Configure RADIUS External Authentication on DNA Center and ISE 3.1

Contents

Introduction

This document describes how to configure RADIUS External Authentication on Cisco DNA Center using a Cisco ISE server running 3.1 release.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Cisco DNA Center and Cisco ISE already integrated and integration is on Active Status.

Components Used

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

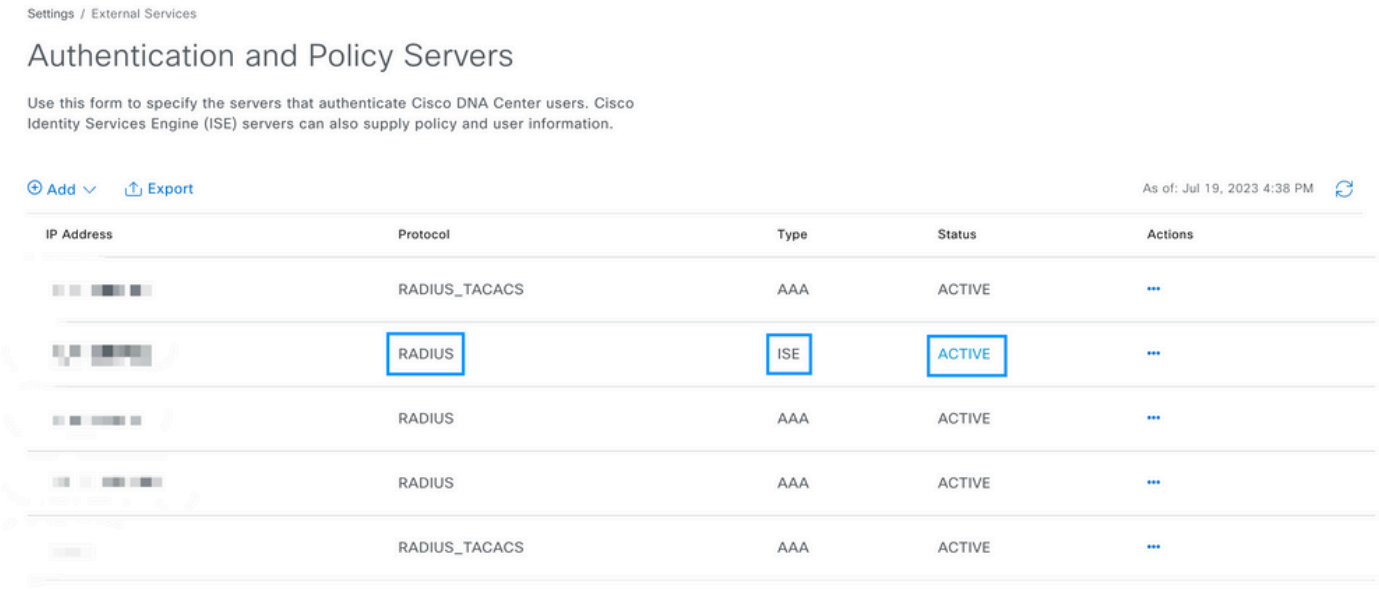
- Cisco DNA Center 2.3.5.x release.
- Cisco ISE 3.1release.

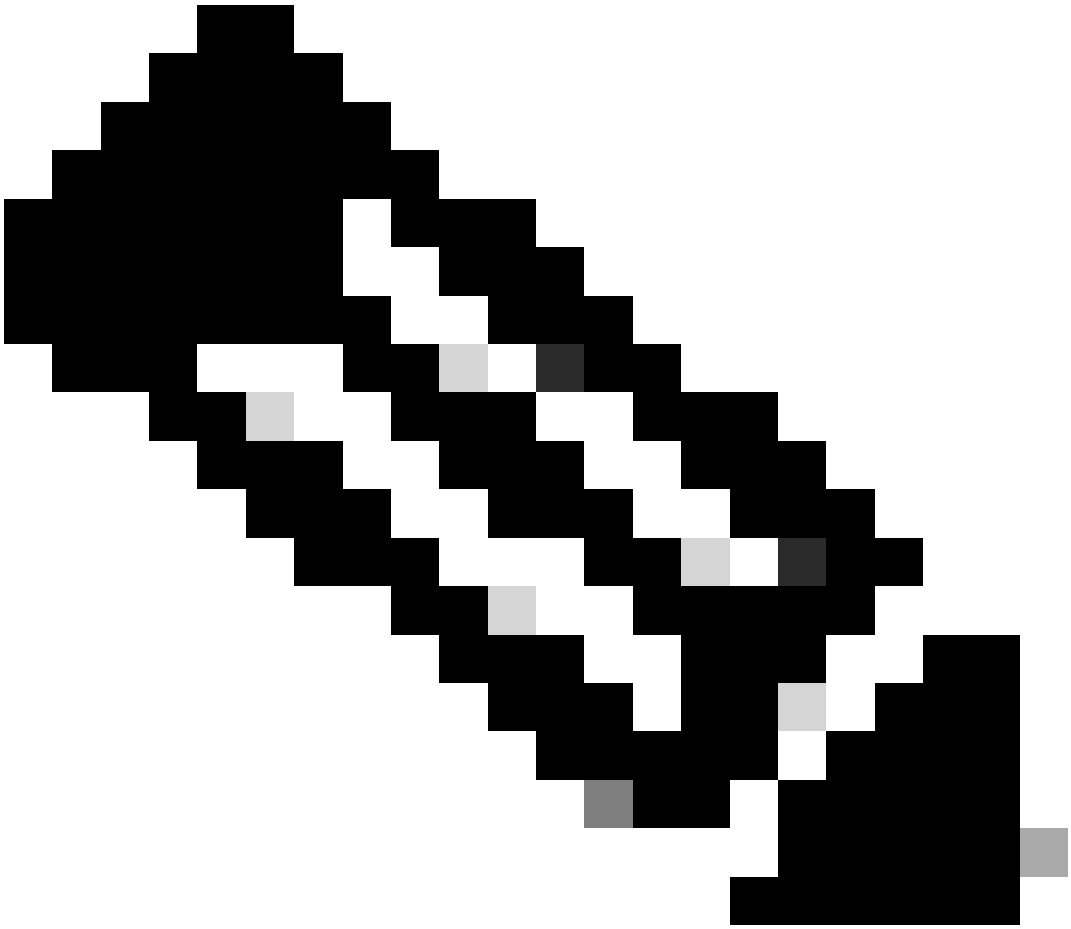
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Configure

Step 1. Login to the Cisco DNA Center GUI and navigate to**System > Settings > Authentication and Policy Servers.**

Verify **RADIUS** protocol is configured and the ISE status is **Active** for the **ISE Type** server.



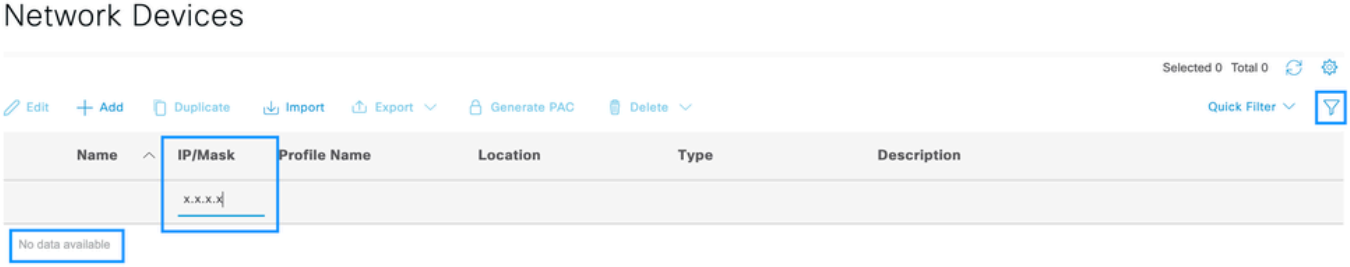


Note: **RADIUS_TACACS Protocol type** works for this document.

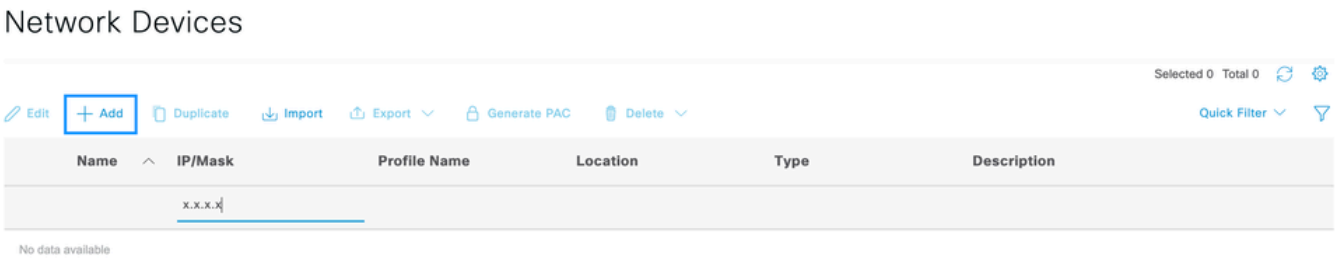
Warning: In case the ISE server is not on Active Status, you must need to fix the integration first.

