

# **CCIE Data Center v3.1 Real Labs**

## **DOO Module**

### **LAB1 (DEMO)**

## Deploy, Operate and Optimize Guidelines

Before you begin, please read these guidelines:

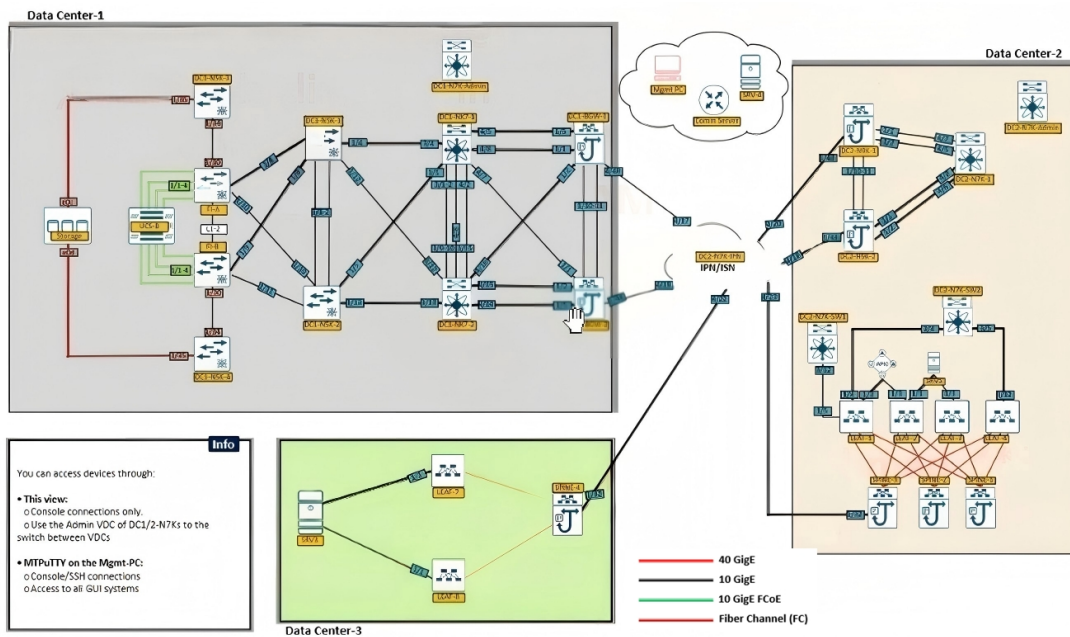
Overall module guidelines:

1. The network that you will deploy, operate and optimize in this module will be similar, but not necessarily identical, to the network designed in the previous module. All relevant information that is needed to successfully complete this module can be found in this module itself and overrides any information that was provided in the previous module.
2. Before you start, confirm that all devices in your rack are accessible. During the exam, if any device becomes locked or inaccessible, you must recover it.
3. Your equipment is partially preconfigured. Do not change any of the preconfigured parameters unless you are specifically told to.
4. The partial configuration on the devices may deliberately contain mistakes and errors which may need to be corrected, or workarounds applied, in order to complete specific tasks. Therefore, consider troubleshooting as an integral part of this module.
5. Points are awarded only for fully working configurations. No partial scoring is provided. It is recommended that toward the end of the exam, you go back and test the functionality as per all question requirements.
6. If you need clarification on any of the questions, or if you suspect that there might be an issue with your equipment or exam environment, contact the lab proctor as soon as possible.
7. Item-level feedback can be provided at the question level. Feedback will be processed, but Cisco will not reach out to you to discuss feedback provided. You will not be compensated for the time you spend while providing the feedback.
8. Access to select Cisco online documentation is available from your desktop. Access to select 3rdparty product documentation (such as Python) is available from the Resources window under the "External Documentation" category.
9. When you finish the lab exam, make sure that all devices are accessible for the grading proctor by having them in EXEC mode and closing the console windows. A device that is not accessible for grading cannot be graded and this may cause you to lose substantial

**points.**

- 10. You have 5 hours to complete this module. Upon finishing the exam, ensure that all device are accessible. Any device that is not accessible for grading purposes may cause you to lose substantial points.**

Topology



Device Access

Devices	IP	Username	Password
CommServer	10.1.1.1	NA	Cisco!123
FI-Cluster-IP	10.1.1.40	admin	Cisco!123
FI-A	10.1.1.41	admin	Cisco!123
FI-B	10.1.1.42	admin	Cisco!123
DC1-N5K-1	10.1.1.61	admin	Cisco!123
DC1-N5K-2	10.1.1.62	admin	Cisco!123
DC1-N5K-3	10.1.1.63	admin	Cisco!123
DC1-N5K-4	10.1.1.64	admin	Cisco!123
APIC-1 GUI	10.1.1.51	admin	Cisco!123
APIC-1 CIMC	10.1.1.54	Cisco	Cisco!123
DC1-N7K-ADM	10.1.1.70	admin	Cisco!123
DC1-N7K-1	10.1.1.71	admin	Cisco!123
DC1-N7K-2	10.1.1.72	admin	Cisco!123
DC2-N7K-ADM	10.1.1.80	admin	Cisco!123
DC2-N7K-1	10.1.1.81	admin	Cisco!123
DC2-N7K-IPN	10.1.1.82	admin	Cisco!123
DC2-N7K-SW1	10.1.1.83	admin	Cisco!123
DC2-N7K-SW2	10.1.1.84	admin	Cisco!123
DC1-N9K-BGW1	10.1.1.91	admin	Cisco!123
DC1-N9K-BGW2	10.1.1.92	admin	Cisco!123
DC2-N9K-1	10.1.1.93	admin	Cisco!123
DC2-N9K-2	10.1.1.94	admin	Cisco!123
NDFC GUI	10.1.1.220	admin	Cisco!123

VM Access Details	Physical Server	Username	Password
legacy-app	SRV-3	root	Cisco!123
aci-app-1	SRV-3	root	Cisco!123
db-1	SRV-5	root	Cisco!123
db-2	SRV-5	root	Cisco!123
aci-web-1	SRV-5	root	Cisco!123
dev-db-1	SRV-5	root	Cisco!123
db-cache-1	SRV-3	root	Cisco!123
automation-vm	SRV-4	ccie	Cisco!123
Mgmt-PC	SRV-4	admin	Cisco!123
vCenter	SRV-4	candidate@cisco.com	Cisco!123
vND-NDFC	SRV-1	admin	Cisco!123

**Note:**

- The GUI for the APIC,NDFC,UCS-M,and vCenter can be accessed from the Mgmt-PC.
- SSH/console sessions to all lab devices can be accessed from MTPuTTY on the

Vlans:

VLAN ID	Name or purpose
50	EPG:DB-EPG
55	EPG:DEV-DB-EPG
57	EPG:WEB-EPG
60	EPG:DB-EPG
99	LEGACY-DIAG-ARP;EPG:LEGACY-DIAG
460	external_gateways
630	backup_controller
631	backup_media_server
632	shared_mysql
633	staging_frontend
634	prod_frontend
635	snmp_pollers
1460	DC2-N7K-1:external_gateways

**Storage Objects:**

<b>Storage Obilts</b>	<b>Vlans</b>
<b>Boot LUN ID</b>	<b>0</b>
<b>Fabric A zone name</b>	<b>zone50</b>
<b>Fabric B zone name</b>	<b>zone60</b>
<b>Zoneset names</b>	<b>zoneset50/zoneset60</b>
<b>UCS FCoE VLAN for VSAN 50</b>	<b>50</b>
<b>UCS FCoE VLAN for VSAN 60</b>	<b>60</b>

**ACI Configuration**

<b>ACI Cluster Config</b>	<b>Vlans</b>
<b>Fabric Name</b>	<b>DC2-ACI-POD1</b>
<b>Fabric ID</b>	<b>1</b>
<b>Intra VLAN ID</b>	<b>3967</b>
<b>BD Multicast(GIPO)</b>	<b>255.0.0.0/15</b>
<b>Internal TEP Pool (POD-1)</b>	<b>11.0.0.0/16</b>
<b>Internal TEP Pool(POD-2)</b>	<b>12.0.0.0/16</b>
<b>External TEP Pool(POD-1)</b>	<b>172.16.11.0/24</b>
<b>External TEP Pool(POD-2)</b>	<b>172.16.12.0/24</b>

## Introduction

**Welcome to the Xander Company!**

**Read the Guidelines, documents, and resources before you proceed to the next**

# Section-1 Exam Scenario.

## 1.1:S1 Exam Scenario

## 1.2:Layer-2 Switching

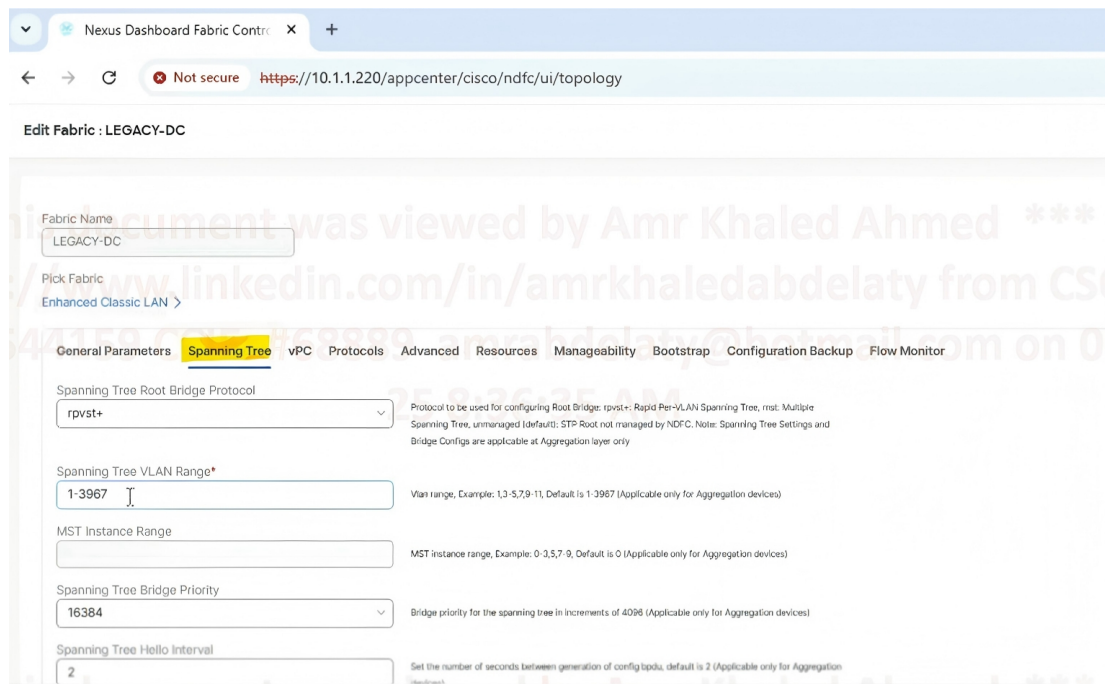
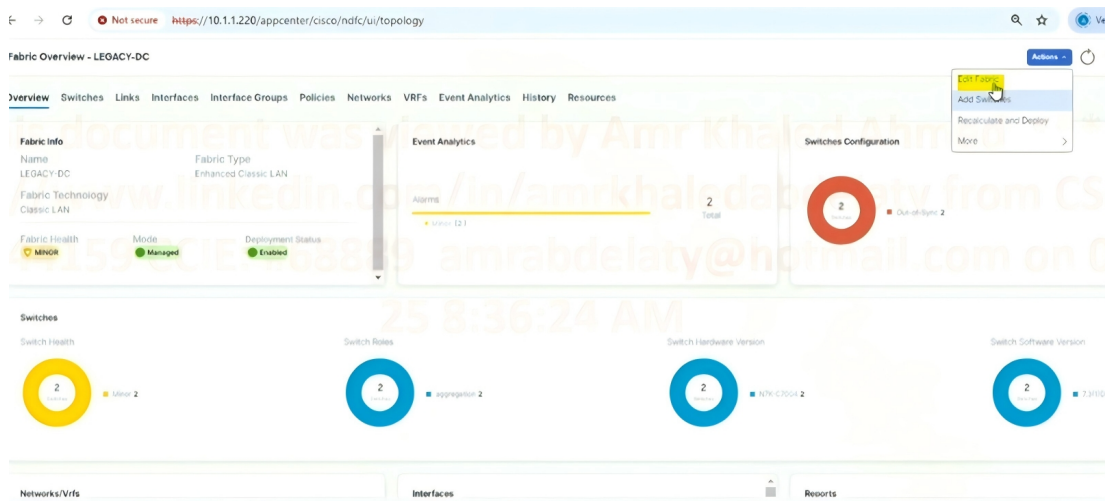
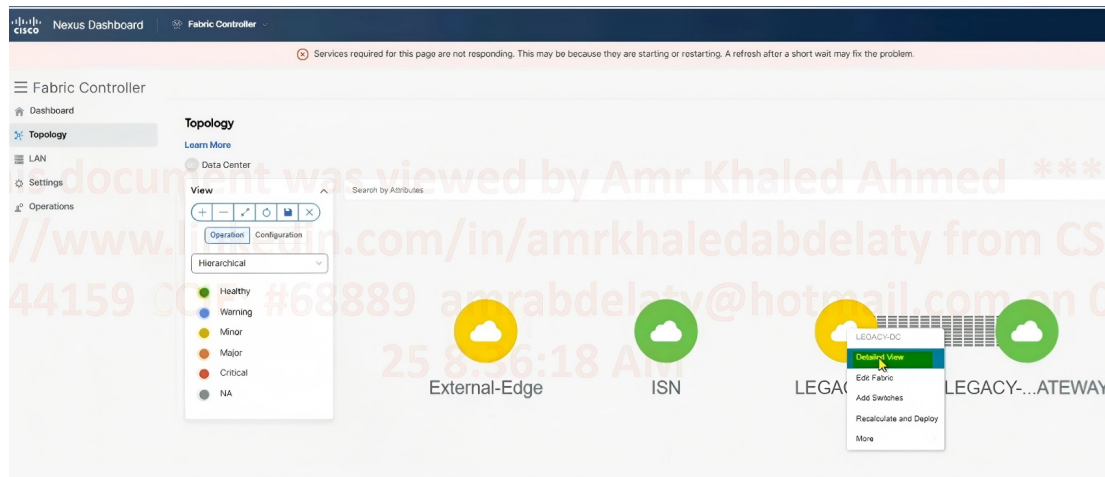
Configure the Layer 2 connectivity for DC1-N7K-1 and DC1-N7K2 which have been imported into the Enhanced Classic LAN fabric named LEGACY-DC

- All configuration must be done with Cisco Nexus Dashboard Fabric Controller(NDFC)
- N7Ks must be configured to have always the highest chances of becoming the spanning-tree topology roots.
- Ensure that you are using the appropriate interface options for interconnecting different switches.
- Configure a back-to-back vPC toward the N5K-1 and N5K-2:
  - All four links drawn into the topology must be used.
  - Ensure that DC1-N7K-1 and DC1-N7K-2 will disable the link if a better BPDU is received from that vPC.
    - ◆ For this, you can use the freeform section inside the interface policy. Mind the indentation.
  - Port-Channel and vPC IDs on both switches must be 101.
  - Configuration on both Nexus 5000 is already deployed; you must not edit any configuration on those devices.
- Configure a back-to-back vPC toward the vPC border gateways DC1-N9K-BGW1 and DC1-N9K-BGW2 imported into the VXLAN EVPN fabric named LEGACY-DC\_GATEWAY:
  - Only four links must be used for this vPC. DO not include DC1-N7K-1 Eth4/6 and DC1-N7K-2 Eth 4/14 because they will be used later for a different task.
  - Ensure that the N7Ks will disable the link if a better BPDU is received from that vPC.
    - ◆ For this, you can use the freeform section inside the interface policy. Mind the indentation.
  - Port-Channel and vPC IDs on both switches must be 201.

- Configuration on both vPC BGWs is already deployed; you must not edit the relevant vPC interface policy.
- Attach all the network defined in the fabric to vPC 101.
- Recalculate and deploy the LEGACY-DC fabric.

At this stage, both vPCs should be up. The spanning tree must report all VLANs attached to vPC101 as Desg.

