How to Setup A Local Imaging Server

----------WORK IN PROGRESS---------- [Still need to Re-Work & Re-Read Certain Sections]

Why Should I Setup A Local Imaging Server?

- Local Imaging Servers can be utilized to rapidly deploy pre-hardened Operating System Images, with their LGPO Policies, Windows Licenses, Software, as well as any Keys Associated with a Variety of Software.

Setting-Up A Local Imaging Server Prerequisites

1. **Download** the Latest Version of **Windows Server 2019**, Mount the .ISO File, and Copy the Mounted .ISO File's Contents to a Removable Drive of your choice.
    a. **Windows Server 2019 Download:** https://www.microsoft.com/en-us/evalcenter/evaluate-windows-server-2019
    b. Under "**Get started for free**", Click "**Download the ISO >**", and Fill-In the Form Titled "**Register for you free trial today**".
    c. After you have Filled-In the Form, and Clicked the Button to Continue, you will be Presented with a Page Titled, "**Please select your Windows Server 2019 download**", Under "**English (United States)**" and "**ISO downloads**", Click "**64-bit edition >**".
    d. The Windows Server 2019 Disc Image File .ISO will begin to Download
    e. Windows Server 2019 can also be obtained from the **Shared Drive: [REDACTED For Security Purposes]**
        i. The File is Called: **[REDACTED For Security Purposes]**
2. **Download** the Latest Version of the **Microsoft Deployment Toolkit (MDT)**, and Copy the .ISO File to a Removable Drive of your choice.
    a. **Microsoft Deployment Toolkit (MDT):** https://www.microsoft.com/en-US/download/details.aspx?id=54259
    b. On the Webpage, Click "**Download**", Select "MicrosoftDeploymentToolkit_x64.msi", and Click "**Download**".
3. **_REWORK_ Download** the Latest Version of the **Windows SDK**, and Copy the .EXE File to the Directory of your choice. **_REWORK_**
    a. **Windows SDK:** https://developer.microsoft.com/en-US/windows/downloads/windows-sdk/
    b. On the Webpage, Click on the Blue Box, "**Download the installer >**" to Download the .EXE Windows SDK Installer. **_REWORK_**
    c. **Downloaded "Windows 10 SDK, version 1809 (10.0.17763.0)" https://developer.microsoft.com/en-us/windows/downloads/sdk-archive/**
4. ~~**Download** the Version of the **Windows Driver Kit (WDK)** that is Compatible with your Windows Server 2019 Version and Copy the .EXE File to the Directory of your choice.~~
    a. ~~**Windows Driver Kit (WDK):** https://learn.microsoft.com/en-us/windows-hardware/drivers/other-wdk-downloads~~
    b. ~~On the Webpage, Under "**Step 2: Install the WDK**", to the right of the Box that says "**Windows 10, version [Your Windows Server Version Number]**", Click on "**WDK for Windows 10, version [Corresponding Windows Server Version #]**", to Download the .EXE Windows Driver Kit (WDK) Installer.~~
    c. ~~Example: My Windows Server 2019 Version is "1809", so I would look at "**Windows 10, version 22H2**", Click on "**WDK for Windows 10, version 1809**", to Download the .EXE Windows Driver Kit (WDK) Installer.~~
5. **Download Visual Studio 2017 Community Edition**, and Copy the .EXE File to a Removable Drive of your choice.
    a. **Visual Studio Download Page:** https://visualstudio.microsoft.com/vs/older-downloads/
        i. -
    b. On the Webpage, under "Still want an older version?" Click on the blue (or purple) text "**join the free Dev Essentials program**".
    c. -
    d. -
    e. -
6. Make sure you have the **Windows Server 2019** .ISO File's Contents Copied to a Bootable Removable Drive of your choice, or burned to a bootable USB Drive, and the **Microsoft Deployment Toolkit (MDT)** .MSI Files Downloaded, and Copied to a different Removable Drive of your choice.
7. Make sure you have the **Windows SDK**, "winsdksetup", and the **Windows Driver Kit (WDK)**, "wdksetup", .EXE Files Downloaded, and Copied to the Directory of your choice.
8. **Might want to put the Windows ADK and Windows PE Add-on Downloads here as well.**

How to Setup a Local Imaging Server

This Guide will show you how to Setup a Local Imaging Server, on a Physical Server Device. This guide assumes you have the **Windows Server 2019** .ISO File's contents Burned/Copied to a Removable Drive, and the **Microsoft Deployment Toolkit (MDT)** .MSI Files Downloaded and Copied to Separate Removable Drive of your choice.

1. Once you are at the "**Windows Setup**" Screen, Install and Configure Windows Server 2019.
    a. **Important:** Make sure you Select **Windows Server 2019 Datacenter (Desktop Experience)** for the "Select the operating system you want to install" section.
    b. Windows Server 2019 will now begin to Install.
    c. **Important:** Make sure **Windows Server 2019 Boot Hard Drive** is in **NTFS File Format**.
        i. **To check this:** Open the "Disk Management" Application, and right-click the Hard Drive with the Windows Server 2019 operating system installed on it, Click "Properties", and make sure it says "NTFS" in the "File system:" Section, under the "General" Tab.
    d. **Important:** Make sure you install any necessary **Drivers** on the server device as well.
2. After you have Installed Windows Server 2019, go to the "**Server Manager**" Application (it should have opened automatically after the installation completed).
    a. Click "**Manage**" at the Top-Right, Click "**Add Roles and Features**", and Click "**Next >**".
    b. For "**Installation Type**", Select "**Role-based or feature-based installation**", and Click "**Next >**".

c. For "**Server Selection**", use the Default Option ("**Select a server from the server pool**"), and Click "**Next >**".
d. For "**Server Roles**", Click the Box for "**Windows Deployment Services**", Make Sure "**Include management tools (if applicable)**" is Selected, Click "**Add Features**", Click the Box for "**Active Directory Domain Services**", Make Sure "**Include management tools (if applicable)**" is Selected, Click "**Add Features**", Click the Box for "**DHCP Server**", Make Sure "**Include management tools (if applicable)**" is Selected, Click "**Add Features**", and Click "**Next >**".
e. For "**Features**", use the Default Options, and Click "**Next >**".
f. For "**WDS**", Click "**Next >**".
    i. For "**Role Services**", Make sure "**Deployment Server**" and "**Transport Server**" are Selected, and Click "**Next >**".
g. For "**AD DS**", Click "**Next >**".
h. For "**DHCP Server**", Click "**Next >**".
i. For "**Confirmation**", Check the Box that says "**Restart the destination server automatically if required**", if you get a Warning for "**Add Roles and Features Wizard**" ("**If a restart is required...**") Click "**Yes**", and Click "**Install**".
j. The "**Windows Deployment Services**" Tool, "**Active Directory Domain Services**", and "**DHCP**" will begin to Install, and when it says "**Configuration required. Installation succeeded on [Server_Name].**", Click "**Close**".

3. Once you have finished installing the "**Windows Deployment Services**" Tool, "**Active Directory Domain Services**", and "**DHCP**", in the "**Server Manager**" Application, Click "**Dashboard**", Click on the Flag in the Top-Right of the Application, and Click on "**Promote this server to a domain controller**".
    a. For "**Deployment Configuration**", Select "**Add a new forest**", for the "**Root domain name:**" enter the name that you want for the server's Active Directory Domain Name, (Example: **imaging.test.com**), and Click "**Next >**".
    b. For "**Domain Controller Options**"
        i. Make sure "**Forest functional level:**" and "**Domain functional level:**" are both set to "**Windows Server 2016**"
        ii. For "**Specify Domain controller capabilities**", make sure only "**Domain Name System (DNS) server**" and "**Global Catalog (GC)**" are selected
        iii. For "**Type the Directory Services Restore Mode (DSRM) password**", type in the password that you would like to set for DSRM in the "**Password:**" and "**Confirm Password:**" fields, and Click "**Next >**".
    c. For "**DNS Options**", Skip this for now, and Click "**Next >**".
    d. For "**Additional Options**", verify that "**The NetBIOS domain name:**" is the one you desire, and Click "**Next >**".
    e. For "**Paths**", use the Default Options, and Click "**Next >**".
    f. For "**Review Options**", make sure the options meet your desires, and Click "**Next >**".
    g. For "**Prerequisites Check**", if you device passed the Prerequisites Check, Click "**Install**".
        i. **Note:** If your device **did not** meet the Prerequisites Check, address any issues that the server has, and start back at **3.**
    h. The "**Active Directory Domain Services**" will begin to Install, and when it says "**This server was successfully configured as a domain controller.**" the server device will restart.
4. Once you have finished promoting the server to a domain controller, open the "**Server Manager**" application, Click on the Flag in the Top-Right of the Application, and Click on "**Complete DHCP configuration**".
    a. For "**Description**", Click "**Next >**".
    b. For "**Authorization**", Make sure "**Use the following user's credentials**" is selected, with the "**User Name:**" field being "**[First Part of AD Root Domain Name]\[Account Username]**" (Example: "**IMAGING\Administrator**"), and Click "**Commit**".
    c. For "**Summary**", Make sure "**Creating security groups**" and "**Authorizing DHCP server**" both say "**Done**", and Click "**Close**".
5. **----------Still Need to Configure Active Directory DNS (AD DS DNS Delegation Settings?)----------**
6. Open the "**Server Manager**" Application, Click on "**Local Server**", and Under "**PROPERTIES for [Server-Name]**", for the "**Ethernet**" section, Click on "**IPv4 address assigned by DHCP, IPv6 enabled**".
    a. Once the "**Network Connections**" Window Pops-up, Right-Click your "**Ethernet**" adapter, and Click on "**Properties**".
    b. Make sure "**Internet Protocol Version 6 (TCP/IPv6)**" is un-checked.
    c. Double-Click on "**Internet Protocol Version 4 (TCP/IPv4)**".
    d. Click on "**Use the following IP address:**", fill-out the "**IP address:**", "**Subnet mask:**", and "**Default gateway:**" fields.
        i. **Examples**
            1. **IP address:** 192.168.1.9
            2. **Subnet mask:** 255.255.255.0
            3. **Default gateway:** 192.168.1.1
    e. Click on "**Use the following DNS server addresses:**", make sure the "**Preferred DNS server:**" is set to "**127.0.0.1**", the "**Alternate DNS server:**" is blank, Click "**OK**", Click "**OK**", and Close the "**Network Connections**" Window.
    f. Open the "**Server Manager**" Application again, Click on "**Local Server**", and Under "**PROPERTIES for [Server-Name]**", for the "**Etherne**" section, make sure it only says your newly-configured IPv4 Address, "**192.168.1.9**".
7. Insert your Removable Drive with the "**MicrosoftDeploymentToolkit_x64.msi**" File on it to the Windows Server 2019 Device, Copy the "**MicrosoftDeploymentToolkit_x64.msi**" File to the Directory of your Choice, on the Windows Server 2019 Device, and Double-Click the Installation File.
    a. If you get a pop-up "SmartScreen can't be reached right now", Click "Run".
    b. Once you are presented with the "**Microsoft Deployment Toolkit Setup**", Click "**Next**".
    c. For "**End-User License Agreement**", Click "**I accept the terms in the License Agreement**", and Click "**Next**".
    d. For "**Custom Setup**", use the Default Options, and Click "**Next**".
    e. For "**Customer Experience Improvement Program**", Make sure "**I don't want to join the program at this time.**" is Selected, and Click "**Next**".
    f. Lastly, Click "**Install**", and when the Installation has Completed, Click "**Finish**".
8. Check your which Windows Server 2019 Version you have, Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**about**", and Click on "**About your PC**".
    a. On the "**About**" Page, in the "**Settings**" Application, Look Under "**Windows specifications**", and Make Note of the Number to the right of "**Version**".
9. **On A Separate Device with Internet Access:** Download the **Windows ADK,** and "**Windows PE add-on for ADK**", Corresponding to your **Windows Version Number:** https://learn.microsoft.com/en-us/windows-hardware/get-started/adk-install#other-adk-downloads
    a. **For Example:** My Windows Server Version Number is **1809**. Therefore, under "**Download the ADK for Windows 10, version 1809:**", I would Click on "**Windows ADK for Windows 10, version 1809**" and "**Windows PE add-on for ADK, version 1809**", to Download the Windows ADK ("**adksetup.exe**"), and the Windows PE add-on for ADK ("**adkwinpesetup.exe**").
10. **On A Separate Device with Internet Access:** Once you have Finished Downloading the Windows ADK and the Windows PE add-on for ADK, for your corresponding Windows Version, Double-Click the "**adksetup.exe**" Installation File.
    a. For "**Specify Location**", Select "**Download the Windows Assessment and Deployment Kit - Windows 10 for installation on a separate computer**", Click "**Browse...**", Parse to the Directory of your Choice, Click "**Make New Folder**", Title this New Folder "**Windows ADK Files**", Click the Newly-Created "**Windows ADK Files**" Folder, Click "**OK**", and Click "**Next**".

b. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
c. For "**License Agreement**", Click "**Accept**".
d. The Windows Assessment and Deployment Kit will now begin to Download the Files Required for the Windows ADK Tool to Work on a Device Without Internet Access.
e. Once you are Presented with the Screen "**Download is complete.**", Click "**Close**", and the Windows ADK Tool Files have been Successfully Downloaded.

