BigFix OSD

Student Workbook

September 2023

For more information

To learn more about BigFix, contact your HCL Software representative, HCL Business Partner, or visit www.BigFix.com.

About HCL Software

HCL Software is a division of HCL Technologies that develops and delivers a next-generation portfolio of enterprise-grade software-based offerings with flexible consumption models, spanning traditional on-premises software, Software-as-a-Service (SaaS), and bundled managed services. We bring speed, insights and innovations (big and small) to create value for our customers. HCL Software areas include DevOps, Security, Automation, Application Modernization, Data and Integration Infrastructure, and several Business Applications. HCL embraces the real-world complexity of multi-mode IT that ranges from mainframe to cloud and everything in between while focusing on customer success and building 'Relationships Beyond the Contract.

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Produced in the United States of America.

Contents

Student Labs

Overview

In this lab, you will install OSD and use it to deploy a baremetal target and re-image an existing target. Perform the necessary configurations in the BigFix console to enable the functionality required from OSD.

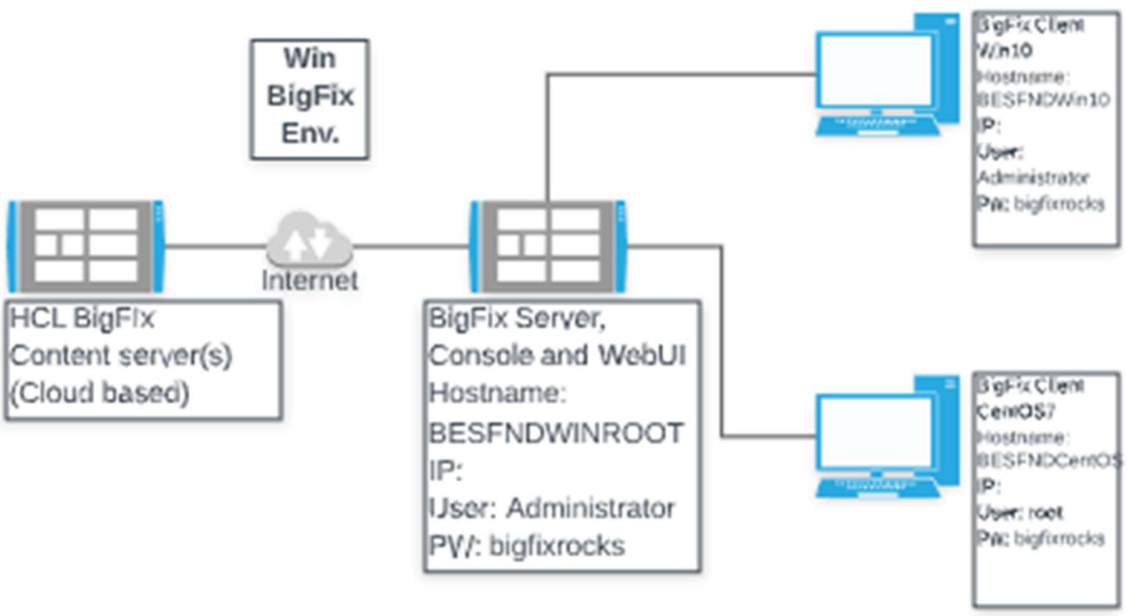
In these exercises, you will learn how to:

- Enable the OSD content
- Add a Relay to the lab environment
- Install the BigFix OSD Server
- Walkthrough the OSD Health Check dashboard.
- Create MDT bundles.
- Import Drivers
- Import Win10 ISO.
- Create and deploy “profiles”
- Perform a baremetal build of an endpoint.
- Perform a “re-image” of an existing endpoint.
- Perform an image capture of an existing endpoint.
- Review OSD “status”

The exercises in this lab guide focus on installing, configuring and using BigFix OSD content.

These labs tend to take some time to complete due to the amount of data flowing from point a to point b. These are very realistic timings, we have done all we can to push OSD and the network to its max. Things that can speed up the processing would be to use SDD drives and 10G network pipes (neither are available in the lab environment, but something you can think of in your environment).

NOTE: This is not a deployment guide and it is not designed to show a secure implementation.



The below table contains a summary of the VM images used in this lab guide:

	Host Name	BigFix Components	OS	IP Address	Userid & Password
1	BESFNDWINROOT	BigFix Windows based Server, Console, WebUI, and Client	Windows 2016	10.0.0.1/10.0.1.10	Administrator bigfixrocks
2	BESFNDWIN10	BigFix Client, Console	Windows 10	10.0.0.2/10.0.1.4	Administrator bigfixrocks
3	BESFNDAPPSERVER	BigFix Relay, OSD Server, RC Server	Windows 2016	10.0.0.4/10.0.1.1	Administrator bigfixrocks
4	BESFNDOSDTARGET	BigFix Windows target for OSD work	Win7-initial, win10 after upgrade	10.0.0.5/10.0.1.3	root bigfixrocks
5	All	BigFix Console creds			adminmo

Accessing Lab Environment

The BigFix Lab environment is currently being hosted in Skytap's (www.skytap.com). To access this environment, you will need the url, id, and password sent to your registered email address (this would be from Skytap.com). If you are a USA Federal customer – your instructor will provide you your credentials and access url(s).

Students will receive an email (this is the email address you provided when you registered for the course) from Skytap that contains the url to YOUR Skytap environment, the login id and password for this specific course. It will look something like this:

[CAUTION: This Email is from outside the Organization. Unless you trust the sender, Don't click links or open attachments as it may be a Phishing email, which can steal your Information and compromise your Computer.]

Hello james.leaphart@hcl.com,

Event: MARK 0

Course: TEST5 US

Start time:

End time: 05/15/2020 12:34 PM PDT

Student Region: US-Central

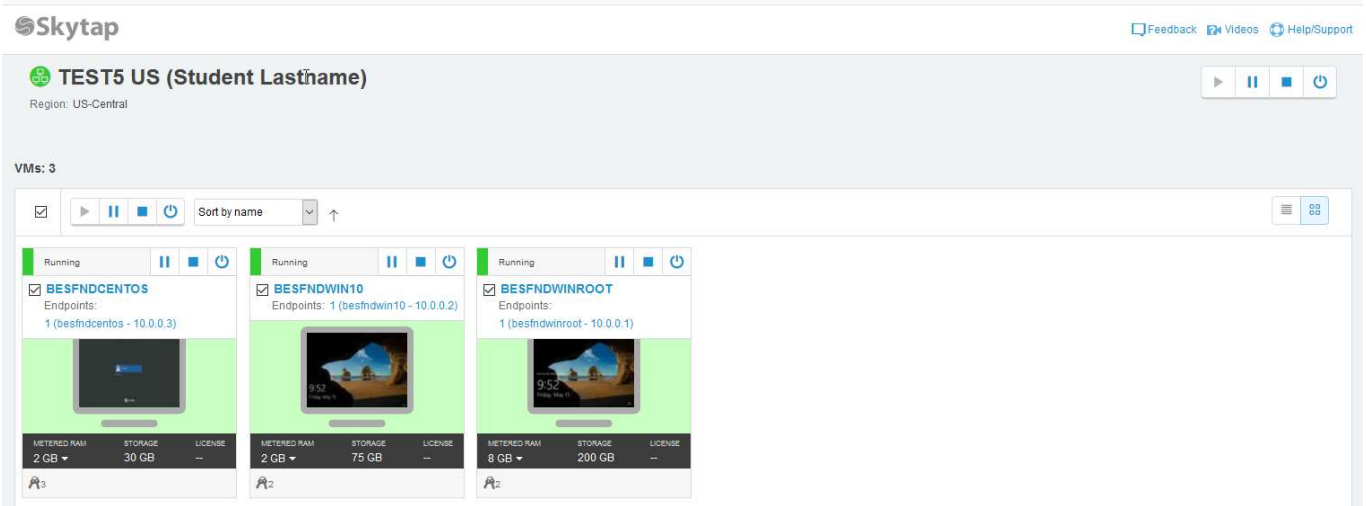
Student Passcode: P9G6ZB7APZYQ

Student URL: https://hcl-vt.skytap-portal.com/lab_access/event_participant/13/995d8455a0ac743edb1a1c6ebca90d9cc8e6805383edc11cf581887b12ceff5a

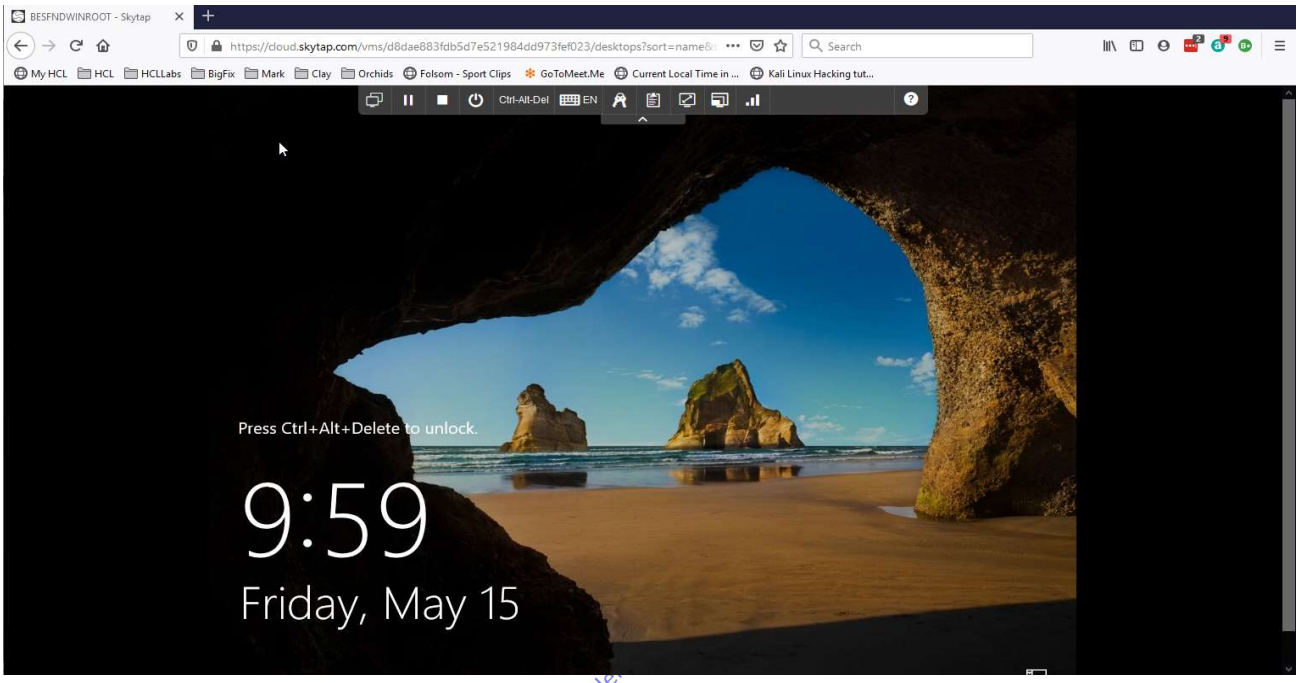
Instructors:

Instructor Email/ID	Instructor Name	Region
leaphartmark@gmail.com	Mark Leaphart	US-Central

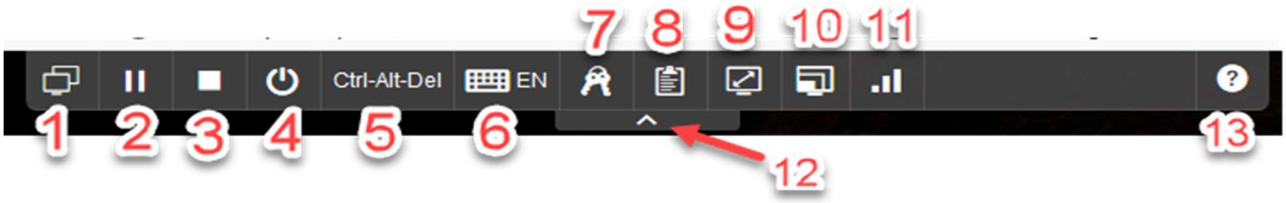
Click on the url provided in your email and provide your credentials (if asked). You will be taken into Skytap and you will see your provisioned environment.



The vm's provided here are accessible via your browser (rdp is not required). Click on a vm and your browser will present your vm:



Now let's look at the controls in the browser for this vm.



1) Environment VM's: View all vm's in your environment or switch to another vm in your environment
2) Suspend this vm
3) Shutdown this vm
4) Power options for vm - a) shutdown, b) reset, c) power off
5) Ctrl-Alt-Del is passed to the vm
6) Keyboard layout and or inject key combinations
7) Credentials: operating system and applications in this vm
8) VM Clipboard
9) Fit to window
10) Change video resolution
11) Network Quality Indicator
12) Hide this tool bar
13) Help

When you open any of the Windows vm's, always answer YES to the network connection question.

NOTE: Occasionally your browser tab for a particular VM may become unresponsive, simply close it and open another for the same machine.

BigFix OSD Labs

BigFix Bare Metal Server, which is part of the Lifecycle Management suite, provides a consolidated, comprehensive solution to quickly deploy new workstations and servers throughout a network from a single, centralized location. This solution saves time and money, enforces a standardized and approved image, and reduces risks associated with non-compliant or insecure configurations. The solution provides complete OS provisioning and system reimaging capabilities for Windows and Linux targets. You can deploy a fully-configured operating system to multiple computers across an enterprise. You can deploy, configure, and manage BigFix Bare Metal Server from the BigFix infrastructure. After you set up the Bare Metal servers, you can create profiles containing images that become available when computers in the network PXE boot to that server. Computers then select profiles that are downloaded along with all the drivers needed to run the imaging process.

Exercise 1 - Starting the environment

In this exercise, you will install BigFix and start the configuration process.

____1. Verify that the following virtual machines are started:

- BigFix Server: BESFNDWINROOT
- BigFix Windows Client: BESFNDWIN10
- BigFix OSD/Relay: BESFNDAPPSERVER
- BigFix OSD Target: BESFNDOSDTARGET

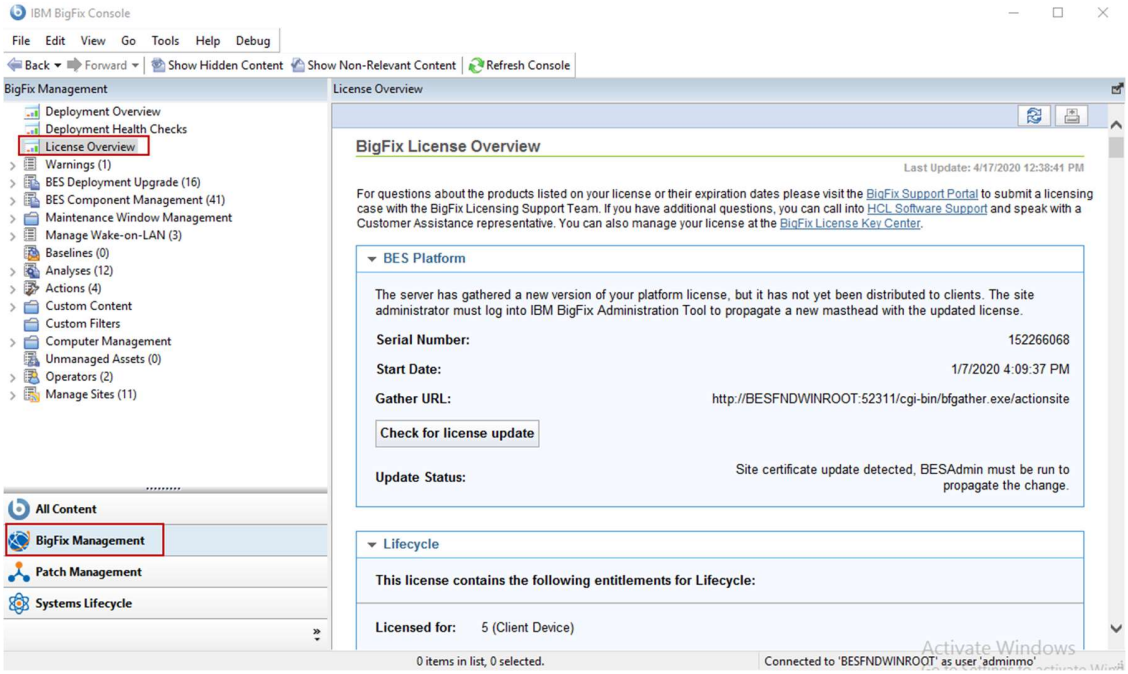
____2. Switch to the BigFix Server virtual machine. If you are logged off, log in to the server as **Administrator** with a password of **bigfixrocks**

____3. Click YES to Networks for all vm's (the network number will change; this picture is as an example):

Exercise 2 – Enabling OSD Content

To take advantage of any of the OSD/OS Deployment and Bare Metal Imaging content, it needs to be enabled in your BigFix server. In this exercise, you enable the BigFix OSD/OS Deployment and Bare Metal Imaging content. The "gather" process for this takes a solid 30 min, therefore, this step has been done for you. The steps are here for you to take back to your work lab and step through. On steps that have been completed you will see: COMPLETED:

____1. COMPLETED: Switch to the BigFix Server virtual machine: **BESFNDWINROOT**. If you are logged off, log in to the server as **Administrator** with a password of **bigfixrocks**.
____2. COMPLETED: Right-click the BigFix Console icon on the desktop, select: **Run As Administrator** The login screen opens.
____3. COMPLETED: Verify that the user name is set to **adminmo** and enter the password **B1gfixrocks**. Click **Login**. The Console opens.
____4. COMPLETED: Select **BigFix Management Domain -> License Overview** in the lower-left portion of the Console. The License Overview dashboard opens.



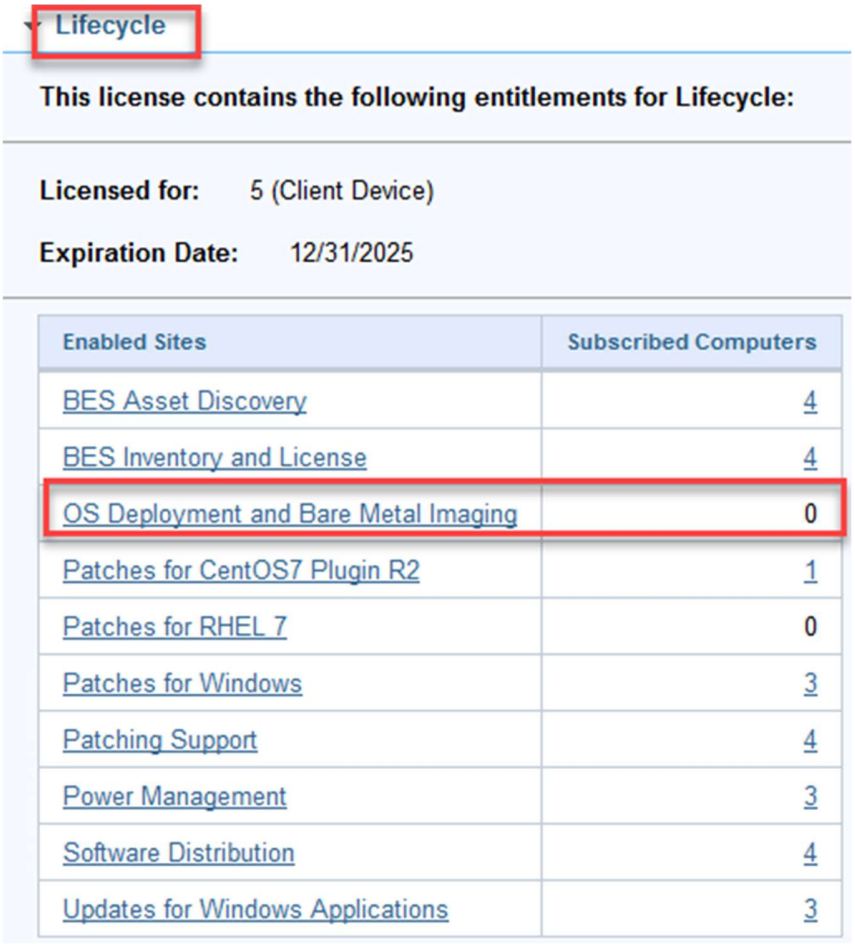
____5. COMPLETED: Scroll down in the **License Overview** dashboard until you locate the **LifeCycle** section.

____6. A COMPLETED: Accept the EULA if it has not already been done.

____7. COMPLETED: Review the list of **Enabled Site**. Enable the following sites by clicking the **Enable** link beside the site name in the **Available Site** section.

___a. COMPLETED: **OS Deployment and Bare Metal Imaging**

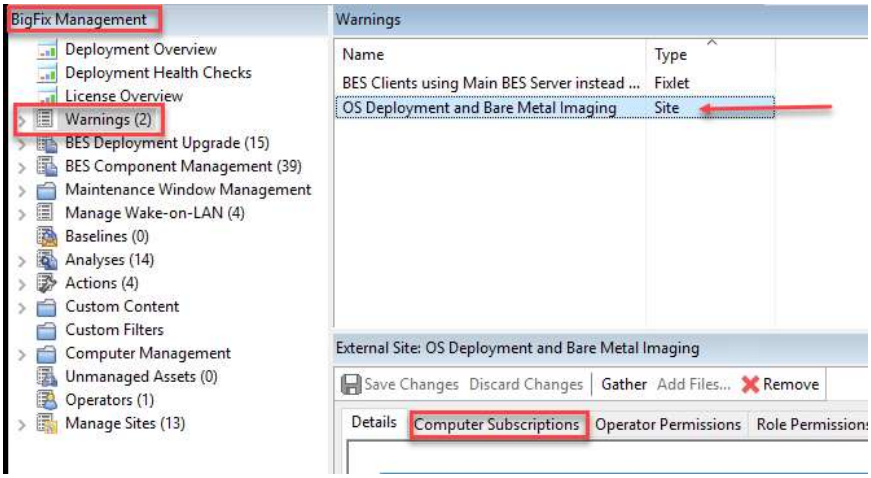
As each site is enabled, you notice that it is removed from the **Available Sites** list and now appears in the **Enabled Sites** list.



Once the sites are enabled the content for each of the enabled sites is gathered from the Content servers and imported into the BigFix database.

____8. COMPLETED: While still in the **BigFix Management Domain**
____9. COMPLETED: Click on: **Warnings(n)***

____10. COMPLETED: Locate: **OS Deployment and Bare Metal Imaging site**

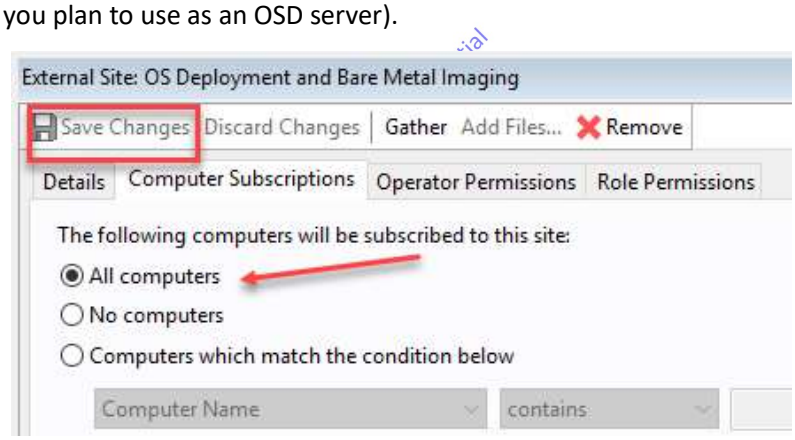


____11. COMPLETED: Click on the tab: **Computer Subscriptions**

___a. COMPLETED: Select "All computers"

___b. COMPLETED: Click: **SAVE**

Note: You would not select all computers in your production env!!! Select only those servers/endpoints that you plan to actively use OSD on (your BES Root server is required, any Relay you plan to use as an OSD server).

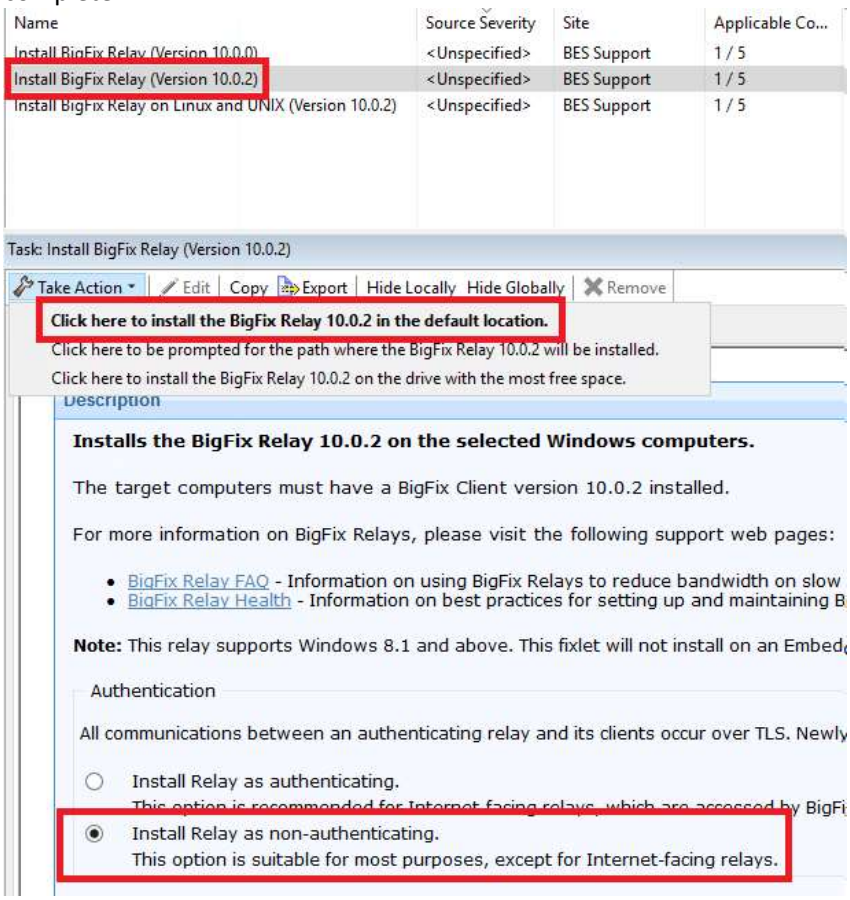


The OSD/OS Deployment and Bare Metal Imaging content has now been enabled and you have successfully completed this exercise.

Exercise 3 – Configuring OSD/OS Deployment and Bare Metal Imaging – Health Check Dashboard

BigFix OSD/OS Deployment and Bare Metal Imaging provides a dedicated dashboard that is very good at walking you through the required steps to configure OSD. This exercise will walk through this process.

____1. Switch to the BigFix Server virtual machine: **BESFNDWINROOT**. If you are logged off, log in to the server as:
  ___a. ID: **Administrator**
  ___b. Password: **bigfixrocks** (remember you have a set of "keys" at the top of your screen)
____2. Double click the **BigFix Console** icon on the desktop. The login screen opens.
____3. Verify that the username is set to **adminmo** and enter the password **B1gfixrocks**. Click **Login**. The Console opens.
____4. Add a new Relay (OSD servers must also be a Relay, you can't use your root server's relay).
____5. Select the **All Content Domain.**
____6. Click on: **"Fixlets and Tasks"**
____7. In the Search window, type: **Relay**
____8. Search for: **Install BigFix Relay (version 10.0.2)**
____9. Take the default: **Install Relay as non-authenticating**
____10. Select the server: **BESFNDAPPSERVER** Click OK, and you don't have to wait for this to complete.



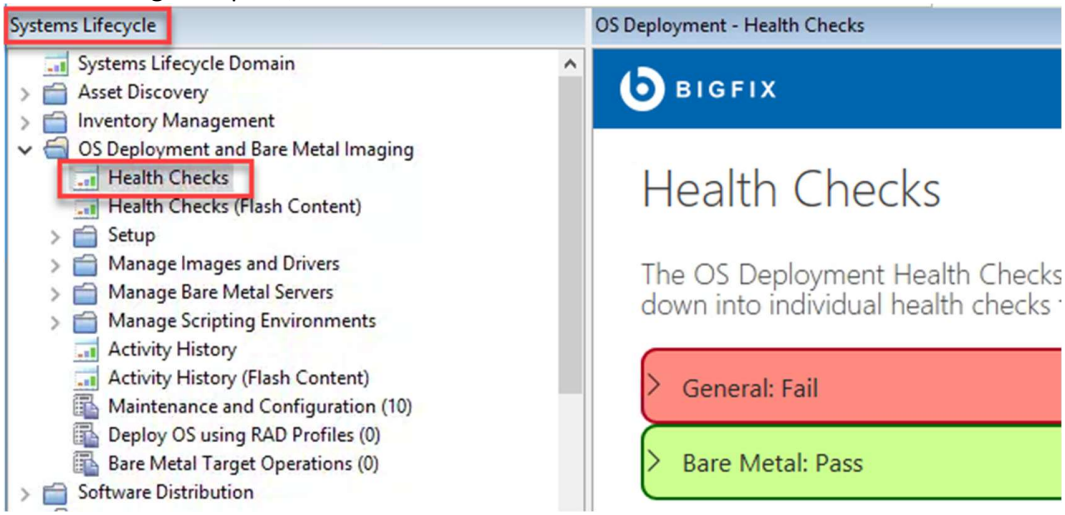
Finally install the BigFix console to this new relay server.

____11. Select the **All Content Domain.**
____12. Click on: **"Fixlets and Tasks"**
____13. In the Search window, type: **Console**
____14. Search for: **Install BigFix Console (version 10.0.2)**
____15. Select the server: **BESFNDAPPSERVER**, click OK and wait for the process to complete.

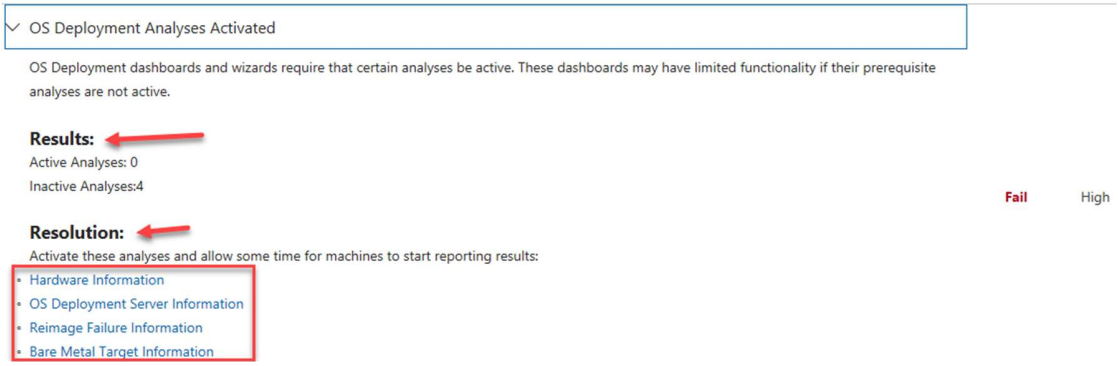
Note: For the remainder of this lab, most the heavy lifting will be done from the OSD server: **BESFNDAPPSERVER**

___a. Login as Administrator to: **BESFNDAPPSERVER**
___b. Right-Click on the BigFix Console and choose "Run as Administrator"
___c. Userid: **adminmo**
___d. Passwd: **B1gfixrocks**

____16. Click **System Lifecycle Domain** in the lower-left portion of the Console. The navigation pane updates to display the **Systems Lifecycle Domain** content.
____17. In the navigation pane, select the dashboard: **Health Checks**



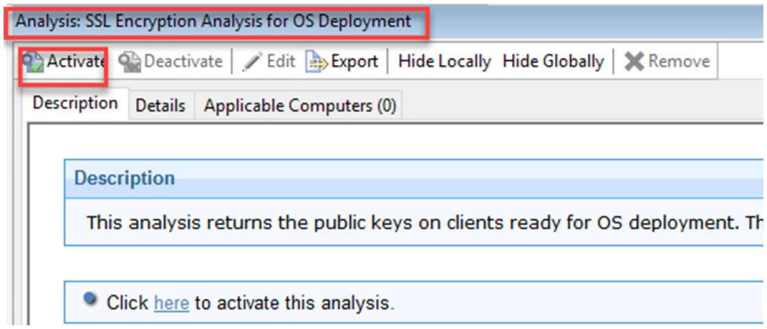
____18. The Health Checks are displayed. For each check, there is a "Results" and "Resolution" section.



There are also indicators of "Pass" and "Fail". We are most interested in the "Fails".

