Configure Direct Attached Storage in Intersight Managed Mode Domain.

Contents

Introduction

This document describes the configuration of Direct Attached Storage (DAS) for Intersight Managed Mode (IMM) Domains.

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- UCS and IMM knowledge
- Storage Area Networking (SAN)
- Fiber Channel Concepts

Components Used

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

- UCS-FI-6454, Firmware 4.2(1l)
- UCSX-210C-M6, Firmware 4.2(1l)

✏️ **Note**: The minimum supported Firmware version for Intersight Managed Mode is 4.1(3).

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

Ensure that you have these requirements before you attempt this configuration:

- Virtual Storage Area Network (VSAN) ID
- Fibre Channel Over Ethernet (FCOE) VLAN ID
- World Wide Port Name (WWPN) from initiators and targets
- Logical Unit Number (LUN) ID

Server and Domain profiles configuration, the Policies and Pools required are:

- VSAN Policy
- Port Policy
- Boot Order Policy
- SAN Connectivity Policy
- WWPN Pool
- Fibre Channel Zone Policy

Direct Attached Storage (DAS)

IMM-managed servers have the ability to build a Zone database just like UCSM. With DAS there is no need to have a Fiber Switch to push the *zoning*. This example uses this topology:
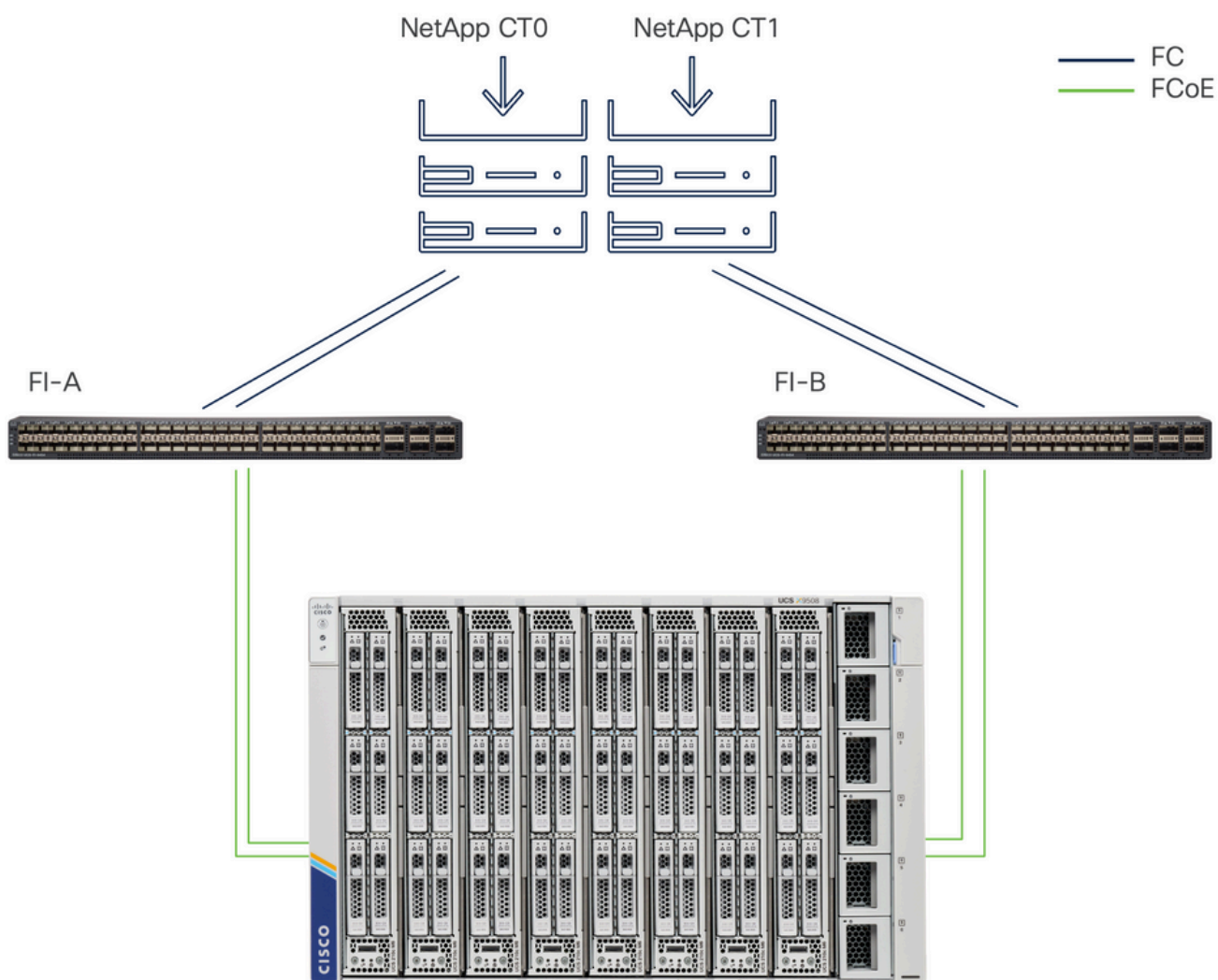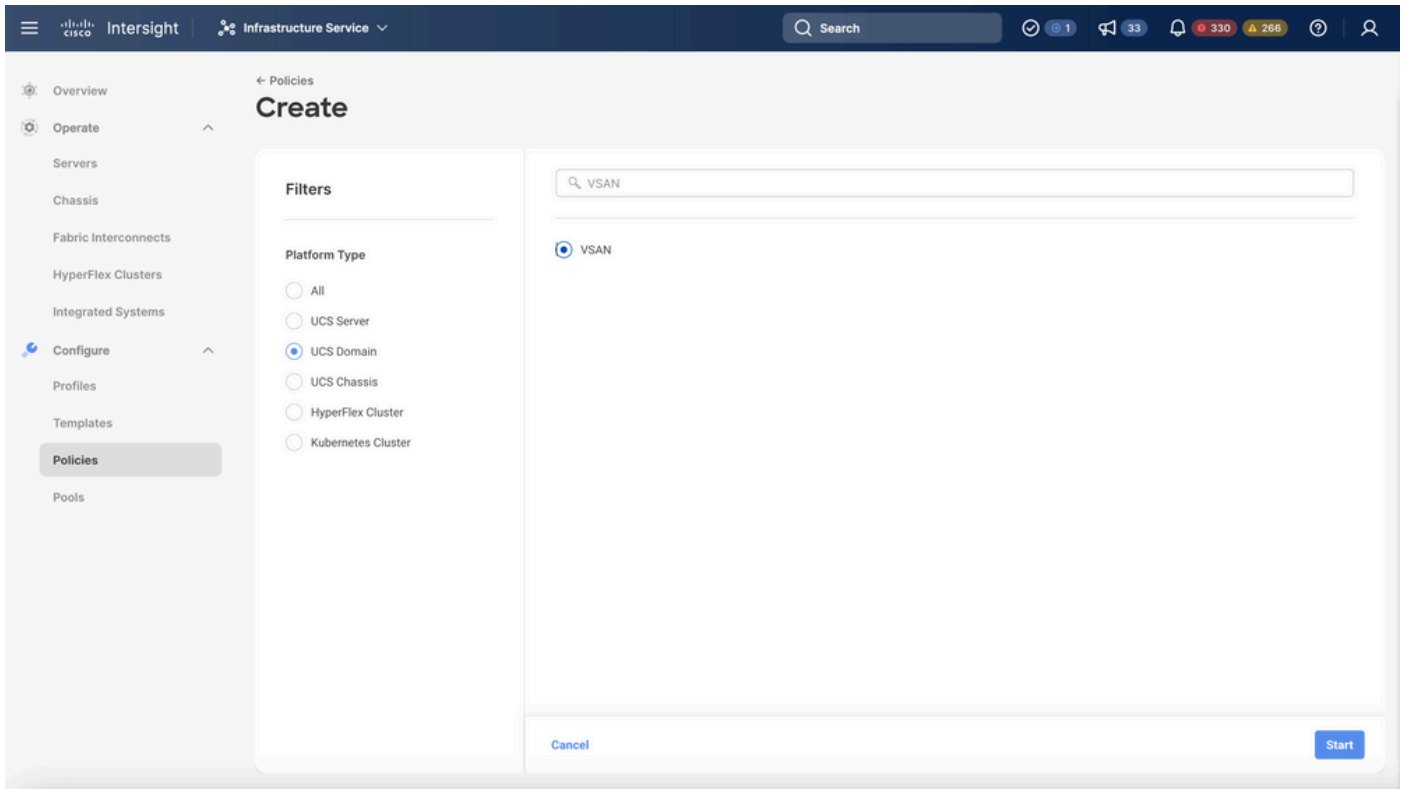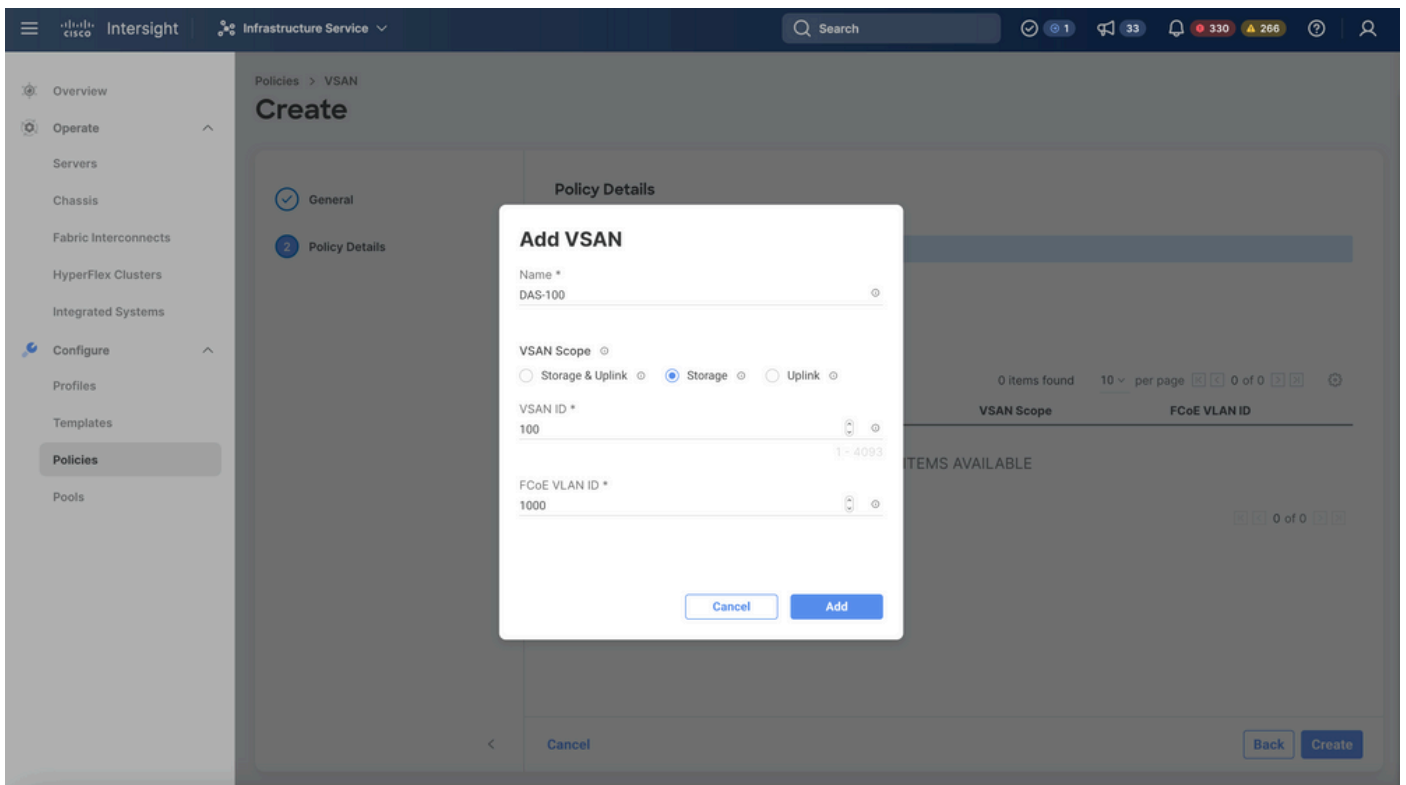
Topology