11. **On A Separate Device with Internet Access:** Once you have Finished Downloading the Windows ADK Tool Files, Double-Click the "**adkwinpesetup.exe**" Installation File.
    a. For "**Specify Location**", Select "**Download the Windows Assessment and Deployment Kit Windows Preinstallation Environment Add-ons - Windows 10 for installation on a separate computer**", Click "**Browse...**", Parse to the Directory of your Choice, Click "**Make New Folder**", Title this New Folder "**Windows PE Add-on Files**", Click the Newly-Created "**Windows PE Add-on Files**" Folder, Click "**OK**", and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
    c. For "**License Agreement**", Click "**Accept**".
    d. The Windows Assessment and Deployment Kit Preinstallation Environment Add-ons will now begin to Download the Files Required for the Windows ADK PE Add-ons to Work on a Device Without Internet Access.
    e. Once you are Presented with the Screen "**Download is complete.**", Click "**Close**", and the Windows ADK PE Add-ons Files have been Successfully Downloaded.
12. **On A Separate Device with Internet Access:** Once you have Finished Downloading the Windows PE add-on for ADK Files, Double-Click the "**winsdksetup.exe**" Installation File.
    a. For "**Specify Location**", Select "**Download the Windows Software Deployment Kit - Windows 10.0.17763.132** [or applicable version] **for installation on a separate computer**", Click "**Browse...**", Parse to the Directory of your Choice, Click "**Make New Folder**", Title this New Folder "**Windows SDK Files**", Click the Newly-Created "**Windows SDK Files**" Folder, Click "**OK**", and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Allow Microsoft to collect insights for the Windows Kits?**", Click "**No**", and Click "**Next**".
    c. For "**Select the features you want to download**", Make sure **All of the Options Are Selected**, and Click "**Download**".
    d. The Windows Software and Deployment Kit - Windows 10.0.17763.132 (or applicable version) will now begin to Download the Files Required for the Windows SDK to Work on a Device Without Internet Access.
    e. Once you are Presented with the Screen "**Download is complete.**", Click "**Close**", and the Windows SDK Files have been Successfully Downloaded.
13. **On A Separate Device with Internet Access:** Once you have Finished Downloading the Windows SDK Files, Double-Click the "**wdksetup.exe**" Installation File.
    a. For "**Specify Location**", Select "**Download the Windows Driver Kit - Windows 10.0.17763.1** [or applicable version] **for installation on a separate computer**", Click "**Browse...**", Parse to the Directory of your Choice, Click "**Make New Folder**", Title this New Folder "**Windows Driver Kit (WDK) Files**", Click the Newly-Created "**Windows Driver Kit (WDK) Files**" Folder, Click "**OK**", and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
    c. For "**License Agreement**", Click "**Accept**".
    d. The Windows Driver Kit - Windows 10.0.17763.1 (or applicable version) Wizard will now begin to Download the Files Required for the Windows Driver Kit to Work on a Device Without Internet Access.
    e. Once you are Presented with the Screen "**Download is complete.**", Click "**Close**", and the Windows Driver Kit Files have been Successfully Downloaded.
14. Once you have Finished Downloading the Windows ADK, the Windows PE add-on for ADK, Windows SDK, and Windows Driver Kit Files, Copy the "**Windows ADK Files**", "**Windows PE Add-on Files**", "**Windows SDK Files**", and "**Windows Driver Kit (WDK) Files**" Folders, to an External Drive.
15. **On The Windows Server Device:** Insert the External Drive with the **Windows ADK**, **Windows PE Add-on**, **Windows SDK**, and **Windows Driver Kit (WDK)** Files into the Server Device, and Copy the "**Windows ADK Files**", "**Windows PE Add-on Files**", "**Windows SDK Files**", and "**Windows Driver Kit (WDK) Files**" Folders to the Directory of your Choice.
16. **On The Windows Server Device:** Once you have Finished Copying the "**Windows ADK Files**", "**Windows PE Add-on Files**", "**Windows SDK Files**", and "**Windows Driver Kit (WDK) Files**" Folders, Open the "**Windows ADK Files**" Folder, and Double-Click the "**adksetup.exe**" Installation File.
    a. For "**Specify Location**", use the Default Option ("**Install the Windows Assessment and Deployment Kit - Windows 10 to this computer**"), and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
    c. For "**License Agreement**", Click "**Accept**".
    d. For "**Select the features you want to install**", Make sure **All of the Options Are Selected**, and Click "**Install**".
    e. The Windows Assessment and Deployment Kit will now begin to Install the Files Required for the Windows ADK Tool to Work on the Server, Without the need for Internet Access.
    f. Once you are Presented with the Screen "**Welcome to the Windows Assessment and Deployment Kit - Windows 10!**", Click "**Close**", and the Windows ADK Tool has been Successfully Installed on the Server.
17. **On The Windows Server Device:** Once you have Finished Installing the Windows ADK Tool on the Server, Open the "**Windows PE Add-on Files**" Folder, and Double-Click the "**adkwinpesetup.exe**" Installation File.
    a. For "**Specify Location**", use the Default Option ("**Install the Windows Assessment and Deployment Kit Windows Preinstallation Environment Add-ons - Windows 10 to this computer**"), and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
    c. For "**License Agreement**", Click "**Accept**".
    d. For "**Select the features you want to install**", Make sure "**Windows Preinstallation Environment (Windows PE)**" is Selected, and Click "**Install**".
    e. The Windows Assessment and Deployment Kit Preinstallation Environment Add-ons will now begin to Install the Files Required for the Windows ADK PE Add-ons to Work on the Server, Without the need for Internet Access.
    f. Once you are Presented with the Screen "**Welcome to the Windows Assessment and Deployment Kit Windows Preinstallation Environment Add-ons - Windows 10!**", Click "**Close**", and the Windows ADK PE Add-on Files have been Successfully Installed on the Server.
18. **On The Windows Server Device:** Once you have Finished Installing the Windows PE Add-on Files on the Server, Open the "**Windows SDK Files**" Folder, and Double-Click the "**winsdksetup.exe**" Installation File.

    a. For "**Specify Location**", use the Default Option ("**Install the Windows Software Deployment Kit Windows - Windows 10.0.17763.132** [or applicable version] **to this computer**"), and Click "**Next**".
    b. For "**Windows Kits Privacy**", Under "**Allow Microsoft to collect insights for the Windows Kits?**", Click "**No**", and Click "**Next**".
    c. For "**License Agreement**", Click "**Accept**".
    d. For "**Select the features you want to install**", Make sure **All of the Options Are Selected** is Selected, and Click "**Install**".
    e. The Windows Assessment and Deployment Kit Preinstallation Environment Add-ons will now begin to Install the Files Required for the Windows ADK PE Add-ons to Work on the Server, Without the need for Internet Access.
    f. Once you are Presented with the Screen "**Welcome to the Windows Software Deployment Kit Windows - Windows 10.0.17763.132** [or applicable version] **!**", Click "**Close**", and the Windows SDK Files have been Successfully Installed on the Server.
19. **-----ADD SECTION FOR INSTALLING VISUAL STUDIO CODE BEFORE THIS & RE-RUN INSTALLATION AFTERWARDS (THIS IS REQUIRED FOR DRIVERS)-----**
20. **On The Windows Server Device:** Once you have Finished Installing the Windows SDK Files on the Server, Open the "**Windows Driver Kit (WDK) Files**" Folder, and Double-Click the "**wdksetup.exe**" Installation File.
    i. For "**Specify Location**", use the Default Option ("**Install the Windows Driver Kit - Windows 10.0.17763.1** [or applicable version] **to this computer**"), and Click "**Next**".
    ii. For "**Windows Kits Privacy**", Under "**Send anonymous usage data to Microsoft for the Windows 10 Kits?**", Click "**No**", and Click "**Next**".
    iii. For "**Important Information!**", Click "**Next**".
    iv. For "**License Agreement**", Click "**Accept**".
    v. For "**Select the features you want to install**", Make sure **All of the Options Are Selected** is Selected, and Click "**Install**".
    vi. The Windows Driver Kit will now begin to Install the Files Required for utilizing deployment drivers on the Server.
    vii. Once you are Presented with the Screen "**Welcome to the Windows Driver Kit - Windows 10.0.17763.1** [or applicable version] **!**", Click "**Close**", and the Windows Driver Kit (WDK) Files have been Successfully Installed on the Server.
21. Once you have Finished Installing the **Windows ADK**, **Windows PE add-on for ADK**, **Windows SDK**, and **Windows Driver Kit (WDK)**, you have Finished Setting-Up and Installing the required Tools for Setting-up a Local Imaging Server! 🙂
22. The Next Page of the Guide, "**How to Setup A Deployment Share on the Imaging Server**", will go over How to Setup a Deployment Share, which will later be utilized to Upload Operating System Images to the Imaging Server.

