Configure Certificate Authentication & DUO SAML Authentication

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Introduction

This document describes an example of the implementation of certificate-based authentication and duo SAML authentication.

Prerequisites

The tools and devices used in the guide are:

- Cisco Firepower Threat Defense (FTD)
- Firepower Management Center (FMC)
- Internal Certificate Authority (CA)
- Cisco DUO Premier Account
- Cisco DUO Authentication Proxy
- Cisco Secure Client (CSC)

Requirements

Cisco recommends that you have knowledge of these topics:

- Basic VPN,
- SSL/TLS
- Public Key Infrastucture
- Experience with FMC
- Cisco Secure Client
- FTD code 7.2.0 or Higher
- Cisco DUO Authentication Proxy

Components Used

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

- Cisco FTD (7.3.1)
- Cisco FMC (7.3.1)
- Cisco Secure Client (5.0.02075)
- Cisco DUO Authentication Proxy (6.0.1)
- Mac OS (13.4.1)
- Active Directory

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.

Configure Steps on DUO

This section describes the steps to configure Cisco DUO Single Sign-on (SSO). Before you begin, be sure to have the authentication proxy implemented.

> **Warning**: If an authentication proxy has not been implemented, this link has the guide for this task. DUO Authentication Proxy Guide

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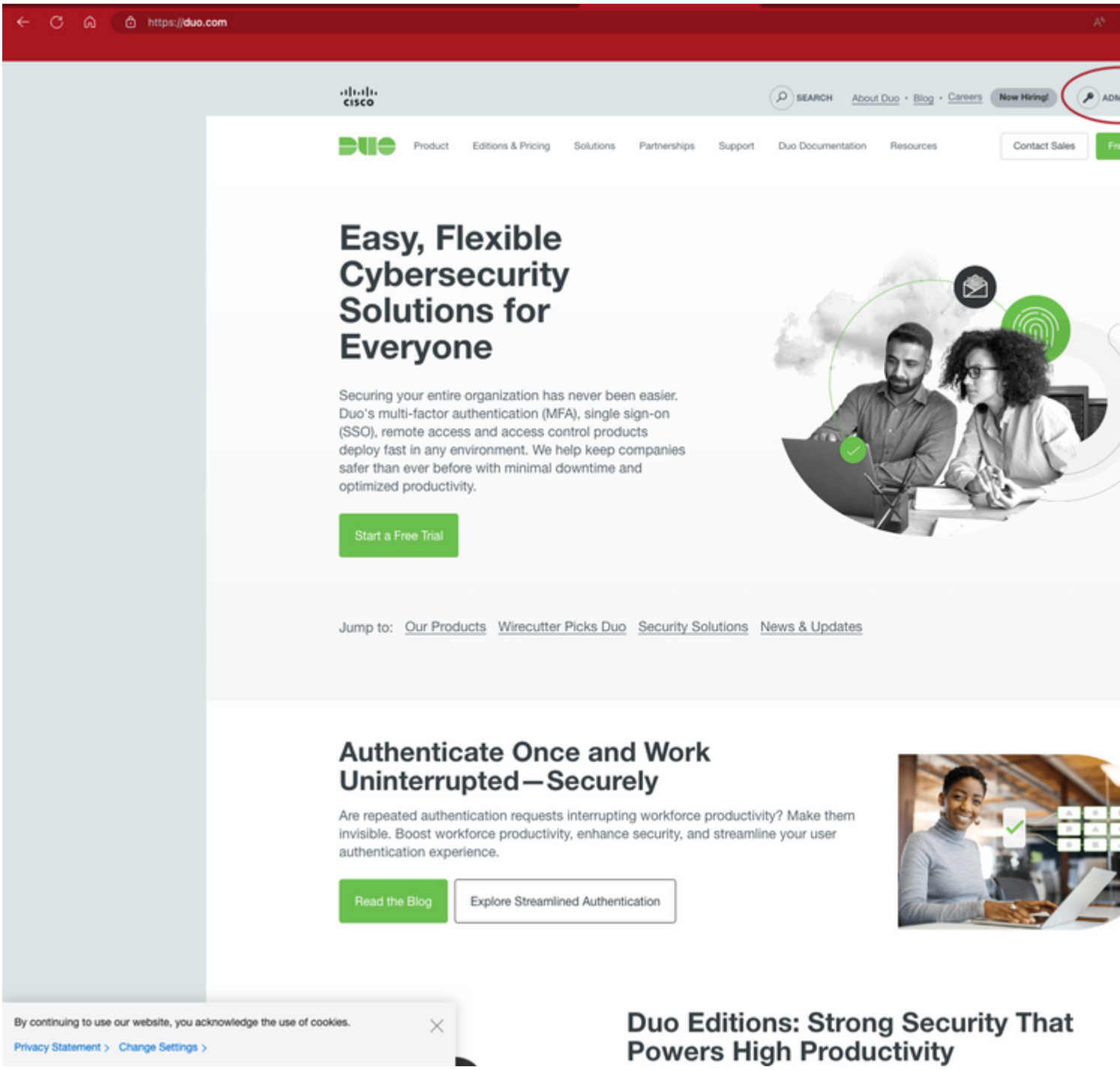
Create an Application Protection Policy

