Lab 3 - Build the Fabric

Contents

- Lab Overview
- Lab 3.1 - Discover the Switches
- Lab 3.2 - Create a Fabric
- Lab 3.3 - Assign Switches to a Fabric
- Lab 3.4 - Configure NTP
- Lab 3.5 - Configure DNS
- Lab 3.6 - Create a VSX Cluster
- Lab 3 Summary
- Lab 3 Learning Check

Lab Overview

Lab time: 20 minutes

In this lab, we are going to use the Aruba Fabric Composer (AFC) to:

- Discover the CX10000 switches
- Create a new fabric
- Assign the newly discovered switches to the fabric
- Configure NTP, DNS
- Create a VSX Cluster

Lab 3.1 - Discover the Switches

Description

Using the AFC we will discover the already deployed CX10000 switches.

1. Using the **Guided Setup** menu on the right side, click on the **SWITCHES** button in order to discover the new switches. If the right-hand menu is missing, click on the icon to the left of the person icon. This toggles the workflow menu.

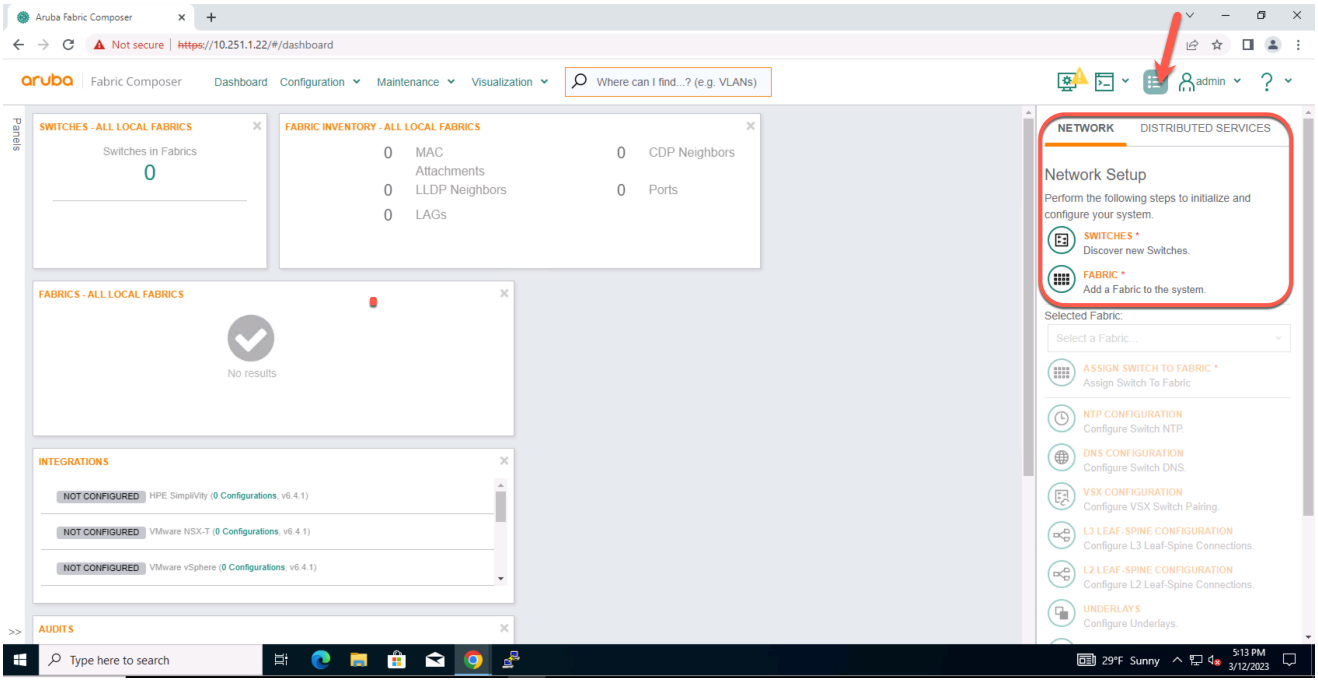

Fig. Lab 3 Discover Switches

2. To import the CX 10000 Switches, enter the following parameters in the form:

Switches	`10.250.2LG.101, 10.250.2LG.102` (where LG is your Lab Group #)
Switch “admin” account password	`admin`
Service Account User	`afc_admin` (do not change the default)
Service Account Password	`admin`
Click APPLY	

> **Note**
>
> The Service Account User will be created on each switch, and will be used for API access.