___a. OS Deployment Analyses Activated – Fail

___i. Click on each Analysis provided and "Activate" – Note, you can skip the "Deprecated" analysis

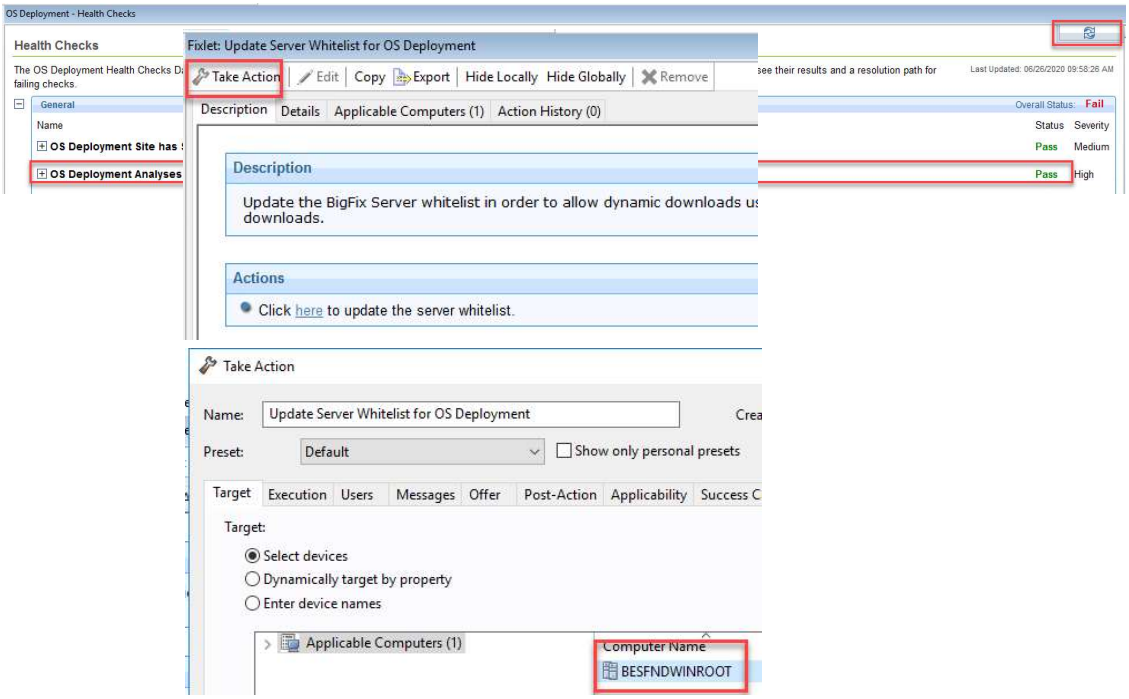


Note: Click on the "Back" button will take you back to your location you were previously at. Once you are done with all five of the Analyses, you can "refresh" the Dashboard (might take a couple of refreshes to reflect the change). Your Health Check Dashboard should look something like this now:

___b. Server whitelist updated – Failed (some of these in your VM might not be in a failed status, if so, skip to the next).

___i. Click on the resolution – "Update Server WhiteList for OS Deployment"

___ii. Take Action is displayed, select your BESFNDWINROOT server as the target and click ok.



___c. Server and Relay Cache Size – Failed

___i. Click on the resolution: "**Warning: Relay setting _BESGather_Download_CacheLimitMB too Conservative**" NOTE: This might take a few more min to become relevant. So, you have to wait for it to become relevant.

___ii. Take the default: …25GB (recommended)

___iii. Select your new Relay and your root server: **BESFNDWINROOT, BESFNDAPPSERVER**

___iv. Wait for the action to complete. Select the back button - twice.

___d. **At least one operating system image uploaded – Failed**

___i. We will skip this check and comeback to it in a bit.

___e. **MDT Bundle uploaded and up to date – Warn**

___i. We will do this in the next exercise.

This completes this section on the Health Check Dashboard.

Exercise 4: Install MDT Bundle Creator

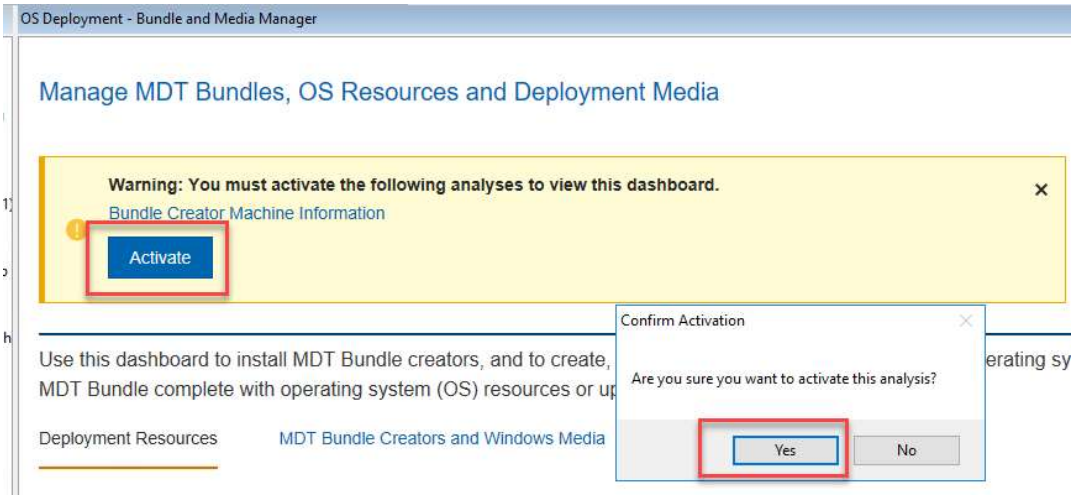
NOTE: There are still some growing pains with the removal of Flash. I fully expect these to get worked out in short order.

____1. TEMP: Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers**

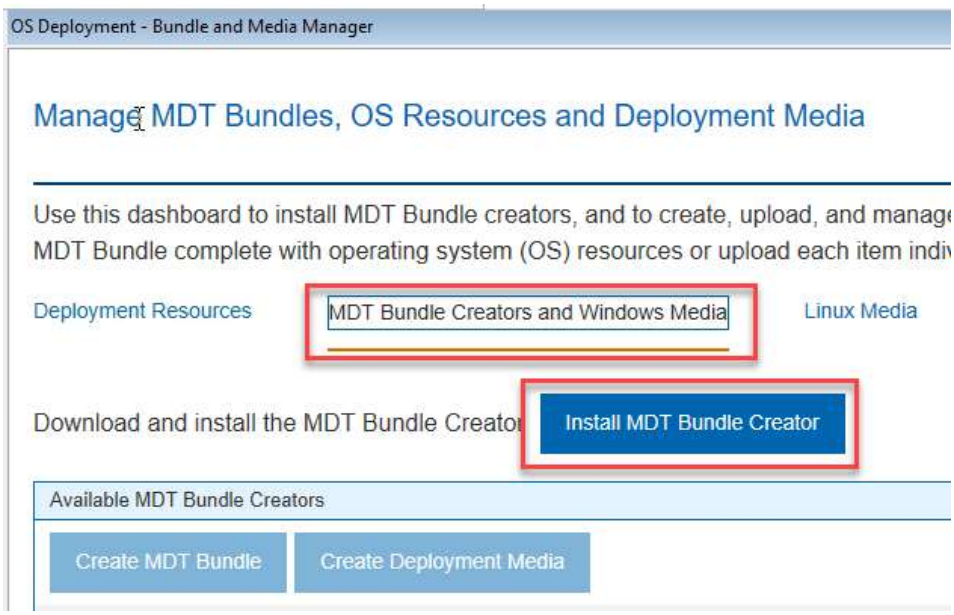
____2. TEMP: Select: **Driver Library** (this takes a couple of seconds to load)

____3. Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Setup -> Bundle and Media Manager Dashboard**

___a. Activate: Bundle Creator Machine Information, click on the Activate button. Confirm Activation.



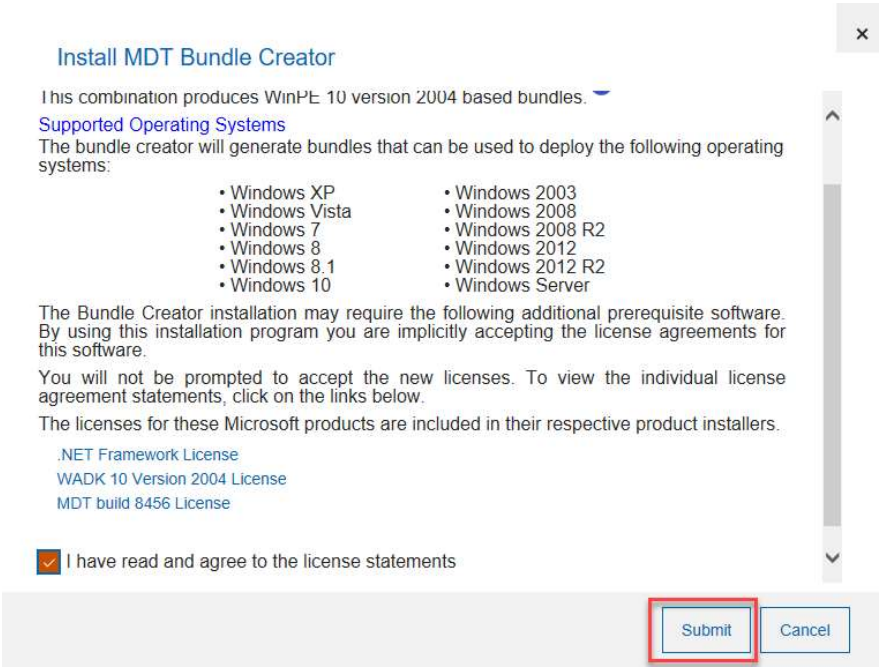
___b. Click on the tab: **MDT Bundle Creators and Windows Media,** then on the button: Install MDT Bundle Creator



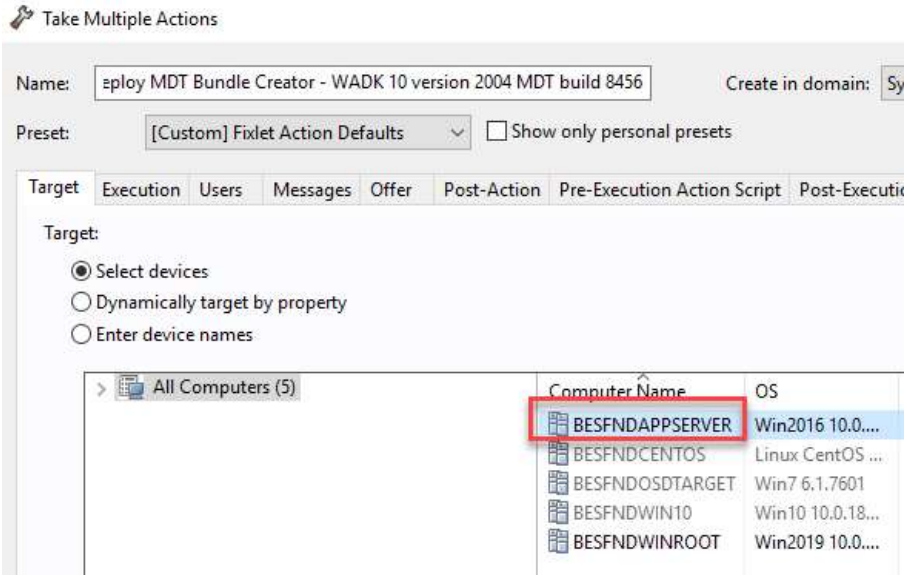
___c. This pops up a window telling you about the version of WADK and MDT.

Note: Remember, newer versions of WADK/MDT can work with older versions of Windows. However, if you have a newer version of OS, and an older version of WADK/MDT, you must wait till a newer version is available. These are Microsoft's rules, not OSDs.

___d. Check the box to accept the license statements and click Submit. Note – you might have to expand the Console window to get the below screen to display the "submit" button.

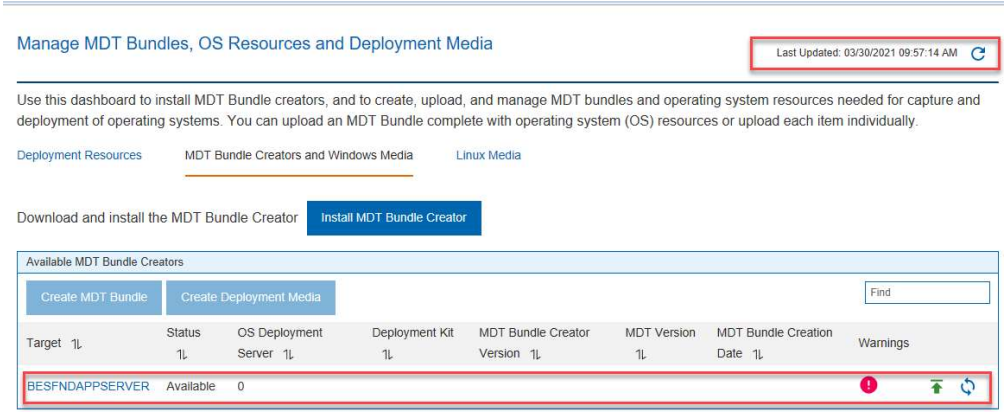


___i. This presents a Take Action, select the **BESFNDAPPSERVER** client to host your MDT creator. In addition, click on the Post-Action tab and select the Restart computer after action completes, see the deadline to 1 min. Click OK. This will take around 15 min.



___ii. Log back into the BES console.

___iii. Navigate to: **OS Deployment and Bare Metal Imaging -> Setup -> Bundle and media Manager.** Click on the MDT Bundle Creators and Windows Media Tab. You should now see your MDT Creator (you may have to hit the manual update button in the upper right corner):

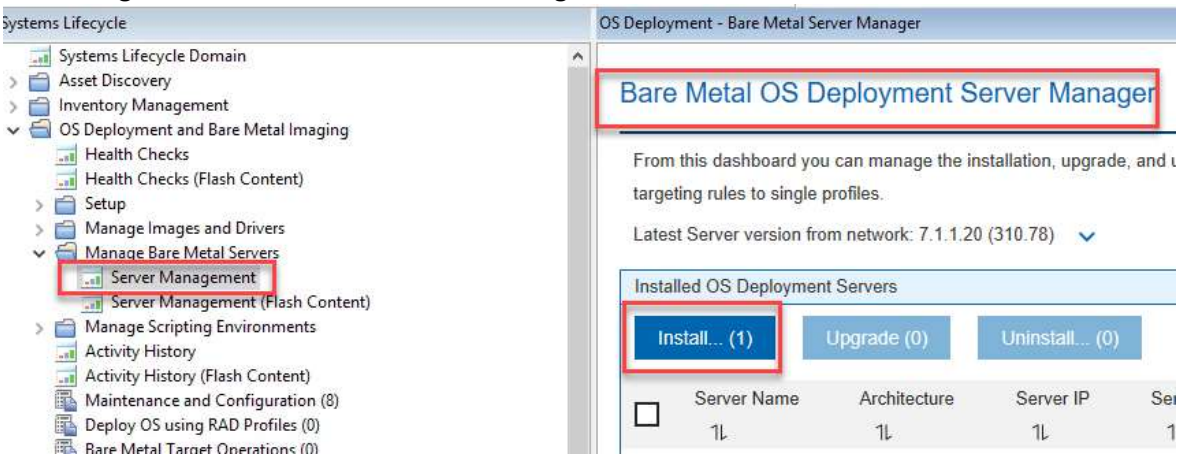


This is as far as we can go with MDT until we install the OSD server. That's the next step in this process.

Exercise 5: Installing the BigFix Bare Metal OS Deployment Server

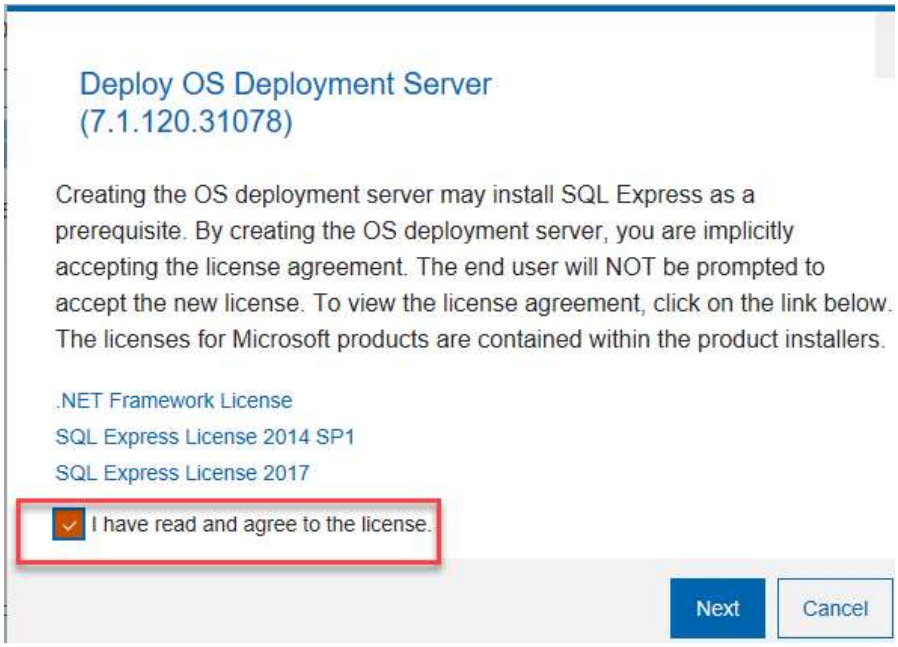
In this exercise, you will install the BigFix OSD server on to the BESFNDAPPSERVER. In-addition, you will also deploy two additional services to support OSD.

____1. Navigate to: **Systems Lifecycle domain -> OS Deployment and Bare Metal Imaging -> Manage Bare Metal Server -> Server Management Dashboard**.

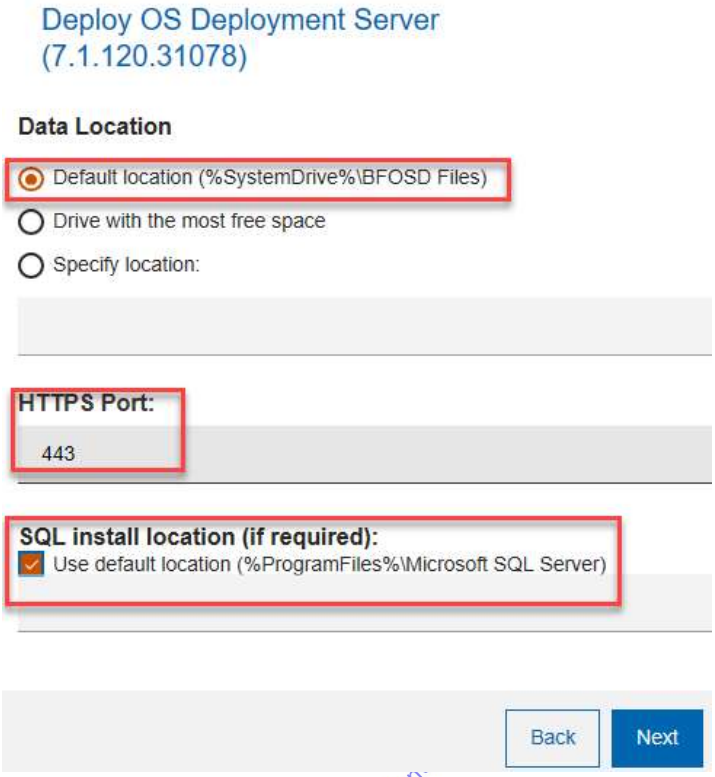


____2. Click on the "Install…(1)" button.

____3. Select the check box "I have read and agree to the license.", click Next.



____4. Accept the defaults for the location, port, and SQL install location. Click Next.

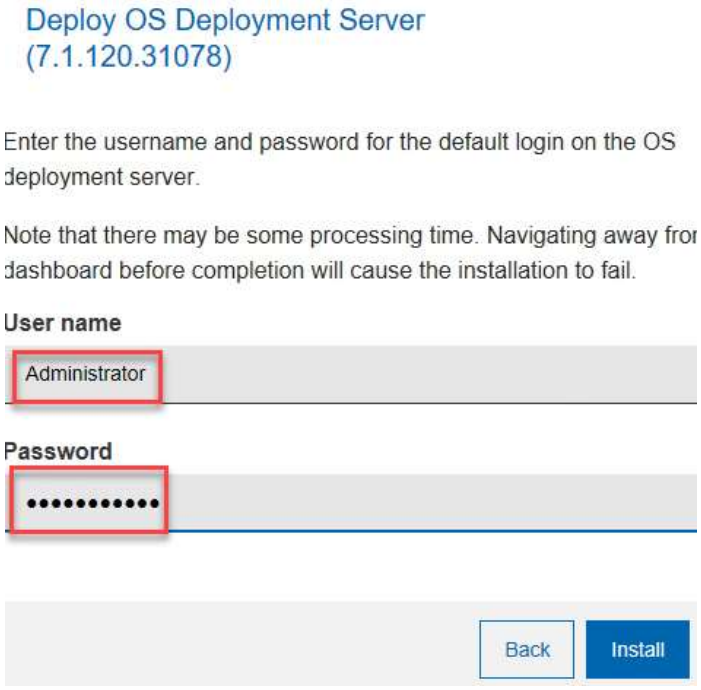


____5. Provide the ADMINISTRATOR (OS) credentials for the target: **BESFNDAPPSERVER**

___a. Username: **Administrator**

___b. Password: **bigfixrocks**

___c. Confirm Password: **bigfixrocks**



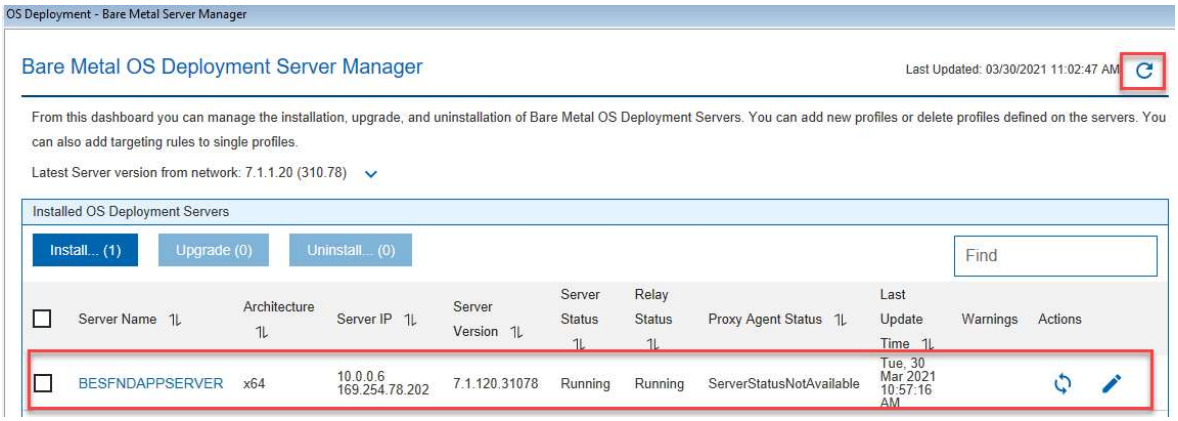
___d. Click Install.

___e. When the "action" opens, select: **BESFNDAPPSERVER** as your target, click OK.

___f. This will take solid 15+ minutes to complete. Wait for the completion.

Note: You can use Baretail on BESFNDAPPSERVER's endpoint log to monitor the progress.

___g. Navigate to: **Systems LifeCycle -> OS Deployment and Bare Metal Imaging -> Manage Bare Metal Servers -> Server Manager**, you should see something like this (good chance you will have to hit the screen refresh in the upper right corner):



You now have a OSD server deployed!

Exercise 6 – Configure OSD Resources

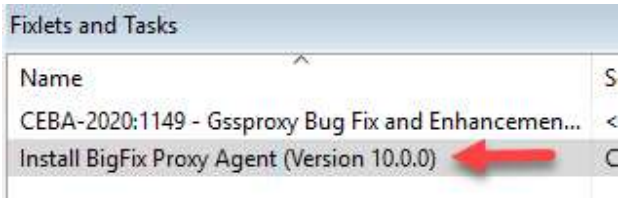
There are several resources needed to support Bare Metal Imaging. This exercise will take you through those steps.

____1. Deploy the Proxy Agent and the Management Extender.

___a. Navigate to: **All Content Domain -> Fixlets and Tasks**

___b. Search for: **Proxy**

___c. Select: **Install BigFix Proxy Agent (Version 10.0.2).**



___d. Click: Take Action and select: **BESFNDAPPSERVER**, click OK and wait for this to complete.

___e. Click the "Back" button.

___f. In the search, change Proxy to **extender**

___g. Select: **Deploy Management Extender for Bare Metal Targets**. This WILL take a number of min to become relevant, so, sit tight.

___h. Take Action, and select the server: **BESFNDAPPSERVER**, click ok and wait for this to complete.

Now that you have deployed the Proxy and the Mgmt Extender, looking back at the Bare Metal server dashboard we now see:

This completes the installation of the Proxy and Mgmt extender.

Exercise 7: Create MDT Bundle

____1. Now we must create the actual MDT bundle from the MDT Creator that was previously deployed. For MDT to work correctly, you also need to provide the OS(s) you plan to have OSD deploy. MDT must create something like an "index" of the OS. You will find the media for this on the target: **BESFNDAPPSERVER** The path is: **C:\ISOs.** Because this takes a longgggg time to complete. These resources have been created and made available for this course. This set of instructions is for your reference for when you get back to the office. Thus, the steps that are no longer required for this course have been marked COMPLETED.

Note: You must do these imports <u>one at a time</u>. MDT gets totally confused if you try to import multiple OS's at the same time.

___i. COMPLETED: Login to the server: **BESFNDAPPSERVER**

___ii. COMPLETED: User: **Administrator**

___iii. COMPLETED: Passwd: **bigfixrocks**

___iv. COMPLETED: Open the BigFix Console (shortcut on desktop).

___v. COMPLETED: User: **adminmo**

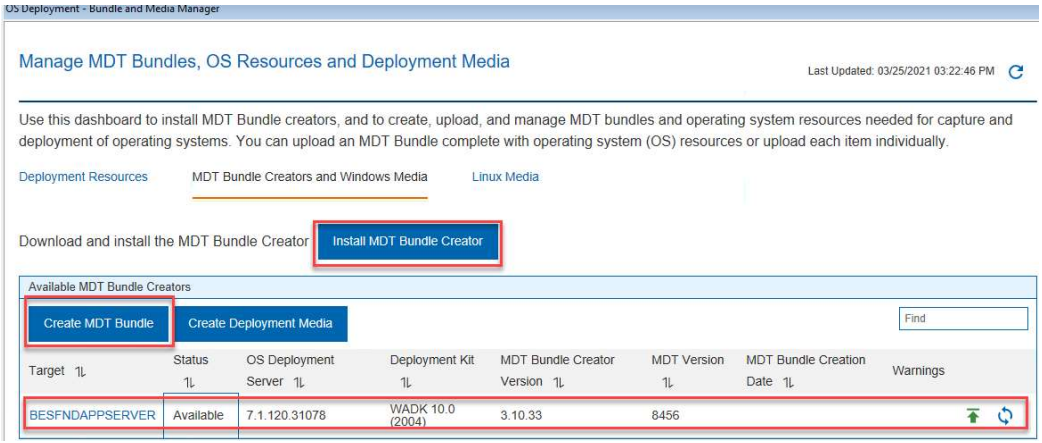
___vi. COMPLETED: Passwd: **B1gfixrocks**

___vii. COMPLETED: Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Setup -> Bundle and Media Manager Dashboard**

___viii. COMPLETED: Select the tab: **MDT Bundle Creators and Windows Media**

___ix. COMPLETED: Select the target: **BESFNDAPPSERVER**

___x. COMPLETED: Click the button: Create MDT Bundle

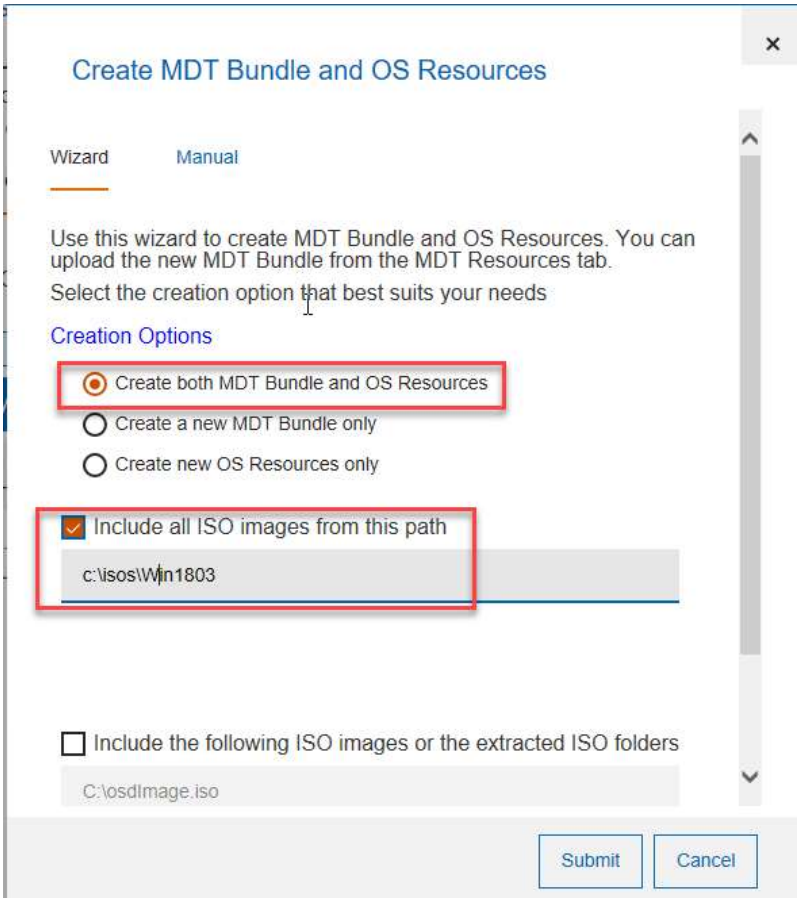


___xi. COMPLETED: Select: Create both MDT Bundle and OS Resources

___xii. COMPLETED: Select: Include the following ISO images or the extracted ISO folders:

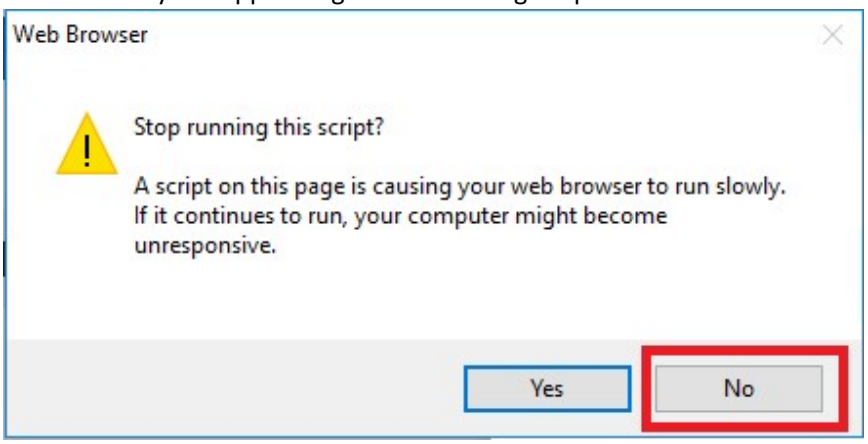
____2. COMPLETED: Use: C:\ISOs\Win1803

____3. COMPLETED: Click: Submit (this will take a solid 30 or more min).



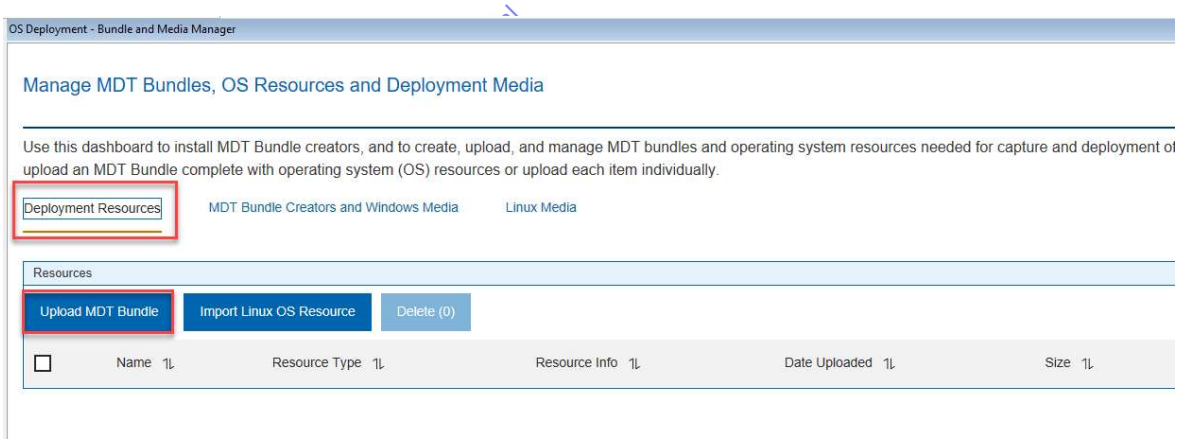
Note: You can monitor the BESFNDAPPSERVER's endpoint log to watch the install process and how it creates the bundle.

Note: If you happen to get the following script error select no:



Once that completes, you need to import the bundle

You should still be on OS-Deployment and Bare Metal Imaging -> Setup -> Bundles and Media Manager.