# Solutions



# CCIE Data Center v3.1 Real Labs DOO Module Lab1

**Edit Fabric - LEGACY-DC**

Spanning Tree Root Bridge Protocol: rpsst+  
Spanning Tree VLAN Range: 1-3967  
MST Instance Range: [Empty]  
Spanning Tree Bridge Priority: 0  
Spanning Tree Hello Interval: 2  
Spanning Tree Forward Delay: 15  
Spanning Tree Max Age Interval: 20  
Spanning Tree Pathcost Method: short

**Fabric Overview - LEGACY-DC**

Warning: Please perform "Recalculate and Deploy", if there are any switches in the fabric prior to "Deploy"

**Fabric Overview - LEGACY-DC**

Switches Configuration: Pending 2

Switches: Switch Health: 2

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Fabric Overview - LEGACY-DC

Overview Switches Links **Interfaces** Interface Groups Policies Networks VRFs Event Analytics History Resources

Filter by attributes

Device Name	Interface	Admin Status	Oper. Status	Reason	Policies	Overlay Network	Sync Status	Interface Group	Port Channel ID	VPC Id	Speed	Actions
DC1-N7K-1	mgmt0	↑ Up	↑ Up	ok	int_mgmt	NA	In-Sync				10Gb	Create Interface
DC1-N7K-1	Vlan1	↓ Down	↓ Down		NA	NA	NA				10Gb	Create Sub-Interface
DC1-N7K-1	Vlan600	↑ Up	↑ Up	ok	int_vlan	NA	In-Sync				10Gb	Edit
DC1-N7K-1	Vlan2000	↑ Up	↑ Up	ok	NA	monitoring_vrf	NA				10Gb	Normalize
DC1-N7K-1	Vlan2001	↑ Up	↑ Up	ok	NA	PEER-KEEPALIVE	NA				10Gb	Multi-Attach
DC1-N7K-1	Port-channel500	↑ Up	↑ Up	ok	int_vpc_peer_link_po	NA	In-Sync				300Gb	Multi-Attach
DC1-N7K-1	Ethernet3/1	↑ Up	↑ Up	ok	int_vpc_peer_link_member_11_1	NA	In-Sync		500		10Gb	Preview

44 items found

Rows per page: 50

Nexus Dashboard Fabric Contr x +

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### Create Interface

Type\*  
 virtual Port Channel (vPC)

Select a vPC pair\*  
 DC1-N7K-2 --- DC1-N7K-1

vPC ID\*  
 101

Policy\*  
 int\_vpc\_trunk\_host >

Policy Options

Peer-1 Port-Channel ID\*  
 101 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
 101 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

# CCIE Data Center v3.1 Real Labs DOO Module Lab1

Type\*  
Virtual Port Channel (vPC)

Select a VPC pair\*  
DC1-N7K-2---DC1-N7K-1

vPC ID\*  
101

Policy\*  
int\_vpc\_trunk\_host >

Policy Options

Peer-1 Port-Channel ID\*  
101 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
101 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

Peer-1 Member Interfaces  
eth3/12-13 A list of member interfaces for Peer-1 (e.g. e1/5,eth1/7-9)

Peer-2 Member Interfaces  
eth3/4-5 A list of member interfaces for Peer-2 (e.g. e1/5,eth1/7-9)

Port Channel Mode\*  
active Channel mode options: on, active and passive

Enable BPDU Guard\*  
false Enable spanning-tree bpduguard: true='enable', false='disable', noc='return to default settings'

Enable Port Type Fast\*  
 Enable spanning-tree edge port behavior

MTU\*  
jumbo MTU for the Port Channel

Peer-1 Member Interfaces  
eth3/12-13 A list of member interfaces for Peer-1 (e.g. e1/5,eth1/7-9)

Peer-2 Member Interfaces  
eth3/4-5 A list of member interfaces for Peer-2 (e.g. e1/5,eth1/7-9)

Port Channel Mode\*  
active Channel mode options: on, active and passive

Enable BPDU Guard\*  
false Enable spanning-tree bpduguard: true='enable', false='disable', noc='return to default settings'

Enable Port Type Fast\*  
 Enable spanning-tree edge port behavior

MTU\*  
jumbo MTU for the Port Channel

SPEED  
Auto Port Channel Speed

Peer-1 Trunk Allowed Vlans\*  
none Allowed values: 'none', 'all', or vlan ranges (ex: 1-200,500-2000,3000)

Peer-2 Trunk Allowed Vlans\*  
none Allowed values: 'none', 'all', or vlan ranges (ex: 1-200,500-2000,3000)

Peer-1 Native Vlan  
Set native VLAN for Peer-1 VPC port-channel

### Create Interface

Copy PO Description  
Check this to copy PO description to all member interfaces. Peer-1 PO Desc to Peer-1 members, Peer-2 PO Desc to Peer-2 members

Enable CDP  
Enable CDP on member interfaces

Port Duplex Mode  
auto Configure the port duplex mode

Disable LACP Suspend-individual  
If disabled, lacp will put the port to individual state and not suspend the port in case the port does not get LACP BPDU from the peer ports in the port-channel

Enable LACP vPC-convergence  
Enable lacp convergence for vPC port-channels

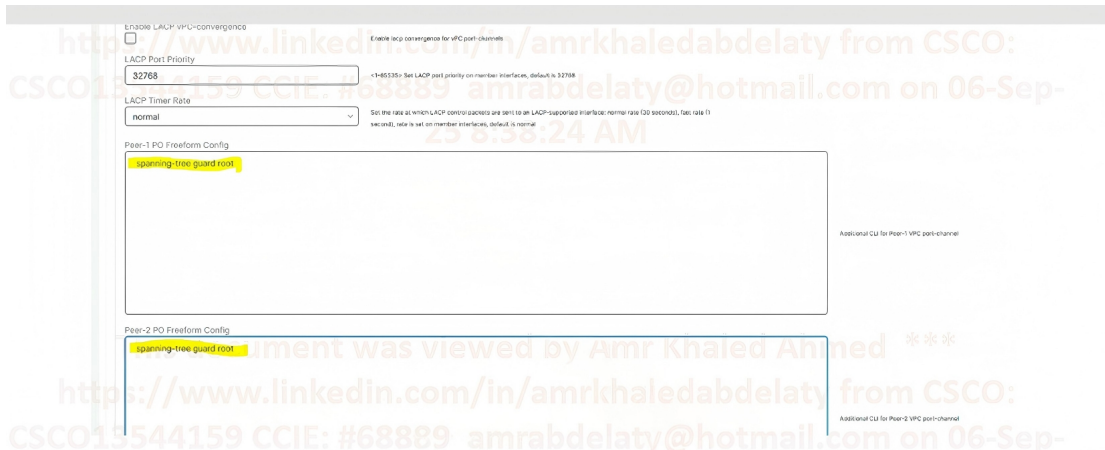
LACP Port Priority  
32768 \*1-80535\* Set LACP port priority on member interfaces, default is 32768

LACP Timer Rate  
normal Set the rate at which LACP control packets are sent to an LACP-supported interface: normal rate (30 seconds), fast rate (1 seconds), slow to set on member interfaces, default is normal

Peer-1 PO Freeform Config  
spanning-tree guard root  
Additional CLI for Peer-1 VPC port-channel

Peer-2 PO Freeform Config  
spanning-tree guard root

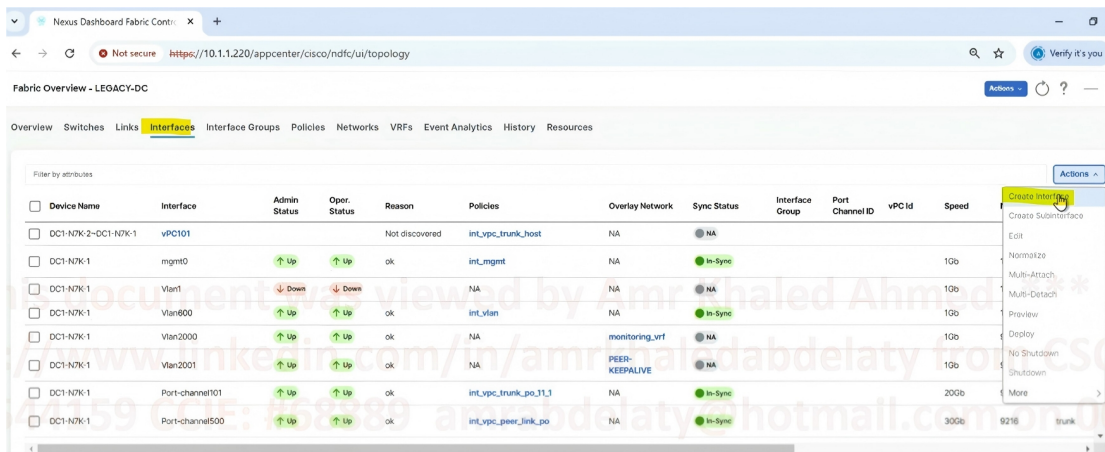
# CCIE Data Center v3.1 Real Labs DOO Module Lab1



Note: use 2 x spaces before spanning-tree guard root (normal indentation)



This document was viewed by Amr Khaled Ahmed \*\*\*



Nexus Dashboard Fabric Contr... x +  
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### Create Interface

Type\*  
virtual Port Channel (vPC)

Select a vPC pair\*  
DC1-N7K-2---DC1-N7K-1

vPC ID\*  
201

Policy\*  
int\_vpc\_trunk\_host >

Policy Options

Peer-1 Port-Channel ID\*  
201 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
201 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

Peer-1 Member Interfaces  
A list of member interfaces for Peer-1 [e.g. e1/5,eth1/7-9]

Peer-1 Port-Channel ID\*  
201 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
201 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

Peer-1 Member Interfaces  
eth4/15-16 A list of member interfaces for Peer-1 [e.g. e1/5,eth1/7-9]

Peer-2 Member Interfaces  
eth4/7-8 A list of member interfaces for Peer-2 [e.g. e1/5,eth1/7-9]

Port Channel Mode\*  
active Channel mode options: on, active and passive

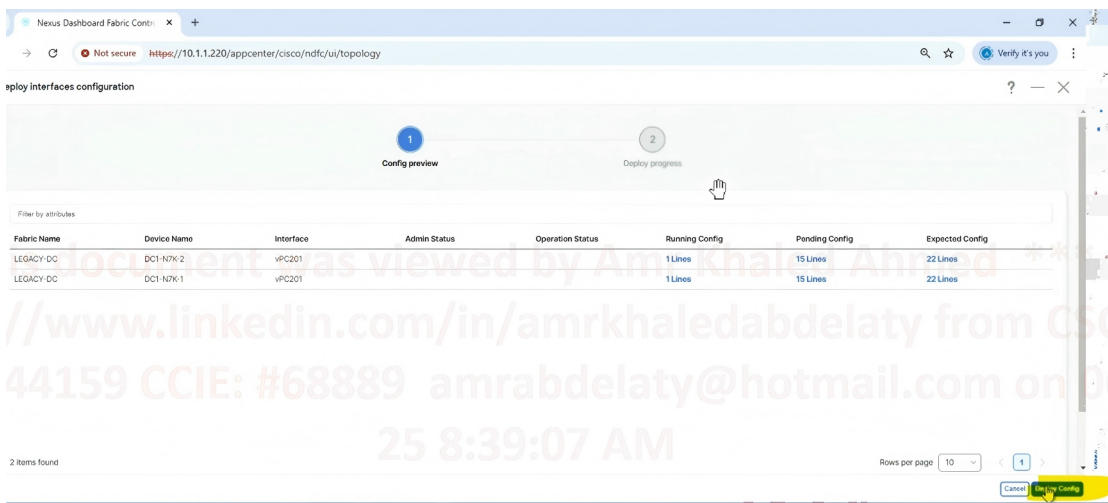
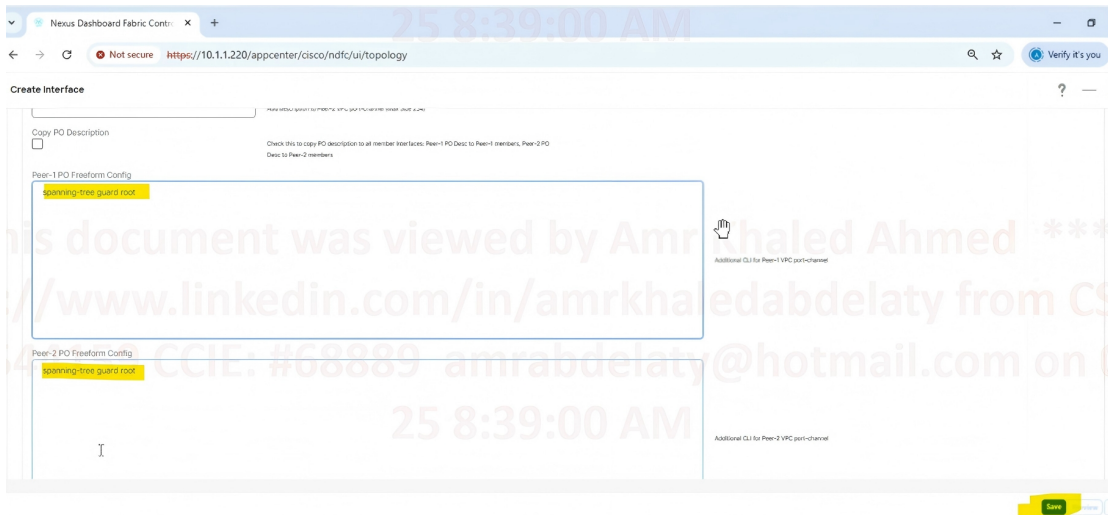
Enable BPDU Guard\*  
false Enable spanning-tree bpduguard: true='enable', false='disable', no-'return to default settings'

Enable Port Type Fast\*  
 Enable spanning-tree edge port behavior

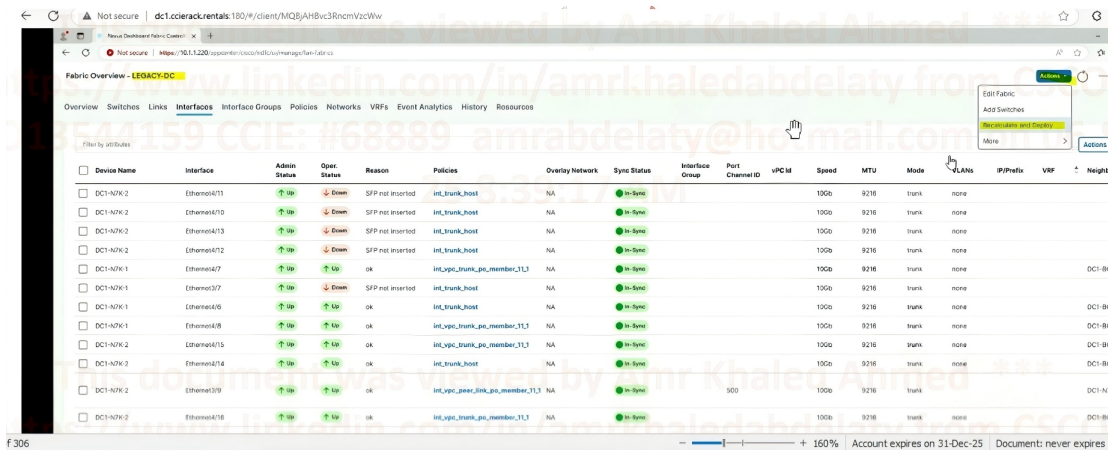
MTU\*  
jumbo MTU for the Port Channel

SPEED  
Auto Port Channel Speed

# CCIE Data Center v3.1 Real Labs DOO Module Lab1



Note : you can deploy every VPC one by one or just save and do a recalculate and deploy after you configured both 101 and 201



CCIE Data Center v3.1 Real Labs DOO Module Lab1

DC1-N5K-1 DC1-N5K-2 DC1-N7K-1 DC1-N7K-2 DC1-BGW-1 DC1-N7K-1 (1) DC2-N9K-2

vPC Peer-link status

id	Port	Status	Active vlans	Active BDs
1	Po500	up	1,600,2000-2001	

```

vPC status
Id : 101
Port : Po101
Status : up
Consistency : success
Reason : success
Active vlans : -
Id : 201
Port : Po201
Status : up
Consistency : success
Reason : success
Active vlans : -
DC1-N7K-1(config)# show running-config interface port-channel 101
!Command: show running-config interface port-channel101
!Time: Tue Mar 24 03:44:40 2009
version 7.3(1)D1(1)
interface port-channel101
 switchport
 switchport mode trunk
 switchport trunk allowed vlan none
 spanning-tree bpduguard disable
 spanning-tree guard root
 mtu 9216
 vpc 101
DC1-N7K-1(config)# show running-config interface port-channel 201
    
```

DC1-N5K-1 DC1-N5K-2 DC1-N7K-1 DC1-N7K-2 DC1-BGW-1 DC1-N7K-1 (1) DC2-N9K-2

```

Peer status : peer adjacency formed ok
vPC keep-alive status : peer is alive
Configuration consistency status : success
Per-vlan consistency status : success
Type-2 consistency status : success
vPC role : primary
Number of vPCs configured : 2
Peer Gateway : Enabled
Peer gateway excluded VLANs :
Peer gateway excluded bridge-domains :
Dual-active excluded VLANs and BDs :
Graceful consistency check : Enabled
Auto-recovery status : Enabled (timeout = 360 seconds)
Operational Layer 3 Peer-router : Disabled
Self-isolation : Disabler
    
```

vPC Peer-link status

id	Port	Status	Active vlans	Active BDs
1	Po500	up	1,600,2000-2001	

```

vPC status
Id : 101
Port : Po101
Status : up
Consistency : success
Reason : success
Active vlans : -
Id : 201
Port : Po201
Status : up
Consistency : success
Reason : success
Active vlans : -
DC1-N7K-1(config)#
    
```

