2025

5-3 Project One Submission: Virtual Systems and Networking Concept Brief

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CYB 220
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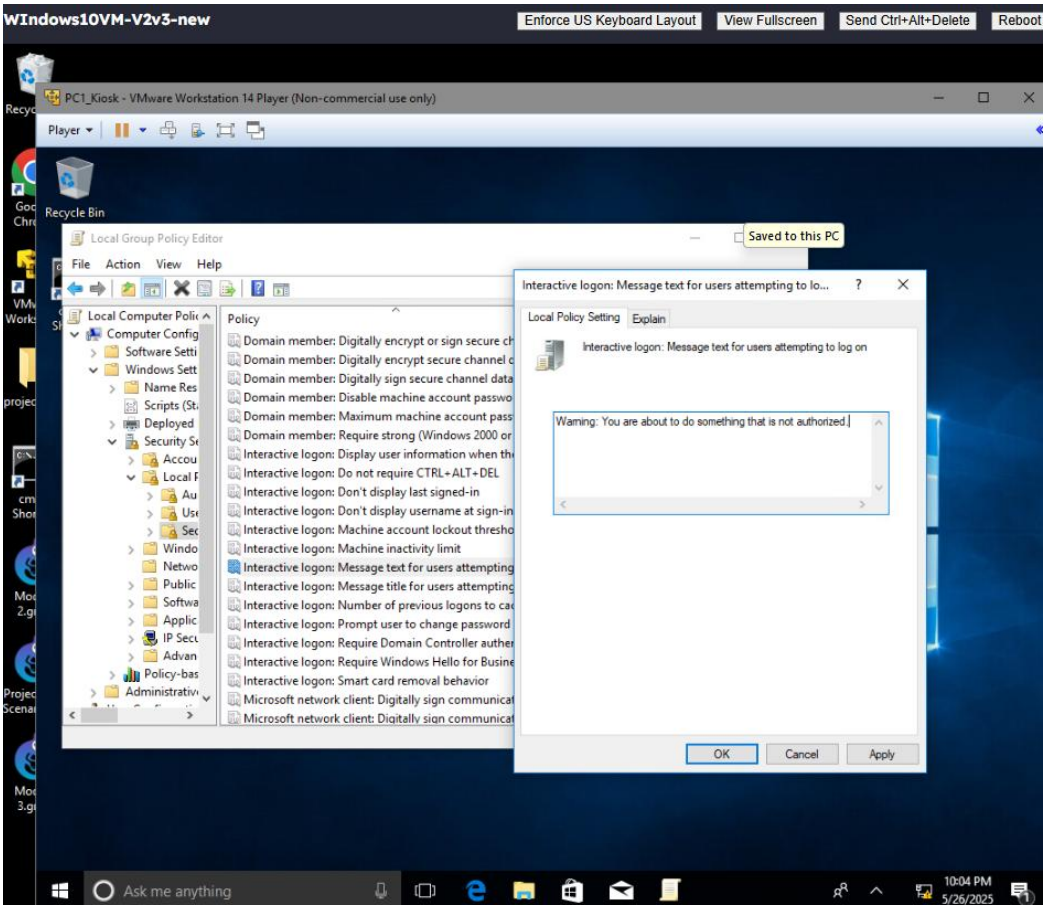
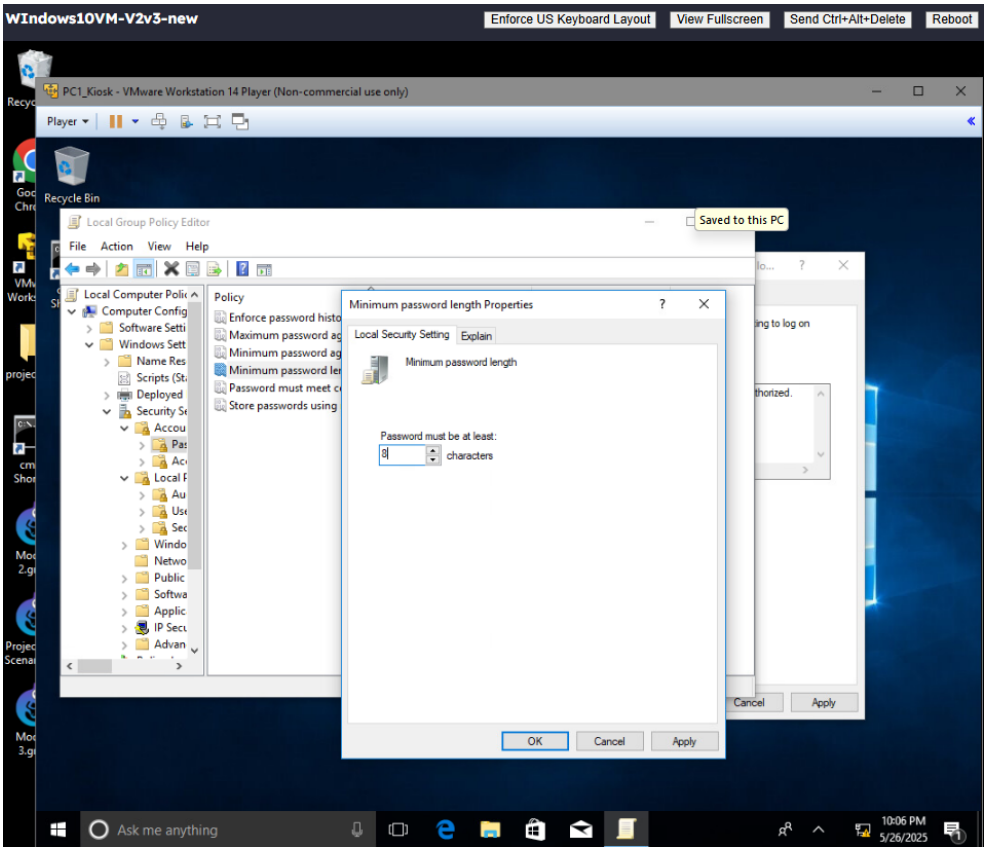
1. **Using Virtual Systems**

A. Configure group policy **settings** to meet project specifications as identified in the InfoSec Project One Activity. Provide screenshots from the local group policy editor dialog box as evidence of each change.

