



NETWORK DESIGN &
ADMINISTRATION
(NDA) - LAB BOOK
ITEC20231

NOTTINGHAM
TRENT UNIVERSITY



Network Design and Administration Lab Book.

Part 1

2020/2021

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Part 1:

Installing and configuring the Clients & Servers

Lab 1: Installing Windows 7, Ubuntu Client and Windows Server 2008.

1.1 Installing Windows 7

Note:

You need to install VMware if it is not already installed on your computer.

The video on NOW with the link below explains how to install VMware.

<https://now.ntu.ac.uk/d2l/le/content/716297/viewContent/5081225/View>

Click on the link below to download the **Windows 7 professional** ISO image.

https://olympuss.ntu.ac.uk/cmp3owak/Windows-7-Professional/blob/master/en_windows_7_professional_x86_dvd_x15-65804.iso

Start the VMWare to start the virtual machine.

Then add the downloaded ISO image file in order to commence the installation of Windows 7 Professional.

The video on NOW with the link below explains how to add an ISO file in order to create a virtual machine.

<https://now.ntu.ac.uk/d2l/le/content/716297/viewContent/5096886/View>

Note:

If you desire to go over and over the installations contained in Lab 1, you might need to put the VM in a non-persistent mode. You can achieve this by following the procedure below:

Click on “Edit Virtual Machine Settings” --> “Hard Disk” --> “Advanced” --> “NonPersistent”

Follow the rest of the instructions and take notes in appropriately

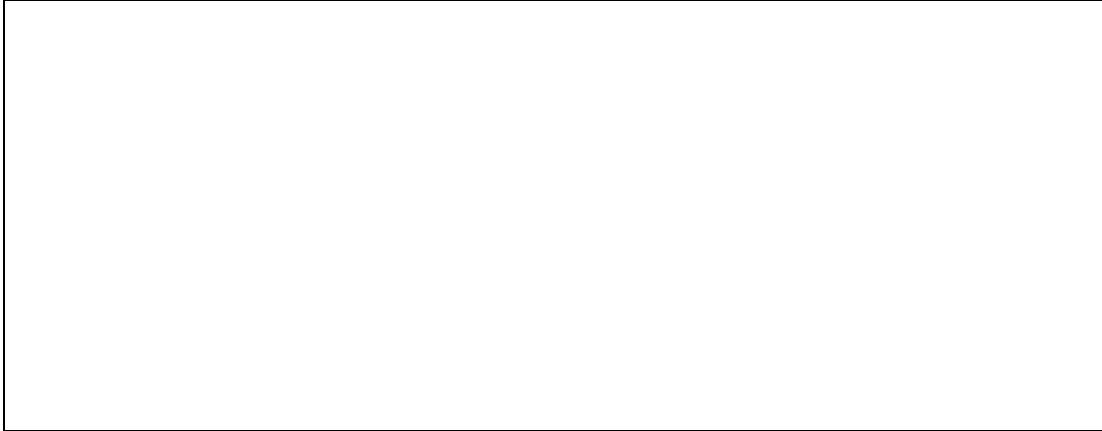
1. Start the Installation of **Windows 7 professional** virtual machine.

2. On the “Windows 7 Installation” screen click on the “Time and currency format” pull down box and select “English (United Kingdom)”.
3. Press “Next”.
4. Click on the “Install now” button.
5. On the “Install Windows” screen, have a quick read of the license terms.
6. Click on the “I accept the license terms” check box.
7. On the “Type of installation” setup screen, click on the “Custom (advanced)” option.
8. On the “Where do you want to install Windows” setup screen, click on “Drive options (*advanced*)”.
9. Now click on the “New” option.
10. A “size” box will now be displayed, along with an “apply” and “cancel” button.
11. Click on the “Apply” button.
12. Click on “Ok” on the dialogue box that is displayed.
13. Two partitions are now displayed in the list of places where windows can be installed to. Highlight the “Disk 0 Partition 2” item in the list and click on “Format”.
14. Click on the “Ok” button in the dialogue that is displayed.
15. Click on the “Next” button.