Step 2. On ISE Server navigate to **Administration > Network Resources > Network Devices**, click on the **Filter** icon, write the **Cisco DNA Center IP Address** and confirm if an entry exist. If it does, proceed to the **Step 3.**

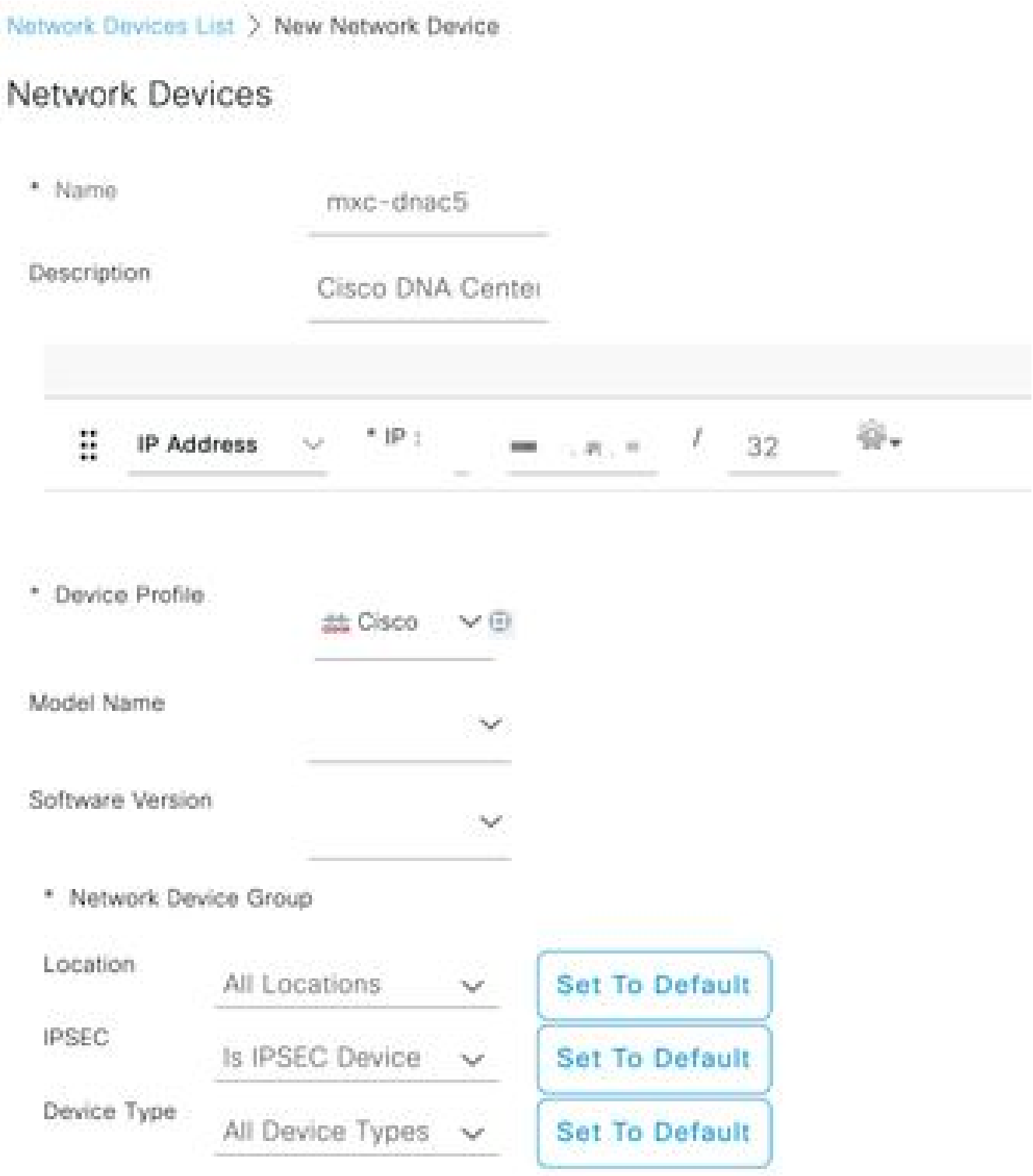
If the entry is missing, you must see the **No data available** message.



In this case, you must create a Network Device for Cisco DNA Center, so click on the **Add button**.



Configure the Name, Description and IP Address (or Addresses) from Cisco DNA Center, all other settings are set to Default values and are not needed for the purpose of this document.



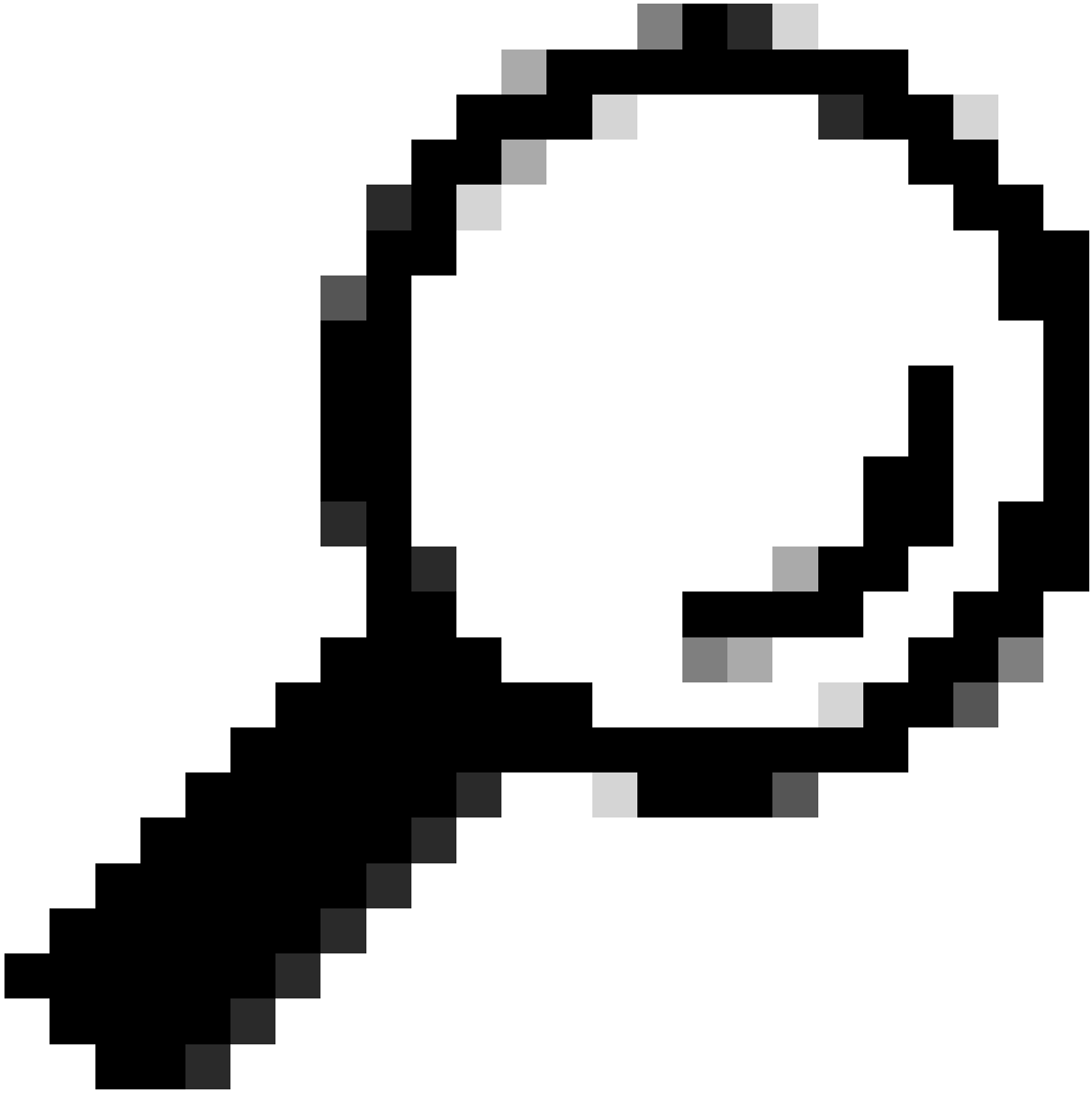
Scroll down and enable the **RADIUS Authentication Settings** by click on its check box and configure a **Shared Secret.**

RADIUS Authentication Settings

RADIUS UDP Settings

Protocol RADIUS

* Shared Secret ••••••••• Show

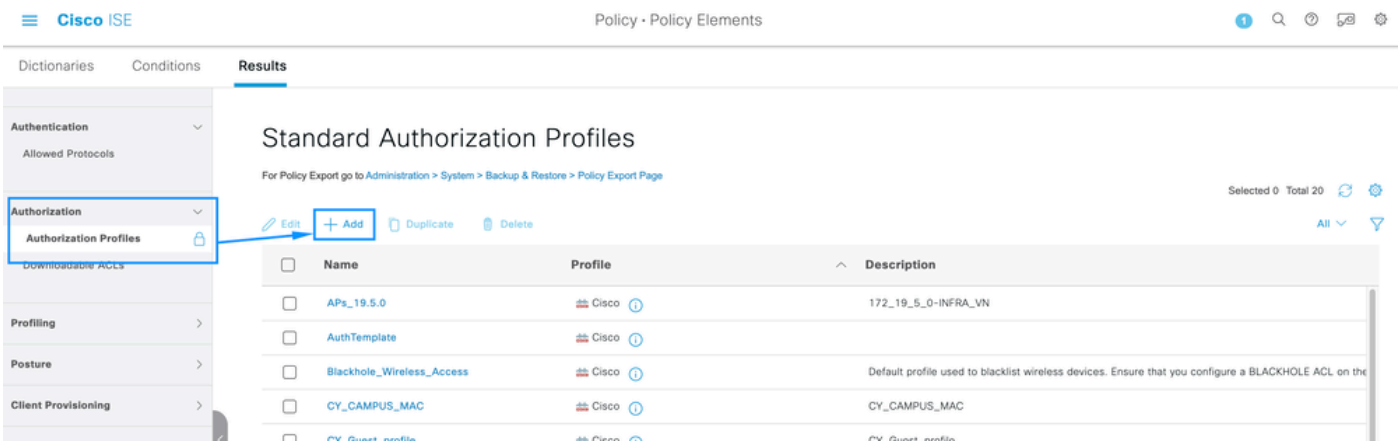


Tip: This **Shared Secret** is going to be needed later, so save it somewhere else.