Nexus Dashboard Fabric Controller

https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

Fabric Overview - LEGACY-DC

Overview Switches Links Interfaces Interface Groups Policies Networks VRFs Event Analytics History Resources

Network Name	VRF Name	IPv4 Gateway/Prefix	IPv6 Gateway/Prefix	Network Status	VLAN ID	Inter
backup_media_server	NA			NA	631	
shared_mysql	NA			NA	632	
backup_controller	NA			NA	630	
snmp_pollers	NA	172.16.36.1/24		NA	635	
external_gateways	NA			NA	460	
prod_frontend	NA			NA	634	
staging_frontend	NA			NA	633	

# CCIE Data Center v3.1 Real Labs DOO Module Lab1

Multi-Attach of Networks

1 Select Switches

Select Switches to attach all Selected Networks (7)

Total No. of Attachment : 7

Switch	IP Address	Serial Number	Model Number	Role	VPC Peer	Peer IP	Peer Serial Number	Peer Model Number
<input checked="" type="checkbox"/> DC1-N7K-1	10.11.71	JAF1724ACAA-DC1-N7K-1	N7K-C7004	aggregation	DC1-N7K-2	10.11.72	JAF1724ACAA-DC1-N7K-2	N7K-C7004

25 8:40:12 AM

Multi-Attach of Networks

2 Select Interfaces

Select Interfaces

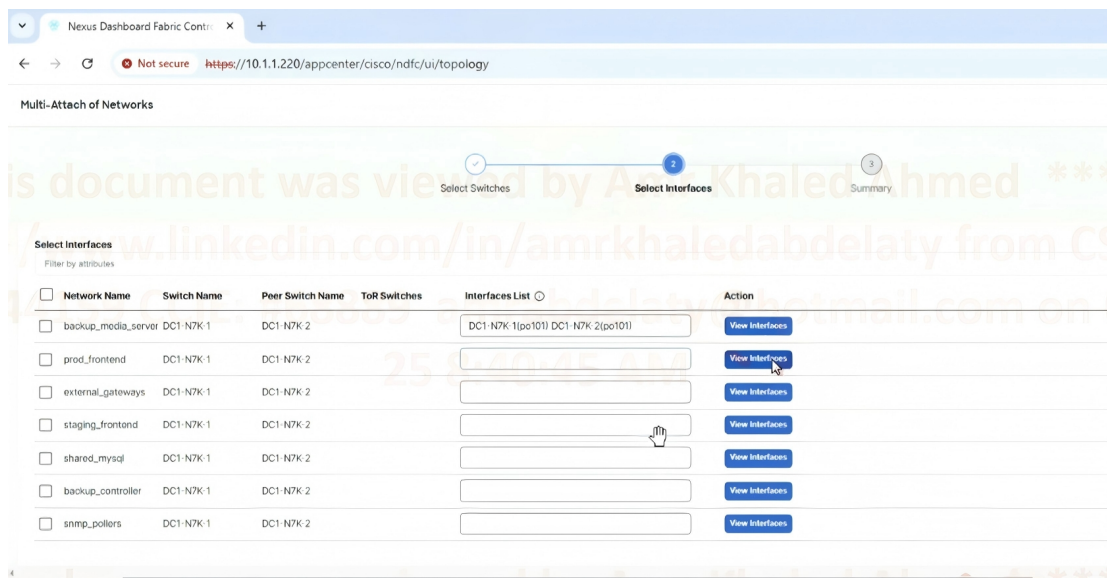
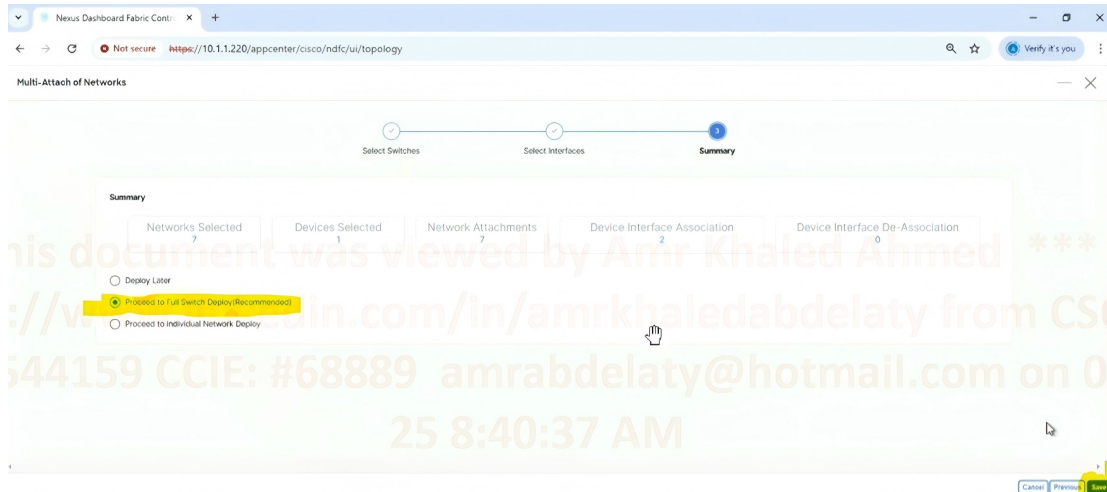
Network Name	Switch Name	Peer Switch Name	ToR Switches	Interfaces List	Action
<input checked="" type="checkbox"/> backup_media_server	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> prod_frontend	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> external_gateways	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> staging_frontend	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> shared_mysql	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> backup_controller	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>
<input checked="" type="checkbox"/> snmp_pollers	DC1-N7K-1	DC1-N7K-2		[Redacted]	<a href="#">View Interfaces</a>

Select interfaces of DC1-N7K-1, DC1-N7K-2 & backup\_media\_server

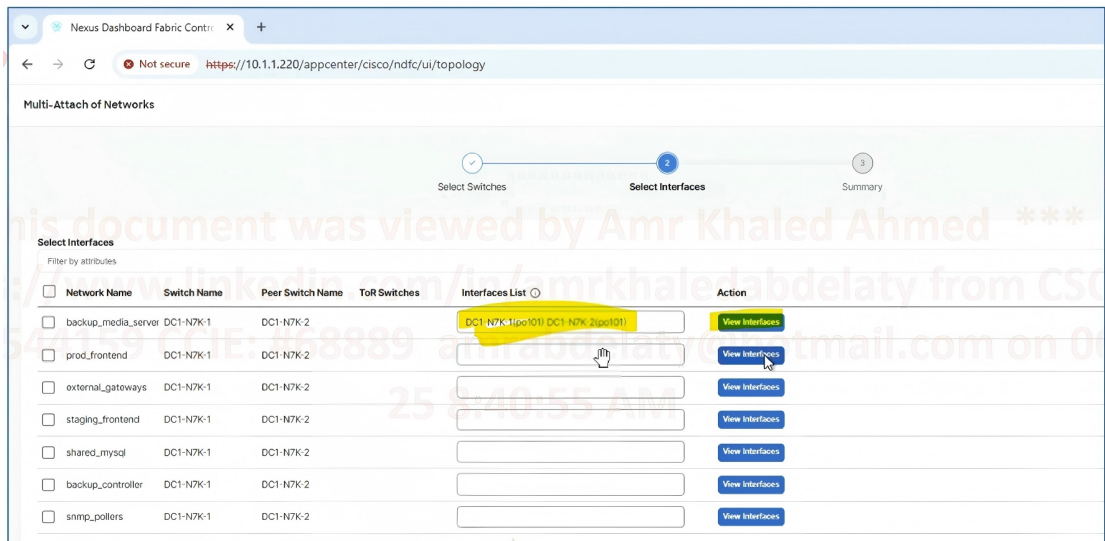
Interface/Ports	SwitchName	Channel Number	Port Type	Port Description	Neighbor Info
<input checked="" type="checkbox"/> Port-channel101	DC1-N7K-1	101	trunk		
<input type="checkbox"/> Port-channel201	DC1-N7K-1	201	trunk		
<input checked="" type="checkbox"/> Port-channel101	DC1-N7K-2	101	trunk		
<input type="checkbox"/> Port-channel201	DC1-N7K-2	201	trunk		
<input type="checkbox"/> Ethernet3/3	DC1-N7K-1	NA	trunk		
<input type="checkbox"/> Ethernet3/6	DC1-N7K-1	NA	trunk		
<input type="checkbox"/> Ethernet3/7	DC1-N7K-1	NA	trunk		
<input type="checkbox"/> Ethernet3/11	DC1-N7K-2	NA	trunk		
<input type="checkbox"/> Ethernet3/14	DC1-N7K-2	NA	trunk		
<input type="checkbox"/> Ethernet3/16	DC1-N7K-2	NA	trunk		
<input type="checkbox"/> Ethernet4/1	DC1-N7K-1	NA	trunk		
<input type="checkbox"/> Ethernet4/3	DC1-N7K-1	NA	trunk		
<input type="checkbox"/> Ethernet4/4	DC1-N7K-1	NA	trunk		

20 items found

# CCIE Data Center v3.1 Real Labs DOO Module Lab1

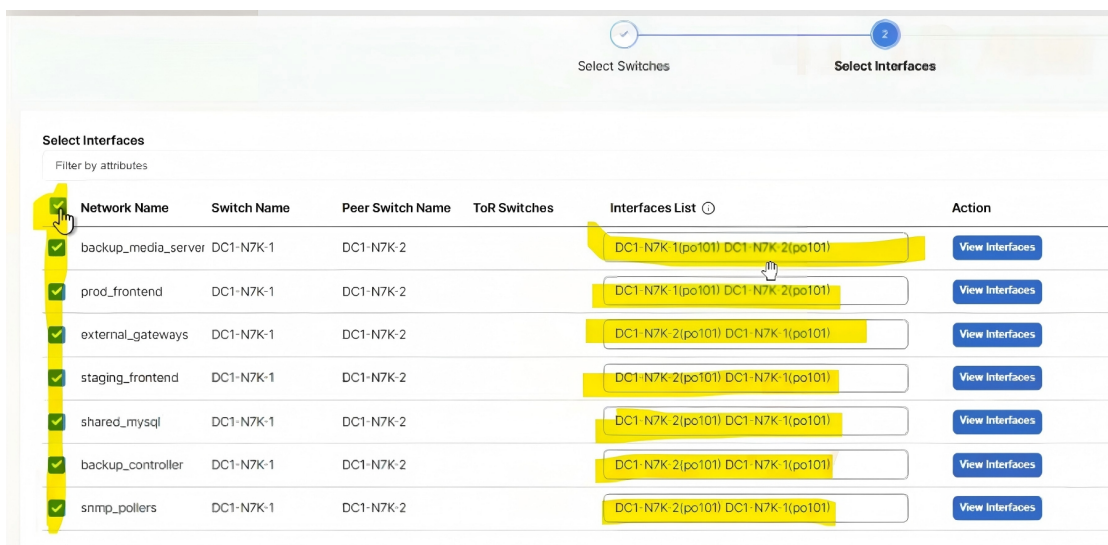
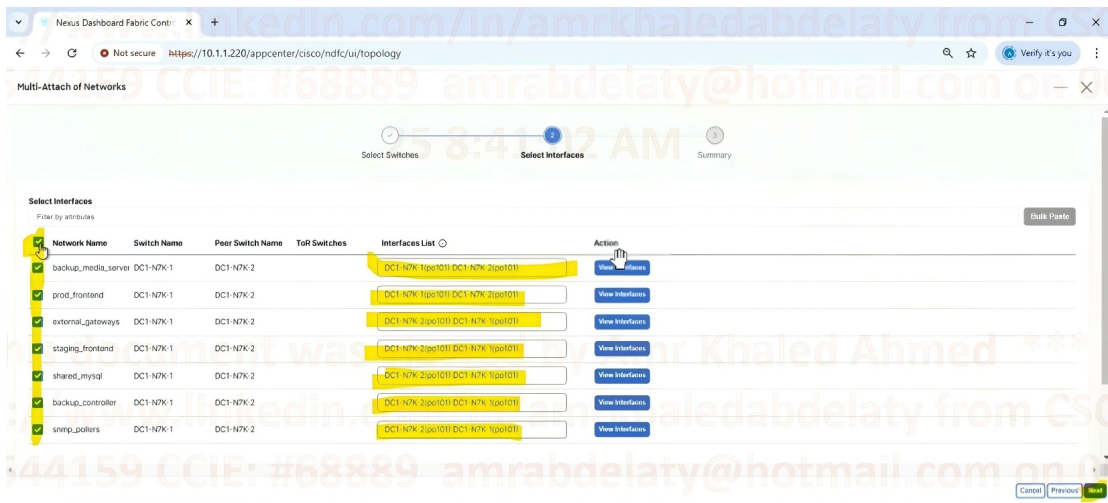


**NOTE: pre-config in exam have already mapped some vlans on interfaces 4/12 Just add your PO101 manual on every network, don't remove existing mapping. Also add po201 at external gateways.**



NOTE: Do The same for all NetworkFor external gateways add also PO201 is going to be used in

1.6 question



**Select Interfaces**

Filter by attributes

<input type="checkbox"/>	Network Name	Switch Name	Peer Switch Name	ToR Switches	Interfaces List	Action
<input type="checkbox"/>	backup_media_server	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	snmp_poller	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	external_gateways	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101,po201) DC1-N7K-2(po101,po201)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	staging_frontend	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	shared_mysql	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	staging_controller	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>
<input type="checkbox"/>	backup_controller	DC1-N7K-1	DC1-N7K-2		DC1-N7K-1(po101) DC1-N7K-2(po101)	<a href="#">View Interfaces</a>

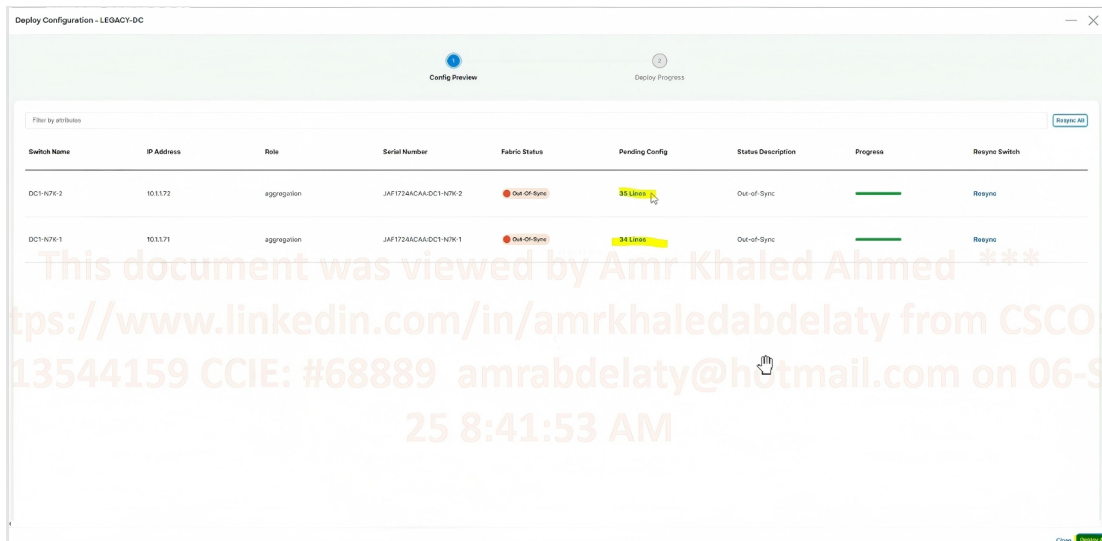
**Summary**

Networks Selected	Devices Selected	Network Attachments	Device Interface Association	Device Interface De-Association
7	1	2	16	0

Deploy Later  
 Proceed to Full Switch Deploy (Recommended)  
 Proceed to Individual Network Deploy

This document was viewed by Amr Khaled Ahmed \*\*\*  
 https://www.linkedin.com/in/amrkhaledabdelyaty from CSCO:  
 CO13544159 CCIE: #68889 amrabdelyaty@hotmail.com on 06-Sep-2023  
 25 8:41:44 AM