____4. Navigate to: **OS-Deployment and Bare Metal Imaging -> Setup -> Bundles and Media Manager**

____5. Select: **Deployment Resources tab**

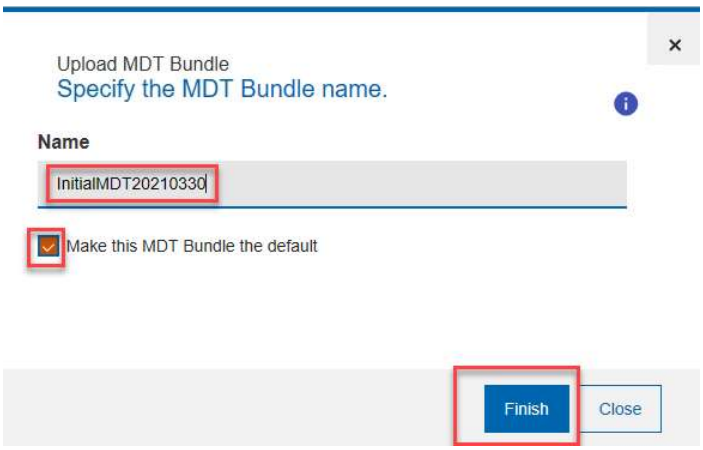
____6. Click on the: **Upload MDT Bundle button**

____7. Browse to: **C:\ISOs\W10X64RID1803_MDTBundlev8456\Deploy**

____8. Leave the Overwrite Pre-Installation Environments set to **AUTO**

____9. Click Upload.

____10.Finally, provide a name for this bundle, use: **initialmdt<todays date>** (this is an example, use the current date when working this lab, don't include the <>). Also, ensure the box is checked: Make this MDT Bundle the default. Click Finish, this takes a few min.



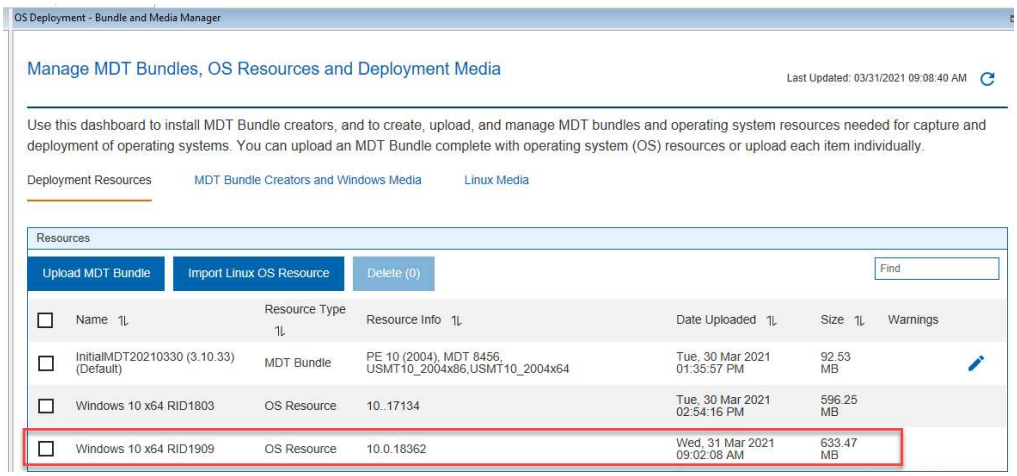
This completes the import of the MDT bundle and the OS resource for Win10_1803

We will go through this process one more time to import the OS: Win1909. Note – the create MDT bundle takes a good 45 min to do. So, to save time, the OS resource for Win1909 has been created for you.

___a. From the **OS Deployment – Bundle and Media Manager**, select: **Deployment Resources Tab**
___b. Click: **Upload MDT Bundle**
___c. Browse to path: **C:\ISOs\W10X64RID1909\ W10X64RID1909**
___d. Check **AUTO** for the Overwrite Pre-Installation Environments radio button**.**

___e. Click: Upload, this will take about 4 min.

___f. Once that completes, click on the Dashboard refresh button (arrow chasing itself) in the upper right corner. Your screen should look something like this:



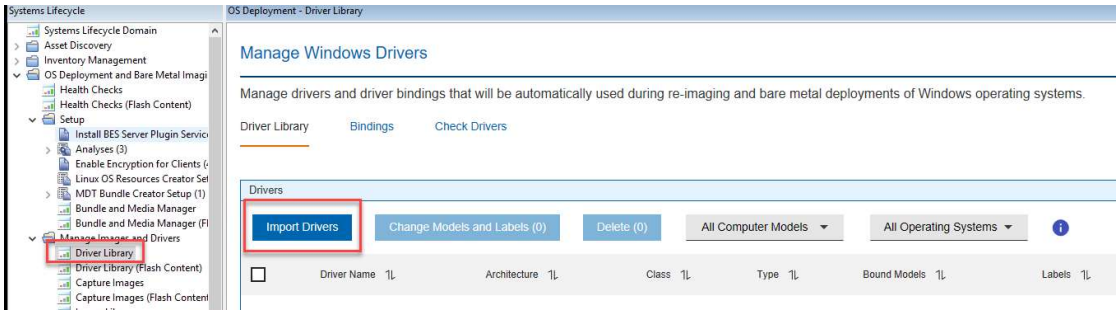
This completes the MDT Bundle process.

Exercise 8: Import “drivers” for OSD

NOTE: Here is the reason you needed to deploy the Proxy and Mgmt Extender - OSD needs to know what Drivers it needs to deploy when it does a Bare Metal deploy to a target. When a potential endpoint PXE boots, this extender analyses data from this endpoint. Though this analysis, OSD knows what drivers it needs to supply to the endpoint.

____1. Import Drivers – Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Driver Library Dashboard**

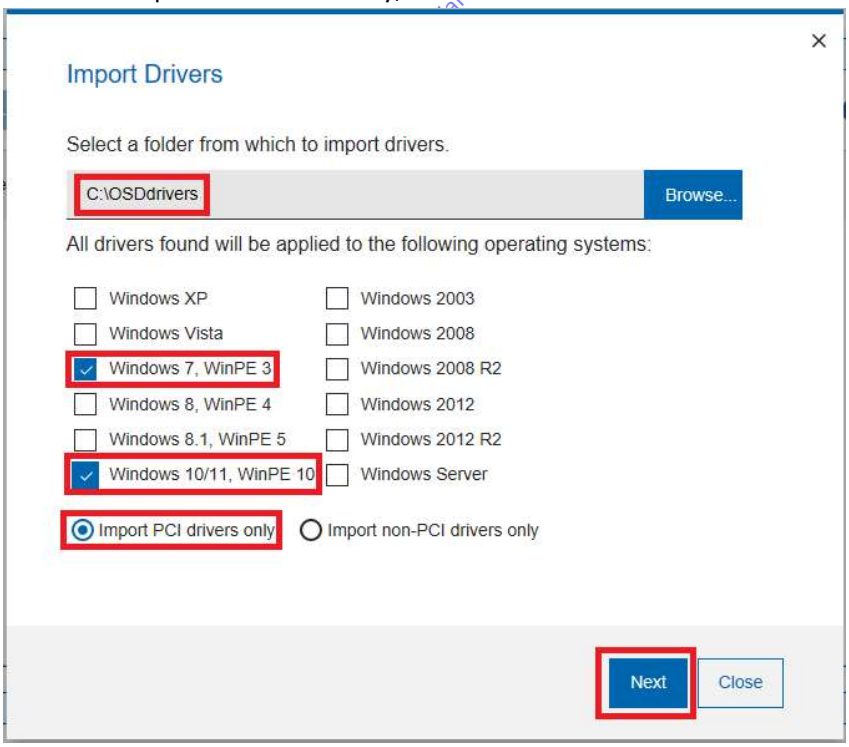
___a. Select: Import Drivers



___b. Browse for the drivers, use the path: C:\OSDdrivers

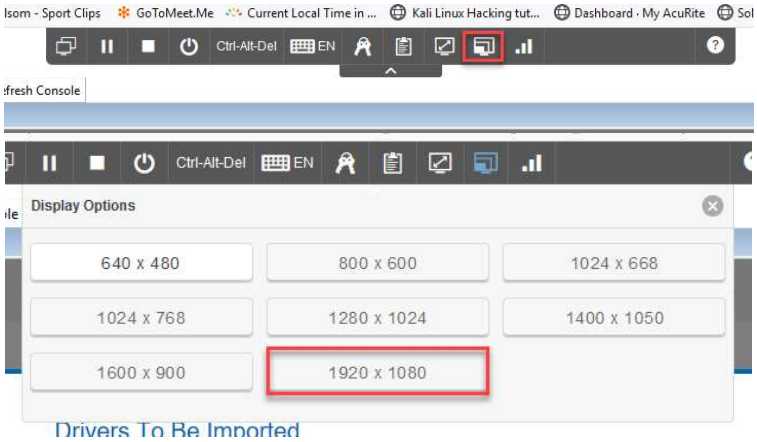
___c. Select the os: Windows 7, WinPE3 and Windows 10, WinPE10

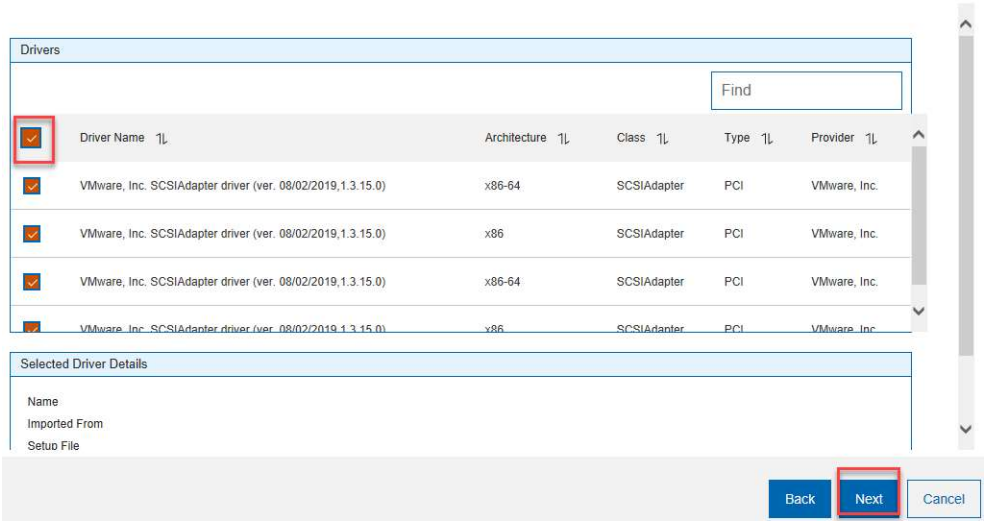
___d. Click: Import PCI Drivers Only, click Next. This takes several minutes.



___e. You will be presented a listing of drivers. Click on the check box to grab all of the drivers, the “next” button will activate, click Next.

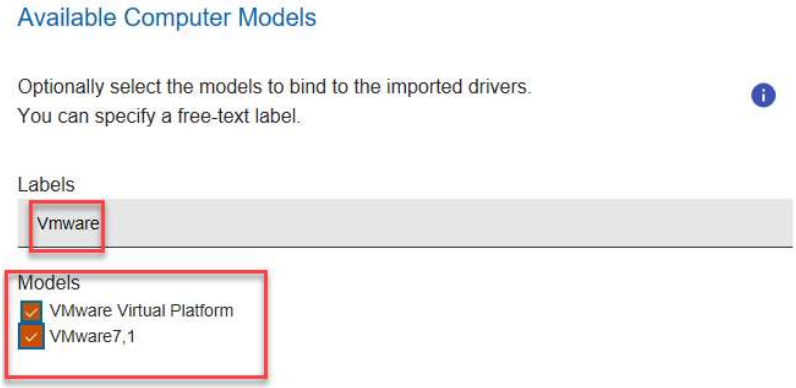
NOTE: Good chance you will have to play around with the video to get the “NEXT” button to show up. In my env, I had to click on the Skytap “Change Resolution” button and selected 1920x1080. Then I was able to use the far right scroll bar to scroll down to see the “next” button.

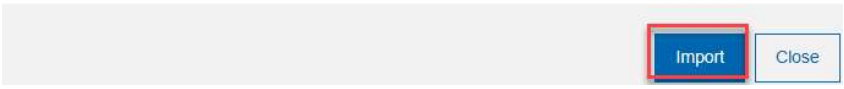




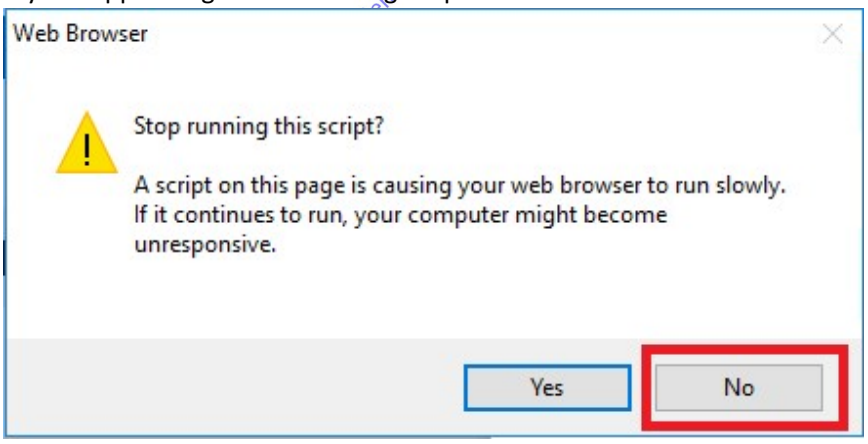
___f. Provide a Label for this driver set use: Vmware

___g. Check the boxes: VMware Virtual Platform, VMware7,1 (you may have only one) and click Import.



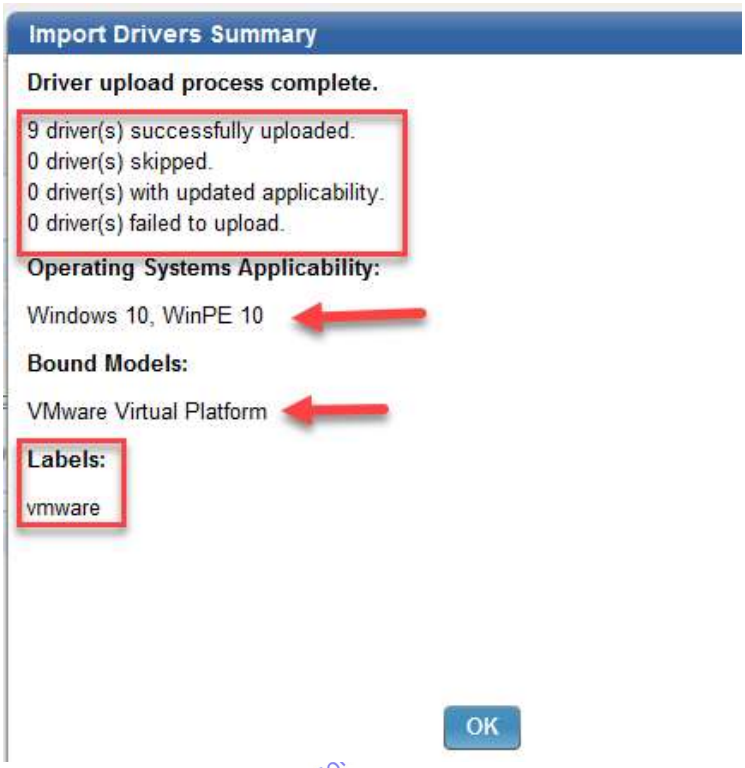


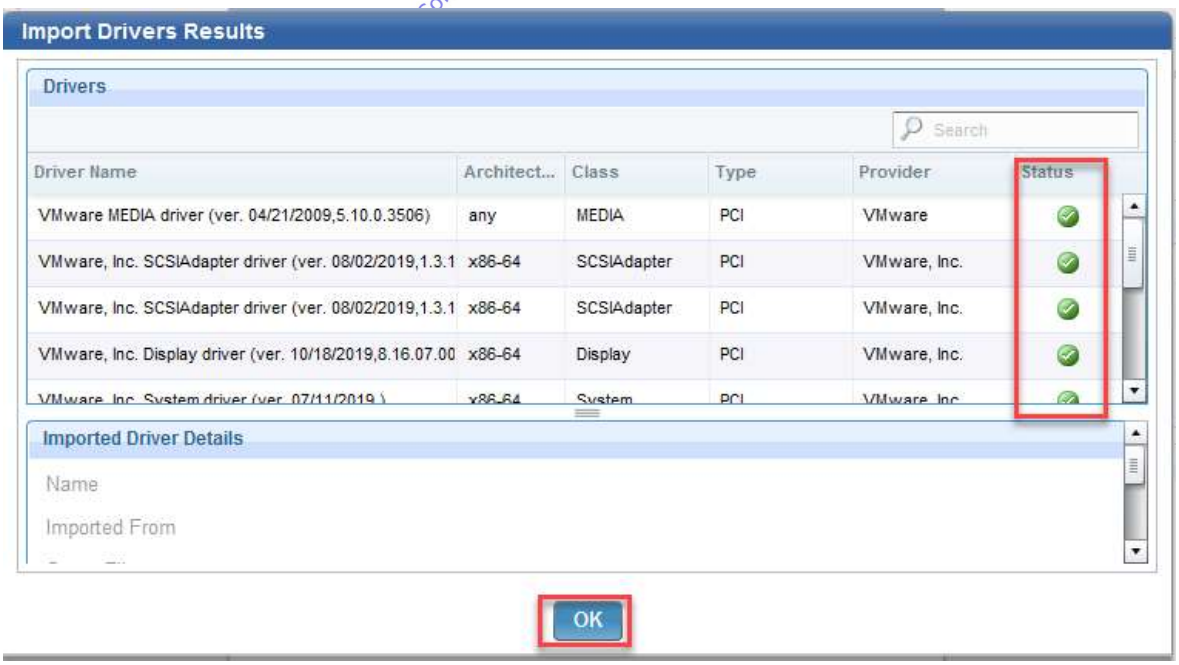
If you happen to get the following script error select no:



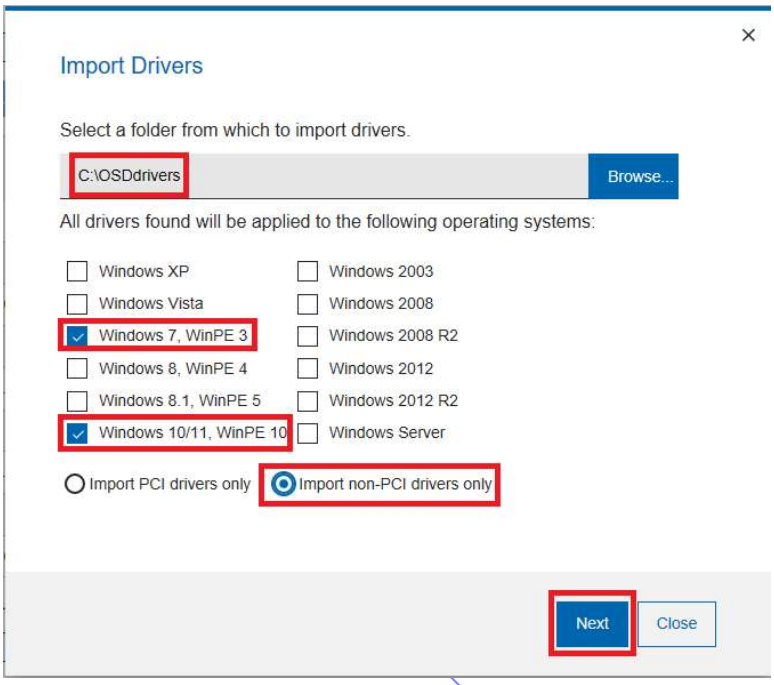
___h. You are presented with a listing of imported drivers, status should be green, click OK.

___i. Finally, you are presented with the driver import summary:





___j. Repeat steps: a-i with one change. Instead of importing PCI drivers, you need to import non-PCI drivers.



This completes the Driver Import section.

Exercise 9: Import the OS(s) you plan to deploy using OSD.

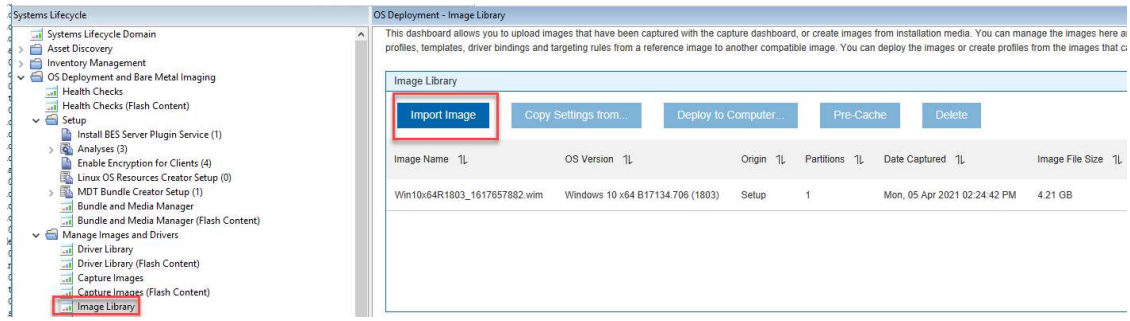
Note: This process is super intensive on the server. For speed, you may need to temporally disable AV/<malware tools>. If you don't the OS import will take multiple hours, good chance it will fail due to timeouts. In this lab we tell MS Defender to exclude our OSD/BES directories.
Note: OSD allows you to import one of each OS flavor. You are not allowed to import multiple copies of the same OS.

____1. Microsoft Defender – Exclude Directories
- ___a. Open Windows Settings
- ___b. Select Update & Security
- ___c. Select Windows Defender
- ___d. Scroll to the Exclusions section, click: Add an Exclusion
- ___e. Add the following directories (some might already be excluded):
  - ___i. C:\BFOSD Files
  - ___ii. C:\ISOs
  - ___iii. C:\OSDdrivers
  - ___iv. C:\OSDSETUP
  - ___v. C:\Program Files (x86)\BigFix Enterprise
  - ___vi. C:\Users\Administrator\OSDeployment
  - ___vii. C:\Users\Administrator\AppData\Local\BigFix\Enterprise Console
  - ___viii. Close the panel.

____2. **Turn off Windows Firewall** (OSD will open a number of ports, so, to make life easy, we will turn of the firewall instead of editing a bunch of ports).
- ___a. Click on the Windows Start button
- ___b. Find the: Control Panel Tile
- ___c. Launch the Control panel
- ___d. Navigate to System and Security
- ___e. Select Windows Firewall
- ___f. On the left side of the panel, select: Turn Windows Firewall on or off
- ___g. Select the radio buttons to TURN OFF the firewall for both the Public and Private networks.
- ___h. Click OK
- ___i. Close the Windows Firewall

____3. Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers –> Image Library Dashboard**

___a. Click: Import Image

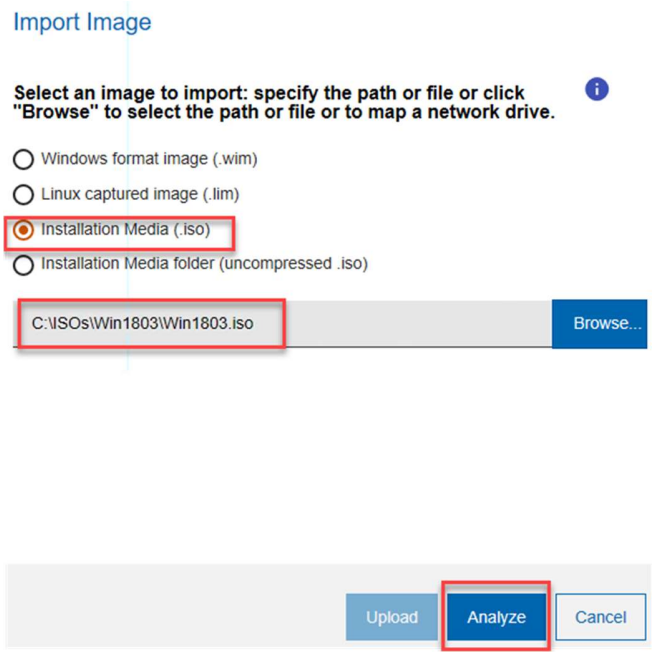


___b. Select: Installation Media (.iso)

___c. Browse, use the path: C:\ISOs\Win1803\Win1803.iso

___d. Click: Analyze (this takes several, several minutes)

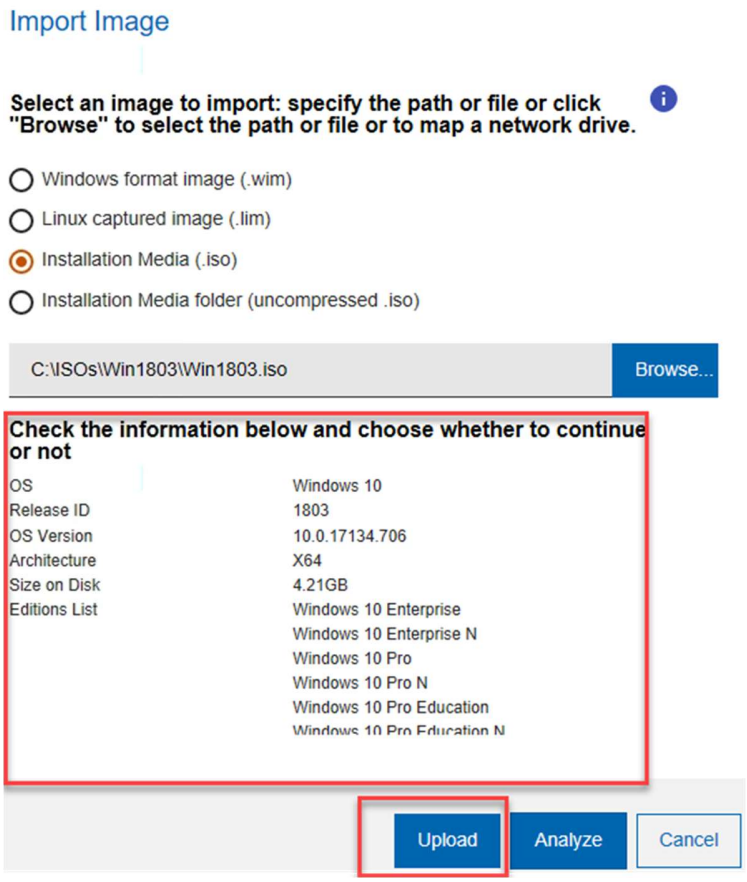
Note: While this is processing, you must leave your console alone, you can't go off and do other BigFix things during the processing!



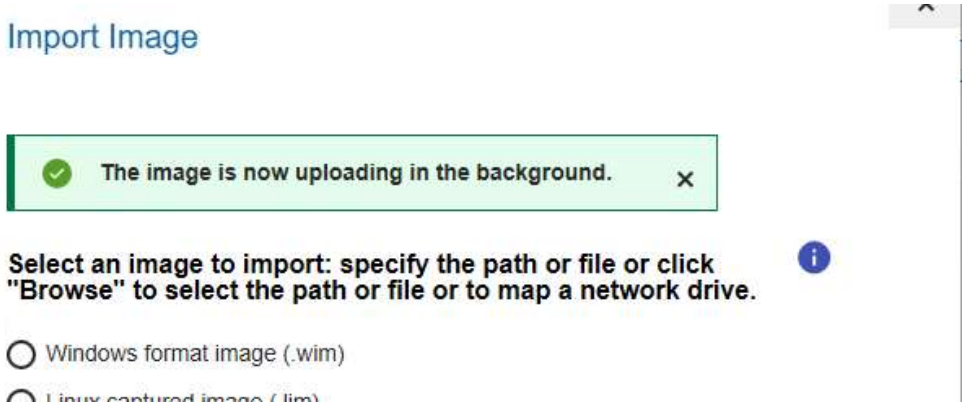
Note: This is an intensive process. It will take a full cpu to extract and process the ISO.

While this import process is running you will have multiple screens that need your attention.

___e. Once the analysis is complete this screen will be presented. Notice – the Upload button has now gone from light-blue to dark-blue and is “clickable”. Click the Upload button.



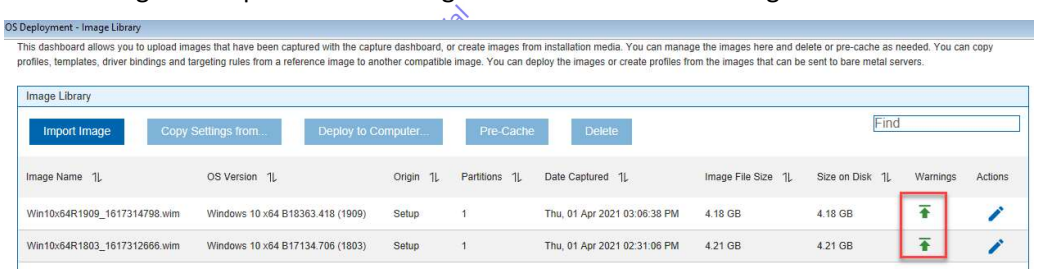
___f. Upload takes time… to “copy the resources locally”, you can click on the Close button and close this dialog box:



This completes the import of Win1803.

We now need to rinse and repeat to import the Win1909 image. You will re-do the previous step 2a-2f however, you will use the path:
C:\ISOs\Win1909

The images will upload in the background it will look something like this:

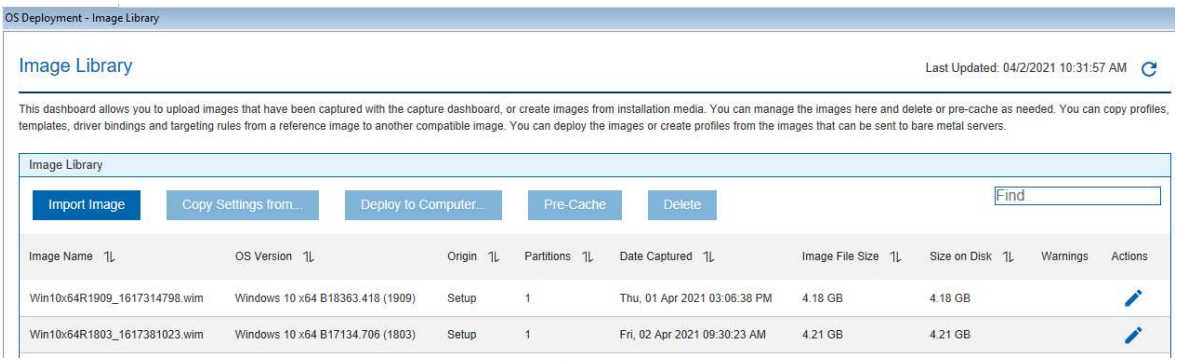


This completes the Importing of images.

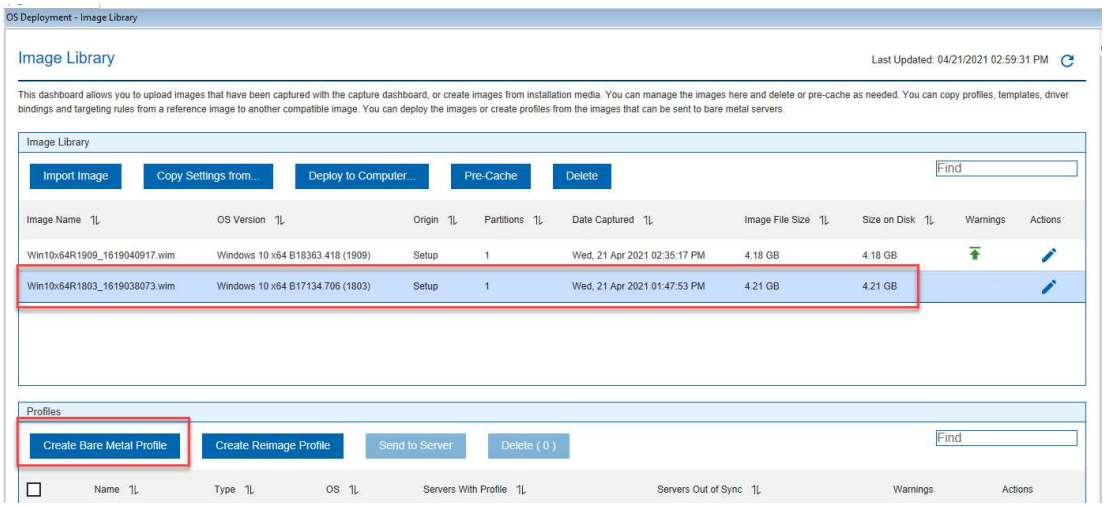
Exercise 10: Create OSD Profiles

Next is to create “profiles” for the images you just imported. Unlike images, you can have as many profiles as you need. Profiles allow you to customize the image. Profiles are very small. For example, you need the OS to be based on the German language, use the German TimeZone, use a German keyboard. Another example, you have an image of Win2019-DataCenter, you can apply a password to this image, now, only administrators that have this password will be able to deploy this expensive version of Windows OS.