----------WORK IN PROGRESS---------- [Still need to Re-Work & Re-Read Certain Sections]

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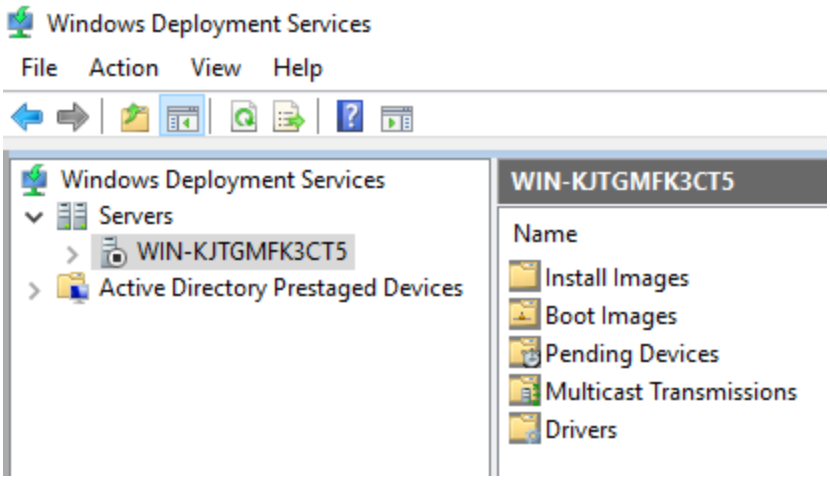
How to Setup A Deployment Share on the Imaging Server

This Guide will Explain how to Setup a Deployment Share on the Imaging Server. This Guide will teach you how to Utilize, and Configure, "**Windows Deployment Services**" and "**Deployment Workbench**". This Guide assumes you have Already Completed the "**How to Setup a Local Imaging Server**" Portion of the Guide, and that you have Already Installed the "**Microsoft Deployment Toolkit (MDT)**", "**Windows Assessment and Deployment Kit**", and "**Windows Assessment and Deployment Kit Windows Preinstallation Environment Add-ons**" on the Target Imaging Server. If there are any parts you are still confused on, or struggling with, there is an **additional guide here:** How to Manage Devices - Capture Custom Windows 10 Image Creation Using MDT ConfigMgr

1. **IMPORTANT:** Make Sure You Have Setup the Following:
    a. **Active Directory Domain Services (AD DS)** domain, or a domain controller for an AD DS domain
    b. There is an **Active DHCP Server** on the Network
    c. There is an **Active DNS Server** on your Network
    d. Your Server has an **NTFS File System Partition** on which to store system images
        i. If this requirement is not met, the imaging process may not work, and you may need to rebuild to server from scratch.
2. Now that we have Successfully Installed all of the Necessary Programs for the Imaging Server, we can now begin to Configure the Imaging Server.
3. First, Open the "**Windows Deployment Services**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Windows Deployment Services**", and Click on "**Windows Deployment Services**".
    a. Once the **Windows Deployment Services** Application has opened, at the Top-Left Corner Click on "**Servers**", Under the "**Servers**" Window on the Right-Hand Side, Right-Click on your Server Name **Ex:** "**WIN-KJTGMFK3CT5.imaging.test.com**", and Click on "**Configure Server**".
4. For the "**Before You Begin**" Page, if you have met all of the requirements, Click "**Next >**".
5. For the "**Install Options**" Page, Select "**Standalone server**", and Click "**Next >**".
6. For the "**Remote Installation Folder Location**" Page, if you use the Default Path it will store the WDS files on the Boot Drive for the server device (you can specify a different location (or drive) for this, just make sure the drive has a NTFS file system partition), and Click "**Next >**".
    a. If you get a "**System Volume Warning**" Pop-Up, Click "**Yes**".
7. For the "**Proxy DHCP Server**" Page, Un-Select "**Do not listen on DHCP and DHCPv6 ports**" and "**Configure DHCP options for Proxy DHCP**", and Click "**Next >**".
8. For the "**PXE Server Initial Settings**" Page, Click the Option "**Respond to all client computers (known and unknown)**", and make sure "**Require administrator approval for unknown computers...**" is Selected, and Click "**Next >**".
9. Once the Installation has Completed, Click "**Finish**".
10. If you have Completed the Windows Deployment Services Setup Correctly, your Windows Deployment Services Application will Look like the one shown in the Screenshot Below.

a. 

11. Now that we have Successfully Setup **Windows Deployment Services**, we can Setup the "**Deployment Workbench**".
12. To Setup the "**Deployment Workbench**" we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
13. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", then Right-Click on the Same "**Deployment Shares**" in the Top-Left Corner, and Click on "**New Deployment Share**".
    a. For "**Path**", use the Default "**Deployment share path:**", and Click "**Next**".
    b. For "**Share**", in the "**Share name:**" Section, Type in the Deployment Share Name of your choice, and Click "**Next**".
        i. **Ex:** For "**Share name:**" you can enter something like "**Imaging_Server_Deployment_Share**"
    c. For "**Descriptive Name**", in the "**Deployment share description:**" Section, Type in the Deployment Share Description of your choice, and Click "**Next**".
        i. **Ex:** For "**Deployment share description:**" you can enter something like "__ **Imaging Server Deployment Share**"
    d. For "**Options**", Make Sure **All** of the Options are Selected, and Click "**Next**".
    e. For "**Summary**", Verify that all of the Configuration Options meet your Requirements, and Click "**Next**".
    f. The Windows Deployment Share will begin to Initialize, and Configure, all Necessary Components and Features. When the process has completed, you will get a message saying "**The process completed successfully**", once you get this message, Click "**Finish**".
14. The Next Page of the Guide, "**How to Upload An Operating System Image to the Imaging Server**", will go over How to Upload an Operating System Image to the Imaging Server, which can be Deployed a Countless Number of Times.

----------WORK IN PROGRESS---------- [Re-Read & Adjust Formatting]

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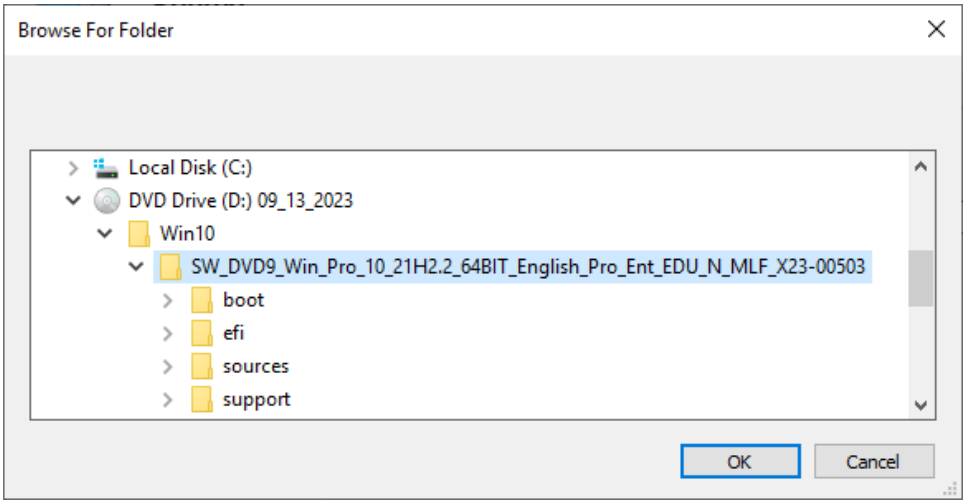
How to Upload An Operating System Image to the Imaging Server

This Guide will Explain How to Upload An Operating System Image to the Imaging Server. This Guide will teach you how to Store an Operating System Image in a Deployment Share, by utilizing the Deployment Workbench Windows Server Application.

1. Make Sure you have an Extracted Operating System Image (**.ISO** File) on a Removable Drive, and Make Sure you Connect that Removable Drive to the Server.
2. To Upload Operating Systems to the Deployment Share, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
    a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow, and Click on "**Operating Systems**".
    b. **[Image REDACTED For Security Purposes]**
    c. Right-Click on "**Operating Systems**", and Click on "**Import Operating System**".
3. If Done Correctly, the "**Import Operating System Wizard**" Application Should be Open Now.
    a. For the "**OS Type**" Page, Make Sure "**Full set of source files**" is Selected, and Click "**Next**".
    b. For the "**Source**" Page, in the "**Source directory:**" Section, Click "**Browse...**", and Parse to the Location of the Parent Folder containing your extracted **.ISO** Operating System Image Files on the Removable Drive that you Connected to Server, Click on it, Click "**OK**", and Click "**Next**".
        i. **Example:** My Folder Containing these Sub-Folders was called, "**SW_DVD9_Win_Pro_10_21H2.2_64BIT_English_Pro_Ent_EDU_N_MLF_X23-00503**", so I would Click that Folder.



ii.

iii. **Note:** If you get an Error Message, "**Please fix all errors before continuing.**", Click "**Browse...**" again, and Parse to the Location of the Folder Containing your "**boot**", "**efi**", "**sources**", and "**support**" Folders, Click "**OK**", and then Click "**Next**".

c. For the "**Destination**" Page, in the "**Destination directory name:**" Section, Type in the Name of the Folder you want to store these Types of OS Images, and Click "**Next**".

i. **Ex:** The Operating System Image File that I am Uploading is a Windows Server Operating System Image File, therefore, I put "**Windows Server Operating Systems**" for the "**Destination directory name:**" Section.

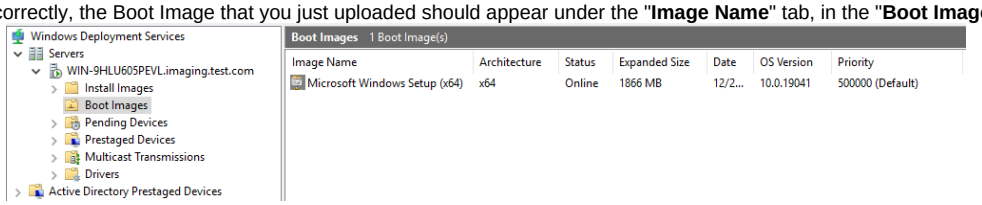
d. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".

e. The "**Import Operating System Wizard**" will begin to Copy the Extracted **.ISO** Operating System Image Files, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully**", once you get this message, Click "**Finish**".

4. After Clicking the "**Finish**" Button, your "**Operating Systems**" Tab should Look Similar to that of the one in the Screenshot Below.
   a. **[Image REDACTED For Security Purposes]**
5. Even though one Operating System **.ISO** Image File was Uploaded to the "**Operating Systems**" Folder, more often than not, that Singular **.ISO** File will Contain Different Variations of the Operating System in question, all of which being the same Build Number.
   a. This allows you to be able to Deploy a Specific Type of Operating System, if you were to use the Local Imaging Server to Initialize a New Device.
6. Now that we have uploaded the all of the Operating System Version(s) for the given Operating System, we have to configure the "**Boot Image**" and "**Install Image**" for the given Operating System.

How to Add and Configure a Boot Image for an Operating System (Uploaded to the Imaging Server)

1. Open the "**Windows Deployment Services**" application.
   a. In the Top-Left Corner Click on "**Servers**", Click the Drop-Down Arrow next to "**Servers**", Click on your the name of your Imaging Server (Example: "**WIN-9HLU605PEVL.imaging.test.com**") and Click the Drop-Down arrow for it, Right-Click on "**Boot Images**", and Click "**Add Boot Image...**".
2. If done correctly, the "**Add Image Wizard**" should appear.
   a. For the "**Image File**" page, in the "**File location:**" section, Click "**Browse...**", navigate to the "**boot.wim**" file for the Operating System Extracted .ISO Files that you just uploaded to the Deployment Share, Click on the "**boot.wim**" file, Click "**Open**", and Click "**Next >**".
      i. **Example:** I uploaded the extracted .ISO files for Windows 10, so the location of my "**boot.wim**" file would be "**C:\DeploymentShare\Operating Systems\Windows 10\sources\boot.wim**"
   b. For the "**Image Metadata**" page, you can leave the values default, and Click "**Next >**".
   c. For the "**Summary**" page, make sure the contents in the "**Selected images:**" section is correct, and Click "**Next >**".
   d. The "**Add Image Wizard**" will now begin to add the Operating System Boot Image to the Imaging Server, when the operation is complete make sure it says "**The selected images were successfully added to the server.**", and Click "**Finish**".
3. If done correctly, the Boot Image that you just uploaded should appear under the "**Image Name**" tab, in the "**Boot Images**" Section.