Configure

1. UCS Domain Profile

Step 1. Configure VSAN Policy.

- Navigate to **Policies** > **Create Policy** and select **VSAN**.

Select UCS Domain Profile and then VSAN

- **Name** the policy and add the required VSAN(s) to it. This example uses VSAN-A **100** and FCOE VLAN **1000**.
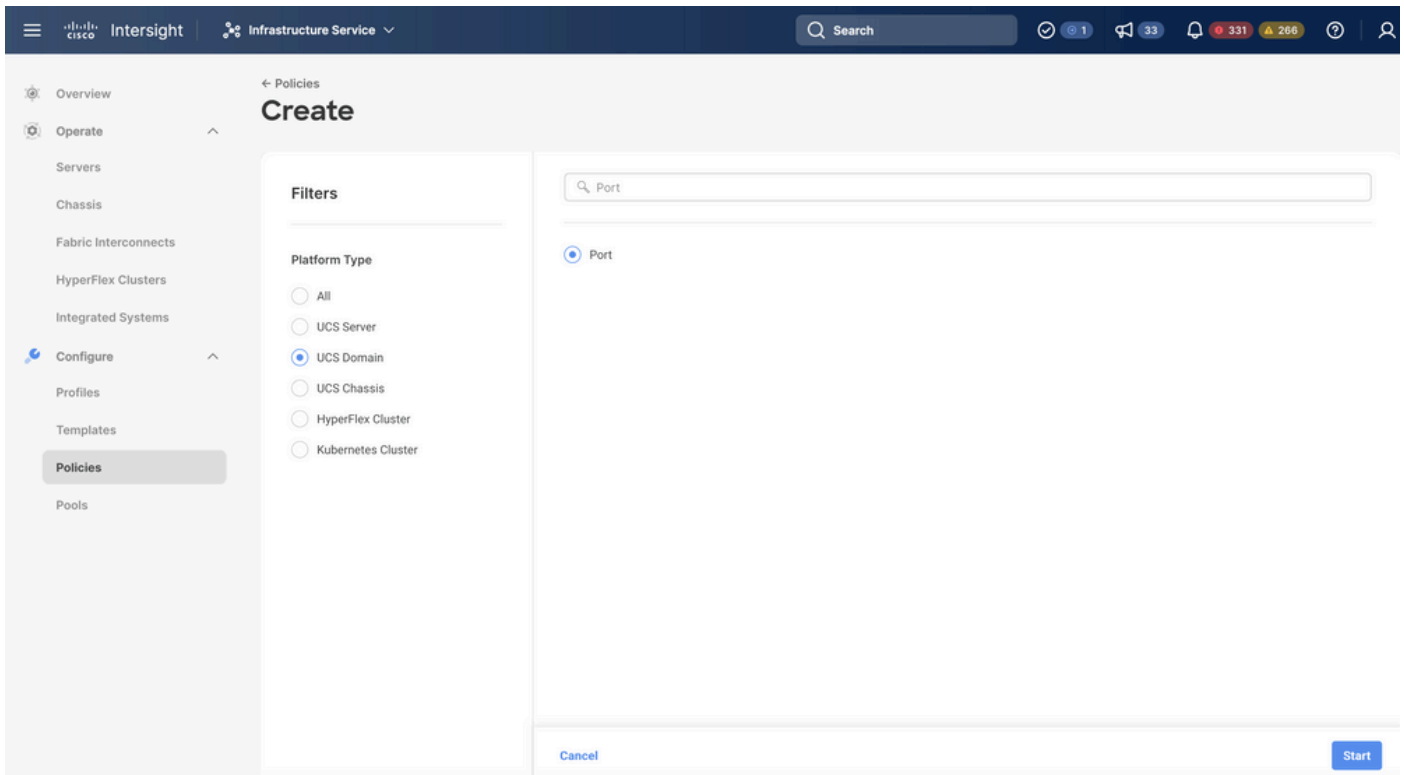- Select **Storage** for VSAN Scope.

