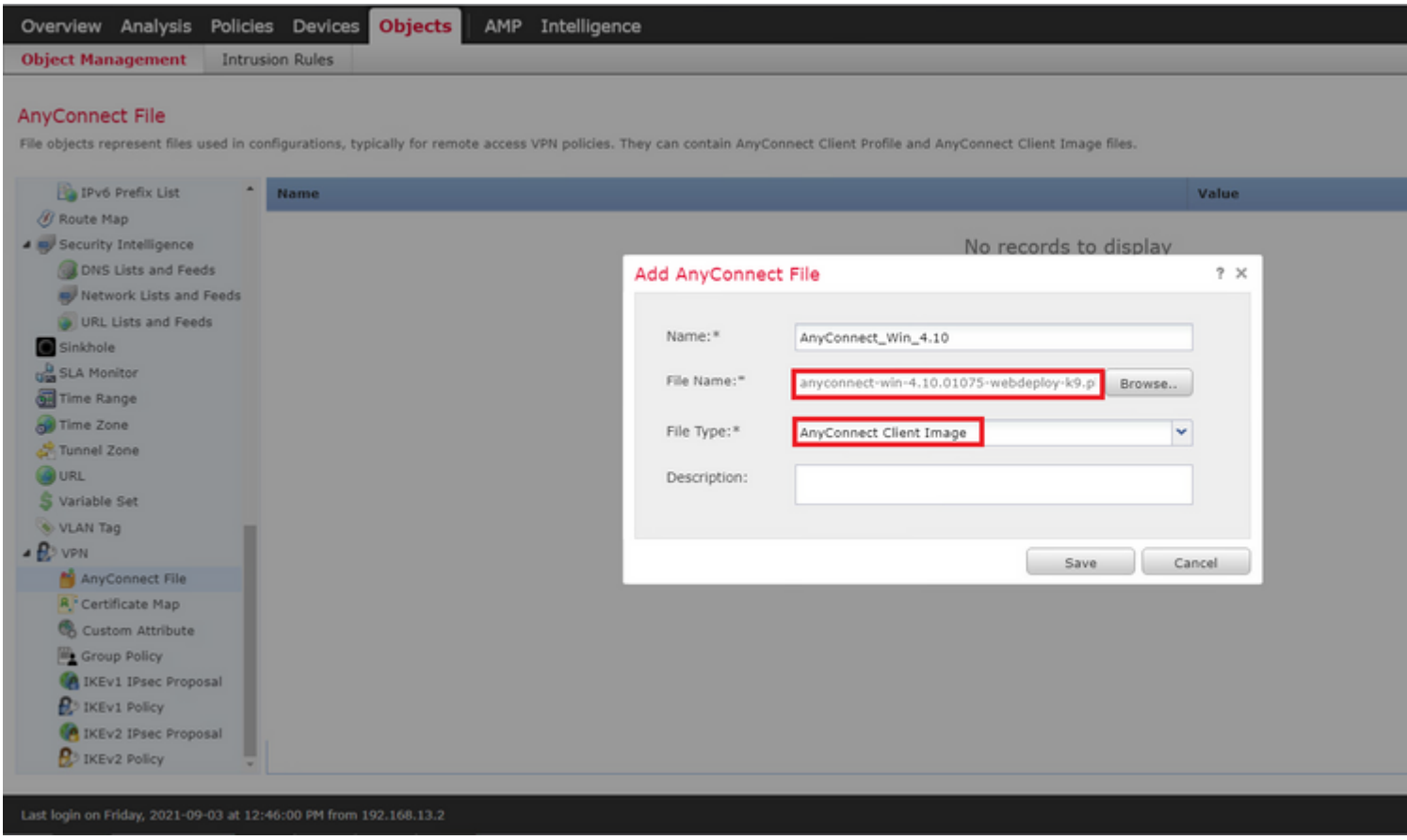
Download the Cisco Secure Client (AnyConnect) Headend Deployment Package for Windows from cisco.com.

Application Programming Interface [API] (Windows) anyconnect-win-4.10.01075-vpnapi.zip Advisories	21-May-2021	141.72 MB
AnyConnect Headend Deployment Package (Windows) anyconnect-win-4.10.01075-webdeploy-k9.pkg Advisories	21-May-2021	77.81 MB
AnyConnect Pre-Deployment Package (Windows 10 ARM64) - includes individual MSI files anyconnect-win-arm64-4.10.01075-predeploy-k9.zip Advisories	21-May-2021	34.78 MB
AnyConnect Headend Deployment Package (Windows 10 ARM64) anyconnect-win-arm64-4.10.01075-webdeploy-k9.pkg Advisories	21-May-2021	44.76 MB
Profile Editor (Windows) tools-anyconnect-win-4.10.01075-profileeditor-k9.msi Advisories	21-May-2021	10.90 MB
AnyConnect Installer Transforms (Windows) tools-anyconnect-win-4.10.01075-transforms.zip Advisories	21-May-2021	0.05 MB

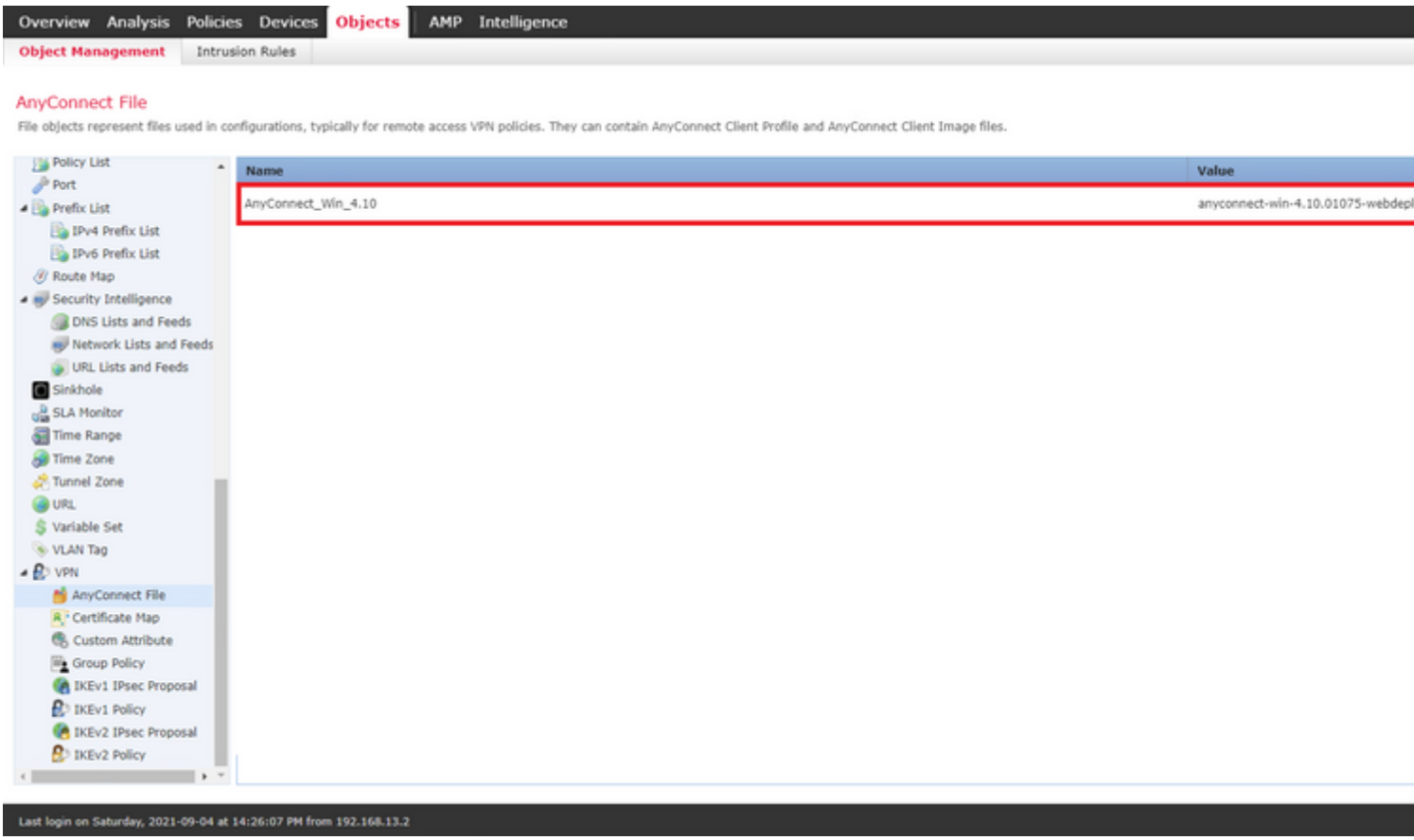
In order to upload the Cisco Secure Client image, navigate to **Objects > Object Management** and choose **Cisco Secure Client File** under the **VPN** category in the table of contents.



Choose the **Add AnyConnect File** button. In the **Add AnyConnect Secure Client File** window assign a name for the object, then choose **Browse..** in order to pick the Cisco Secure Client package and finally choose **AnyConnect Client Image** as the file type in the drop-down menu.