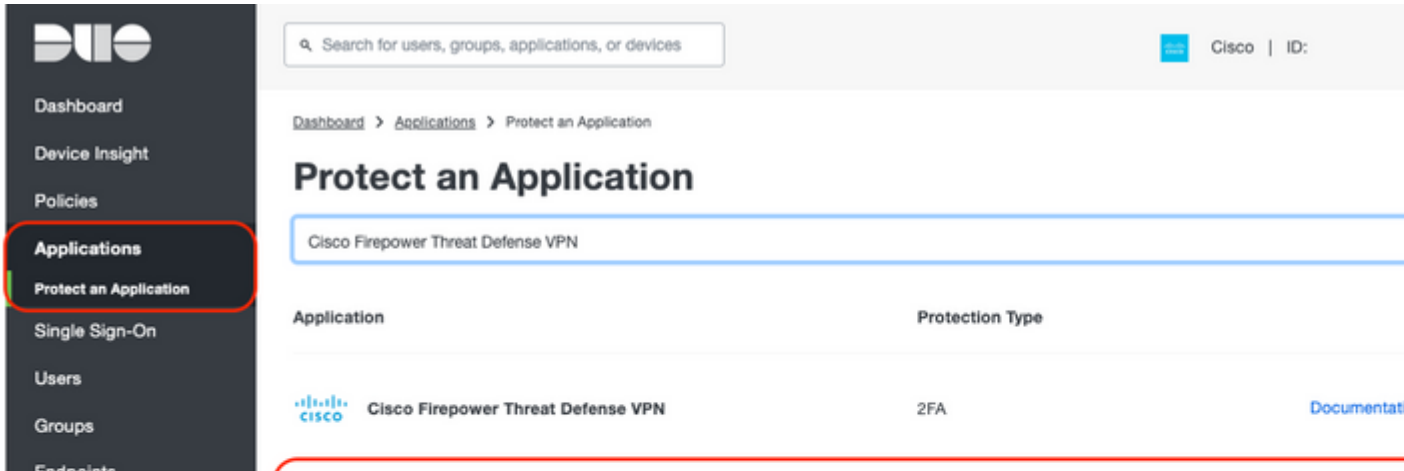
Step 1. Sign on to the admin panel via this link Cisco Duo