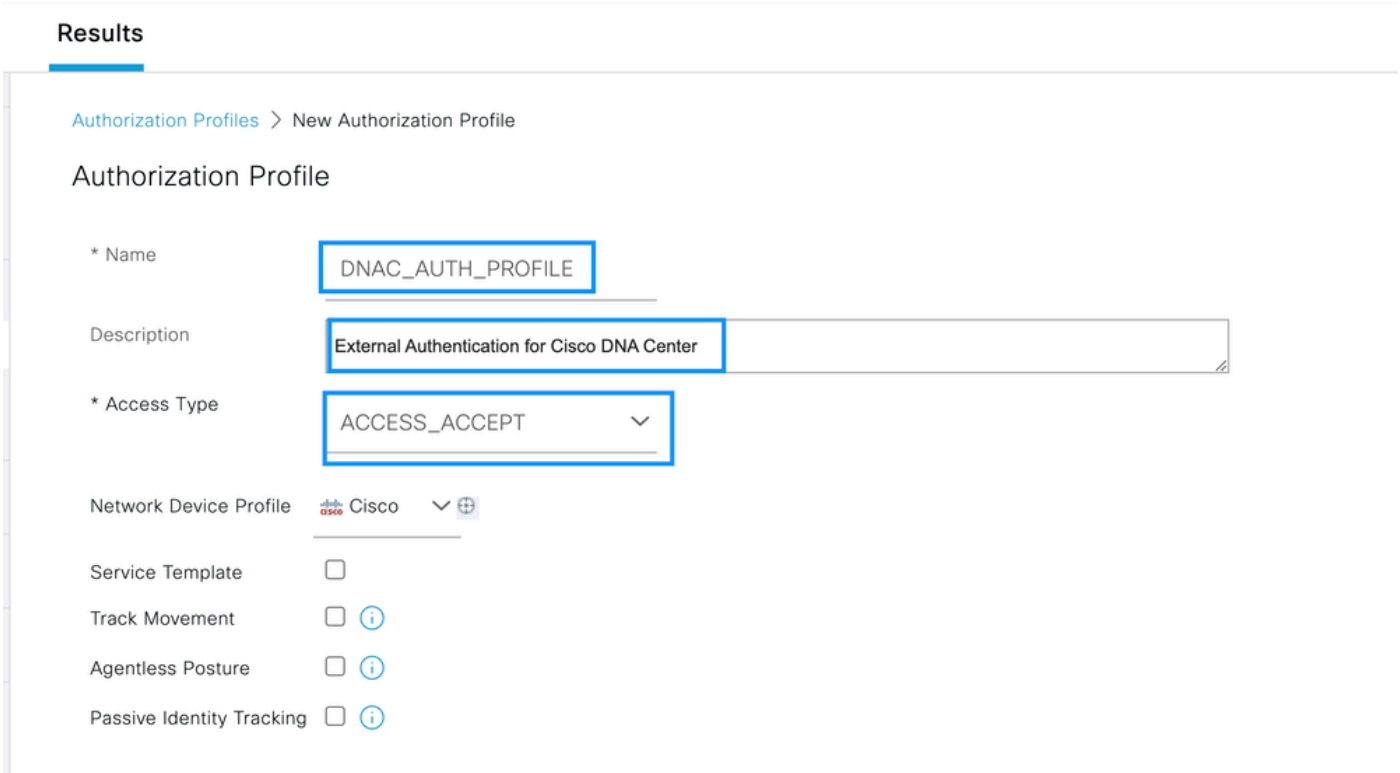
Only then, click on **Submit**.

Step 3. On ISE Server navigate to **Policy > Policy Elements > Results**, to create the **Authorization Profile.**

Make sure you are under **Authorization > Authorization Profiles**, then select the **Add** option.



Configure **Name**, add a **Description** just to keep a record of the new Profile and make sure that the **Access Type** is set to **ACCES_ACCEPT.**

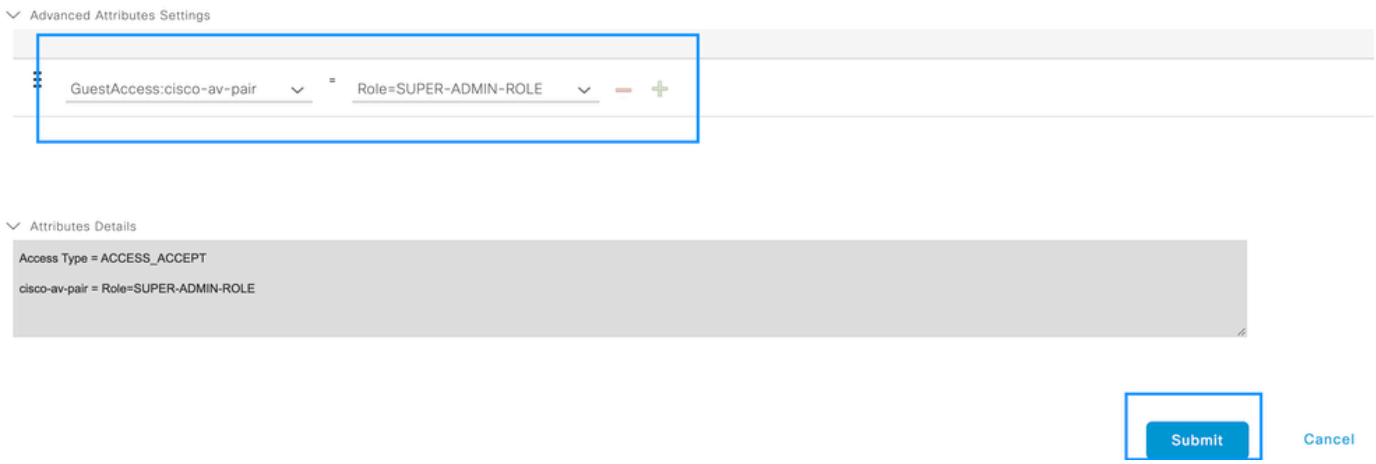


Scroll down and configure the **Advanced Attributes Settings.**

On the **left** column search for the **cisco-av-pair** option and select it.

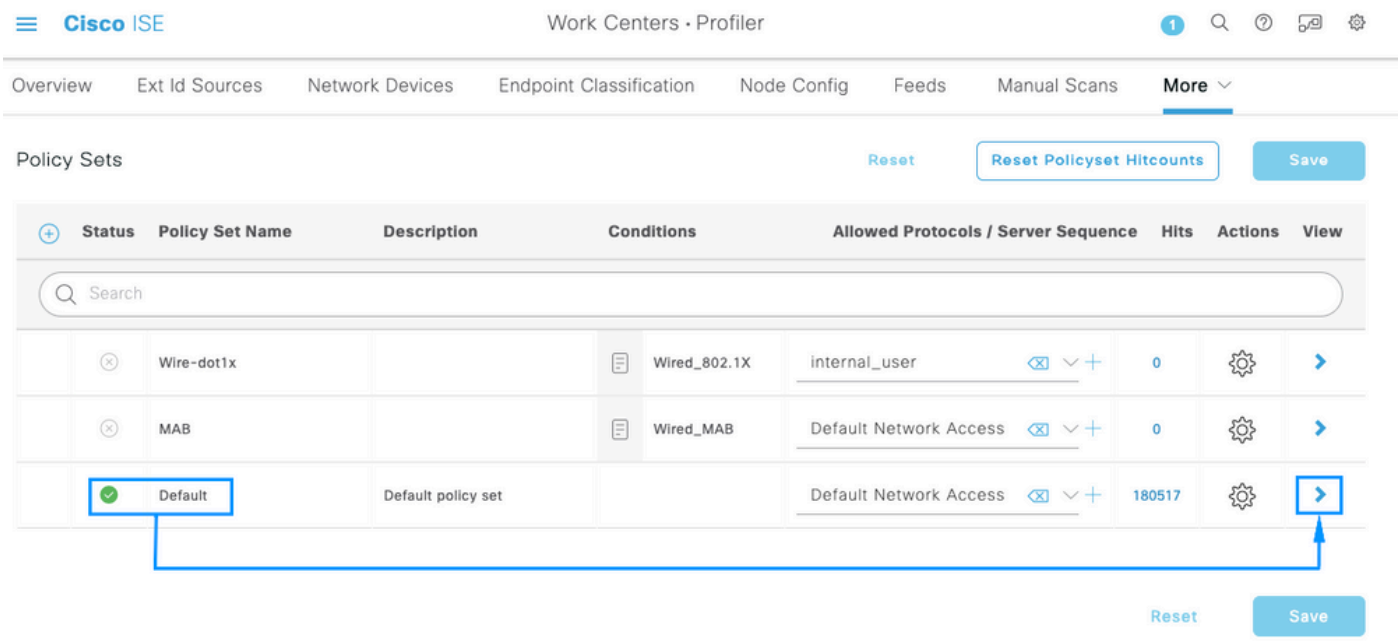
On the **right** column **manually** type **Role=SUPER-ADMIN-ROLE.**

Once it looks like the image below, click on **Submit**.