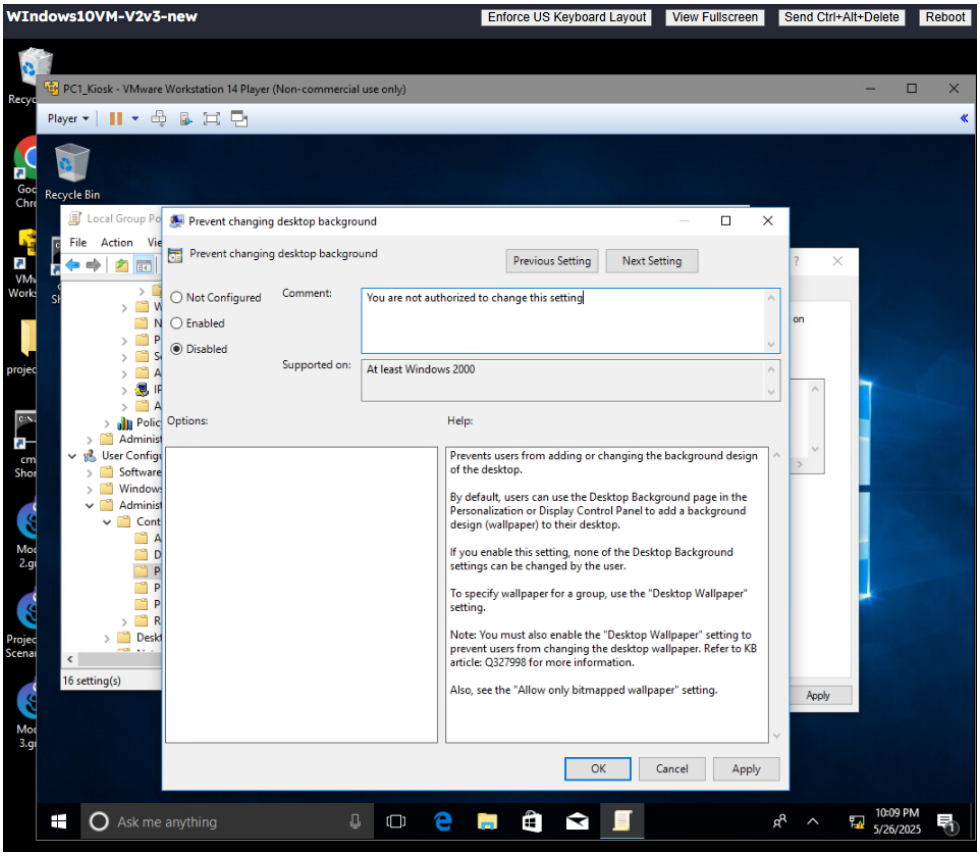
• Set the **Interactive logon: Message text for users attempting to log on** prompt to “Warning: You are about to do something that is not authorized.”



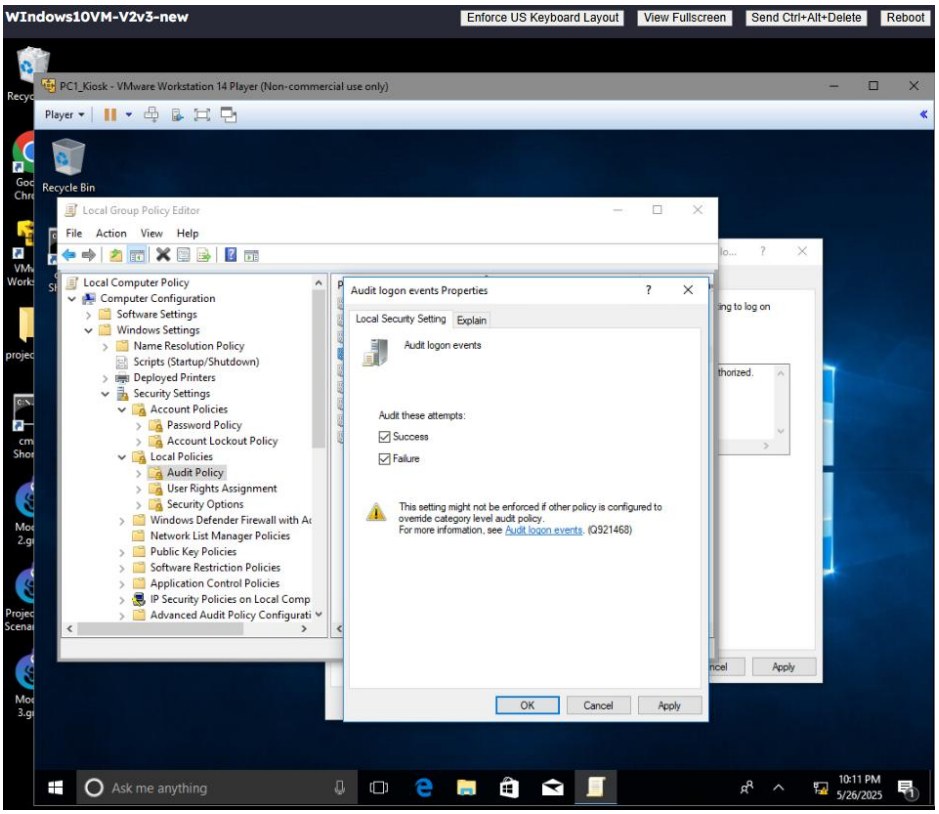
•Change local password policy setting.	•Change the minimum password length to 8.