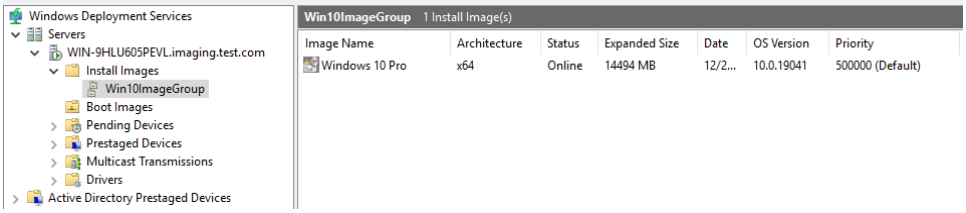


a.

How to Add and Configure an Install Image for an Operating System (Uploaded to the Imaging Server)

1. Open the "**Windows Deployment Services**" application
   a. In the Top-Left Corner Click on "**Servers**", Click the Drop-Down Arrow next to "**Servers**", Click on your the name of your Imaging Server (Example: "**WIN-9HLU605PEVL.imaging.test.com**") and Click the Drop-Down arrow for it, Right-Click on "**Install Images**", and Click "**Add Install Image...**".
2. If done correctly, the "**Add Image Wizard**" should appear.

a. For the "**Image Group**" page, make sure "**Create an image group named**" is selected, type in the name that you want for this Image Group (Example: **Win10ImageGroup**), and Click "**Next >**".
b. For the "**Image File**" page, in the "**File location:**" section, Click "**Browse...**", navigate to the "**install.wim**" file for the Operating System Extracted .ISO Files that you just uploaded to the Deployment Share, Click on the "**install.wim**" file, Click "**Open**", and Click "**Next >**".
    i. **Example:** I uploaded the extracted .ISO files for Windows 10, so the location of my "**install.wim**" file would be "**C:\DeploymentShare\Operating Systems\Windows 10\sources\install.wim**"
c. For the "**Available Images**" page, make sure **only** the Operating System that you want to image the device with is selected, (Example: I would only have "**Windows 10 Pro**" Selected), the "**Use the default name and description for each of the selected images**" box is checked, and Click "**Next >**".
d. For the "**Summary**" page, make sure there is **only one** Operating System in the "**Selected images:**" section, and Click "**Next >**".
e. The "**Add Image Wizard**" will now begin to add the Operating System Install Image to the Imaging Server, when the operation is complete make sure it says "**The selected images were successfully added to the server.**", and Click "**Finish**".

3. If done correctly, the Install Image Group that you just uploaded should appear under the "**Install Images**" folder, and the "**Install Image**" should appear inside of that Image Group, in the "**Image Name**" Section.
a. 

4. The Next Page of the Guide, "**How to Upload Applications, Drivers, and Packages to the Deployment Share**", will go over How to Upload Applications, Drivers, and Packages to the Deployment Share, to be pre-configured on the machine(s)-to-be-imaged.

----------WORK IN PROGRESS---------- [Re-Read & Adjust Formatting]

----------WORK IN PROGRESS---------- [Need Visual Studio 2017 Community Edition to Finish Drivers Section, and Need to Research "Packages"]

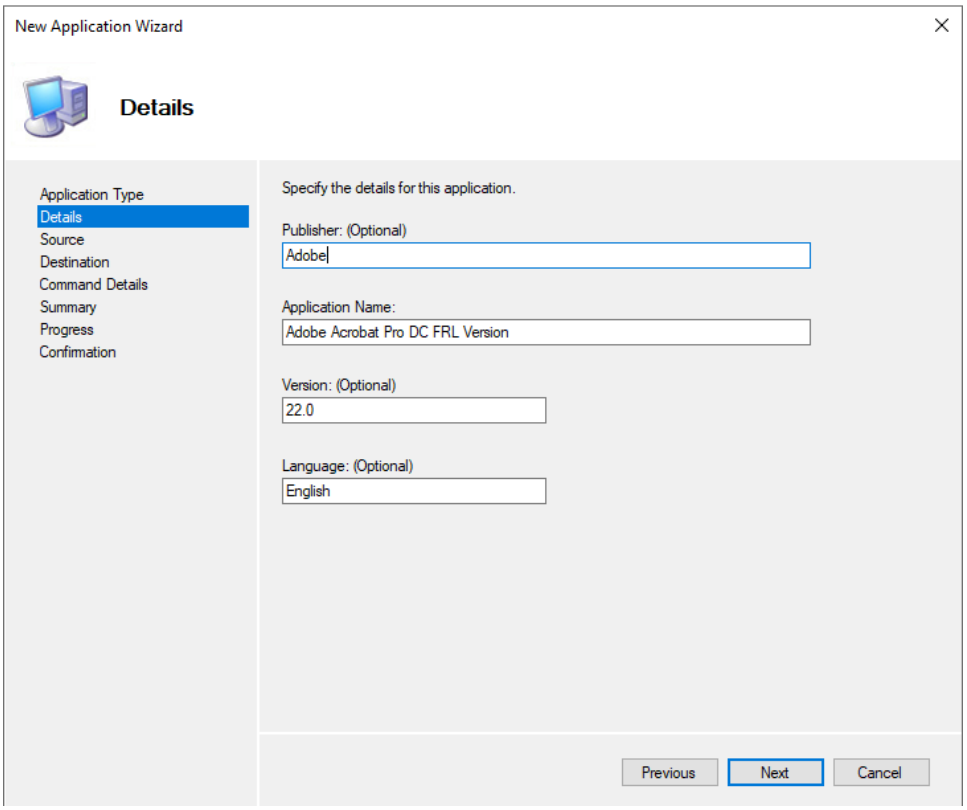
How to Upload Applications, Drivers, and Packages to the Imaging Server's Deployment Share - Table of Contents

How to Upload Applications to the Imaging Server's Deployment Share

This Guide will Explain How to Upload Applications to the Imaging Server's Deployment Share. These uploaded applications, and their keys, can be deployed alongside a base operating system, saving time when it comes to setting-up a new system. This Guide will teach you how to Upload Applications, and their associated keys, to a Deployment Share, by utilizing the Deployment Workbench Windows Server Application.

1. Make Sure you have an Un-Zipped Application Installation Folder on a Removable Drive, and Make Sure you Connect that Removable Drive to the Server.
2. To Upload Applications to the Deployment Share, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
    a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow and Click on "**Applications**".
    b. **[Image REDACTED For Security Purposes]**
    c. Right-Click on "**Applications**", and Click on "**New Application**".
3. If Done Correctly, the "**New Application Wizard**" Application Should be Open Now.
    a. For the "**Application Type**" Page, Make Sure "**Application with source files**" is Selected, and Click "**Next**".
    b. For the "**Details**" Page, in the "**Publisher: (Optional)**", "**Version: (Optional)**", and "**Language: (Optional)**" Sections, you can choose to fill these in based on your specific use case. For the "**Application Name:**" Section, Type in the Name of the Application that you are Uploading, and Click "**Next**".
        i. An Example of this "**Details**" Page, for "**Adobe Acrobat Pro DC FRL Version**" can be Seen in the Screenshot Below.

ii.

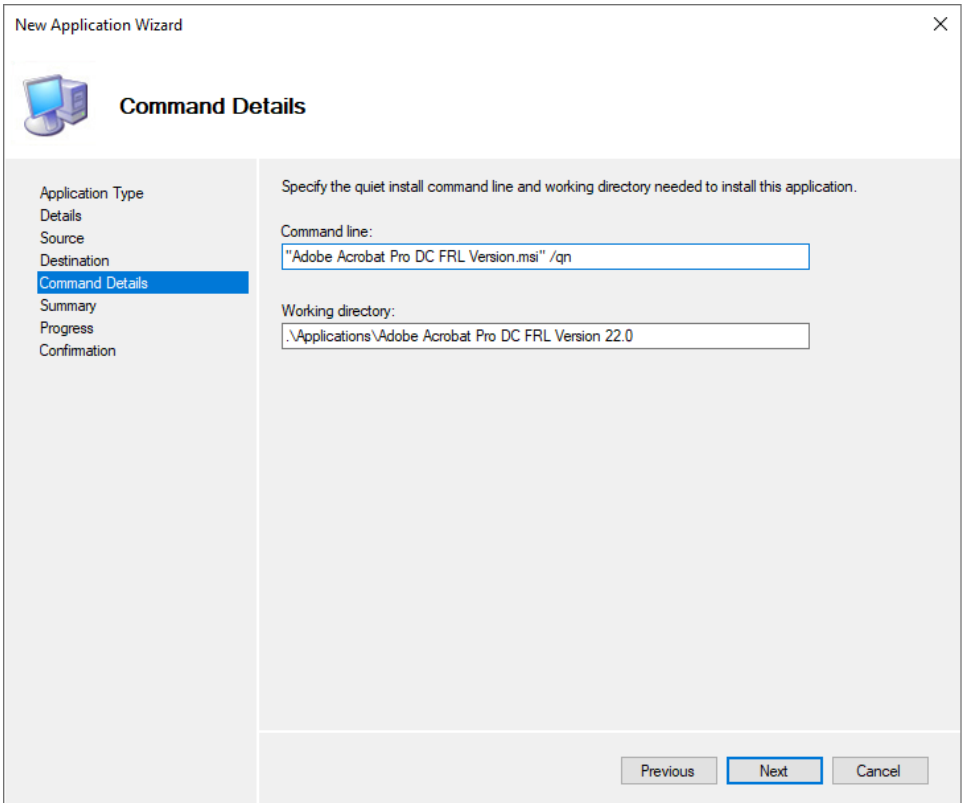


c. For the "**Source**" Page, in the "**Source directory:**" Section, Click "**Browse...**", and Parse to the Location of your Un-Zipped Application Installation Folder, on the Removable Drive that you Connected to Server, Click on it, Click "**OK**", Make Sure the Box "**Move the files to the deployment share instead of copying them.**" is Not Checked, and Click "**Next**".

d. For the "**Destination**" Page, in the "**Specify the name of the directory that should be created.**" Section, Type in the Name of the Application, or Application Type, for the Name of the Folder that you want to store these Types of Applications in, and Click "**Next**".
   i. **Ex:** The Application that I am Uploading is "Adobe Acrobat Pro DC FRL Version 22.0", therefore, I put "**Adobe Acrobat Pro DC FRL Version 22.0**" for the "**Specify the name of the directory that should be created.**" Section.

e. For the "**Command Details**" Page, in the "**Command line:**" Section, Type in the Name of the **.MSI** Installation File in Double Quotes, (**"[application name].msi"**) (this can be found in the Application's Folder) followed by "**/qn**", For the "**Working directory:**" Section, you can leave it as Default or Change it to Fit what folder you want the application to be installed to, when the application is deployed, and Click "**Next**".
   i. An Example of the "**Command Details**" Page, for "**Adobe Acrobat Pro DC FRL Version**" can be Seen in the Screenshot Below.

ii.



   f. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
   g. The "**New Application Wizard**" will begin to Copy the Application Folder, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully**", once you get this message, Click "**Finish**".
4. After Clicking the "**Finish**" Button, your "**Applications**" Tab should Look Similar to that of the one in the Screenshot Below.
   a. **[Image REDACTED For Security Purposes]**
5. Even though one Application was Uploaded to the "**Applications**" Folder, you can Upload a Variety of Different Applications, or the Same Ones with a Different Version Number, to the "**Applications**" Folder in the Deployment Share.
   a. This allows you to be able to Deploy One or More Specific Versions of Applications to a Given Machine, when you use the Local Imaging Server to Initialize a New Device.
6. The Next Part of the Guide, "**How to Upload Drivers to the Imaging Server's Deployment Share**", will go over How to Upload a Drivers to be Deployed on a Local Machine, when initializing it with the Imaging Server. This allows you to ship-out a new Local Machine, with all of the Necessary Drivers already Installed. These Drivers can be Deployed a Countless Number of Times as well.