Storage VSAN is required for DAS configuration.

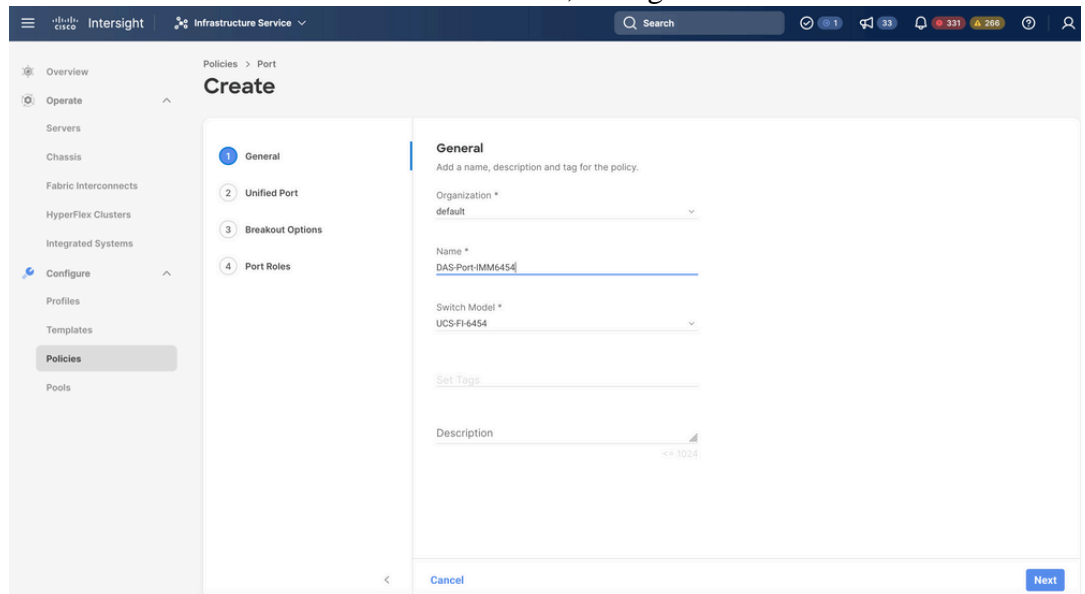✎ **Note**: VSAN scope **Storage** is required for DAS networks.

Step 1.2 Configure Port Policy.

- Navigate to **Policies** > **Create Policy** and select **Port**.

Create Port Policy

- Enter a **Name** and select the **Switch model** from the list. Then, configure Unified Ports or Breakout

ports (if required).

Port Policy Name

- In Port Roles **Select** the ports required for FC Storage and click on **Configure**.

Port Role

🔍 **Tip**: If required configure additional interfaces as Servers ports or Ethernet Uplink ports in this step.


- Select the Role as **FC Storage**, **Admin speed**, and desired **VSAN**.


Port Role

Step 1.3 Configure Switch Control Policy

In a UCS Domain, The FC switching mode can be End Host or Switch. Switch mode allows the Fabric Interconnect to connect directly to a storage device. Fibre Channel switch mode is useful in models where there is no SAN (for example, a single Cisco UCS system connected directly to storage). The Switch Control Policy configures FC switching mode for an IMM Domain.

- Navigate to **Policies** > **Create Policy** and select **Switch Control**.
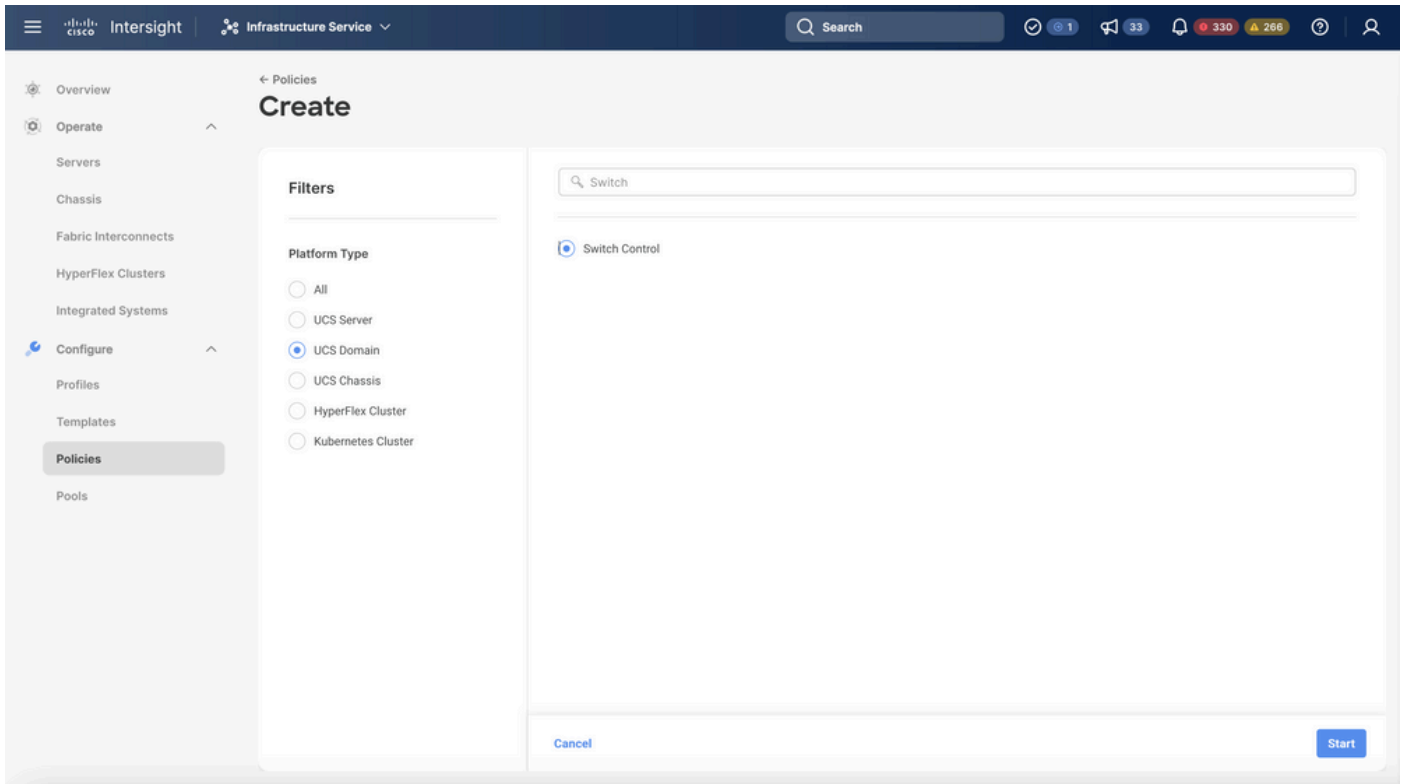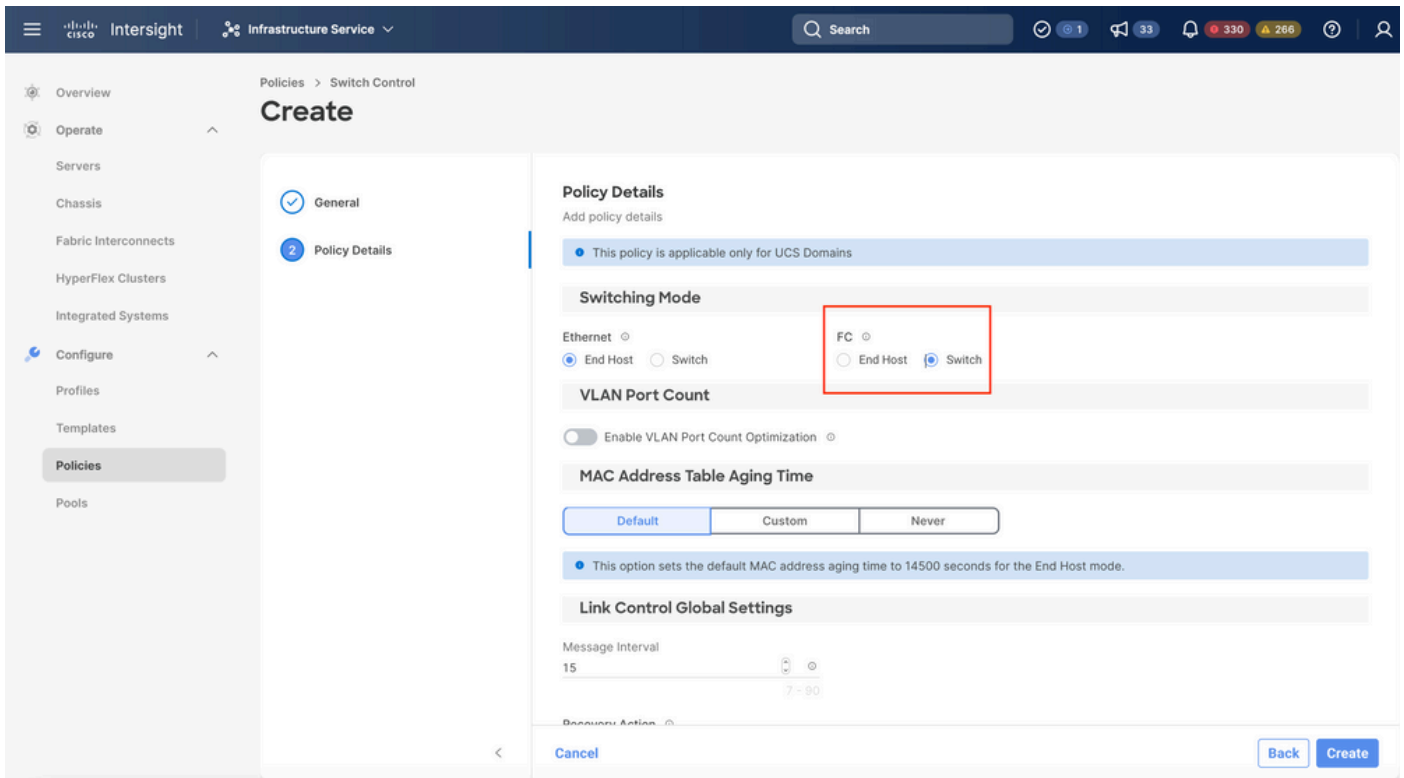