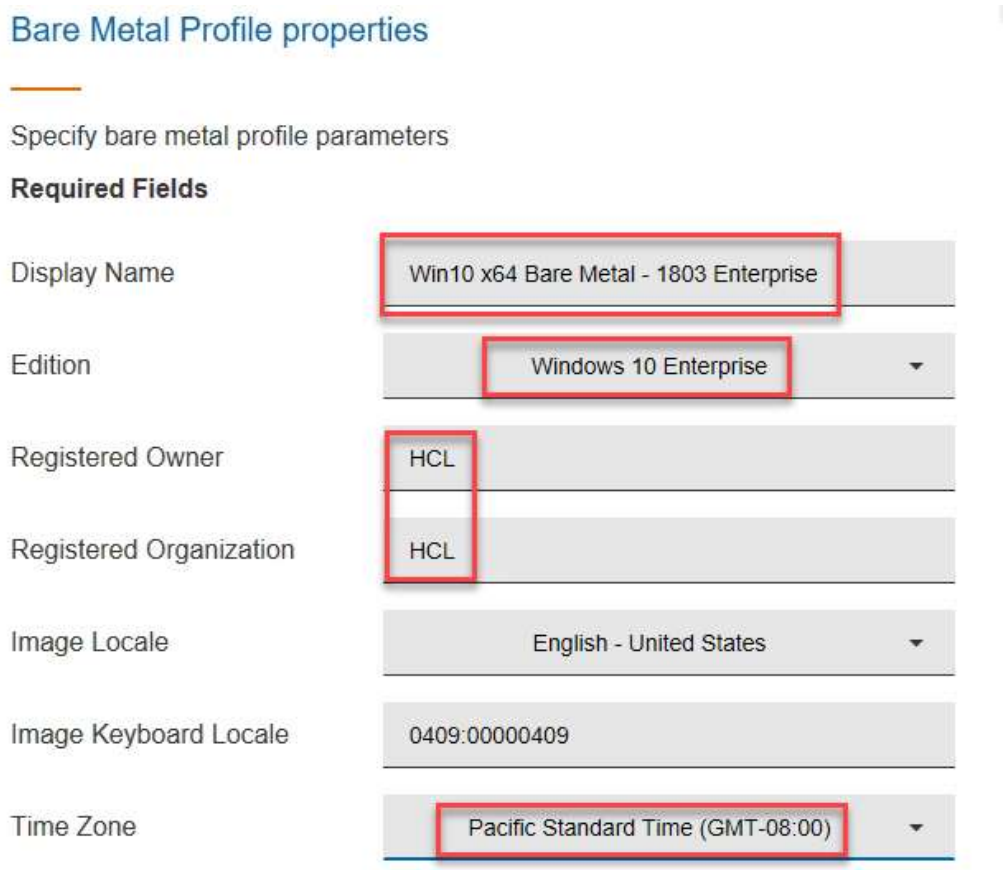
____1. Navigate to: Systems Lifecycle -> **OS Deployment and bare metal imaging -> Image Library**. In this example are the two OS’s that were just imported:



____2. Select the Windows 1803 wim file. This causes OSD to active the Profile section.



____3. Click: Create Bare Metal Profile. The profile screen is presented. This screen will be presented in four parts. Part 1:



___a. Display Name: Change this to match the flavor of the OS you are deploying. In this example replace: <some number string>.wim with: 1803 Enterprise. The new string should look like this: **Win 10 x64 Bare Metal – 1803 Enterprise**

___b. Edition: This is a drop down. Select: **Windows 10 Enterprise**

___c. Registered Owner: **HCL**

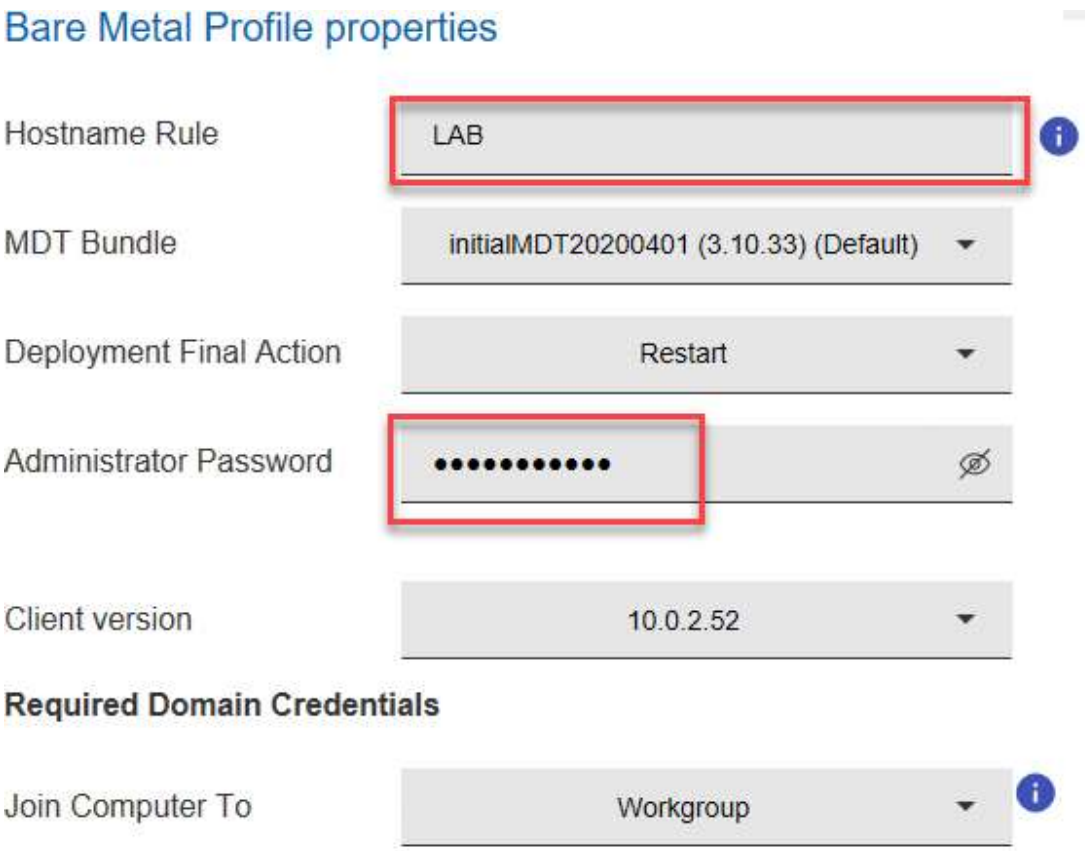
___d. Registered Organization: **HCL**

___e. Image Local (default): **English – United States**

___f. Image Keyboard Local (default): **0409:00000409**

___g. Time Zone: use your local TZ

Part 2:

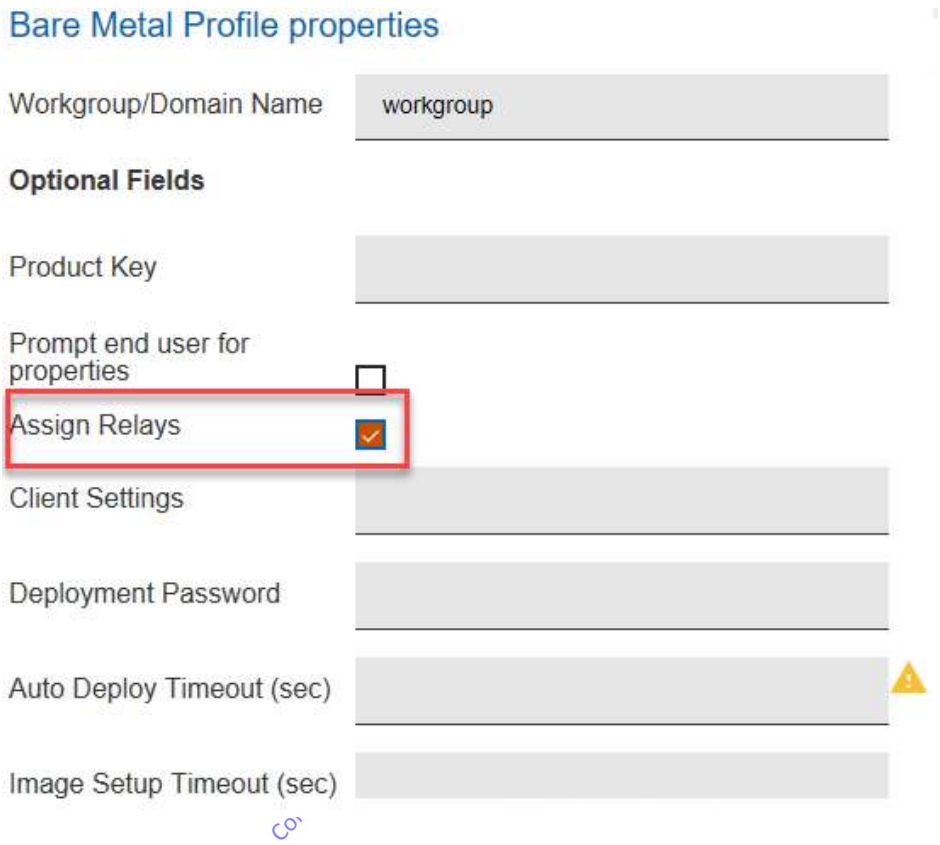


___h. Hostname Rule: **LAB**

> **Note**: Hostname rules can be made up of IP, MAC, UUID, SN, AT, BBSN. OSD will fill out the name to match MS Dos's rules for names, i.e., thirteen chars. Check out the icon to the right of the hostname rule to see a more complete explanation.

___i. MDT Bundle (default): **initialMDT<date_version>(Default)**
___j. Deployment Final Action (default): **Restart**
___k. Administrator Password use: **bigfixrocks**
___l. Client version (default): 10.0.2.52
___m. Join Computer To (default): Workgroup

Part 3

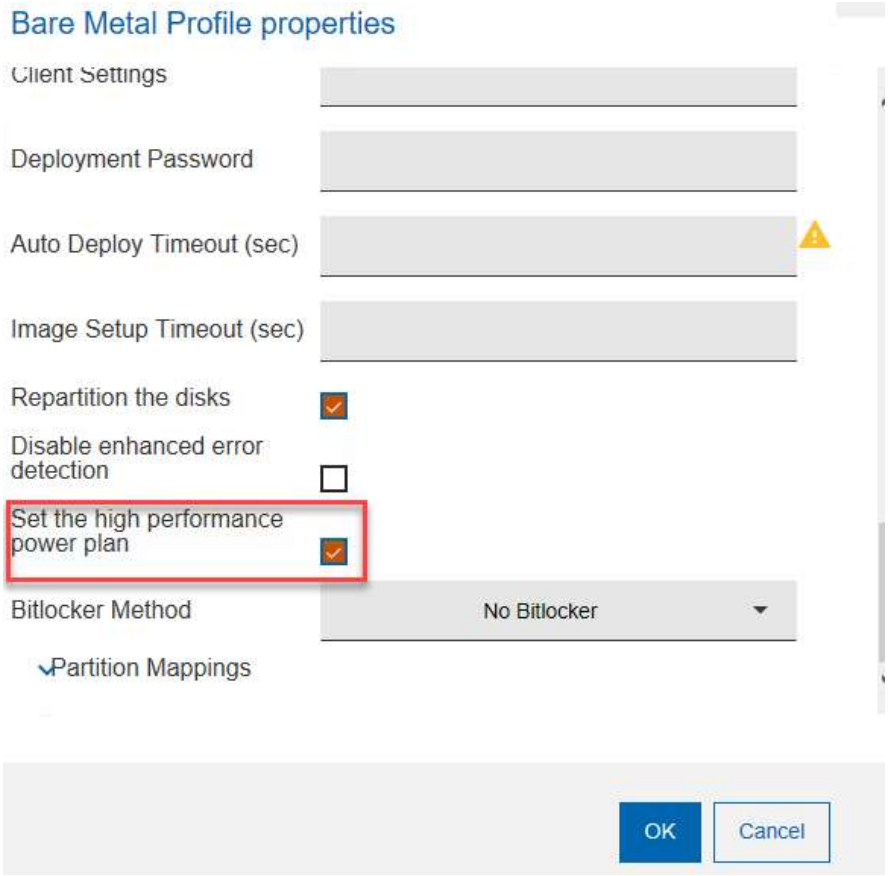


___n. Check the box for: Assign Relays

___o. Everything else take the default, so your screen should look like the above.

Part 4

___p. Set the high performance power plan: check the box.



Optional – To force the target to be in "full screen mode", select the tab: Manual

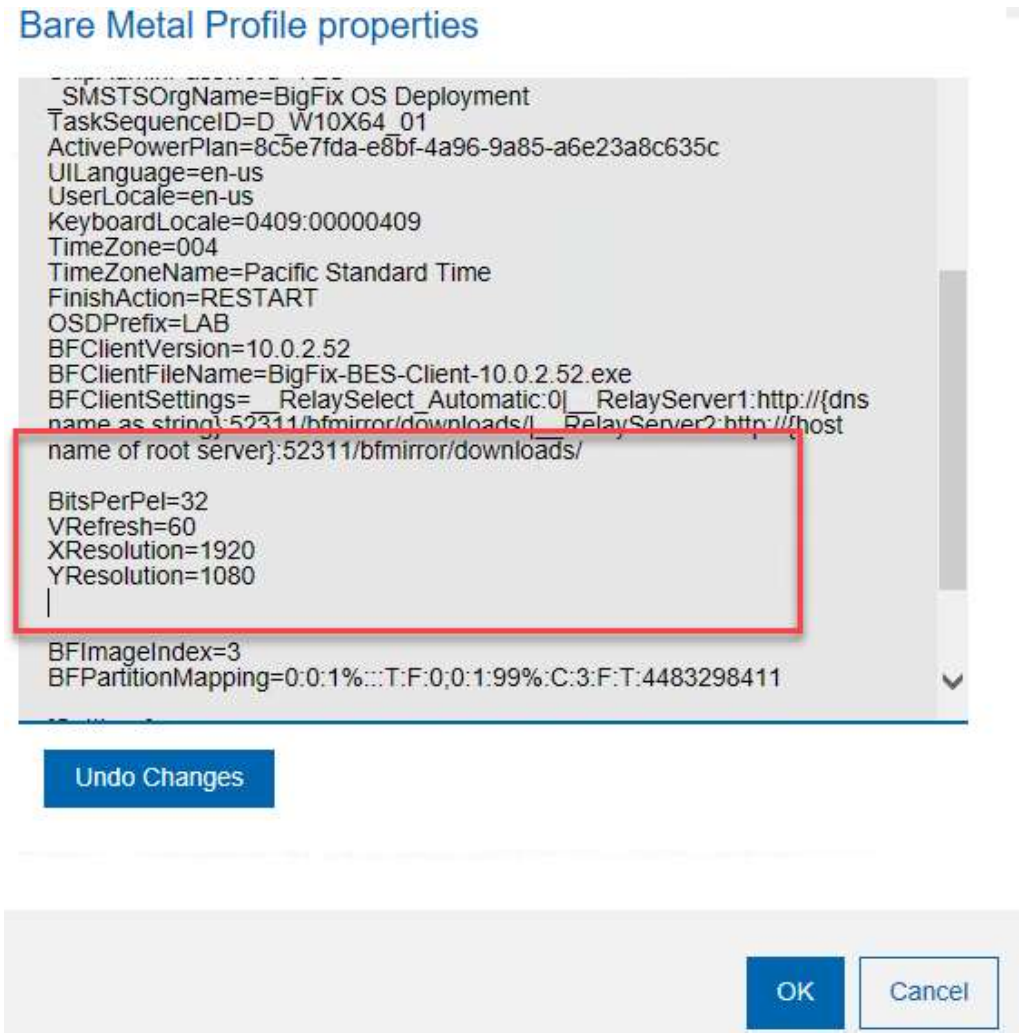
___q. Scroll to the bottom. Find the line: server}:52311/bfmirror/downloads/

___r. Place your cursor at the end of this string, press enter twice.

___s. Paste this block into your editor:

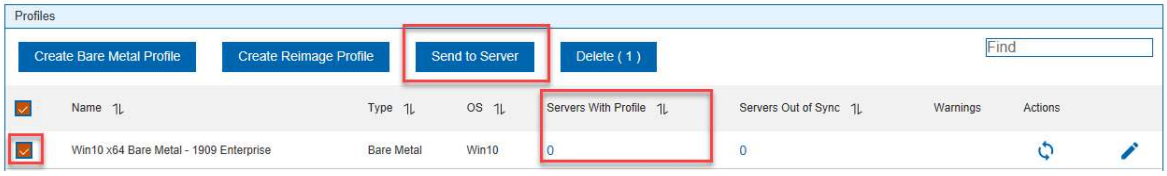
BitsPerPel=32
VRefresh=60
XResolution=1920
YResolution=1080

Your screen should now look like this:

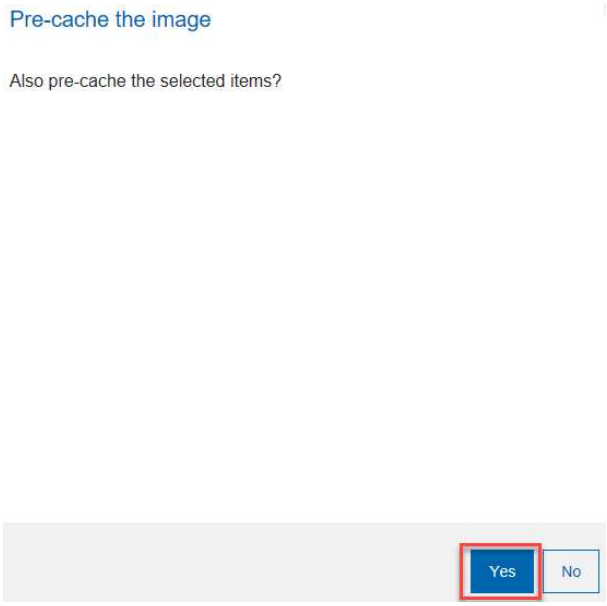


Click OK. The profile is created.

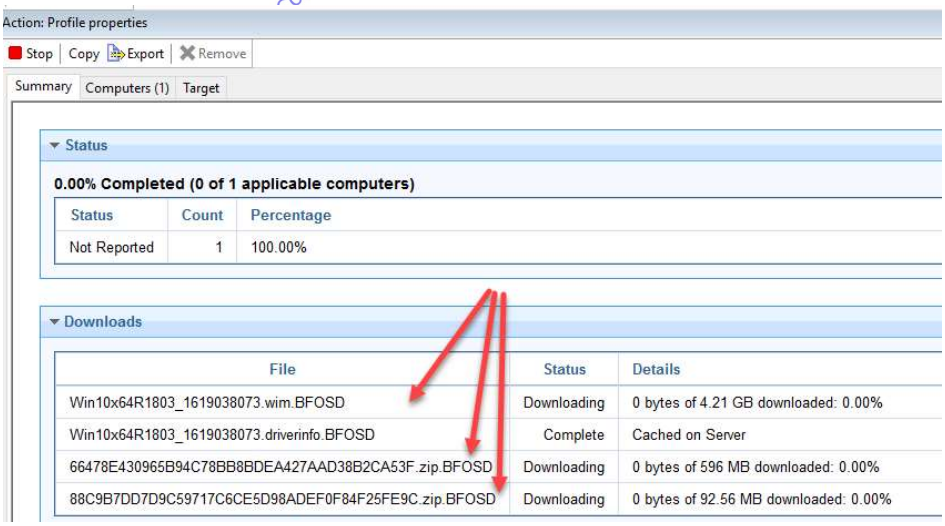
___t. Select the profile and click on the button: **Send to Server**



___u. Pre-Cache: **YES** (not a hard requirement, but, it speeds things up by pre-caching the WIM file to the OSD Relay. If you don't pre-cache, OSD will make the copy, just slows down the bare metal process).



___v. Take Action: select the server **BESFNDAPPSERVER**
___w. Click **OK**. This will take a good 20 min.
___x. You can monitor the "action".

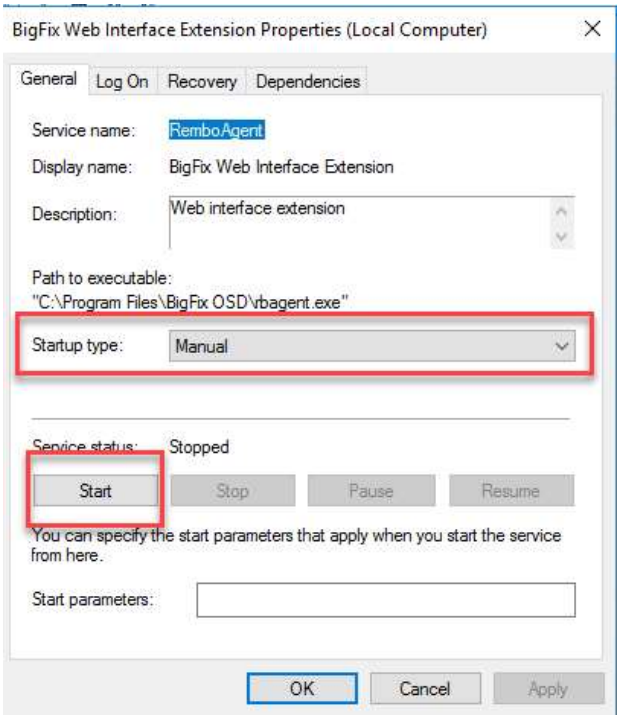


This completes the creation and deployment of the OSD Profiles.

Exercise 11: Fine Tune OSD and TFTP

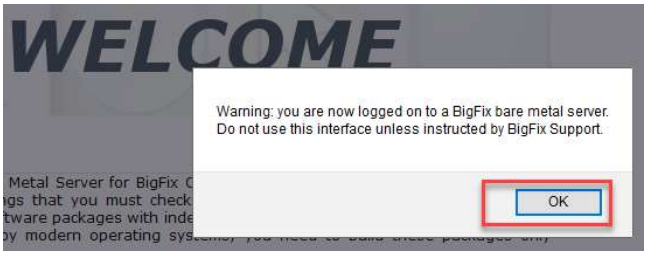
OSD uses TFTP (Trivial File Transfer Protocol) to deploy the WIMs and drivers to the target system. The default out of the box settings are too slow. Changing these settings will greatly improve the speed of OSD.

____1. Open: **Services.msc**
____2. Locate: **BigFix Web Interface Extension**
____3. Right-click: **Open Properties**
____4. Change Startup Type to: **Manual**
____5. Click: **Apply**
____6. Click: **Start**



____7. Click: **OK to close this dialog.**
____8. Open: **Firefox**
____9. Use this url: http://localhost:8081
____10. Click: **Advanced**
____11. Click: **Accept the Risk and Continue**
____12. This opens the initial ULA for OSD, Click: **I accept**
____13. Login to the OSD Webui:
- ___**a.** User ID: **Administrator**
- ___b. Password: **bigfixrocks**
- ___c. Don't save the password

____14.Click OK to accept the Warning dialog



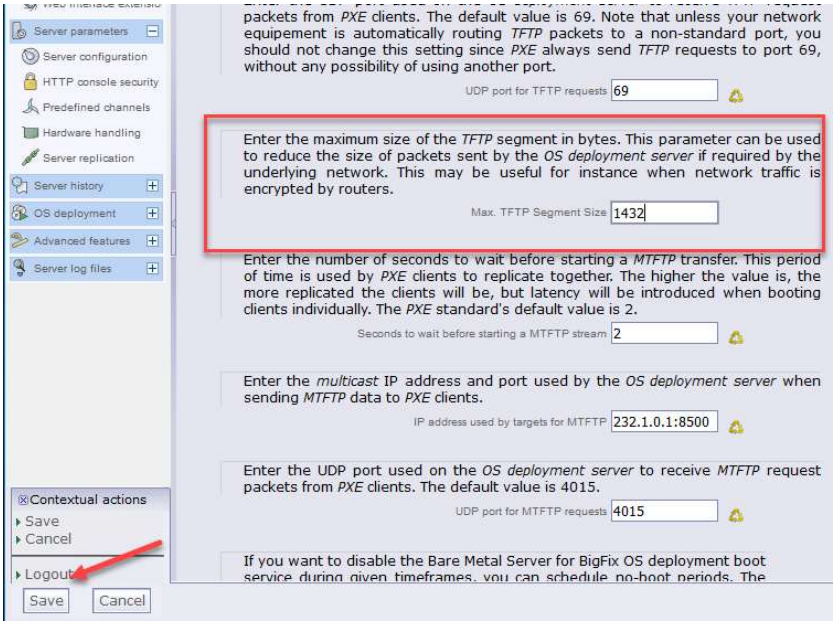
____15.On the far left side of the page, select: Server Parameters

____16.Server Parameters opens, select: Server Configuration

____17.Scroll down to: Boot Module and click the EDIT button

____18.Locate: Max. TFTP Segment Size

____19.Change the current value (512) to: 1432



____20.Click: SAVE

____21. Close the OSD Web Interface (do not restart the OS Deployment Server, we still have one more config to do).

____22.Navigate to: **Systems Lifecycle -> All Systems Lifecycle -> Fixlets and Tasks**

____23.In the search window enter: **tftp**

____24.Select the task: **Bare Metal WinPE Tftp Settings**

____25.Click on the Description tab

____26.Use the following settings:

___a. Select **ramdiskTftpWindowSize: 4**

___b. Select **ramdiskTftpBlockSize: 1432**

___c. Select **WinPE Type: PE10**

___d. Select **If permanent tftp: false**

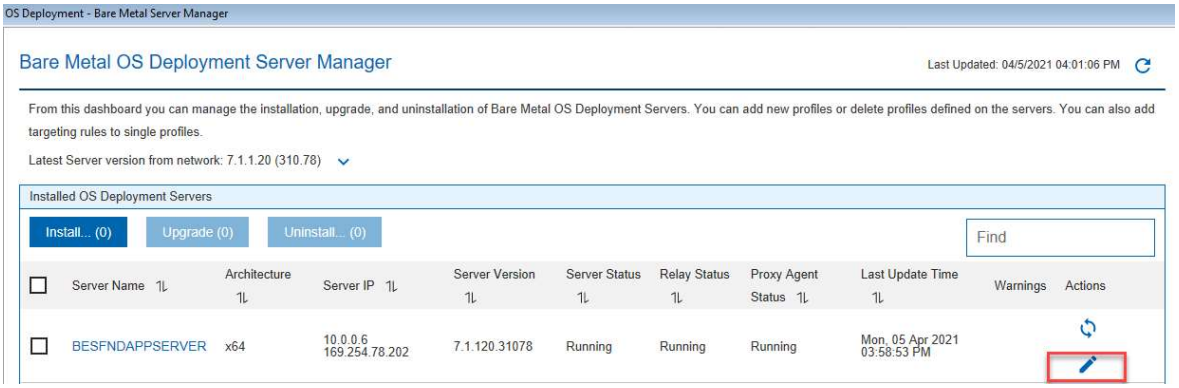
___e. Take Action: select the server: **BESFNDAPPSERVER**

___f. Click **OK** wait for this to complete.

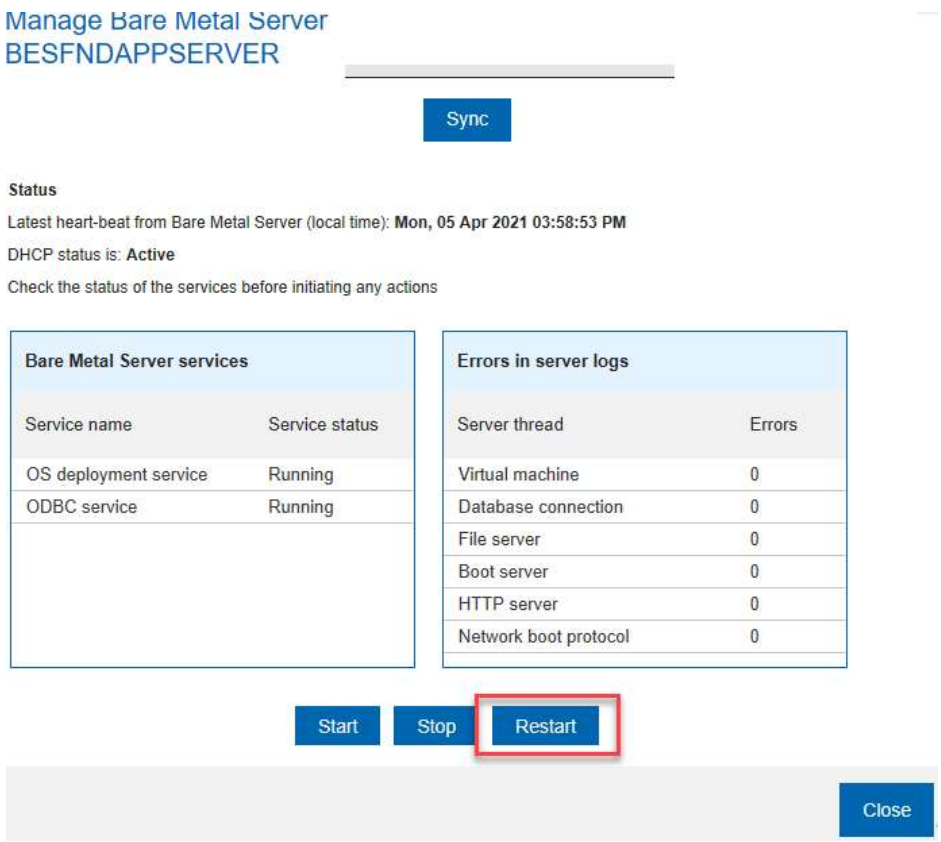
___g. Navigate to: **Systems Lifecycle -> OS Deployment and bare metal imaging -> Manage Bare Metal Servers -> Server Management Dashboard**

___h. Select: **BESFNDAPPSERVER**

___i. Click on the “pencil” icon



___j. Scroll to the bottom and click the button: **Restart**.



___k. **Take Action**: Select the server **BESFNDAPPSERVER**, and click **OK**, wait for the process to complete.
Note: You will have to navigate to the "actions" section under All Systems Lifecycle to view the task.

This completes the fine-tuning section.

Exercise 12: Upgrade an existing Win7 target.

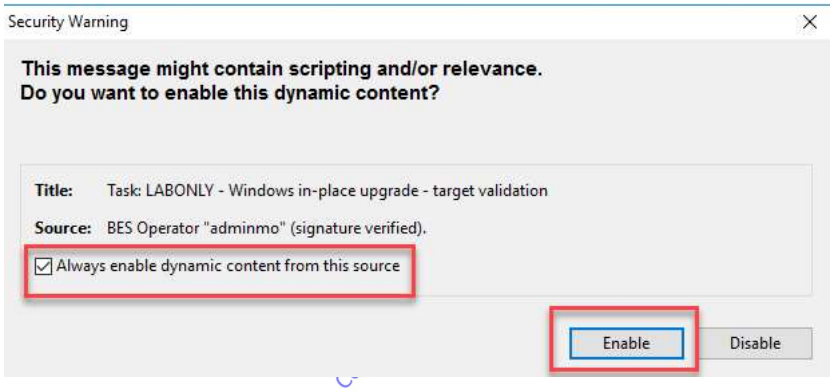
In this exercise, you use BigFix to upgrade a Win7 target to Win10.

____1. Ensure you are logged into server: **BESFNDAPPSERVER**
   ___a. User: **Administrator**
   ___b. Passwd: **bigfixrocks**

____2. Login to the BigFix console
   ___a. User: **adminmo**
   ___b. Passwd: **B1gfixrocks**

____3. Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Imaging**

____4. Locate task: **Windows in-place upgrade – target validation**
   You may get this popup:



   ___a. Check the box for: **"Always enable…"**
   ___b. Click: **Enable**

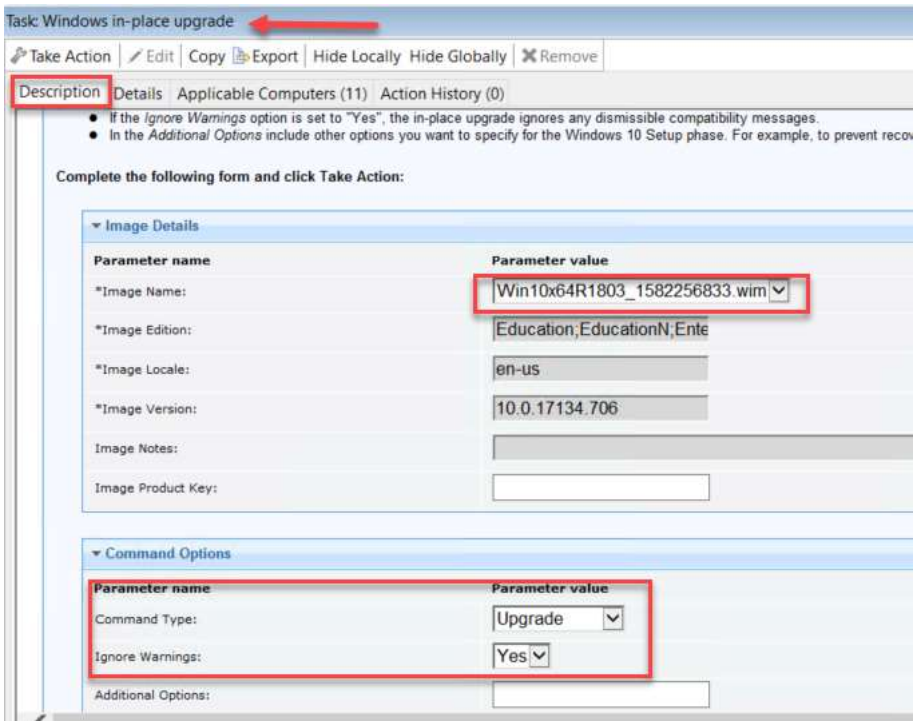
____5. Review the Description tab:
   ___a. Ensure that the wim referenced is the win10 1803 version (note – observe the name of the wim file is the same as it was in Exercise 8 before you renamed it).
   ___b. Ensure that you also increase the Client Cpu Usage.