## CCIE Data Center v3.1 Real Labs DOO Module Lab1



### verification

```

DC1-N7K-1# show vpc
Legend:
      (*) - local vPC is down, forwarding via vPC peer-link

vPC domain id          : 1
Peer status            : peer adjacency formed ok
vPC keep-alive status  : peer is alive
Configuration consistency status : success
Peer-vlan consistency status : success
Type-2 consistency status : success
vPC role               : primary
Number of vPCs configured : 2
Peer Gateway          : Enabled
Peer gateway excluded VLANs : -
Peer gateway excluded bridge-domains : -
Dual-active excluded VLANs and BDs : -
Graceful Consistency Check : Enabled
Auto-recovery status   : Enabled (timeout = 360 seconds)
Operational Layer3 Peer-router : Disabled (*)
Self-isolation         : Disabled

vPC Peer-link status
-----
id  Port  Status Active vlans          Active BDs
---  ---  ---  ---
1   Po500 up    1,460,630-635,2000-2001 -
    
```

Check on both 7k to see po101 and po201 active vlans and status

```
vPC Peer-link status
-----
id  Port  Status Active vlans      Active BDs
-----
1   Po500 up     1,460,630-635,2000-2001  -

vPC status
Id      : 101
Port    : Po101
Status  : up
Consistency : success
Reason  : success
Active Vlans : 460,630-635
Id      : 201
Port    : Po201
Status  : up
Consistency : success
Reason  : success
Active Vlans : 460
DC1-N7K-1#
```

```
DC1-N7K-2# show vpc
Legend:
(*) - local vPC is down, forwarding via vPC peer-link

vPC domain id          : 1
Peer status            : peer adjacency formed ok
vPC keep-alive status  : peer is alive
Configuration consistency status : success
Peer-vlan consistency status : success
Type-2 consistency status : success
vPC role               : secondary
Number of vPCs configured : 2
Peer Gateway           : Enabled
Peer gateway excluded VLANs : -
Peer gateway excluded bridge-domains : -
Dual-active excluded VLANs and BDs : -
Graceful Consistency Check : Enabled
Auto-recovery status   : Enabled (timeout = 360 seconds)
Operational Layer3 Peer-router : Disabled
Self-isolation         : Disabled

vPC Peer-link status
-----
id  Port  Status Active vlans      Active BDs
-----
1   Po500 up     1,460,630-635,2000-2001  -

vPC status
Id      : 101
Port    : Po101
Status  : up
```

```
vPC status
Id      : 101
Port    : Po101
Status  : up
Consistency : success
Reason  : success
Active Vlans : 460,630-635
Id      : 201
Port    : Po201
Status  : up
Consistency : success
Reason  : success
Active Vlans : 460
DCL-N7K-2#
DCL-N7K-2#
DCL-N7K-2#
DCL-N7K-2# show spanning-tree inter
interface internal
DCL-N7K-2# show spanning-tree interface port-channel 101
```

Vlan	Role	Sts	Cost	Prio.Nbr	Type
VLAN0460	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0630	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0631	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0632	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0633	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0634	Desg	FWD	1	128.4196	(vPC) P2p

```
Id      : 201
Port    : Po201
Status  : up
Consistency : success
Reason  : success
Active Vlans : 460
DCL-N7K-2#
DCL-N7K-2#
DCL-N7K-2#
DCL-N7K-2# show spanning-tree inter
interface internal
DCL-N7K-2# show spanning-tree interface port-channel 101
```

Vlan	Role	Sts	Cost	Prio.Nbr	Type
VLAN0460	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0630	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0631	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0632	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0633	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0634	Desg	FWD	1	128.4196	(vPC) P2p
VLAN0635	Desg	FWD	1	128.4196	(vPC) P2p

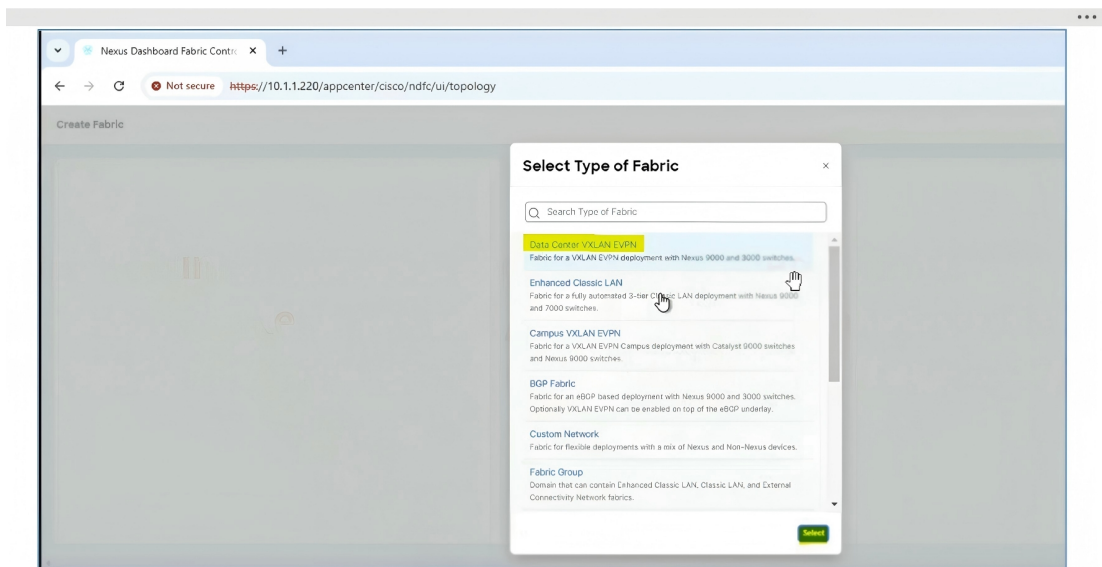
## 1.3:VXLAN EVPN Shared Borders.

The DC-2 Nexus 9000s must provide Layer 2(with BUM flooding)and Layer 3 extensions to the entire Multi-Site domain. They must operate as VPC External VTEPs and not as border gateways.

- Create a new data center VXLAN EVPN fabric and name it SHARED-BORDERS
  - Use Autonomous System 65058.
  - Do not change any resource pool (subnets/VLANs/VNIs).
  - Optional: Ensure that devices will not be reloaded when imported; this might save you a few minutes.
- Import the devices using their management IP.
- Define the role of each switch and create a vPC domain between them.
- Create a vPC interface that will connect toward DC2-N7K-1.
  - Port-Channel and vPC IDs on both shared borders must be 301.
  - Only DC2-N9K-1/2 Eth 1/1 must be used for this vPC.Eth1/2 will be used for a differenttask.
  - Ensure that you are using the appropriate interface options for interconnecting differentswitches.
  - vPCis already configured on the other side.
- Recalculate and deploy.
- 

### SOLUTION:

Fabric Name	Fabric Technology	Fabric Type	ASN	Fabric Health
LEGACY-DC	Classic LAN	Enhanced Classic LAN	65053	Healthy
LEGACY-DC_GATEWAY	VXLAN EVPN	Data Center VXLAN EVPN	65048	Healthy
ISN	Outspan	External Connectivity Network	65027	Healthy
EXTERNAL-EDGE	Custom	External Connectivity Network	65027	Healthy



Nexus Dashboard Fabric Control

Not secure https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

### Create Fabric

Fabric Name  
SHARED-BORDERS

Pick Fabric  
Data Center VXLAN EVPN >

**General Parameters** Replication vPC Protocols Advanced Resources **Manageability** Bootstrap Configuration Backup Flow Monitor

BGP ASN\*  
65058 1-4294967295 | 1-65535[0-65535] It is a good practice to have a unique ASN for each Fabric.

Enable IPv6 Underlay  
 If not enabled, IPv6 underlay is disabled.

Enable IPv6 Link-Local Address  
 If not enabled, Spine-Leaf interfaces will use global IPv6 addresses.

Fabric Interface Numbering\*  
p2p Numbered(Point-to-Point) or Unnumbered

Nexus Dashboard Fabric Control

Not secure https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

### Create Fabric

Fabric Name  
SHARED-BORDERS

Pick Fabric  
Data Center VXLAN EVPN >

**General Parameters** **Replication** vPC Protocols Advanced Resources Manageability Bootstrap Configuration Backup Flow Monitor

Replication Mode\*  
Ingress Replication Mode for BUM Traffic

Multicast Group Subnet  
 Multicast pool prefix between 8 to 30. A multicast group IP from this pool is used for BUM traffic for each overlay network.

Enable Tenant Routed Multicast (TRM)  
 For Overlay Multicast Support in VXLAN Fabrics

Default MDT Address for TRM VRFs  
 Default Underlay Multicast group IP assigned for every overlay VRF.

Rendezvous-Points  
Select an Option Number of spines acting as Rendezvous-Point (RP)

Nexus Dashboard Fabric Contr... x +

Not secure https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

### Create Fabric

Fabric Name  
SHARED-BORDERS

Pick Fabric  
Data Center VXLAN EVPN >

General Parameters Replication vPC Protocols **Advanced** Resources Manageability Bootstrap Configuration Backup Flow Monitor

VRF Template\*  
Default\_VRF\_Universal Default Overlay VRF Template For Leafs

Network Template\*  
Default\_Network\_Universal Default Overlay Network Template For Leafs

VRF Extension Template\*  
Default\_VRF\_Extension\_Universal Default Overlay VRF Template For Borders

Network Extension Template\*  
Default\_Network\_Extension\_Universal Default Overlay Network Template For Borders

Overlay Mode  
cli VRF/Network configuration using config-profile or CLI

Enable Private VLAN (PVLAN)

Nexus Dashboard Fabric Contr... x +

Not secure https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

### Create Fabric

Unshut Host Interfaces by Default

Power Supply Mode\*  
ps-redundant Default Power Supply Mode For The Fabric

**CoPP Profile\***  
moderate Fabric Wide CoPP Policy. Customized CoPP policy should be provided when 'manual' is selected

VTEP HoldDown Time  
180 NVE Source Interface HoldDown Time (Min:1, Max:1500) in seconds

Brownfield Overlay Network Name Format  
Auto\_Net\_VNI\$\$VNI\$\$VLAN\$\$VLAN\_ID\$\$ Generated network name should be < 84 characters

Skip Overlay Network Interface Attachments   
Enable to skip overlay network interface attachments for Brownfield and Host Port Resync cases

Enable CDP for Bootstrapped Switch   
Enable CDP on management interface

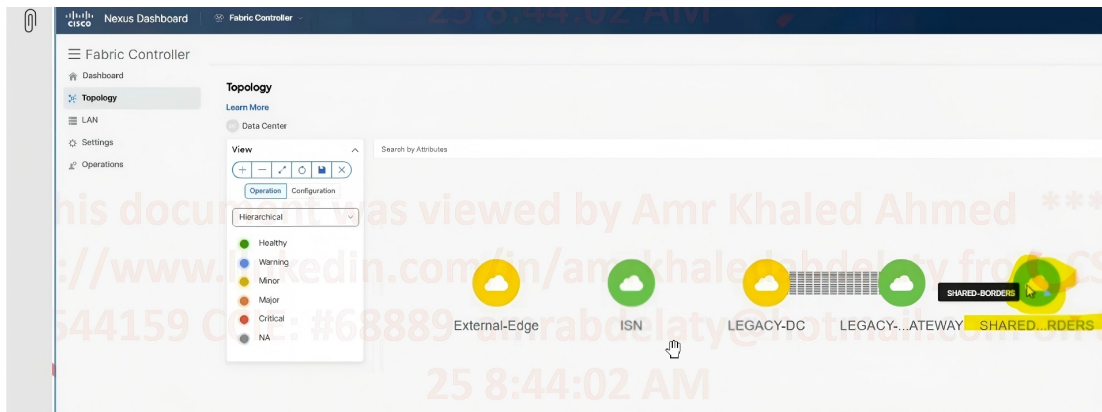
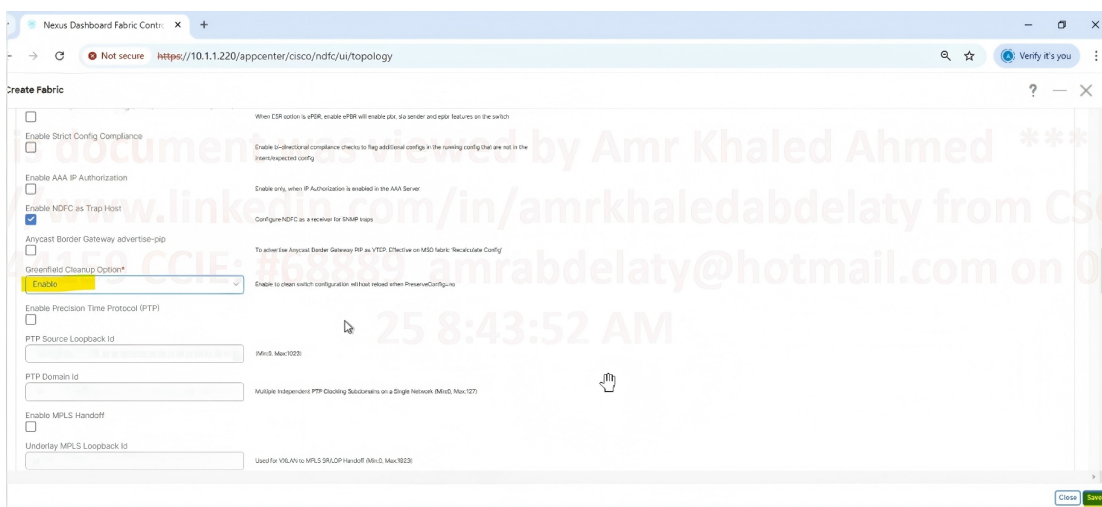
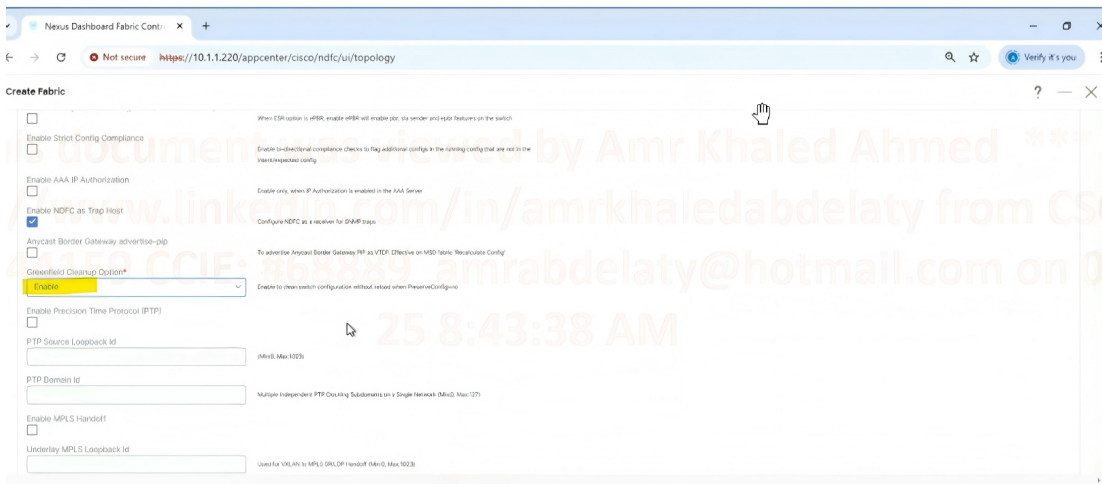
Enable VXLAN OAM   
Enable the Next Generation (NG) OAM feature for all switches in the fabric to aid in trouble-shooting VXLAN EVPN fabrics

