

# **BigFix OSD**

## **Student Workbook**

September 2023

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To learn more about BigFix, contact your HCL Software representative, HCL Business Partner, or visit [www.BigFix.com](http://www.BigFix.com).

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# 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.

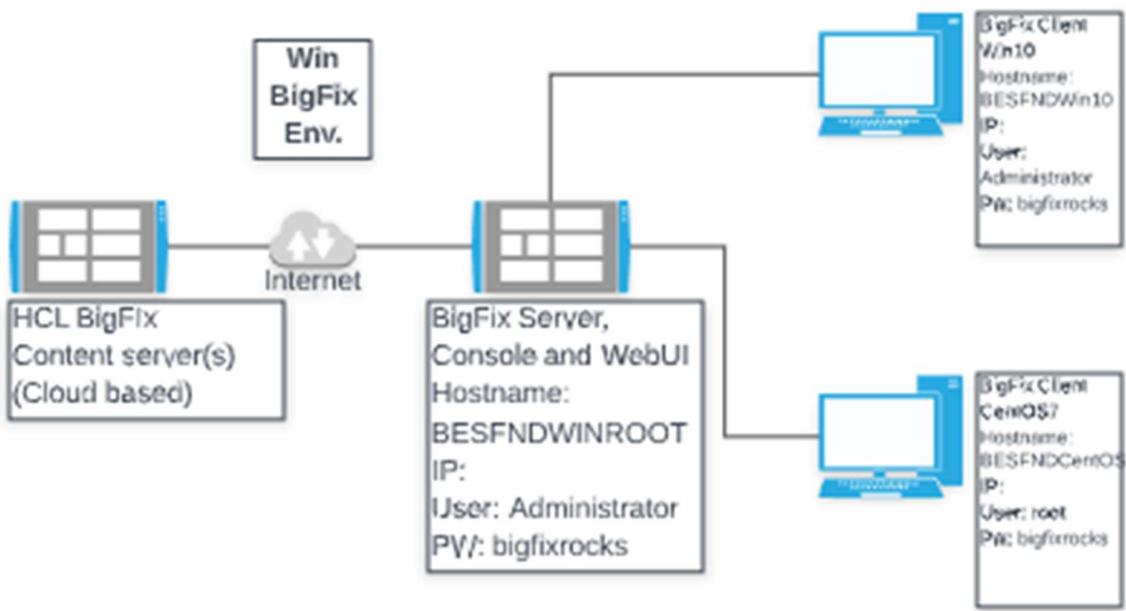
In these exercises, you will learn how to:

- 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](http://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](mailto: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](https://hcl-vt.skytap-portal.com/lab_access/event_participant/13/995d8455a0ac743edb1a1c6ebca90d9cc8e6805383edc11cf581887b12ceff5a)

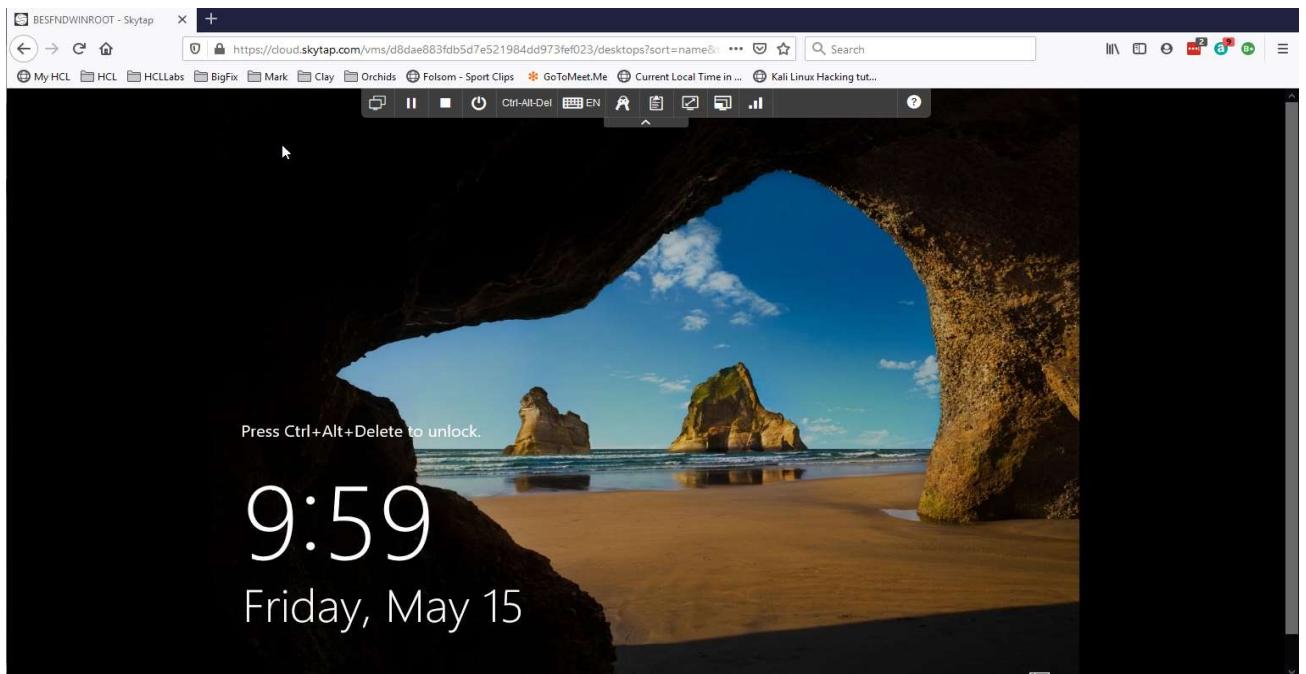
Instructors:

Instructor Email/ID	Instructor Name	Region
<a href="mailto:leaphartmark@gmail.com">leaphartmark@gmail.com</a>	Mark Leaphart	US-Central

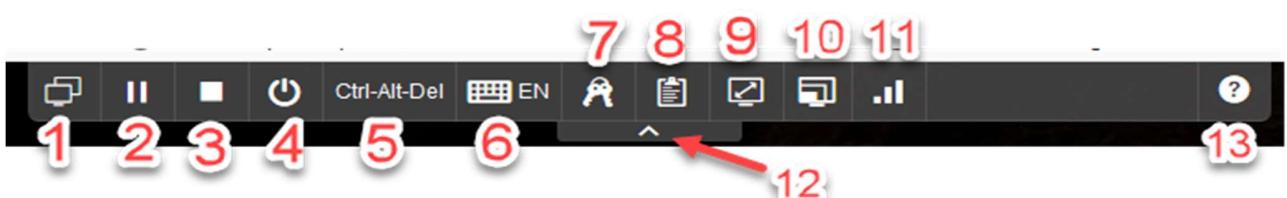
Click on the url provided in your email and provide your credentials (if asked). You will be taken into Skytap and you will see your provisioned environment.

The screenshot shows the Skytap web interface for the 'TEST5 US (Student Lastname)' environment. At the top, there are buttons for Feedback, Videos, and Help/Support. Below that, the title 'TEST5 US (Student Lastname)' and the region 'US-Central' are displayed. A message 'VMs: 3' is shown above a grid of three VM cards. Each card displays the VM name, status (Running), and endpoint information. The first VM, 'BESFNDCENTOS', has 1 endpoint (besfndcentos - 10.0.0.3) and configurations for 2 GB METERED RAM and 30 GB STORAGE. The second VM, 'BESFNDWIN10', has 1 endpoint (besfndwin10 - 10.0.0.2) and configurations for 2 GB METERED RAM and 75 GB STORAGE. The third VM, 'BESFNDWINROOT', has 1 endpoint (besfndwinroot - 10.0.0.1) and configurations for 8 GB METERED RAM and 200 GB STORAGE. Each card also includes a power button icon.

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**

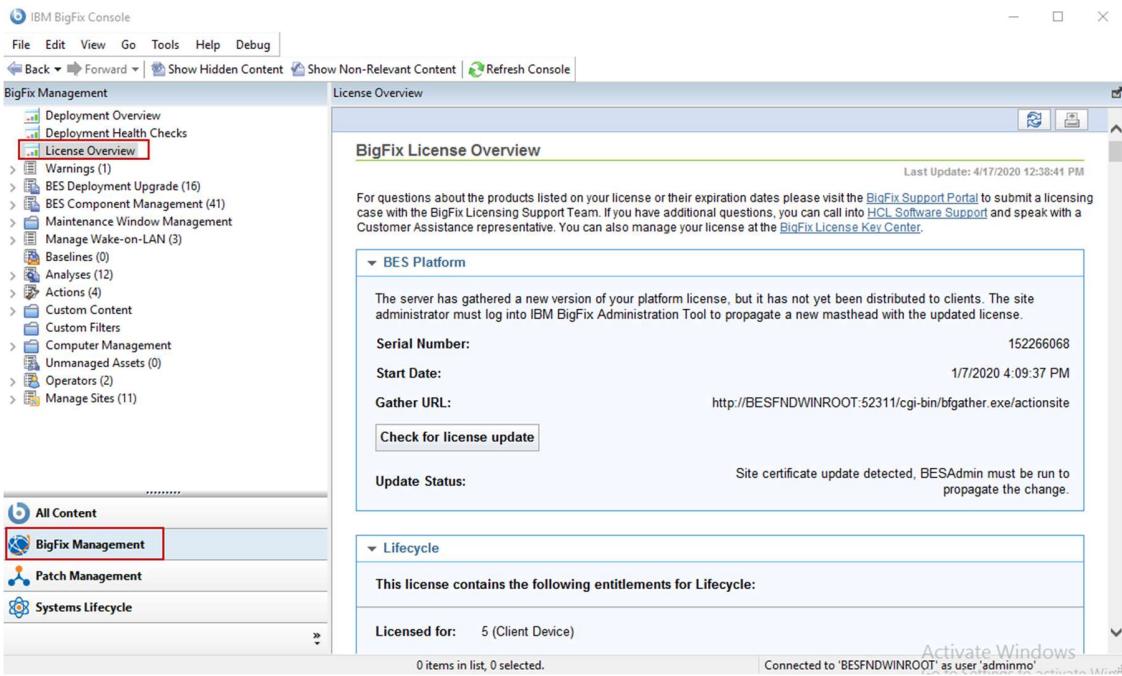
- \_\_\_\_\_3. Click YES to Networks for all vm's (the network number will change; this picture is as an example):