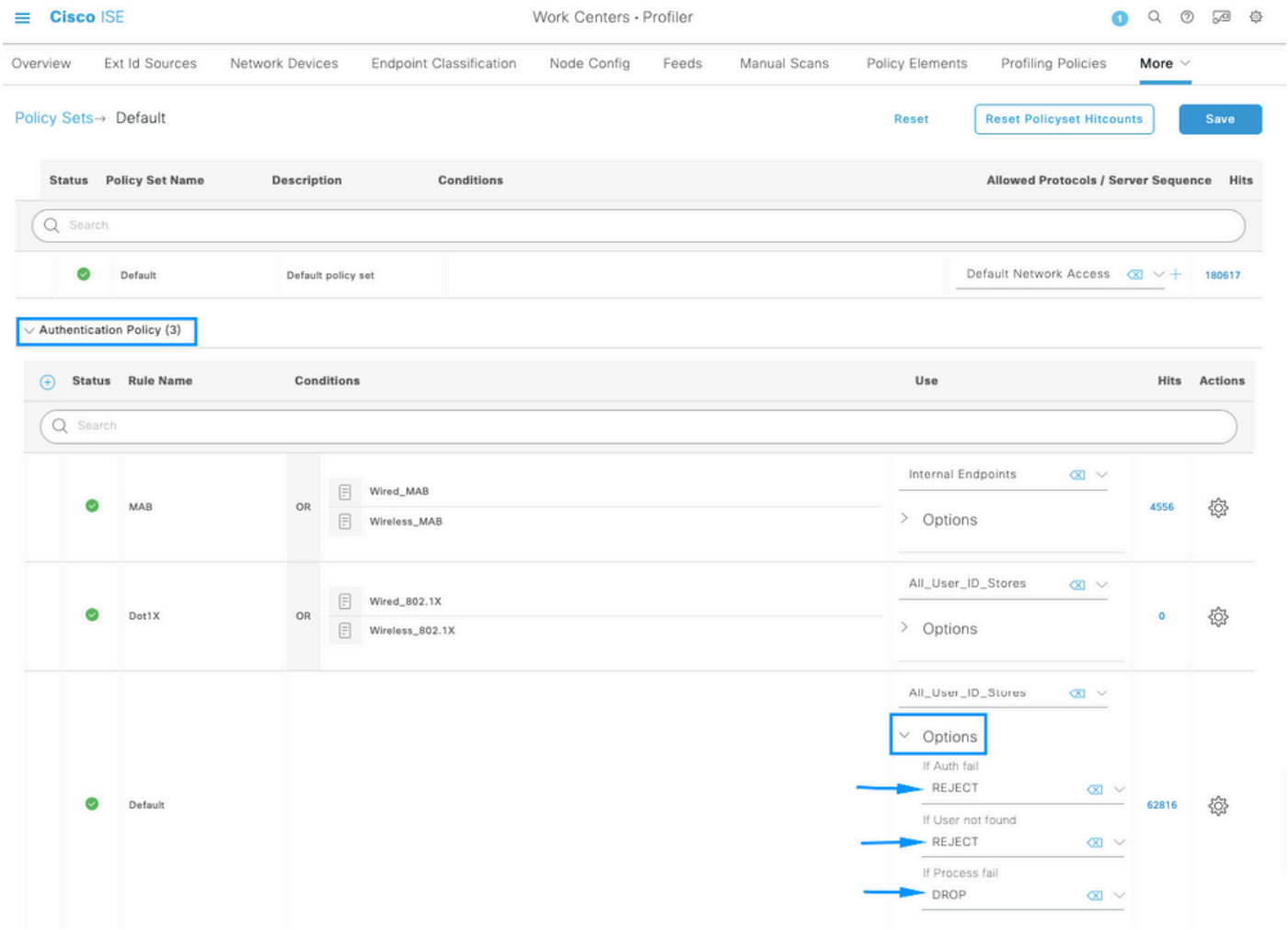


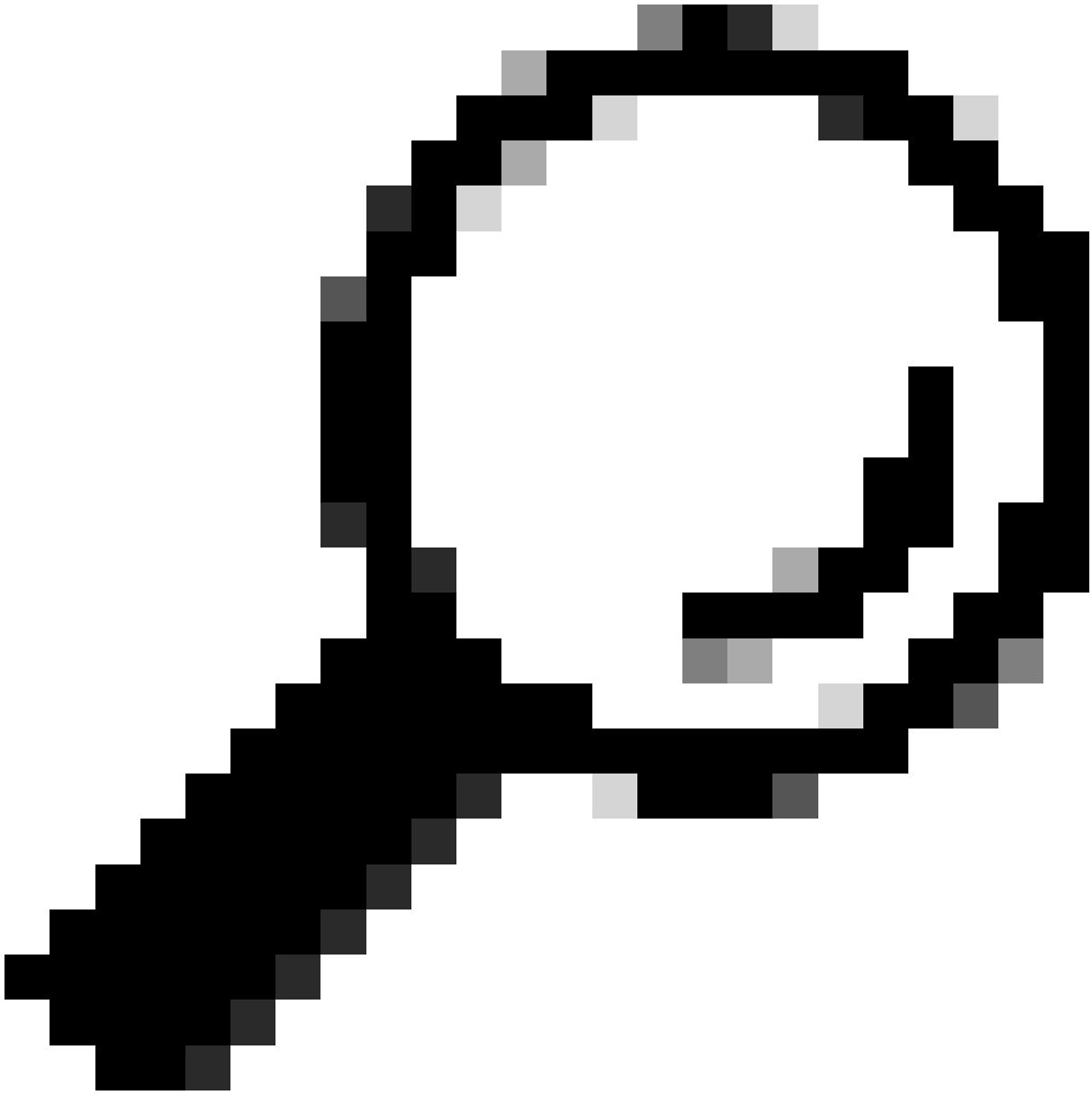
Step 4. On ISE Server navigate to **Work Centers > Profiler > Policy Sets**, to configure the **Authentication & Authorization Policy.**

Identify the **Default** policy and click on the **blue arrow** to configure it.



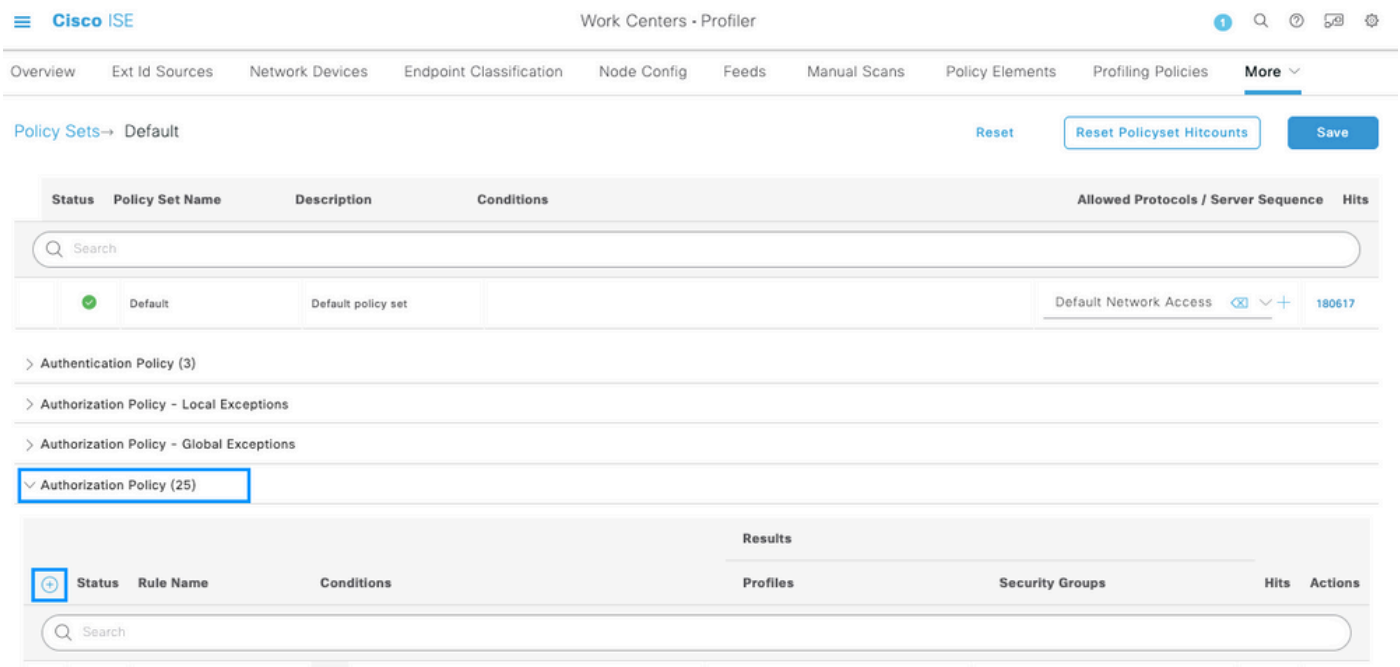
Inside the **Default Policy Set**, expand the **Authentication Policy** and under the **Default** section, expand the **Options** and make sure that they match the configuration bellow.