Expected Results

The Switches should be discovered as shown in the following screenshot. The **Health** Status should show **HEALTHY, BUT** or **UNKNOWN**. This means that the switches have been discovered, but are not yet assigned to a fabric.

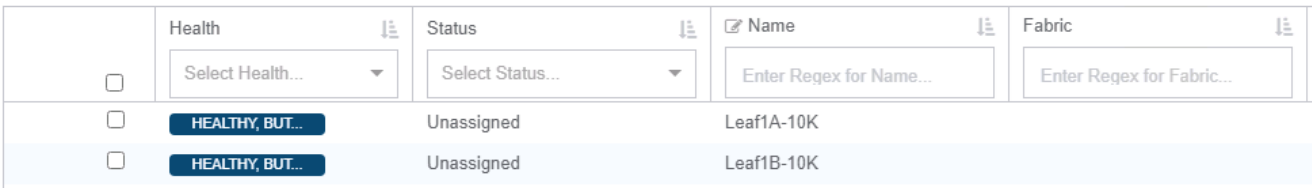

Fig. Lab 3 Discovered Switches

Lab 3.2 - Create a Fabric

Description

In this step, we will create a Fabric. In the AFC, a fabric is the group of devices with their corresponding configuration and state, including switches, and integrated platforms (vSphere, PSM, etc.).

Validate

1. On the **Guided Step** menu on the right side, select the **FABRIC** button.

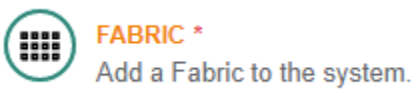

Fig. Lab 3 Create Fabric

2. Create a new fabric using the following parameters:

Name	dsf
Description	Distributed Services Fabric
Type	Data
Time Zone	America/New_York
Auto Save Interval	600
Click APPLY to create the Fabric	

Expected Results

Verify that the Fabric state is **HEALTHY** and looks similar to the following screenshot.

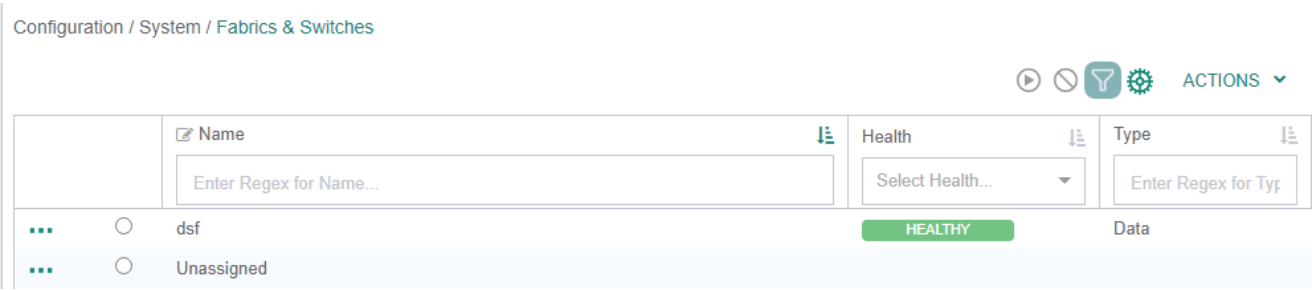

Fig. Lab 3 Healthy Fabric

Lab 3.3 - Assign Switches to a Fabric

Description

Once a Switch is discovered, you can use the Assign Switch wizard to assign a role to the switch (Leaf, Spine, Border Leaf, etc) and also assign the Switch to a Fabric. We will use this step to assign the switches to the newly created Fabric.