Note: *Windows setup will now start to install the OS. After it has finished installing everything it will reboot.*

16. On the “Set up windows” screen, type in your name into the “Type a username” box and then click on the “Next” button.
17. Complete the “set a password for your account” screen by entering password into the password boxes and then add a hint.
18. **Explain why this would not be an ideal password to use in a real working environment.**

19. Click on the “Next” button.
20. On the “Windows product key” setup screen leaves the “product key” box blank.
21. Uncheck the “Automatically activate Windows when I’m online” check box.
- 22. Click on the “What is activation?” link and make notes as to what activation is and why it is important.**



23. Click on the “Next” button.
24. On the “Help protect your computer” setup screen, click on the “Install important updates only” option.
25. On the “Review your time and date settings” setup screen, select the correct time zone from the pull-down box and click on “Next”.
26. On the “Select your computer’s current location” setup screen, click on the “Work network” option.

Note: Windows 7 setup will continue with the installation.

27. Once Windows 7 reboots, log in.

- 28. Make any additional notes to help you with what you have done to install Windows 7.**



1.2 Installing Ubuntu Client

1. Download the ISO file for Ubuntu from the link below:

<https://olympuss.ntu.ac.uk/cmp3owak/Ubuntu-Client/blob/master/ubuntu-16.04.6-desktop-amd64.iso>

2. Open VMware and Click on File, New Virtual Machine. Click on Typical (recommended).
3. Click on “I will install the OS later”. Click Next to continue.
4. Select Linux as the guest OS, Version is Ubuntu. Click Next to continue.
5. Put “**ntu-virtual-machine**” as the Virtual machine name; select your location as appropriate. Click Next to continue.
6. Use recommended size of 20GB. Click on split virtual disk into multiple files. Click Next to continue.
7. Click on Finish to create virtual machine.
8. Click on “Edit virtual machine settings”, go to CD/DVD (SATA), click on use ISO image file. Locate and browse to the downloaded ubuntu-16.04.6-desktop-amd64.iso file; Click Ok.
9. Click power on this virtual machine.
10. Click “Install Ubuntu”; follow the rest of the instructions to complete the installation.
11. Click on both download Updates and Install third party software. Click to continue.
12. Select erase disk and install Ubuntu. Click on Install Now, then continue.
13. Put the computer name as “ntu-virtual-machine”; username as “ntu”.
14. After installation, log in with your username and password.
15. Run the following commands one after the other in the following order:


```
sudo apt-get update  
sudo apt upgrade -y  
sudo apt dist-upgrade -y  
sudo apt install terminator  
sudo apt install krb5-kdc krb5-admin-server krb5-config  
sudo apt install samba  
sudo apt-get update
```
16. Shutdown and restart to complete the installation.

1.3 Installing Windows Server 2008

Note: You need to install VMware if it is not already installed on your computer.

Click on the link below to download the Windows Server 2008 R2 ISO image.

https://olympuss.ntu.ac.uk/cmp3owak/Windows-Server-2008_R2

There are 2 files with links below to be downloaded from here:

https://olympuss.ntu.ac.uk/cmp3owak/Windows-Server-2008_R2/blob/master/Windows_Server_2008r2.z01

https://olympuss.ntu.ac.uk/cmp3owak/Windows-Server-2008_R2/blob/master/Windows_Server_2008r2.zip

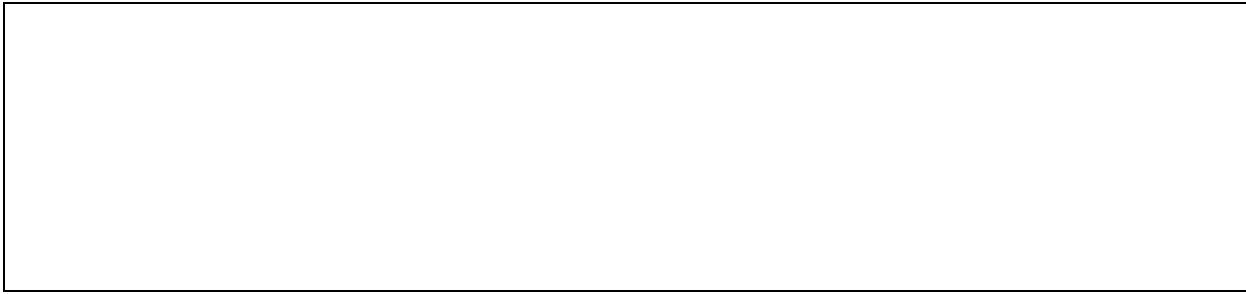
After the 2 downloads, unzip only the “**Windows_Server_2008r2.z01**” file.