Enable Tenant DHCP

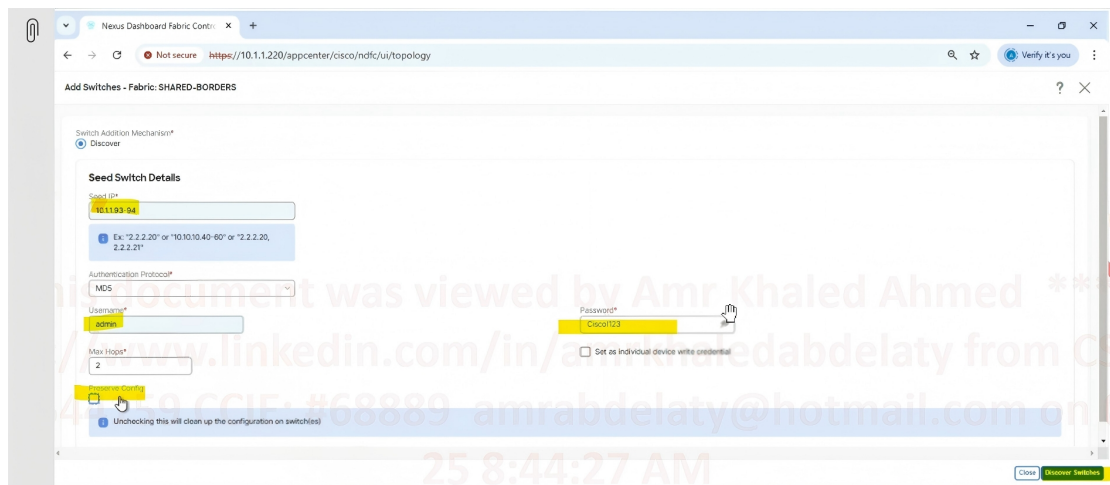
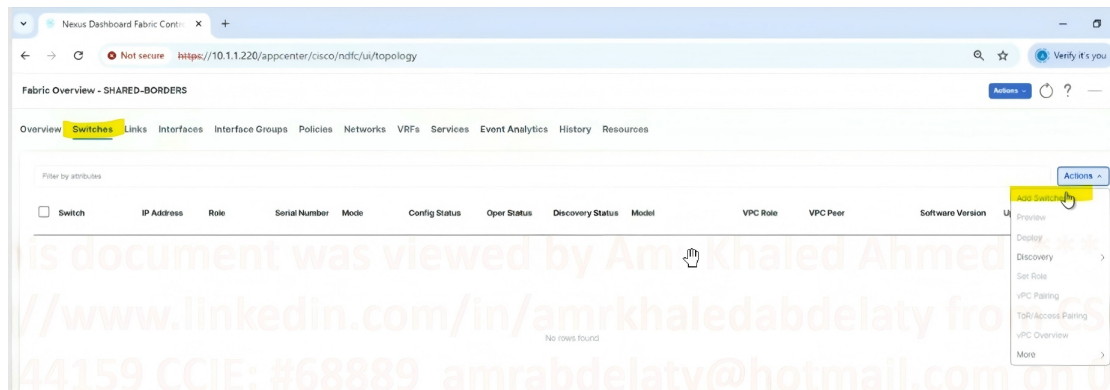
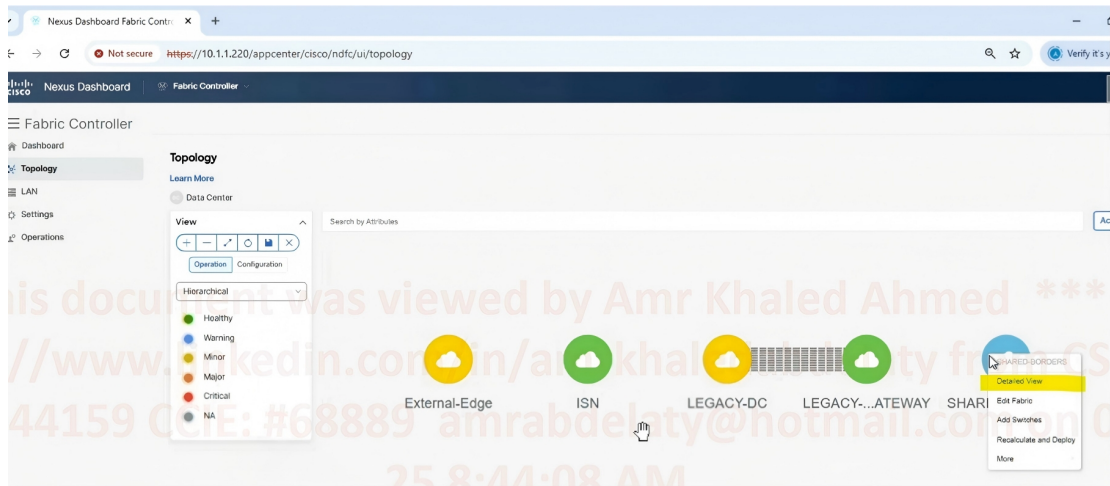
Enable NX-API   
Enable HTTPS for API

**Note: Cpp profile we are selecting "moderate" so that we can fulfill Question 1.9 now itself.**

# CCIE Data Center v3.1 Real Labs DOO Module Lab1



# CCIE Data Center v3.1 Real Labs DOO Module Lab1



# CCIE Data Center v3.1 Real Labs DOO Module Lab1

Nexus Dashboard Fabric Control

Discovery Results

Switch Name	Serial Number	IP Address	Model	Version	Status	Progress
<input type="checkbox"/> 1011.99		10.11.99	cisco WS-C4948E	15.2(4)E8	SNMPv3 Timeout	
<input checked="" type="checkbox"/> DC2-N9K-1	FDO22290CGB	10.11.93	N9K-C93108TC-EX	9.3(8)	Manageable	
<input type="checkbox"/> DC1-BGW-1	FDO24080A6N	10.11.91	N9K-C93108TC-EX	9.3(8)	Already Managed in LEGACY-DC_GATEWAY	
<input type="checkbox"/> DC2-N7K-IPN	JAF1741AJR-DC2-N7K-IPN	10.11.82	N7K-C7004	73(O)D(1)1	Manageable	
<input type="checkbox"/> DC2-N7K-1	JAF1741AJR-DC2-N7K-1	10.11.81	N7K-C7004	73(O)D(1)1	Already Managed in External-Edge	
<input checked="" type="checkbox"/> DC2-N9K-2	FDO203202FF	10.11.94	N9K-C93108TC-EX	9.3(8)	Manageable	
<input type="checkbox"/> DC1-BGW-2	FDO21151NDV	10.11.92	N9K-C93108TC-EX	9.3(8)	Already Managed in LEGACY-DC_GATEWAY	

7 items found

Nexus Dashboard Fabric Control

Discovery Results

Switch Name	Serial Number	IP Address	Model	Version	Status	Progress
<input type="checkbox"/> 1011.99		10.11.99	cisco WS-C4948E	15.2(4)E8	SNMPv3 Timeout	
<input type="checkbox"/> DC2-N9K-1	FDO22290CGB	10.11.93	N9K-C93108TC-EX	9.3(8)	Switch Added	<div style="width: 100%;"></div>
<input type="checkbox"/> DC1-BGW-1	FDO24080A6N	10.11.91	N9K-C93108TC-EX	9.3(8)	Already Managed in LEGACY-DC_GATEWAY	
<input type="checkbox"/> DC2-N7K-IPN	JAF1741AJR-DC2-N7K-IPN	10.11.82	N7K-C7004	73(O)D(1)1	Manageable	
<input type="checkbox"/> DC2-N7K-1	JAF1741AJR-DC2-N7K-1	10.11.81	N7K-C7004	73(O)D(1)1	Already Managed in External-Edge	
<input type="checkbox"/> DC2-N9K-2	FDO203202FF	10.11.94	N9K-C93108TC-EX	9.3(8)	Switch Added	<div style="width: 100%;"></div>
<input type="checkbox"/> DC1-BGW-2	FDO21151NDV	10.11.92	N9K-C93108TC-EX	9.3(8)	Already Managed in LEGACY-DC_GATEWAY	

7 items found

Nexus Dashboard Fabric Control

Fabric Overview - SHARED-BORDERS

Overview Switches Links Interfaces Interface Groups Policies Networks VRFs Services Event Analytics History Resources

Switch	IP Address	Role	Serial Number	Mode	Config Status	Oper Status	Discovery Status	Model	VPC Role	VPC Peer	Software Version	Up Time
<input type="checkbox"/> DC2-N9K-1	10.11.93	Leaf	FDO22290CGB	Migrating	NA	Minor	OK	N9K-C93108TC-EX	Secondary	DC2-N9K-2	9.3(8)	1 day, 05:23:55
<input type="checkbox"/> DC2-N9K-2	10.11.94	Leaf	FDO203202FF	Migrating	NA	Minor	OK	N9K-C93108TC-EX	Primary	DC2-N9K-1	9.3(8)	1 day, 05:24:01

Nexus Dashboard Fabric Control

Fabric Overview - SHARED-BORDERS

Overview Switches Links Interfaces Interface Groups Policies Networks VRFs Services Event Analytics History Resources

Switch	IP Address	Role	Serial Number	Mode	Config Status	Oper Status	Discovery Status	Model	VPC Role	VPC Peer	Software Version	Up Time
<input type="checkbox"/> DC2-N9K-1	10.11.93	Leaf	FDO22290CGB	OK	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)	1 day, 05:27:39
<input type="checkbox"/> DC2-N9K-2	10.11.94	Leaf	FDO203202FF	OK	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)	1 day, 05:27:47

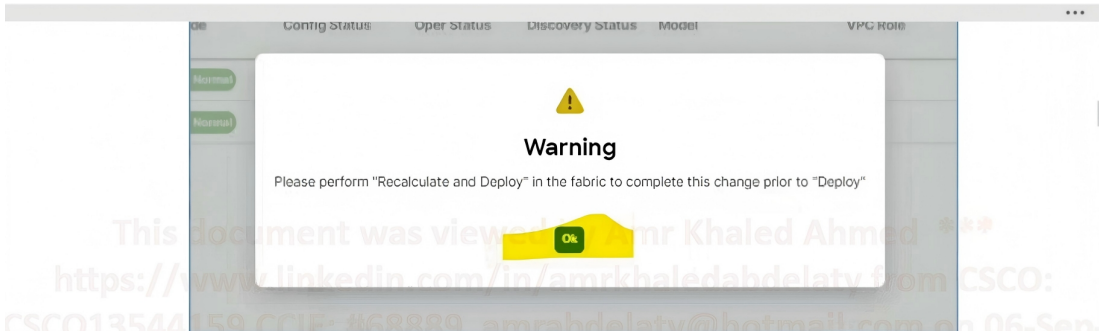
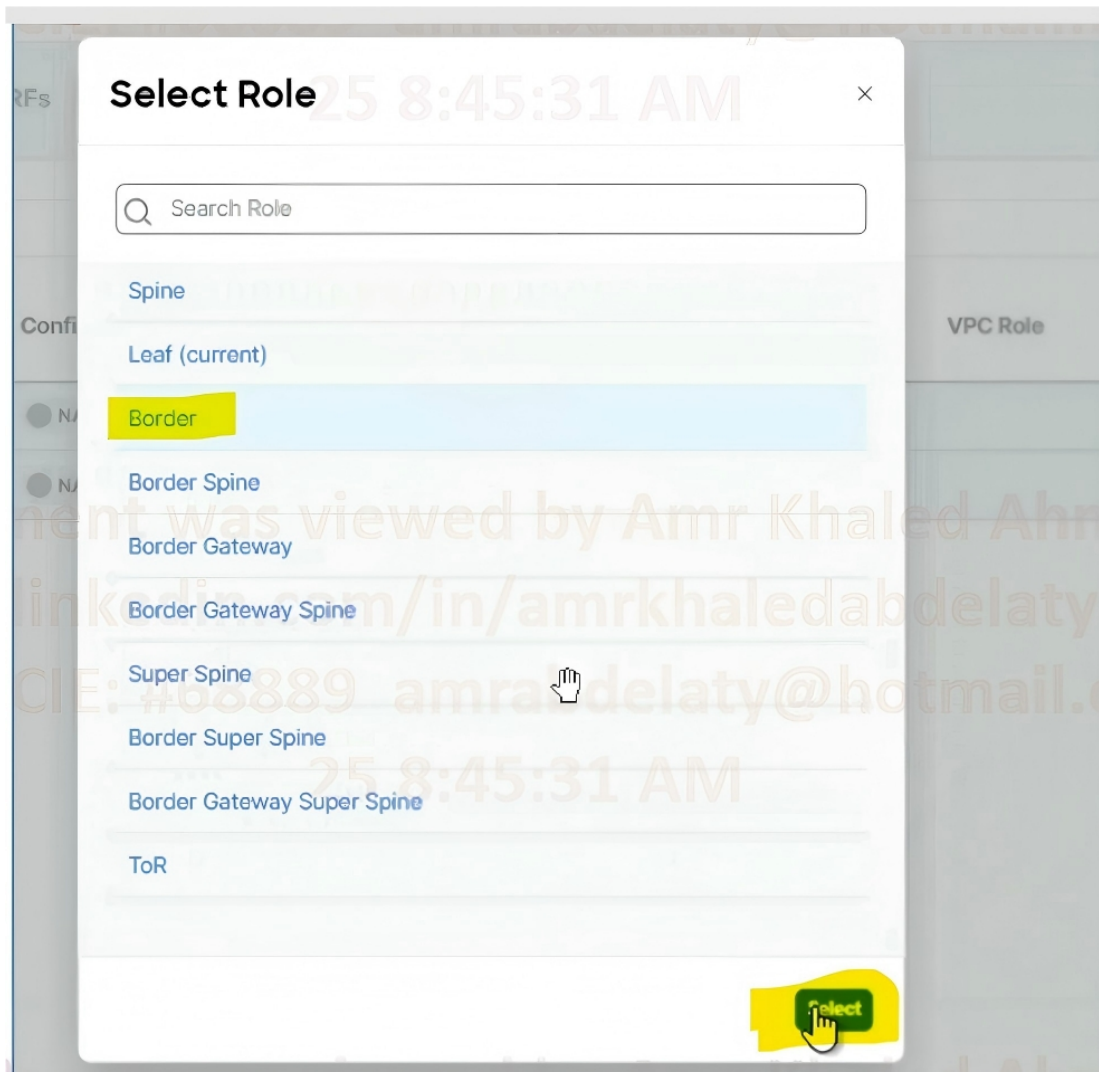
# CCIE Data Center v3.1 Real Labs DOO Module Lab1

The screenshot shows the Nexus Dashboard Fabric Controller interface. The page title is "Fabric Overview - SHARED-BORDERS". The navigation menu includes Overview, Switches, Links, Interfaces, Interface Groups, Policies, Networks, VRFs, Services, Event Analytics, History, and Resources. The "Switches" tab is active. Below the navigation, there is a "Filter by attributes" section. The main content is a table of switches. An "Actions" dropdown menu is open for the first switch, showing options: Add Switches, Preview, Deploy, Discovery, Add Switches, vPC Pairing, T-All/Access Pairing, vPC Overview, and More.

Switch	IP Address	Role	Serial Number	Mode	Config Status	Oper Status	Discovery Status	Model	VPC Role	VPC Peer	Software Version
DC2-N9K-1	10.11.93	Leaf	FDO22290CGB	Normal	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)
DC2-N9K-2	10.11.94	Leaf	FDO203202FF	Normal	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)

This screenshot shows the same Nexus Dashboard Fabric Controller interface as the first one. The table of switches is visible, and a mouse cursor is hovering over the "Serial Number" column header. The table data is as follows:

Switch	IP Address	Role	Serial Number	Mode	Config Status	Oper Status	Discovery Status	Model	VPC Role	VPC Peer	Software Version
DC2-N9K-1	10.11.93	Leaf	FDO22290CGB	Normal	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)
DC2-N9K-2	10.11.94	Leaf	FDO203202FF	Normal	NA	Minor	OK	N9K-C93108TC-EX			9.3(8)