## 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.

Lifecycle

This license contains the following entitlements for Lifecycle:

Licensed for:	5 (Client Device)
Expiration Date:	12/31/2025
<b>Enabled Sites</b>	<b>Subscribed Computers</b>
<a href="#">BES Asset Discovery</a>	4
<a href="#">BES Inventory and License</a>	4
<a href="#">OS Deployment and Bare Metal Imaging</a>	0
<a href="#">Patches for CentOS7 Plugin R2</a>	1
<a href="#">Patches for RHEL 7</a>	0
<a href="#">Patches for Windows</a>	3
<a href="#">Patching Support</a>	4
<a href="#">Power Management</a>	3
<a href="#">Software Distribution</a>	4
<a href="#">Updates for Windows Applications</a>	3

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**

The screenshot shows the 'BigFix Management' interface. In the left sidebar, under 'BigFix Management', the 'Warnings' item is selected and highlighted with a red box. The main content area displays a 'Warnings' table with two entries. The first entry is 'BES Clients using Main BES Server instead ...' of type 'Fixlet'. The second entry is 'OS Deployment and Bare Metal Imaging' of type 'Site', which is also highlighted with a red box and has a red arrow pointing to it from the left.

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 screenshot shows the 'External Site: OS Deployment and Bare Metal Imaging' configuration page. At the top, there are several buttons: 'Save Changes' (highlighted with a red box), 'Discard Changes', 'Gather', 'Add Files...', and 'Remove'. Below these buttons, there are four tabs: 'Details', 'Computer Subscriptions' (which is selected and highlighted with a red box), 'Operator Permissions', and 'Role Permissions'. Under the 'Computer Subscriptions' tab, the text 'The following computers will be subscribed to this site:' is displayed. There are three radio buttons:

- All computers (highlighted with a red arrow)
- No computers
- Computers which match the condition below

A search bar at the bottom allows filtering by 'Computer Name' using operators like 'contains'.

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.

The screenshot shows the BigFix Console interface. At the top, there is a table listing three fixlets:

Name	Source Severity	Site	Applicable Co...
Install BigFix Relay (Version 10.0.0)	<Unspecified>	BES Support	1 / 5
Install BigFix Relay (Version 10.0.2)	<Unspecified>	BES Support	1 / 5
Install BigFix Relay on Linux and UNIX (Version 10.0.2)	<Unspecified>	BES Support	1 / 5

Below the table, a message says "Task: Install BigFix Relay (Version 10.0.2)". There are several buttons: "Take Action", "Edit", "Copy", "Export", "Hide Locally", "Hide Globally", and "Remove". A red box highlights the "Take Action" button. Below these buttons, a message says "Click here to install the BigFix Relay 10.0.2 in the default location." Another red box highlights this message. Further down, there is a "Description" section with the text "Installs the BigFix Relay 10.0.2 on the selected Windows computers." and "The target computers must have a BigFix Client version 10.0.2 installed." A note below says "For more information on BigFix Relays, please visit the following support web pages:" followed by two links: "BigFix Relay FAQ" and "BigFix Relay Health". A note states "Note: This relay supports Windows 8.1 and above. This fixlet will not install on an Embeded computer." Below this, there is an "Authentication" section with the text "All communications between an authenticating relay and its clients occur over TLS. Newly created clients will automatically connect to the relay using TLS." Two radio buttons are shown: "Install Relay as authenticating." (with a note "This option is recommended for Internet-facing relays, which are accessed by BigFix clients") and "Install Relay as non-authenticating." (with a note "This option is suitable for most purposes, except for Internet-facing relays"). A red box highlights the "Install Relay as non-authenticating." option.