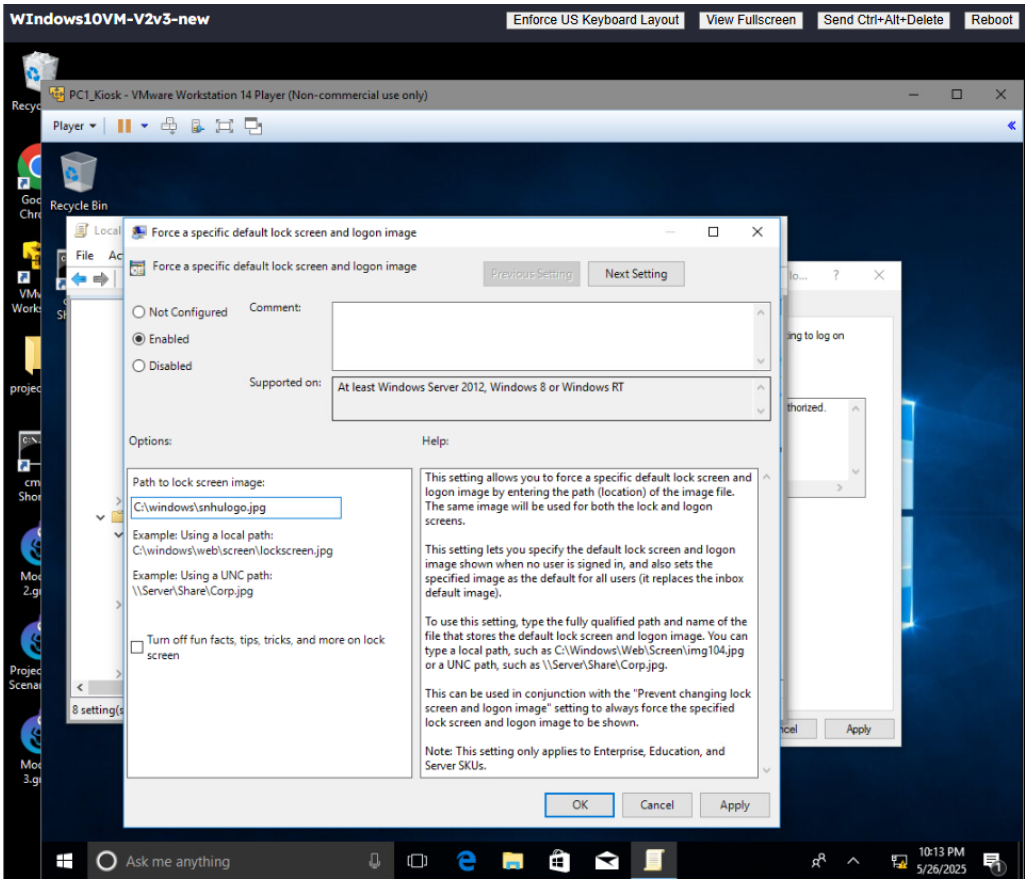
•Change desktop background user rights assignment (disable non-admin change capability).	•Set **Prevent changing desktop background** to disabled. Add the comment “You are not authorized to change this setting” to the comment box.



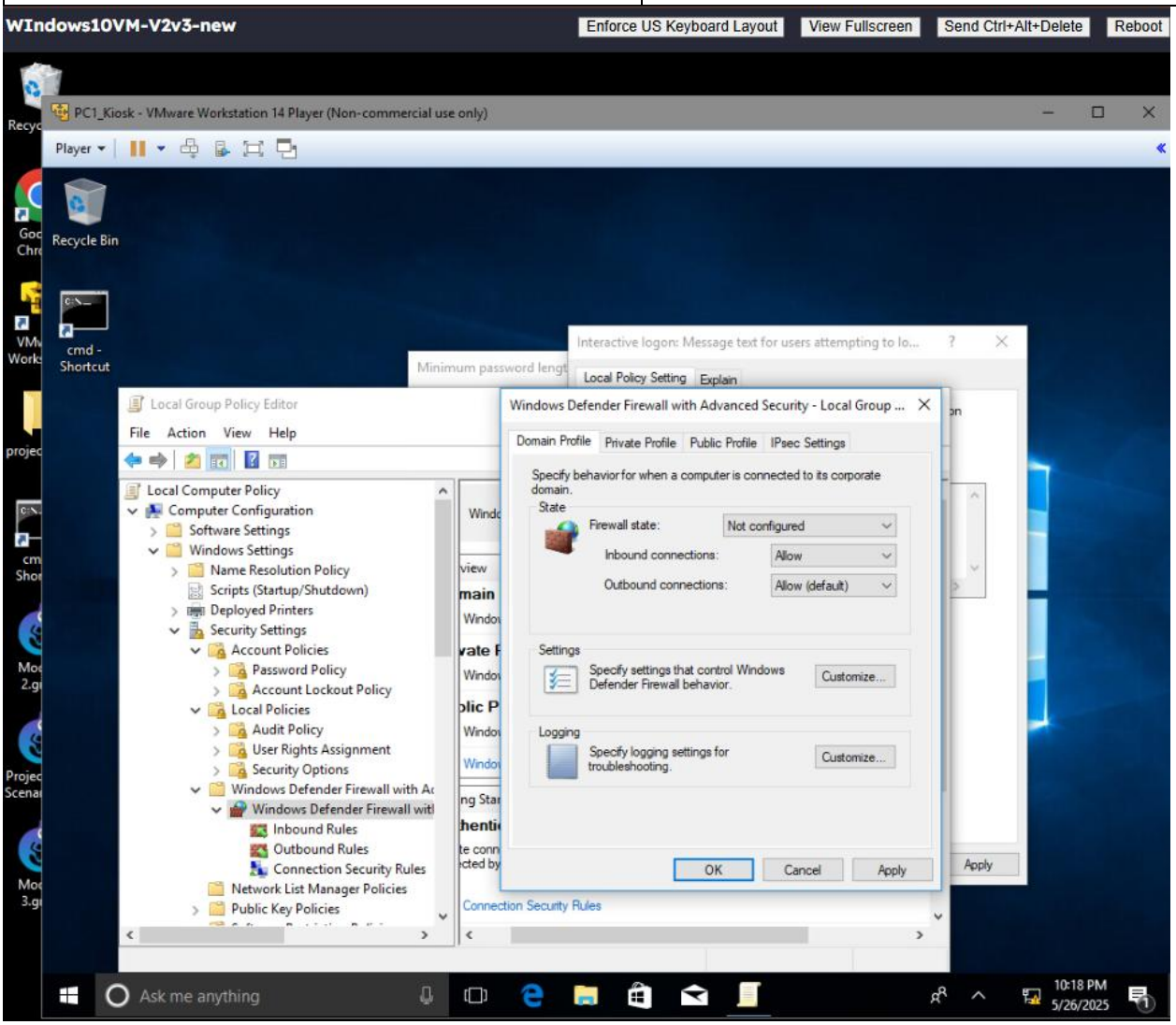
•Configure local audit policy setting.	•Set **Audit logon events** to enabled.



