

# BÀI THUYẾT TRÌNH

NHÓM 3



# THÀNH VIÊN NHÓM

1. NHÓM TRƯỞNG: PHẠM ANH ĐỨC 23-0-20080 C1 ( 100% CV)
2. HUỲNH VĂN PHÁT 23-0-20187 C2 ( 100% CV)
3. NGUYỄN THÀNH THUẬT 23-0-20157 ( 100% CV)

## CÂU 1: CÀI ĐẶT MÁY CHỦ ESXI (1 ĐIỂM) - CÀI ĐẶT, CẤU HÌNH 03 MÁY CHỦ ESXI

Tên Host	Tên Domain	Phần cứng	Tên Datastore
esxi-N-1	cloudN.lab	Vật lý	datastore-N-1
esxi-N-2	cloudN.lab	VMWare	datastore-N-2
esxi-N-3	cloudN.lab	VMWare	datastore-N-3

- CẤU HÌNH ĐỊA CHỈ IP TĨNH CHO TẤT CẢ HOST.
- TẠO TÀI KHOẢN QUẢN TRỊ CHO TẤT CẢ THÀNH VIÊN NHÓM TRÊN TẤT CẢ HOST.



# ESXI-3-1

Edit TCP/IP configuration - Default TCP/IP stack

Basic DNS configuration

Specify how the host should obtain its settings for this TCP/IP stack.

Use DHCP DNS services from the following adapter  
vmk0

Manually configure the settings for this TCP/IP stack

Host name: esxi-3-1

Domain name: Cloud3.lab

Primary DNS server: 10.0.1.2

Secondary DNS server:

Search domains: saigontech.edu.vn

One search domain per line

Routing

IPv4 gateway: 10.16.5.254

IPv6 gateway:

Advanced settings

Congestion control algorithm: New Reno

Maximum number of connections: 11000

Save Cancel

New Tab nhom-3saigontech.saigontech.edu.vn https://10.16.5.39/ui/#/host/storage/datastores

vSphere ESXi™

Datastore datastore - Team 3 has been renamed to esxi-3-1. - dismiss

Host Manage Monitor

Result 20

Datastores Adapters Devices Persistent Memory

New datastore Increase capacity Register a VM Datastore browser Refresh Actions

Virtual Machines

- ducw2016 Monitor
- NAS-3
- esxi7 (3) Monitor
- esxi8 (2) 3 Monitor
- ubuntulinux2 Monitor
- ubuntu linux

Name	Drive Type	Capacity
esxi-3-1	SSD	469.5 GB

**Edit TCP/IP configuration - Default TCP/IP stack**

**Basic DNS configuration**

Specify how the host should obtain its settings for this TCP/IP stack.

Use DHCP DNS services from the following adapter  
vmk0

Manually configure the settings for this TCP/IP stack

Host name	esxi-3-2
Domain name	cluod3.lab
Primary DNS server	10.0.1.2
Secondary DNS server	
Search domains	saigontech.edu.vn
One search domain per line	

**Routing**

IPv4 gateway	10.16.5.254
IPv6 gateway	

**Advanced settings**

Congestion control algorithm	New Reno
Maximum number of connections	11000

**Save** **Cancel**

**Navigator**

- Host
  - Manage
  - Monitor
- Virtual Machines 0
- Storage** 1
- Networking
  - Default TCP/IP stack
  - More networks...

**esxi-3-2.cluod3.lab - Storage**

**Datastores** **Adapters** **Devices** **Persistent Memory**

**New datastore** **Increase capacity** **Register a VM** **Datastore browser** **Refresh**

Name	Drive Type
datastore-3-2	SSD

Not secure https://10.16.5.43/ui/#/host/manage/security/users

**esxi-3-2.cluod3.lab - Manage**

System Hardware Licensing Packages Services Security & users

Acceptance level Authentication Certificates

**Users**

User Name	Description	Shell Access
root	Administrator	true
phat	ESXi User	true
duc	ESXi User	true
thuat	ESXi User	true

4 items

**Recent tasks**

Task	Target	Initiator	Queued	Started	Result
------	--------	-----------	--------	---------	--------

**Input Switch Notification**  
Typing Left Alt + Shift changes your input language. You can turn this feature off or change your hot key sequence by selecting Customize.

**Customize** **Dismiss**

# ESXI-3-2



**Edit TCP/IP configuration - Default TCP/IP stack**

**Basic DNS configuration**

Specify how the host should obtain its settings for this TCP/IP stack.

Use DHCP DNS services from the following adapter  
vmk0

Manually configure the settings for this TCP/IP stack

Host name: esxi-3-3

Domain name: cluod3.lab

Primary DNS server: 10.0.1.2

Secondary DNS server:

Search domains: saigontech.edu.vn

One search domain per line

**Routing**

IPv4 gateway: 10.16.5.254

IPv6 gateway:

**Advanced settings**

Congestion control algorithm: New Reno

Maximum number of connections: 11000

**Save** **Cancel**

**Navigator**

Host

Manage

Monitor

Virtual Machines 0

Storage 1

Networking 1

Default TCP/IP stack

More networks...