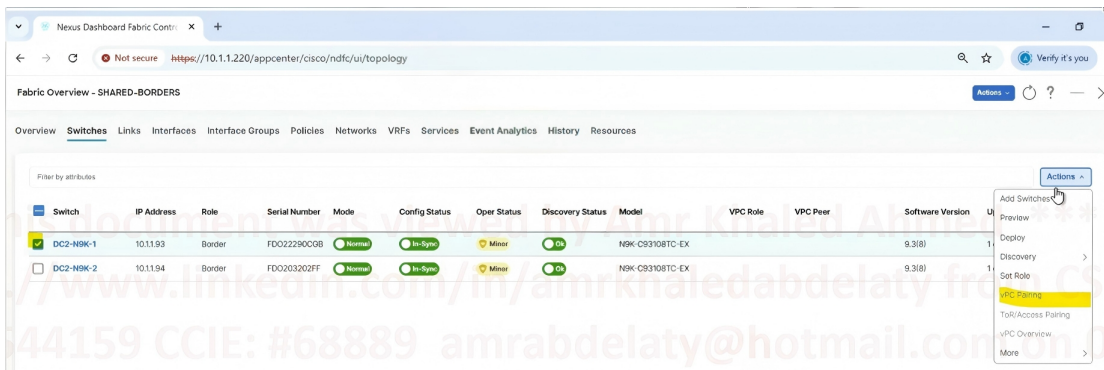
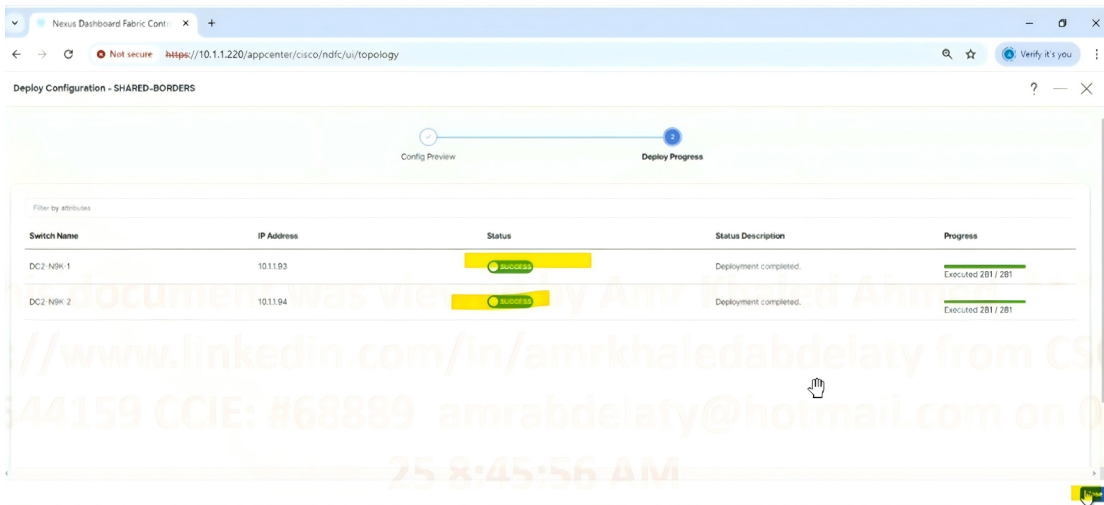
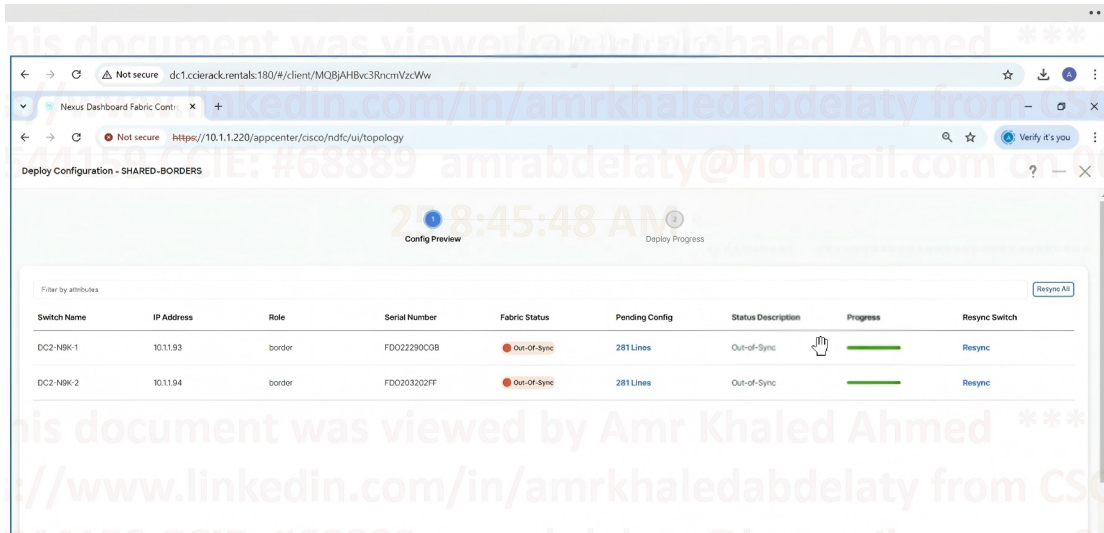
Fabric Overview - SHARED-BORDERS

Overview **Switches** Links Interfaces Interface Groups Policies Networks VRFs Services Event Analytics History Resources

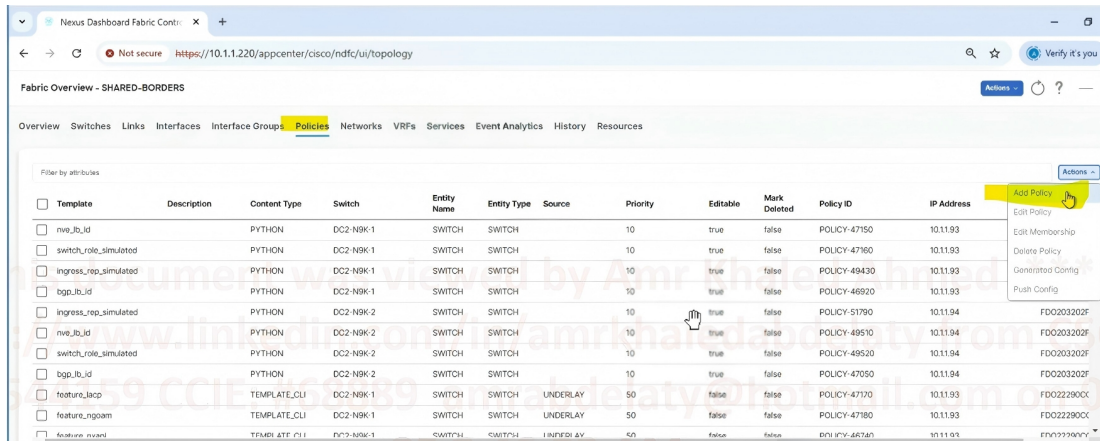
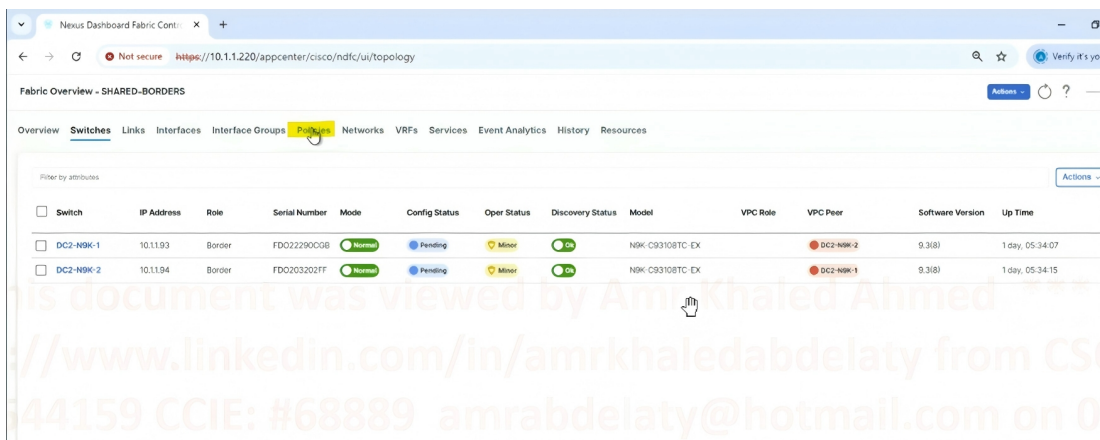
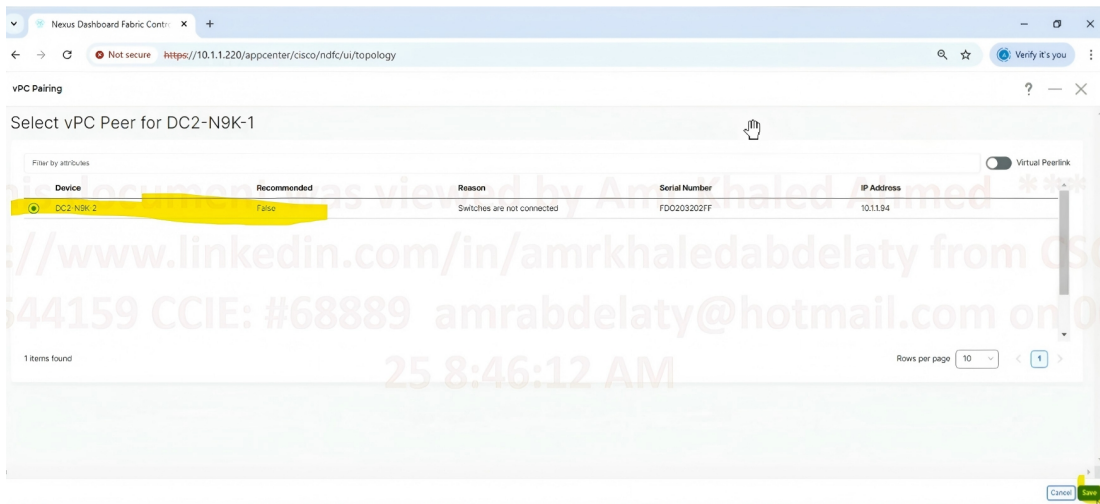
Filter by attributes

Switch	IP Address	Role	Serial Number	Mode	Config Status	Oper Status	Discovery Status	Model	VPC Role	VPC Peer	Software Version	Up Time
<input type="checkbox"/> DC2-N9K-1	10.11.93	Border	FDO229C0G	OK	OK	Minor	OK	N9K-C93081C-EX			9.3(8)	1 day, 05:28:41
<input type="checkbox"/> DC2-N9K-2	10.11.94	Border	FDO203207F	OK	OK	Minor	OK	N9K-C93081C-EX			9.3(8)	1 day, 05:28:49

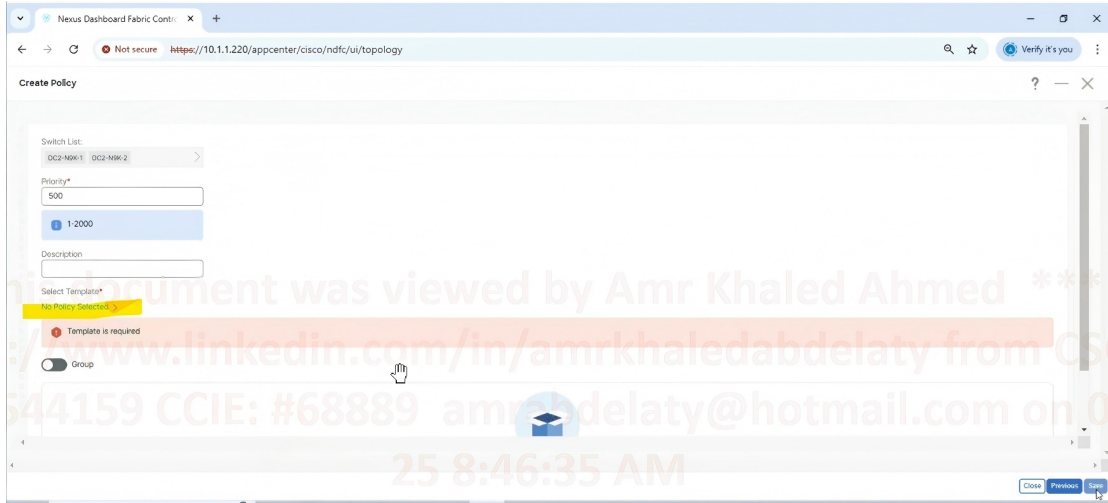
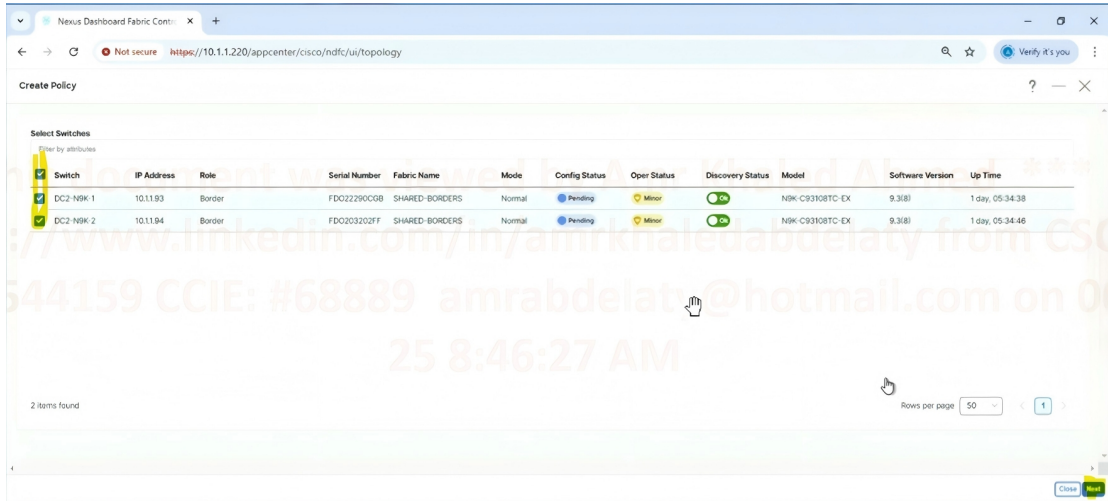
# CCIE Data Center v3.1 Real Labs DOO Module Lab1

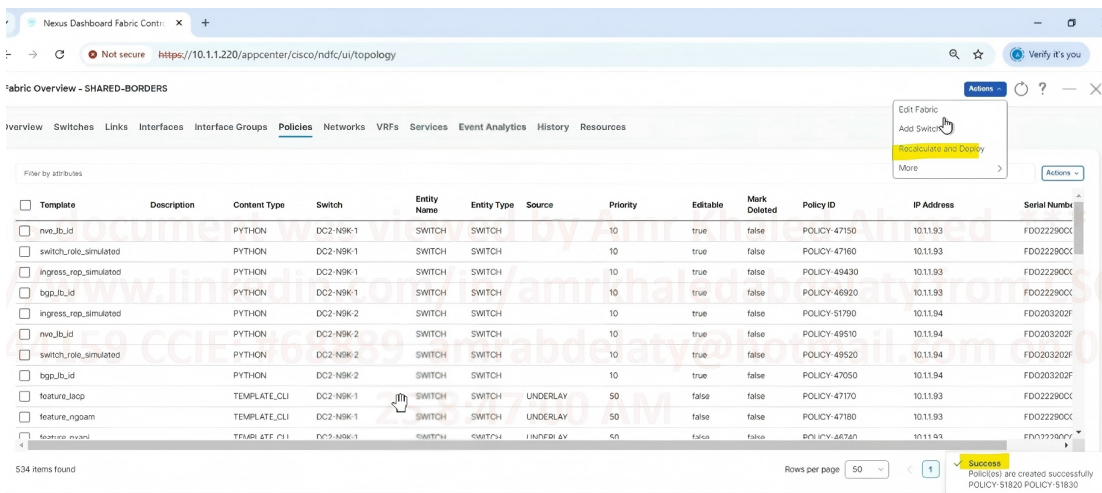
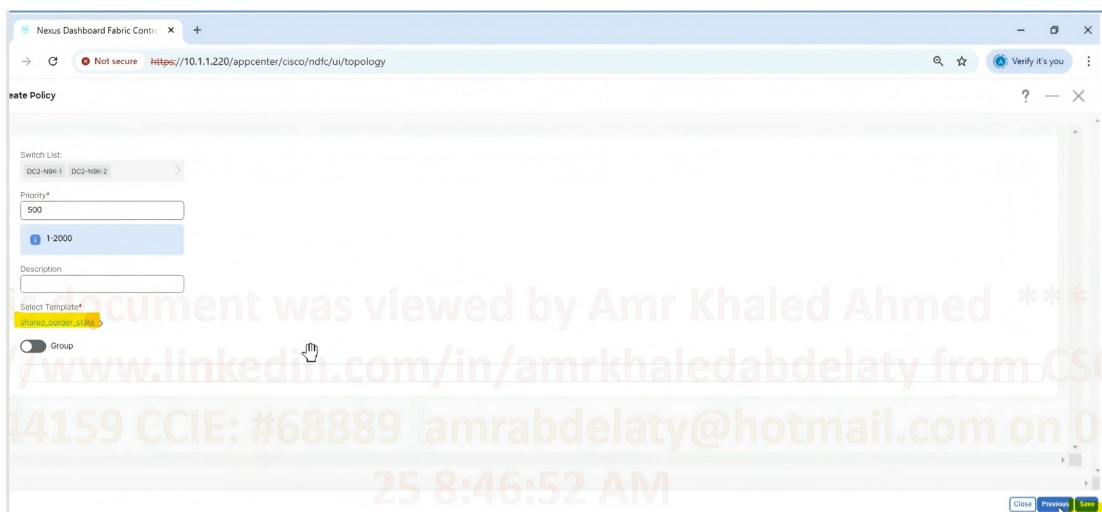
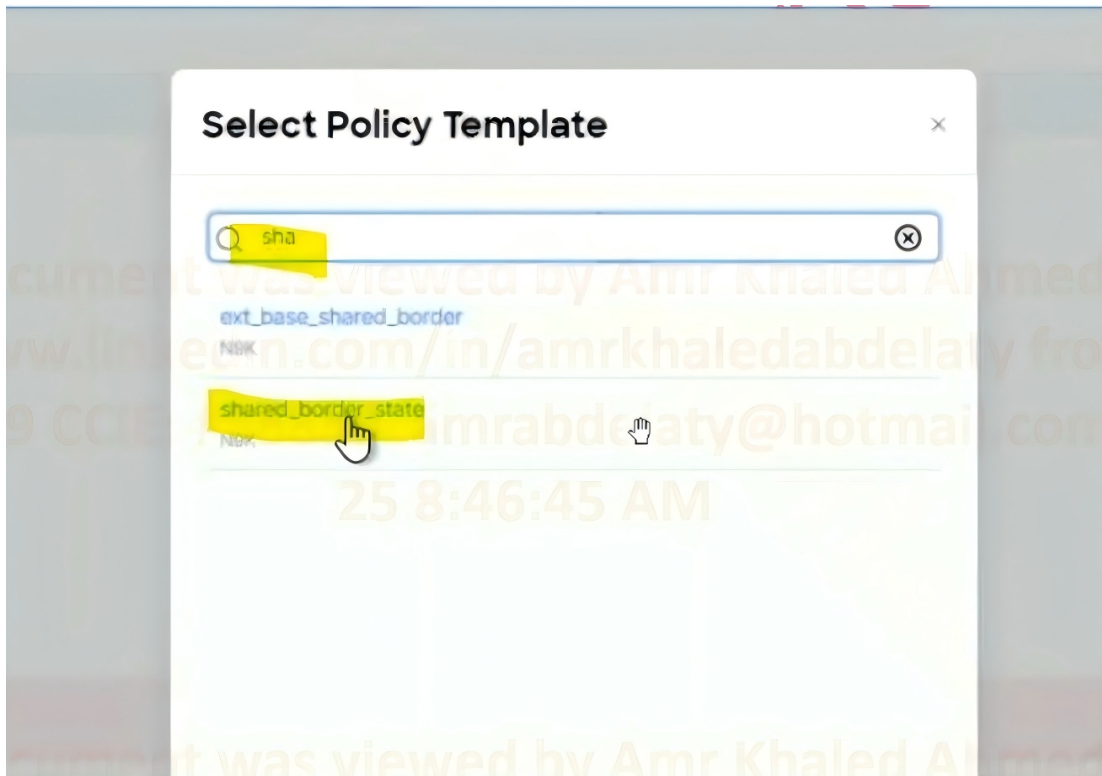