----------WORK IN PROGRESS---------- How to Upload Drivers to the Imaging Server's Deployment Share ----------WORK IN PROGRESS----------

This Guide will Explain How to Upload Drivers to the Imaging Server's Deployment Share. These uploaded drivers can be deployed alongside a base operating system, saving time when it comes to setting-up a new system. This Guide will teach you how to Upload Drivers to a Deployment Share, by utilizing the Deployment Workbench Windows Server Application.

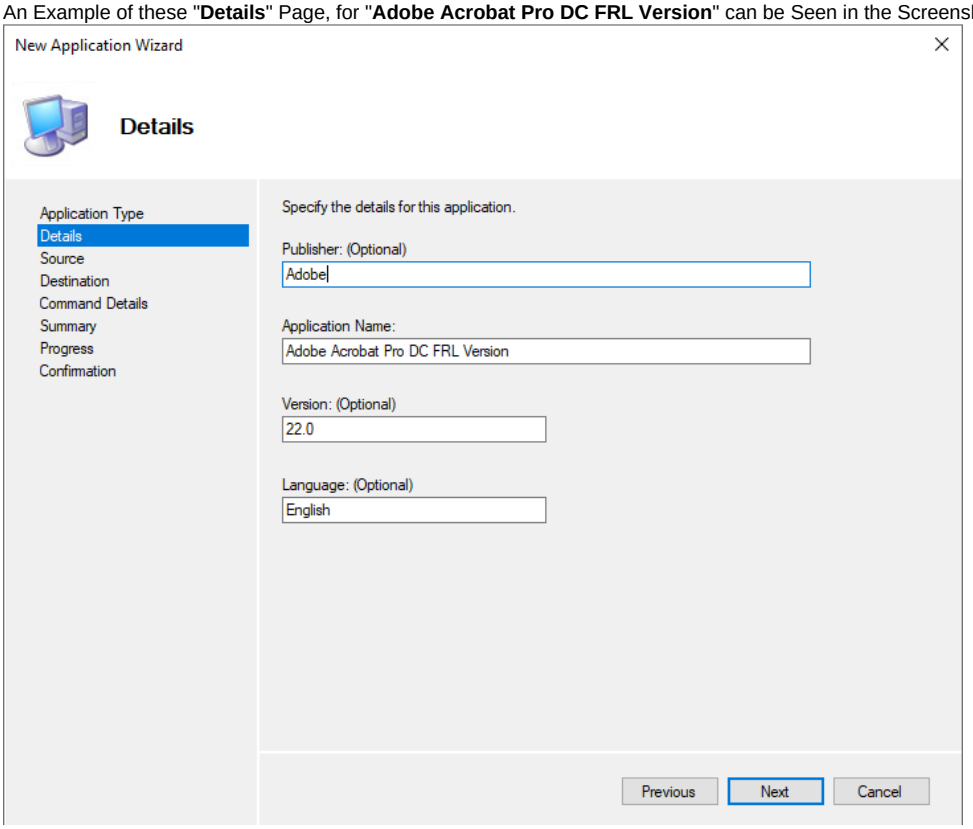
1. ----------
2. Make Sure you have the **.EXE** Driver File in a Folder, on a Removable Drive, and Make Sure you Connect that Removable Drive to the Server.
   a. ~~WDK (Windows Driver Kit) Download: https://learn.microsoft.com/en-us/windows-hardware/drivers/other-wdk-downloads~~
      i. ~~Under "**Step 2: Install the WDK**": **Windows 10, version 22H2 - WDK for Windows 10, version 2004**~~
   b. ~~Need SDK for Desktop too: https://developer.microsoft.com/en-US/windows/downloads/windows-sdk/~~
      i. ~~Blue Box: "**Download the installer >**"~~
3. ----------
4. To Upload Drivers to the Deployment Share, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
   a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow and Click on "**Out-of-Box Drivers**"
   b. Right-Click on "**Out-of-Box Drivers**", and Click on "**Import Drivers**".
   c. **[Image REDACTED For Security Purposes]**
5. If Done Correctly, the "**Import Driver Wizard**" Application Should be Open Now.
   a. For the "**Specify Directory**" Page, in the "**Driver source directory:**" Section, Click "**Browse...**", Navigate to Where the Folder Containing your **.EXE** Driver File(s) is, Click on the Folder, Click "**OK**", Make Sure the "**Import drivers even if they are duplicates of an existing driver.**" Box is Not Checked, and Click "**Next**".
   b. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
   c. The "**Import Driver Wizard**" will begin to Copy the Driver Folder, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully**", once you get this message, Click "**Finis**
   ".

6. After Clicking the "**Finish**" Button, your "**Out-of-Box Drivers**" Tab should Look Similar to that of the one in the Screenshot Below.
    a. **----------Left off Here, I think Visual Studio 2017 Community Edition Needs to be Installed for this to Work----------**
    b. **----------Insert Image of "Out-of-Box Drivers" Tab----------**
7. Even though one Application was Uploaded to the "**Applications**" Folder, you can Upload a Variety of Different Applications, or the Same Ones with a Different Version Number, to the "**Applications**" Folder in the Deployment Share.
    a. This allows you to be able to Deploy One or More Specific Versions of Applications to a Given Machine, when you use the Local Imaging Server to Initialize a New Device.
8. The Next Part of the Guide, "**How to Upload Drivers to the Imaging Server's Deployment Share**", will go over How to Upload a Drivers to be Deployed on a Local Machine, when initializing it with the Imaging Server. This allows you to ship-out a new Local Machine, with all of the Necessary Drivers already Installed. These Drivers can be Deployed a Countless Number of Times as well.

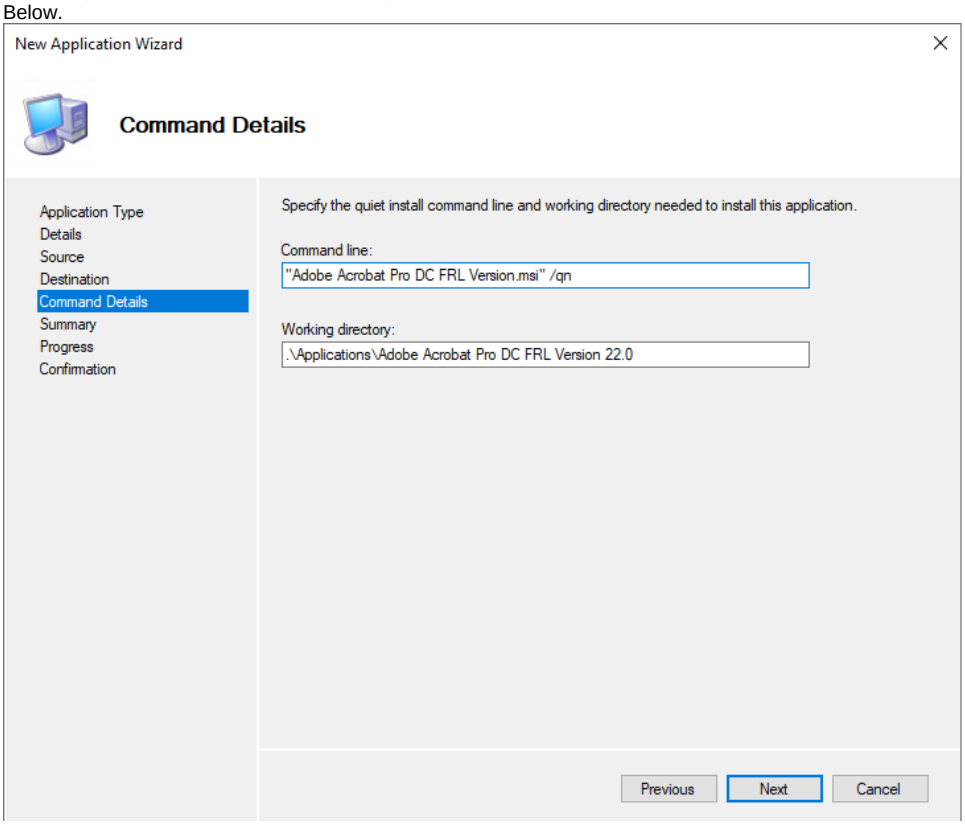
----------WORK IN PROGRESS---------- How to Upload Packages to the Imaging Server's Deployment Share ----------WORK IN PROGRESS----------

This Guide will Explain How to Upload Applications to the Imaging Server's Deployment Share. These uploaded applications, and their keys, can be deployed alongside a base operating system, saving time when it comes to setting-up a new system. This Guide will teach you how to Upload Applications, and their associated keys, to a Deployment Share, by utilizing the Deployment Workbench Windows Server Application.

1. **----------I have no idea if this is actually useful, I need to do more research on this topic----------**
2. Make Sure you have an Un-Zipped Application Installation Folder on a Removable Drive, and Make Sure you Connect that Removable Drive to the Server.
3. To Upload Operating Systems to the Deployment Share, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
    a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click on your Recently-Created Deployment Share, Click the Arrow Next to your Deployment Share Name and Click on "**Applications**"
    b. Right-Click on "**Applications**", and Click on "**New Application**".
    c. **[Image REDACTED For Security Purposes]**
4. If Done Correctly, the "**New Application Wizard**" Application Should be Open Now.
    a. For the "**Application Type**" Page, Make Sure "**Application with source files**" is Selected, and Click "**Next**".
    b. For the "**Details**" Page, in the "**Publisher: (Optional)**", "**Version: (Optional)**", and "**Language: (Optional)**" Sections, you can choose to fill these in based on your specific use case. For the "**Application Name:**" Section, Type in the Name of the Application that you are Uploading, and Click "**Next**".
        i. An Example of these "**Details**" Page, for "**Adobe Acrobat Pro DC FRL Version**" can be Seen in the Screenshot Below.
        ii.



    c. For the "**Source**" Page, in the "**Source directory:**" Section, Click "**Browse...**", and Parse to the Location of your Un-Zipped Application Installation Folder, on the Removable Drive that you Connected to Server, Click on it, Click "**OK**", Make Sure the Box "**Move the files to the deployment share instead of copying them.**" is Not Checked, and Click "**Next**".
    d. For the "**Destination**" Page, in the "**Specify the name of the directory that should be created.**" Section, Type in the Name of the Application, or Application Type, for the Name of the Folder that you want to store these Types of Applications in, and Click "**Next**".
        i. **Ex:** The Application that I am Uploading is "Adobe Acrobat Pro DC FRL Version 22.0", therefore, I put "**Adobe Acrobat Pro DC FRL Version 22.0**" for the "**Specify the name of the directory that should be created.**" Section.

e. For the "**Command Details**" Page, in the "**Command line:**" Section, Type in the Name of the **.MSI** Installation File, Found in the Application's Folder, Followed by "**/qn**", For the "**Working directory:**" Section, you can leave it as Default or Change it to Fit what folder you want the application to be installed to, when the application is deployed, and Click "**Next**".
   i. An Example of the "**Command Details**" Page, for "**Adobe Acrobat Pro DC FRL Version**" can be Seen in the Screenshot Below.
   ii. 

f. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
g. The "**New Application Wizard**" will begin to Copy the Application Folder, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully**", once you get this message, Click "**Finish**".

5. After Clicking the "**Finish**" Button, your "**Applications**" Tab should Look Similar to that of the one in the Screenshot Below.
   a. **[Image REDACTED For Security Purposes]**
6. Even though one Application was Uploaded to the "**Applications**" Folder, you can Upload a Variety of Different Applications, or the Same Ones with a Different Version Number, to the "**Applications**" Folder in the Deployment Share.
   a. This allows you to be able to Deploy One or More Specific Versions of Applications to a Given Machine, when you use the Local Imaging Server to Initialize a New Device.
7. The Next Page of the Guide, "**How to Upload A Local Machine Image to the Imaging Server**", will go over How to Upload a Local Machine Image to the Imaging Server, Maintaining features such as Product Keys, Applications, Settings, and even GPO Options. This Local Machine Image can be Deployed a Countless Number of Times as well.