**esxi-3-3.cluod3.lab - Storage**

**Datastores** Adapters Devices Persistent Memory

New datastore Increase capacity Register a VM Datastore browser Refresh Action

Name	Drive Type
datastore-3-3	SSD

[nhom-3saigontech.saigontech.com](https://10.16.5.12/ui/#/host/manage/security/users) | [HƯỚNG CÀI ĐẶT VMWARE VCENTER](#) | [ChatGPT](#) | [esxi-3-3.cluod3.lab - VMware ESXi](https://10.16.5.12/ui/#/host/manage/security/users) | [Zalo - Anh Đức](#) | +

**vmware ESXi™**

Welcome to esxi-3-3.cluod3.lab - dismiss

**Host** Manage System Hardware Licensing Packages Services Security & users

Acceptance level

Authentication

Certificates

**Users**

Add user Edit user Remove user Refresh

User Name	Description	Shell Access
root	Administrator	true
vphanh	ESXi User	true
duc	ESXi User	true
thuat	ESXi User	true

Recent tasks

Type here to search

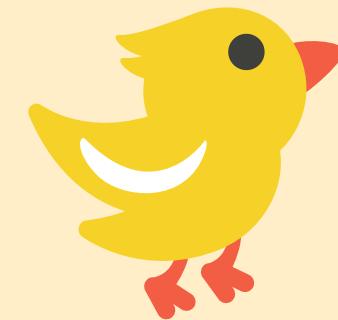
10:24 AM 6/25/2024

# ESXI-3-3

## CÂU 2: CÀI ĐẶT MÁY ẢO (2 ĐIỂM)

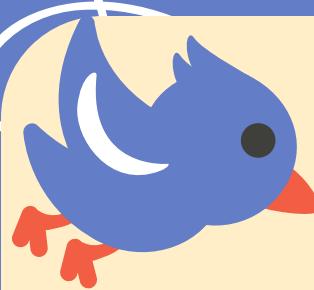
### 1. TẠO, CÀI ĐẶT, CẤU HÌNH CÁC MÁY ẢO TẠI HOST ESXI-N-1

Tên host	Hệ điều hành	Vai trò
dc-N-1	Windows Server	Domain controller
vcenter-N	VMWare Photon	vCenter Server Appliance
nas-N	Free NAS	Thiết bị lưu trữ
win-N-1	Windows	Máy trạm
win-N-2	Windows	Máy trạm
linux-N-1	Linux	Máy trạm
linux-N-2	Linux	Máy trạm