# CCIE Data Center v3.1 Real Labs DOO Module Lab1

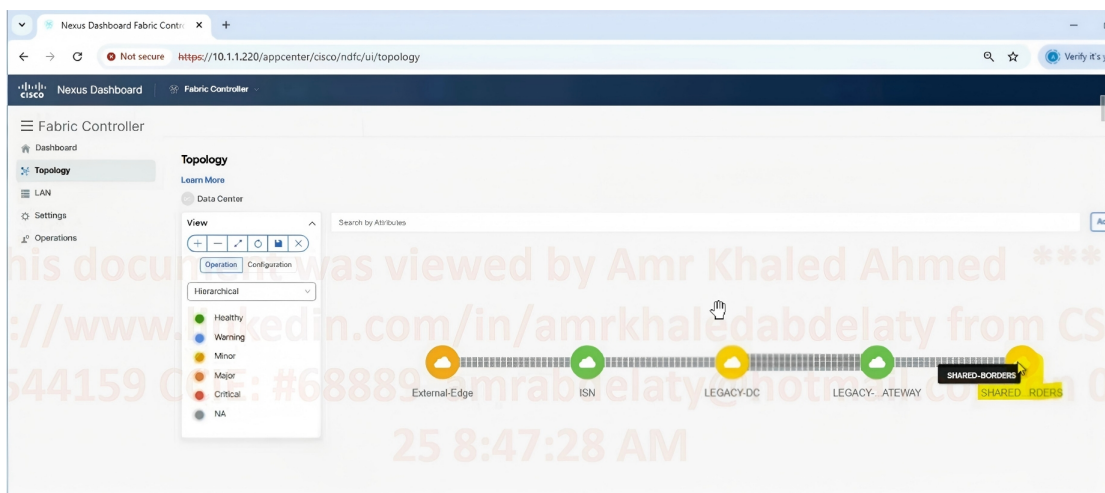
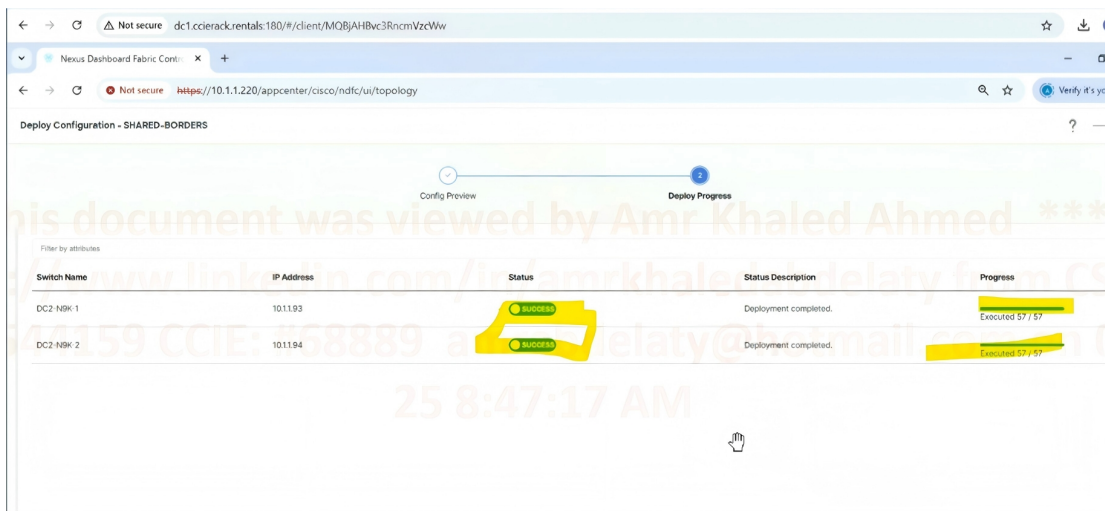
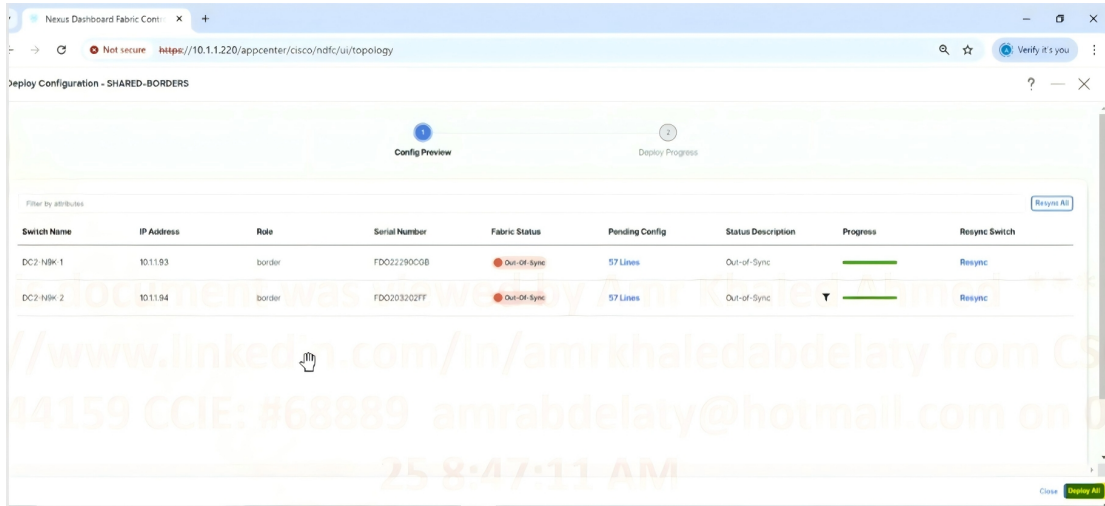


# CCIE Data Center v3.1 Real Labs DOO Module Lab1

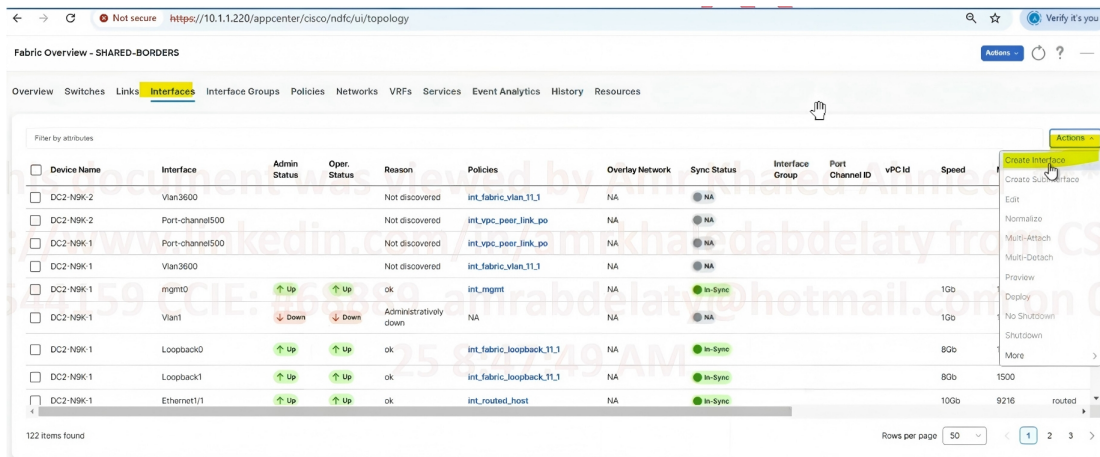
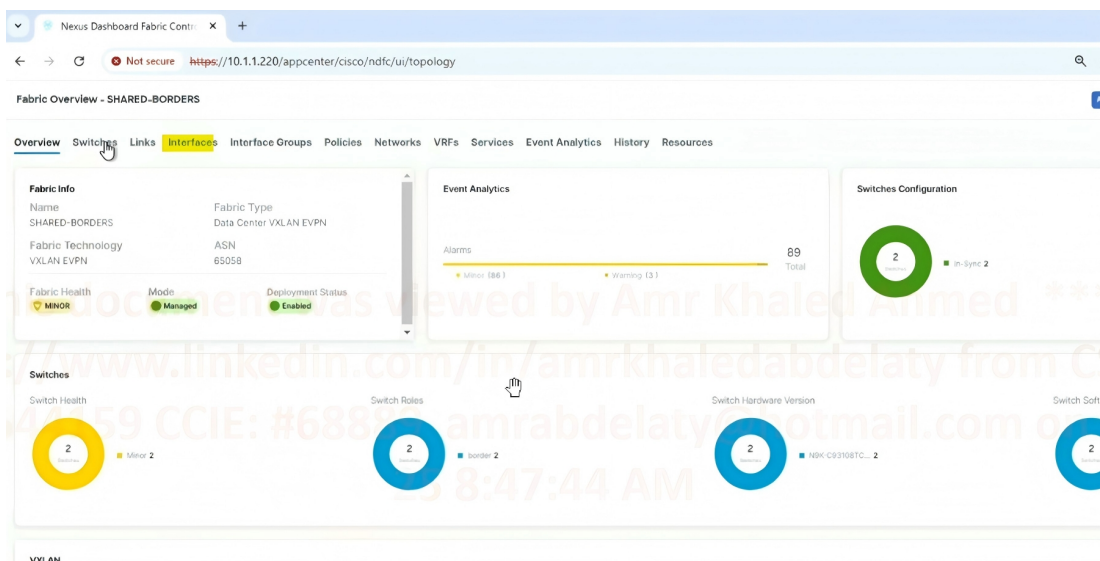
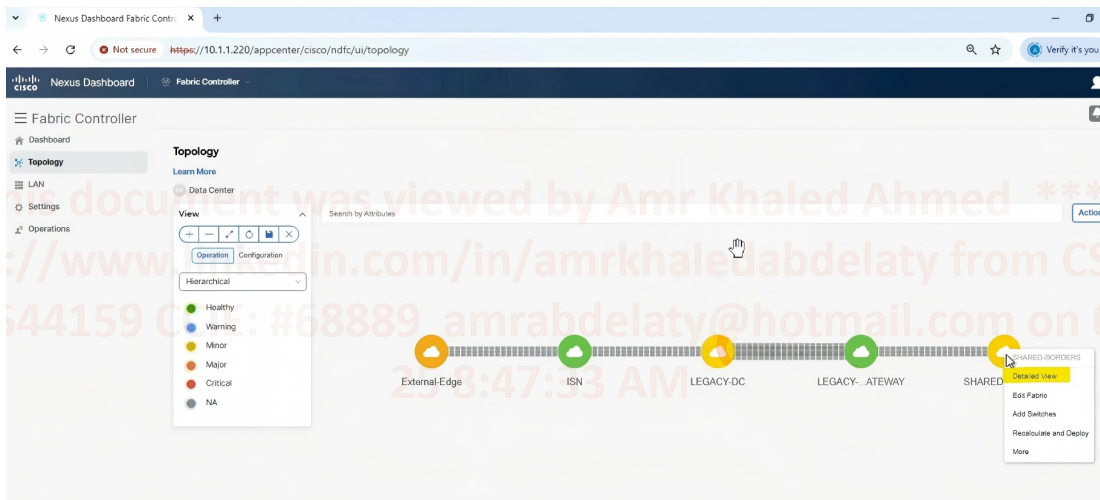




# CCIE Data Center v3.1 Real Labs DOO Module Lab1



# CCIE Data Center v3.1 Real Labs DOO Module Lab1



# CCIE Data Center v3.1 Real Labs DOO Module Lab1

Not secure https://10.1.1.220/appcenter/cisco/ndfc/ui/topology

### Create Interface

Type\*  
virtual Port Channel (vPC)

Select a vPC pair\*  
DC2-N9K-2---DC2-N9K-1

vPC ID\*  
301

Policy\*  
int\_vpc\_trunk\_host

Policy Options

Peer-1 Port-Channel ID\*  
301 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
301 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

Peer-1 Member Interfaces  
A list of member interfaces for Peer-1 (e.g. e1/5,eth1/7-9)

Save Cancel

### Create Interface

Type\*  
virtual Port Channel (vPC)

Select a vPC pair\*  
DC2-N9K-2---DC2-N9K-1

vPC ID\*  
301

Policy\*  
int\_vpc\_trunk\_host

Policy Options

Peer-1 Port-Channel ID\*  
301 Peer-1 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
301 Peer-2 VPC port-channel number (Min:1, Max:4096)

Peer-2 Port-Channel ID\*  
301 Peer-2 VPC port-channel number (Min:1, Max:4096)

Enable Config Mirroring  
 If enabled, Peer-1 config will be copied to Peer-2

Peer-1 Member Interfaces  
e1/1 A list of member interfaces for Peer-1 (e.g. e1/5,eth1/7-9)

Peer-2 Member Interfaces  
e1/1 A list of member interfaces for Peer-2 (e.g. e1/5,eth1/7-9)

Port Channel Mode\*  
active Channel mode options: on, active and passive

Enable BPDU Guard\*  
false Enable spanning-tree bpduguard: true='enable', false='disable', no='return to default settings'