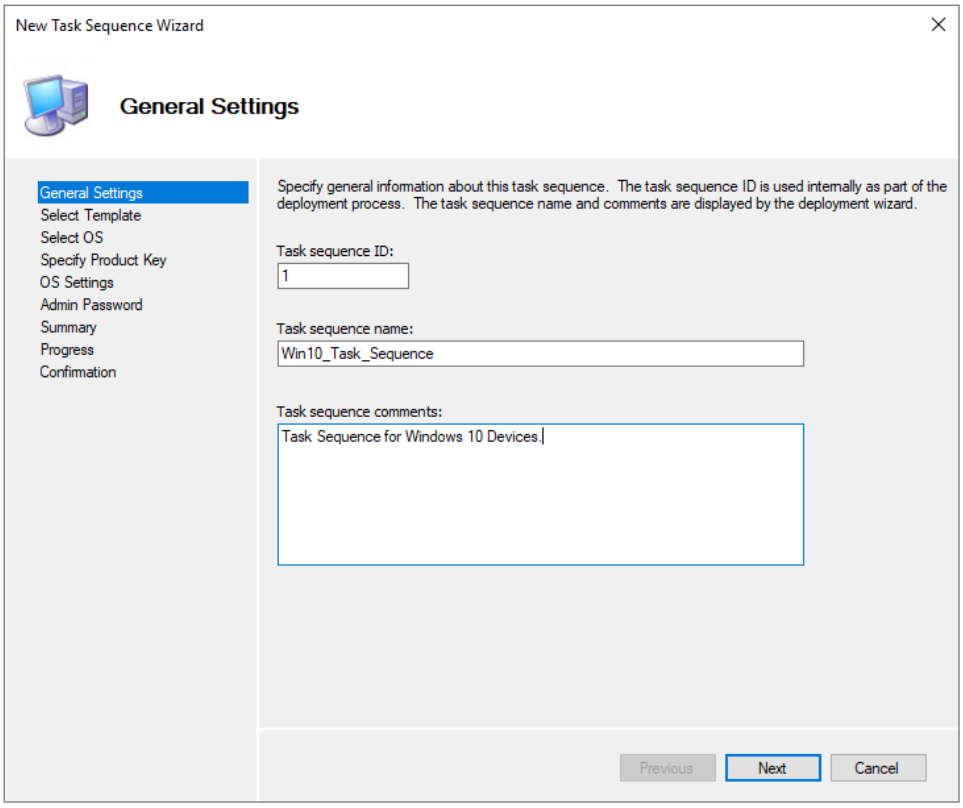
----------WORK IN PROGRESS----------
----------WORK IN PROGRESS---------- [Eventually have to Add Parts in for Drivers, Packages, and PowerShell Scripts]

How to Create A Task Sequence on the Imaging Server (For Basic OS Configurations)

This Guide will Explain how to create a Task Sequence on a Local Imaging Server. This Guide will teach you how to create, and utilize Task Sequences to greatly improve the efficiency of setting-up a secure system. Task Sequences can be used to setup pre-configured User Accounts, GPO Policies, User Groups, Files/Folders, Applications, Drivers, Packages, and run PowerShell Scripts to further expedite the hardening process.

1. Make Sure you have added any/all necessary Applications, Drivers, Packages, and PowerShell Scripts to the Deployment Share, before you configure a Task Sequence.
2. To Create a Task Sequence, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
   a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow and Click on "**Task Sequences**".
   b. **[Image REDACTED For Security Purposes]**
   c. Right-Click on "**Task Sequences**", and Click on "**New Task Sequence**".
3. If Done Correctly, the "**New Task Sequence Wizard**" Application Should be Open Now.
   a. For the "**General Settings**" Page, Make Sure you fill-in the fields for "**Task sequence ID:**", "**Task sequence name:**", and "**Task sequence comments:**", and Click "**Next**".
      i. An Example of this "**General Settings**" Page can be Seen in the Screenshot Below.

ii.



b. For the "**Select Template**" Page, Click the Drop-Down bar and Select the Appropriate task sequence that matches you desires (In this Example, we will be using "**Standard Client Task Sequence**" for automating basic Operation System setup fields), and Click "**Next**".
   i. **Note:** Depending on your specific needs for deploying a pre-hardened system image, you may need to create multiple Task Sequences, with multiple different types of Task Sequence Templates.
   ii. An extremely useful article about task sequences can be found here: Learn / Windows / Deployment / Get started with MDT
   iii. **---------Insert a Chart/Table of the Different Type of Task Sequences---------**
   iv. **Task Sequence Templates**
      1. **Sysprep and Capture**
         a. Used to run the Sysprep (System Preparation) tool to capture an image of a standalone device.
      2. **Standard Client Task Sequence**
         a. Used for creating reference images and for deploying clients in production.
      3. **Standard Client Replace Task Sequence**
         a. Used to run a User State Migration Tool (USMT) backup, as well as a full Windows Imaging (WIM) backup.
            i. This can also be used to do a secure wipe of a machine that is going to be decommissioned.
      4. **Standard Client Upgrade Task Sequence**
         a. Used to perform an in-place upgrade from Windows 7, Windows 8, or Windows 8.1 directly to Windows 10, automatically preserving existing data, settings, applications, and drivers.
      5. **Custom Task Sequence**
         a. A custom task sequence with only one default action. Primarily used for installing one application.
      6. **Litetouch OEM Task Sequence**
         a. Used to preload operating systems images on the computer hard drive.
      7. **Standard Server Task Sequence**
         a. The default task sequence for deploying operating system images to servers.
            i. The main difference between this template and the **Standard Client Task Sequence** template is that it doesn't contain any USMT actions because USMT isn't supported on servers.
      8. **Standard Server Upgrade Task Sequence**
         a. Used to perform an in-place upgrade from older versions of Windows Server, to Windows Server 2019, automatically preserving existing data, settings, applications, and drivers.
      9. **Post OS Installation Task Sequence**
         a. Used to run actions after the operating system has been deployed.
      10. **Deploy to VHD Client Task Sequence**
         a. Similar to the **Standard Client Task Sequence** template, but also creates a virtual hard disk (VHD) file on the target computer, and deploys the target computer's image to the VHD file.
      11. **Deploy to VHD Server Task Sequence**
         a. Same as the **Deploy to VHD Client Task Sequence** but for servers.
   v. **---------Insert a Chart/Table of the Different Type of Task Sequences---------**

c. For the "**Select OS**" page, Click on the Operating System Version that matches the Operating System that you created the Install Image for, and Click "**Next**".
   i. **Example:** Since I created an install image for "Windows 10 Pro", I would Select "**Windows 10 Pro in Windows 10 install.wim**".

d. For the "**Specify Product Key**" Page, you can specify the product key for the the device to be imaged or simply select "**Do not specify a product key at this time.**", and Click "**Next**".

e. For the "**OS Settings**" Page, for the "**Full Name:**" section put "**Administrator**", for the "**Organization:**" Section put "**N/A**", and leave the "**Internet Explorer Home Page:**" as "**about:blank**", and Click "**Next**".

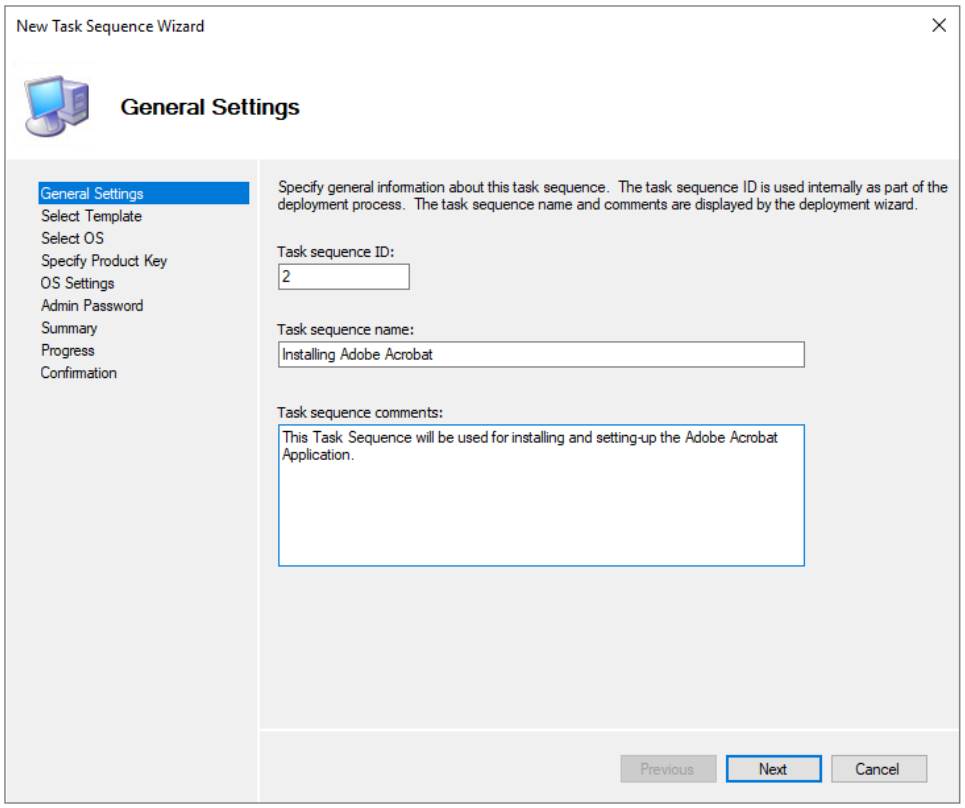
    f. For the "**Admin Password**" Page, Select "**Use the specified local Administrator password.**", and enter the Administrator password that should be used on the deployed images, confirm the password, and Click "**Next**".
    g. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
    h. The "**New Task Sequence Wizard**" will begin to finalize your newly created Task Sequence, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully.**", once you get this message, Click "**Finish**".
4. After Clicking the "**Finish**" Button, your "**Task Sequences**" Tab should Look Similar to that of the one in the Screenshot Below.
    a. **[Image REDACTED For Security Purposes]**
5. Once you have finished creating the Task Sequence, Right Click the name of your Deployment Share (mine would be "__ Imaging Server Deployment Share"), and Click "**Properties**".
    a. On the "**General**" Tab, under "**Platforms Supported**", make sure "**x64**" is checked, and "**x86**" is not checked.
    b. On the "**Rules**" Tab, add "**SkipTaskSequence=NO**", to the End of the "**[Default]**" portion of the Rules, a screenshot of these rules can be seen below.
        i. **[Image REDACTED For Security Purposes]**
    c. On the "**Windows PE**" Tab, for "**Platform:**" (at the Top of the Tab), Click the Drop-Down Box, and Select "**x64**".
    d. Once you have made these changes, Click "**Apply**", and then Click "**OK**".
6. Once you have finished making changes to the Deployment Share, Right Click the name of your Deployment Share (mine would be "__ Imaging Server Deployment Share"), and Click "**Update Deployment Share**".
    a. For the "**Options**" page, make sure "**Completely regenerate the boot images.**" is selected, and Click "**Next**".
    b. For the "**Summary**" page, make sure the configuration settings are "**Force: True**" and "**Compress: False**", and Click "**Next**".
    c. The Deployment Share will begin to update, and apply, this newly-created Task Sequence and Deployment Share Rules (along any "Applications", "Operating Systems", "Out-of-Box Drivers", etc.) that you have added and configured for the Deployment Share in question.
    d. Once the Update process has completed, make sure it says "**The process completed successfully.**", and Click "Finish".
7. Even though one Task Sequence was Uploaded to the "**Task Sequences**" Folder, you can Upload a Variety of Different Task Sequences, for different use types of machines and cases, to the "**Task Sequences**" Folder in the Deployment Share.
8. The Next Part of the Guide, "**How to Create A Task Sequence for an Application Installation**", will go over How to Create a Task Sequence for an Application to be automatically installed on the device that is imaged.