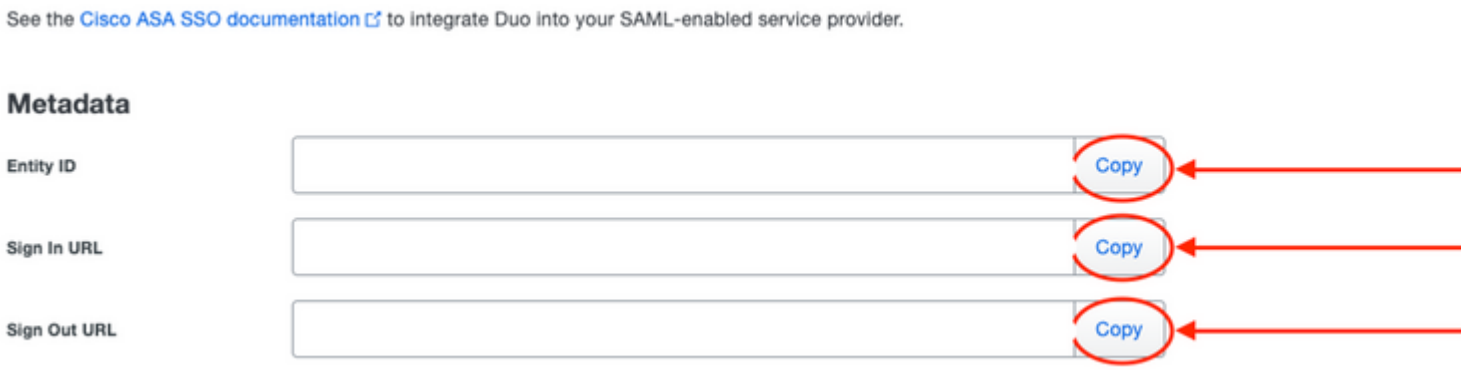
Cisco DUO homepage

Step 2. Navigate to **Dashboard > Applications > Protect an Application.**

In the search bar, enter "**Cisco Firepower Threat Defense VPN**" and select "**Protect**".



- **Identity Provider Entity ID**
- **SSO URL**
- **Logout URL**



Example of information to copy

Note: The links have been omitted from the screenshot.

Step 4. Select "**Download certificate**" to download the Identity Provider Certificate under **Downloads.**

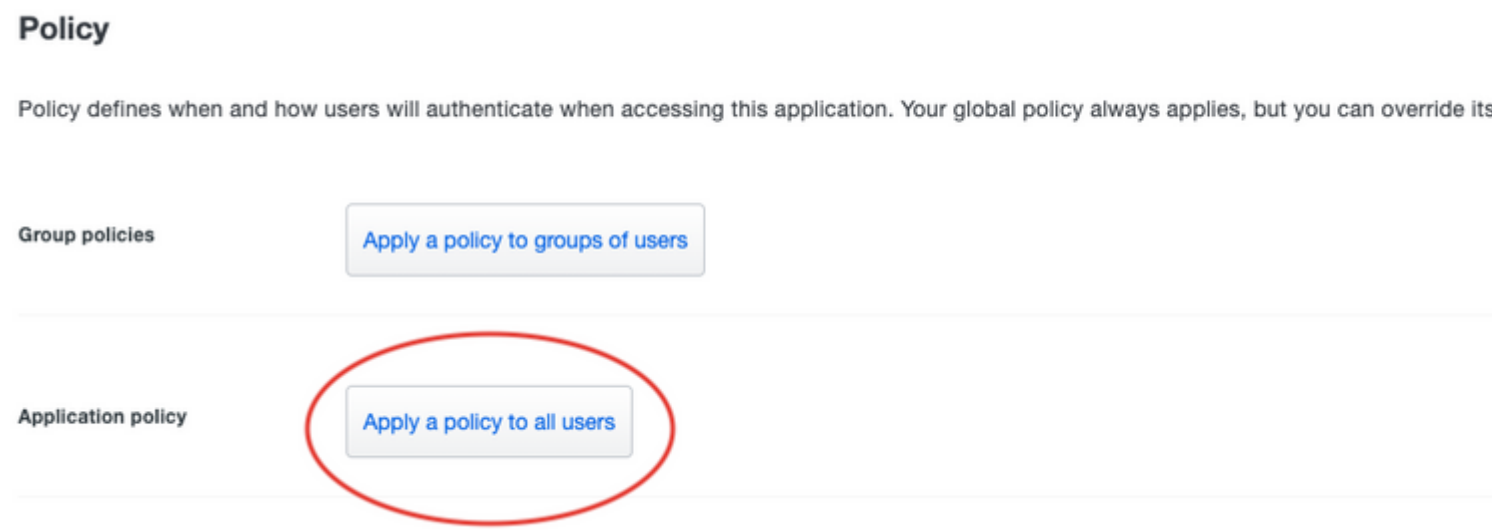
Step 5. Fill in the Service Provider Information

