**Lab Number: 2. Network services and admin tools**

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| **Section**  **Summary** | Section 8: Windows Deployment Services (WDS)Goals  * Deploy an Operating system image to blank VM client using WDS * Create a customised image using sysprep and WDS capture images  Implementation steps  1. Ensure the Active Directory Domain Services (Domain controller), DHCP and DNS server roles from section 2 are working properly on WS1 2. Extract the ‘boot.wim’ file and all ‘install.wim’ files from from a Windows 10 ISO file 3. Extract install.wim file from a Hyper-V server core ISO file 4. Add the WDS role to WS1 5. Use the WDS manager tool to install one boot image and multiple install images into one install group 6. Create a new client VM on the network with no OS or iso file connected    * Ensure it is bridged correctly to the receive information from your physical network    * It should receive a DHCP address    * Press f12 to PXE boot from the network    * Log into to your domain    * Select the Windows 10 install image i.e. the operating system you wish to install on this new VM node 7. Make some changes on the new VM and save changes to Sysprep (this creates a customised image)    * Create a capture image in WDS Manager boot images folder and save to specific folder    * Reboot your client -> pxe boot->select capture image to create a customised image      + Specify to upload to WDS server to shared folder (WDS images created in section 4)    * Reboot-> PXE boot and select the original boot image to see the customised image |
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| 1 | Verify AD DS, DNS and DHCP are working from LAB 2 |
| 2 + 3 | Extract from from a Hyper-V Server iso and a Windows 10 iso |
| 4 | Ensure WDS role is installed on WS1 |
| 5 | Create Boot Images and Install Groups in Windows Deployment Services, make sure that the WDS server can start properly. If not it may need to be reinstalled. |
| 6 | Create a VM without an OS in Hyper-V with connection to the same Virtual Switch as the domain.    Received this issue, after various retries. It receives addresses from the DHCP but runs into the error PXE-E16 and cannot deploy the image. |

List At the three most useful Internet resources that you used (provided by the tutor)

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| <https://www.youtube.com/watch?v=-TsqAHUWdQU> |
| * [http://www.technig.com/how-to-install-and-configure-wds-in-Windows-server-2012-r2/](http://www.technig.com/how-to-install-and-configure-wds-in-windows-server-2012-r2/) |
| * <https://www.youtube.com/watch?v=8Dyt14tFk0M> |

List all (at least three) Internet resources that you found and used that were not provided by the tutor)

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| [deployment - How to get install.wim from windows 10 pro installation file - Stack Overflow](https://stackoverflow.com/questions/33862619/how-to-get-install-wim-from-windows-10-pro-installation-file) |
| [How Do I Install Windows 10 From A WIM File? - FAQS Clear](https://www.faqsclear.com/how-do-i-install-windows-10-from-a-wim-file/) |
| [How to create an unattended installation of Windows 10 | Windows Central](https://www.windowscentral.com/how-create-unattended-media-do-automated-installation-windows-10) |

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| Problem | Solution |
| No Windows 10 install.wim file in extracted Win10 iso. | Convert the install.esd that replaces it into a wim using cmd:  dism /Export-Image /SourceImageFile:C:pathtofoldersourcesinstall.esd /SourceIndex:6 /DestinationImageFile:C:pathtofoldersourcesinstall.wim /Compress:Max /CheckIntegrity |
| VM was able to start a network boot but did not find a bootable image on the network. | Forgot to reconfigure scope for DHCP server, which was deleted after resetting the VM during LAB 3 |