Cisco ISE
Work Centers · Profiler
Overview
Ext Id Sources
Network Devices
Endpoint Classification
Node Config
Feeds
Manual Scans
Policy Elements
Profiling Policies
More
Policy Sets→ Default
Reset
Reset Policyset Hitcounts
Save
Status
Policy Set Name
Description
Conditions
Allowed Protocols / Server Sequence
Hits
Search
Default
Default policy set
Default Network Access
180617
Authentication Policy (3)
Status
Rule Name
Conditions
Use
Hits
Actions
Search
MAB
OR
Wired_MAB
Wireless_MAB
Internal Endpoints
Options
4556
Dot1X
OR
Wired_802.1X
Wireless_802.1X
All_User_ID_Stores
Options
0
Default
All_User_ID_Stores
Options
If Auth fail
REJECT
If User not found
REJECT
If Process fail
DROP
62816

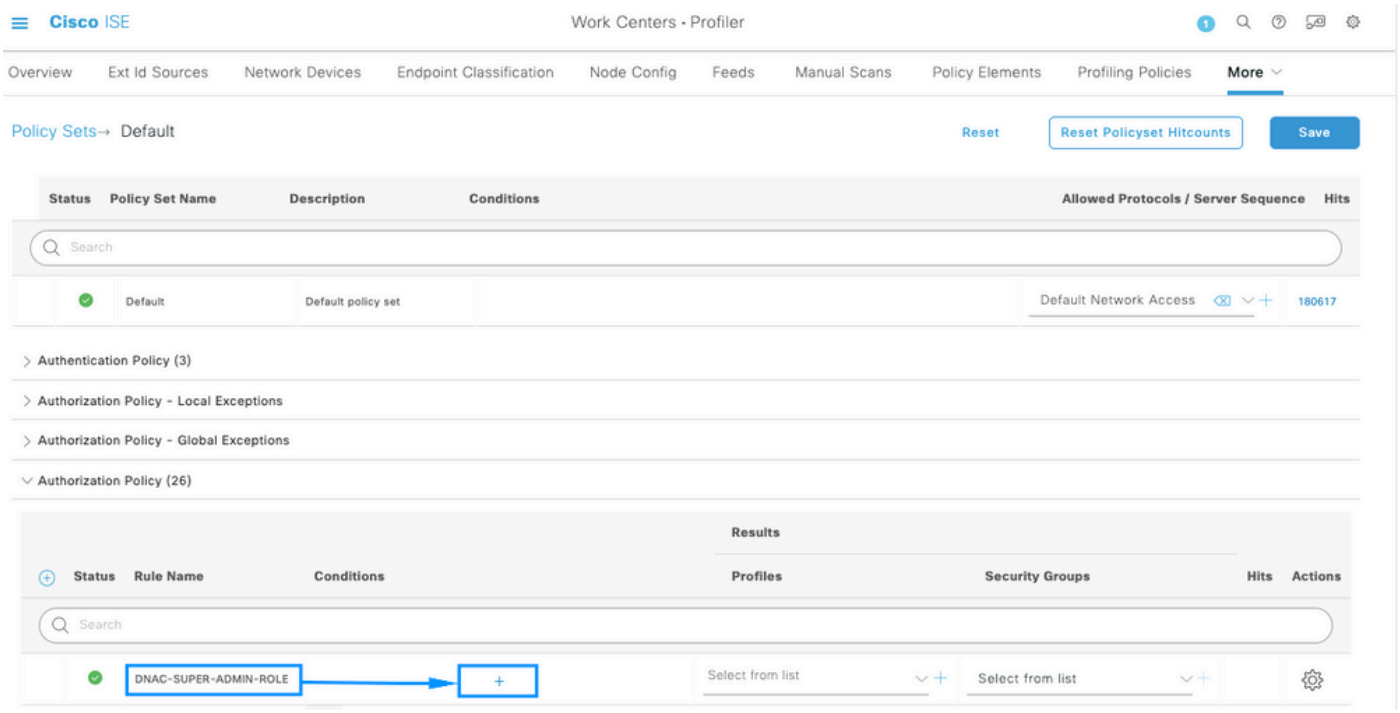


Tip: REJECT configured on the 3 options also works

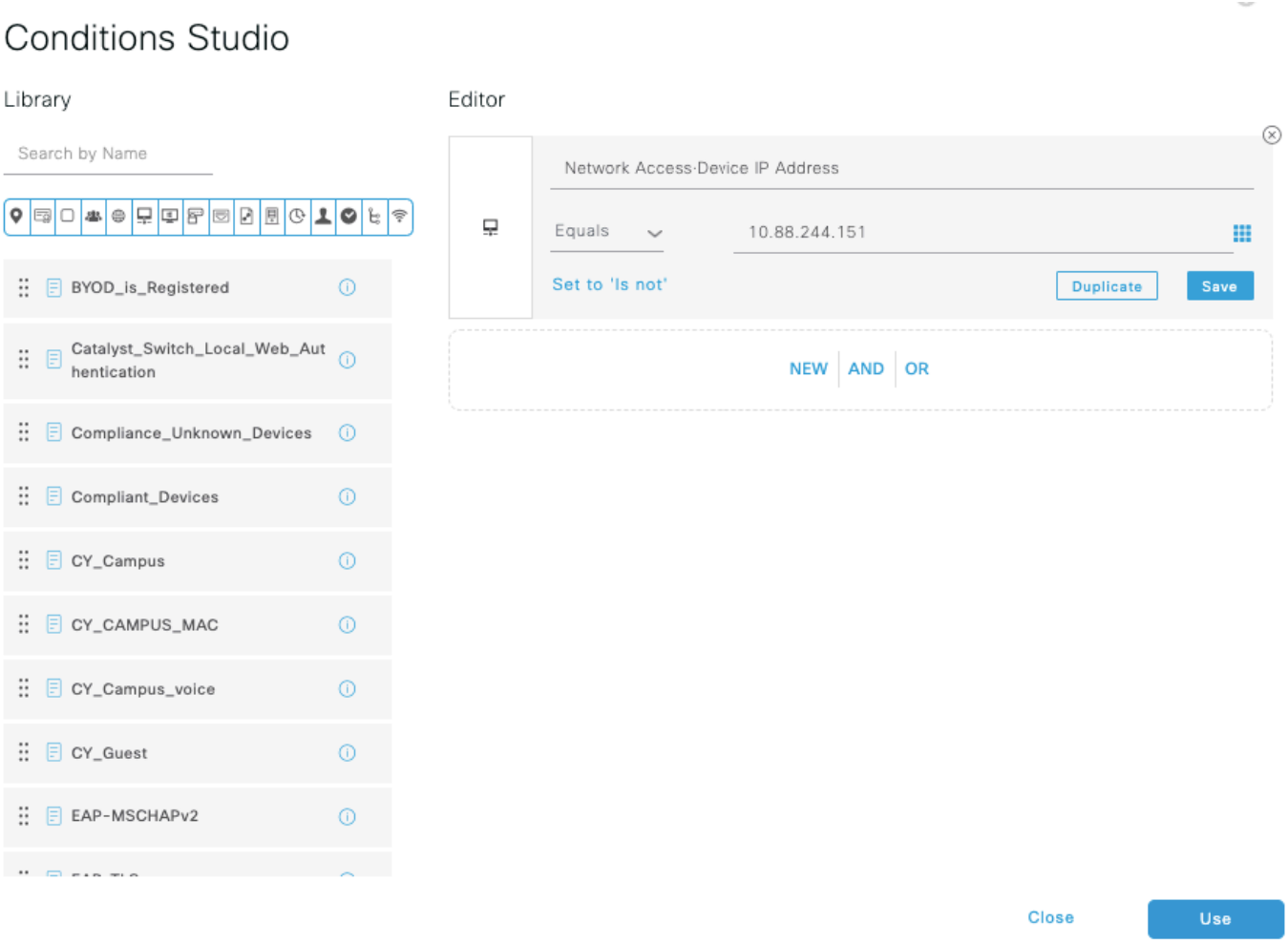
Inside the **Default Policy Set**, expand the **Authorization Policy** and select the **Add** icon to create a new **Authorization Condition**.



Configure a **Rule Name**, and click on the Add icon to configure the **Condition**.

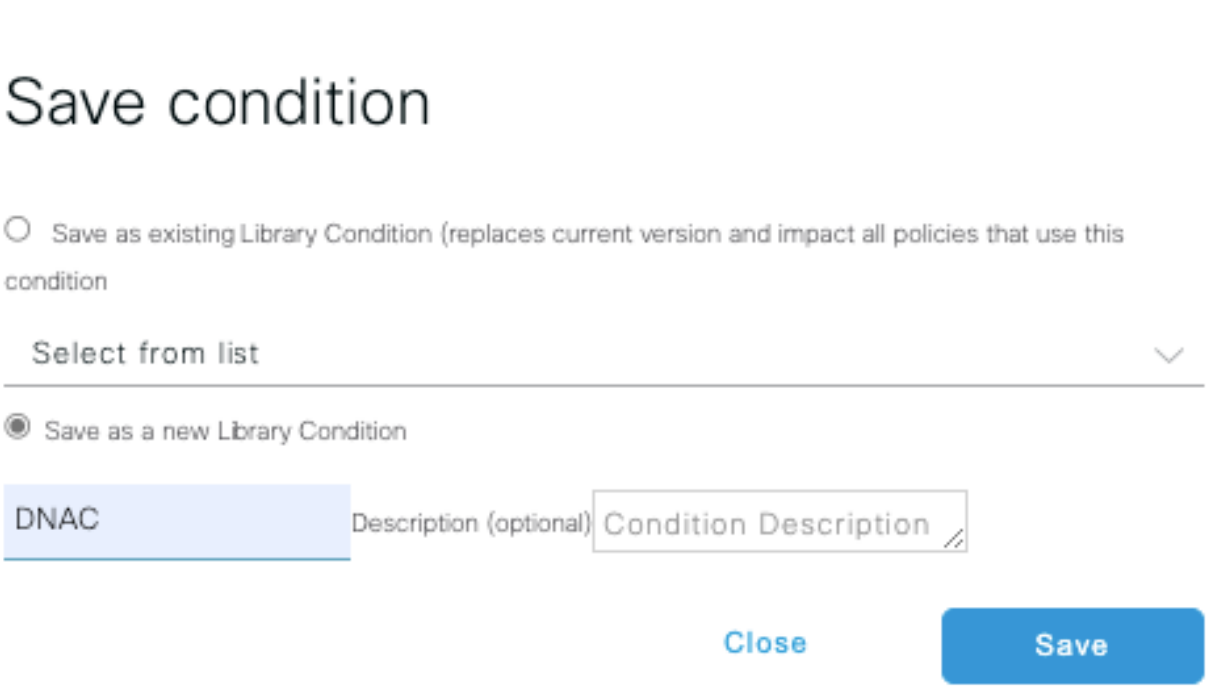


As part of the **Condition**, associate it to the **Network Device IP Address** configured on **Step 2**.