Cisco Firepower Base URL- The FQDN used to reach the FTD

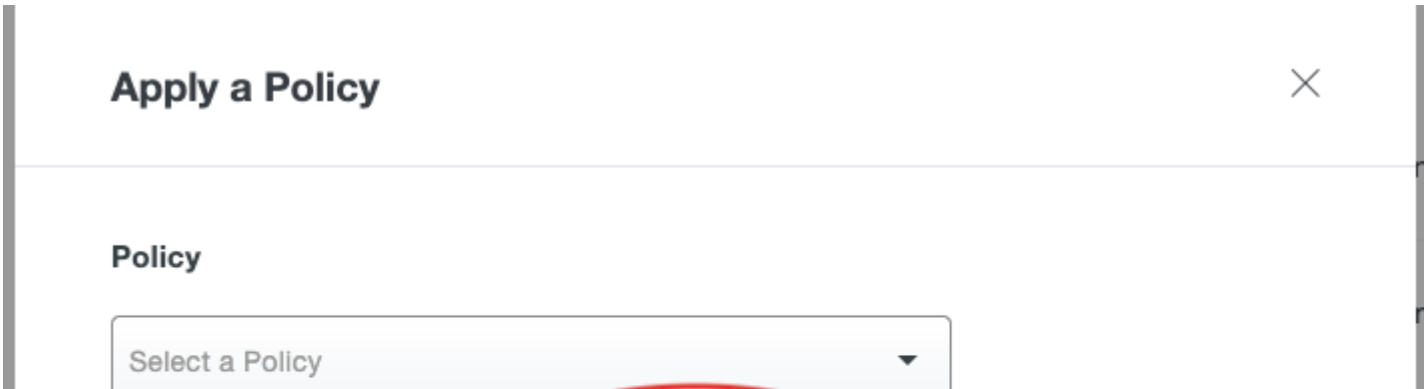
Connection Profile Name- The Tunnel-Group Name

Create Application Policy

Step 1: To create an **Application Policy** under **Policy** Select "**Apply a policy to all users**" then select "**Or, create a new Policy**" as shown in the image.