•Configure default logon banner (warning that requires direct affirmation to continue).	•Set **Force a specific default lock screen and logon image** to enabled, and provide a **path to the lock screen image** of C:\windows\SNHULogo.jpg.

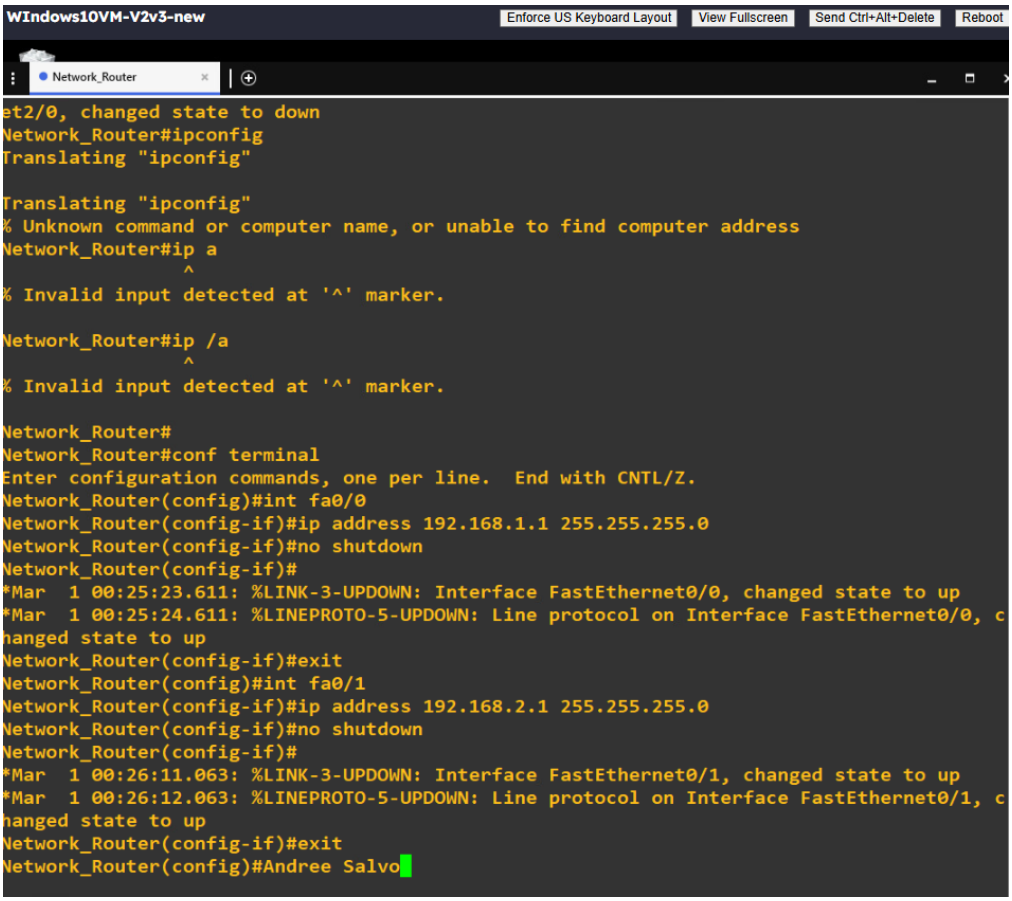

WIndows10VM-V2v3-new
Enforce US Keyboard Layout
View Fullscreen
Send Ctrl+Alt+Delete
Reboot
PC1_Kiosk - VMware Workstation 14 Player (Non-commercial use only)
Player
Recycle Bin
Force a specific default lock screen and logon image
Force a specific default lock screen and logon image
Previous Setting
Next Setting
Not Configured
Enabled
Disabled
Comment:
Supported on:
At least Windows Server 2012, Windows 8 or Windows RT
Options:
Help:
Path to lock screen image:
C:\windows\snhulogo.jpg
Example: Using a local path:
C:\windows\web\screen\lockscreen.jpg
Example: Using a UNC path:
\\Server\Share\Corp.jpg
Turn off fun facts, tips, tricks, and more on lock screen
This setting allows you to force a specific default lock screen and logon image by entering the path (location) of the image file. The same image will be used for both the lock and logon screens.
This setting lets you specify the default lock screen and logon image shown when no user is signed in, and also sets the specified image as the default for all users (it replaces the inbox default image).
To use this setting, type the fully qualified path and name of the file that stores the default lock screen and logon image. You can type a local path, such as C:\Windows\Web\Screen\img104.jpg or a UNC path, such as \\Server\Share\Corp.jpg.
This can be used in conjunction with the "Prevent changing lock screen and logon image" setting to always force the specified lock screen and logon image to be shown.
Note: This setting only applies to Enterprise, Education, and Server SKUs.
OK
Cancel
Apply
Ask me anything
10:13 PM
5/26/2025