Choose **Save** button. The object must be added to objects list.

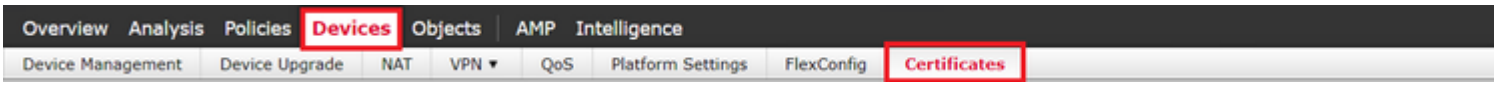


Step 3. Generate Self-Signed Certificate

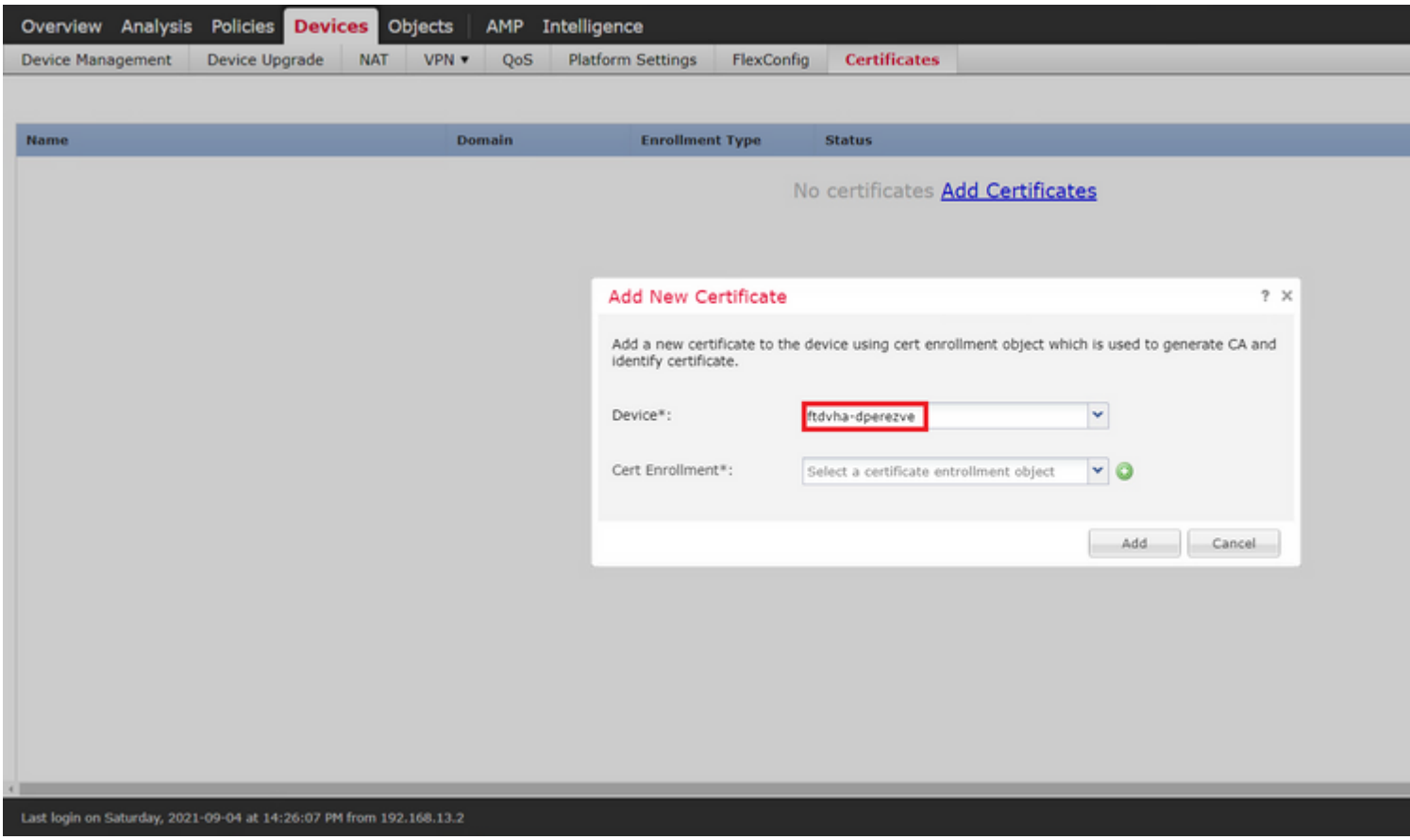
SSL Cisco Secure Client (AnyConnect) requires one valid certificate to be used in the SSL handshake between VPN headend and client.

> **Note**: In this example, a self-signed certificate is generated for this purpose. However, besides self-signed certificates, it is possible to upload a certificate signed by either an internal Certificate Authority (CA) or a well-known CA too.

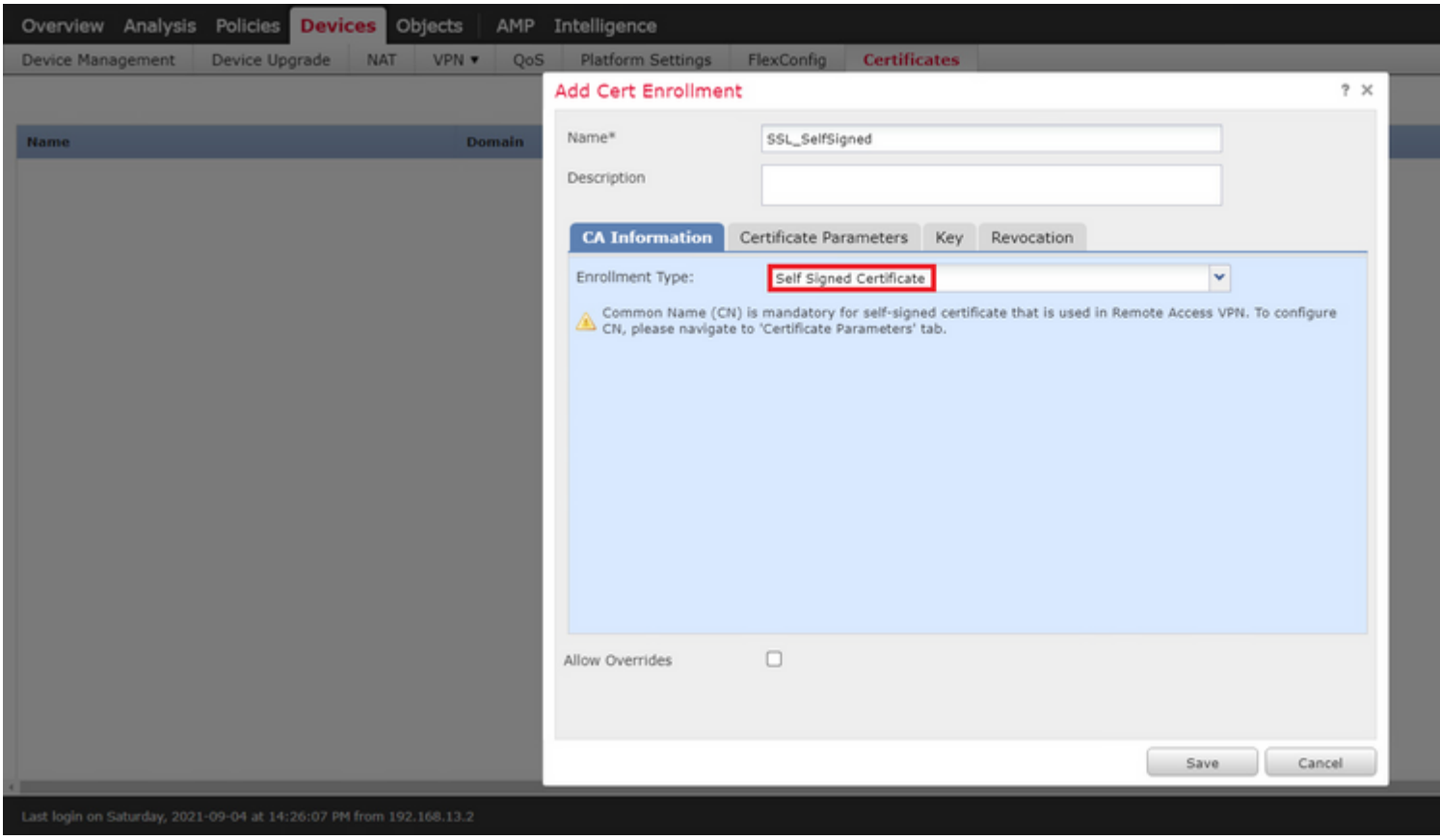
In order to create the self-signed certificate navigate to **Devices** > **Certificates**.