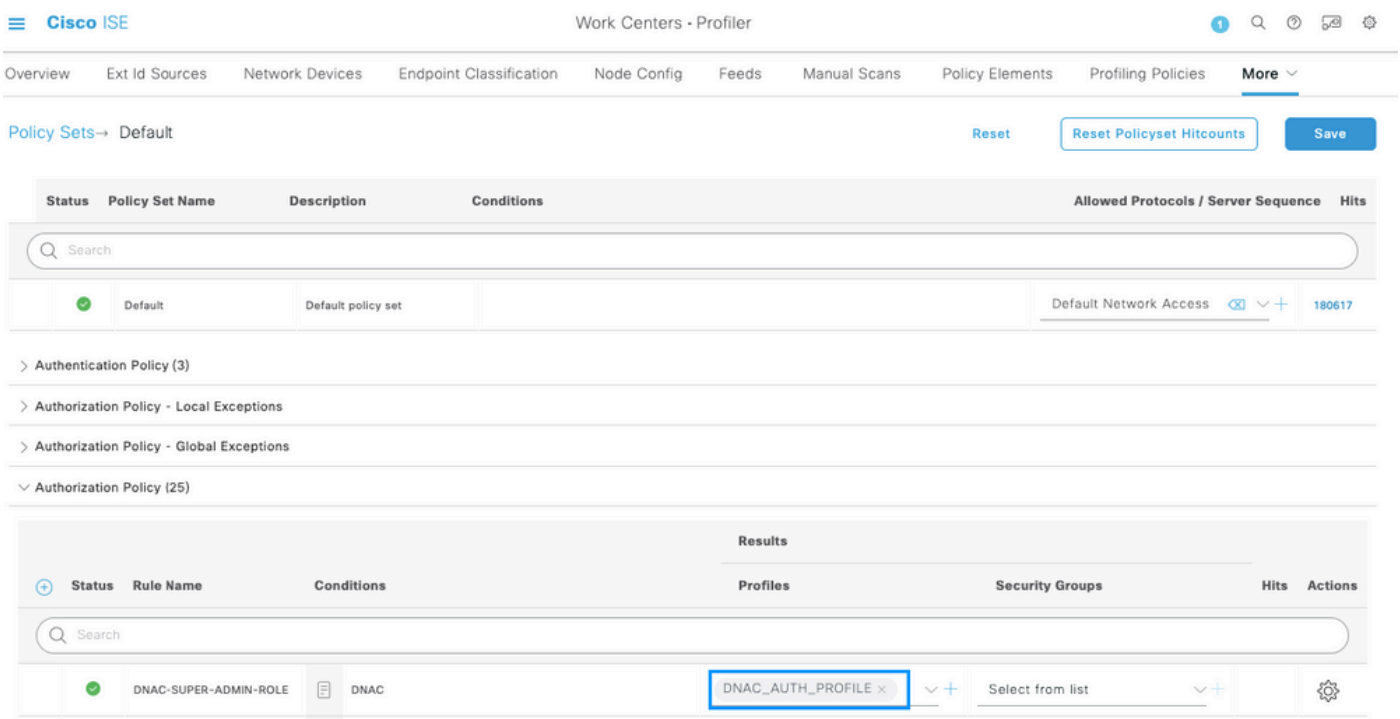


Click on **Save.**

Save it as a new **Library Condition**, and named it as you wish, on this case it is named as DNAC.



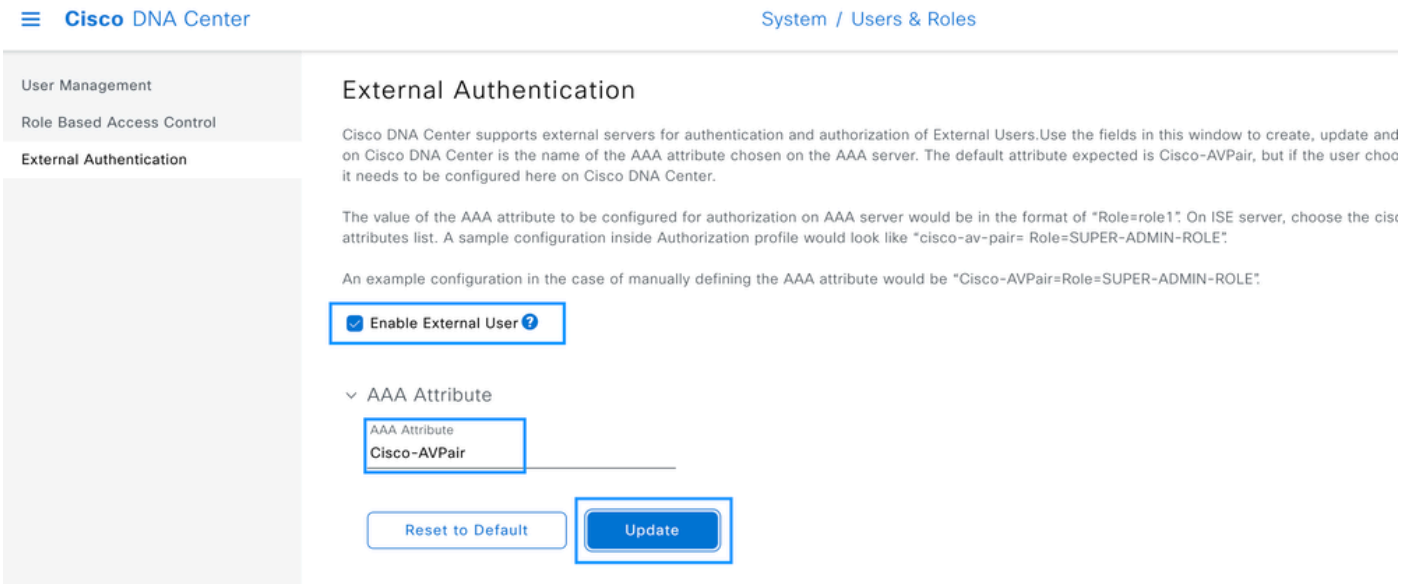
Finally, configure the **Profile** created on Step 3.

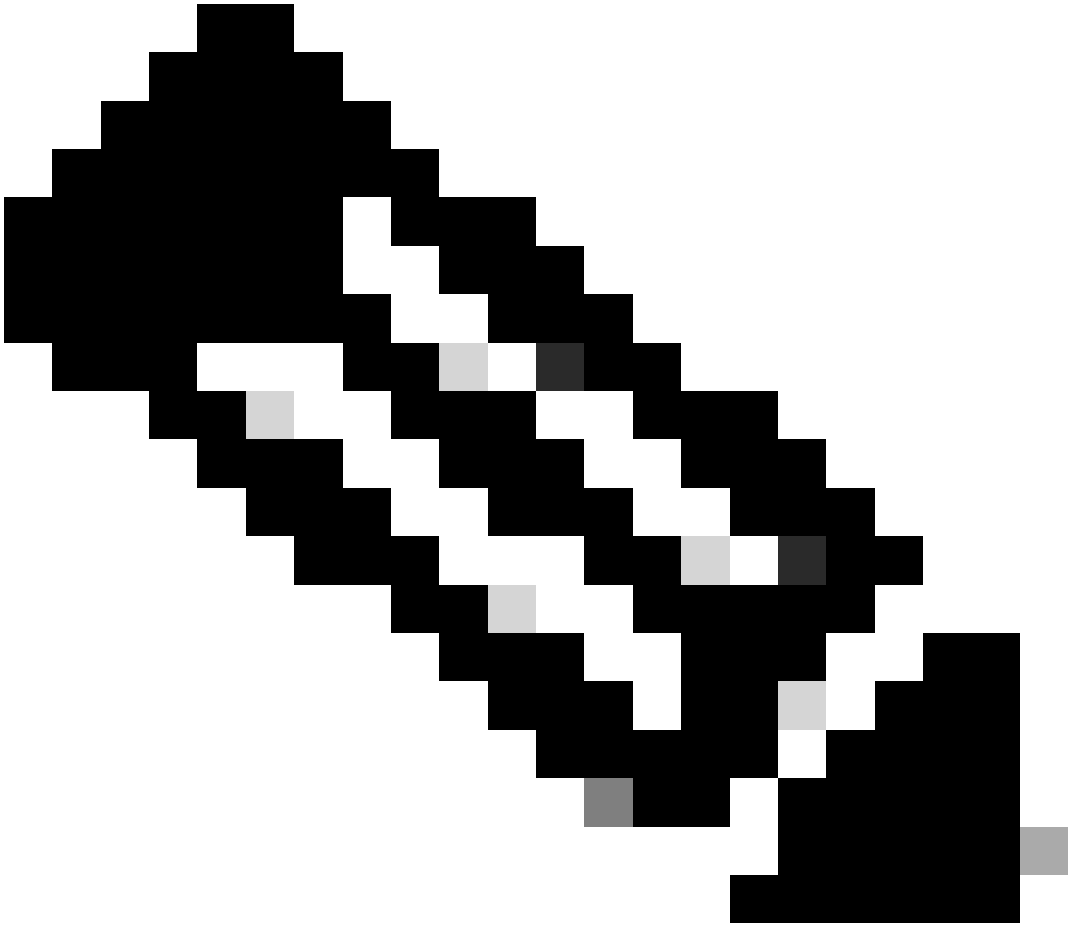


Click on **Save**.