Switch Control Policy
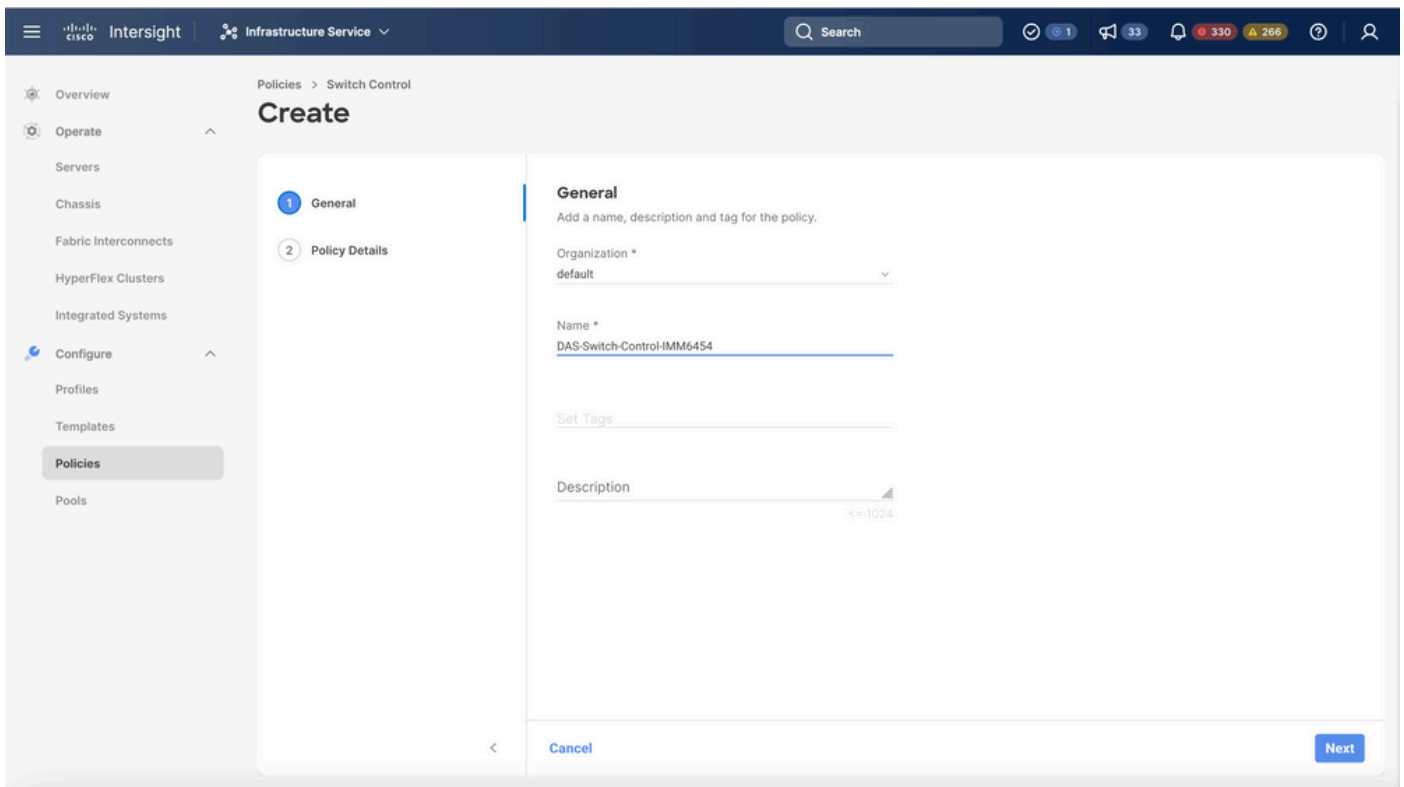
Switch Control Policy Name

- **Select FC Switch** Mode and then click on **Create**.