____6. Click: **Take Action**

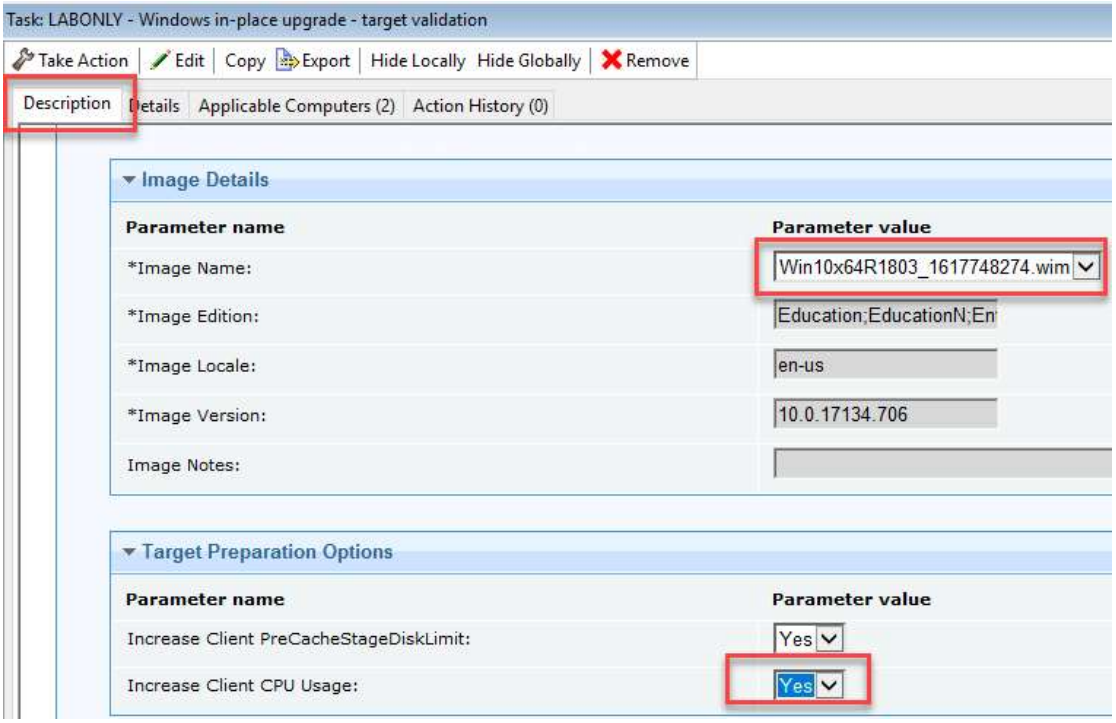
____7. Select the target: **BESFNDOSDTARGET**

____8. Click: **OK** (this takes a number min to process), wait till complete.

____9. Once complete, in the same site, locate task: **Windows in-place upgrade**
   ___a. Review the Description tab, ensure that the wim file is for **Windows 10 1803**



___b. Ensure that the command type is: **Upgrade**



___c. Change Ignore Warnings from: NO to **YES**

____10. Click **Take Action**

____11.Select the target: **BESFNDOSDTARGET**

____12.Click: OK, this will take about 30 min.

____13.Once the BigFix status changes to: **Pending Restart**

___a. Login to the target: **BESFNDOSDTARGET**

___i. User: **tecuser**

___ii. Passwd: **bigfixrocks**

____14. Observe the process (akin to watching paint dry, but you get the idea). This step takes another 20-30 min (the target will reboot).

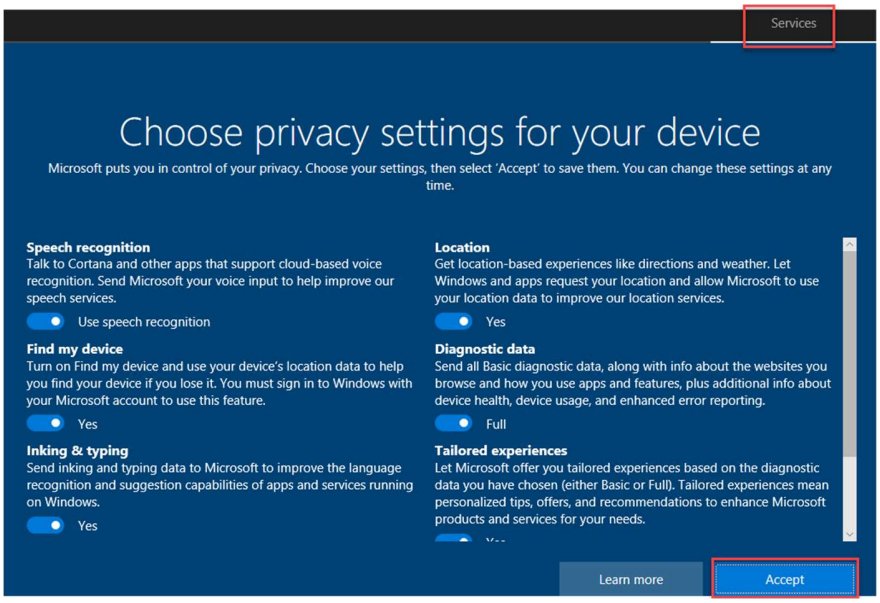
____15. Login to the target: **BESFNDOSDTARGET**

___a. User id: **tecuser**

___b. Password: **bigfixrocks**

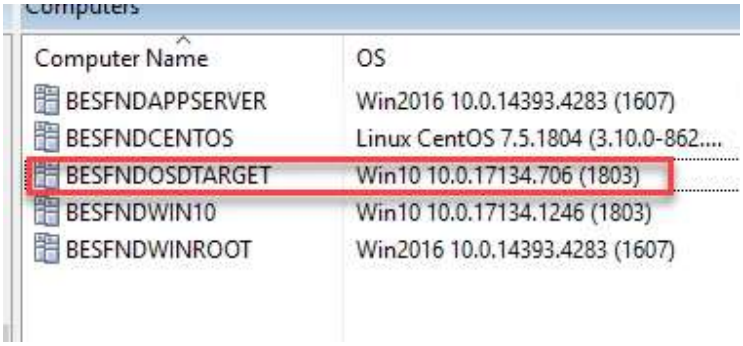
____16. Wait for the OS to "complete" its setup.

____17. Click: Accept for the privacy settings (click anywhere on the screen and click your enter/return key). NOTE: You will more than likely have to use your keyboard.



____18. Looking back on the BigFix Console, find your target: BESFNDOSDTARGET

____19. Notice, now that it is Win10 version 1803:



This completes the win7->win10 upgrade lab.

Exercise 13: Re-image an existing BigFix Client

In this exercise, you use BigFix to re-image the system you just upgraded to Win10 in the previous exercise. We will need to first create the reimage profile, and then deploy it.

____1. Login to your **BESFNDAPPSERVER**

___a. User: **Administrator**

___b. Passwd: **bigfixrocks**

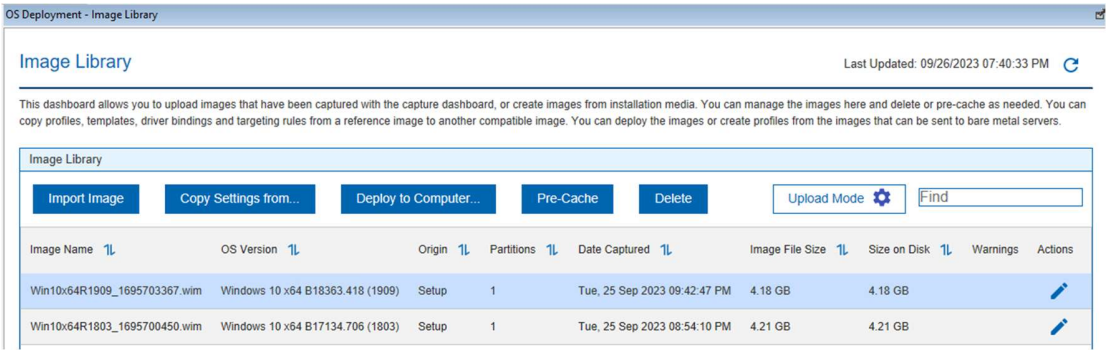
____2. Launch the BigFix Console (if not already launched).

___a. User: **adminmo**

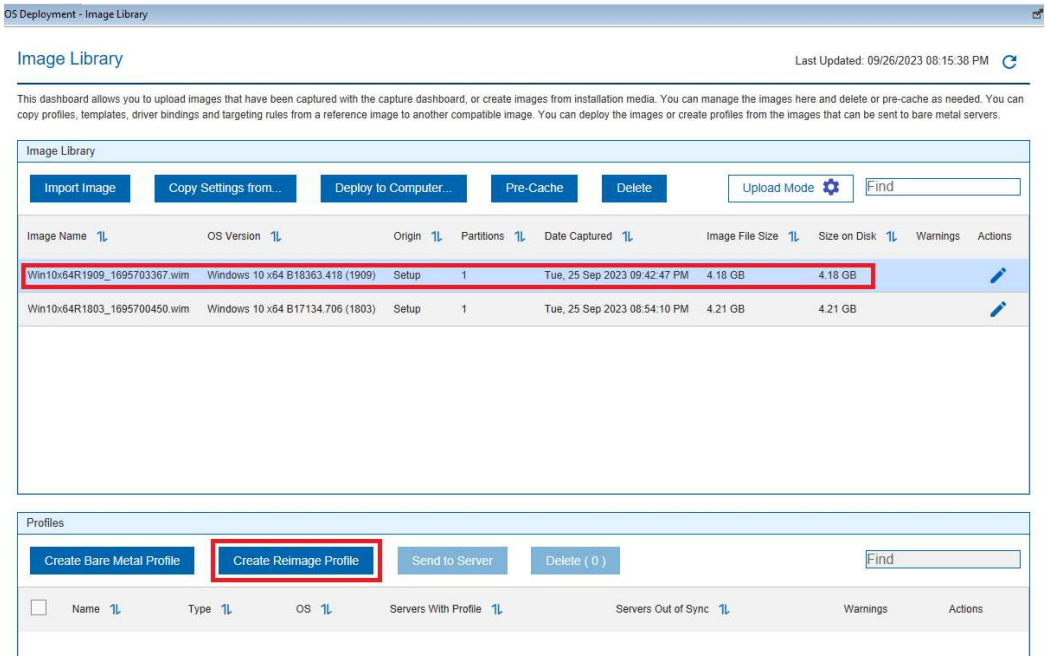
___b. Passwd: **B1gfixrocks**

____3. Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Image Library**

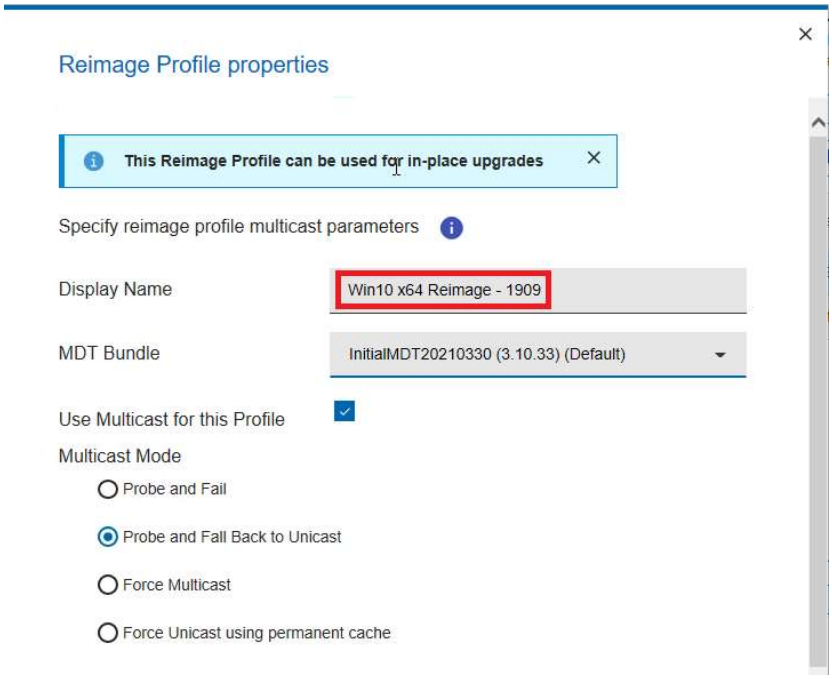
____4. Navigate to: Systems Lifecycle -> **OS Deployment and bare metal imaging -> Image Library**. In this example are the two OS's that we imported earlier:



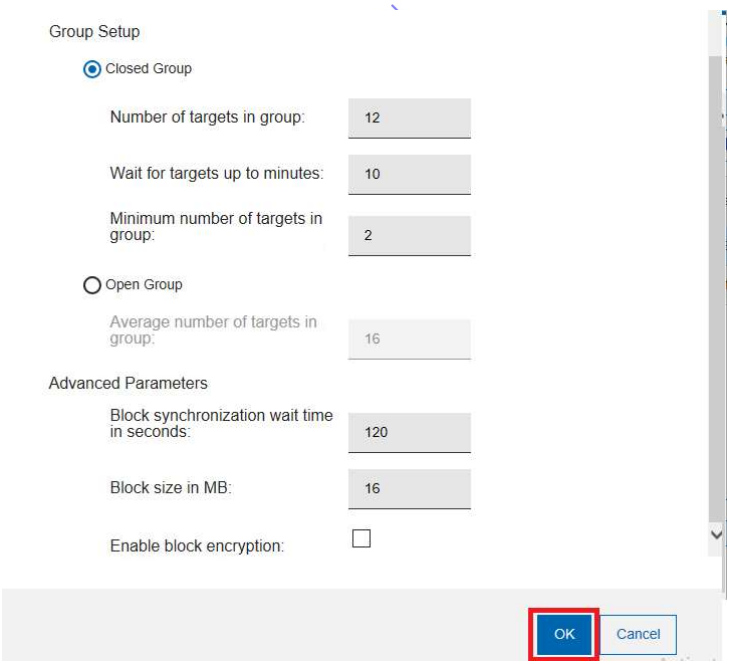
____5. Select the Windows 1909 wim file. This causes OSD to active the Profile section.



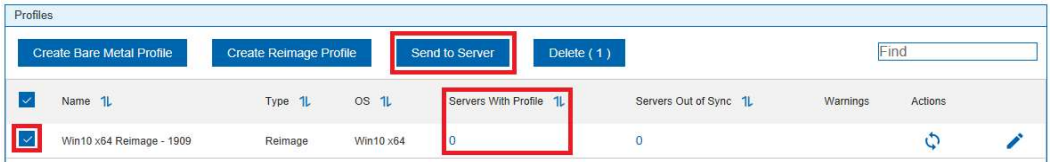
____6. Click: Create Reimage Profile to launch the Reimage Profile properties



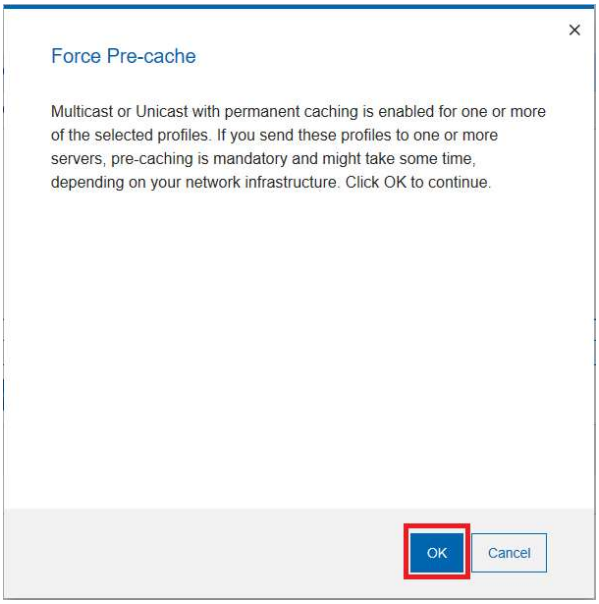
____7. Display Name: Change this to match the version of the OS you are deloying. In this example replace the string to be: **Win10 x64 Reimage – 1909**



____8. Leave all other options as default and click **OK**



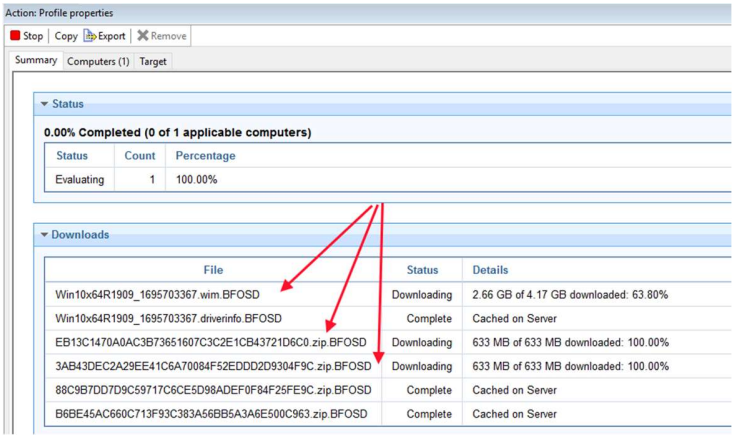
____9. You can see the number of servers with the profile is 0 so like in the earlier exercise where we created the Bare Metal Profile, we have to send the profile to the server. Click the box next to the new profile, and then click the botton: **Send to Server**



____10.You will receive a warning that you must pre-cache since you choose permanent caching. Click: **OK**

____11.Take Action: select the server **BESFNDAPPSERVER**

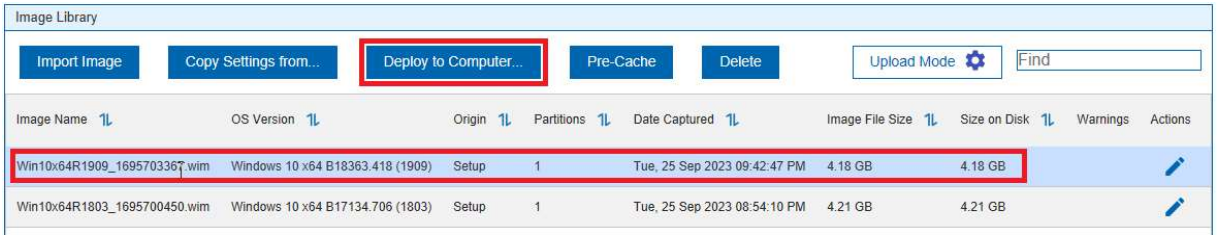
____12.Click **OK**. This may take a little while.



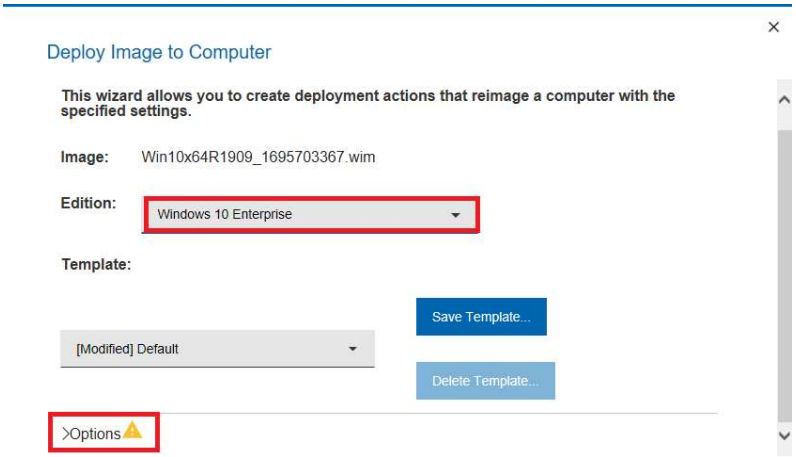
____13.You can monitor the "Action".

____14.Once the status of the action is complete we can move onto the next step.

____15.Navigate back to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Image Library**

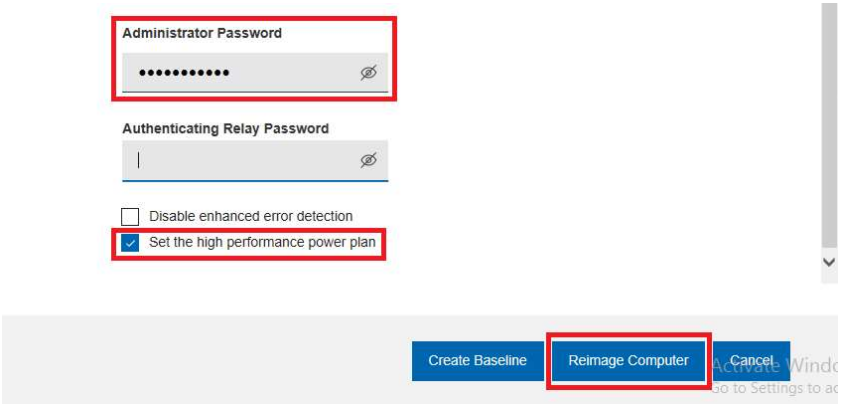


____16.Select the Win10x64R1909_1695703367.wim image and the click: **Deploy to Computer…**



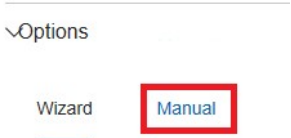
____17.Select Windows 10 Enterprise for Edition and the click the **Options** to expand.

____18.Note that the exclamation mark is pointing to the Administrator Password. Scroll down to the bottom of the page.

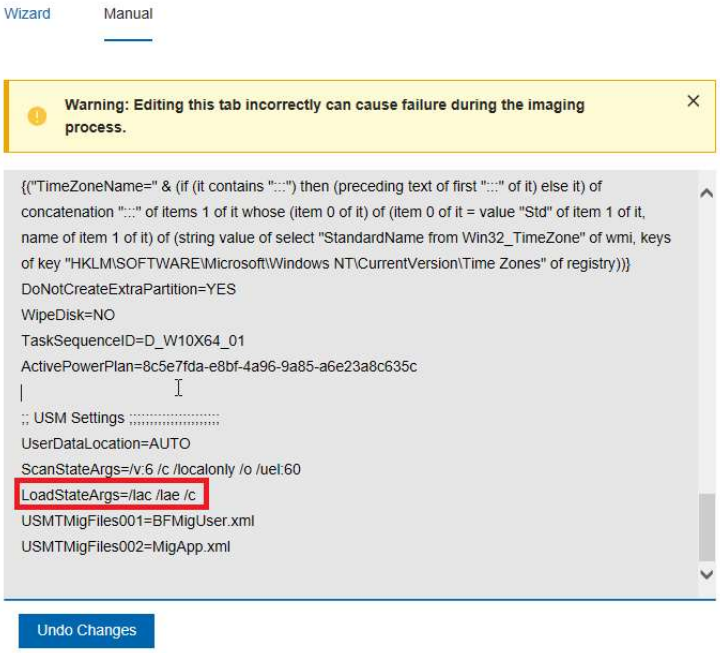


____19.Enter **bigfixrocks** as the **Administrator Password**

____20.Click the check for **Set the high performance power plan**

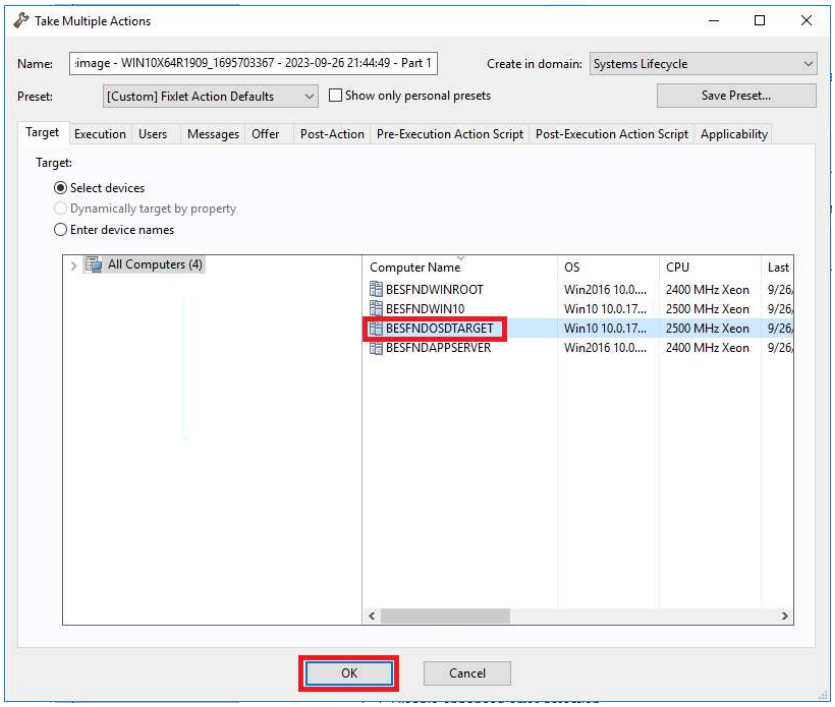


____21.Scroll back up the page to the Options section and Click **Manual**

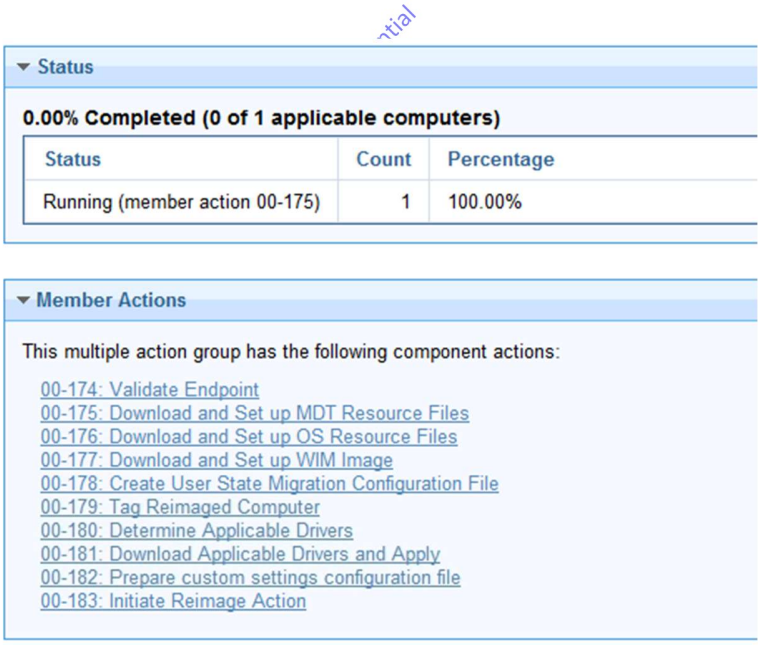


____22.In manual section scroll down until you find the **USM Settings** section and add /lae into the line as shown above. This will ensure the account is enabled, and the user will be prompted to change the local account on first login.

____23.Click: **Reimage Computer**

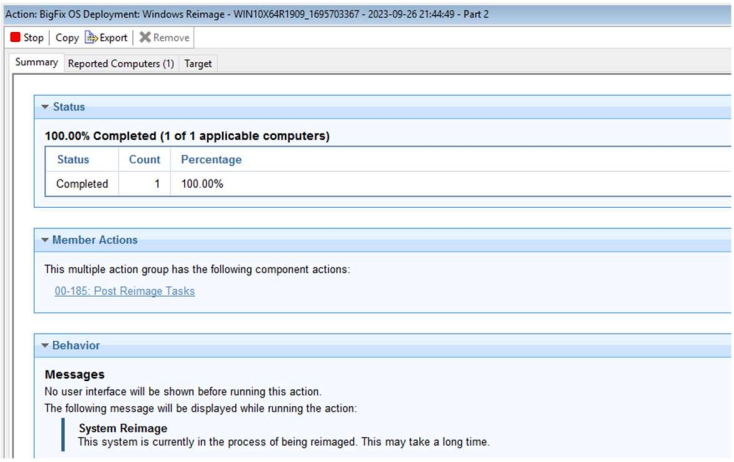


____24.The Take Multiple Actions window will appear, select **BESFNDOSDTARGET** as the device and click **OK**.



____25.This will kick off 2 Multiple action group actions. You can now track the progress of the action, the first Multiple Action Group is called PART1. This will take some time as the agent will download the entire image then start with WinPE to reimage the system after using USMT to migrate the user data.

____26.Once PART 1 has completed successfully you can check the status of PART 2.



____27.Wait until PART 2 completes.

This completes the re-image of the machine

Exercise 14: Create a Software Package for use by OSD

Once you have your new OS(s) deployed, you will want to provide software packages for them. In this lab you will create a software package using the BigFix Lifecycle **S**oft**W**are **D**istribution module. In that module is a software packager wizard. This makes importing of software packages very easy.

____1. Login to your **BESFNDAPPSERVER**

___a. User: **Administrator**

___b. Passwd: **bigfixrocks**

____2. Launch the BigFix Console (if not already launched).

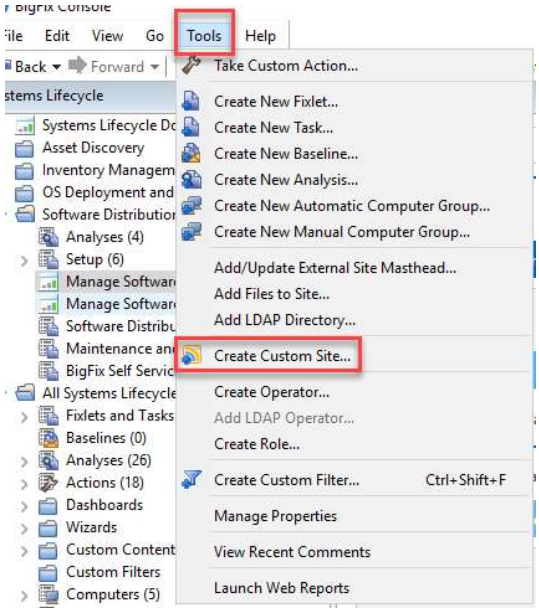
___a. User: **adminmo**

___b. Passwd: **B1gfixrocks**

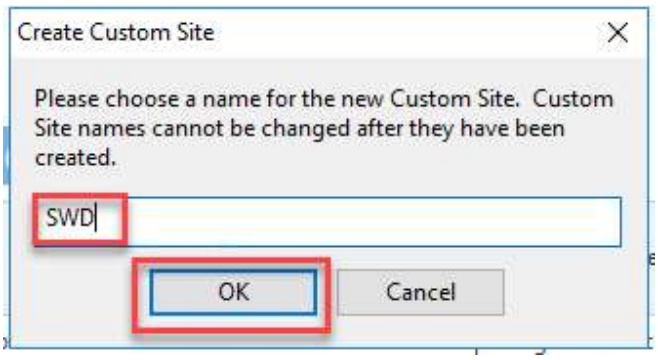
____3. Create custom Site for Software Distribution packages (allows for non-master operators to share/access/modify SWD packages).