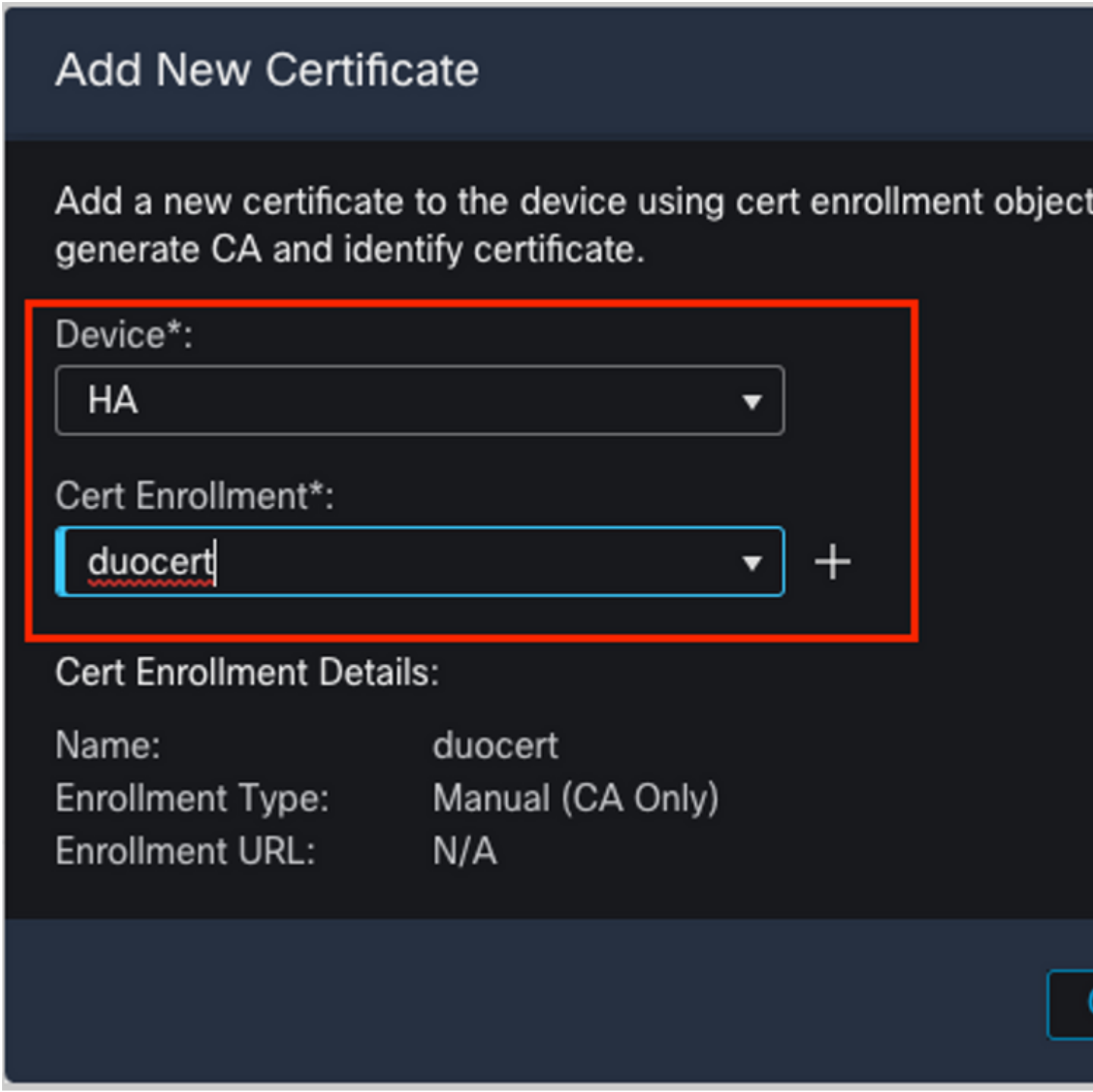


Example of creating an application policy



: "Skip Check for CA flag in basic constraints of the CA Certificate" can be used if needed. Use this option with caution.

Step 4: Select the newly created certificate enrollment object under "**Cert Enrollment***:" then select "**Add**" as shown in the image.



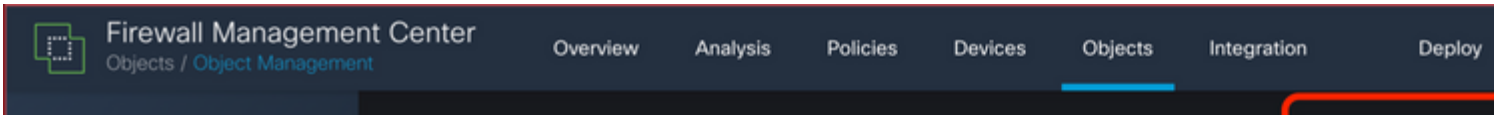
Screenshot of added certificate enrollment object and device

Note: Once added, the certificate deploys' immediately.