How to Create A Task Sequence for an Application Installation (For A Single Application Installation)

This Guide will Explain how to create a Task Sequence for automatically installing, and deploying, an application on a device to be imaged, on a Local Imaging Server.

1. Make Sure you have added any/all necessary Applications, Drivers, Packages, and PowerShell Scripts to the Deployment Share, before you configure a Task Sequence.
2. To Create a Task Sequence, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
    a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow and Click on "**Task Sequences**".
    b. **[Image REDACTED For Security Purposes]**
    c. Right-Click on "**Task Sequences**", and Click on "**New Task Sequence**".
3. If Done Correctly, the "**New Task Sequence Wizard**" Application Should be Open Now.
    a. For the "**General Settings**" Page, Make Sure you fill-in the fields for "**Task sequence ID:**", "**Task sequence name:**", and "**Task sequence comments:**", and Click "**Next**".
        i. An Example of this "**General Settings**" Page can be Seen in the Screenshot Below.

ii.



   b. For the "**Select Template**" Page, Click the Drop-Down bar and Select the Appropriate task sequence that matches you desires (In this Example, we will be using "**Custom Task Sequence**" for the Adobe Application that was uploaded to the deployment share), and Click "**Next**".
      i. **Note:** Depending on your specific needs for deploying a pre-hardened system image, you may need to create multiple Task Sequences, with multiple different types of Task Sequence Templates.
      ii. An extremely useful article about task sequences can be found here: Learn / Windows / Deployment / Get started with MDT
   c. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
   d. The "**New Task Sequence Wizard**" will begin to finalize your newly created Task Sequence, and Upload it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully.**", once you get this message, Click "**Finish**".
4. Once this newly-created Task Sequence as completed, Right-Click on the **Name** of this Task Sequence in the "**Task Sequences**" Tab, and Click "**Properties**".
5. Once the "**[Task Sequence Name] Properties**" Window appears, Click on the "**Task Sequence**" Tab, Click on "**Install Application**" (With the Green Checkmark Next to it), and on the Right-Hand Side Click "**Install a single application**", Click "**Browse...**", Click on the application that you recently-uploaded to the Deployment Share (In my Case "**Adobe Acrobat**"), Click "**OK**", Click "**Apply**", and Click "**OK**".
   a. **Note:** This "**Task Sequence**" Tab is where you can add multiple additional options, rules, actions... etc, for a given Task Sequence.
6. Once you have finished making changes to the Task Sequence, Right Click the name of your Deployment Share (mine would be "__ Imaging Server Deployment Share"), and Click "**Update Deployment Share**".
   a. For the "**Options**" page, make sure "**Completely regenerate the boot images.**" is selected, and Click "**Next**".
   b. For the "**Summary**" page, make sure the configuration settings are "**Force: True**" and "**Compress: False**", and Click "**Next**".
   c. The Deployment Share will begin to update, and apply, this newly-created Task Sequence (along any "Applications", "Operating Systems", "Out-of-Box Drivers", etc.) that you have added and configured for the Deployment Share in question.
   d. Once the Update process has completed, make sure it says "**The process completed successfully.**", and Click "Finish".
7. **---------It Seems like Microsoft Deployment Toolkit (MDT) Creates "LiteTouchPE" and can be used for Using PowerShell Script on System Image [NEED TO ADD SOMETHING FOR THIS]---------**
8. Once you have configured the properties for the Task Sequence, and updated the Deployment Share, you are good to go! The application that you selected will be automatically installed when you go to image a device (Each Task Sequence can be Enabled/Disabled whenever you would like)!
9. The Next Part of the Guide, "**How to Upload A Local Machine to the Imaging Server**", will go over How to Upload an Existing Local Machine to the Imaging Server, maintaining its settings, applications, GPOs, and User data.

How to Apply A Task Sequence for an Operating System Image (Creating a New Selection Profile)

This Guide will Explain how to create a New Selection Profile, which will be used to store, and apply, these newly-created Task Sequences.

1. Make Sure you have created any necessary Task Sequences before creating a new Selection Profile.
2. To Create a Selection Profile, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
   a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click the Drop-Down Arrow, Click on your Newly-Created Deployment Share, Click the Drop-Down Arrow, Click on "**Advanced Configuration**", Click the Drop-Down Arrow, and Click on "**Selection Profiles**".

b. **[Image REDACTED For Security Purposes]**
c. Right-Click "**Selection Profiles**", and Click "**New Selection Profiles**".

3. If Done Correctly, the "**New Selection Profile Wizard**" Application Should be Open Now.
   a. For the "**General Settings**" Page, Make Sure you fill-in the fields for "**Selection profile name:**" and "**Selection profile comments:**", and Click "**Next**".
      i. **Example**
      ii. **Selection profile name:** Windows 10 Pro Task Sequences
      iii. **Selection profile comments:** The Task Sequences to be utilized for the Windows 10 Pro imaging process.
   b. For the "**Folders**" Page, Check the Box for "**Task Sequences**", and Click "**Next**".
   c. For the "**Summary**" Page, Check the "**Details:**" Section, Make sure all of the Specifications Match your Desires, and Click "**Next**".
   d. The "**New Selection Profile Wizard**" will begin to finalize your newly created Selection Profile, and add it to your Recently-Created Deployment Share. When the process has completed, you will get a message saying "**The process completed successfully.**", once you get this message, Click "**Finish**".
4. Once you have finished creating the Selection Profile, Right Click the name of your Deployment Share (mine would be "__ Imaging Server Deployment Share"), and Click "**Update Deployment Share**".
   a. For the "**Options**" page, make sure "**Completely regenerate the boot images.**" is selected, and Click "**Next**".
   b. For the "**Summary**" page, make sure the configuration settings are "**Force: True**" and "**Compress: False**", and Click "**Next**".
   c. The Deployment Share will begin to update, and apply, this newly-created Selection Profile that you have added and configured for the Deployment Share in question.
   d. Once the Update process has completed, make sure it says "**The process completed successfully.**", and Click "Finish".
5. Once this newly-created Selection Profile as completed, you are good to go! The Task Sequences that you configured will be automatically applied when you go to image a device (Each Task Sequence can be Enabled/Disabled whenever you would like)!
6. The Next Part of the Guide, "**How to Upload A Local Machine to the Imaging Server**", will go over How to Upload an Existing Local Machine to the Imaging Server, maintaining its settings, applications, GPOs, and User data.
7. **----------Need to do more research on this topic, I should have some notes & screenshots for this section----------**

----------WORK IN PROGRESS----------
----------WORK IN PROGRESS---------- [Skipped, Will Come Back to this After Imaging Test]

How to Upload A Local Machine Image to the Imaging Server

This Guide will Explain How to Upload A Local Machine Image to the Imaging Server. This Guide will teach you how to create an Image of a Local Machine, by utilizing the Deployment Workbench Windows Server Application.

1. First, Make Sure the Local Machine in Question in Connected to the Same Network as the Local Imaging Server.
   a. **Ex:** The Local Machine can be Connected to a Switch that is also Connected to the Server.
   b. **Ex:** The Local Machine can be Connected to the Server Directly with an Ethernet Cable.
2. Test the Connectivity of the Two Devices, the Local Machine, and the Local Imaging Server, by Pinging the Other Machine.
   a. **Ex:** On the Local Machine and Local Imaging Server, Open the Command Prompt, Type "**ipconfig /all**", and Ping the IP Address of the Other Machine.
      i. Ping the IP Address of the Local Imaging Server on the Local Machine.
      ii. Ping the IP Address of the Local Machine on the Local Imaging Server.
         1. **Note:** If the Local Machine can Ping the Local Imaging Server, but the Local Imaging Server cannot Ping the Local Machine, make sure you Enable ICMP Requests on the Firewall of the Local Machine.
            a. To do this, Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Windows Defender Firewall with Advanced Security**", and Click on "**Windows Defender Firewall with Advanced Security**".
               i. Once the **Windows Defender Firewall with Advanced Security** Application has Opened, in the Top-Left Corner Click on "**Inbound Rules**", then on the Right-Hand Side, Under "**Actions**", Click on "**New Rule...**".
                  1. For the "**Rule Type**" Page, in the "**What type of rule would you like to create?**" Section, Click "**Custom**", and Click "**Next >**".
                  2. For the "**Program**" Page, in the "**Does this rule apply to all programs or a specific program?**" Section, Make Sure "**All programs**" is Selected, and Click "**Next >**".
                  3. For the "**Protocol and Ports**" Page, in the "**To which ports and protocols does this rule apply?**" Section, Click on the Drop-Down Box for the "**Protocol type:**" Section, and Click on "**ICMPv4**".
                     a. In the "**Internet Control Message Protocol (ICMP) settings:**" Section, Click on "**Customize...**", Click on "**Specific ICMP types**", Click on, and Make Sure, Only "**Echo Request**" is Selected, Click on "**OK**", and Click "**Next >**".
                  4. For the "**Scope**" Page, the Two "**Any IP address**" Options can be Utilized, or you can Specify the IP Address of the Local Imaging Server, and Click "**Next >**".
                  5. For the "**Action**" Page, in the "**What action should be taken when a connection matches the specified conditions?**" Section, Make Sure "**Allow the connection**" is Selected, and Click "**Next >**".
                  6. For the "**Profile**" Page, in the "**When does this rule apply?**" Section, you can Utilize the Default Values, or you can Specify the Types of Networks that you want Inbound ICMP Requests to be Available on, and Click "**Next**".
                  7. For the "**Name**" Page, in the "**Name:**" Section, Type "**ICMP - Echo**", for the "**Description (optional):**" Section, Type "**Enable Inbound Pinging**", and Click "**Finish**".
               ii. **Note:** To Ensure the Newly-Created Firewall Rule Applies, Restart the Local Machine.
      iii. If the Pings on both Machines Worked Successfully, you are Ready to Start Uploading the Local Machine Image to the Imaging Server.
3. Make Sure you have an Operating System Image (**.ISO** File) on a Removable Drive, and Connect that Removable Drive to the Server.

    a. Once that Removable Drive has been Connected to the Server, Copy the **.ISO** Operating System Image File
4. To Upload Operating Systems to the Deployment Share, we first need to Open the "**Deployment Workbench**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Deployment Workbench**", and Click on "**Deployment Workbench**".
    a. Once the **Windows Deployment Services** Application has opened, in the Top-Left Corner Click on "**Deployment Shares**", Click on your Newly-Created Deployment Share, Click the Arrow Next to your Deployment Share Name and Click on "**Operating Systems**"
    b. Right-Click on "**Operating Systems**", and Click on "**Import Operating System**".
5. If Done Correctly, the "**Import Operating System Wizard**" Application Should be Open Now.
    a. For the "**OS Type**" Page, Make Sure "**Full set of source files**" is Selected, and Click "**Next**".
    b. For the "**Source**" Page, in the "**Source directory:**" Section, Click "**Browse...**", and Parse to the Location of your Deployment Share that you Created in the Previous Guide, Click "**OK**", and Click "**Next**".
    c. For the "**OS Type**" Page, in the "**Share name:**" Section, Type in the Deployment Share Name of your choice, and Click "**Next**".
    d. For the "**OS Type**" Page, in the "**Share name:**" Section, Type in the Deployment Share Name of your choice, and Click "**Next**".
    e. For the "**OS Type**" Page, in the "**Share name:**" Section, Type in the Deployment Share Name of your choice, and Click "**Next**".
6. __

----------WORK IN PROGRESS----------
----------WORK IN PROGRESS---------- [Need to re-go-through this to account for task sequence, and mention how a task sequence affects this]

Requirements for Imaging A Local Machine With the Imaging Server

There are a few things that are required, both physical, and logical (such as software/settings), that must be prepared, and at ready in order to Image a Local Machine with the Imaging Server.