FC Switch Mode

Step 1.4 Edit or Create the Domain Profile

- You can now add the policies to the Domain profile. Go to **Profiles** tab > **UCS Domain Profiles** > **Edit** Domain profile (if a profile already exists) or **Create** domain profile and then Add the required policies to your Domain Profile.
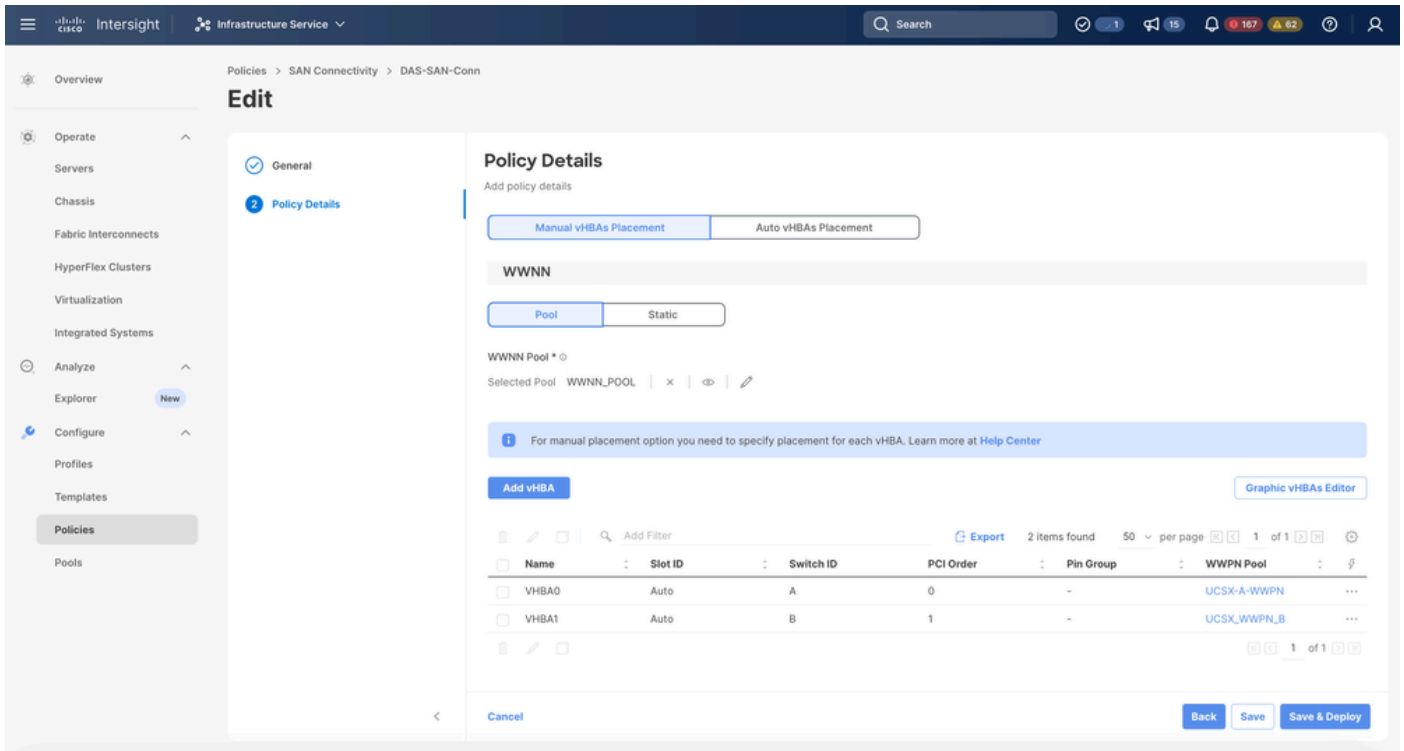
2. Server Profile

Step 2.1 Create a Server Profile.

- Navigate to the **Policies** tab > **Create UCS Server Profile**.
- Enter a **Name** and select the Target Platform.

Step 2.2 Create a San Connectivity Policy

- Attach an existing San Connectivity Policy to the Profile or create a new one
- Enter a **Name** for the policy.
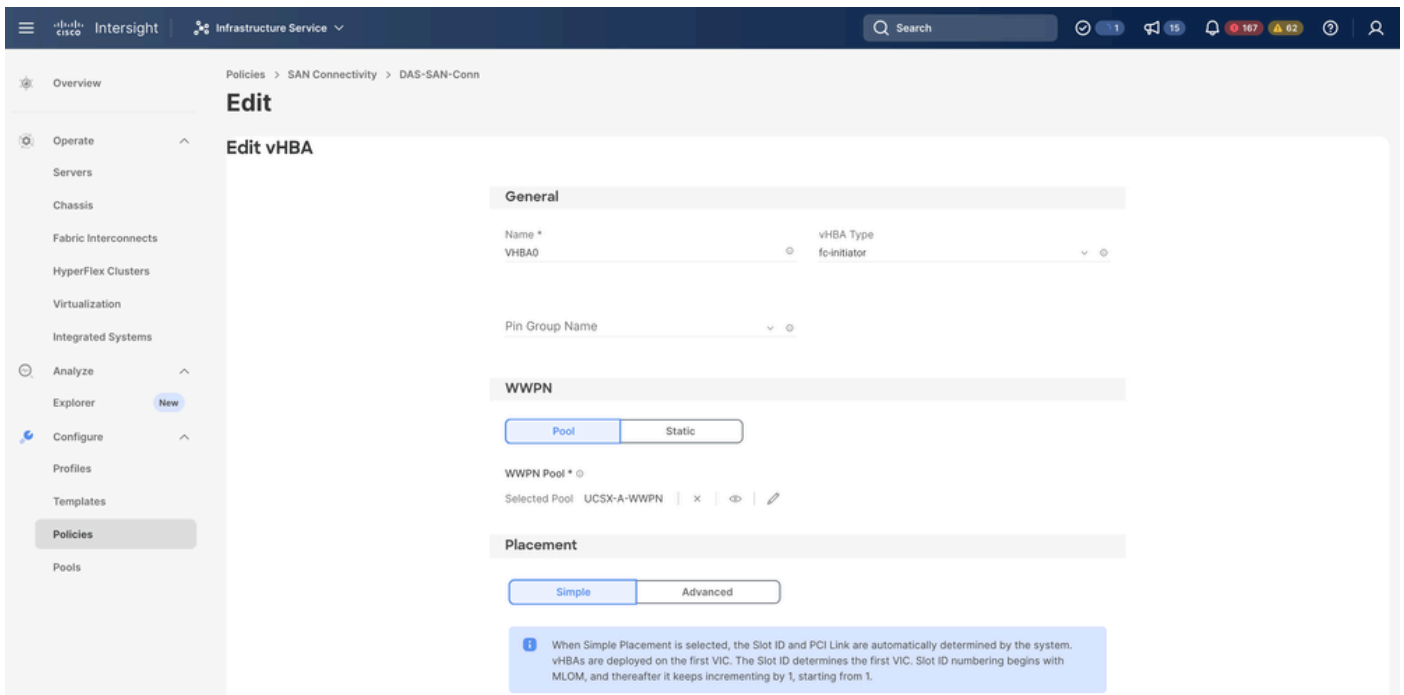- Select the **WWNN pool** and **Add** the required VHBAs.
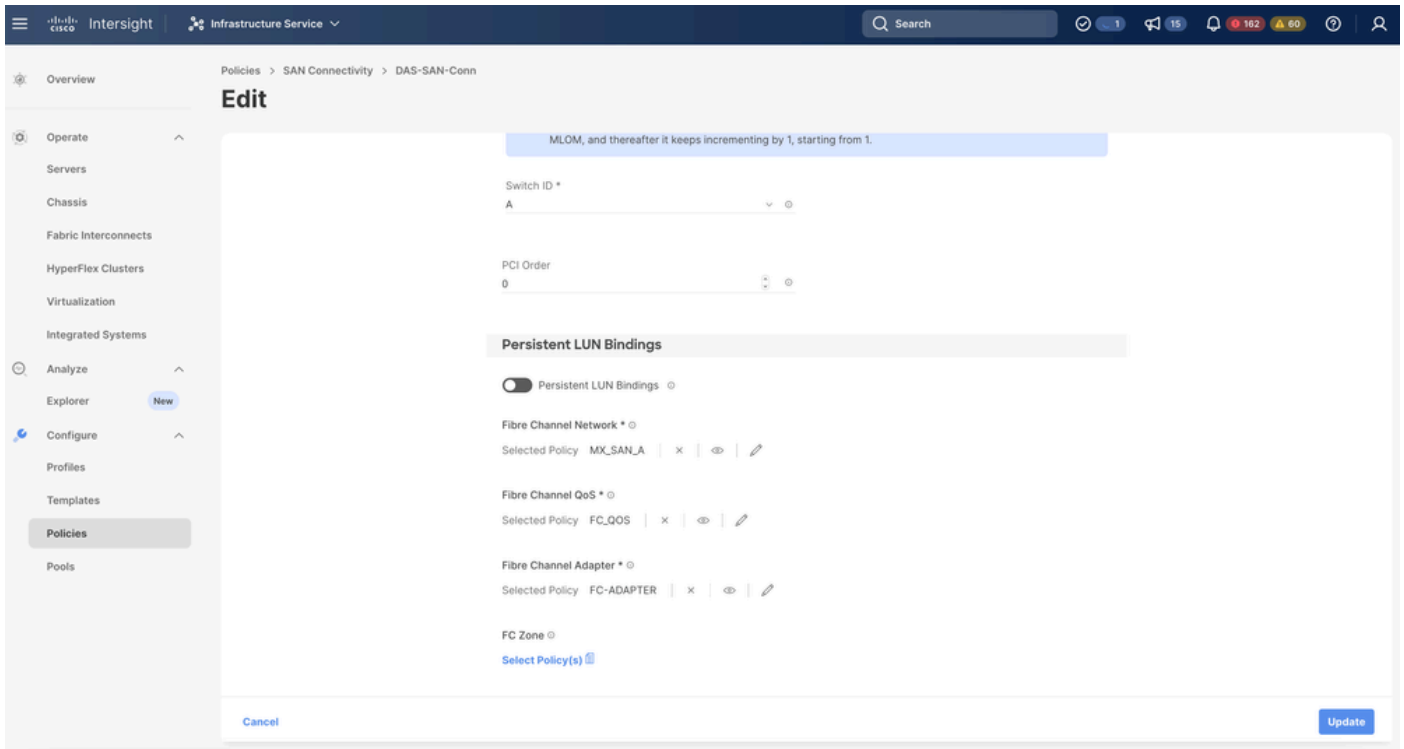
San Connectivity Policy