Validate

1. On the **Guided Setup** menu click on **ASSIGN SWITCH TO FABRIC**

Fig. Lab 3 Assign Switch

2. Select the Fabric, the Switches and the Role Leaf as in this table:

Fabric	dsf
Switches	LGxx-Leaf01-A - LGxx-Leaf01-B
Role	Leaf
Force LLDP Discovery	Yes (select)
Initialize Ports	Yes (Select)
Scroll down, click ADD and APPLY	

Expected Results

After a short moment, the switches should appear as **HEALTHY** and the status should be **Synced**, as in the following screenshot:

Fig. Lab 3 Healthy Switches

If the Switch status does not change after a few moments, refresh the page in the RDP session.

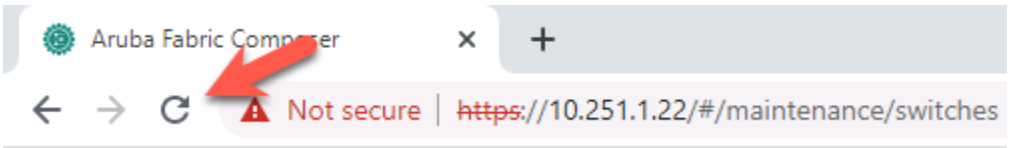

Fig. Lab 3 Refresh Browser

> **Note**
>
> If the workflow wizard has disappeared on the right-hand side of the screen. Click the icon shown below in the top right corner and you will see the workflows reappear.

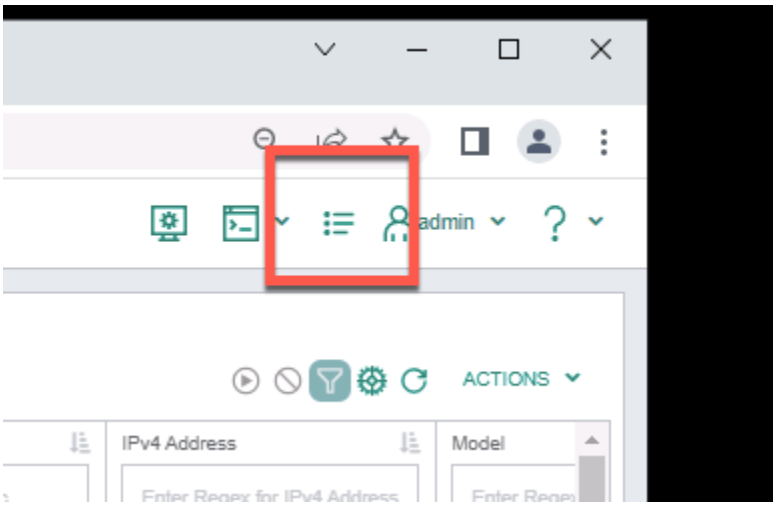

Fig. Lab 3 Workflow Wizard

Lab 3.4 - Configure NTP

Description

As in any organization or infrastructure, accurate time is crucial! In this step, we will make sure that the Switches are configured to sync their time with a valid NTP server.

Validate

On the **Guided Setup** menu click on **NTP Configuration**

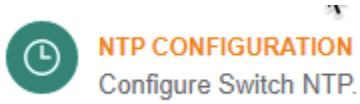

Fig. Lab 3 Configure NTP

Step 1 - Name	
Name	dsf-ntp
Description	Time Server
Click NEXT	

Step 2 - Entries	
Server	10.250.2LG.9 (LG is your labgroup number)
Scroll down, click ADD and NEXT	

Step 3 - Application	
Fabric	dsf
Switches	Leave empty (they are already assigned to the dsf Fabric)
Click NEXT	

Step 4 - Summary	
Review the summary and then ***Click APPLY***	

Expected Results

The Lab NTP server should be assigned to the Fabric and Switches.

Lab 3.5 - Configure DNS

Description

DNS is equally as crucial for running infrastructure. This step will assign a DNS server to the Fabric and Switches.