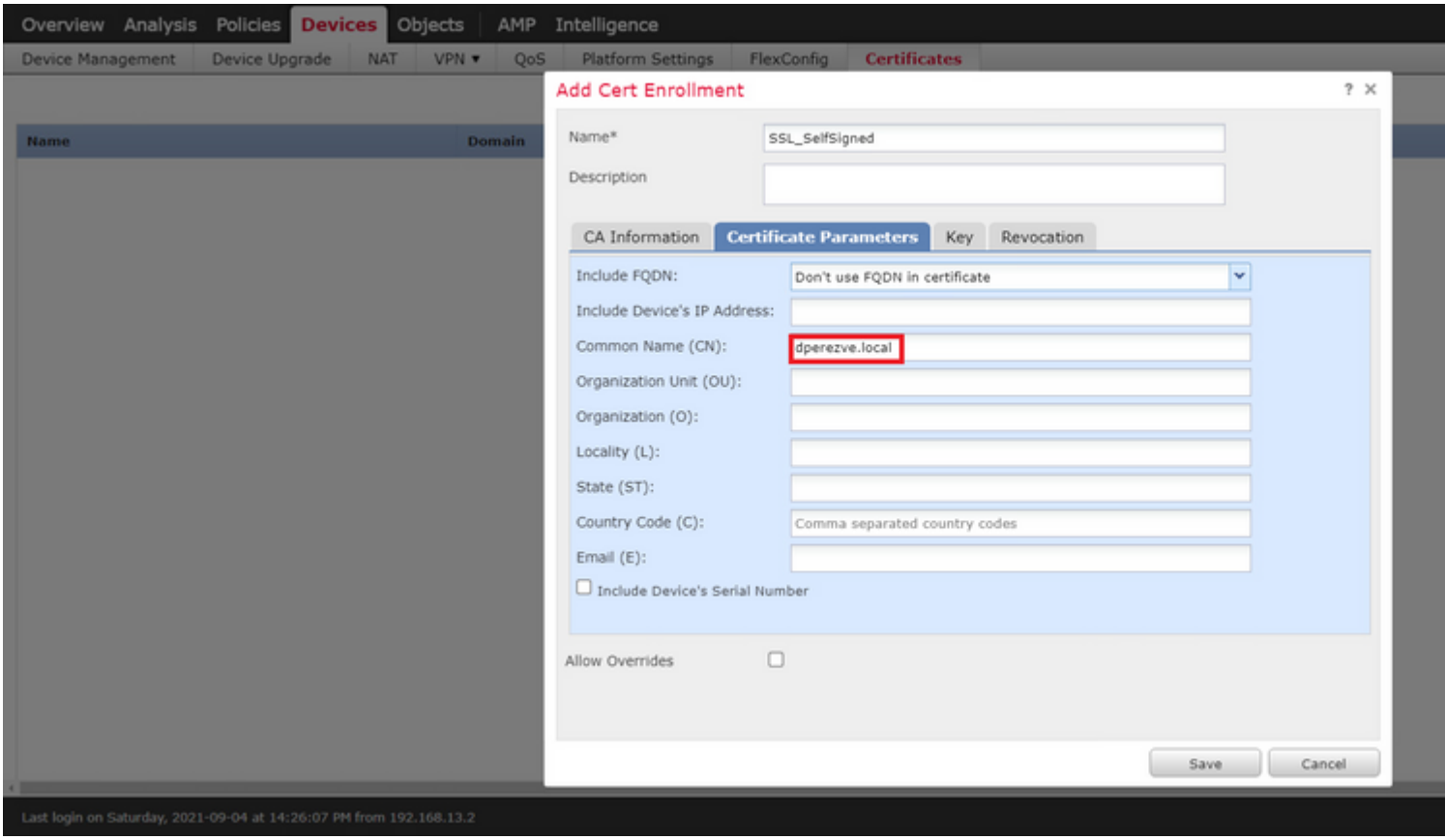
Choose the **Add** button. Then choose the FTD at hand in the **Device** drop-down menu in the **Add New Certificate** window.



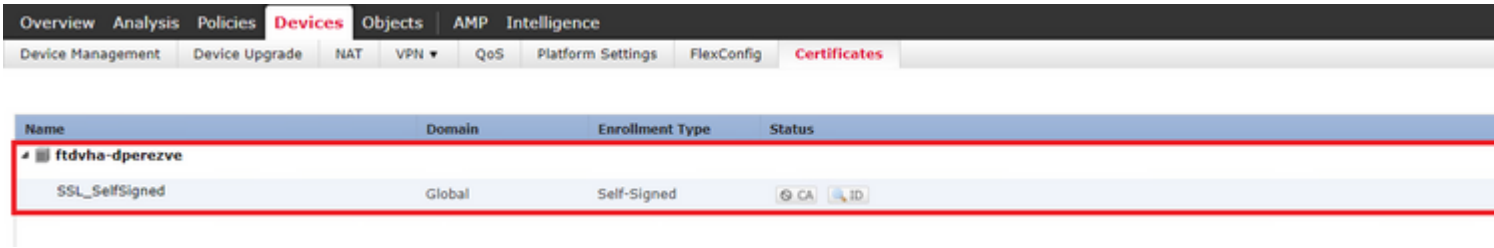
Choose the **Add Cert Enrollment** button (green + symbol) to create a new enrollment object. Now, in the **Add Cert Enrollment** window, assign a name for the object and choose **Self Signed Certificate** in the **Enrollment Type** drop-down menu.



Finally, for self-signed certificates, it is mandatory to have a Common Name (CN). Navigate to **Certificate Parameters** tab in order to define a CN.

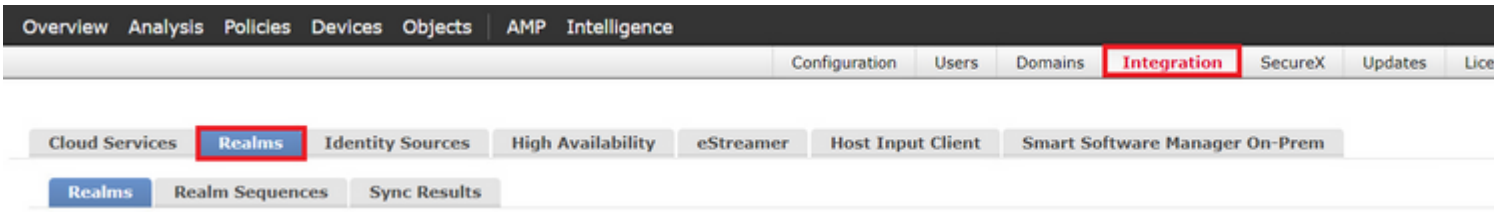


Choose **Save** and **Add** buttons. After a couple of seconds, the new certificate must be added to the certificate list.

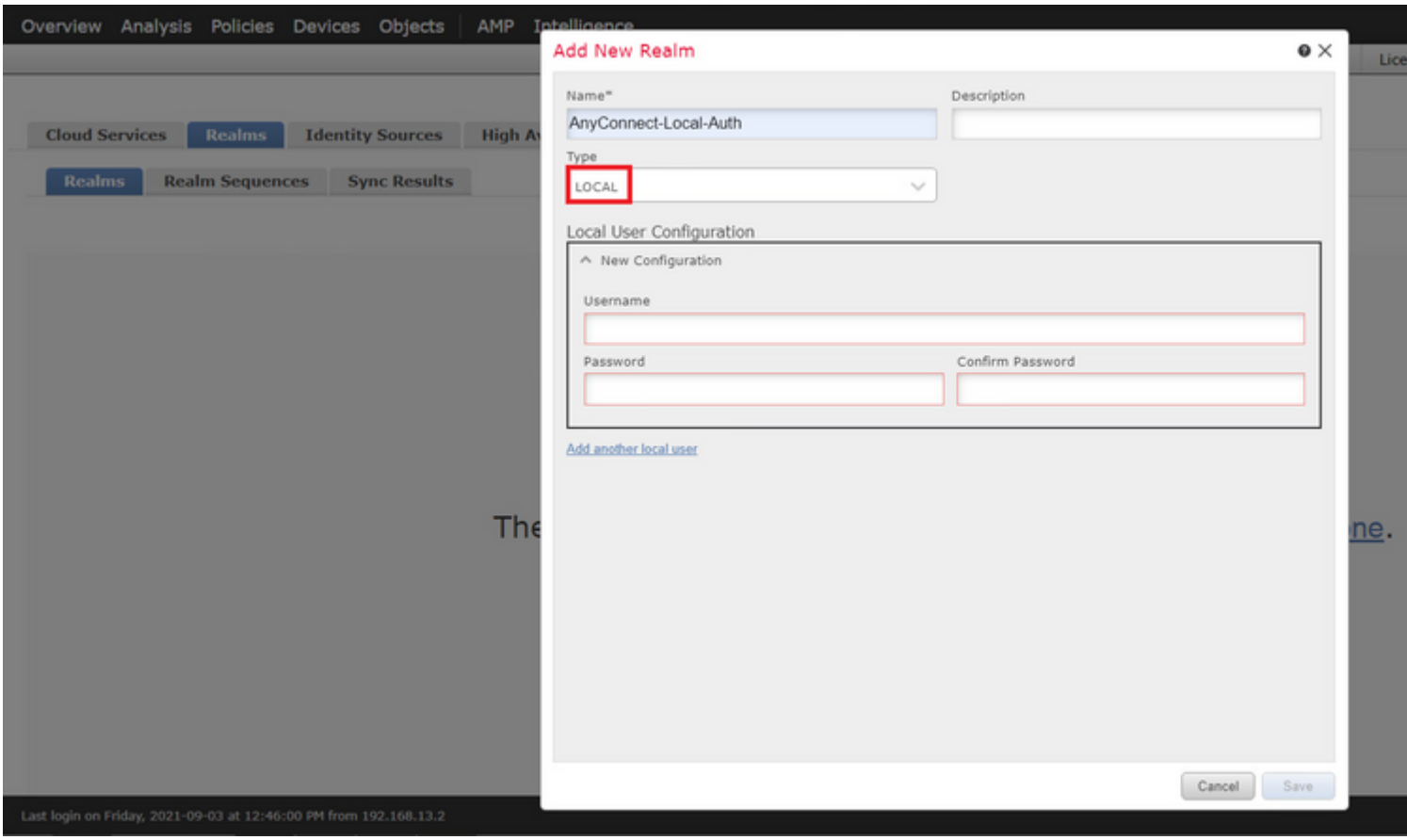


Step 4. Create Local Realm on FMC

The local user database and the respective passwords are stored in a local realm. In order to create the local realm, navigate to **System > Integration > Realms**.