Step 2.3 Configure VHBA Settings

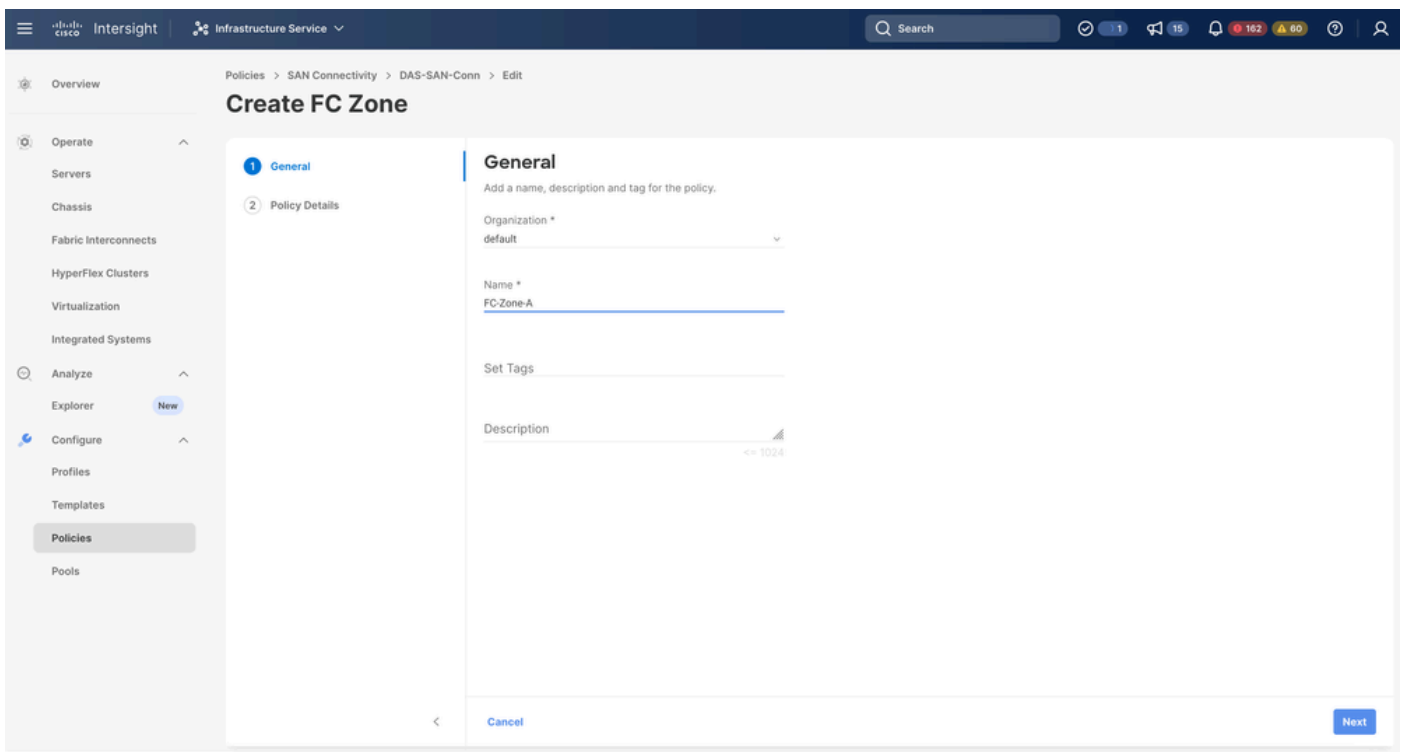- Edit the VHBA with the required configuration, such as **Name**, **WWPN**, and other adapter policies.