•Change default Windows firewall profile.	•Set **Windows Defender Firewall Properties\Firewall State** to on, and set **Inbound connections** and **Outbound connections** to allow.

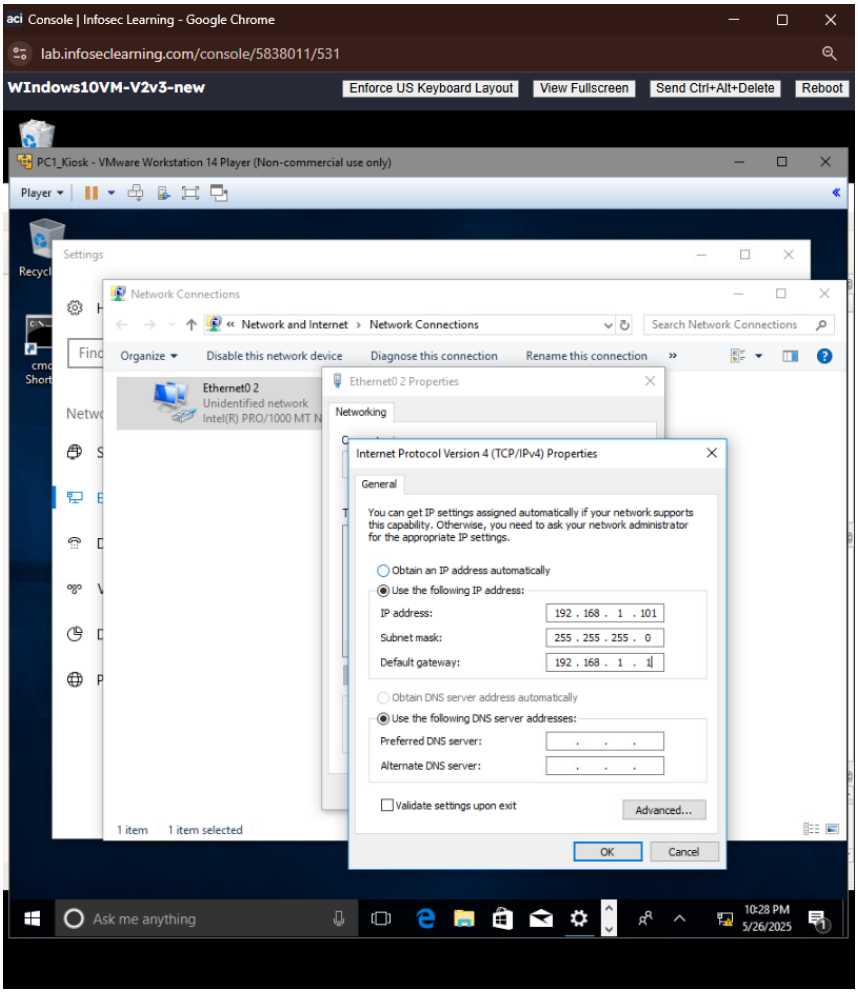


B. Configure **network** resources to meet the network configuration settings as identified in the InfoSec Project One Activity. Provide a screenshot of each network setting configuration.