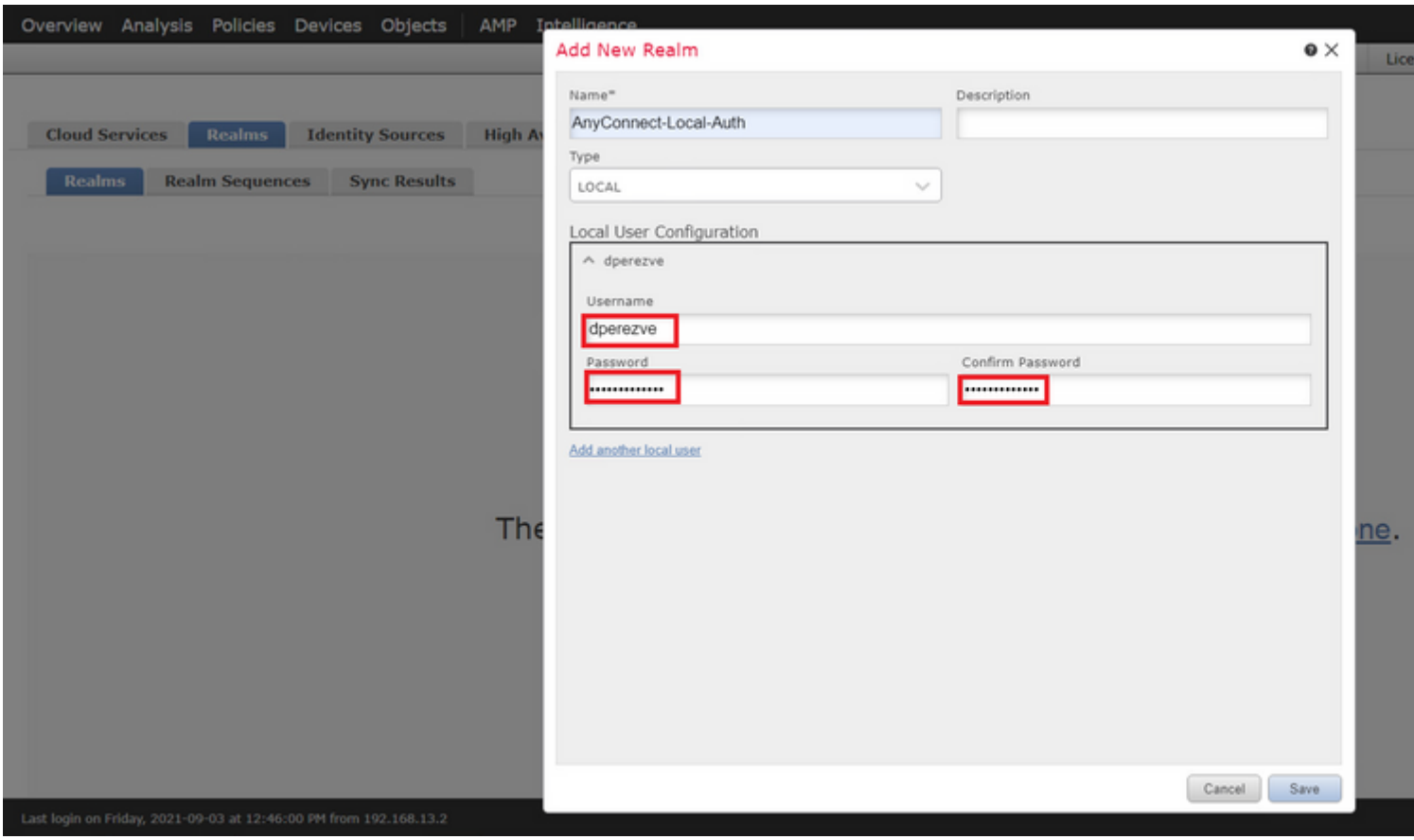


Choose the **Add Realm** button. In the **Add New Realm** window, assign a name and choose **LOCAL** option in the **Type** drop-down menu.

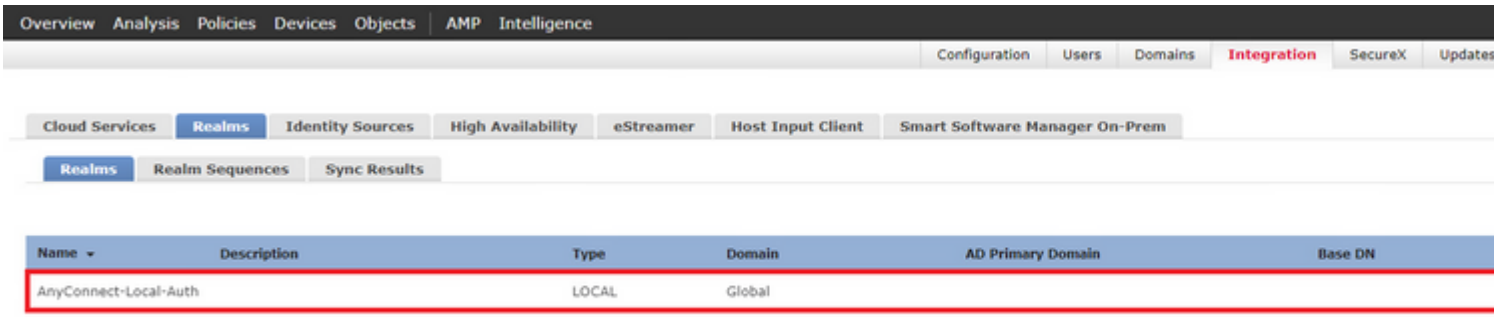


User accounts and passwords are created in the Local User Configuration section.

Note: Passwords must have at least one upper case letter, one lower case letter, one number and one special character.



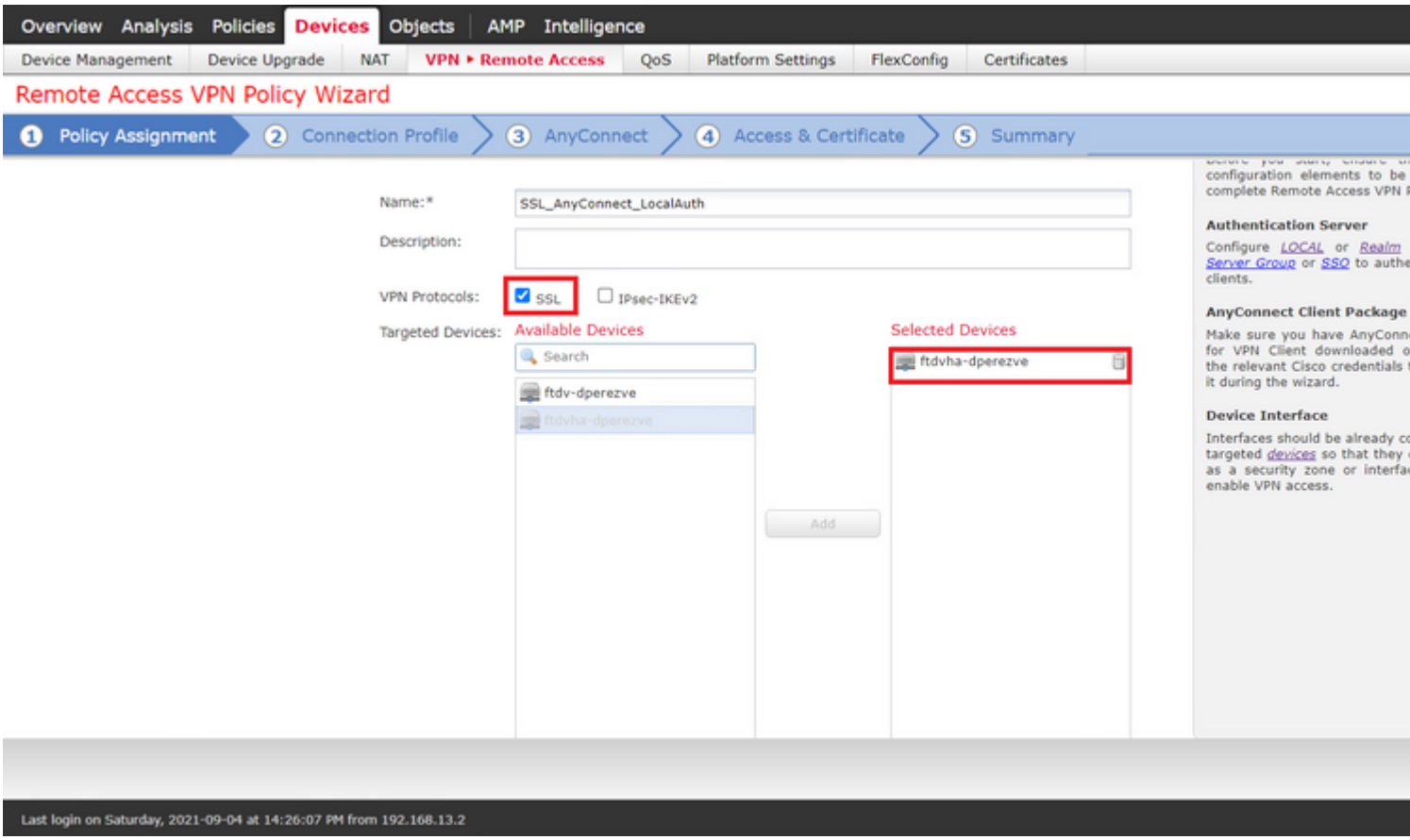
Save changes and new realm must be added to existing realms list.