___a. While in the BigFix console, click on: Tools

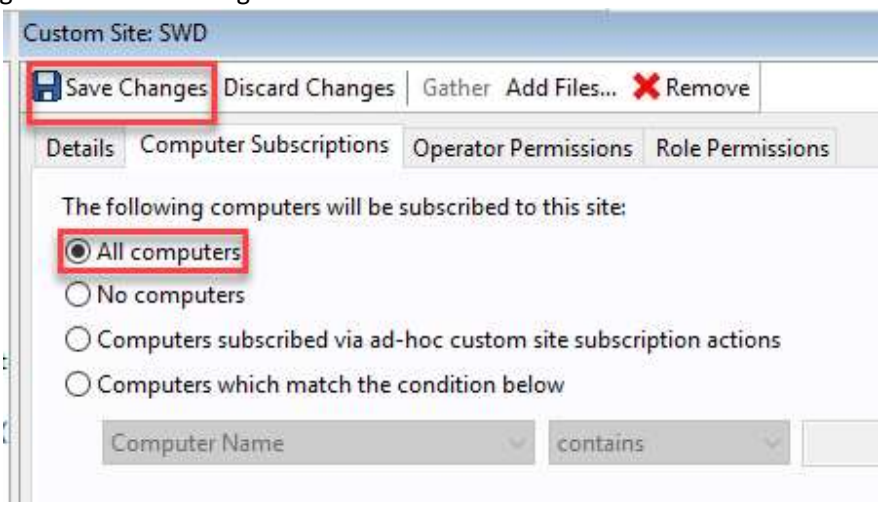
___b. Click: Create Custom Site



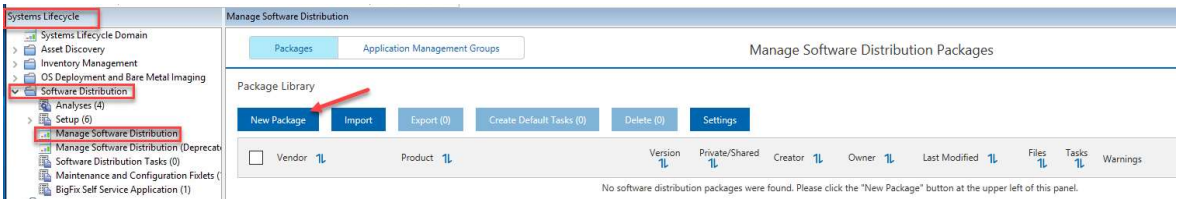
___c. Use this for the name of the site: SWD



___d. Click: OK
___e. Click: Computer Subscriptions tab
___f. Select: All Computers
___g. Click: Save Changes

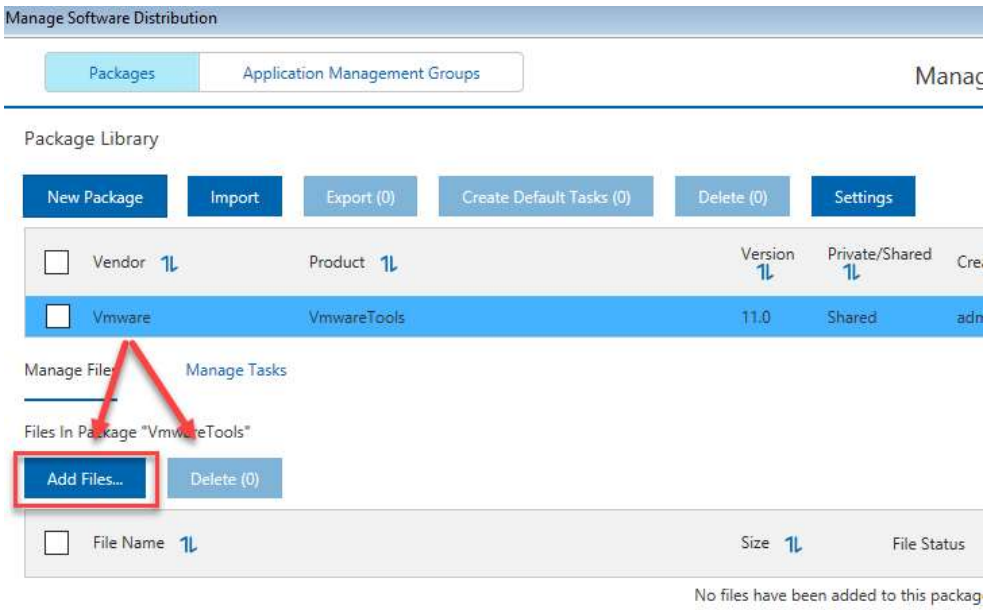


____4. Enable Download plug-in for SWD
____5. Navigate to: **All Content -> Fixlets and Tasks**
____6. Search for: **Download plug-in**
____7. Take action on the task **BigFix Server: Register Download Plug-in for Software Distribution** against the root server: **BESFNDWINROOT**
____8. Wait for the task to complete.
____9. Navigate to: Systems Lifecycle -> Software Distribution -> Manage Software Distribution dashboard. The dashboard opens:

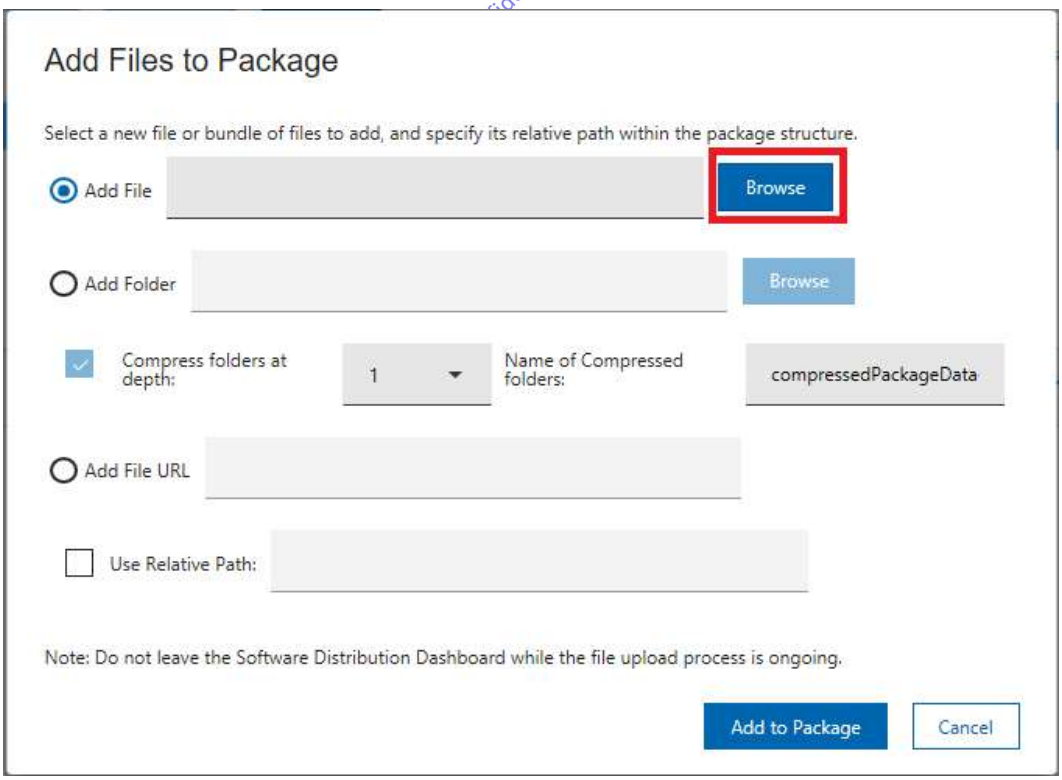


____10. Click : New Package
___a. Vendor: **Vmware**
___b. Product: **VmwareTools**
___**c.** Version: **11.0**
___d. Private/Shared: **Shared**
____11. Once the data is in click: **Confirm**

____12.This opens two tabs: Manage Files and Manage Tasks



____13.Click: Add Files, the dialog box pops up:



Let's review the available options that are typically used:

___a. Add File – you can add a single file to your software package.

___b. Add Folder - you can add a software package that is made up of multiple files and or folders.

___i. Compress Folders at depth – will compress the files needed for the software package.

___ii. Depth drop down: 1 is the default, meaning, the files in the folder are left uncompressed, any folders in your folder selection get compressed. If you use 0 as the compress depth, that means that every file/folder in the folder you choose will be compressed. Not good if you need to tell BigFix to run setup.exe and it's compressed.

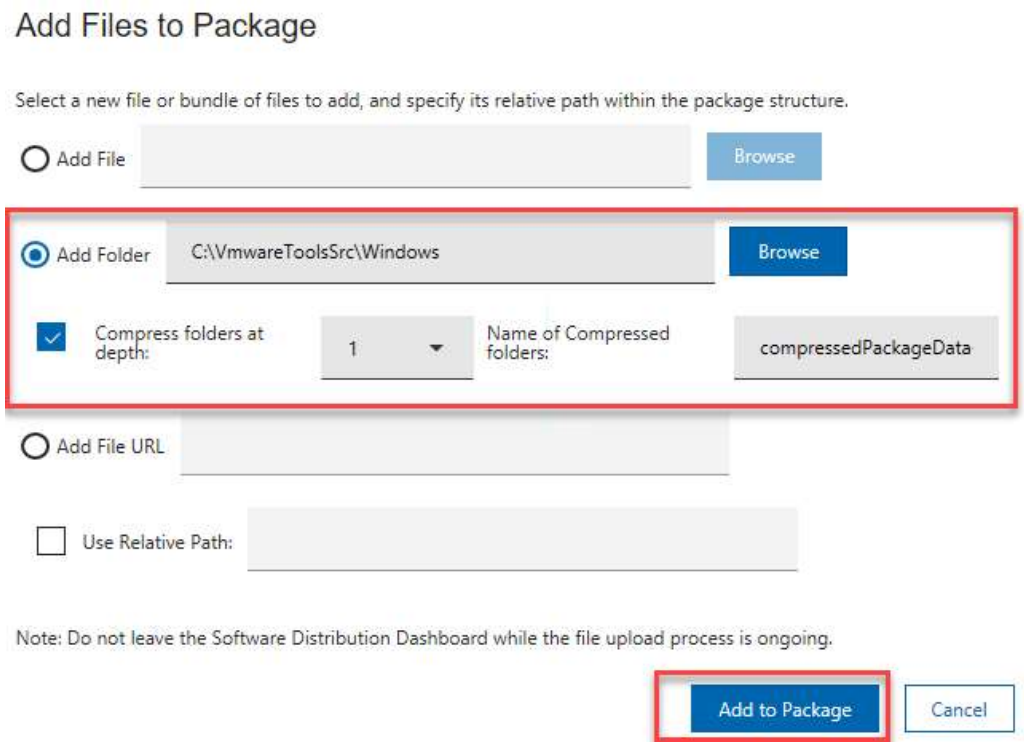
___iii. Name of Compressed Folder – this is the name of the compressed folder, typically go with the default.

____14.Select: **Add Folder**

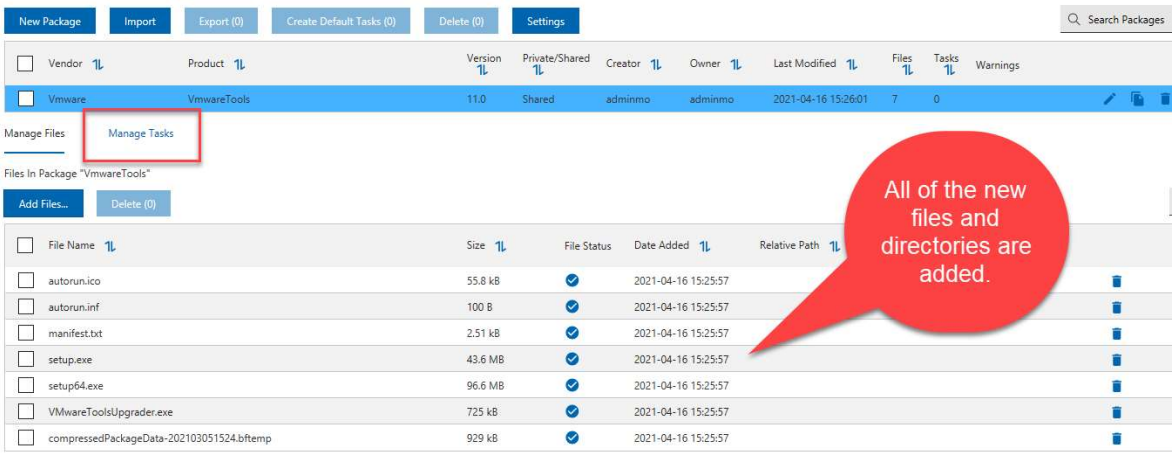
____15.Leave the defaulted check box – Compress folder at depth:1

____16. Click on the Browse button

____17. Navigate to (or just type/cut-n-paste): **C:\VmwareToolsSrc\Windows** select this folder

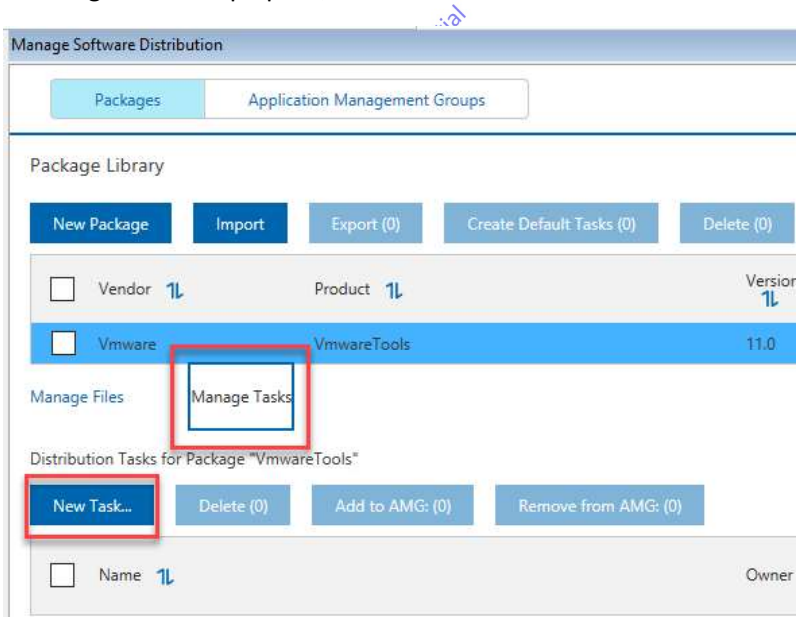


____18. Click: **Add to Package**, this takes a few for BigFix to analyze the files and load them up. You might get a yellow warning saying not to leave the dashboard! Heed the warning! The files get added.



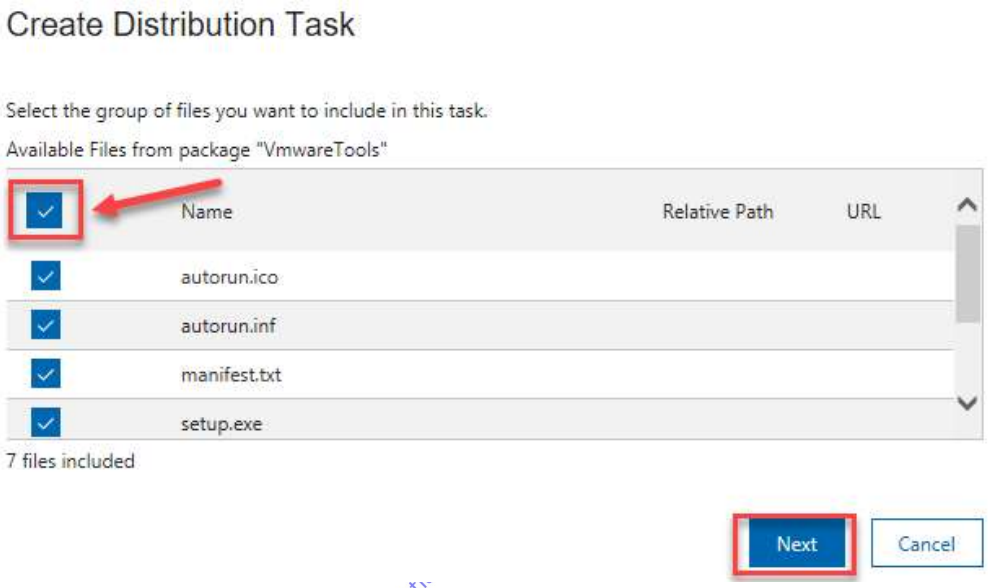
____19. Click on the: **Managed Tasks** tab

____20. The Managed Tasks tap opens, select: **New Task**

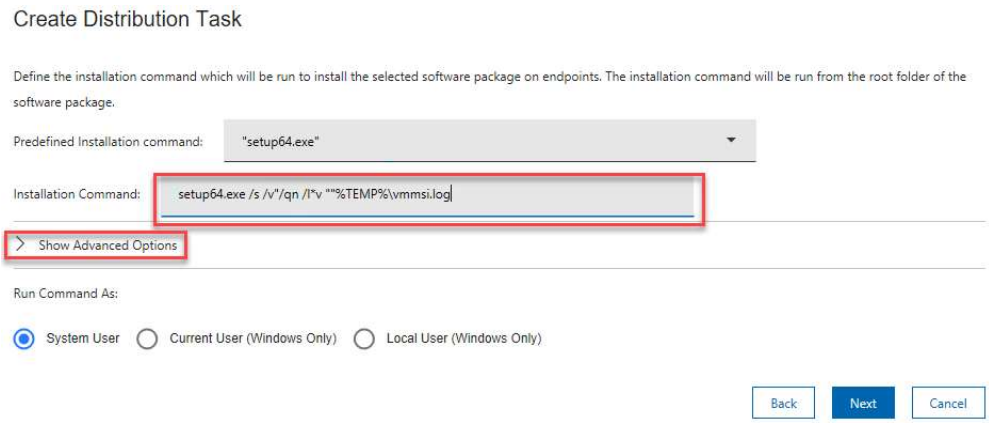


____21. Create Distribution Task opens. It is pre-populated with the files you just imported.

____22. Click on the **Top checkbox (arrow pointing to it)** to add the files to the package. Click Next.



____23. For the Installation Command use: **Setup64.exe /s /v"/qn /l*v ""%TEMP%\vmmsi.log"""**



Note: MSI files are easy because they understand how to install and uninstall themselves, setup.exe not so much. Google searching is your friend to find the strings necessary to install software packages silently.

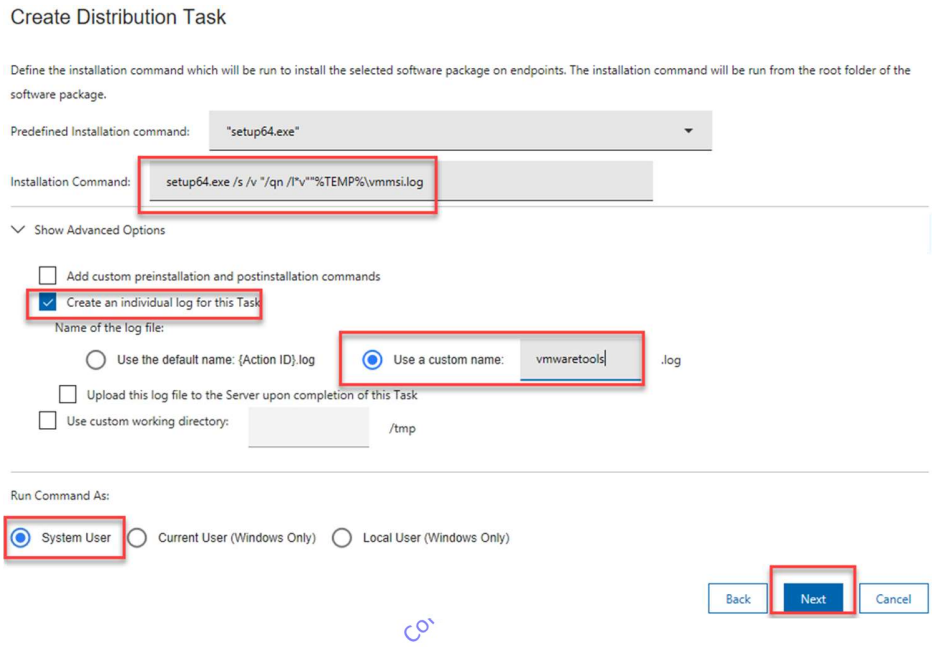
____24. Click on: "**> Show Advanced Options**", this expands:

____25. Click on the checkbox for: **Create an individual log for this Task**

___**a.** Click on the button: **Use a custom name**

___b. Use: **vmwaretools**

___c. Accept everything else as default and click next.

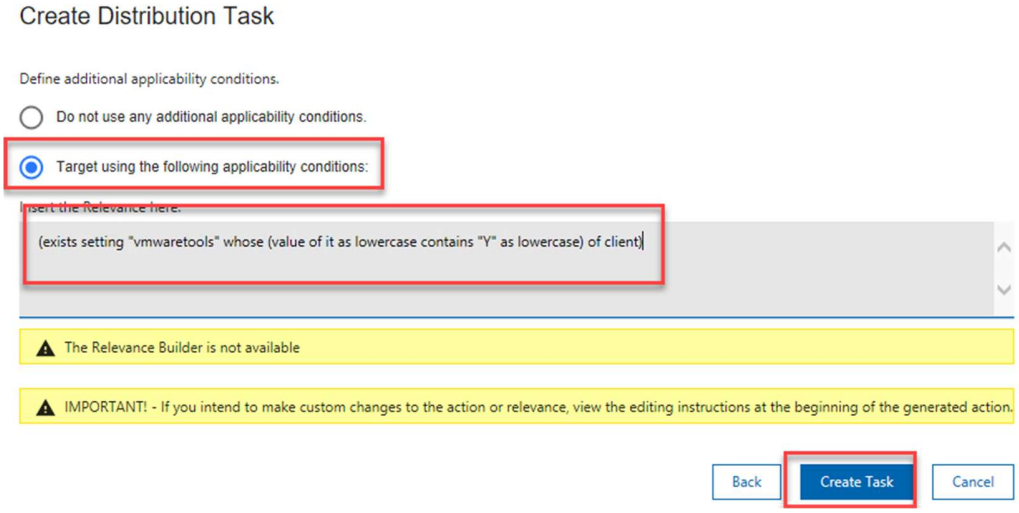


____26. Create Distribution Task continues, Select: **Target using the following applicability conditions** (we are hopeful that DEV will be bringing back the Relevance Builder, in the mean time):

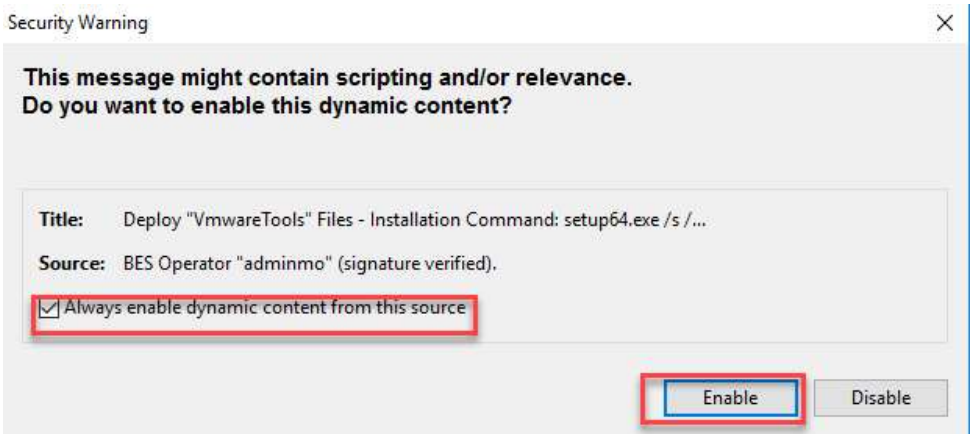
___a. Use the following Relevance: **(exists setting "vmwaretools" whose (value of it as lowercase contains "Y" as lowercase) of client)**

NOTE: If you choose to cut-n-paste this Relevance into your lab, you will have to edit the quotes "". Windows uses "smart quotes" and that causes issues with Relevance. So, before you click on "Create Task" edit the quotes around "vmwaretools" and "Y" to remove the "smart quote" and replace with standard quote. If you don't do this, BigFix will catch it and will not let you save the task until you fix the quote issue. Step 22 below to fail and you will have to edit the smartquotes out anyway.

___b. Click: Create Task

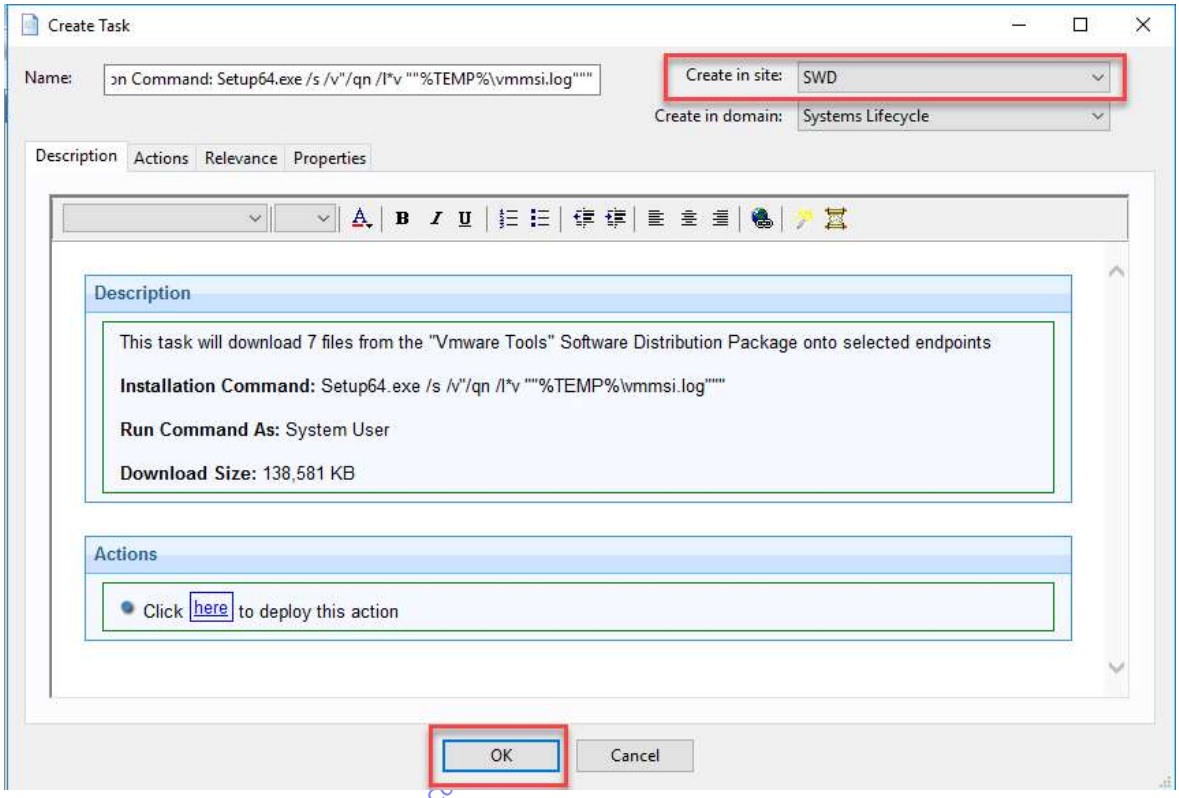


Click Create Task. You might see this, if so, check the "Always enable dynamic content from this source" and click the Enable button:



NOTE: Keep note of the client setting: vmwaretools with a value of Y. You will use this later.

____27. Create Task window is displayed. You need to make one edit to this screen.
____28. Change Create in site dropdown – from **Master Action Site to SWD**, click **OK**.

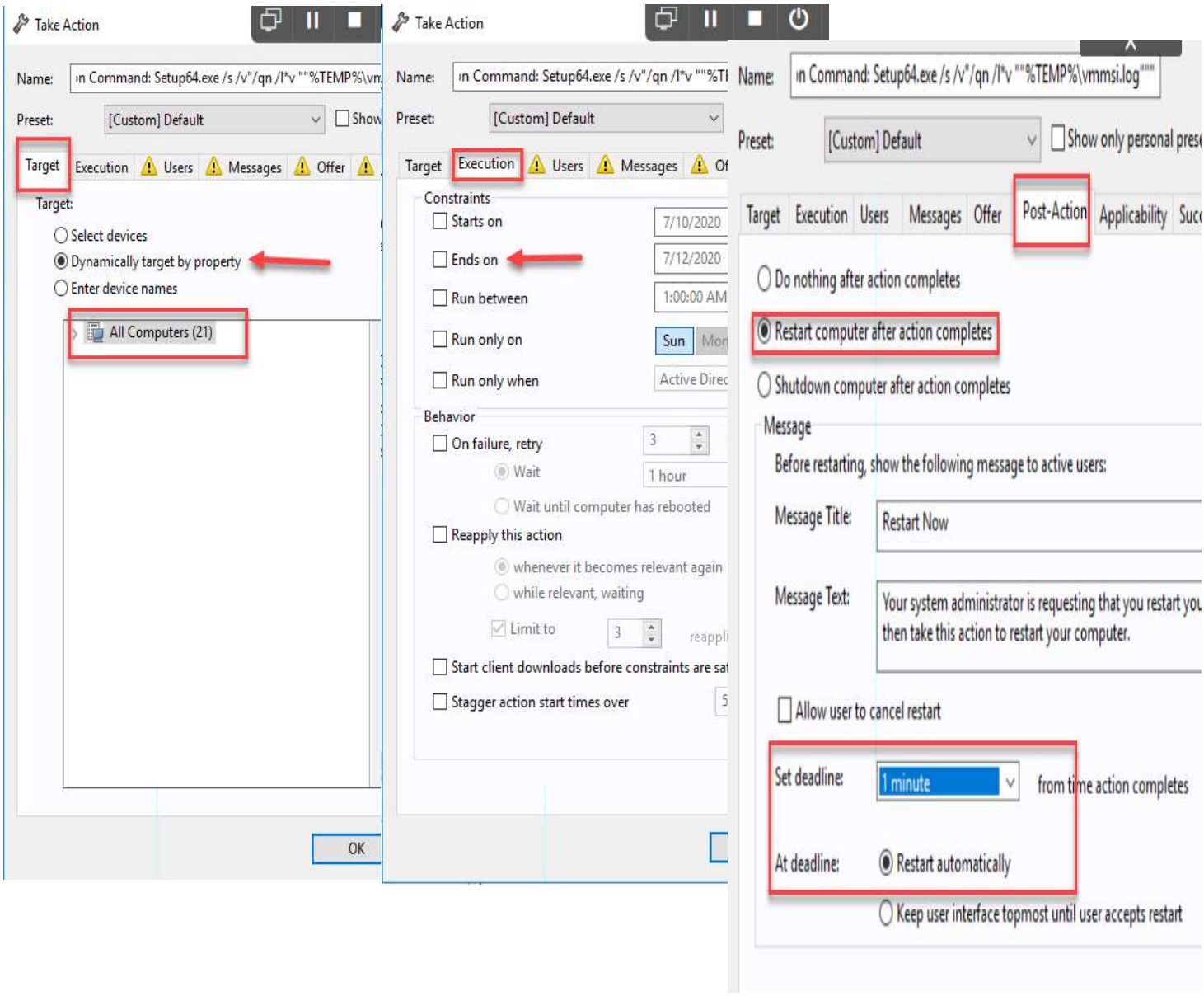


This creates the task for installing VMware tools, it is looking for our specific client setting: vmwaretools:Y

Next – take action on this task

____29. Select Take Action
____30. Target tab
___a. Use: Dynamically target by property
___b. Click: All Computers (some number)
____31. Execution tab
___a. Uncheck: Ends on
____32. Post Action tab
___a. Select: Restart computer after action completes
___b. Set deadline to: 1 min
____33. At deadline ensure that
___a. Restart Automatically is checked.

____34. Click OK



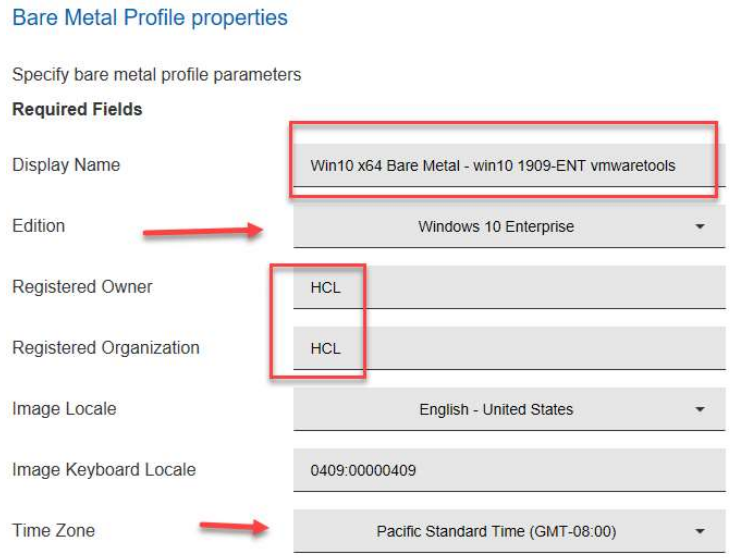
What you effectively did here was create a Task – Policy that runs in the back ground listening for the client setting: vmwaretools:Y.

This completes this section on creating a custom swd package that creates our policy for deploying vmware tools. Next create a new OSD profile that makes use of this software package.

Exercise 15: Create an OSD profile that also deploys the SWD Package you just created

In this exercise, you will learn how to create an OSD profile that makes use of our client setting we created in our SWD package in the previous exercise.

____1. Ensure you are on the server: **BESFNDAPPSERVER**
____2. Open the BigFix console.
  ___a. User: **adminmo**
  ___b. Passwd: **B1gfixrocks**
____3. Navigate to: Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Image Library dashboard
____4. In the Image Library pane, select the **win10 1909** Image
____5. Click Create Bare Metal Profile
____6. Click: Create Bare Metal Profile. The profile screen is presented. This screen will be presented in four parts. **Part 1:**
  ___a. Display Name: Change this to match the flavor of the OS you are deploying. In this example replace: 1593456476.wim with: 1909-ENT-vmwaretools. The new string should look like this: **Win 10 x64 Bare Metal – 1909-ENT-vmwaretools**
  ___b. Edition: This is a drop down. Select: **Windows 10 Enterprise**
  ___c. Registered Owner: **HCL**
  ___d. Registered Organization: **HCL**
  ___e. Image Local: **English – United States**
  ___f. Image Keyboard Local: **0409:00000409**
  ___g. Time Zone: use your local TZ

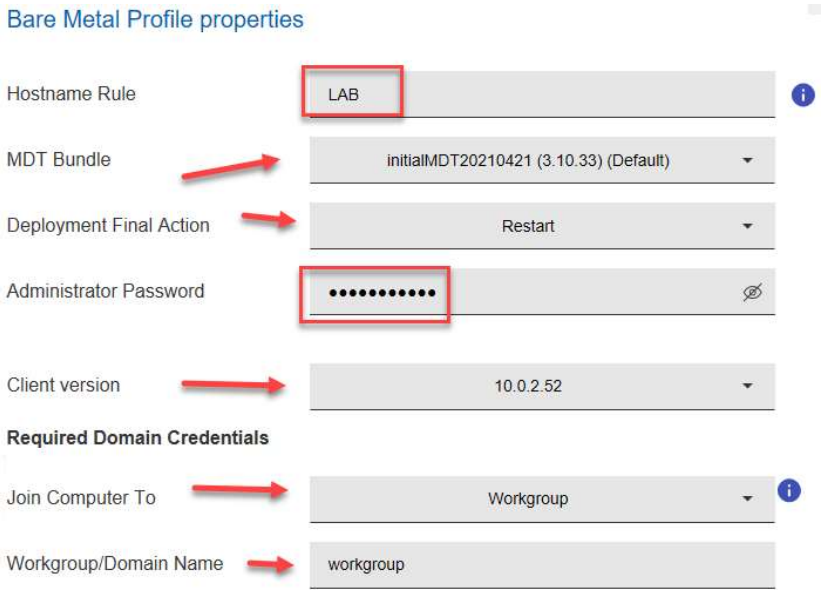


Part 2

___h. Hostname Rule: **LAB**

Note: Hostname rules can be made up of IP, MAC, UUID, SN, AT, BBSN. OSD will fill out the name to match MS Dos's rules for names, i.e., thirteen chars. Check out the icon to the right of the hostname rule to see a more complete explanation.