Step 5. Login to the Cisco DNA Center GUI and navigate to**System > Users & Roles > External Authentication.**

Click on the **Enable External User** option and set the **AAA Attribute** as **Cisco-AVPair.**

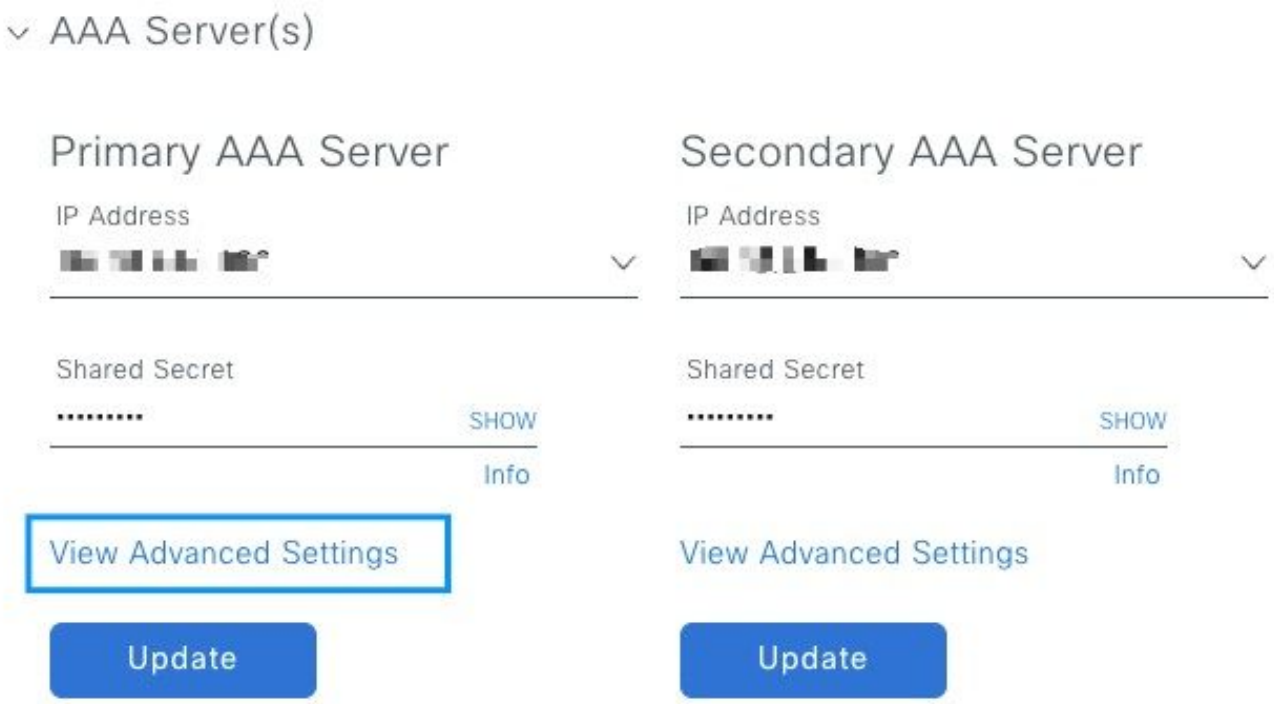




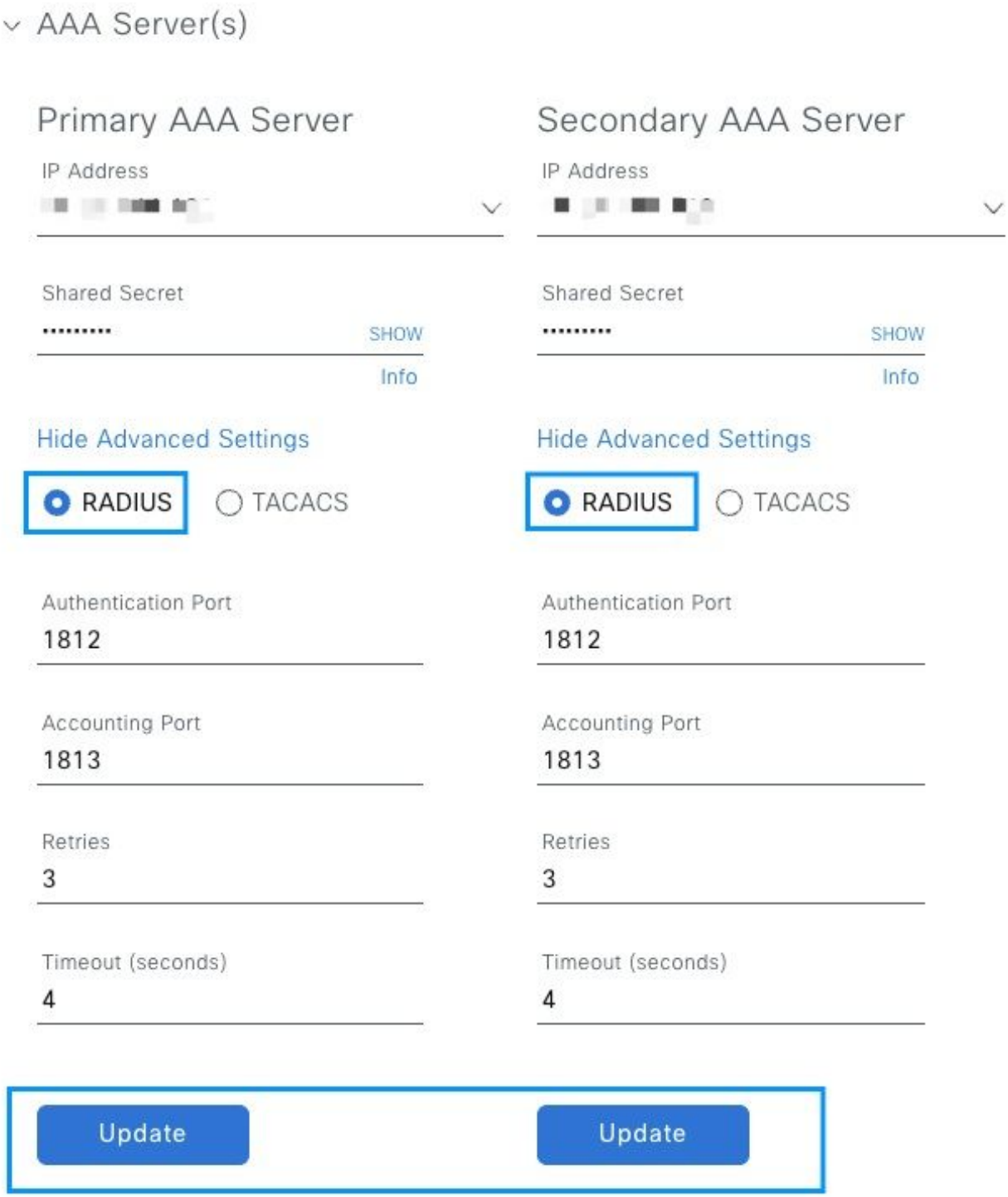
Note: ISE Server use the attribute **Cisco-AVPair** on the backend, so the configuration on **Step 3** is valid.

Scroll down to see the **AAA Server(s)** configuration section. Configure the **IP Address** from ISE Server on **Step 1** and the Shared Secret configured on Step 3.

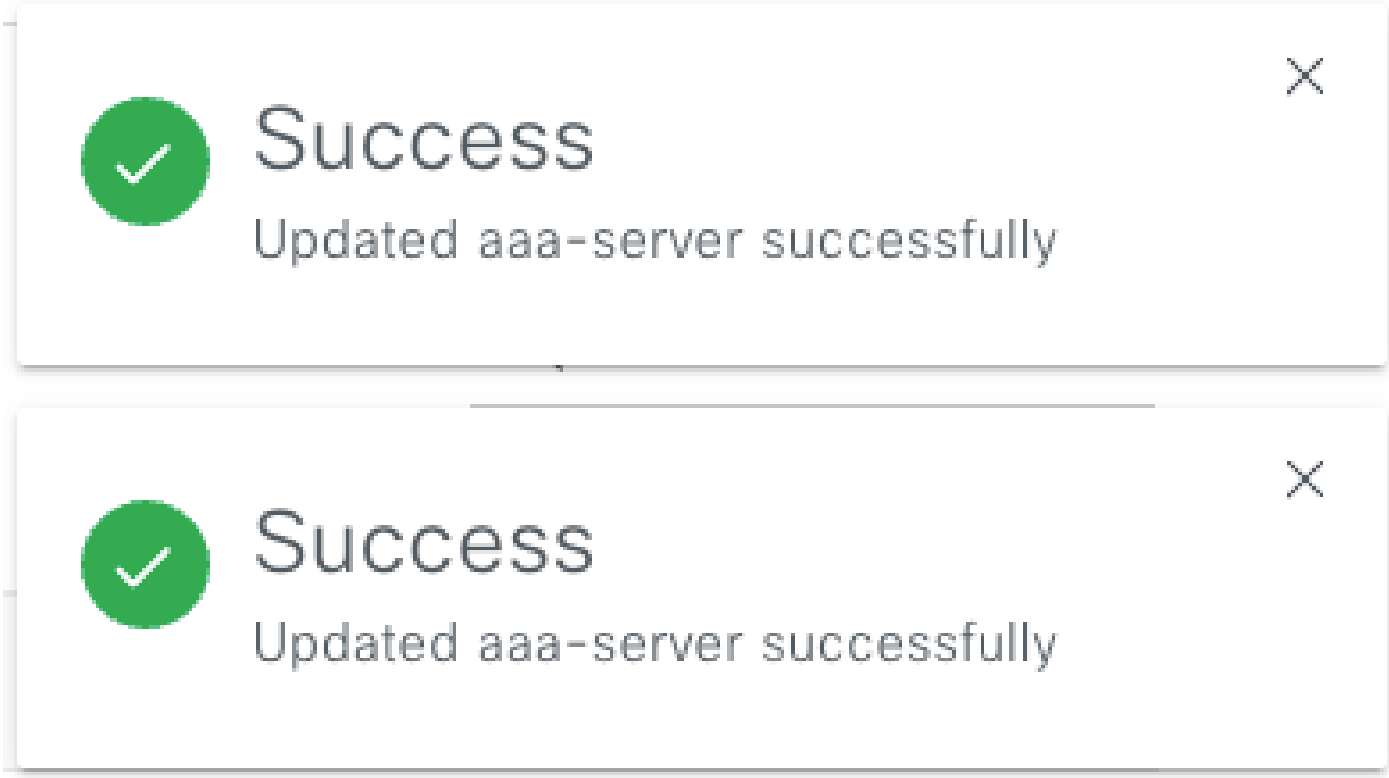
Then click on **View Advanced Settings.**



Verify that RADIUS option is selected and click the Update button on both Servers.