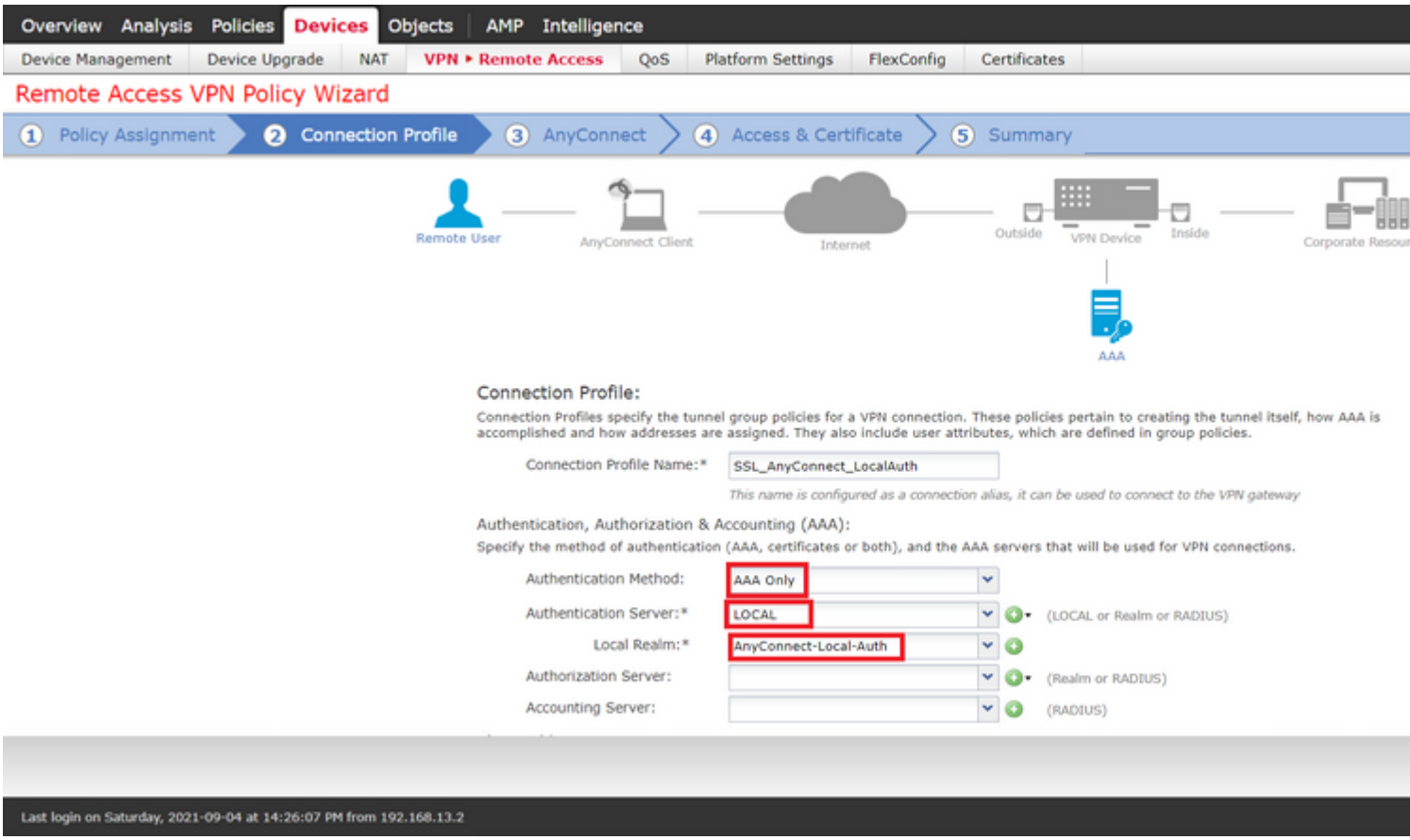
Step 5. Configure SSL Cisco Secure Client

In order to configure SSL Cisco Secure Client, navigate to **Devices** > **VPN** > **Remote Access**.

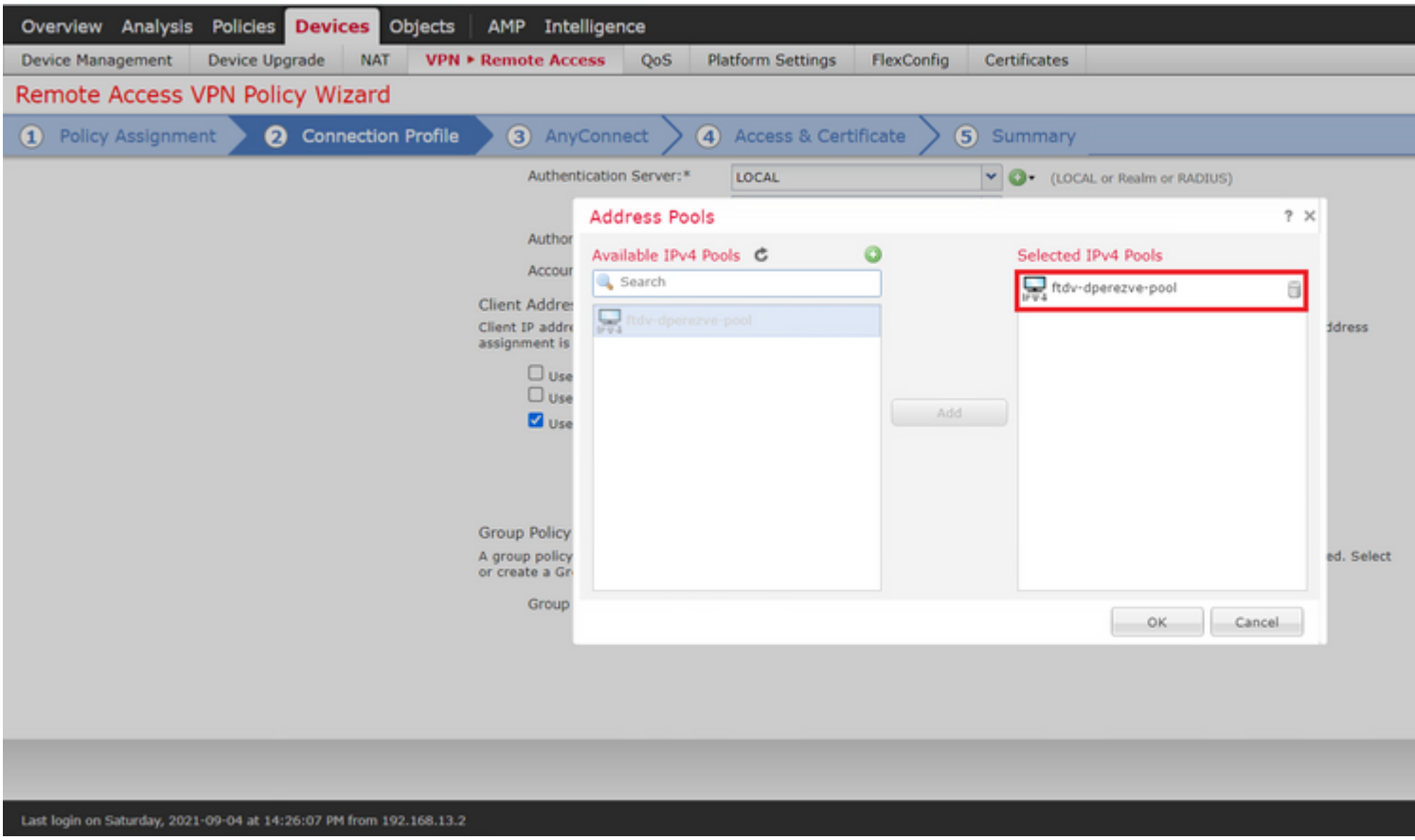
Choose **Add** button in order to create a new VPN policy. Define a name for the connection profile, select SSL checkbox, and choose the FTD at hand as the targeted device. Everything must be configured in the **Policy Assigment** section in the **Remote Access VPN Policy Wizard**.