VHBA Settings

- Continue with the policy selection for VHBA, then **click** in FC Zone select Policy(s), **Create** a new or **Select** Existing FC Zone policy from the list
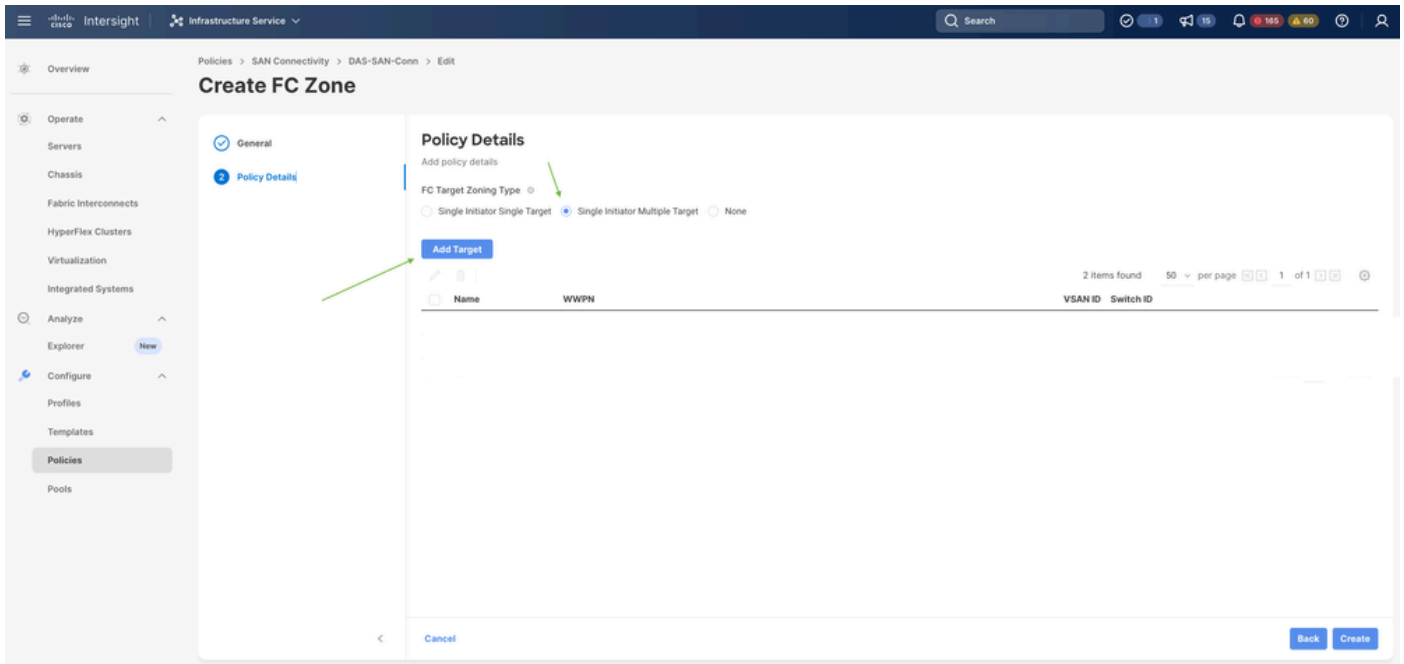
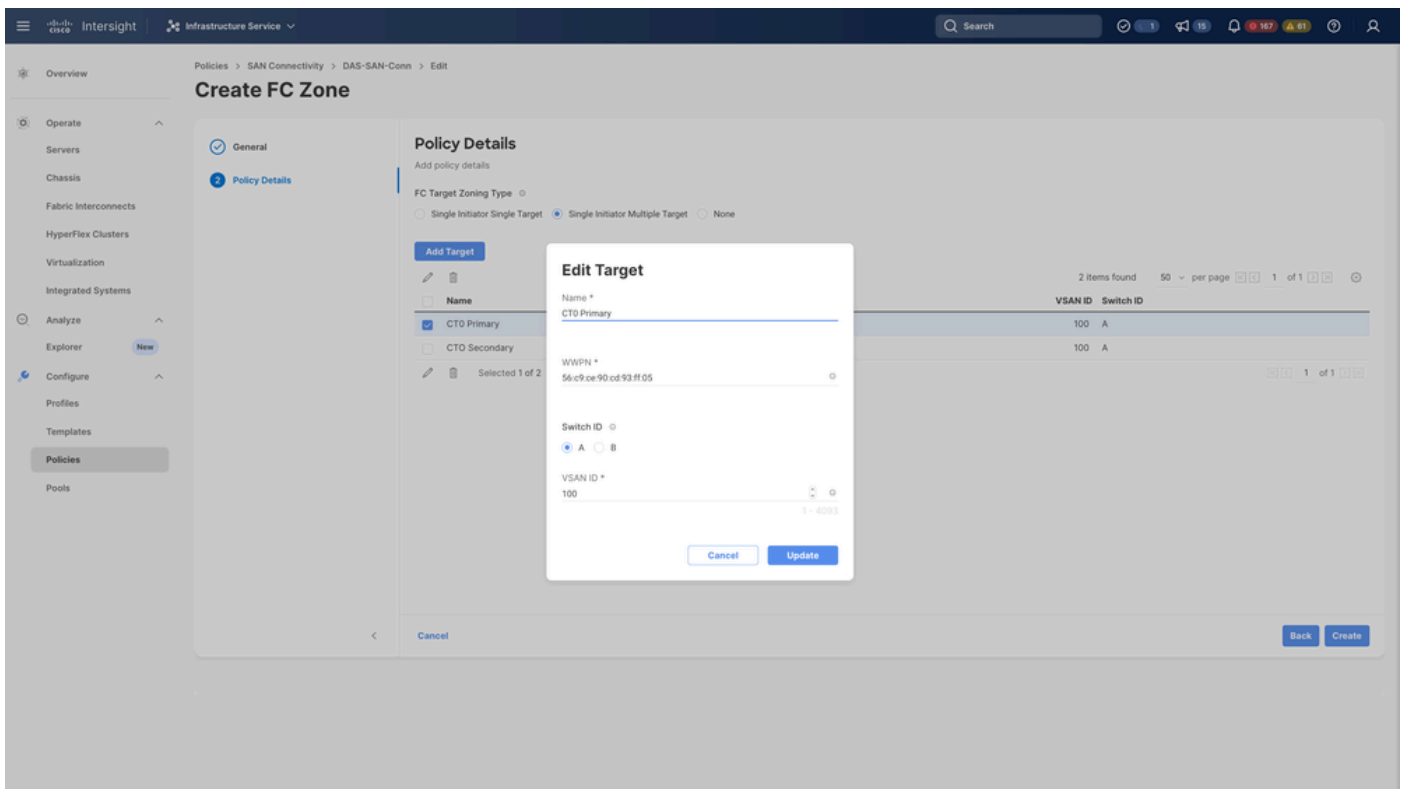*Select FC Zone Policy*

Step 2.4 Create FC Zone Policy

FC Zone

- **Select** Single Initiator - Single Target or Single Initiator Multiple target, then **click** on Add Target

FC Zone Targets

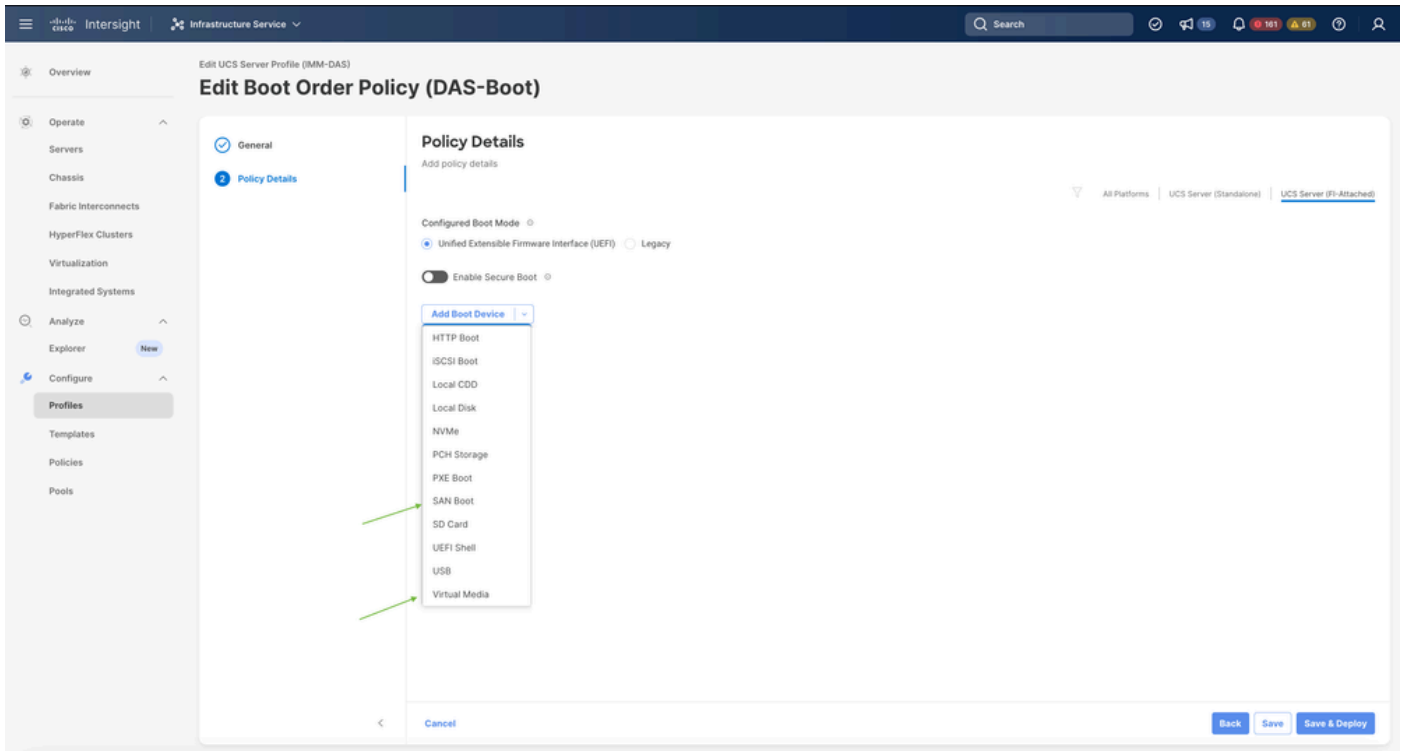- Configure Target(s) with correspondent **WWPN**, **Fabric ID**, and **VSAN.**