Start the VMWare to start the virtual machine. Then add the downloaded ISO image file in order to commence the installation of Windows Server 2008 R2.

1. Start the Installation of Windows Server 2008 R2 virtual machine.
2. On the “Windows Installation” screen click on the “Time and currency format” pull down box and select “English (United Kingdom)”.
3. Click on the “Next” button.
4. Click on the “Install now” button.
5. On the “Select the operating system you want to install” window, highlight the “Windows Server 2008 R2 Standard (Full Installation)” option.
6. Click on the “Next” button.
7. On the “Install Windows” screen, have a quick read of the license terms.
8. Click on the “I accept the license terms” check box.
9. Click on the “Next” button.
10. On the “Type of Installation” window, click on the “Custom (advanced)” option.
11. Click on the “Next” button.

Note: *Windows Server 2008 R2 will now begin the installation process.*

12. Click on “OK” when prompted to change the password for the first time.
13. Type in password into both “password” boxes and then click on the round arrow button.
14. Explain why you think the password was rejected.

A large rectangular box representing a screenshot of a Windows Server configuration window. It is currently empty.

15. Click on the “OK” button.

16. Now type in P@ssword into both “password” boxes and click on the round arrow button.

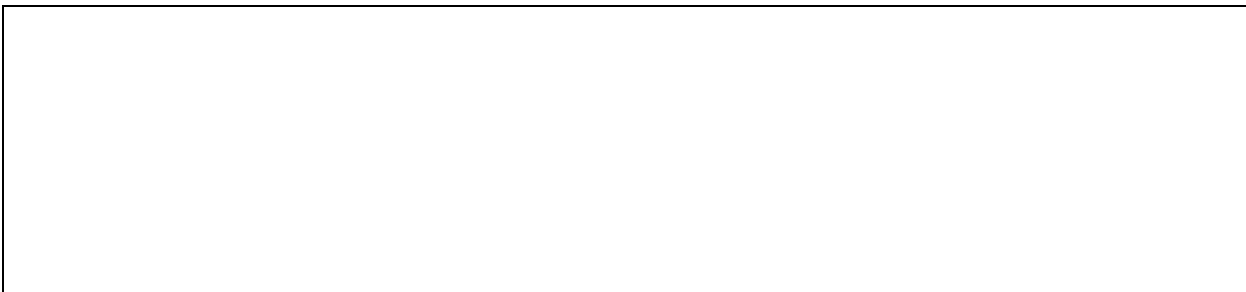
17. Click on the “OK” button once you have been told that the password has been changed.

18. On the “Initial Configuration Tasks” window, explore the different options and make some brief notes on what can be done.

A large rectangular box representing a screenshot of the “Initial Configuration Tasks” window. It is currently empty.

19. Click on the “Close” button.

20. On the “Server Manager” window, explore the different options and make brief notes on what can be done.

A large rectangular box representing a screenshot of the “Server Manager” window. It is currently empty.

21. Locate and click on the “Add Roles” option.

22. Read the “Before you begin” setup screen and then click on the “Next” button.

23. Make brief notes of some of the different roles that Windows Server can provide. (Highlighting each option will show the role description on the right-hand side of the window.)

A large rectangular box representing a screenshot of the Windows Server role selection window. It is currently empty.

24. Click on the “Cancel” button.
25. Click on “Yes” in the “Add Roles Wizard” confirmation dialogue.
26. On the “Server Manager” window, locate and click on the “Add Features” option.
- 27. Make brief notes of some of the features that can be installed. Descriptions are shown when highlighting a feature.**

28. Click on the “Cancel” button.
29. Click on “Yes” in the “Add Features Wizard” dialogue.
30. Click on the “Start” button.
31. Click on the arrow next to the “Log Off” button.
32. Click on “Shutdown” in the pop-up menu.
- 33. Make a note of the different reasons for the shutdown operation and explain why you think you would have to provide a reason and comment for shutting down the server each time?**

34. Type Initial Install in to the “Comment” box.
35. Click on the “OK” button.

Note:

At the end of Lab 1, you should be having 3 virtual machines produced in your VMware.

It is not essential that you load the 3VMs simultaneously if there is limited RAM on your computer system – you can do that if it is needed later in the coming weeks.