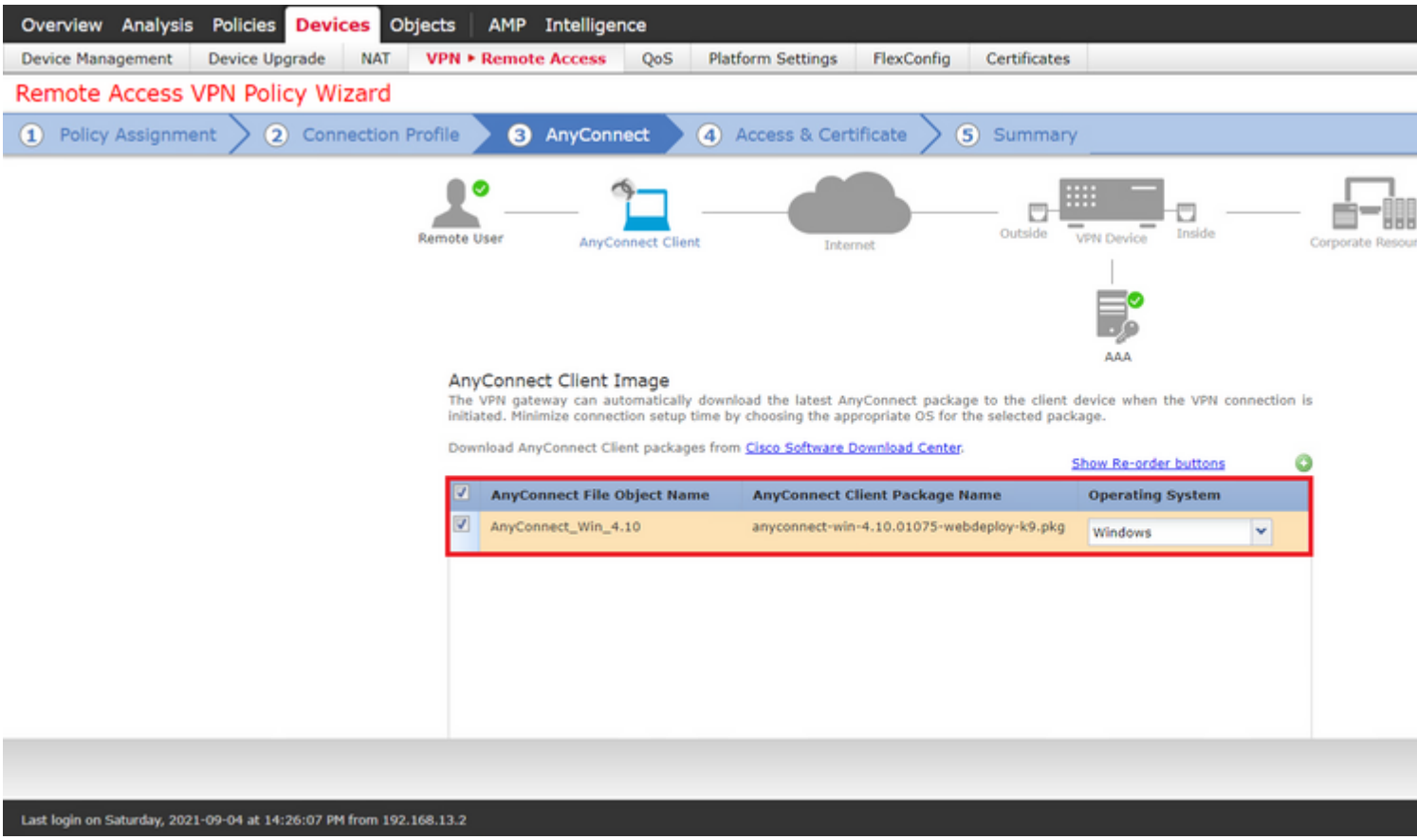
Choose **Next** in order to move to the **Connection Profile** configuration. Define a name for the connection profile and choose **AAA Only** as the authentication method. Then, in the **Authentication Server** drop-down menu, choose **LOCAL**, and finally, choose the local realm created in Step 4 in the **Local Realm** drop-down menu.



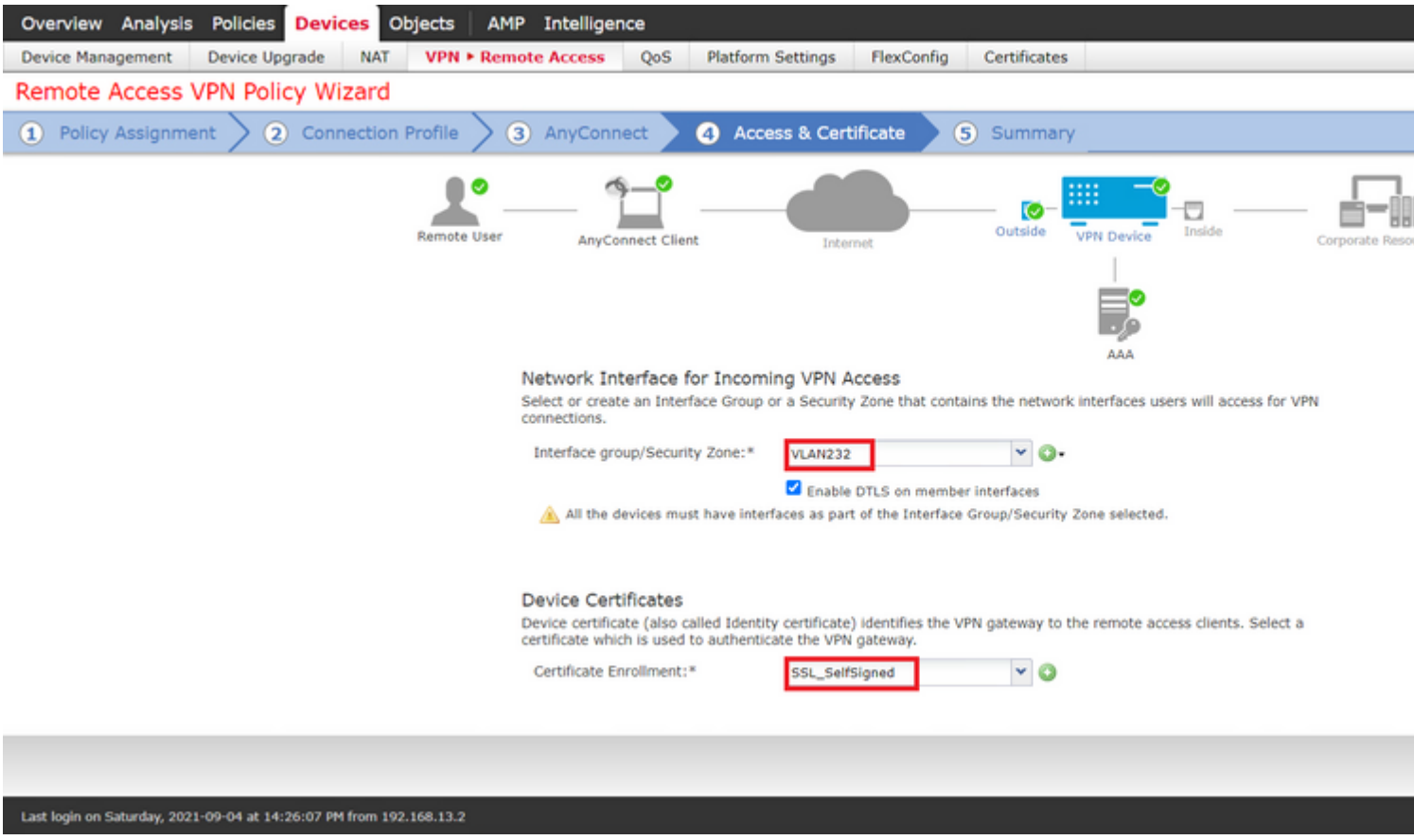
Scroll-down on the same page, then choose the pencil icon in the **IPv4 Address Pool** section in order to define the IP pool used by Cisco Secure Clients.



