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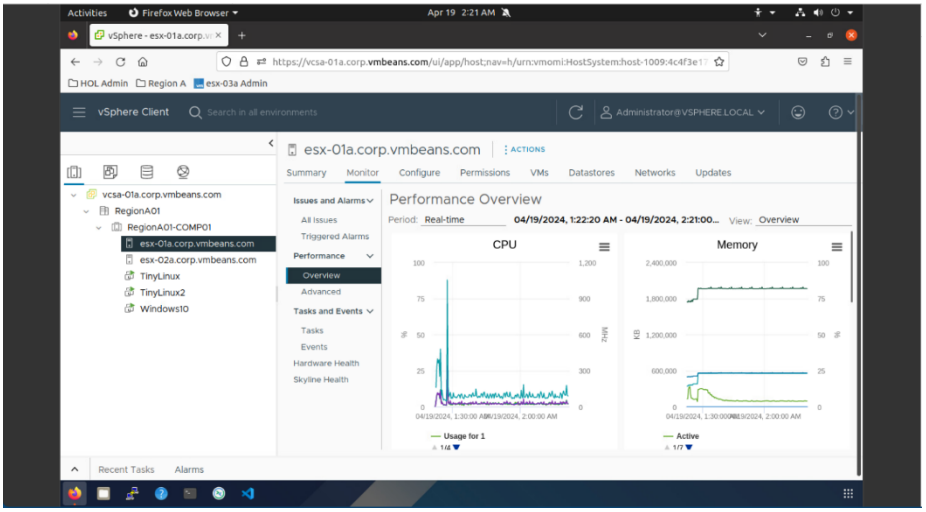
ID: 20200246

Subject: Topics in Information Technology-2 (Cloud Computing)

Under the supervision of: Dr/ Nour Mahmoud

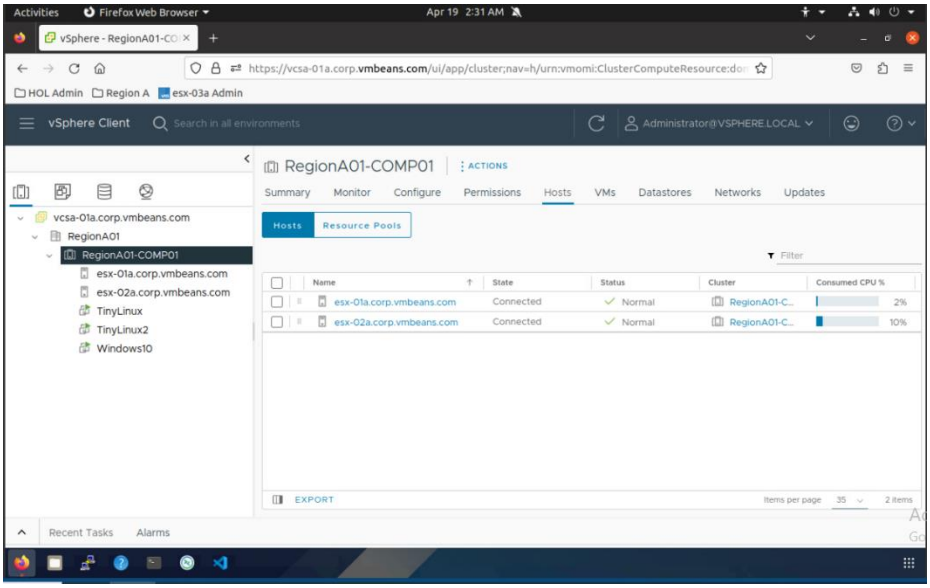
Group: S1

Part 1 - Investigate vCenter Server:

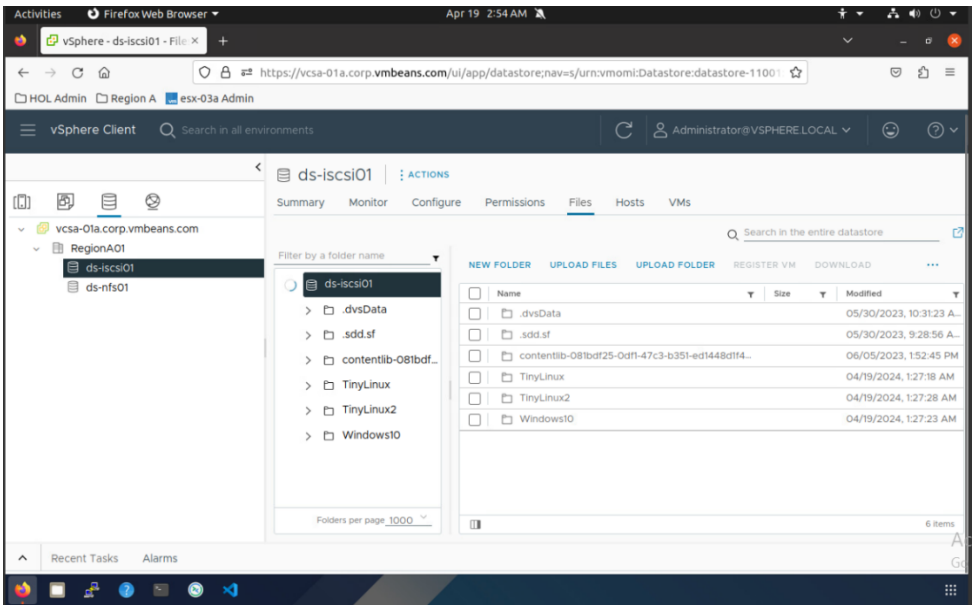


performance of one of ESXi server

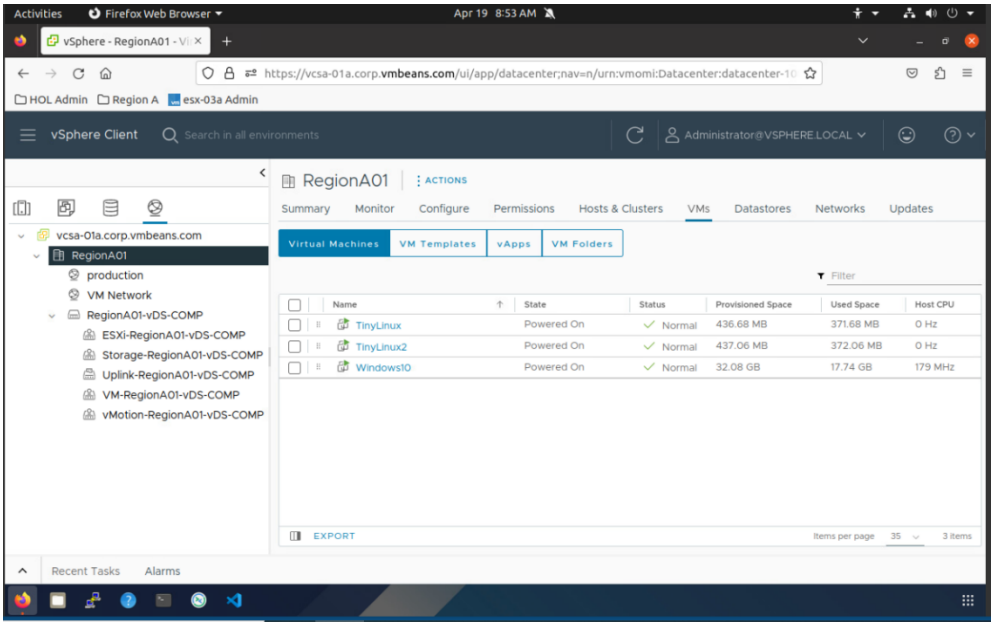
- **How many networks in this datacenter object?** **6 Networks**