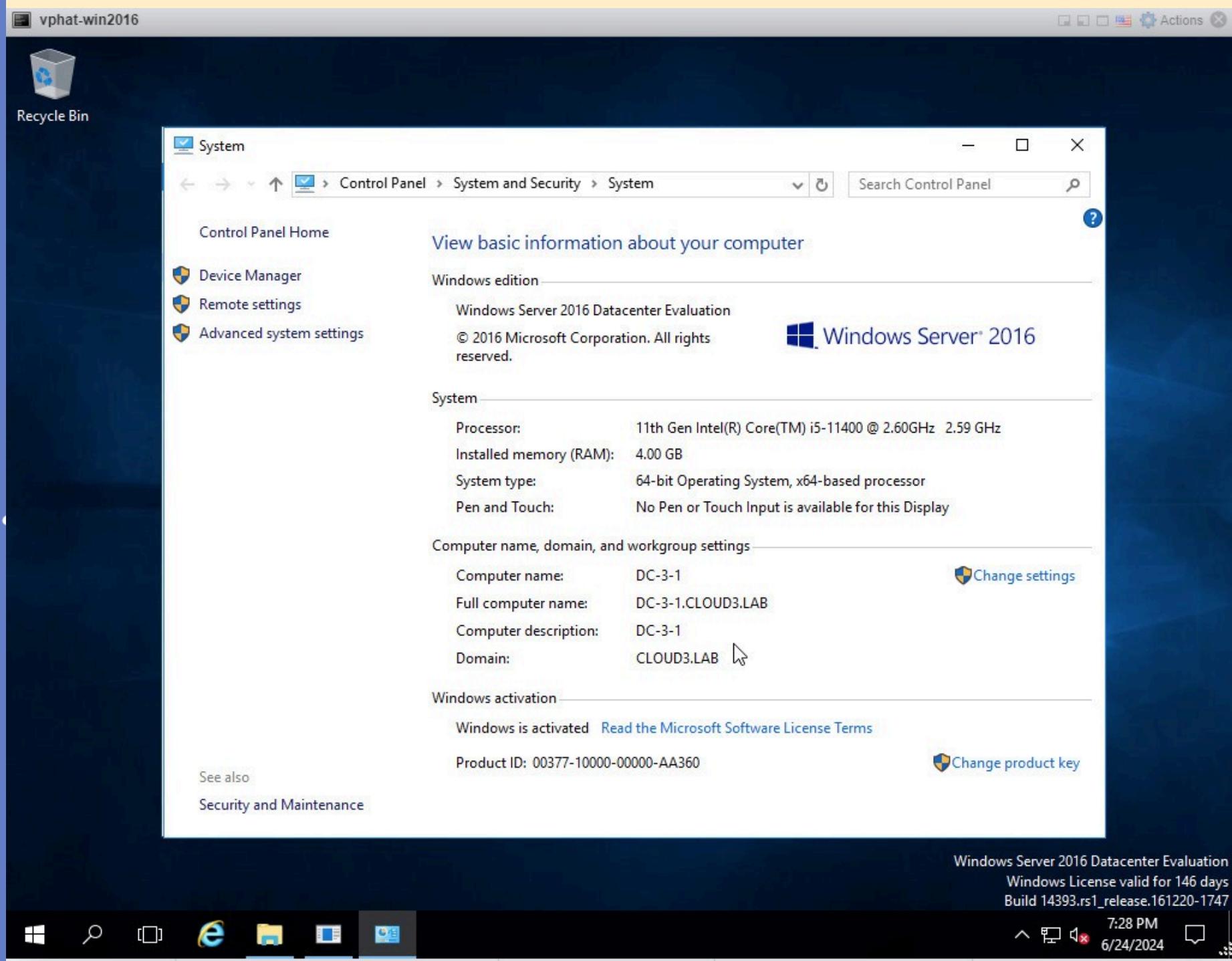


### 2. CẤU HÌNH MÁY CHỦ DC-N-1

- TẠO TÀI KHOẢN QUẢN TRỊ DOMAIN CHO TẤT CẢ THÀNH VIÊN NHÓM.
- TẠO CÁC BẢNG GHI DNS PHÙ HỢP CHO CÁC HOST: ESXI-N-1, ESXI-N-2, ESXI-N-3, DC-N-1, VCENTER-N



# DC-3-1



# WINDOWS SERVER

# TRUE NAS

The image shows a dual-monitor setup. The left monitor displays the VMware ESXi interface, specifically the 'Host' and 'Virtual Machines' sections. The right monitor displays the TrueNAS Core dashboard. Both interfaces are running on the same host machine.

**TrueNAS Core Dashboard:**

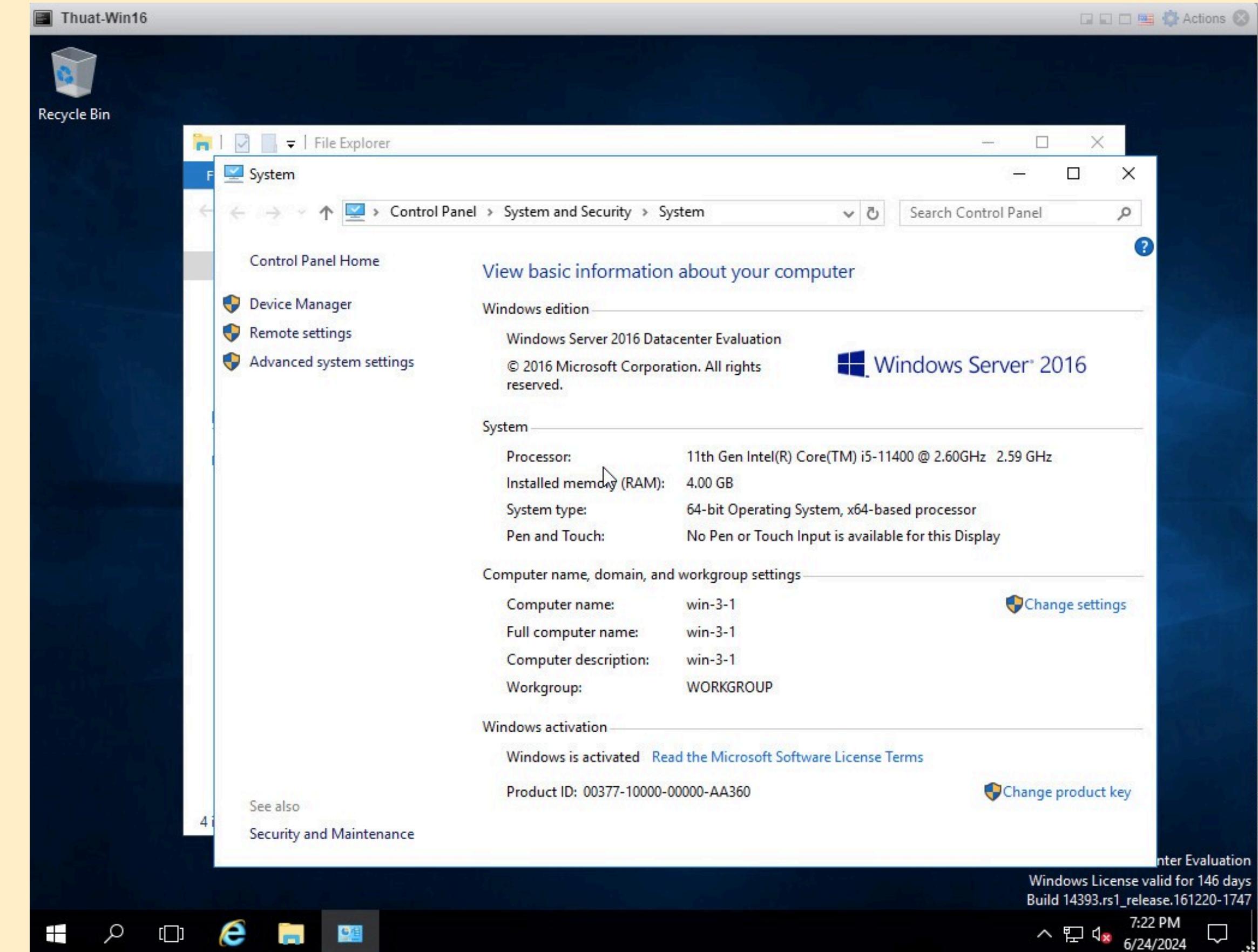
- System Information:** Overview, Platform: Generic, Version: TrueNAS-13.0-U6.1, HostName: truenas.local, Uptime: 0 minutes as of 23:53.
- CPU:** 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz, 0% Avg Usage, 2 threads, Highest Usage: 0% (2 threads at 0%), Hottest: Data not provided.
- Memory:** 3.9 GiB total available, Free: 2.3 GiB, ZFS Cache: 0.2 GiB, Services: 1.5 GiB.
- Pool:** Overview, Path: /mnt/nhom3\_Pools, Available Space: 710.33 MiB, Total Disks: 2 (data), Pool Status: ONLINE, Disks w/Errors: 0, Used Space: 96%.
- Interface:** Overview, Media Type: Ethernet, Media Subtype: autoselect, IP Addresses: 10.16.5.13/24, vmx0, LINK STATE UP, In: 0.03 KiB/s, Out: 0.06 KiB/s, Caches: 0, Spares: 0, VLANs: 0.
- TrueNAS Help:** Documentation Site, Community Forums, Newsletter.