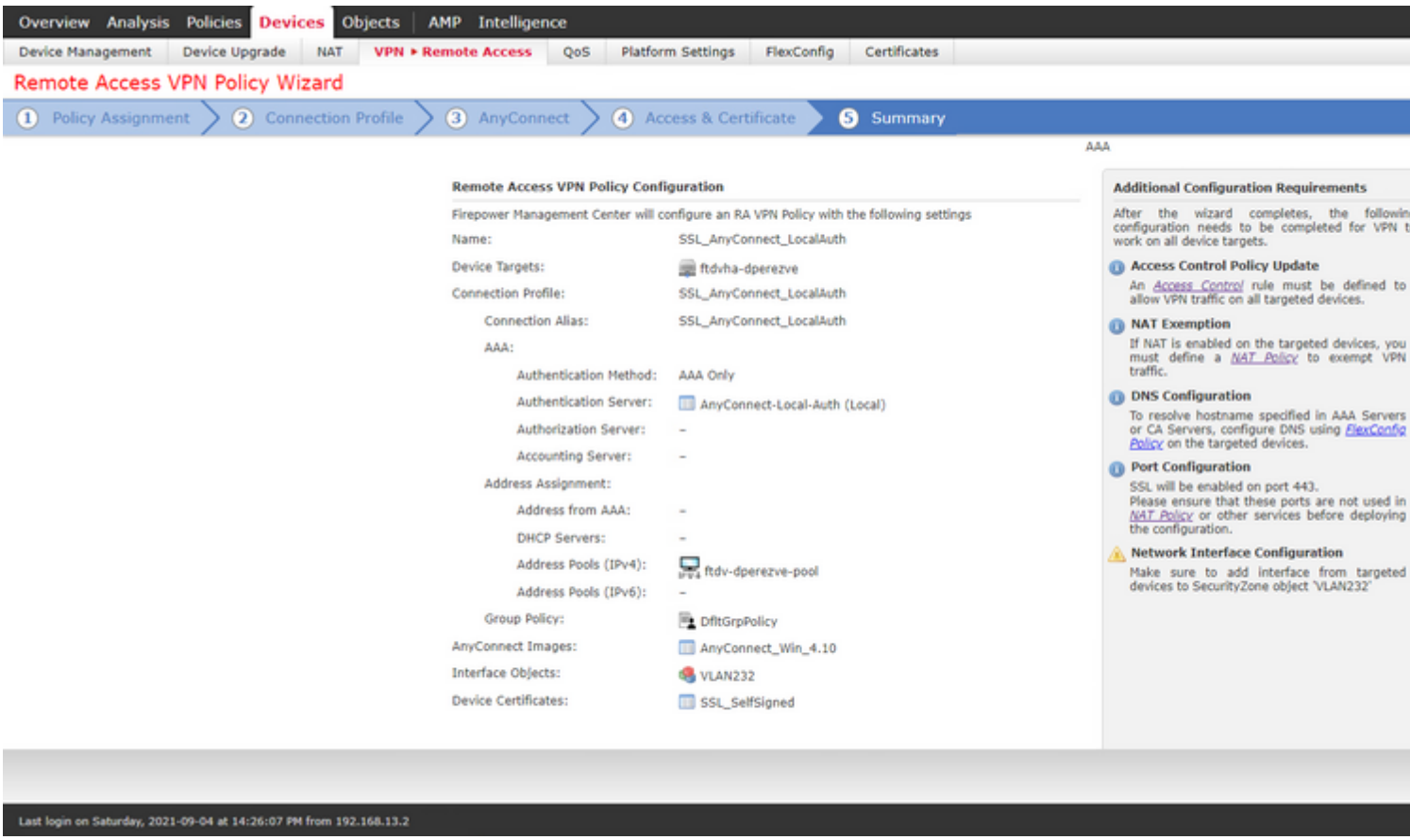
Choose **Next** in order to move to the **AnyConnect** section. Now, choose the Cisco Secure Client image uploaded in Step 2.



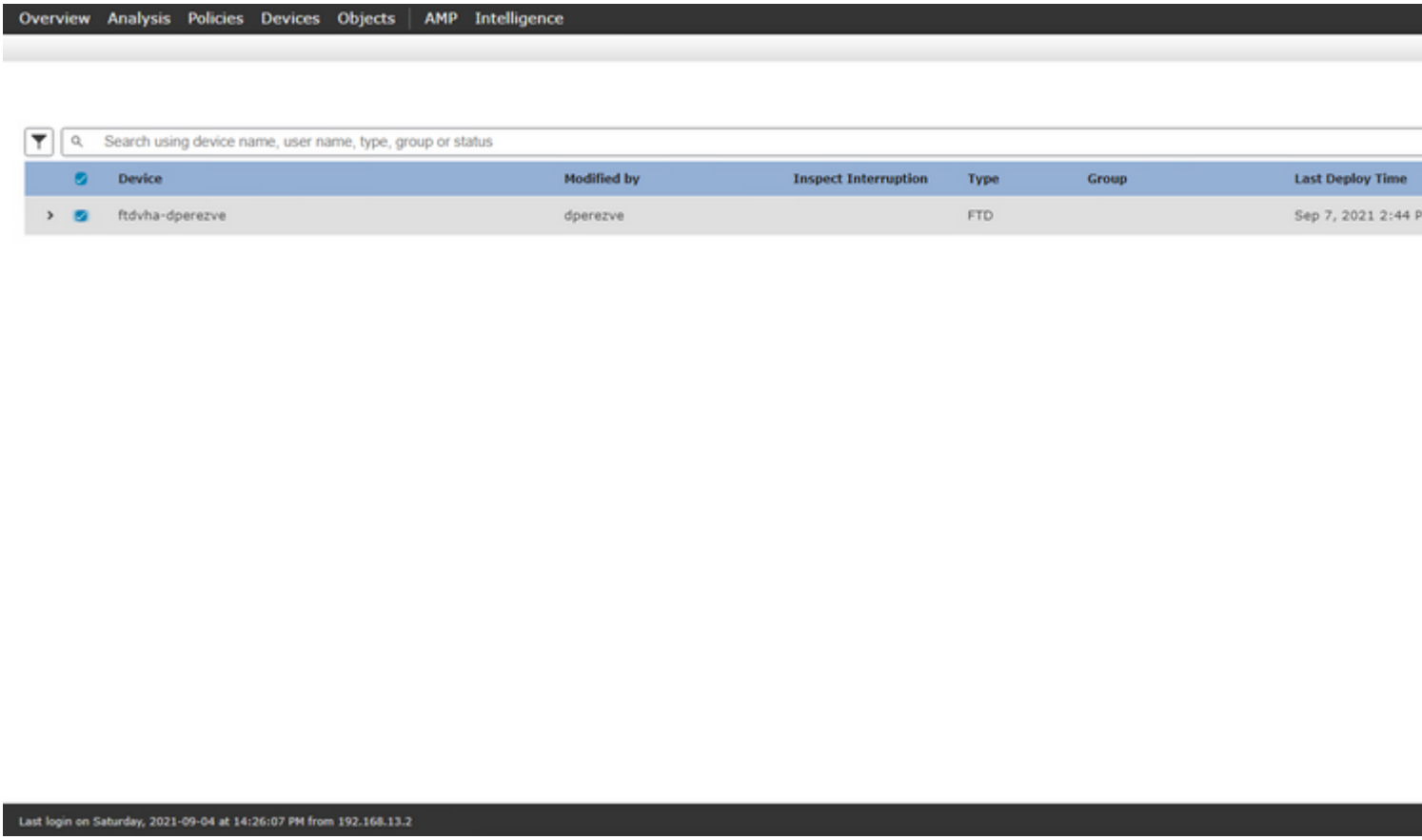
Choose **Next** in order to move to the **Access & Certificate** section. In the **Interface group/Security Zone** drop-down menu, choose the interface where Cisco Secure Client (AnyConnect) needs to be enabled. Then, in the **Certificate Enrollment** drop-down menu, choose the certificate created in Step 3.



Finally, choose **Next** in order to see a summary of the Cisco Secure Client configuration.