RegionA01-comp01 cluster view

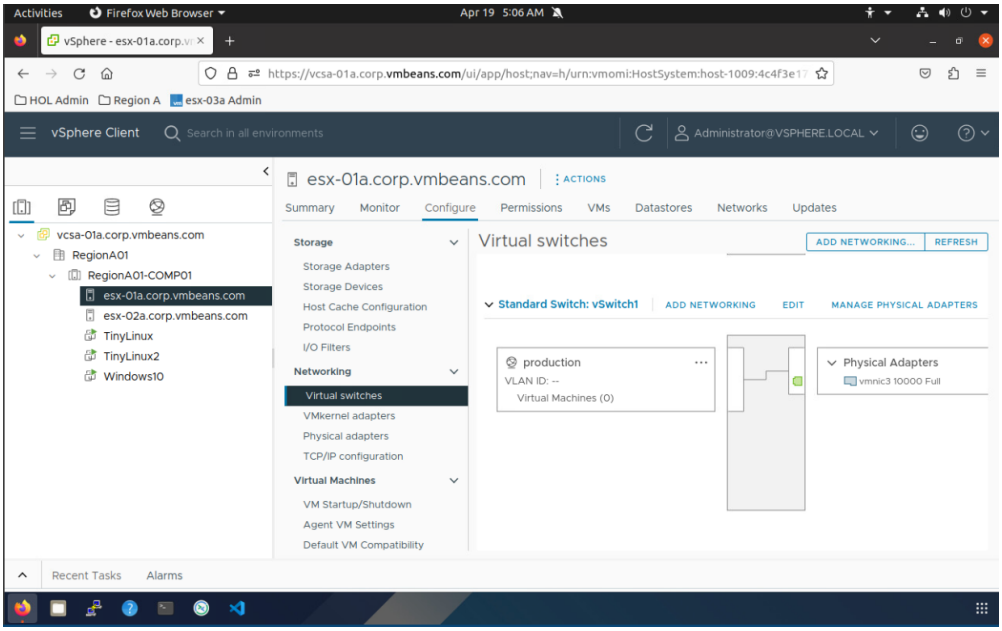


Datastores