FC Zone Target Configuration

Step 3. Boot From SAN (Optional)

If the server boots from SAN Add the target(s) to the Boot policy
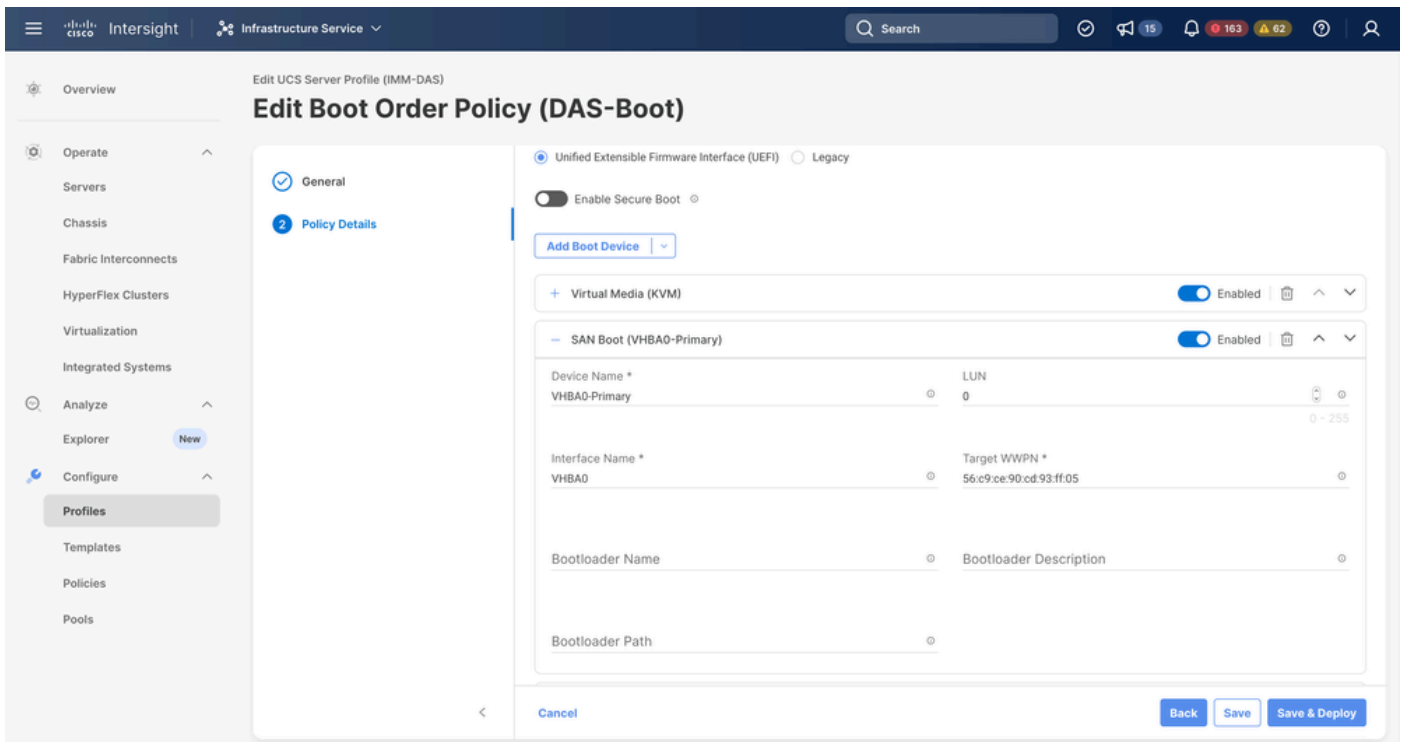
Step 3.1 Configure Boot Options

Add San Boot and Virtual Media options

Boot Options
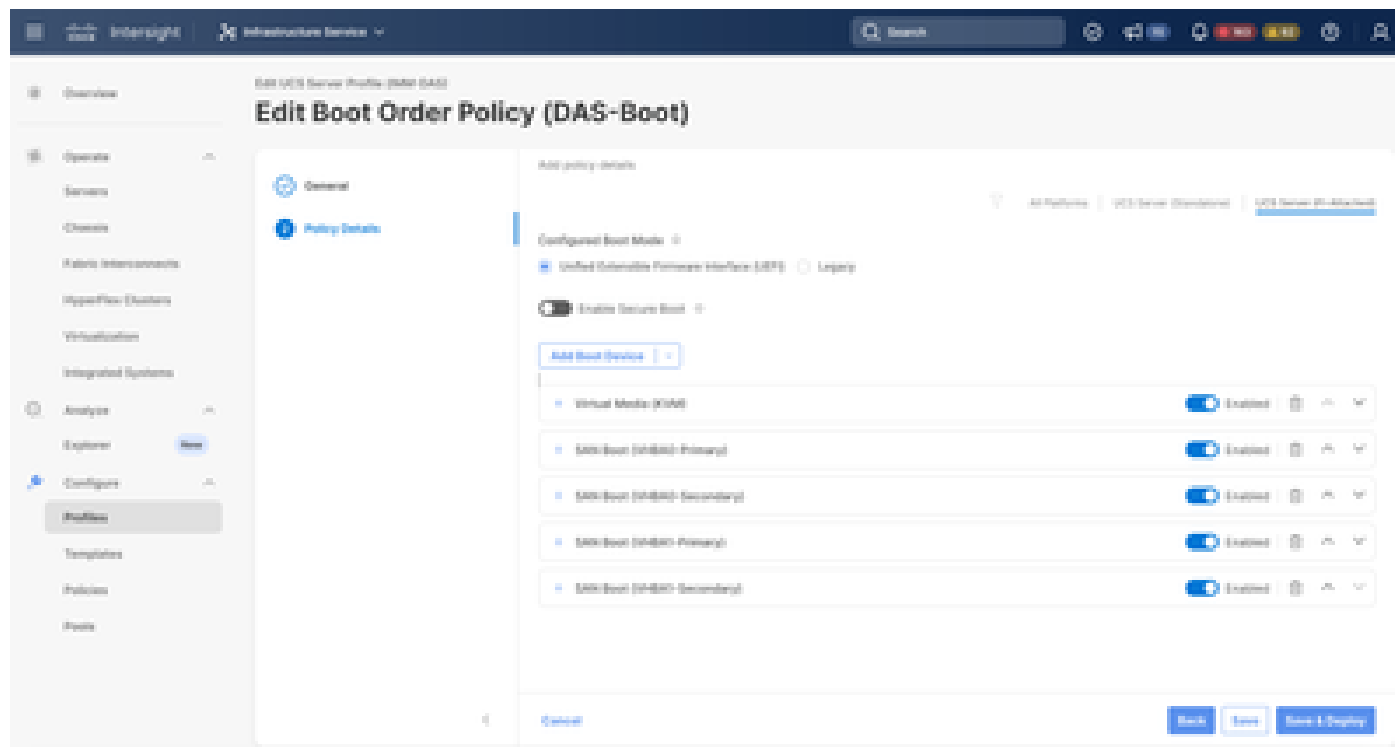
Step 3.2 Configure SAN Boot options

Enter the WWPN of the Target with their corresponding VHBA Name.

SAN Boot Options

✎ **Note**: Interface Name MUST match with the name given previously to the VHBA.

Step 3.3 Add targets as needed and verify the order

Boot Options

Troubleshoot

To Verify the FC Port is properly configured

```
FI-A # connect nxos
FI-A (nxos) # show interface fc 1/1
FI-A (nxos) # show running-config interface fc 1/1
```

To verify the initiators list on Fabric Interconnect

```
FI-A (nxos) # show flogi database vsan <vsan id>
```

To verify VHBA configuration in specific Server Profile

```
FI-A (nxos) # show run interface | grep prev 1 next 10 <Server Profile's Name>
```