**VMware ESXi Interface:**

- Host:** Manage, Monitor.
- Virtual Machines:** ducw2016 (Monitor), esxi7 (3) (Monitor), esxi8 (2) (Monitor), ubuntulinux2 (Monitor), ubuntu linux (Monitor).

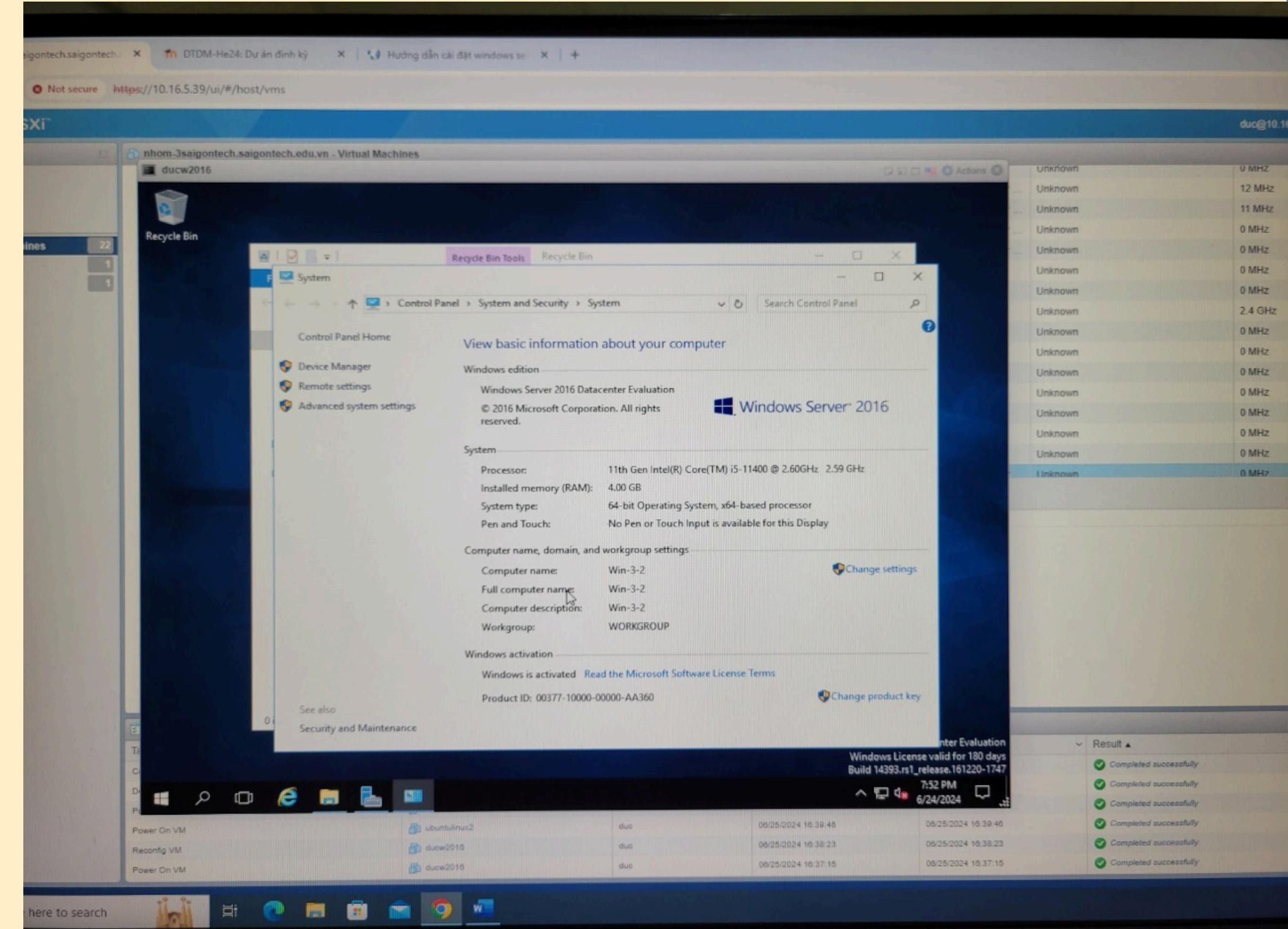
# WIN-3-1

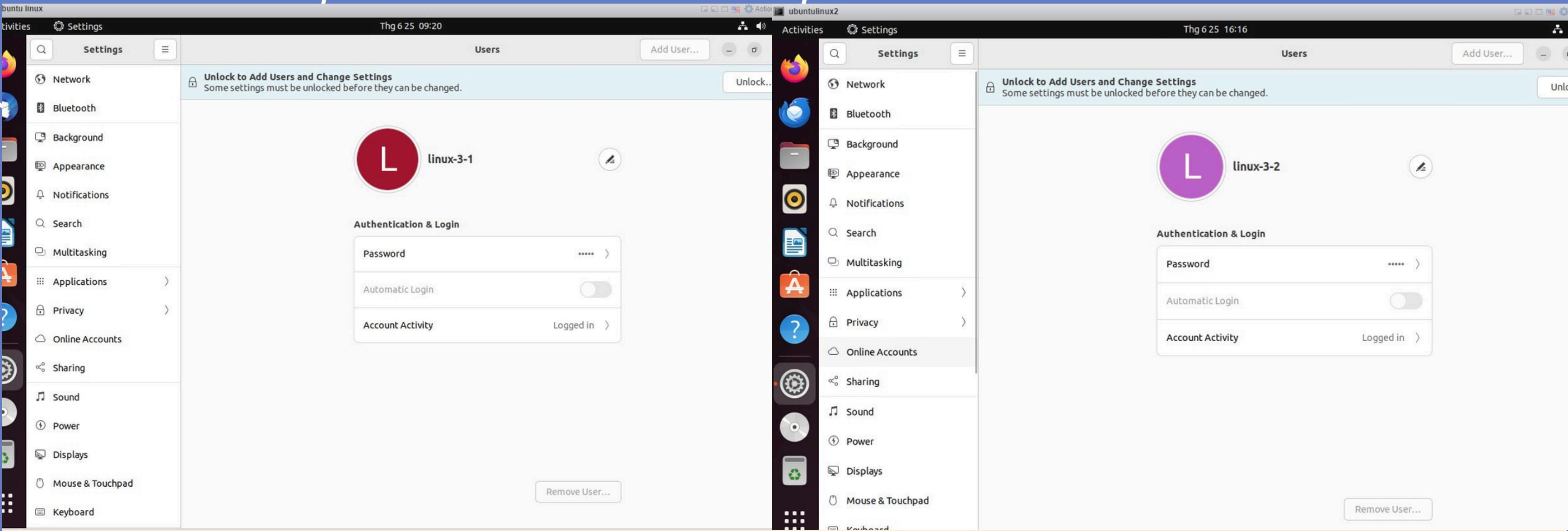
# MÁY TRẠM



# WIN-3-2

# MÁY TRẠM



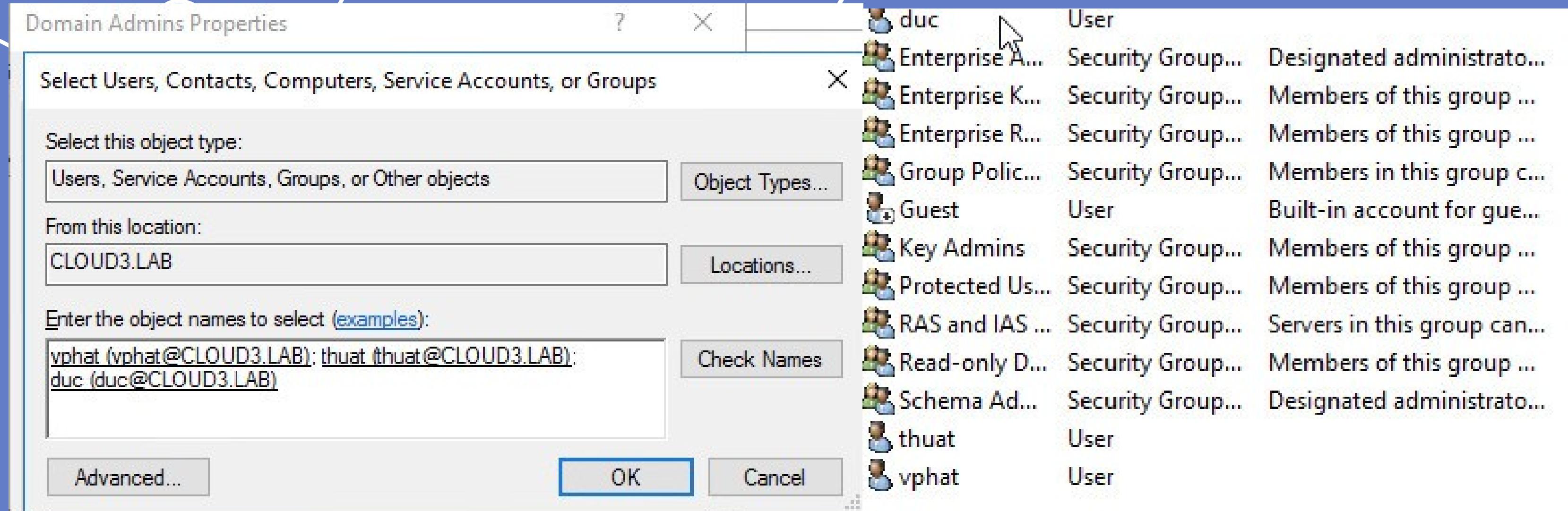


# LINUX-3-1

# MÁY TRẠM

# LINUX-3-2

# MÁY TRẠM



- TẠO TÀI KHOẢN QUẢN TRỊ DOMAIN  
CHO TẤT CẢ THÀNH VIÊN NHÓM.

**AD DS**

DNS Manager

File Action View Help

DNS DC-3-1 Forward Lookup Zones Reverse Lookup Zones Trust Points Conditional Forwarders

\_msdcs \_sites \_tcp \_udp DomainDnsZones ForestDnsZones (same as parent folder) Start of Authority (SOA) [108], dc-3-1.cloud3.lab., ... static (same as parent folder) Name Server (NS) dc-3-1.cloud3.lab. static (same as parent folder) Host (A) 10.16.5.15 6/24/2024 dc-3-1 Host (A) 10.16.5.15 static esxi-3-1 Host (A) 10.16.5.39 static esxi-3-3 Host (A) 10.16.5.12 static vcenter Host (A) 10.16.5.103 static vphat-win2016 Host (A) 10.16.5.15 static win-3-2 Host (A) 10.16.5.31 static win-3-1 Host (A) 10.16.5.27 static

**- TẠO CÁC BẢNG GHI DNS PHÙ HỢP CHO CÁC HOST:  
ESXI-N-1, ESXI-N-2, ESXI-N-3, DC-N-1, VCENTER-N**

# Cấu trúc inventories

The screenshot shows the vSphere Client interface for host 10.16.5.51. The left sidebar displays the inventory tree under datacenter 3, including clusters (New Cluster 1, Cluster 3), datastores (sever, luu tru), and templates. The main pane shows the host details for 10.16.5.51, which is currently in Maintenance Mode. Key details include:

- Host Details:**
  - Hypervisor: VMware ESXi, 8.0.1, 21495797
  - Model: VMware7,1
  - Processor Type: 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz
  - Logical Processors: 2
  - NICs: 2
  - Virtual Machines: 0
  - State: Maintenance Mode
  - Uptime: 0 second
- Capacity and Usage:**
  - CPU:** 5.18 GHz free (0 GHz used)
  - Memory:** 4 GB free (0 B used)
  - Storage:** 0 B free (0 B used)