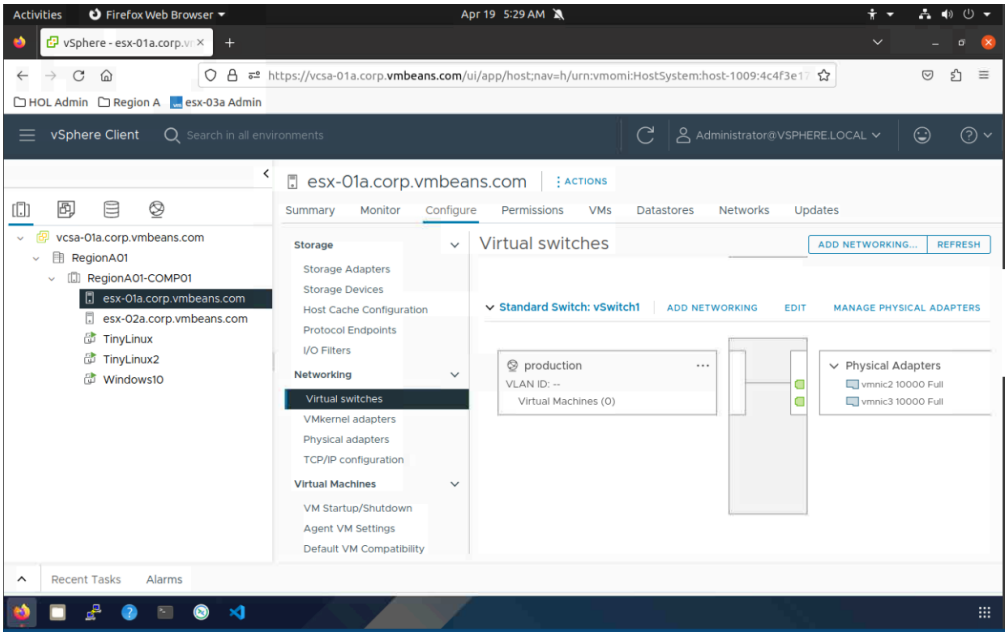


Networking

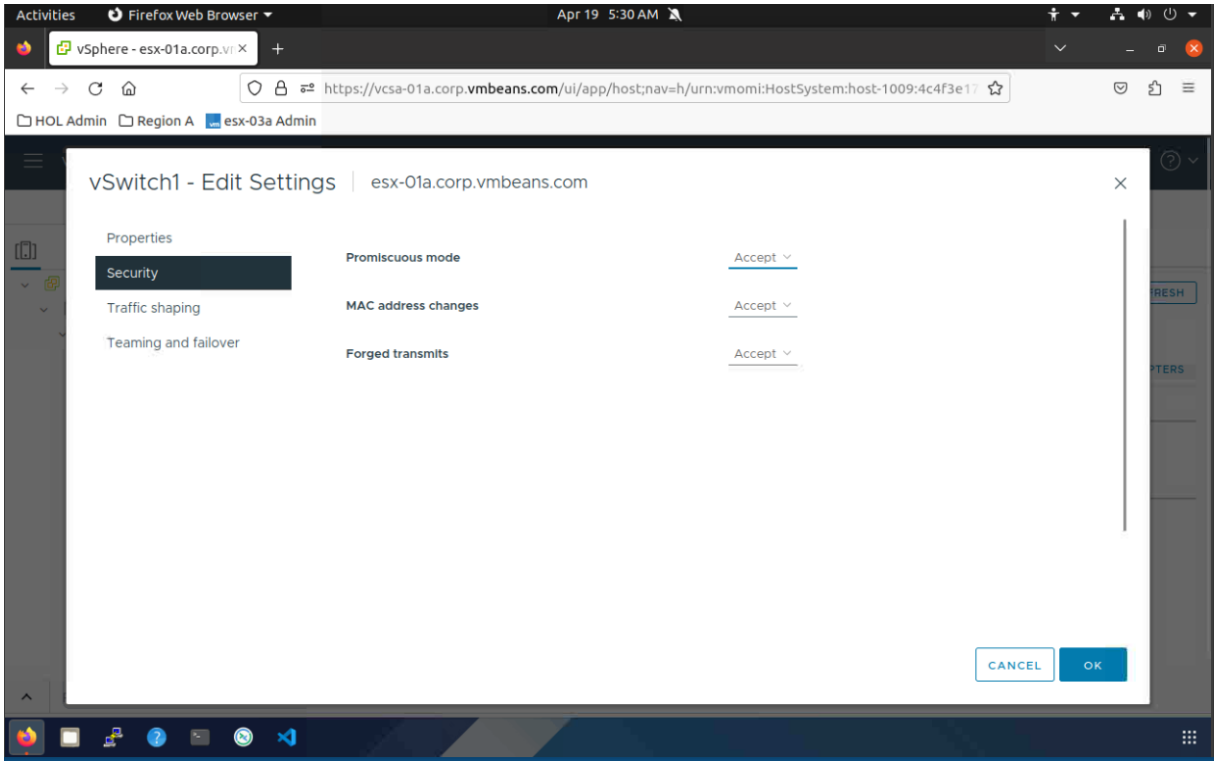
Part2-Virtual networking:



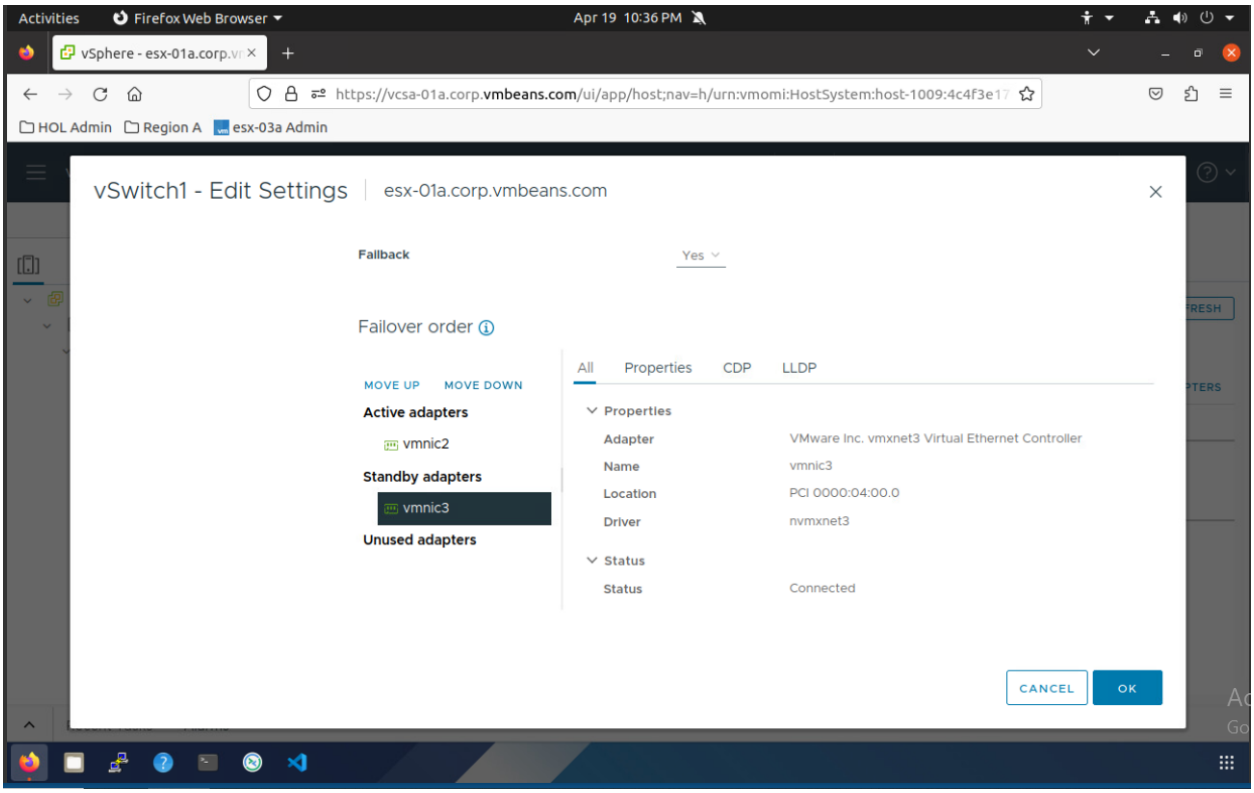
Production port group



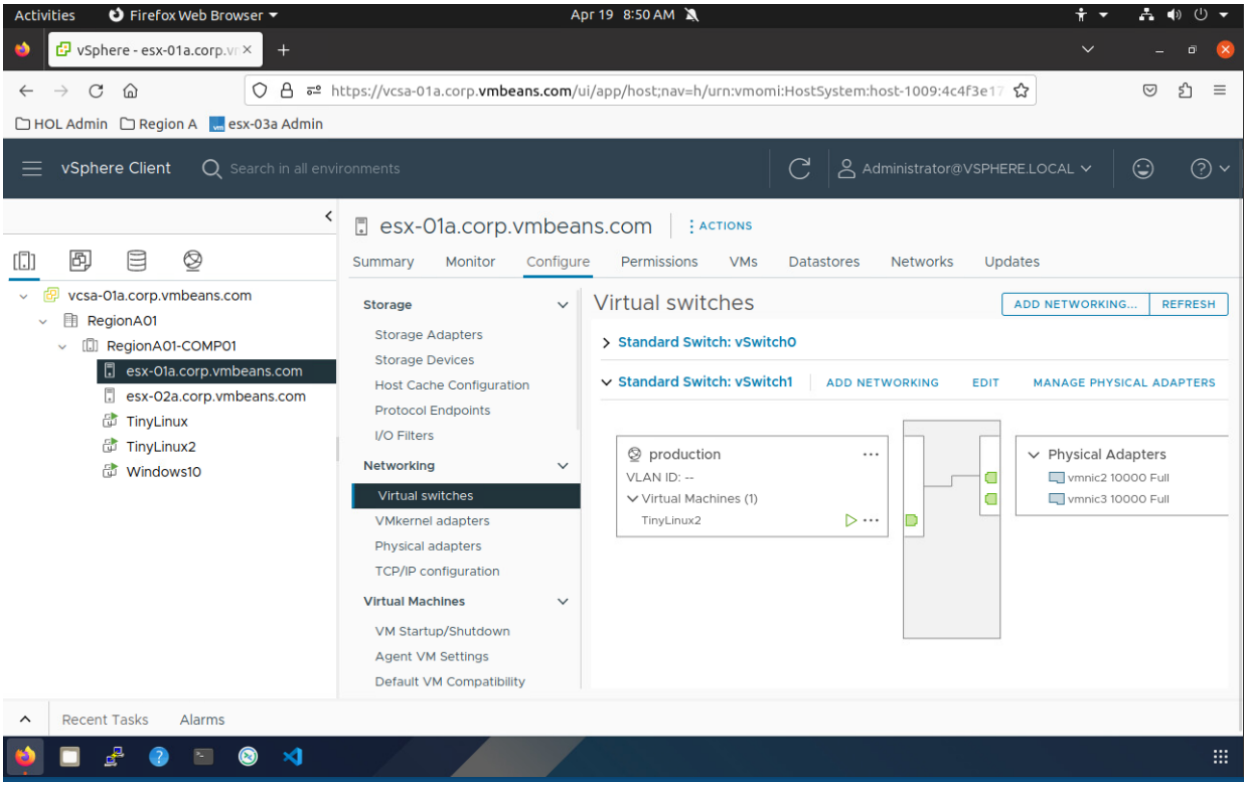
Add another physical interface.