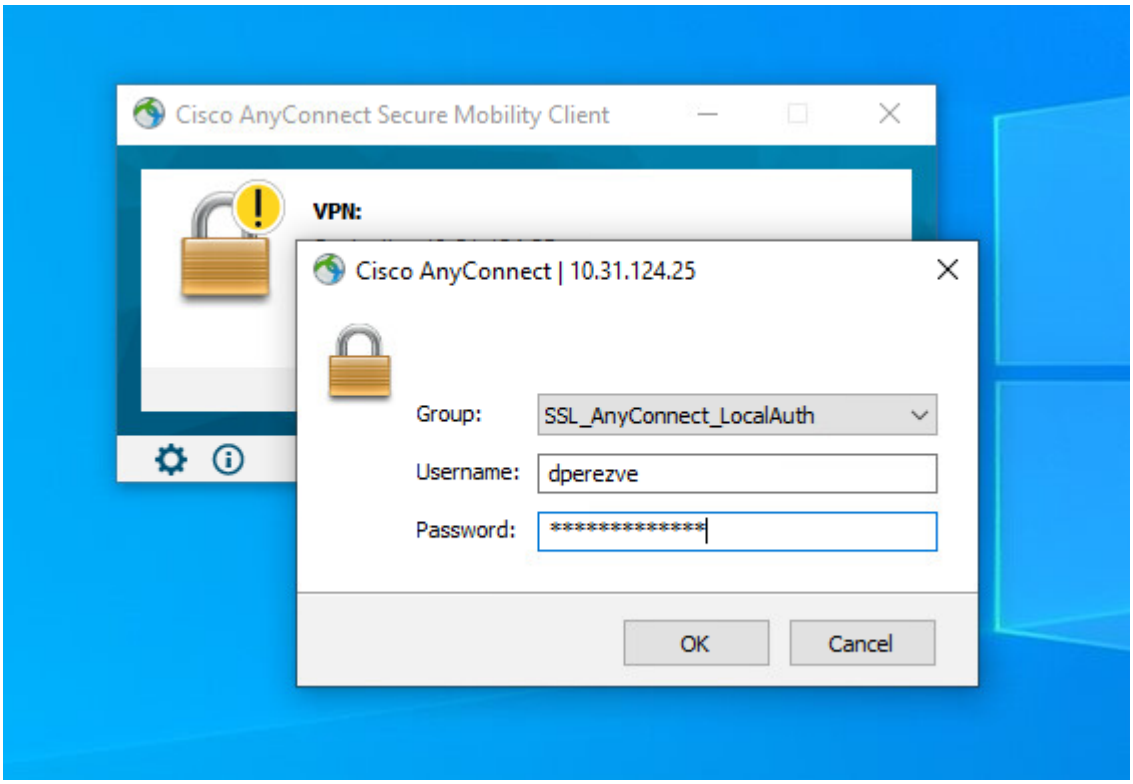


If all the settings are correct, choose **Finish** and deploy changes to FTD.

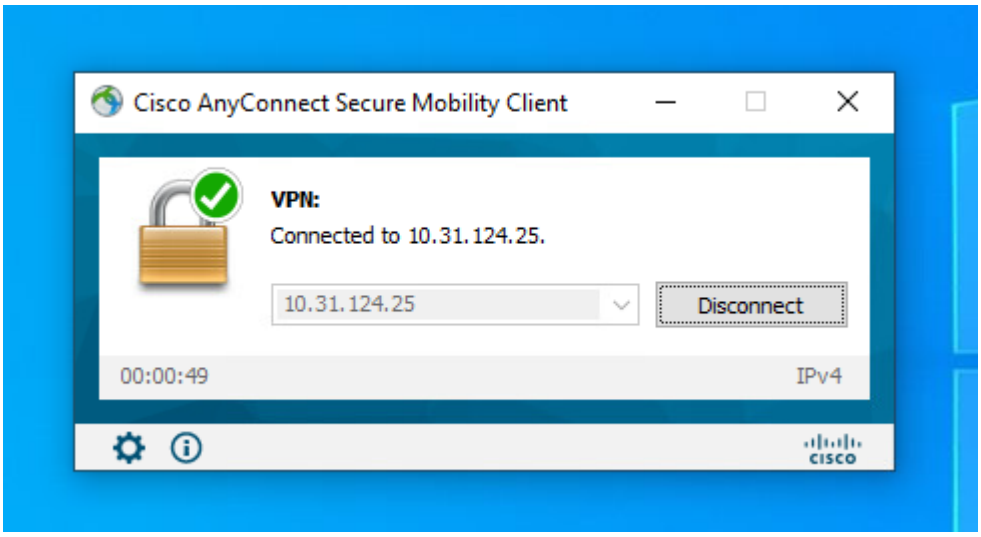


Verify

Once deployment has been successful, initiate a Cisco AnyConnect Secure Mobility Client connection from Windows client to FTD. The username and password used in the authentication prompt must be the same as created in Step 4.



Once credentials are approved by FTD, Cisco AnyConnect Secure Mobility Client app must display connected state.



From FTD you can run **show vpn-sessiondb anyconnect** command in order to display the Cisco Secure Client sessions currently active on the Firewall.

```
firepower# show vpn-sessiondb anyconnect

Session Type: AnyConnect
```

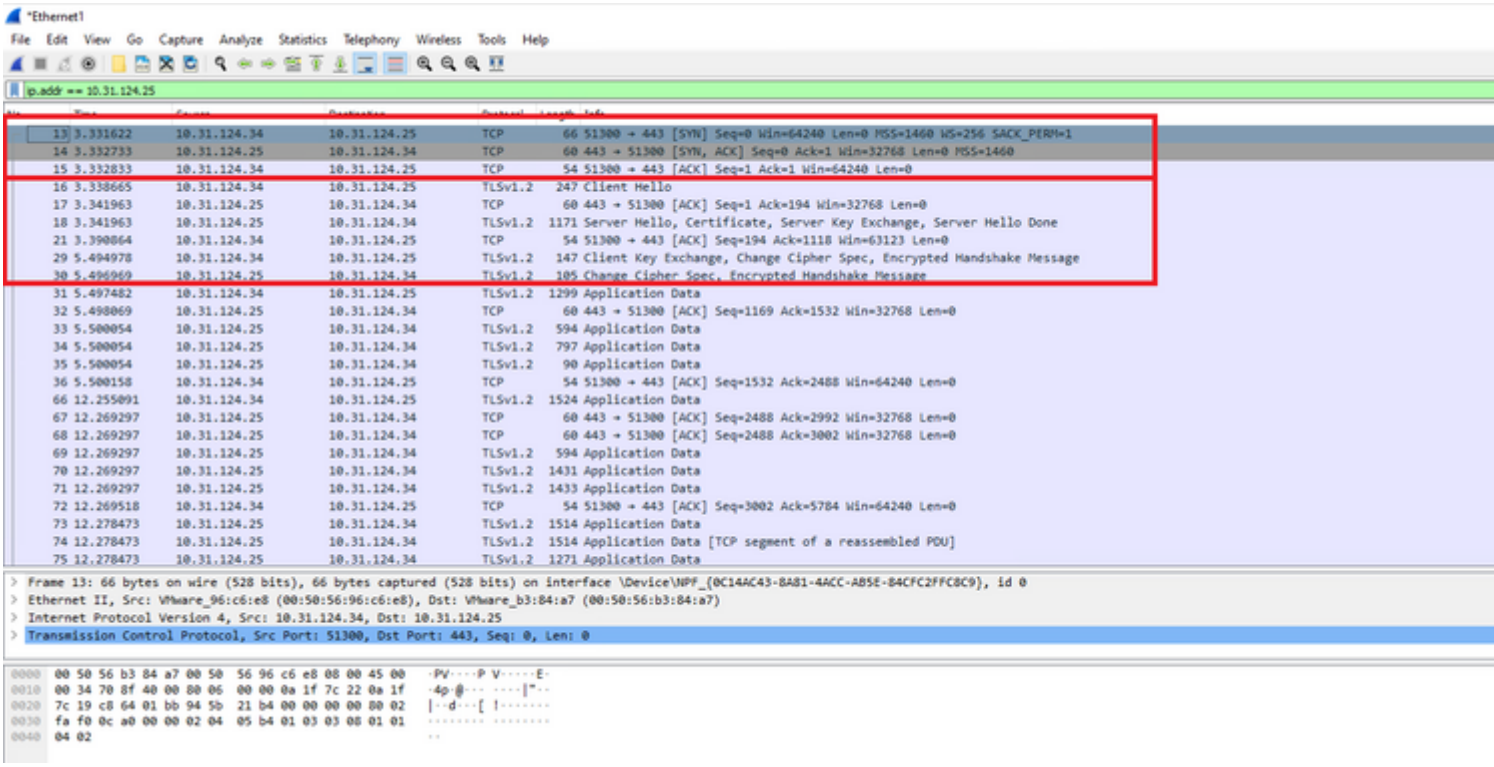
```
Username     : dperezve                Index        : 8
Assigned IP  : 172.16.13.1             Public IP    : 10.31.124.34
Protocol     : AnyConnect-Parent SSL-Tunnel DTLS-Tunnel
License      : AnyConnect Premium
Encryption   : AnyConnect-Parent: (1)none  SSL-Tunnel: (1)AES-GCM-256  DTLS-Tunnel: (1)AES-GCM-256
Hashing      : AnyConnect-Parent: (1)none  SSL-Tunnel: (1)SHA384  DTLS-Tunnel: (1)SHA384
Bytes Tx     : 15756                   Bytes Rx     : 14606
Group Policy : DfltGrpPolicy
Tunnel Group : SSL_AnyConnect_LocalAuth
Login Time   : 21:42:33 UTC Tue Sep 7 2021
Duration     : 0h:00m:30s
Inactivity   : 0h:00m:00s
VLAN Mapping : N/A                     VLAN         : none
Audt Sess ID : 000000000000080006137dcc9
Security Grp : none                    Tunnel Zone  : 0
```

Troubleshoot

Run **debug webvpn anyconnect** 255 command on FTD in order to see SSL connection flow on FTD.

```
firepower# debug webvpn anyconnect 255
```

Besides Cisco Secure Client debugs, connection flow can observed with TCP packet captures as well. This is an example of a successful connection, a regular three handshake between Windows client and FTD is completed, followed by a SSL handshake used to agree ciphers.



After protocol handshakes, FTD must validate credentials with information stored in local realm.

Collect DART bundle and contact Cisco TAC for further research.