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Lab 1: Lab Manual Procedures and Tips

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Topic A: Windows for Business and Industry Lab or Chapter Configuration

Each lab or chapter in the Windows for Business and Industry Series has three main components: Introduction, Lab and Evaluation. The three main components to each Lab/chapter will have multiple topics assigned to its structure.

Topic B: Component 1: Each lab introduction has three topics.

Topic Letter	Subject	Explanation
Topic A:	Lab Objectives	In this main topic section we will cover the learning objectives of the labs.
Topic B:	Technology in Business	Technology in Business will give an example of how the Lab is relevant in a real world business scenario.
Topic C:	Lab Definitions	Lab definitions help you understand key terms in the Lab before starting on your lab. Understanding terms and definitions are critical to you conquering the material in the lab.

Topic C: Component 2: Each lab will have multiple topics in order

Each Lab component in the Windows for Business and Industry Series are broken into topic modules. The topics are presented as small digestible learning modules. The smaller learning modules help avoid getting lost in the middle of a lab. The smaller topic modules also help you learn each part thus understanding how the parts and the process make up the entire lab.

There will be multiple topics in the learning labs. See the DNS Server load example below. The example below would cover five topics in a learning lab. Each topic would be a separate set of steps to complete

In the example below you have the DNS installation and configuration topics covered in component Topics D, E, F, G and H.

Topic Letter	Subject
Topic D:	Loading a DNS server from a Syspreped image
Topic E:	Configure the DNS Server
Topic F:	Loading DNS Services
Topic G:	Configure DNS
Topic H:	Configure Root Hints for DNS zone resolution

Topic D: Component 3: Each lab summary has three topics

Topic Letter	Subject	Explanation
Topic I:	Lab Project	The Lab Project is a repeat of the Lab or parts of the lab with variations and twists. The repetition helps you to gain more confidence in repeating what you learned in the Lab.
Topic J:	Troubleshooting Scenario	The Troubleshooting Scenario is often a brain storming exercise to get you used to approaching problems in the work place.
Topic K:	Business Scenario	This topic is meant to get you thinking about how the technology you are learning is applied to the real world of business. Each question will pertain to the lab you just finished. As a note, you can use the below Troubleshooting steps for the Business Scenario as they follow the same format.

Topic E: Troubleshooting steps

In the troubleshooting section you'll be taught how to implement the following steps to problem solving.

Steps	Troubleshooting Steps
Step 1	What is the problem?
Step 2	What are our options and what do they cost?
Step 3	What are the pros and cons of each option?
Step 4	When and how should you implement it?
Step 5	How do you measure the results to ensure the problem is fixed?

Topic F: Troubleshooting worksheet

1. What is the problem

2. What are our options and what do they cost?

3. What are the pros and cons of each options?

4. When and how should you implement it?

5. How do you measure the results to ensure the problem is fixed?

Topic G: Extra Items: Comments, examples, issues, and Quick-Steps

Extra items: There are three types of extra items: Comments, Examples, issues, and Quick-Steps. This topic will explain what each additional item will cover.

Comments will serve one of two purposes. The first is comments will expand the reasoning and knowledge for topics and steps. This is to give a great understanding of the topic or step itself and why you are doing it. The second is to denote what screen the step takes place on. A # symbol will precede each Comment. This was chosen for its role in PowerShell programming; the # symbol tells the program that the following line is just a comment and shouldn't be run with the program.

Examples provide an illustration of the instance. We may pull a small part of a topic out and give some examples on that single part. The example will not be a part of the whole lab. Example: section illustrates or expands a small part of a topic.

Issues will document instances of a known problem. The problem or known issue will be something the author has tried as part of the lab, and it didn't work. You will be given a search topic on the known issue.

Quick-Steps are instructions for something you've done in a previous topic or book but is required for an upcoming topic to work.

Topic H: Windows for Business and Industry concepts

The objective of the Windows Server Training series is to teach you how to apply Windows applications to solve real world business problems. These Microsoft Windows labs are written to help you not only survive but excel in your company's business environment.

Lab 2: vSphere 6.0

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Topic A: Lab Objectives

1. Learn how to use VSphere client
2. Learn how to navigate VSphere client

Topic B: Technology in Business

Businesses don't like to spend money. Virtualization allows you to use existing hardware to create additional workstations or servers for the business to use. These virtual machines can be rebuilt quickly and are isolated from one another so malware attacks are also isolated. The advent of virtualization also leads to greater technology like Software Defined Networking.