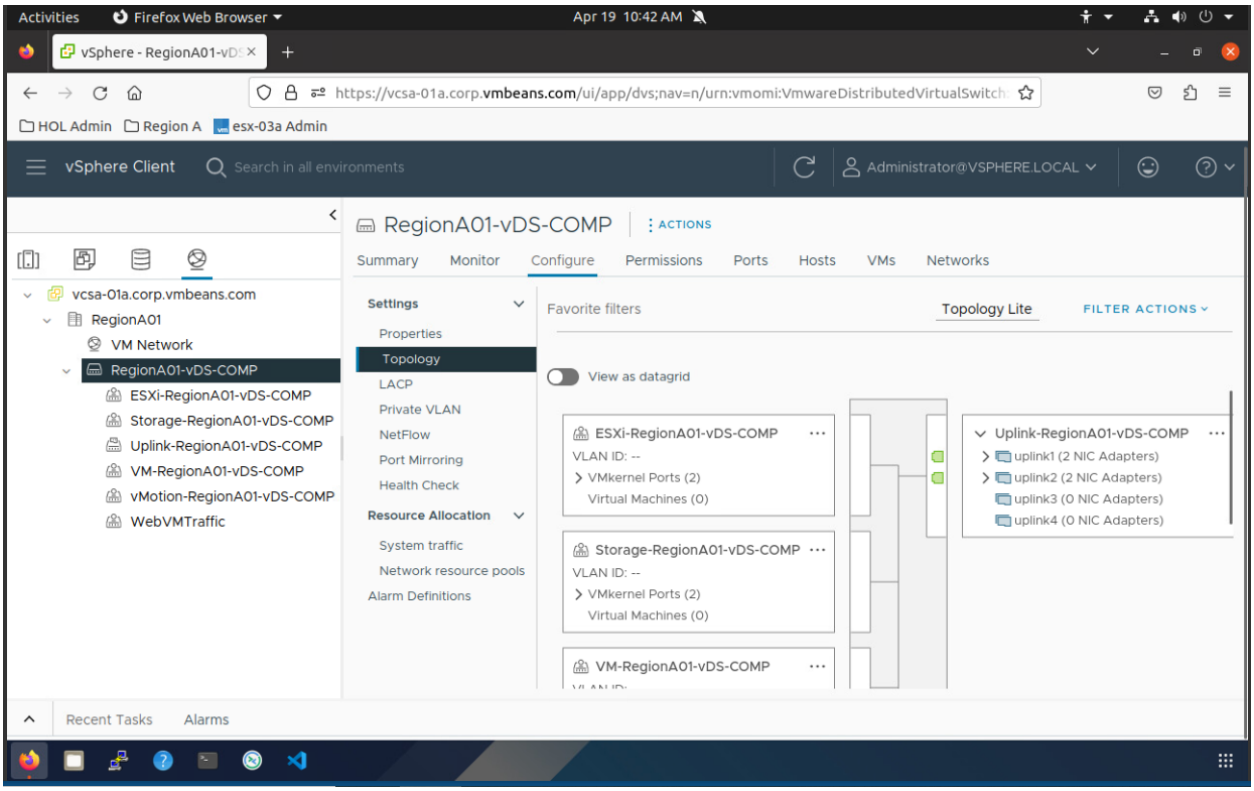
all security policy settings are accepted.



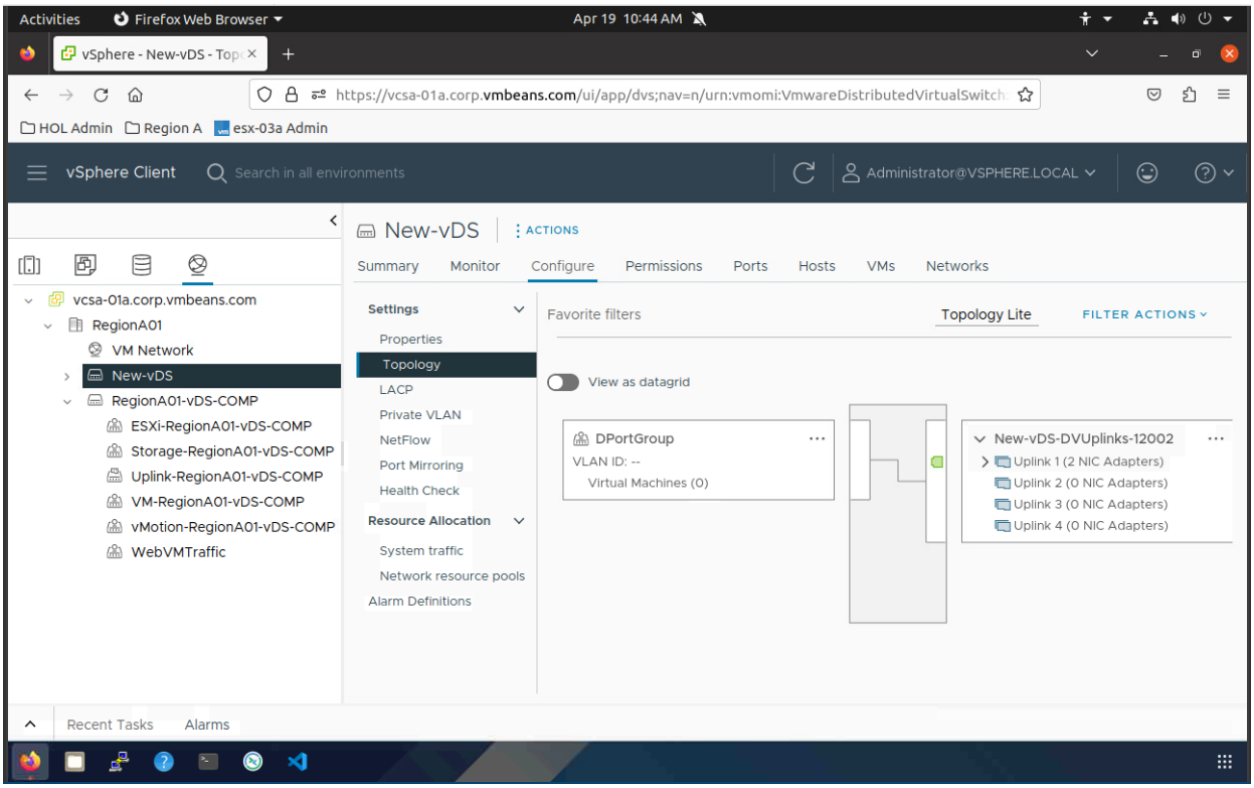
failover order.