___i. MDT Bundle: **initialMDT<the date you used)(3.10.33)(Default)**
___j. Deployment Final Action: **Restart** (default)
___k. Administrator Password use: **bigfixrocks**
___l. Client version: 10.0.2.52
___m. Join Computer to: Workgroup
___n. Workgroup/Domain Name: workgroup



Part 3

___o. Check the box: Assign Relays

___p. Client Setting:

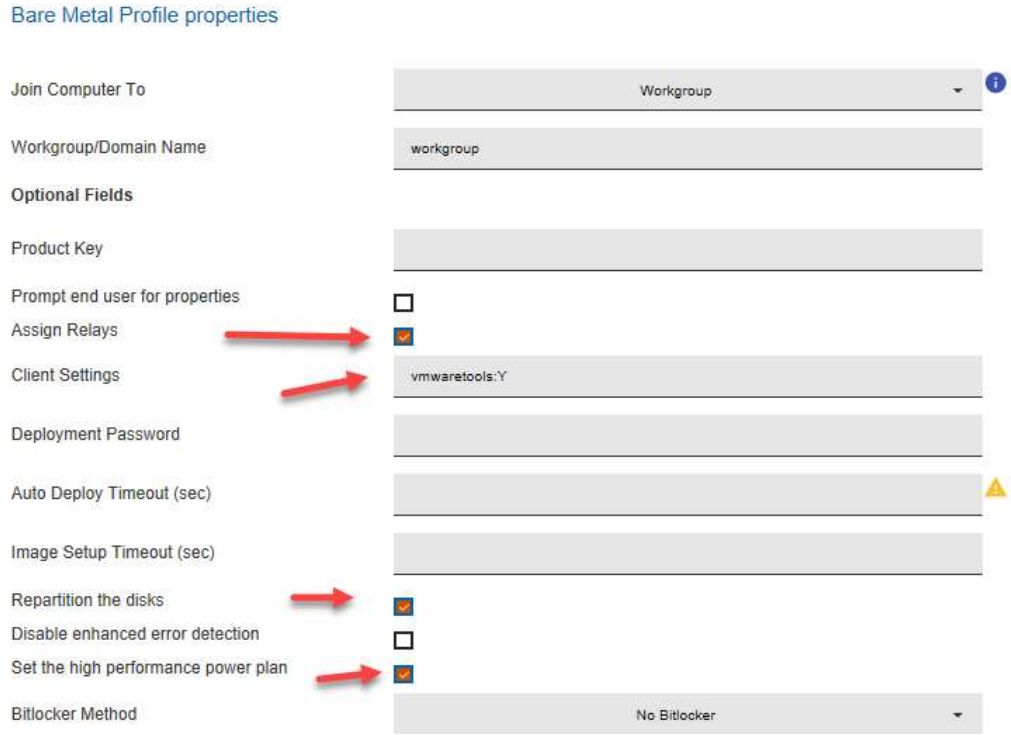
___i. Use: **vmwaretools:Y**

___q. Ensure the checkbox: Repartition the Disks

___r. Check the box: Set the high performance power plan

___s. No Bitlocker

Your screen should look like this now:



Part 3

___t. Click on the Manual Tab

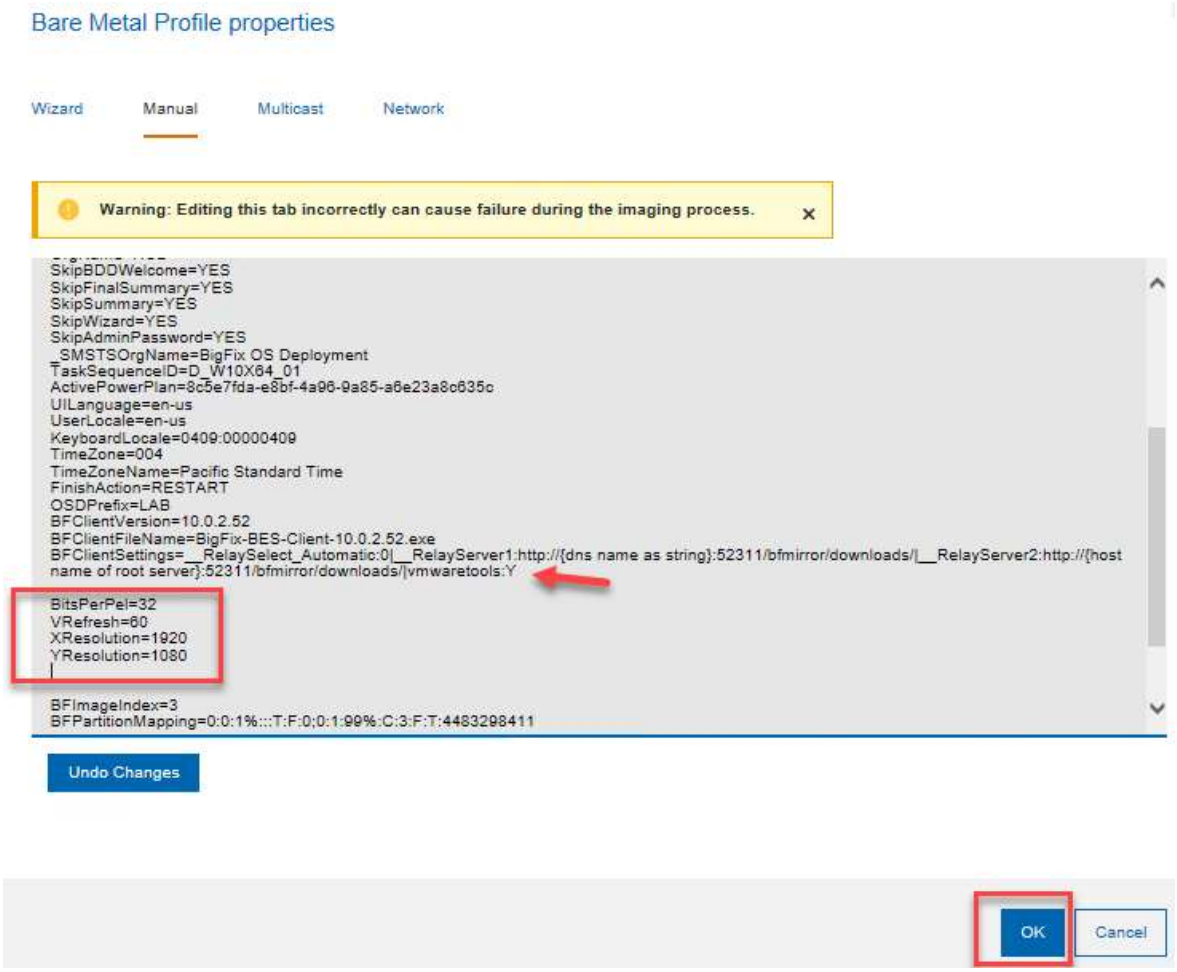
___u. Scroll down until you see the line:
server}:52311/bfmirror/downloads/|vmwaretools:Y

___v. Place your cursor at the end of this line, and hit enter

___w. Copy and paste this into the profile:

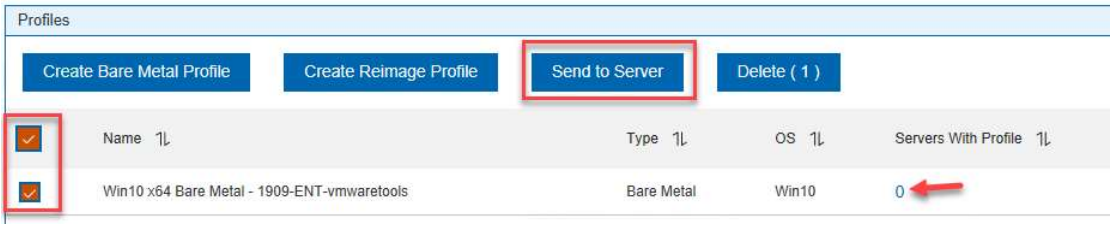
BitsPerPel=32
VRefresh=60
XResolution=1920
YResolution=1080

Your screen should look like this:



___x. Click OK to create this profile.

___y. In the Profiles section, check the box next to your new profile: Win 10 1909 – Ent_vmwaretools



___z. Click Send to Server,

___aa. Click Yes to pre-cache this.

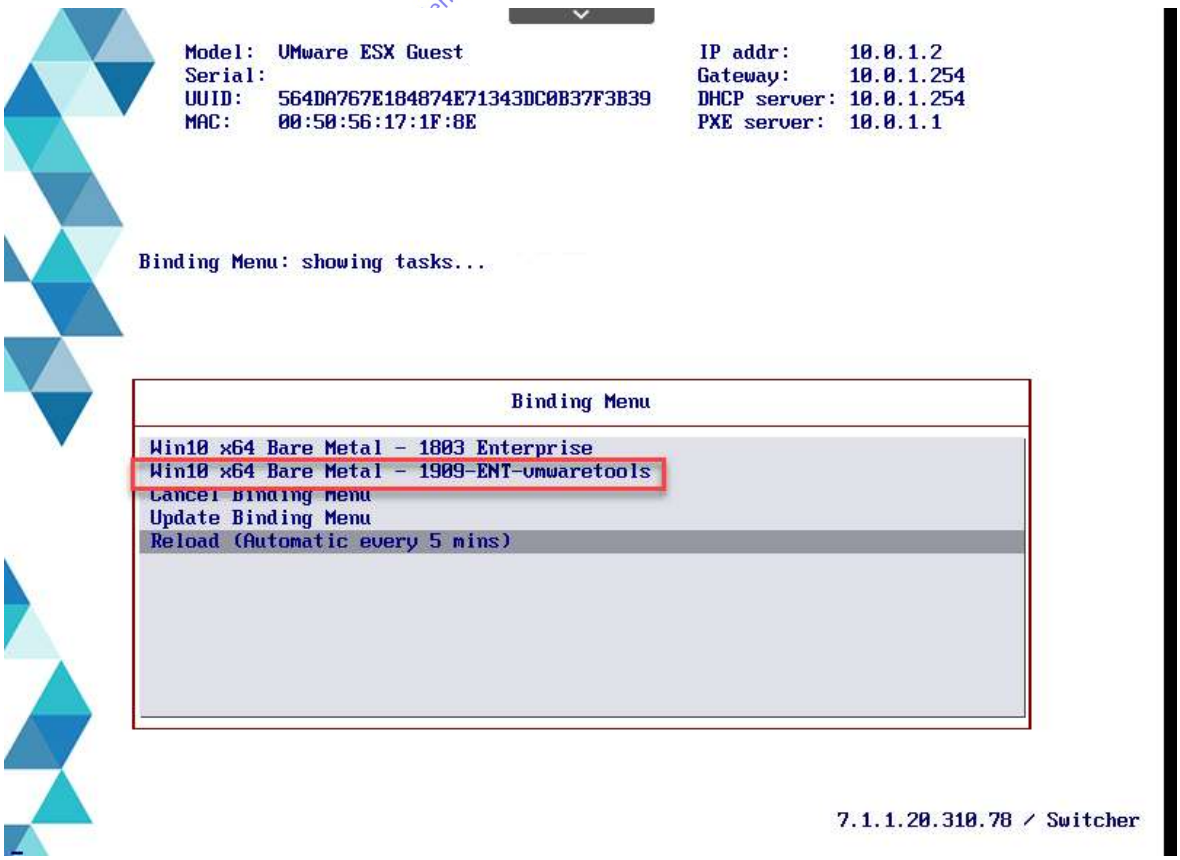
___bb. Take action pops up – Select your server: **BESFNDAPPSERVER**
___cc. Click **OK** , this takes a good 30+ min.

This completes this exercise.

Exercise 16: Use your new SWD and OSD Profile to re-image the target

In this exercise, you will rebuild a VM using this new OSD profile that will also install VMware Tools. We will be using the BigFix task: #132 – Force Network Boot (simply because we do have a BES agent on the box we are targeting to baremetal. IF you did not have a BES agent, you will have to do whatever steps are needed for the target box to get it to network boot.)

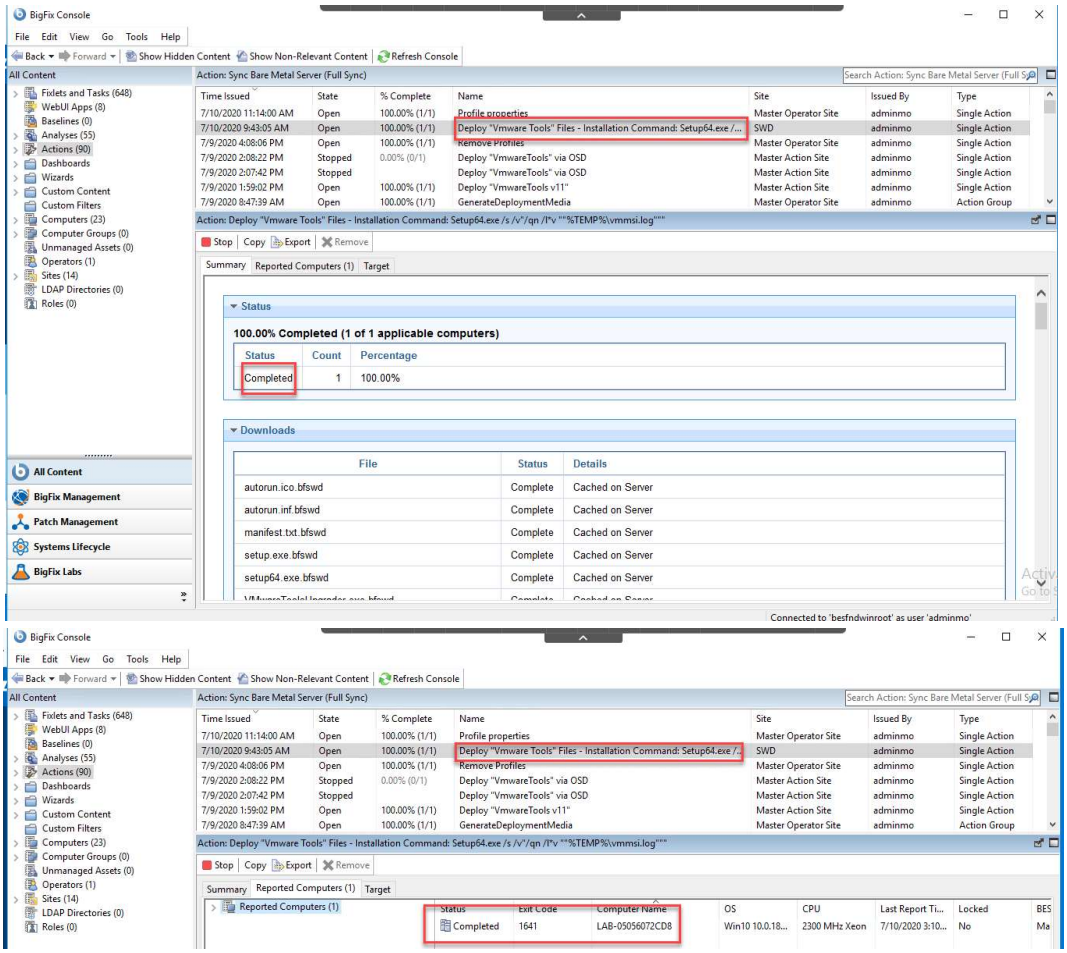
____1. Make sure you are still logged into the server: **BESFNDAPPSERVER**
____2. Login to the BigFix console
___a. Id: **adminmo**
___b. Passwd: **B1gfixrocks**
____3. Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Maintenance and Configuration (nn)**
____4. Search for: **Force Network Boot**
____5. Locate the baremetal target: **BESFNDOSDTARGET**
____6. Take action on this target.
____7. In Skytap, navigate to the target: **BESFNDOSDTARGET**
___a. Once the VM has PXE booted into OSD, you should see this:



___b. Using your keyboard arrow keys, navigate to your new profile: **Win10 1909 – Ent_vmwaretools**, press enter.

___c. OSD takes over, this will take about 15 min. Once OSD has completed its tasks, and the endpoint is installed, and the box has restarted. BigFix will see the client setting: vmwaretools:Y, it will use the SWD Policy you created earlier and install VMware Tools to this newly imaged vm.

Here is the automatic "action" BigFix took:



____8. This process renamed your BESFNDOSDTARGET TO LAB-XXXXXXXXXX

____9. From the BESFNDAPPSERVER

___a. Locate the file: **C:\Rename Windows Computer\Rename Windows Computer_v1.2.bes**

___b. Double-click to import into BigFix

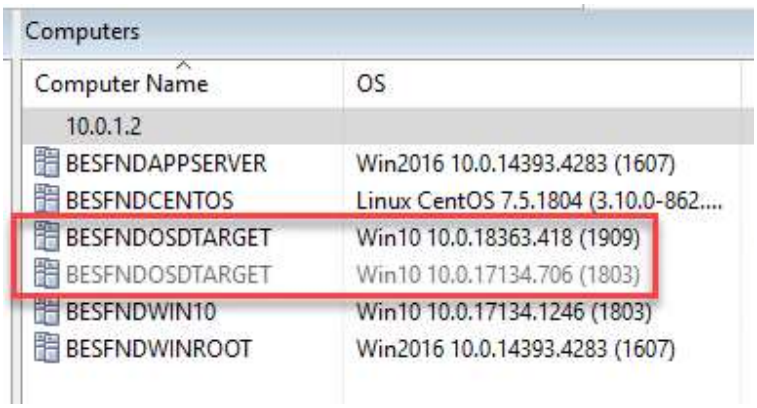
___c. Change the Create in Site from: **MasterAction to SWD**

___d. Click **OK** to save this task.

____10.Monitor the task, your new "LAB" computer should be relevant for this task.

____11.Take action, **make sure you reboot the endpoint**!!!!

____12. Give your endpoint a few to check-in. Once it checks in you should now see two BESFNDOSDTARGET machines in your BES console (one grey- old box running win1803 one black – new running win1909):



____13. If necessary, you can right-click on the "old" name and remove from database.

This completes the exercise to create a new OSD profile that also uses client settings to install software after OSD had built the target.

Exercise 17: Capture an existing system*

In this exercise, you will use BigFix to capture a running windows 10 system. There are multiple reasons for doing this, a prime example is you have a software package that cannot be installed silently.

NOTE* - This is a destructive process!!! The target that you capture will be "sys-prepped", in other words it will become a toaster. So, be very cautious of the target you choose to use to capture.

____1. From your server: BESFNDAPPSERVER

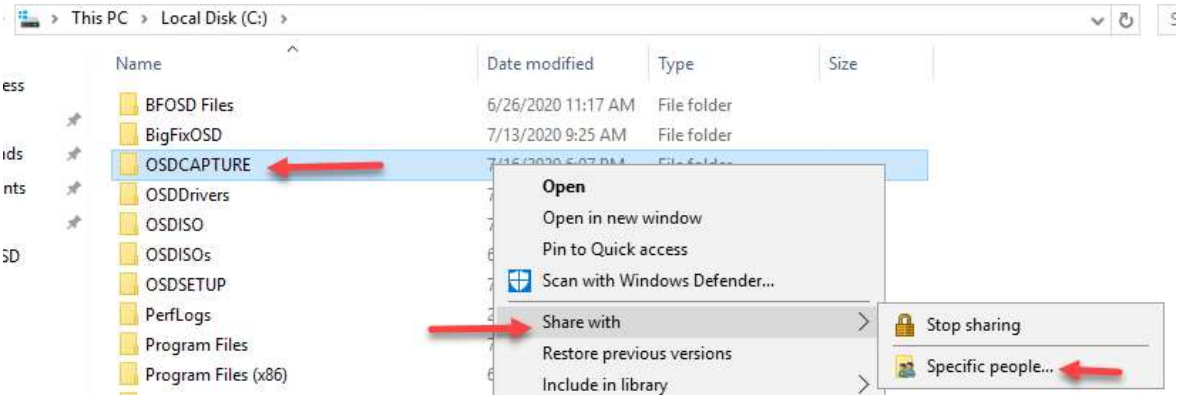
____2. From Windows File Explorer, ensure that the following directories exist, if not, create them:

___a. C:\OSDCAPTURE

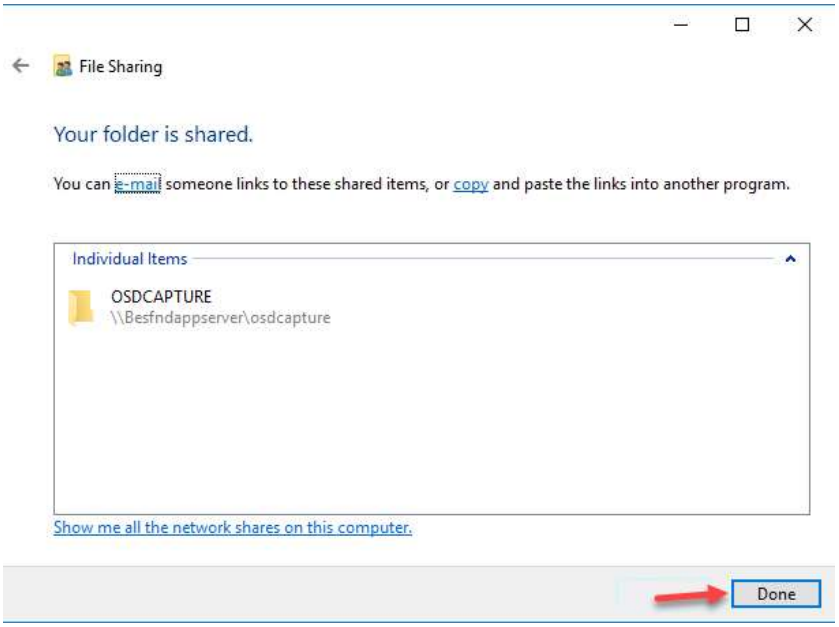
___b. C:\OSDCAPTURE\LOGS

___c. Select the directory: C:\OSDCAPTURE

___d. Right click and share with

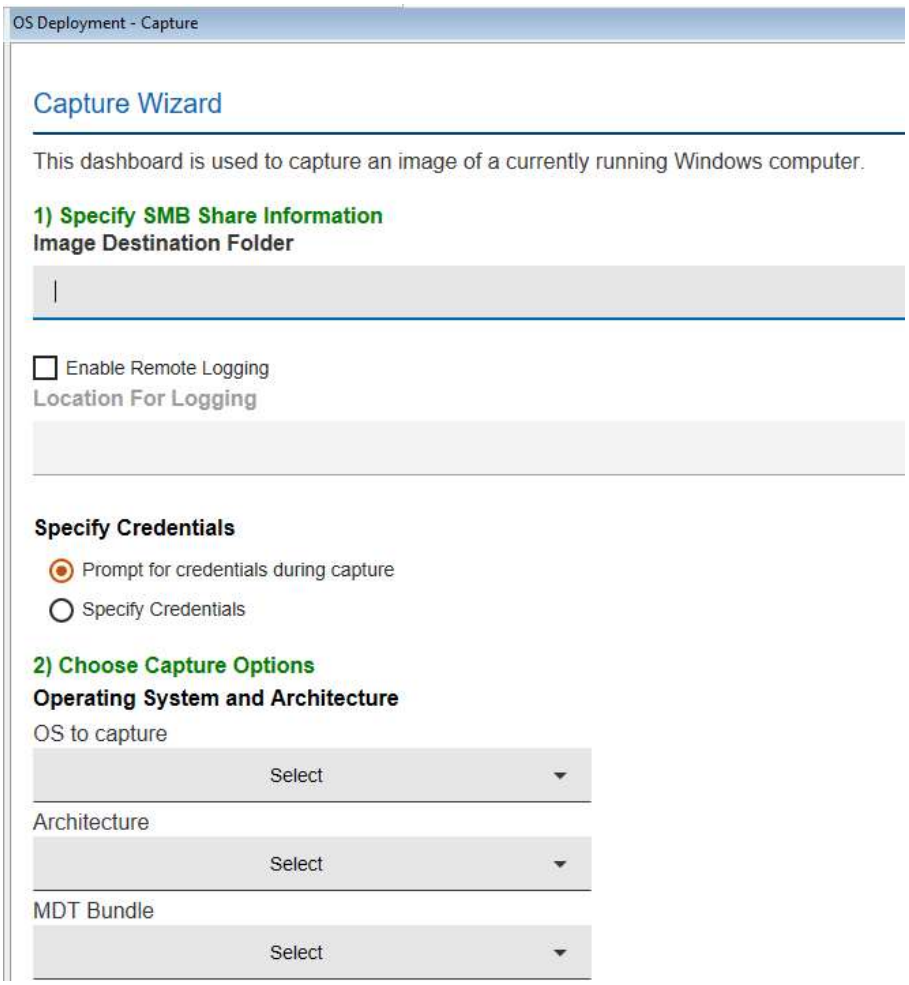


___e. Select: Administrator
___f. Click: Share
___g. Once it is shared, click done:



____3. This step you must figure out what will be the correct IP address to be used in the following steps (4-5). The OSD host (**BESFNDAPPSERVER**) has two NIC's. The target for this step (**BESFNDWIN10**) has only one NIC. The target (BESFNDWIN10) may be able to ping both NIC's on the OSD host (**BESFNDAPPSERVER**), however, only one of the NIC's will communicate correctly throughout the Capture process. If you choose wrong, then you must re-image the target (**BESFNDWIN10**). Why? Because OSD got far enough to sysprep the target.

____4. Navigate to: Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Manage Images and Drivers -> Capture Images Library dashboard



____5. Input the following:

___a. Image Destination Folder: \\<IP **from step 3>\OSDCAPTURE**

___b. Enable Remote Logging: **Check the box**

___c. Location for Logging: \\<IP **from step 3> \OSDCAPTURE\LOGS**

___d. Specify Credentials: **Click the radio button**

___i. User Name: **Administrator**

___ii. Password: **bigfixrocks**

___iii. Make sure the check box for: Enable 9.0 Encryption is checked

___iv. OS to Capture – drop down: **Windows 10**

___v. Click on the "^" chevron to the right of OS to Capture

___vi. Use a local user account: **check the box**

___vii. User Name: **Administrator**

___viii. Password: **bigfixrocks**

___ix. Remove Microsoft Store Apps: **check the box**

___e. Architecture – drop down: **x64**

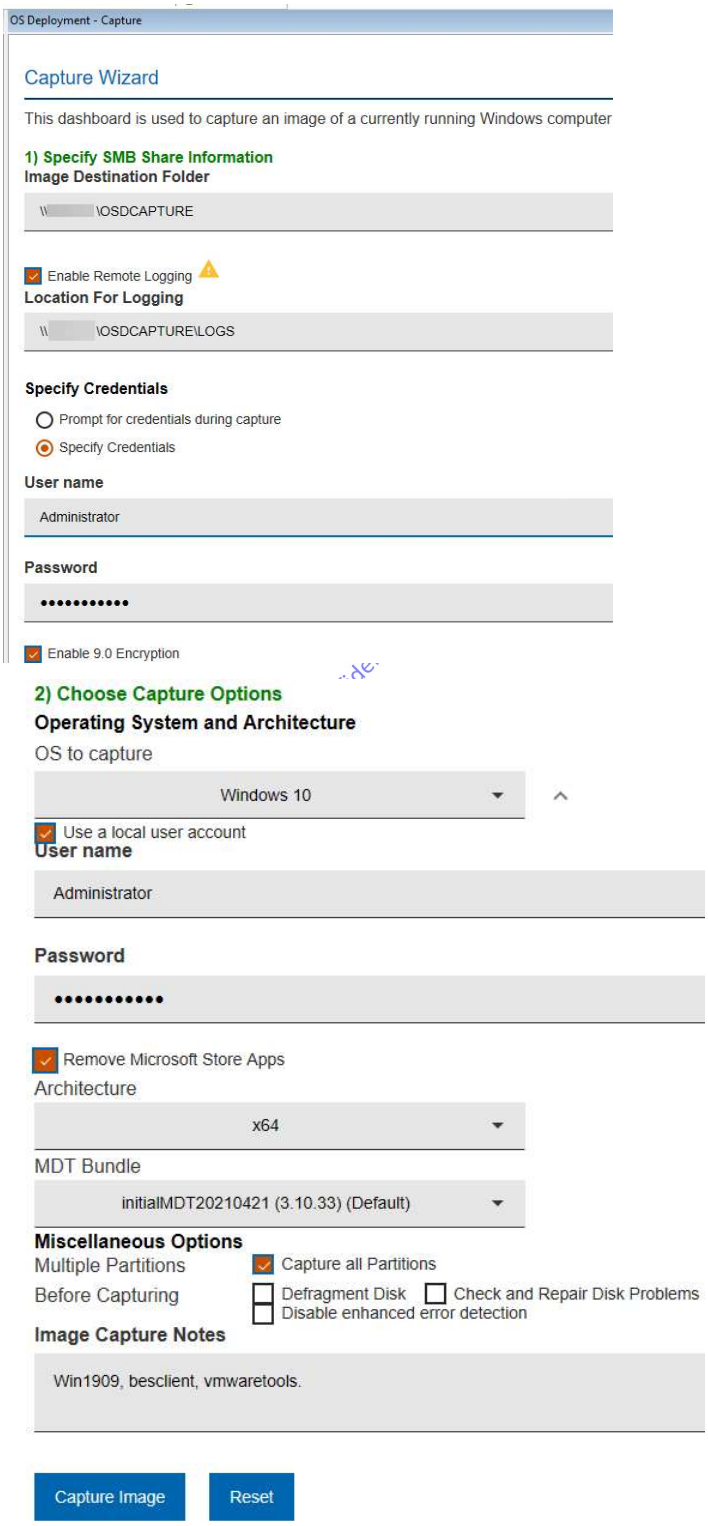
___f. MDT Bundle: **accept the default**

___g. Check the box: **Multiple Partitions (Capture all Partitions)**

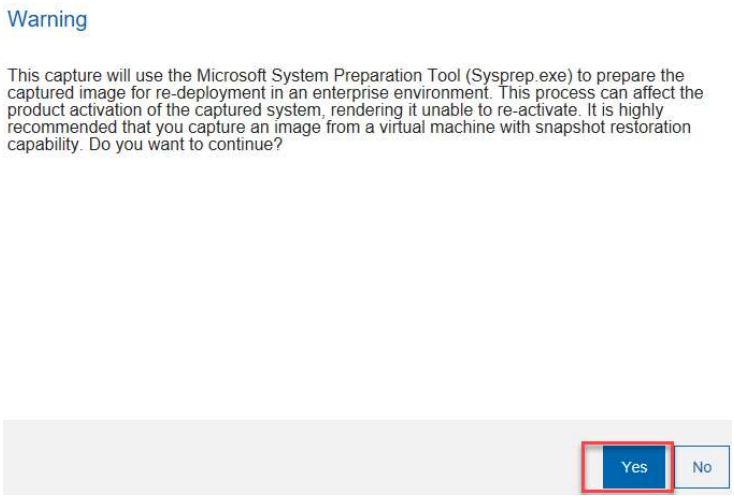
___h. Image Capture Notes: Free form section you should say what you know about the OS being captured, OS, version, applications installed, etc. You can view this later and you will know what's in your captured image.

Your screen should look something like this:

___i. Click: **Capture Image**



Answer Yes to the “sys prep” question:



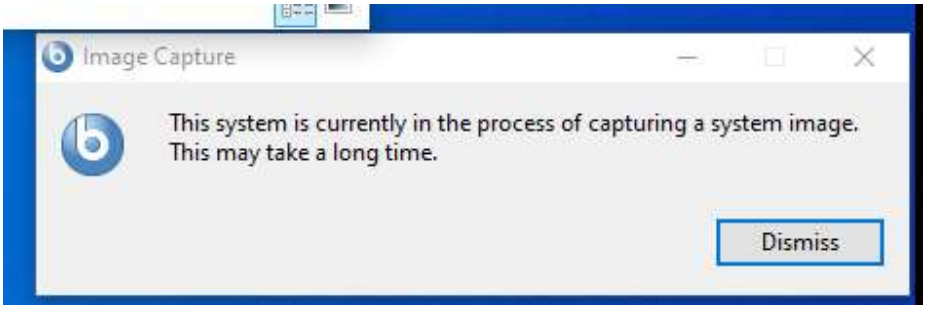
___ii. This kicks off a Take Action

___iii. Find the name of your target: **BESFNDWIN10**

___iv. Select your target

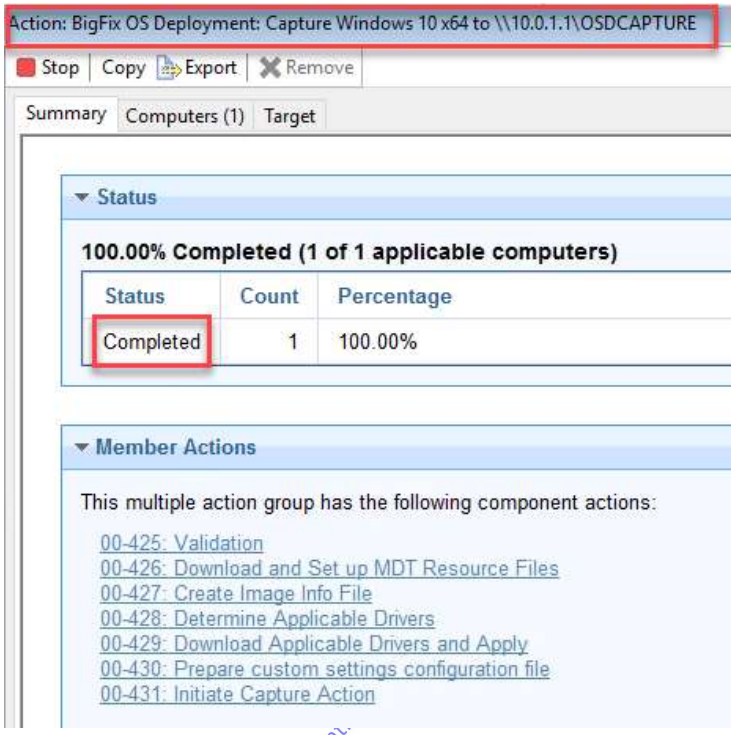
___v. Click: OK

Once the process starts, usually issues occur in the “validation” step of the BigFix Task. Typically, I see that I miss typed the network path. Once it’s through that process (happens really fast on the endpoint), you will see this on the target box. Unless this message box is closed, it will remain in place through the process:

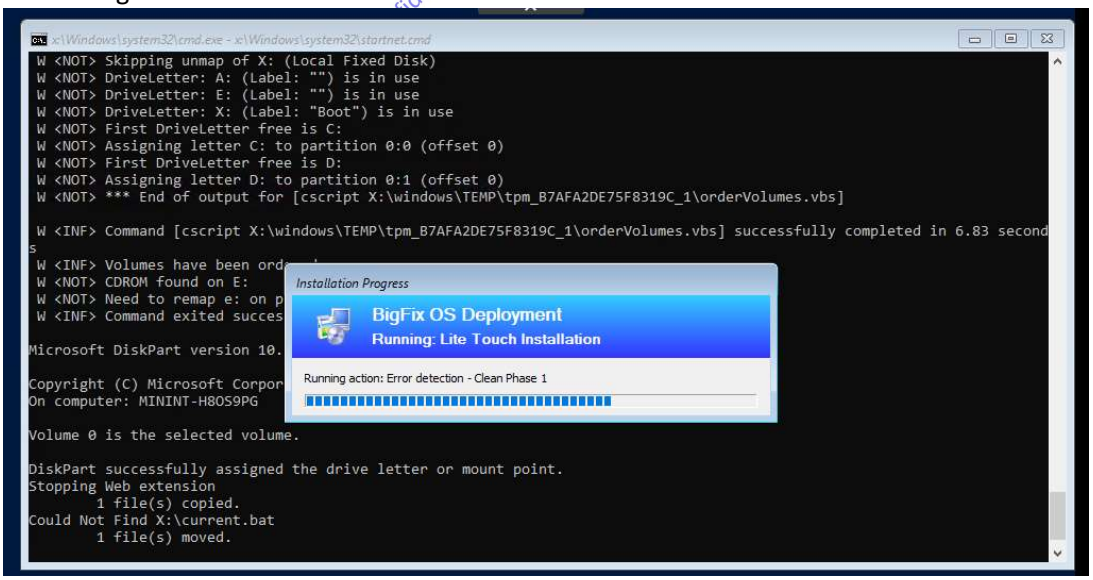


This process will take a good 30 or more min.