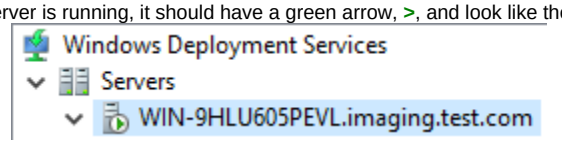
Psychical

1. A Physical Device
    a. Can be a Laptop or Desktop device
    b. Note: If it is a Desktop device, make sure you have a keyboard and mouse to use for inputs on the device.
2. Ethernet Cables (2x)
3. Switch
    a. This can be a basic switch
    b. One Ethernet Cable needs to go from the Imaging Server's DHCP Configured Ethernet Port to the Switch.
    c. The other Ethernet Cable needs to go from the Physical Machine, to another Switch Port.

Software

1. Make sure **DHCP** is setup on the server before-hand (can be added in Server Manager "Add Roles and Features")
    a. [Windows Key + Q] Windows Search for the "**DHCP**" **App**, and Click on it.
    b. Once the **DHCP** Application has opened, in the Top-Left Corner Click the server (Example: win-9hlu605pevl.imaging.test.com), Click the Drop-Down Arrow, Click on "**IPv4**", Click the Drop-Down Arrow, Right-Click "**IPv4**", and Click on "**New Scope...**".
    c. If Done Correctly, the "**New Scope Wizard**" Application Should be Open Now, and Click "**Next >**".
        i. For the "**Scope Name**" Page, fill-out the "**Name:**" and "**Description:**" fields, and Click "**Next >**".
            1. **Name:** Enter in something like "ImagingServerDHCP_Scope"
            2. **Description:** Enter in something like "DHCP Scope for Imaging Server"
        ii. For the "**IP Address Range**" Page, fill-out the "**Start IP address:**", "**End IP address:**", "**Length**", and "**Subnet mask:**" fields, and Click "**Next >**".
            1. **Examples** for if you server's **IPv4 Address is 192.168.1.9**
                a. **Start IP address:** 192.168.1.10
                b. **End IP address:** 192.168.1.240
                c. **Length:** 24
                d. **Subnet mask:** 255.255.255.0
        iii. For the "**Add Exclusions and Delay**" Page, you don't need to fill out these sections (since we only put 10-240 as the DHCP-Controlled IPv4 Addresses), Click "**Next >**".
        iv. For the "**Lease Duration**" Page, use the default options, and Click "**Next >**".
        v. For the "**Configure DHCP Options**" Page, make sure "**Yes, I want to configure these options now**" is selected, and Click "**Next >**".
        vi. For the "**Router (Default Gateway)**" Page, enter the IPv4 Address of the router, if you have one, or the Default Gateway IPv4 Address (**Usually 192.168.1.1**), Click "**Add**", and Click "**Next >**".
        vii. For the "**Domain Name and DNS Servers**" Page, leave this page default, and Click "**Next >**".
        viii. For the "**WINS Servers**" Page, leave this page default, and Click "**Next >**".
        ix. For the "**Activate Scope**" Page, make sure "**Yes, I want to activate this scope now**" is selected, and Click "**Next >**".
        x. If done correctly, you should be presented with the "**Completing the New Scope Wizard**" Page, make sure it says "**You have successfully completed the New Scope wizard.**", and Click "**Finish**".
    d. Make sure you have **Authorized the DHCP Server** in the Active Directory
        i. To do this: In the **DHCP** Application, at the Top-Left Corner Right-Click on your Server Name (Example: "**win-9hlu605pevl.imaging.test.com**"), and Click on "**Authorize**".
    e. **Note:** After the DHCP Scope has been set, you might need to restart the server in the DHCP Application.
        i. To do this: In the **DHCP** Application, at the Top-Left Corner Right-Click on your Server Name (Example: "**win-9hlu605pevl.imaging.test.com**"), hover-over "**All Tasks**", and Click on "**Restart**".
        ii. If the DHCP server is running, it should have a green checkmark next to "**IPv4**" and "**IPv6**" (if you didn't disable IPv6) and look like the screenshot below.

1. 

    iii. **Note:** Make sure "**060 PXEClient**" is in the "**IPv4**""**Server Options**" Section as well.
        1. If this is not there, right-click "**Server Options**", under "Available Options" Click the Checkbox for "**060 PXEClient**", Click "**Apply**", and Click "**OK**".
2. Make sure **the Imaging Server is running** in the Windows Deployment Services (**WDS**) **application**.
    a. First, Open the "**Windows Deployment Services**" Application, to do this Press the **[Windows Key]+[Q]** Keys at the same time (to open the Windows Search Bar), Type "**Windows Deployment Services**", and Click on "**Windows Deployment Services**".
        i. Once the **Windows Deployment Services** Application has opened, at the Top-Left Corner Click on "**Servers**", Under the "**Servers**" Window on the Right-Hand Side, Right-Click on your Server Name **Ex:** "**WIN-9HLU605PEVL.imaging.test.com**", hover-over "**All Tasks**", and Click on "**Start**".
        ii. If the server is running, it should have a green arrow, **>**, and look like the screenshot below.
1. 

3. Ensure the **Deployment Share** that you are utilizing **is up-to-date**.
    a. Open the "**Deployment Workbench**" application
    b. Under "**Deployment Workbench**" in the Top-Left Corner, Click on "**Deployment Shares**", Click the Drop-Down Arrow, Right-Click on your Recently-Created Deployment Share (or the Deployment Share you would like to use to image the device), and Click on "**Update Deployment Share**"
        i. If done correctly, the "**Update Deployment Share Wizard**" application will open.
        ii. For the "**Options**" page, make sure "**Completely regenerate the boot images.**" is selected, make sure the "**Compress the boot image contents...**" box is not selected, and Click "**Next**".
        iii. For the "**Summary**" page, make sure the configuration settings meet your needs, and Click "**Next**".
        iv. The Deployment Share will begin to update, and apply, any "Applications", "Operating Systems", "Task Sequences", "Out-of-Box Drivers", etc. that you have added and configured for the Deployment Share in question.
        v. Once the Update process has completed, make sure it says "**The process completed successfully.**", and Click "Finish".

How to Image A Local Machine With the Imaging Server

This Guide will Explain how to Image a Local Machine, based on your "Deployment Configuration", utilizing the Imaging Server. Make sure you meet all of the requirements in the "**Requirements for Imaging A Local Machine With the Imaging Server**" section, before going through this section of the guide.

1. **On the Device to be Imaged:** Turn the device (laptop or desktop computer) on, and **press** the **BIOS Key** (Usually the **F2** or **DEL** keys) rapidly, until you are presented with the device's BIOS Screen.
    a. Once you are in the BIOS, go to "**Boot Options**", and Specify "**Boot over Network Card**" or "**Boot over PXE**".
        i. If "**PXE Boot**" or "**Boot over Network Card**" is not available as a boot option, you might have to change the following BIOS Settings, in the "**Advanced**" Section.
            1. **Advanced Network Stack Configuration**
                a. **Network Stack:** Enabled
                b. **IPv4 PXE Support:** Enabled
                c. **IPv6 PXE Support** (optional)**:** Enabled
2. **On The Windows Server Device:** Ensure the Imaging Server can respond to PXE Requests, and accept the standalone device in the "**Windows Deployment Services**" Application.
    a. Open the "**Windows Deployment Services**" application
    b. In the Top-Left Corner Click on "**Servers**", Click the Drop-Down Arrow next to "**Servers**", Click on your the name of your Imaging Server (Example: "**WIN-9HLU605PEVL.imaging.test.com**"), and Click on "**Pending Devices**".
    c. Right-Click on the Pending Device correlating with the standalone device you are attempting to image, and Click on "**Name and Approve** ".
        i. **If the device doesn't pop-up automatically**, Click "**Action**" in the top-left, and Click "**Refresh**".
        ii. **If the device still isn't popping-up**, Right-Click "**Pending Devices**", Click on "**Modify PXE Response Settings**", under the "**PXE Response**" tab make sure "**Respond to all client computers (known and unknown)**" and "**Require administrator approval for unknown computers...**" are both selected, Click "**Apply**", and Click "**OK**", then Click "**Action**" in the top-left, and Click "**Refresh**".
        iii. **If the device still isn't popping-up**, Make sure you have properly configured **DHCP**, based on "**Requirements for Imaging A Local Machine With the Imaging Server**" "**Software**" **1.** .
    d. If done correctly, the "**Approve Pending Device Wizard should appear**".
        i. For the "**Identity**" page, in the "**Device Name:**" section, enter the name you would like to give to the device that is being imaged (Example: "**TestWindows10**"), make sure "**Create the device in the default OU**" is selected, and Click "**Next >**".
        ii. For the "**Boot**" page, Click "**Select...**" and enter the **object names** and hit the "**Enter**" Key for each given field, respectively, and Click "**Next >**".
            1. **Referral Server:** The Imaging Server's Device (Example: **WIN-9HLU605PEVL**)
            2. **Boot Program:** This section can be left empty
            3. **Boot Image:** This section can be left empty
        iii. For the "**Client Unattend**" page, make sure the "**Referral Server:**" section contains the device name of your Imaging Server (Example: "**WIN-9HLU605PEVL.imaging.test.com**"), if you have an "**Unattend File:**" you can specify one for that section, and Click "**Next >**".
        iv. For the "**Join Rights**" page, make sure "**Join the domain with this device when it is deployed**" is **NOT SELECTED**, and Click "**Finish**".
    e. If done correctly, the device to be Imaged should enter the Windows Setup!

f. ----------

3. **On the Device to be Imaged:** Once the Windows Setup Window Appears on the machine-to-be-imaged, select the "**Locale:**" and "**Keyboard or input method:**", and Click "**Next**".
    a. A prompt should appear for "**Connect to [Server's Device Name].[Active Directory Domain]**". For this prompt, enter the same credentials that you use to login to the Imaging Server, and Click "**OK**".
        i. **Examples**
        ii. **User name:** administrator@imaging.test.com
        iii. **Password:** The account's password on the Imaging Server
    b. For "**Select the operating system you want to install**", use the default options, and Click "**Next**" (Note: There should only be one available Operating System/Operating System Version).
        i. **Note:** If your "Install Image" was setup correctly on the Imaging Server, you should only see one possible Operating System (with only one Operating System Version) to select.
    c. For "**Where do you want to install Windows?**", make sure "**Drive 0**" is selected, and Click "**Next**".
    d. Windows will now begin to install, based on the specifications provided in your recently created Deployment Share, from the Imaging Server.
4. **On the Device to be Imaged:** Once the Windows finishes installing, go through the rest of the Windows Setup as you normally would for a secure system.
5. The Device should now be imaged with the specifications that you have provided in the Deployment Share!
    a. **Note:** If certain components are missing on the newly-imaged device, double-check your "**Task Sequence**", to make sure the corresponding component(s) are included in it.
        i. Furthermore, if you update your "**Task Sequence**" after the device has been imaged, you need to update the Deployment Share, and re-image that device.

----------WORK IN PROGRESS----------