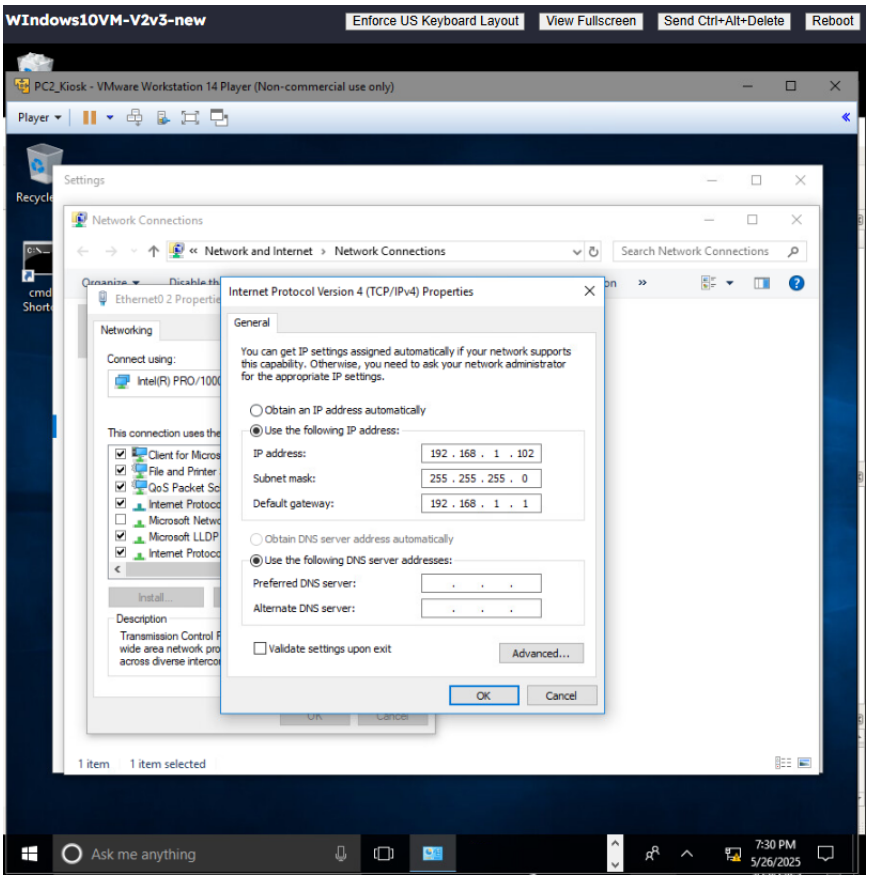
Network Router Setup



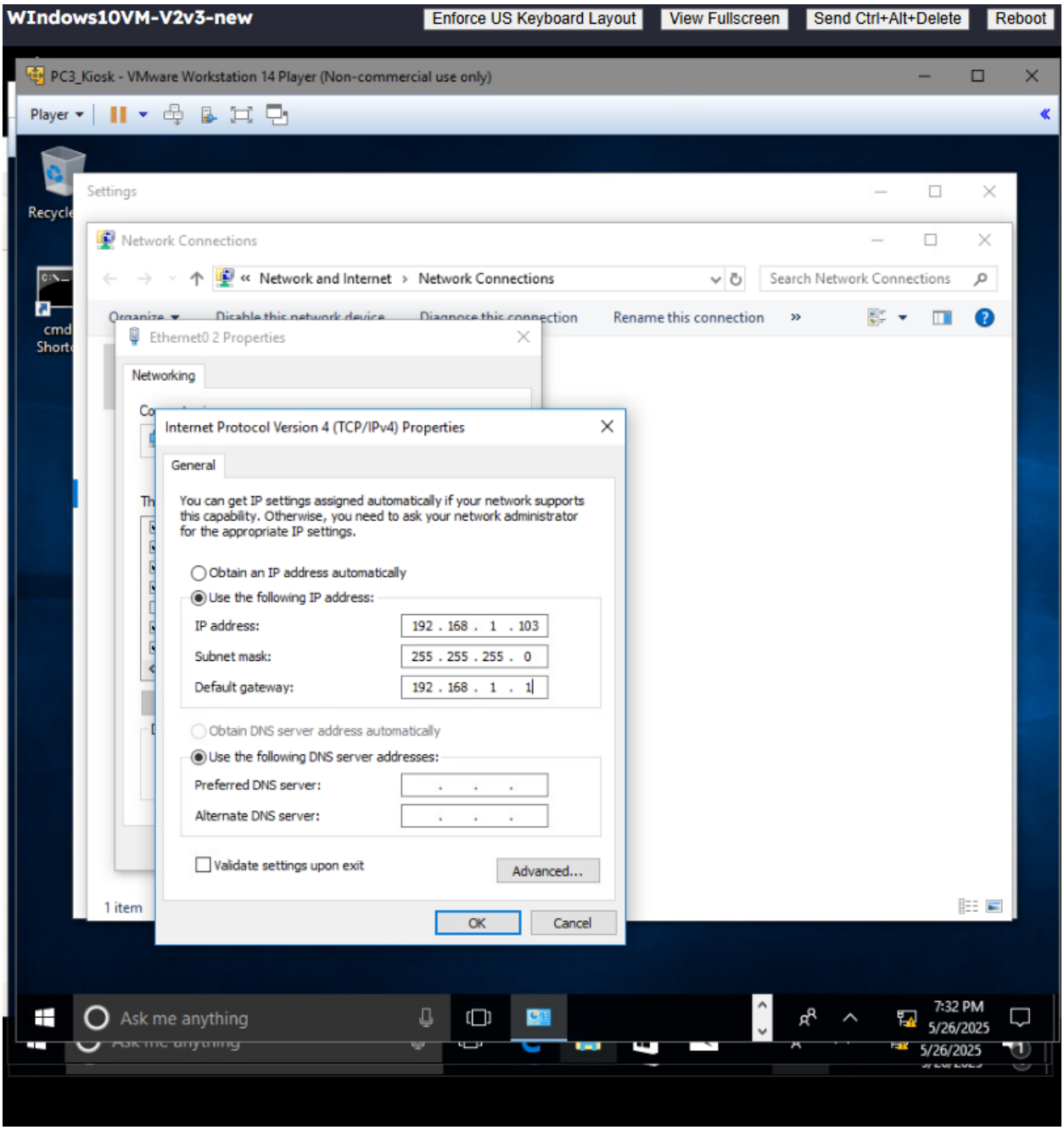
PC1_Kiosk Setup



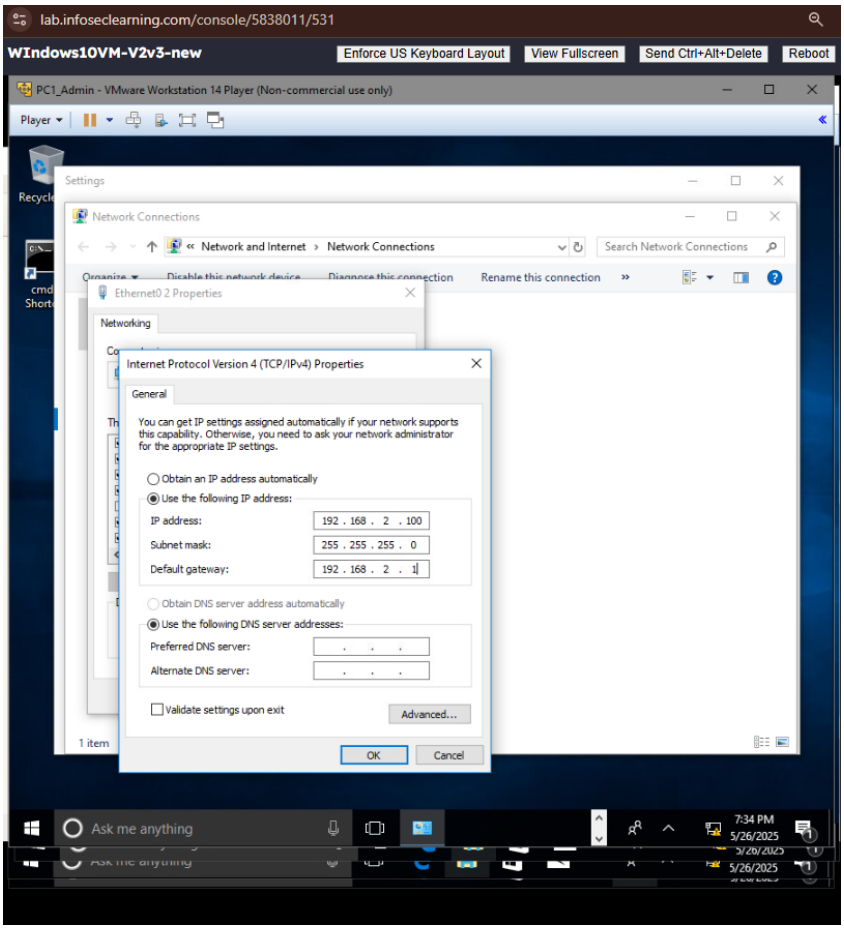
PC2_Kiosk Setup



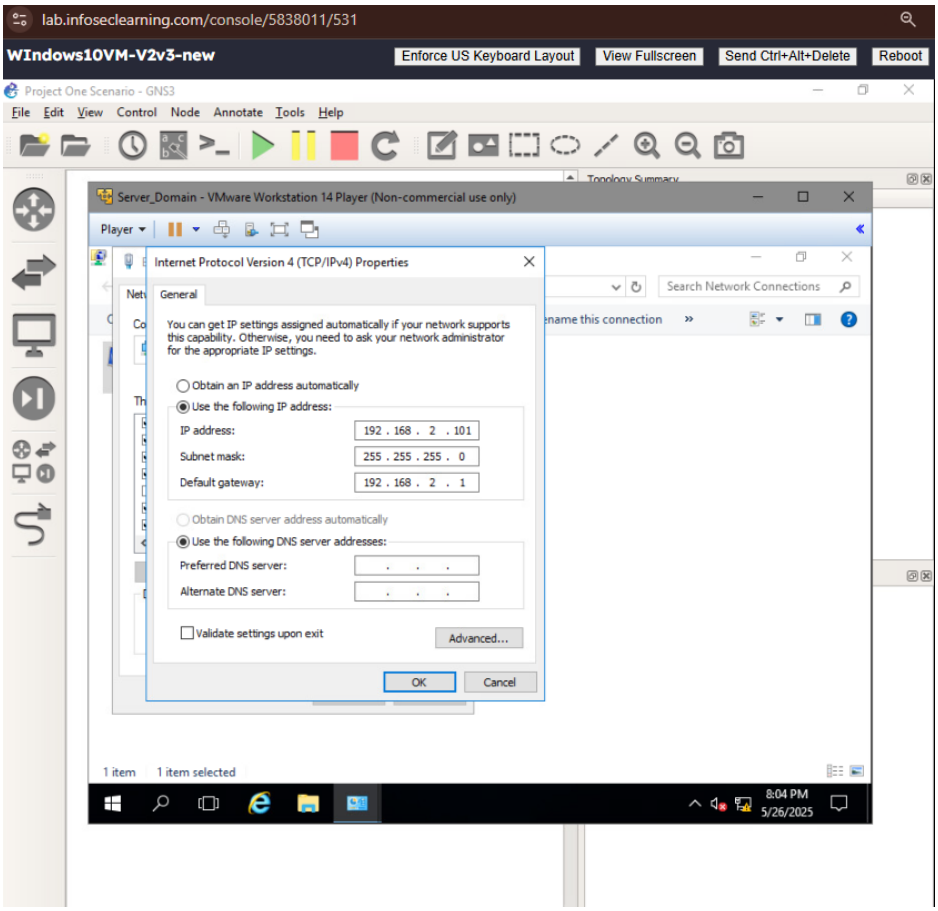
PC3_Kiosk Setup

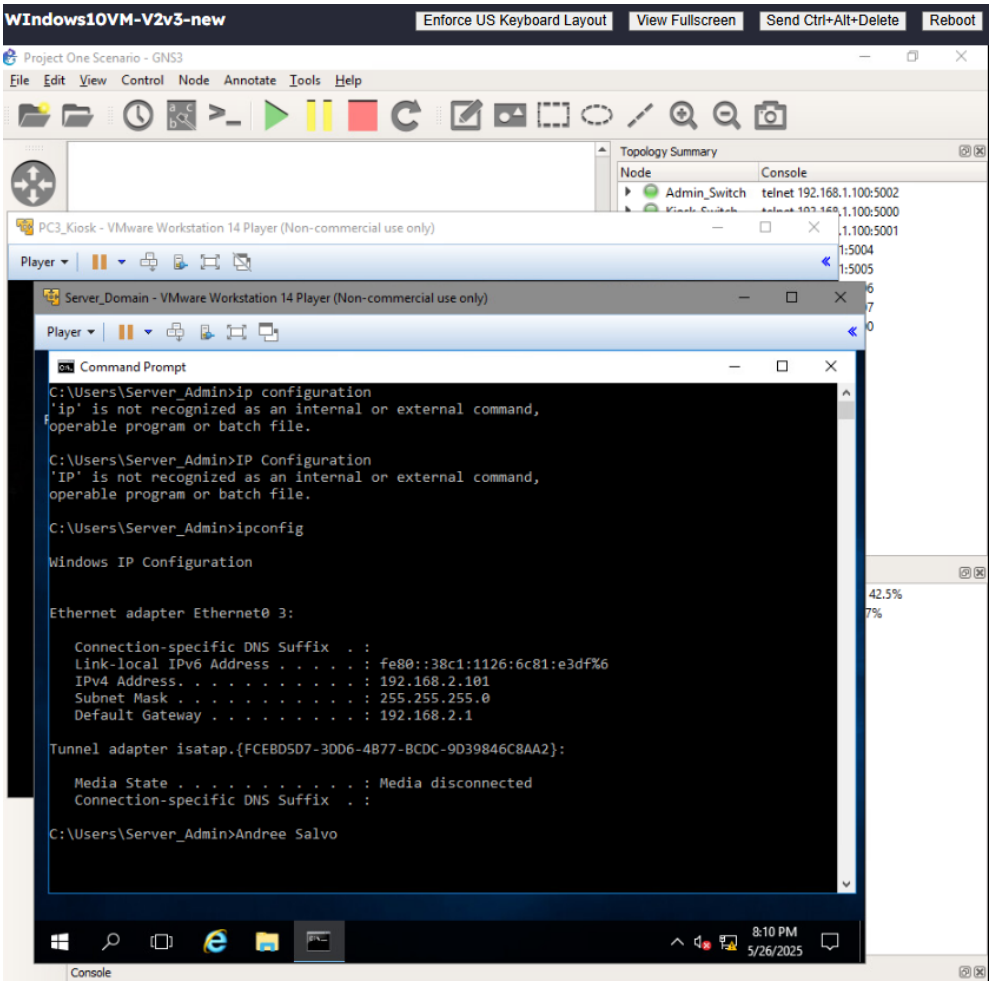


PC1_Admin Setup



Server_Domain Setup


lab.infoseclearning.com/console/5838011/531
WIndows10VM-V2v3-new
Enforce US Keyboard Layout
View Fullscreen
Send Ctrl+Alt+Delete
Reboot
Project One Scenario - GNS3
File Edit View Control Node Annotate Tools Help
Server_Domain - VMware Workstation 14 Player (Non-commercial use only)
Player
Internet Protocol Version 4 (TCP/IPv4) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 2 . 101
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 2 . 1
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Validate settings upon exit
Advanced...
OK
Cancel
Search Network Connections
1 item
1 item selected
8:04 PM
5/26/2025


WIndows10VM-V2v3-new
Enforce US Keyboard Layout
View Fullscreen
Send Ctrl+Alt+Delete
Reboot
Project One Scenario - GNS3
File Edit View Control Node Annotate Tools Help
Topology Summary
Node
Console
Admin_Switch
telnet 192.168.1.100:5002
PC3_Kiosk - VMware Workstation 14 Player (Non-commercial use only)
Player
Server_Domain - VMware Workstation 14 Player (Non-commercial use only)
Player
Command Prompt
C:\Users\Server_Admin>ip configuration