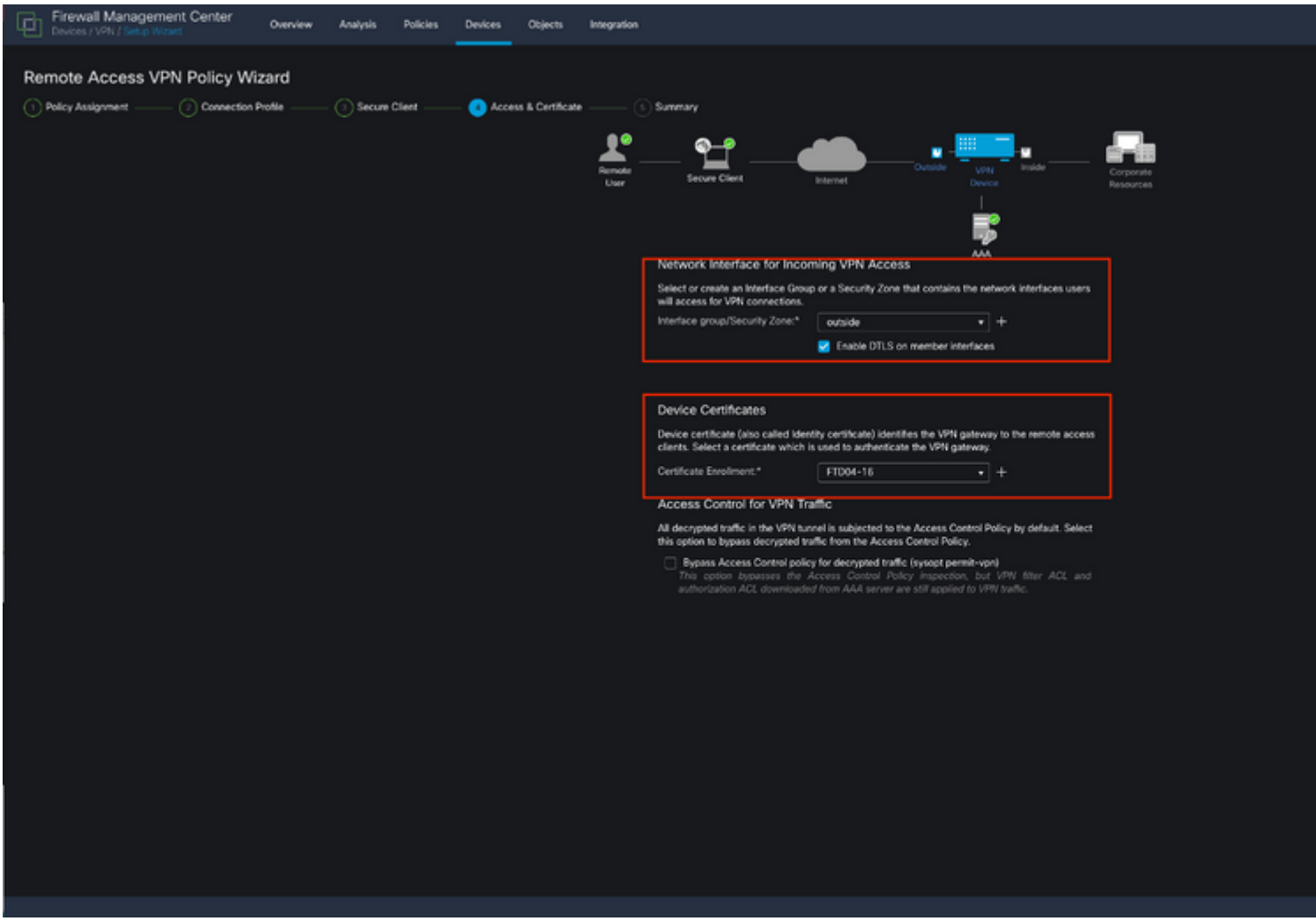
Creating the SAML SSO Object

This section describes the steps to configure SAML SSO via FMC. Before you begin, be sure to deploy all configurations.

Step 1. Navigate to **Objects > AAA Server > Single Sign-on Server** and select "**Add Single Sign-on Server**".



"**Certificate Enrollment:*":** Idenity certificate created during "Deploy Identity Certificate to the FTD" portion of this guide



Step 4 of RAVPN wizard

Tip: If this has not been created, add a new certificate enrollment object by selecting the "+."

Step 6. Summary

Verify all the information. If everything is correct, continue with '**Finish**."