Once BigFix says this is complete…. It is not. All of the software to capture is done, however, the target is busy, capturing. View from BigFix:

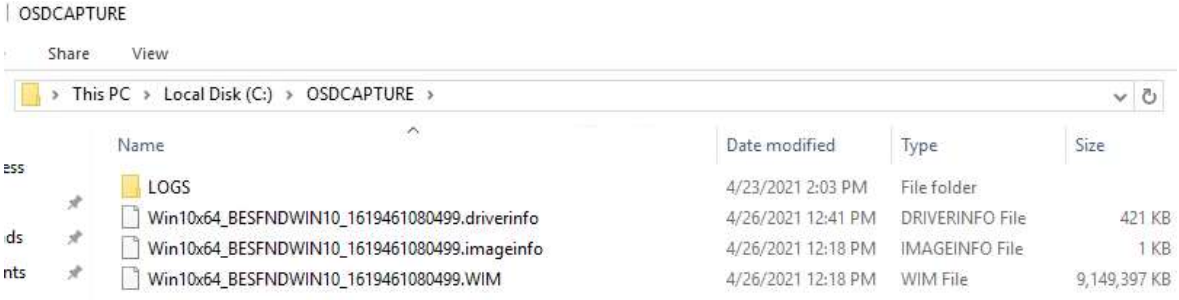


View from the target:



Once it is fully complete (30-60 min, depending on the size of the disk captured and network speed), the target will upload the wim files that make up the image to your server:

BESFNDAPPSERVER c:\OSDCAPTURE



These names are not very reflective of what the image is all about, you can re-name them to something that more reflects what they are. All three must be renamed the same, only the suffix will remain untouched.

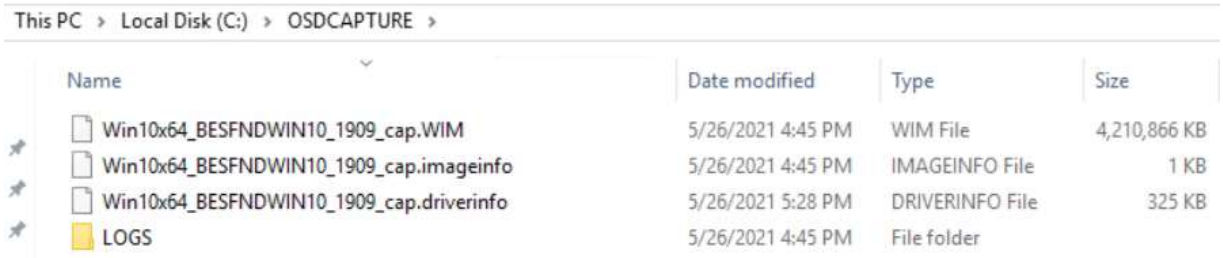
____6. Ensure you are logged into the server: BESFNDAPPSERVER

____7. Open File Explorer (if not already open)

____8. Navigate to: C:\OSDCAPTURE

____9. Select each file and change its name to: **Win10x64_BESFNDWIN10_1909_cap** (spaces are not allowed). This will be the name of the image when you import it into OSD. So, when you are back in the office, name it something that means something to you!

____10.Once you are done, you should look something like this:



The next step would be to Import this WIM file you just created. I've provided the steps to accomplish that. However, in exercise 8 we imported two OS's, this import process is effectively the same process, so, we will skip this import.

____11.SKIP - Next, import into OSD.

___a. SKIP - Open your BigFix Console on server: **BESFNDAPPSERVER**

___b. SKIP - Navigate to: **Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Image Library dashboard**

___c. SKIP - Click on the **Import Image button**

___d. SKIP - Ensure the radio button: **Windows format image (.wim) is selected**

___e. SKIP - Browse for your captured image

___f. SKIP - Select the file: **Win10x64_BESFNDWIN10_1909_cap.WIM**

___g. SKIP - Click: **Open**

___h. SKIP - Click: **Analyze**

___i. SKIP - Once that is done, it will start the upload in the background, click: OK

Once the upload completes, you can select the image and create profiles for use by OSD. This no different than some of the previous steps we did. So, creating a profile and deploying is something you can do back at the office.

This completes the lab for capturing an Image.

Exercise 18: OPTIONAL: How to create OSD Deployment Media aka "offline"

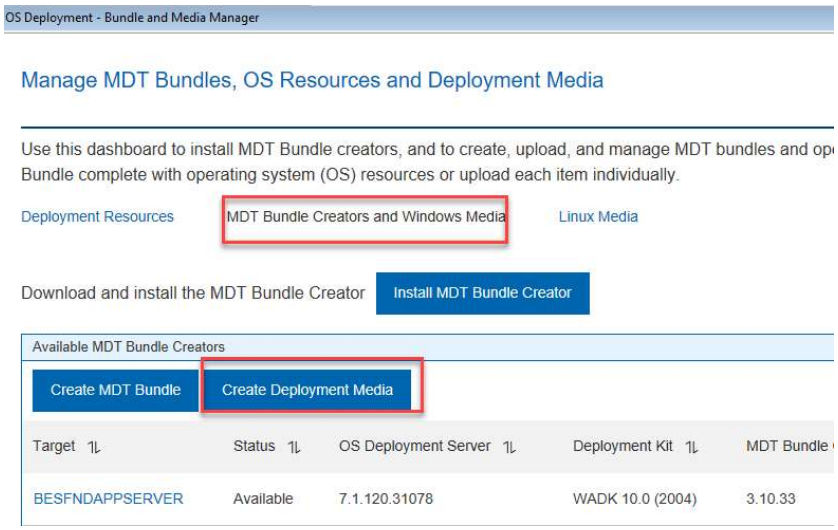
In this exercise, you learn how to create OSD Deployment Media. This is for the times you don't have network access from the target or the network is not sufficient to deal with the transfer of ~5G or more of software. You can use this media to create a bootable: cd-rom/dvd, or usb key.

This is an optional lab.

____1. Login to the server: BESAPPSERVER
- ___a. User: **Administrator**
- ___b. Passwd: bigfixrocks

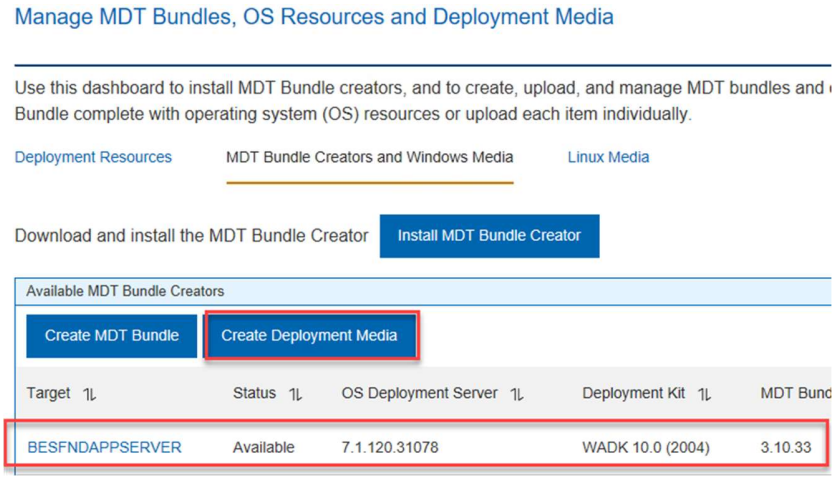
____2. Login to the BigFix **Console**
- ___a. User: **adminmo**
- ___b. Passwd: **B1gfixrocks**

____3. Navigate to**: Systems Lifecycle -> OS Deployment and Bare Metal Imaging -> Setup -> bundle and Medial Manager Dashboard**



____4. Click on the tab: **MDT Bundle Creators and Windows Media**

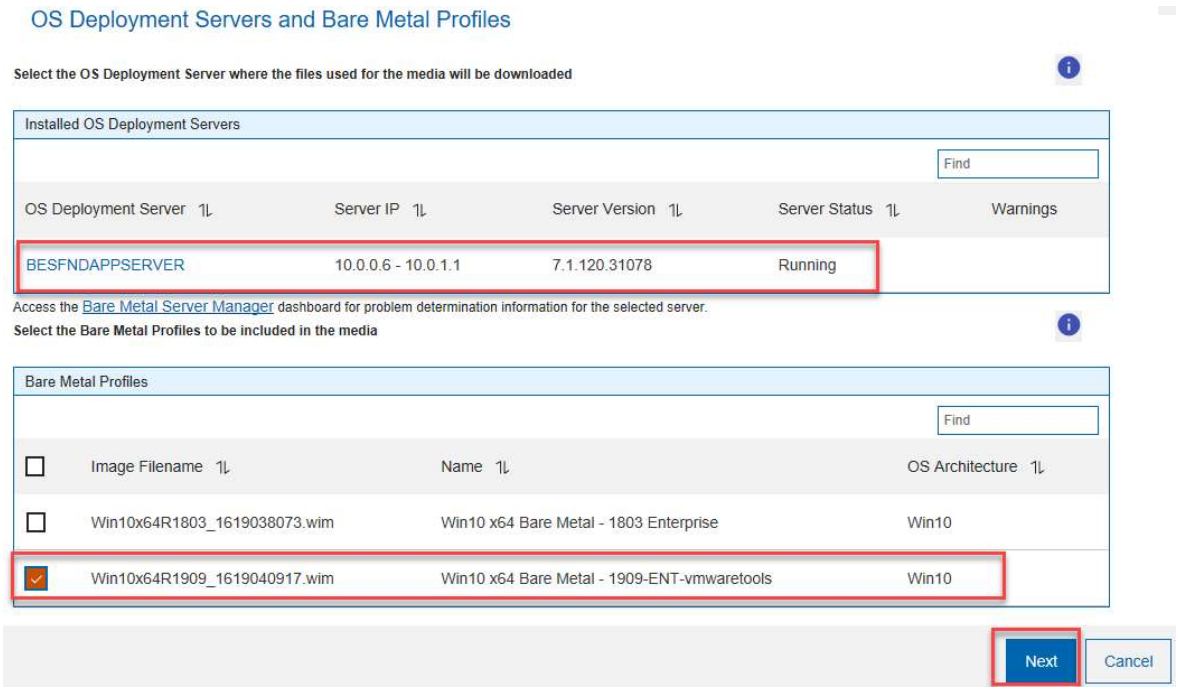
____5. You are presented with the available MDT Bundle Creators, select your server: **BESFNDAPPSERVER,** then click the button: **Create Deployment Media**



____6. Media Type, select: **Create Offline Deployment Media**

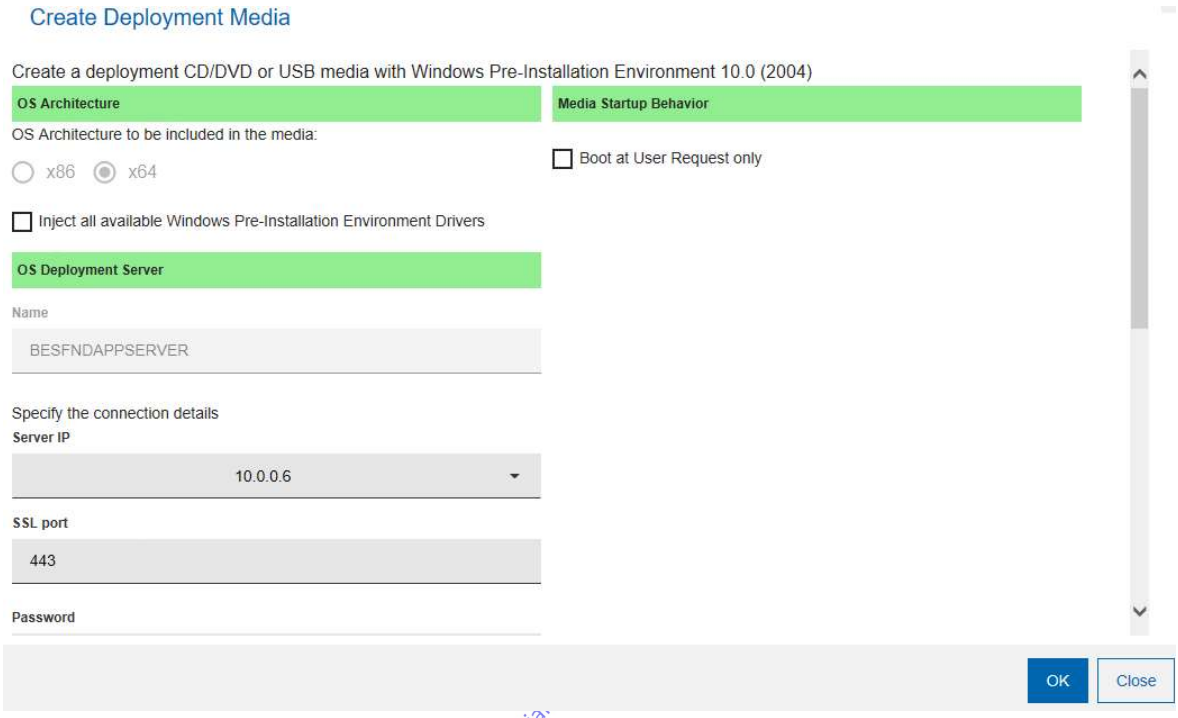
____7. Click Next

____8. Select the OSD Profile you want in your media. Select: **the check box next to: Win10x64R1808_<somenumber>.wim**, then click Next.



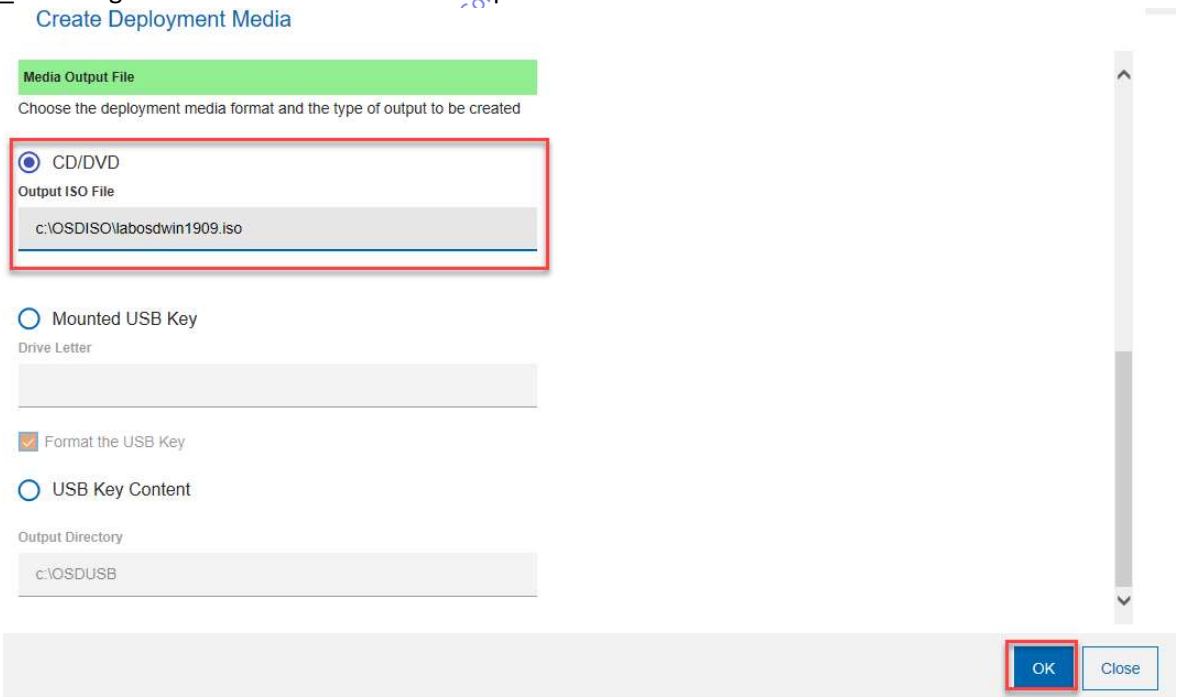
____9. The Create Deployment Media screen appears.

____10. Create Deployment Media Screen shot 1 of 2 (you don't have to make any changes to this screen):

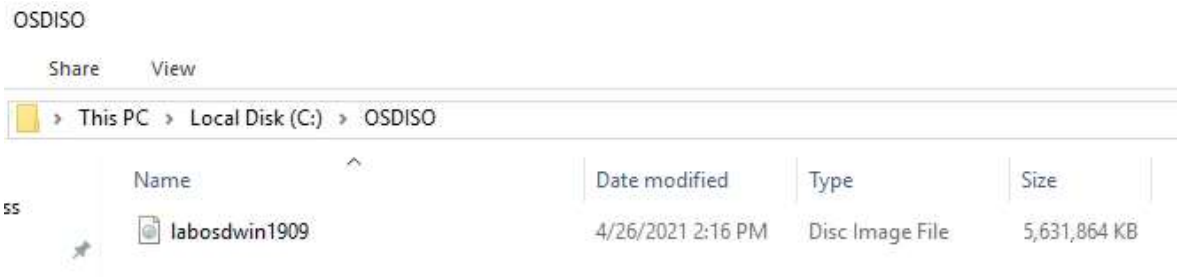


____11.Scroll down till you find the section: **Media Output File**.

____12.Change the name of the ISO from sampleCD.iso to **labosdwin1909.iso**



Take the defaults for everything else. Click OK. This kicks off the action to create that iso. This takes about 7 min. Once it is complete, check your folder C:\ISOs for your newly created ISO.

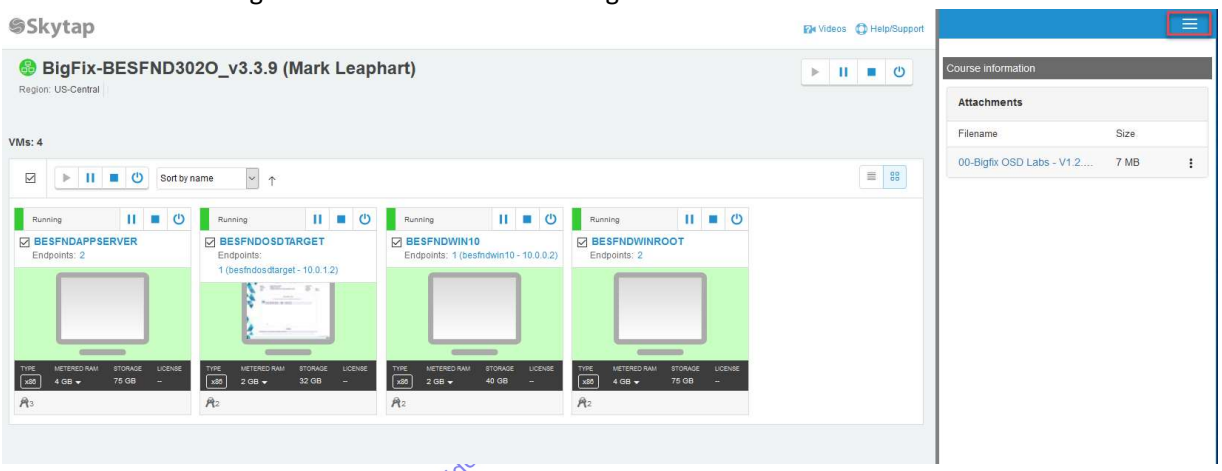


This completes the building of OSD Deployment Media.

Exercise 19: OPTIONAL: Use OSD Deployment Media to deploy a bare metal workstation

In this exercise, you will use the newly created OSD Deployment Media (exercise 16) to build a bare metal vm. You would use this process in an environment where you can't PXE boot. This file can be burned to a DVD or a USB Key and booted into OSD.

____1. From your browser open the main tab you logged into Skytap with. The title will start with "Course Manager…." It should look something like this:



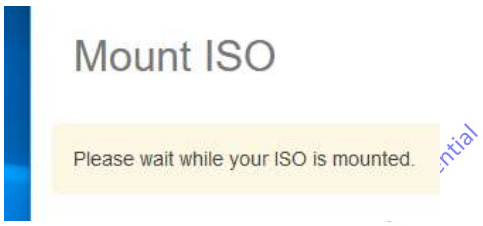
____2. Navigate to the far right side of the desktop, click on the 3 stacked bars.

____3. This opens the Resources tab, click on ISOs:

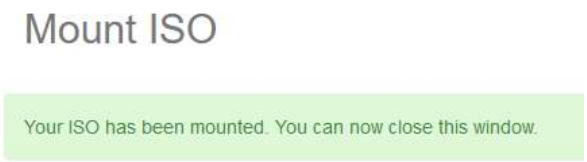
____4. This opens a new dialog, simply click on the "click here" link:

____5. Now select the VM: BESFNDOSDTARGET and the ISO: 1803_WO_drivers.iso(US-Central) then click on MOUNT ISO

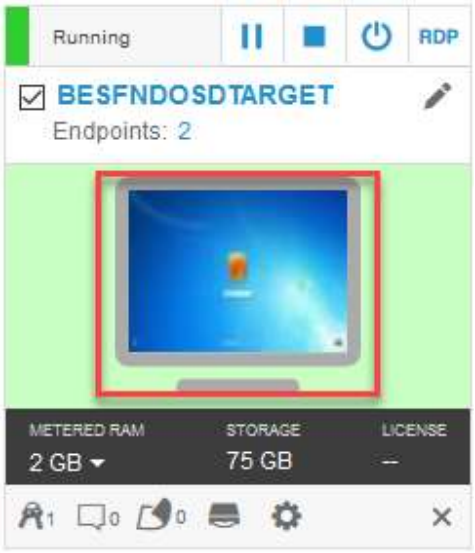
____6. You will get the message:



____7. Followed by:



____8. Click on the “screen” icon to access the BESFNDOSDTARGET target.



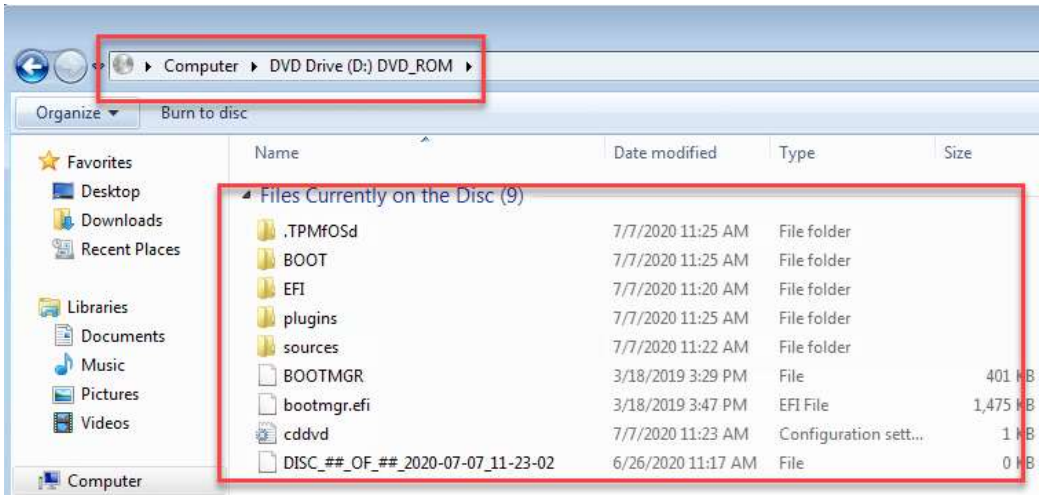
____9. After you click on the “screen” it opens a new tab in your browser, open the tab: BESFNDDOSWin10 – Skytap

____10. Login to the target: BESFNDOSDTARGET

___a. User: tecuser

___b. Passwd: bigfixrocks

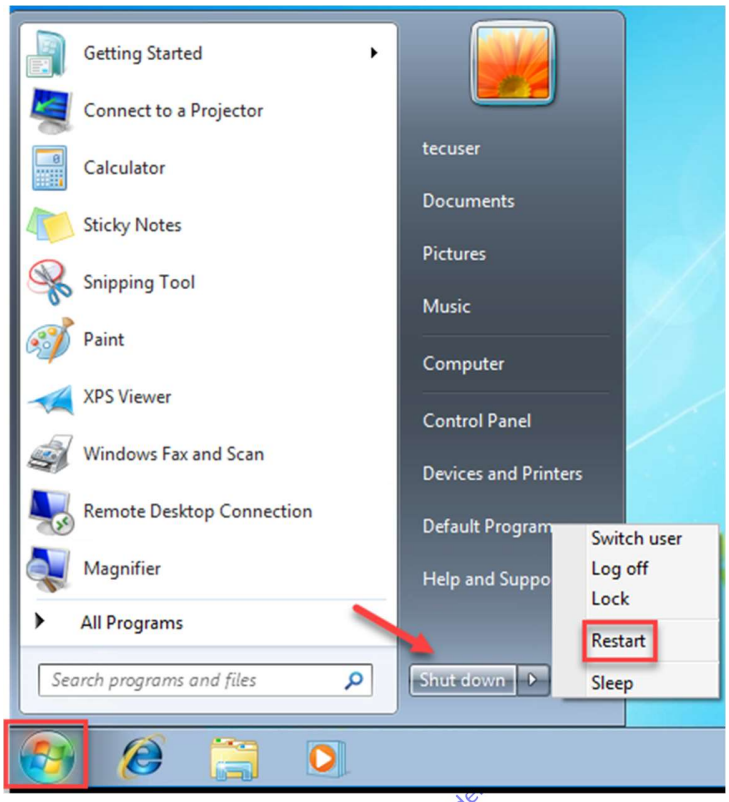
____11. Open File Explorer and make sure the ISO we need is mounted. It should look something like this:



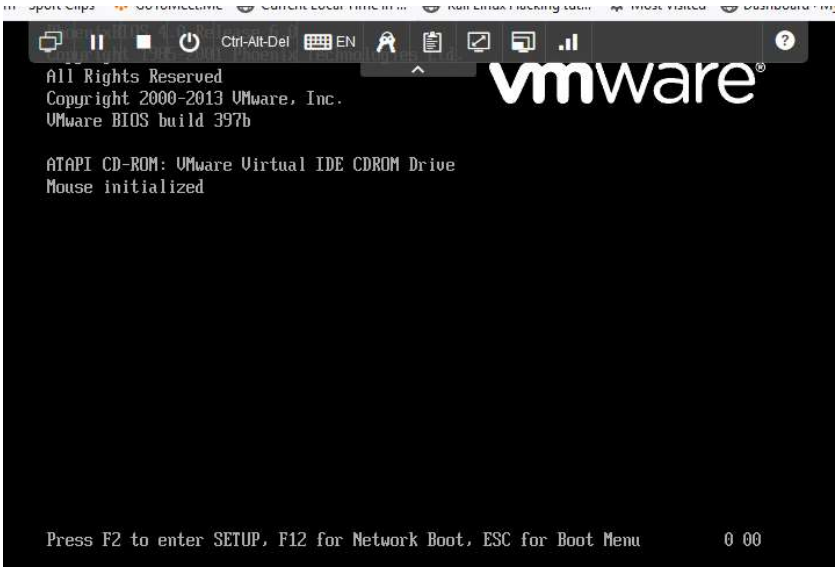
____12. If that is not there, review steps 5-8

____13.Click on the start menu

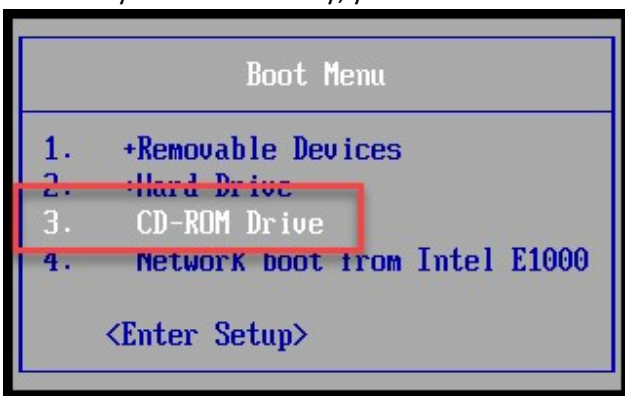
____14.Locate the shutdown/restart button, issue a restart



___a. Right after the restart occurs you should see a VMWARE screen, this is where you hit the ESC key (on your keyboard).

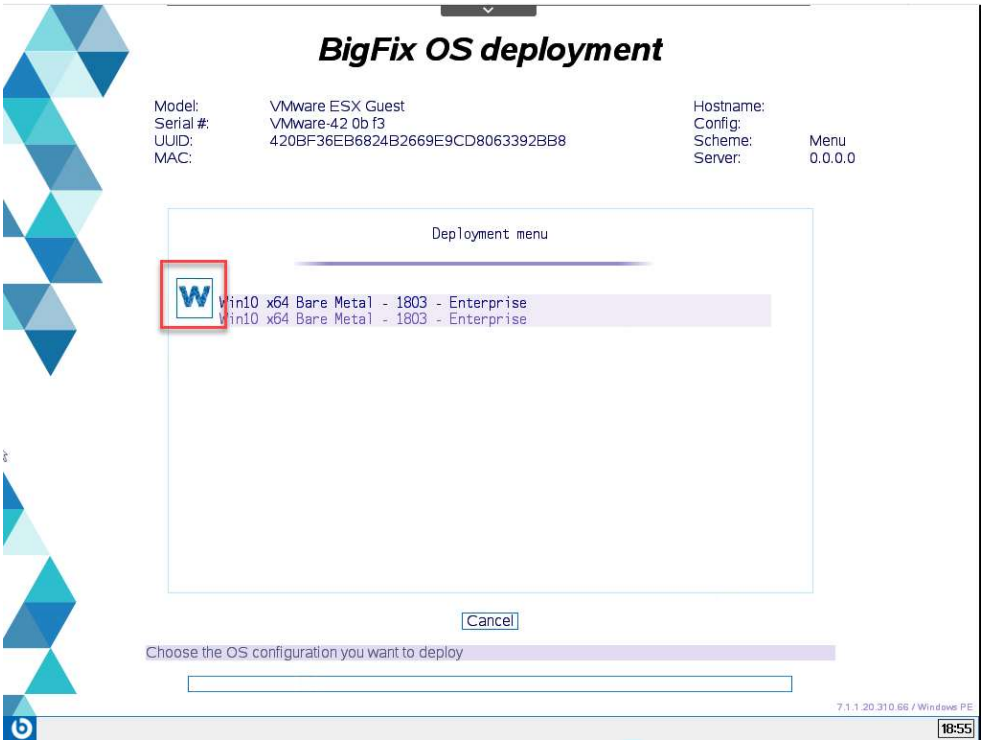


___b. Once you hit the ESC key, you should see this:



Select CD-ROM Drive (use your keyboards, arrow keys to navigate). Make sure you have your mouse pointer on this screen and you have clicked it at least once to ensure you are in the correct screen. Once you have highlighted option CD-ROM. Hit Enter/Return. This will start the OSD process.

____15. Once OSD loads, you need to choose the ISO to boot. Click on the W and the re-image process will start.



Once you target is done building. There is going to be some cleanup needed in the BigFix console. There may be multiple LAB-xxxxxxxx machines in your BigFix server. Let us clean that up.

____16. Open the BigFix console on your server: BESFNDAPPSERVER
____17. Navigate to: All Content -> Computers
____18. Sort your console by clicking on: "Last Report Time".
____19. Search for computers that have the name: LAB-
____20. Select all of the "greyed out" LAB* computers and remove them from the database. Once the OSD built you kicked off, will re-populate your computers list with the newly provisioned LAB-xxxxxxxx computer.

This completes this exercise.