Topic C: Lab Definitions

VSphere: A proprietary virtual machine platform that allows you load Windows, Linux, and others OS virtual machines.

Hyper-V: Proprietary Windows virtual machine platform.

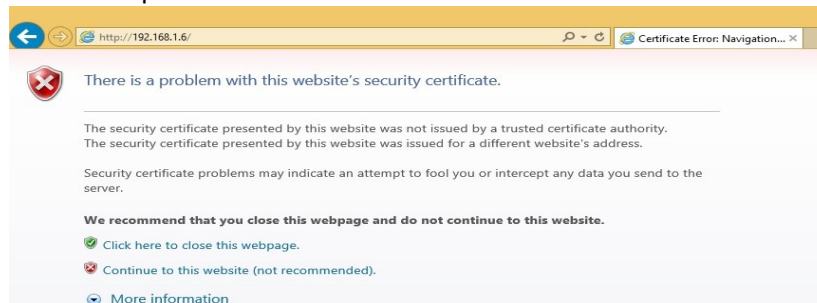
Oracle VM: Proprietary Unix OS virtual machine platform.

Topic D: Install a vSphere Client

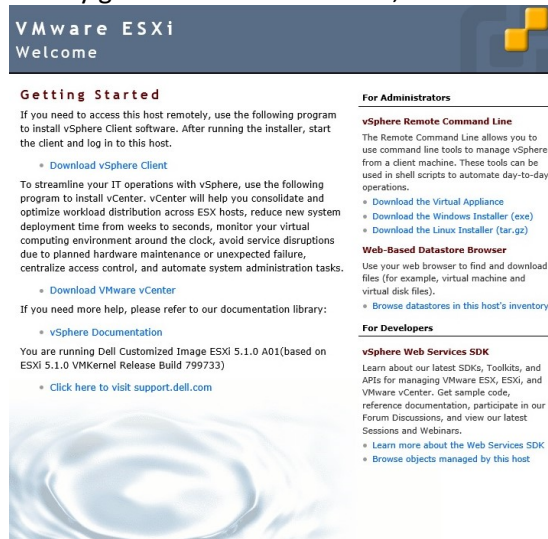
Comment: The Environment already has your VSphere Client loaded. You will not be required to install a VSphere Client. This topic is for your future use in the field.

Comment: To access your virtualized server network, log on to the vSphere environment. You will log on to the vSphere environment with a vSphere Client program. VSphere Client can be downloaded by going to your local VMware vSphere Server home page. <http://{your-vmware-server-ip}> (Example: <http://192.168.1.6>). Your instructor will give you the vSphere home page address or IP. After you open your browser and type in the home page or IP address (e.g., 192.168.1.6), you will get a warning about the security certificate.

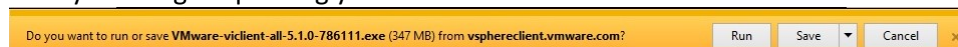
1. Left Click Continue to this website (not recommended) # Comment: VMware vSphere Welcome Screen will open



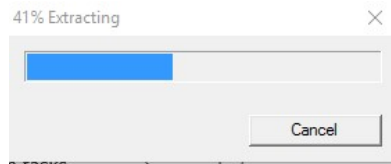
2. Left Click Download vSphere Client for Windows # Comment: If you are on a Windows workstation, you may get a user control screen, Left Click Yes



3. Left Click Run # Comment: The client installation will begin. The vSphere client will give you a security warning: requesting you run or save the file.

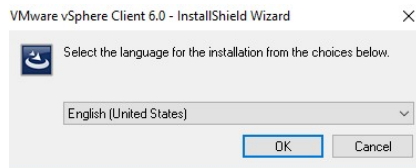


4. Left Click Yes – User Account Control # Comment: A Windows workstation install requires you to approve the EXSI install. You may or may not be required to provide security credentials. Enter an administrator’s account and password and Click Ok if needed. vSphere client software will begin to extract.