'ip' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Server_Admin>IP Configuration
'IP' is not recognized as an internal or external command,
operable program or batch file.
C:\Users\Server_Admin>ipconfig
Windows IP Configuration
Ethernet adapter Ethernet0 3:
Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . . : fe80::38c1:1126:6c81:e3df%6
IPv4 Address. . . . . : 192.168.2.101
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.2.1
Tunnel adapter isatap.{FCEBD5D7-3DD6-4B77-BCDC-9D39846C8AA2}:
Media State . . . . . : Media disconnected
Connection-specific DNS Suffix . :
C:\Users\Server_Admin>Andree Salvo
8:10 PM
5/26/2025
Console

I. **Conceptual Justification for Uses of Virtual Systems**

A. Describe the benefits of using virtualization technology in sandboxing.

Answer: Benefits of using a virtualization technology in sandboxing include things like enhanced security, which "isolates untrusted or potentially malicious code within a controlled environment that would prevent unauthorized users from gaining access to sensitive data" (Paubox, 2021), safe testing and development, improved stability where when you do use sandboxing it can help the systems stability by help preventing any failures.

B. Describe the drawbacks of using virtualization technology in sandboxing.

Answer: The Drawbacks that I personally encountered were Performance. When I was using virtualization, I remembered that I had multiple Virtual machines (VMs) running, and my computer started responding very slowly and lagging a little bit, but another drawback of using virtualization is vulnerabilities. If the virtualization isn't properly installed, malware can exploit and escape inside the VM, causing it to become vulnerable to the entire system. And if the exploit does successfully escape, it can get inside your main host PC.

C. Describe a situation other than sandboxing where virtualization technology would be a valuable solution.

Answer: A situation besides sandboxing, where virtualization would be a valuable solution, would have to be a Virtual disaster recovery. A virtual disaster recovery is most efficient where organizations replicate VMs to another location, which keeps a live backup ready if something does go wrong. The benefits of using VDR are that "they are containerized into VMs, independent from the underlying hardware. An organization does not need the same physical servers at the primary site as at its secondary disaster recovery site." (Crocetti, 2022)

References:

Paubox. (2021, October 12). *Benefits of sandboxing*. Retrieved from https://www.paubox.com/blog/benefits-of-sandboxing

Crocetti, P. (2022, December 16). *Virtual disaster recovery*. TechTarget. https://www.techtarget.com/searchdisasterrecovery/definition/virtual-disaster-recovery