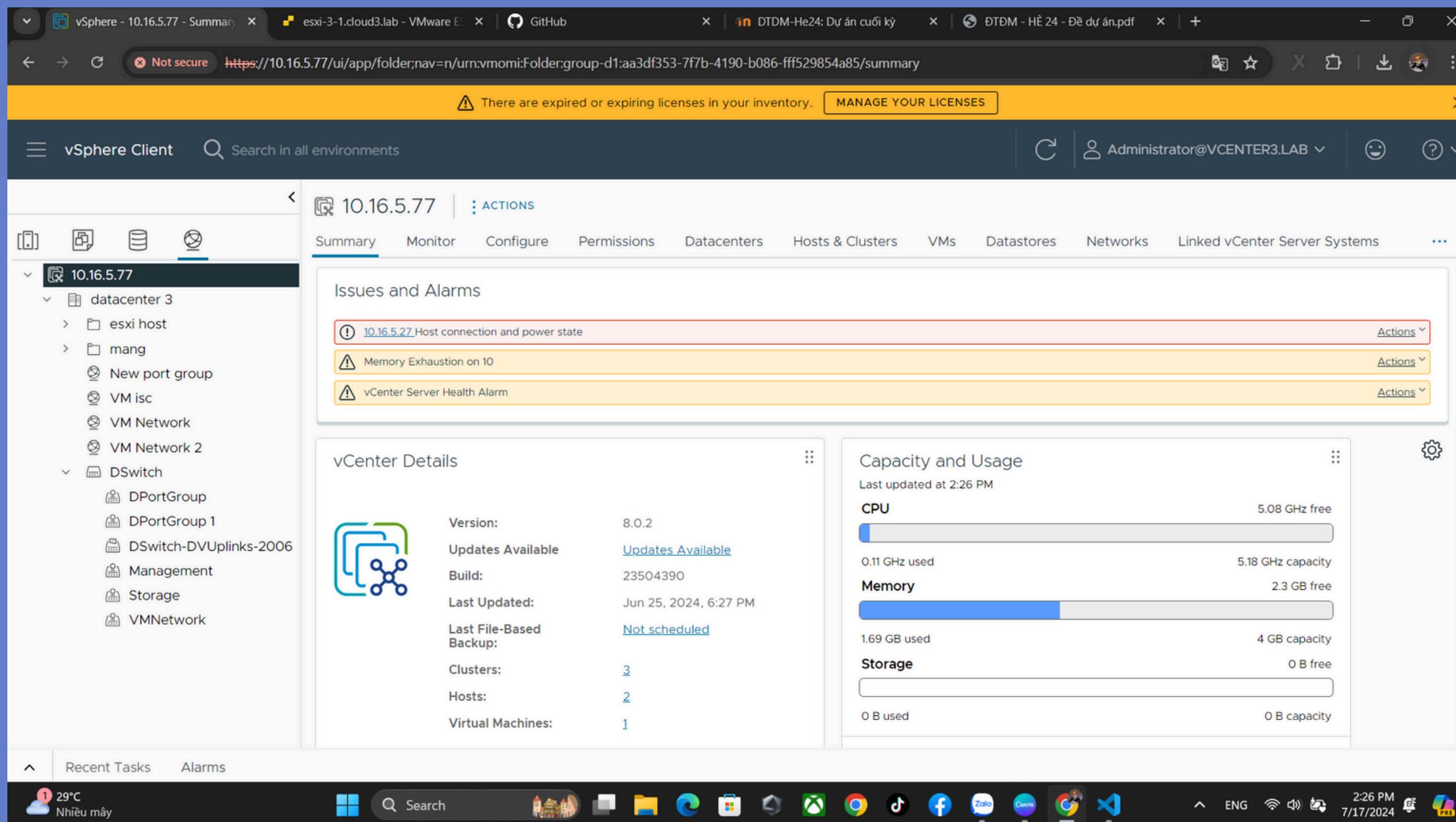
A yellow banner at the top of the interface states: "⚠ There are expired or expiring licenses in your inventory." with a "MANAGE YOUR LICENSES" button.

# Tạo đĩa cứng iSCSI trên máy ảo TrueNAS. - Cấu hình bộ điều hợp Software iSCSI và sử dụng datastore tên iscsi-3 trên các host esxi và máy ảo.