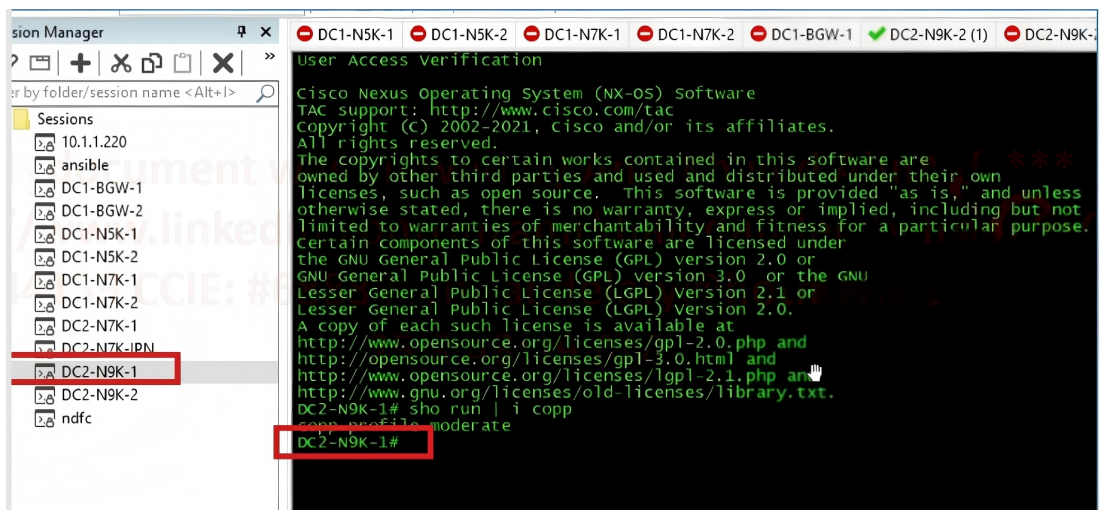
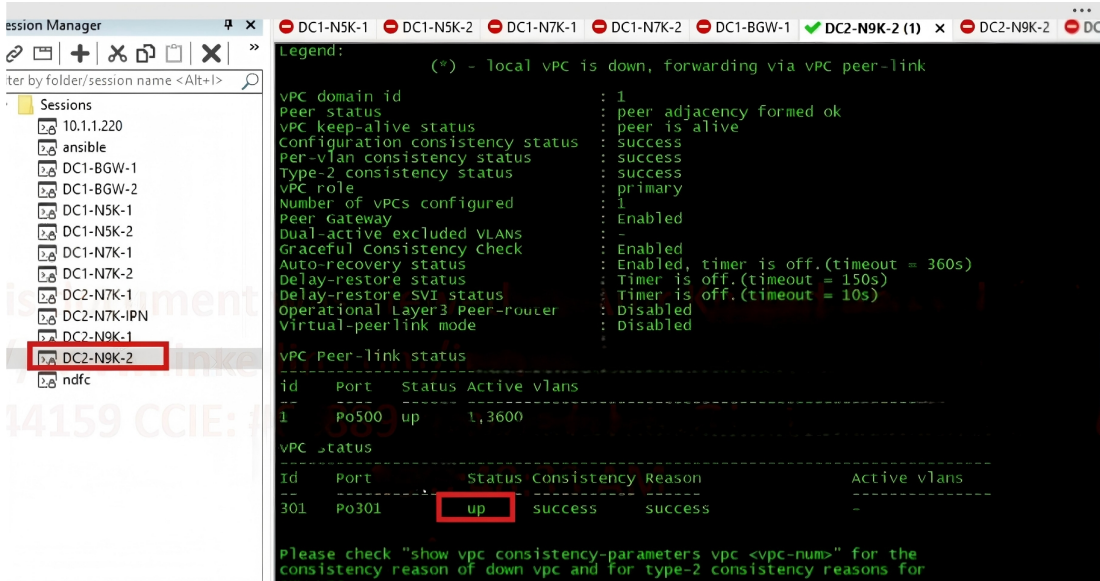
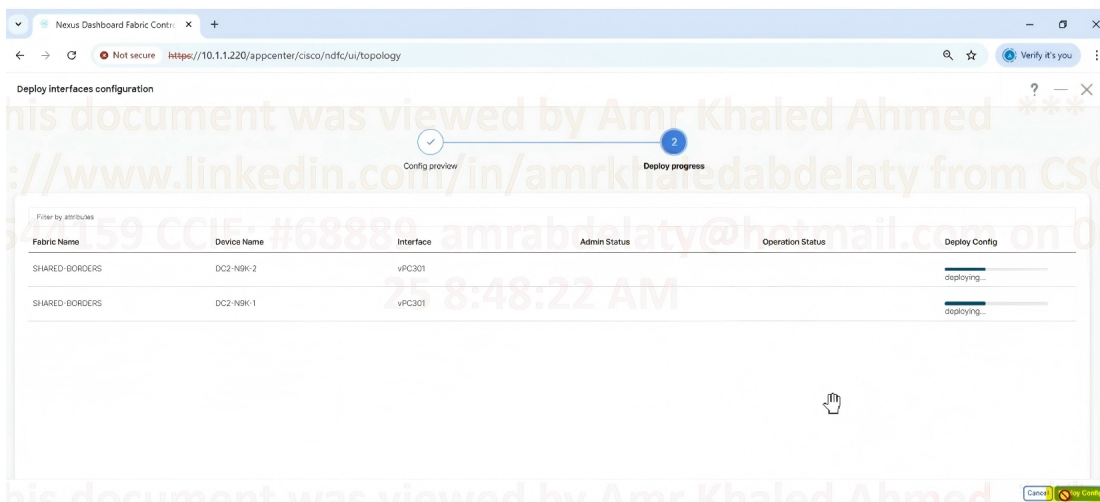
Enable Port Type Fast\*  
 Enable spanning-tree edge port behavior

MTU\*  
jumbo MTU for the Port Channel

SPEED  
Auto Port Channel Speed

Peer-1 Trunk Allowed Vlans\*  
none Allowed values: 'none', 'all', or vlan ranges (ex: 1-200,500-2000,3000)

CCIE Data Center v3.1 Real Labs DOO Module Lab1



The screenshot shows a network management interface with a session list on the left and a terminal window on the right. The session list includes:

- 10.1.1.220
- ansible
- DC1-BGW-1
- DC1-BGW-2
- DC1-N5K-1
- DC1-N5K-2
- DC1-N7K-1
- DC1-N7K-2
- DC2-N7K-1
- DC2-N7K-IPN
- DC2-N9K-1**
- DC2-N9K-2
- ndfc

The terminal window displays the following text:

```
User Access Verification
Cisco Nexus Operating System (NX-OS) Software
TAC support: http://www.cisco.com/tac
Copyright (C) 2002-2021, Cisco and/or its affiliates.
All rights reserved.
The copyrights to certain works contained in this software are
owned by other third parties and used and distributed under their own
licenses, such as open source. This software is provided "as is," and unless
otherwise stated, there is no warranty, express or implied, including but not
limited to warranties of merchantability and fitness for a particular purpose.
Certain components of this software are licensed under
the GNU General Public License (GPL) version 2.0 or
GNU General Public License (GPL) version 3.0 or the GNU
Lesser General Public License (LGPL) version 2.1 or
Lesser General Public License (LGPL) version 2.0.
A copy of each such license is available at
http://www.opensource.org/licenses/gpl-2.0.php and
http://opensource.org/licenses/gpl-3.0.html and
http://www.opensource.org/licenses/lgpl-2.1.php and
http://www.gnu.org/licenses/old-licenses/library.txt.
DC2-N9K-1# sho run | i copp
copp profile moderate
DC2-N9K-1#
```

## 1.4:VXLAN EVPN Multi-Site Fabric

It is now time to prepare the MSD parent fabric. Define the new VXLAN EVPN Multi-Site fabric.

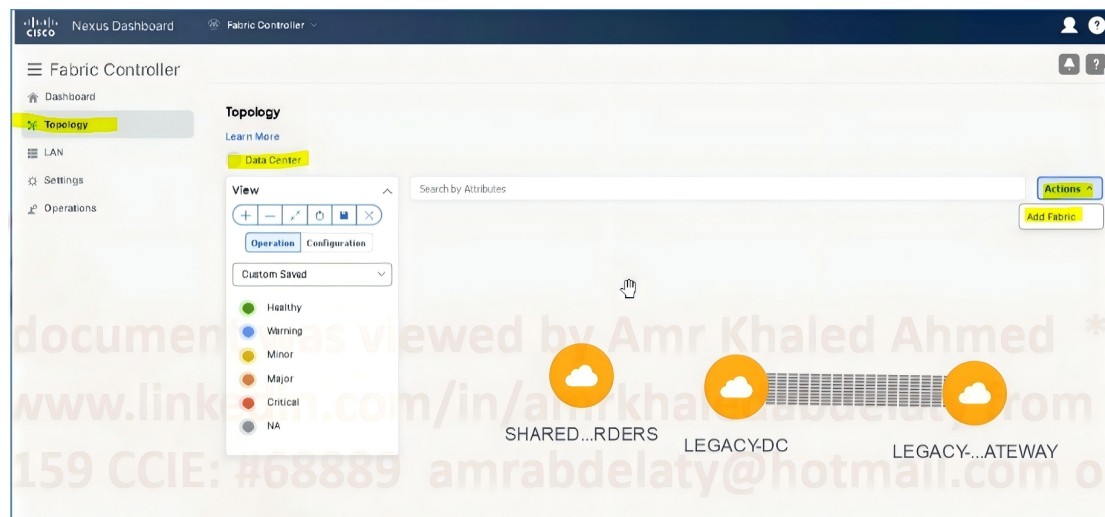
- Name it MULTI-SITE-DOMAIN
- Ensure that there will not be any underlay or overlay provisioning from NDFC.
- Leave the default resource ranges.

### SOLUTION:

Step 1:

Login to the <https://10.1.1.220> (NDFC)

Create VXLAN EVPN Multi-Site fabric



Create Fabric

Fabric Name

**Pick a Fabric**

**Choose Fabric**

Search Type of Fabric

- Fabric Group**  
Domain that can contain Enhanced Classic LAN, Classic LAN, and External Connectivity Network fabrics.
- Classic LAN**  
Fabric to manage a legacy Classic LAN deployment with Nexus switches.
- LAN Monitor**  
Fabric for monitoring Nexus switches for basic discovery and inventory management.
- VXLAN EVPN Multi-Site**  
Domain that can contain multiple VXLAN EVPN Fabrics with Layer-2/ Layer-3 Overlay Extensions and other Fabric Types.
- Multi-Site External Network**  
Network infrastructure attached to Border Gateways to interconnect VXLAN EVPN fabrics for Multi-Site and Multi-Cloud deployments.
- External Connectivity Network**  
Fabric for Core and Edge router deployments with a mix of Nexus and Non-Nexus devices.

**Select**

Fabric Name  
**MULTI-SITE-DDOMAIN**

Pick Fabric  
**VXLAN EVPN Multi-Site**

General Parameters **DCI** Resources Configuration Backup

Multi-Site Overlay IFC Deployment Method\*  
**Manual** Manual, Auto Overlay EVPN Peering to Route Servers, Auto Overlay EVPN Direct Peering to Border Gateways

Multi-Site Route Server List  
Multi-Site Route Server peer list (typically loopback IP address on Route-Server for Multi-Site EVPN peering with BGPWs), e.g. 128.89.0.1, 128.89.0.2

Multi-Site Route Server BGP ASN List  
1-429487285 | 1-85535(0-85535), e.g. 85000, 85001

Enable 'redistribute direct' on Route Servers

For auto-created Multi-Site overlay IFCs in Route Servers. Applicable only when Multi-Site Overlay IFC Deployment Method is Centralized\_To\_Route\_Server.

Route Server IP\_TAG

Fabric Name  
**MULTI-SITE-DDOMAIN**

Pick Fabric  
**VXLAN EVPN Multi-Site**

General Parameters **DCI** Resources Configuration Backup

Multi-Site Overlay IFC Deployment Method\*  
**Manual** Manual, Auto Overlay EVPN Peering to Route Servers, Auto Overlay EVPN Direct Peering to Border Gateways

Multi-Site Route Server List  
Multi-Site Route Server peer list (typically loopback IP address on Route-Server for Multi-Site EVPN peering with BGPWs), e.g. 128.89.0.1, 128.89.0.2

Multi-Site Route Server BGP ASN List  
1-429487285 | 1-85535(0-85535), e.g. 85000, 85001

Enable 'redistribute direct' on Route Servers

For auto-created Multi-Site overlay IFCs in Route Servers. Applicable only when Multi-Site Overlay IFC Deployment Method is Centralized\_To\_Route\_Server.

Route Server IP\_TAG  
Routing tag associated with Route Server IP for redistribute direct. This is the IP used in a BGP EVPN peering.

Multi-Site Underlay IFC Auto Deployment Flag

BGP Send-community on Multi-Site Underlay IFC

For auto-created Multi-Site Underlay IFCs

BGP log neighbor change on Multi-Site Underlay IFC

For auto-created Multi-Site Underlay IFCs

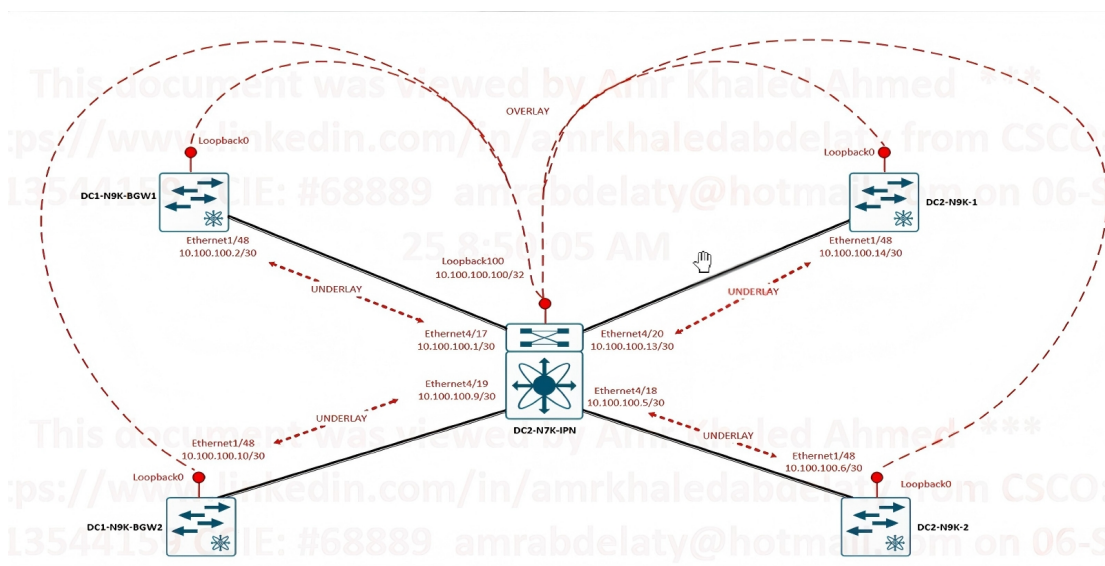
BGP BFD on Multi-Site Underlay IFC

For auto-created Multi-Site Underlay IFCs

Delay Restore time  
**300** Multi-Site underlay and overlay control plane convergence time (Min:30, Max:1000) in seconds

Activate Windows  
Go to Settings to activate Windows. **Close Save**

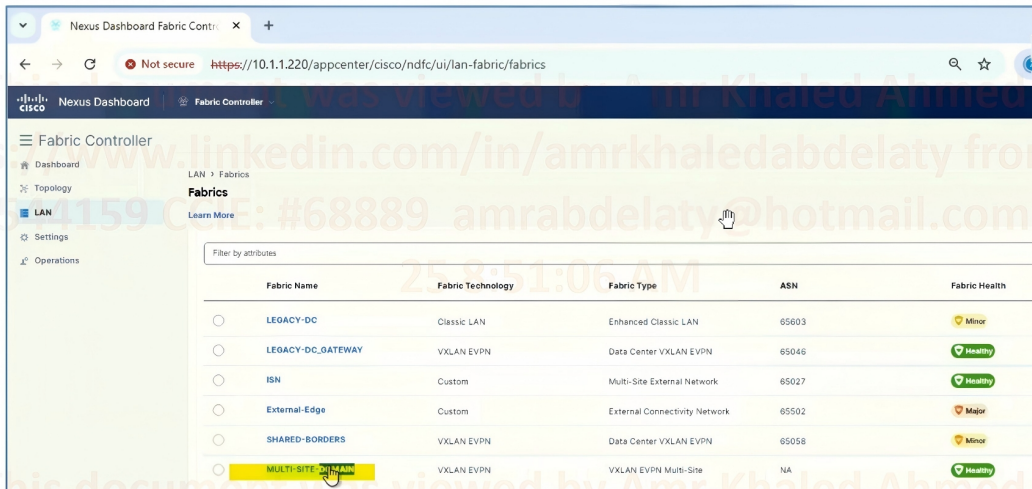
## 1.5:VXLAN EVPN Multi-Site Domain



Xandar wants the legacy site and the sHared borders interconnected via a super-spine device(DC2-N7K-IPN)that is already available despite being managed by a different team. Due to this, the router cannot be imported into NDFC,but it has already been preconfigured with the four P2P interfaces connected to the BGW, the loopback that will be used for the route-server functionality, and the required BGP configurations for underlay and overlay. An empty fabric, named ISN, which will contain the no discoverable device has already been created in NDFC.Ensure that you use this fabric as the destination fabric for the Overlay and Underlay manual policies. When manually creating the inter-site links, ensure that you use the same names for device and interfaces as the ones you see in the diagram.

- Import the two NDFC VXLAN fabrics and the ISN.
  - Apply additional configurations if necessary.
- Manually define underlay and overlay policies/links.
- ● Recalculate and deploy individually:
  - The MULLTI-SITE-DOMAIN fabric.
  - The SHARED-BORDERS fabric.
  - The LEGACY-DC\_GATEWAY fabric.
- Do not make any configuration changes on the ISN device(DC2-N7K-IPN).

**SOLUTION:**



Fabric Overview - MULTI-SITE-DOMAIN

Overview **Child Fabrics** Switches Links Interfaces Policies Networks VRFs Event Analytics History Resources

**Multi-Site Domain Information**

Name: MULTI-SITE-DOMAIN

Type: VXLAN EVPN Multi-Site

Child Fabrics: 0

Health: **HEALTHY**

Multi-Site Overlay IFC Deployment Method: Manual

CloudSec: Disabled

**Fabrics**: 0

Event Analyt...

Alarms

**Switches**

Switch Health: 0

Switch Configuration: 0

Switch Roles: 0

Fabric Overview - MULTI-SITE-DOMAIN

Overview **Child Fabrics** Switches Links Interfaces Policies Networks VRFs Event Analytics History Resources

Filter by attributes

Fabric Name	Fabric Technology	Fabric Type	ASN	Fabric Health
No rows found				

0 items found

Rows per page: 10

Actions: Move Fabric to MSD, Remove Fabric from MSD