Validate

In the **Guided Setup** menu click on **DNS Configuration**

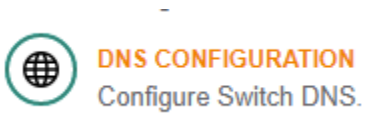

Fig. Lab 3 Configure DNS

Step 1 - Name	
Name	dsf-dns
Description	Name Server
Click NEXT	

Step 2 - Settings	
Domain Name	dsf.lab.local
Name Server	10.250.2LG.9 - hit **Enter** after typing the IP Address (LG is your labgroup number)
Click NEXT	

Step 3 - Application	
Fabric	dsf
Click NEXT	

Step 4 - Summary	
Review the summary and then ***Click APPLY***	

Expected Results

The Lab DNS server should be assigned to the Fabric and Switches.

Lab 3.6 - Create a VSX Cluster

Description

Virtual Switching Extension (VSX) is virtualization technology for switches running the AOS-CX operating system. This solution lets the switches present as one virtualized switch in critical areas. Configuration synchronization is an aspect of the VSX solution where the primary switch configuration is synchronized with the secondary switch.

In this step, we will create a VSX cluster with both CX 10000 Switches.

Validate

In the **Guided Setup** menu click on **VSX Configuration**

Fig. Lab 3 VSX Configuration

Step 1 - Create Mode	
Automatically generate VSX pairs	(Select)
Click NEXT	

Step 2 - Name	
Name Prefix	dsf
Description	Leaf-LG VSX
Click NEXT	

Step 3 - Inter-Switch Link Settings
Keep all the default values
Click NEXT

Step 4 - Keep Alive Interfaces	
Interface Mode	Point-to-Point
IPv4 Address Resource Pool	Pull **DOWN** on the right hand arrow and select the pre-defined IPv4 pool
	`dsf-ipv4-pool(10.10.0.0-10.10.0.255)`
Click NEXT	

Step 5 - Keep Alive Settings
Keep all the default values
Click NEXT

Step 6 - Options		
Linkup Delay Timer	(keep the default value)	
MAC Address Resource Pool	Pull **DOWN** on the right hand arrow and select the pre-defined MAC address pool	
	`02:00:00:00:00:aa-02:00:00:00:00:ff`	
Click NEXT		

Step 4 - Summary	
Review the summary and then ***Click APPLY***	

Expected Results

The VSX cluster consisting of the two CX 10000 should be successfully created and should also be up and healthy. Refresh browswer, if necessary.

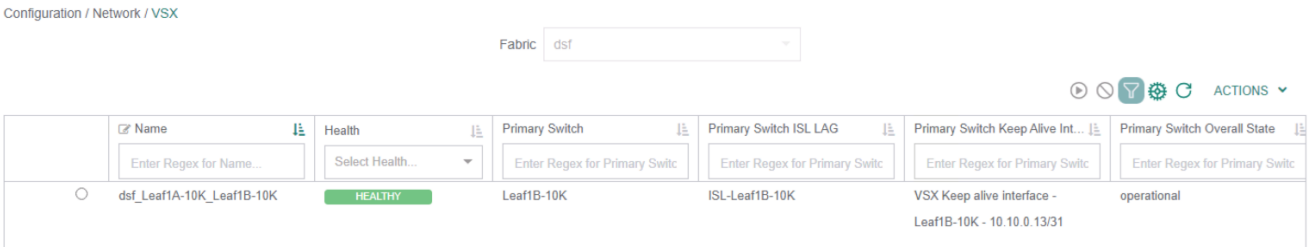

Fig. Lab 3 VSX Health

Lab 3 Summary

- Using the Aruba Fabric Composer, we discovered two CX 10000 Switches
- We created a new Fabric and assigned the two Switches to that fabric
- We configured the basic network services (DNS and NTP) and assigned these profiles to the switches
- We built a VSX cluster of the two switches

Lab 3 Learning Check

- AFC uses Network Resource pools for IP and MAC addresses
- Switches must be assigned to a fabric
- VSX workflow makes configuration simple
- DNS & NTP are configured and assigned to a fabric