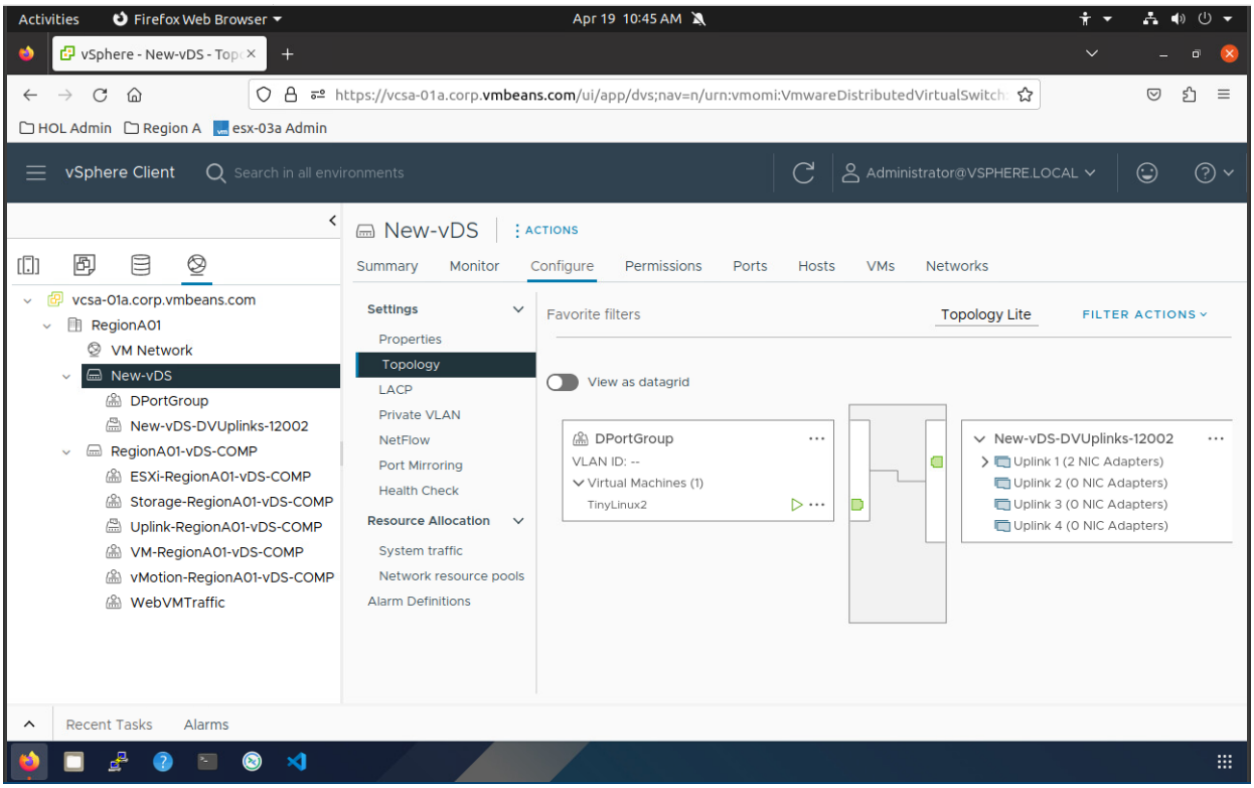


VM added to standard switch.



Distributed switch part.