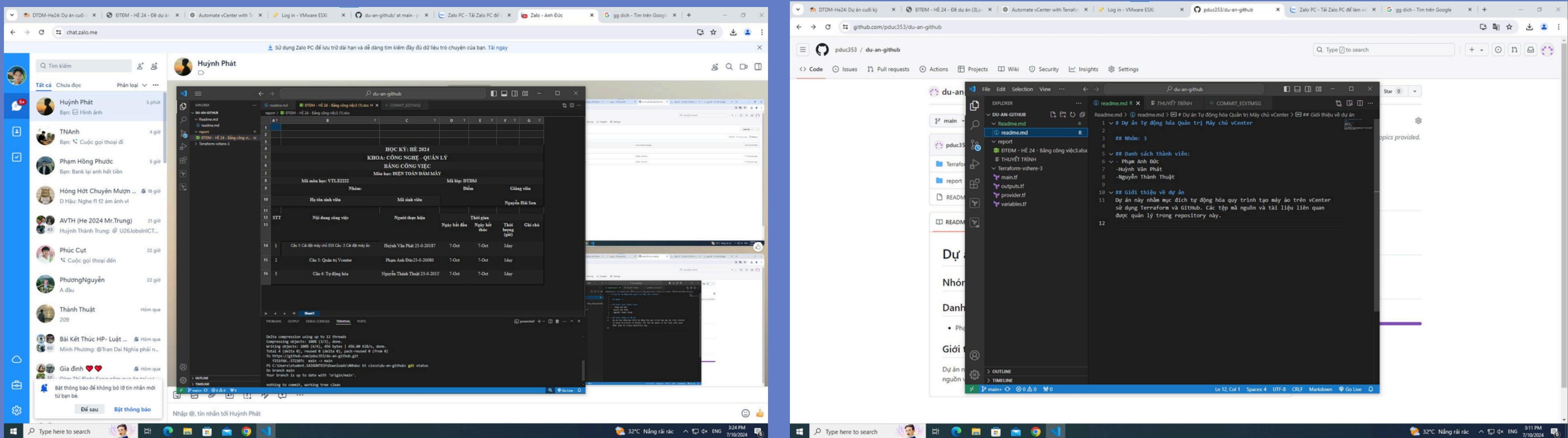
The image displays four browser windows illustrating the process of creating an iSCSI storage pool on a TrueNAS system and configuring it across multiple hosts.

- TrueNAS - Configuration (Top Left):** Shows the "Sharing / iSCSI" configuration page. A "Target Global Configuration" wizard is open, setting the "Base Name" to "iqn.2005-10.org.freenas.ctl". The "SAVE" button is highlighted.
- vSphere Client - Users and Groups (Top Right):** Shows the "Users and Groups" section under "Administration". It lists users for the domain "vcenter3.lab", including "Administrator", "phat", "thuat", "duc", and "K/M".
- TrueNAS - Storage / Pools (Bottom Left):** Shows the "Pools" management interface. It lists existing pools like "nhom3\_Pools" and "truenas-iscsi-storage", and allows for adding new ones.
- ESXi Host Client (Bottom Right):** Shows the "Datastores" tab. It lists datastores "Datastore" and "truenas" under the host "truenas". The "truenas" datastore is identified as VMFS6, located at "/vmfs/volumes/668e8b37-0ef16142c-4642-000c29642464", with 14.34 GB used and 15.75 GB capacity.

# Mạng ảo - Tạo Switch phân tán tên: DSwitch-3 trên các host esxi-3-2, esxi-3-3



# Cấu trúc workplace



# github,terraform

The image shows two identical instances of the Visual Studio Code (VS Code) interface side-by-side, displaying the same code editor and terminal panes. Both panes show the same Terraform configuration files and a GitHub commit history.

**File Explorer:** Shows the project structure for "DU-AN-GITHUB-4".

- Readme.md (selected)
- variables.tf
- terraform.tfvars
- main.tf
- outputs.tf
- readme.md
- report
- Terraform-vsphere-3
- main.tf
- outputs.tf
- terraform.tfvars
- variables.tf

**Code Editor:** Displays the content of the README.md file.

```
1 # Dự án Tự động hóa Quản trị Máy chủ vCenter
2
3 ## Nhóm: 3
4
5 ## Danh sách thành viên:
6 - Phạm Anh Đức
7 - Huỳnh Văn Phát
8 - Nguyễn Thành Thuật
9
10 ## Giới thiệu về dự án
11 Dự án này nhằm mục đích tự động hóa quy trình tạo máy ảo trên vCenter sử dụng Terraform và GitHub. Các tệp mã nguồn và tài liệu liên quan được quản lý trong repository này.
12
```

**Terminal:** Shows the command-line output of a Git commit.

```
[main 4c39088] cap nhat
5 files changed, 81 insertions(+), 55 deletions(-)
delete mode 100644 Terraform-vsphere-3/provider.tf
create mode 100644 terraform.tfvars
PS C:\Users\student.SAIGONTECH\du-an-github-4> git commit -m "cap nhat"
[main c1088b1] cap nhat
1 file changed, 0 insertions(+), 0 deletions(-)
rename terraform.tfvars => Terraform-vsphere-3/terraform.tfvars (100%)
PS C:\Users\student.SAIGONTECH\du-an-github-4>
* History restored
```

The right terminal pane shows a slightly later commit:

```
[main 4c39088] cap nhat
5 files changed, 81 insertions(+), 55 deletions(-)
delete mode 100644 Terraform-vsphere-3/provider.tf
create mode 100644 terraform.tfvars
PS C:\Users\student.SAIGONTECH\du-an-github-4> git commit -m "cap nhat"
[main c1088b1] cap nhat
1 file changed, 0 insertions(+), 0 deletions(-)
rename terraform.tfvars => Terraform-vsphere-3/terraform.tfvars (100%)
PS C:\Users\student.SAIGONTECH\du-an-github-4>
* History restored
```

**THANK YOU  
FOR  
PLAYING**