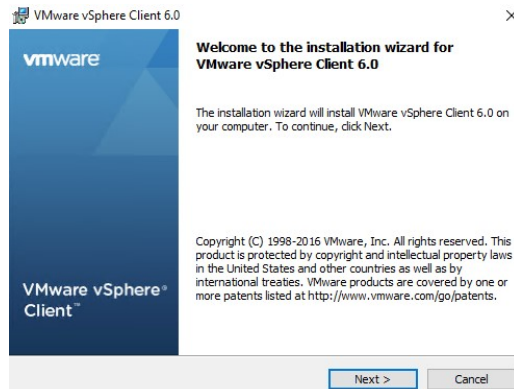


5. Select English from the Select the language for the installation from the choices below Drop-down menu

6. Left Click Ok

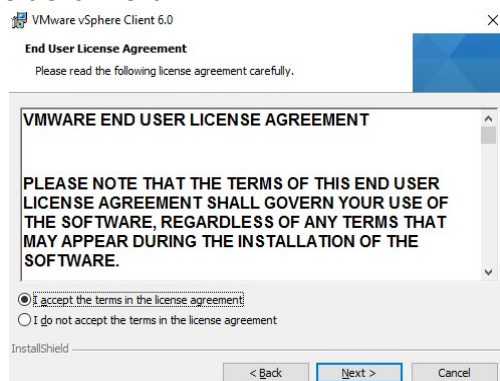


7. Left Click Next to start the install # Comment: The vSphere 6.0 Client Installation wizard will open.

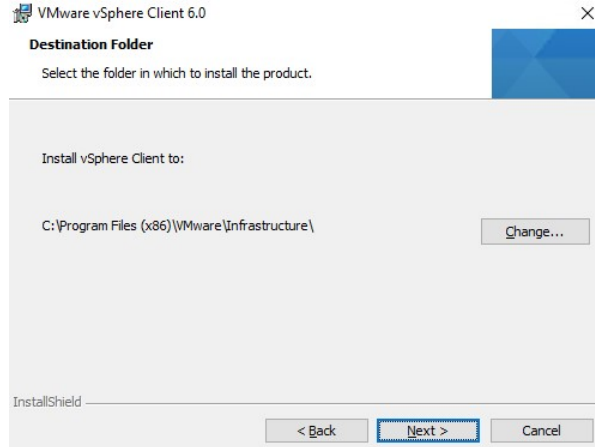


8. Select I accept the terms in the license agreement # Comment: The Client wizard will present the end-user patent agreement

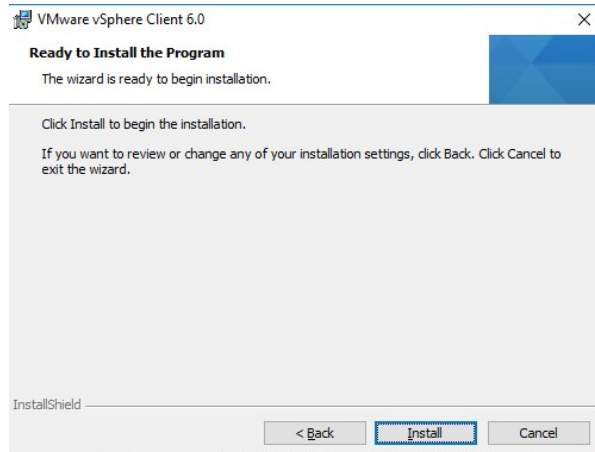
9. Left Click Next



10. Left Click Next # Comment: The Client wizard will allow you to select or change the directory or location where you will install the vSphere client.



11. Left Click Install



12. Left Click Finish # Comment: You will have a VMware vSphere Client icon on your desktop

Topic E: Log on with vSphere Client

Comment: To log on to the vSphere server to work on your labs, you will need either an IP address or a hostName set up on your DNS server. In the book example, we will use the IP 192.168.1.31 to log on to vSphere. You will have a different IP assigned for your login.

1. Double Click your VMware vSphere Client desktop icon



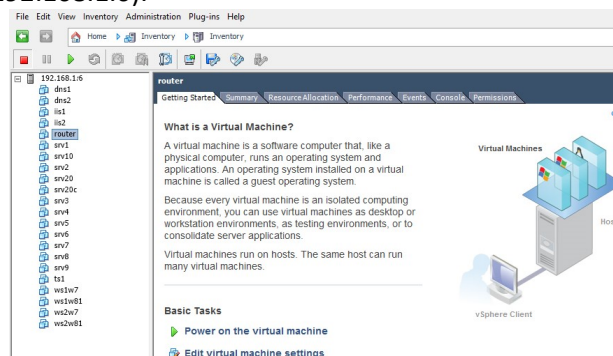
2. Enter your IP address in the IP address / Name: field # Comment: The following is a list of parameters to log on to the vSphere server. Below is an example of a vSphere log-on and a fill-in-the-blank for your environment. Please check with your instructor for your log information and password.
3. Enter your Username in the User name: field
4. Enter your password in the Password: field

Item	Book Example	Your Environment
IP Address or Host Name	192.168.1.31	
Active Directory DB and User Name (Case Sensitive)	Standard	
Password	Test123	