Activities
Firefox Web Browser
Apr 19 10:44 AM
vSphere - New-vDS - Top
https://vcsa-01a.corp.vmbeans.com/ui/app/dvs;nav=n/urn:vmomi:VmwareDistributedVirtualSwitch
HOL Admin
Region A
esx-03a Admin
vSphere Client
Search in all environments
Administrator@VSPHERE.LOCAL
vcsa-01a.corp.vmbeans.com
RegionA01
VM Network
New-vDS
RegionA01-vDS-COMP
ESXi-RegionA01-vDS-COMP
Storage-RegionA01-vDS-COMP
Uplink-RegionA01-vDS-COMP
VM-RegionA01-vDS-COMP
vMotion-RegionA01-vDS-COMP
WebVMTraffic
New-vDS
ACTIONS
Summary
Monitor
Configure
Permissions
Ports
Hosts
VMs
Networks
Settings
Properties
Topology
LACP
Private VLAN
NetFlow
Port Mirroring
Health Check
Resource Allocation
System traffic
Network resource pools
Alarm Definitions
Favorite filters
Topology Lite
FILTER ACTIONS
View as datagrid
DPortGroup
VLAN ID: --
Virtual Machines (0)
New-vDS-DVUplinks-12002
Uplink 1 (2 NIC Adapters)
Uplink 2 (0 NIC Adapters)
Uplink 3 (0 NIC Adapters)
Uplink 4 (0 NIC Adapters)
Recent Tasks
Alarms


Activities
Firefox Web Browser
Apr 19 10:45 AM
vSphere - New-vDS - Top
https://vcsa-01a.corp.vmbeans.com/ui/app/dvs;nav=n/urn:vmomi:VmwareDistributedVirtualSwitch
HOL Admin
Region A
esx-03a Admin
vSphere Client
Search in all environments
Administrator@VSPHERE.LOCAL
vcsa-01a.corp.vmbeans.com
RegionA01
VM Network
New-vDS
DPortGroup
New-vDS-DVUplinks-12002
RegionA01-vDS-COMP
ESXi-RegionA01-vDS-COMP
Storage-RegionA01-vDS-COMP
Uplink-RegionA01-vDS-COMP
VM-RegionA01-vDS-COMP
vMotion-RegionA01-vDS-COMP
WebVMTraffic
New-vDS
ACTIONS
Summary
Monitor
Configure
Permissions
Ports
Hosts
VMs
Networks
Settings
Properties
Topology
LACP
Private VLAN
NetFlow
Port Mirroring
Health Check
Resource Allocation
System traffic
Network resource pools
Alarm Definitions
Favorite filters
Topology Lite
FILTER ACTIONS
View as datagrid
DPortGroup
VLAN ID: --
Virtual Machines (1)
TinyLinux2
New-vDS-DVUplinks-12002
Uplink 1 (2 NIC Adapters)
Uplink 2 (0 NIC Adapters)
Uplink 3 (0 NIC Adapters)
Uplink 4 (0 NIC Adapters)
Recent Tasks
Alarms

- **What is the difference between standard and distributed virtual switches?**

➢ **Both standard and distributed virtual switches are used in cloud computing environments, but they differ in their scope and management:**

➢ **Standard Virtual Switch (vSS):**

Scope: Limited to a single ESXi host. Each VM on that host connects to the network through the standard vSwitch.
Management: Configured and managed individually on each ESXi host. This can be cumbersome for large deployments.
Use case: Ideal for simple setups with a small number of VMs on a single host.

➢ **Distributed Virtual Switch (vDS):**

Scope: Spans across a cluster of ESXi hosts. Multiple VMs on different hosts can connect to the same vDS.
Management: Centrally managed through vCenter Server. This simplifies configuration and ensures consistency across the cluster.
Features: Offers additional features like:
Network vMotion: Allows seamless migration of VMs between hosts without disrupting network connectivity.
Traffic shaping: Enables prioritizing network traffic for specific VMs.
Centralized security policies: Security settings can be applied consistently across all VMs connected to the vDS.
Use case: Perfect for complex cloud environments with multiple VMs spread across a cluster of ESXi hosts.

➢ **Here's an analogy:**

Standard vSwitch: Think of it as a local switch in a building. It connects devices within that specific location.
Distributed vDS: Imagine it as a central network switch for an entire campus. It connects devices across multiple buildings.

➢ **In summary, standard vSwitches are suitable for basic setups, while distributed vDSs offer greater scalability, centralized management, and advanced features for managing network traffic in complex cloud environments.**