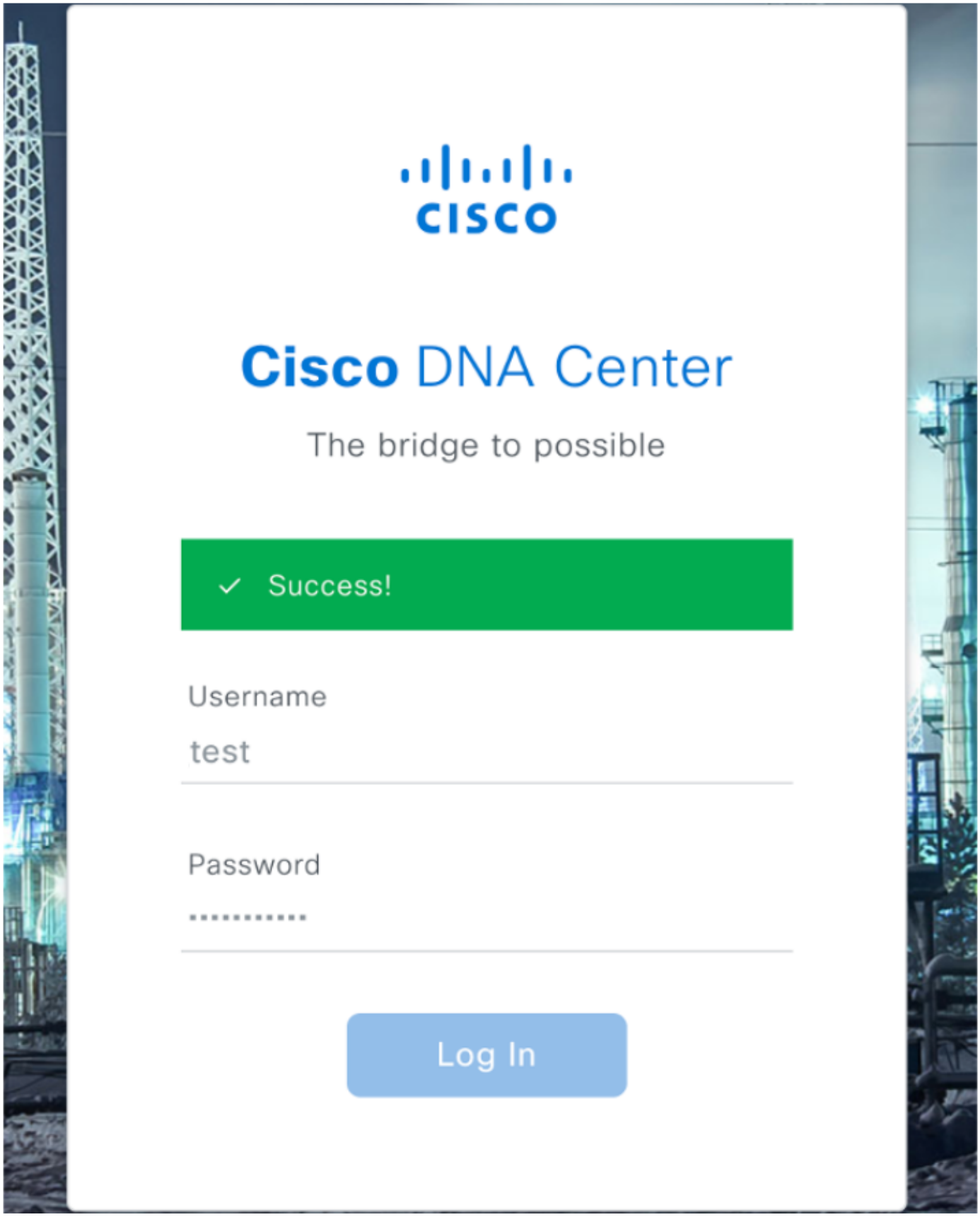


You must see a Success message for each.

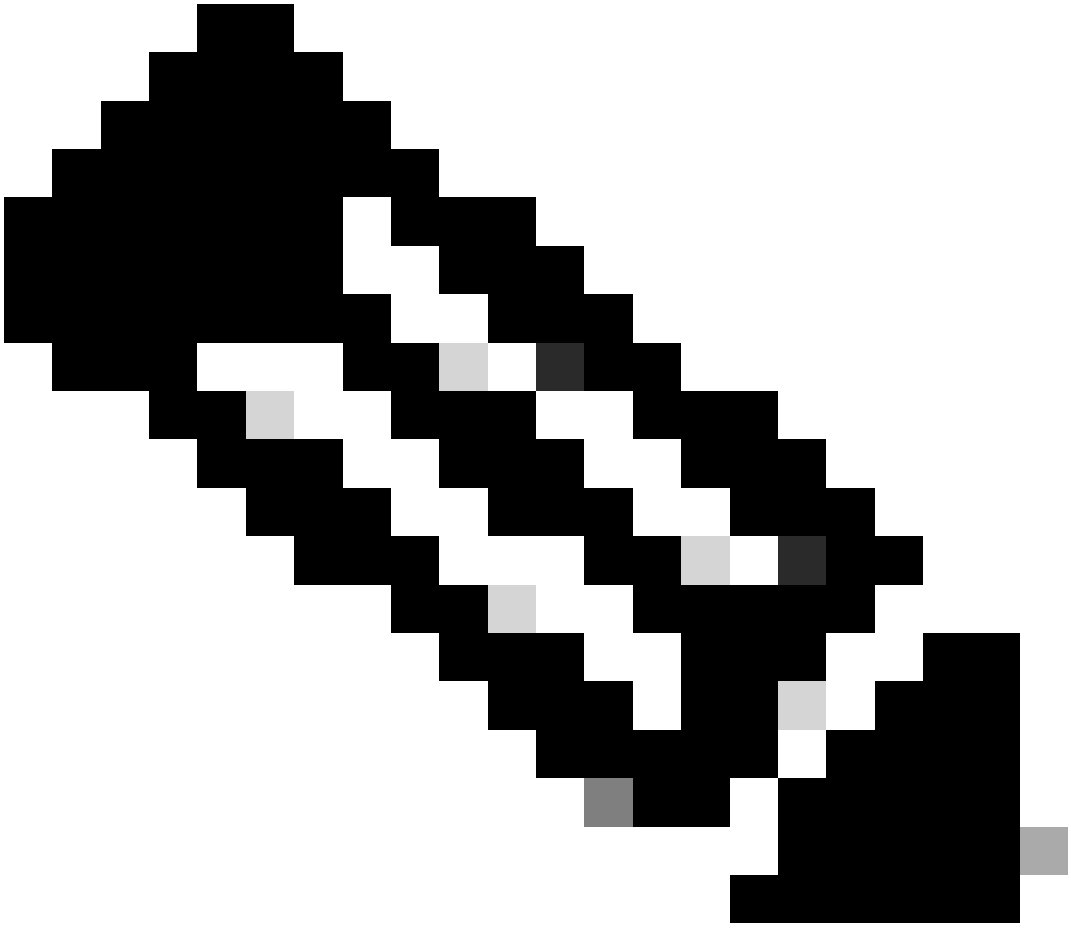


Verify

Load the Cisco DNA Center GUI and Log in with a User from ISE identities.

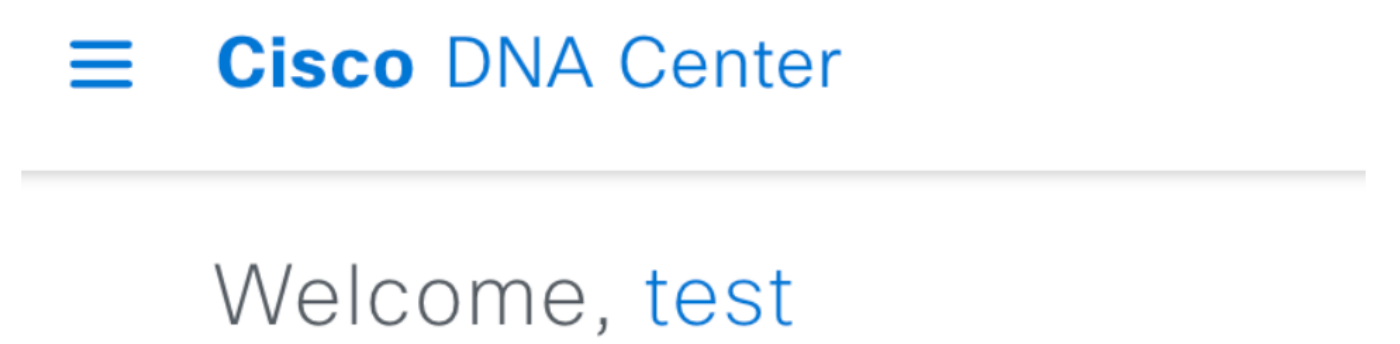


DNA Center Log In



Note: Any user on ISE identities is able to login now. You can add more granularity to the Authentication rules on ISE Server.

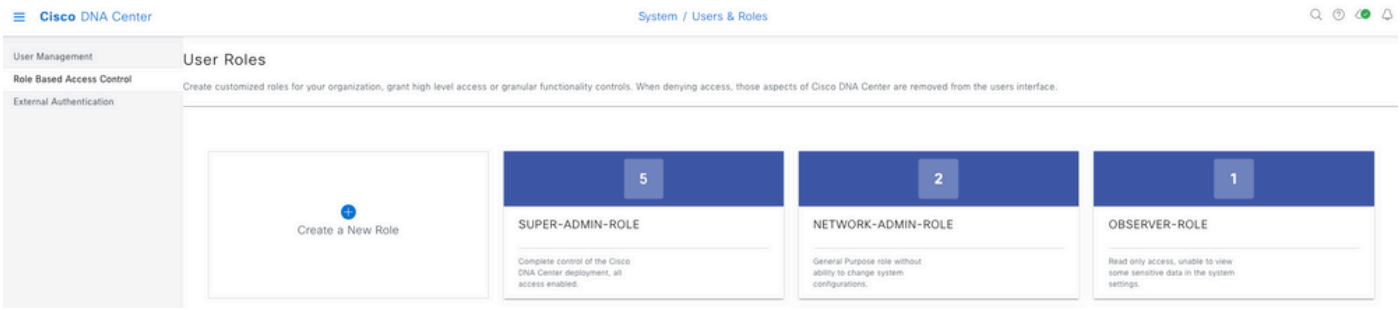
After the login Succeed the Username is displayed on the Cisco DNA Center GUI



Welcome Screen

More Roles

You can repeat these steps for every role on Cisco DNA Center, as default we have: **SUPER-ADMIN-ROLE**, **NETWORK-ADMIN-ROLE** and **OBSERVER-ROLE.**



On this document we use the **SUPER-ADMIN-ROLE** role example, nevertheless, you can configure one Authorization Profile on ISE for every role on Cisco DNA Center, the only consideration is that the Role configured on Step 3 needs to match exactly (case sensitive) the Role name on Cisco DNA Center.