5. Left Click Login



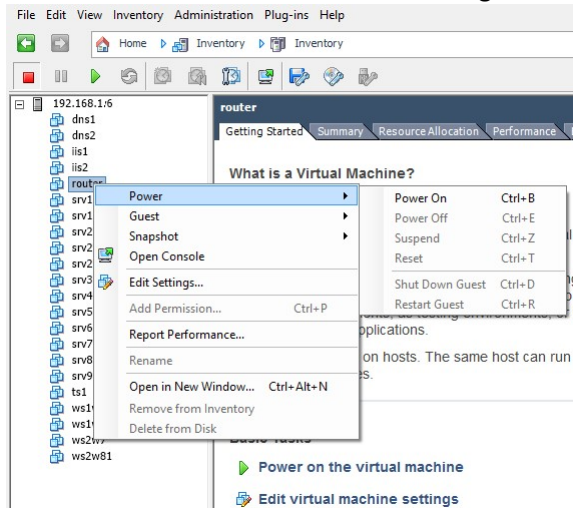
6. Left Click Ignore # Comment: The vSphere Inventory Screen will open
7. Double Click your assigned IP # Comment: Vsphere Inventory Screen. (Book Example: IP 192.168.1.6).



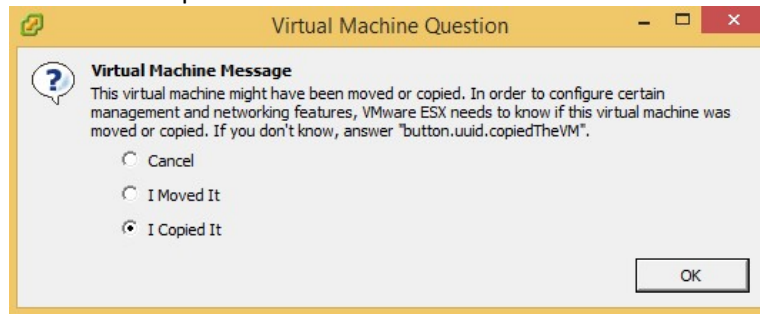
Topic F: Power on a virtual machine (workstation or server)

Comment: This topic is for example only. Do not turn on your CROUTER.

1. Right Click the virtual machine you want to power on (Example: CROUTER)
2. Left Click Power
3. Left Click Power On # Comment: You will get a colored arrow on the virtual machine

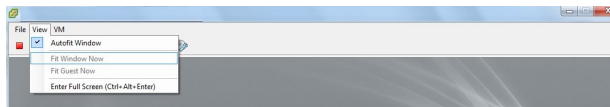


4. Left Click Ok # Comment: Virtual Machine Question screen. VSphere may ask if your Virtual Machine was copied.



Topic G: Open a virtual machine console window

1. Right Click virtual machine the virtual machine you want to view (Example: SRV1)
2. Left Click Open Console
3. Check Autofit Window



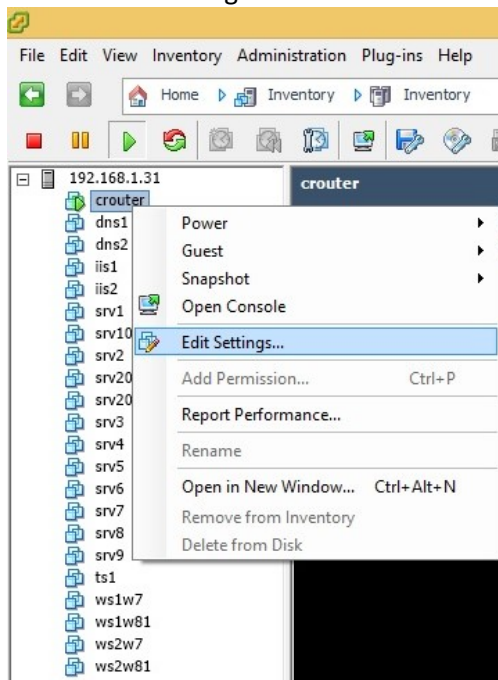
Topic H: CROUTER Network Adapters in vSphere

Comment: The CROUTER will control all your lab traffic, including subnets and public communication with other environment networks.

Topic I: Assign a subnet to a Network Adapter CROUTER

Comment: In this topic, you will set up the network adapters in VMware. You will use these configurations in your other Labs.

1. Log on to vSphere with your user account
2. Right Click CROUTER
3. Left Click Edit Settings # Comment: The virtual machine properties screen will open for CROUTER.



4. Left Click network adapter1