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: **BESFNDAPP SERVER**, 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:  
**BESFNDAPP SERVER**

- \_\_\_\_\_ a. Login as Administrator to: **BESFNDAPP SERVER**
- \_\_\_\_\_ 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**

The screenshot shows the BigFix interface. On the left, there's a navigation pane titled "Systems Lifecycle" with several categories like Asset Discovery, Inventory Management, and OS Deployment and Bare Metal Imaging. Under "OS Deployment and Bare Metal Imaging", "Health Checks" is selected and highlighted with a red box. The main content area is titled "OS Deployment - Health Checks" and features the "BIG FIX" logo. Below it, the title "Health Checks" is displayed. A summary message says "The OS Deployment Health Checks down into individual health checks". Two items are listed: "General: Fail" (indicated by a red background) and "Bare Metal: Pass" (indicated by a green background).

- \_\_\_\_\_ 18. The Health Checks are displayed. For each check, there is a “Results” and “Resolution” section.

The screenshot shows the "Health Checks" dashboard. At the top, there's a message: "OS Deployment dashboards and wizards require that certain analyses be active. These dashboards may have limited functionality if their prerequisite analyses are not active." Below this, there's a section titled "Results:" with a red arrow pointing to it. It shows "Active Analyses: 0" and "Inactive Analyses: 4". To the right, there are two status indicators: "Fail" (red) and "High". Below the results, there's a section titled "Resolution:" with a red arrow pointing to it. It contains a list of four items: "Hardware Information", "OS Deployment Server Information", "Reimage Failure Information", and "Bare Metal Target Information". The last three items are highlighted with a red box.

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

The screenshot shows a software interface titled "Analysis: SSL Encryption Analysis for OS Deployment". At the top, there's a toolbar with buttons for "Activate" (highlighted with a red box), "Deactivate", "Edit", "Export", "Hide Locally", "Hide Globally", and "Remove". Below the toolbar are tabs for "Description", "Details", and "Applicable Computers (0)". The main content area has a "Description" section containing the text: "This analysis returns the public keys on clients ready for OS deployment. Th...". At the bottom of this section is a link "Click here to activate this analysis." which is also highlighted with a red box.

**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.

The screenshot shows a software interface titled "OS Deployment - Health Checks". On the left, there's a tree view under "Health Checks" with nodes like "General", "Name", "+ OS Deployment Site has:", and "+ OS Deployment Analyses". A specific fixlet is selected, titled "Fixlet: Update Server Whitelist for OS Deployment". The top bar has a "Take Action" button (highlighted with a red box) and other options like "Edit", "Copy", "Export", "Hide Locally", "Hide Globally", and "Remove". The main content area has a "Description" section with the text: "Update the BigFix Server whitelist in order to allow dynamic downloads us...". Below it is an "Actions" section with a link "Click here to update the server whitelist." (highlighted with a red box). At the bottom, a "Take Action" dialog is open, showing a "Name" field set to "Update Server Whitelist for OS Deployment", a "Preset" dropdown set to "Default", and a "Target" section where the "Computer Name" dropdown is set to "BESFNDWINROOT" (highlighted with a red box).

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.

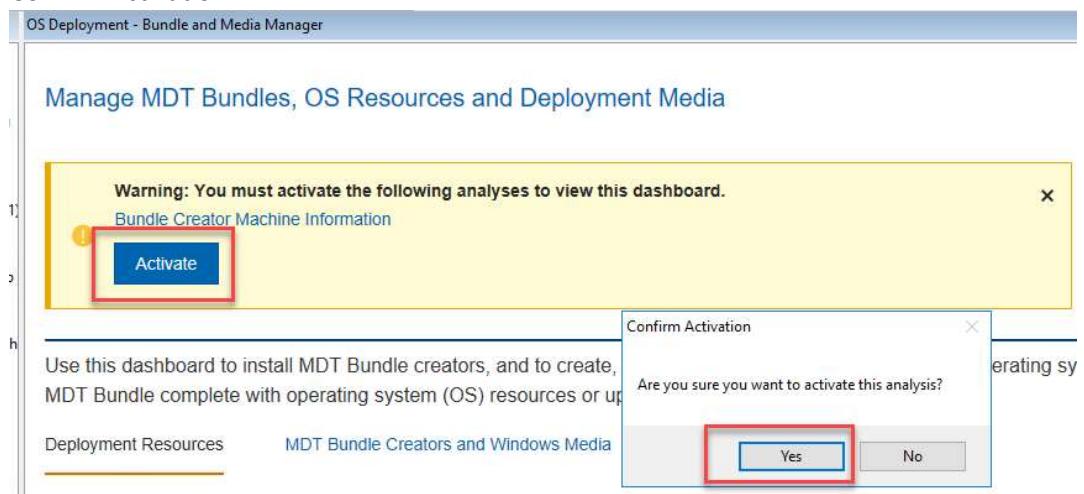
This completes this section on the Health Check Dashboard.

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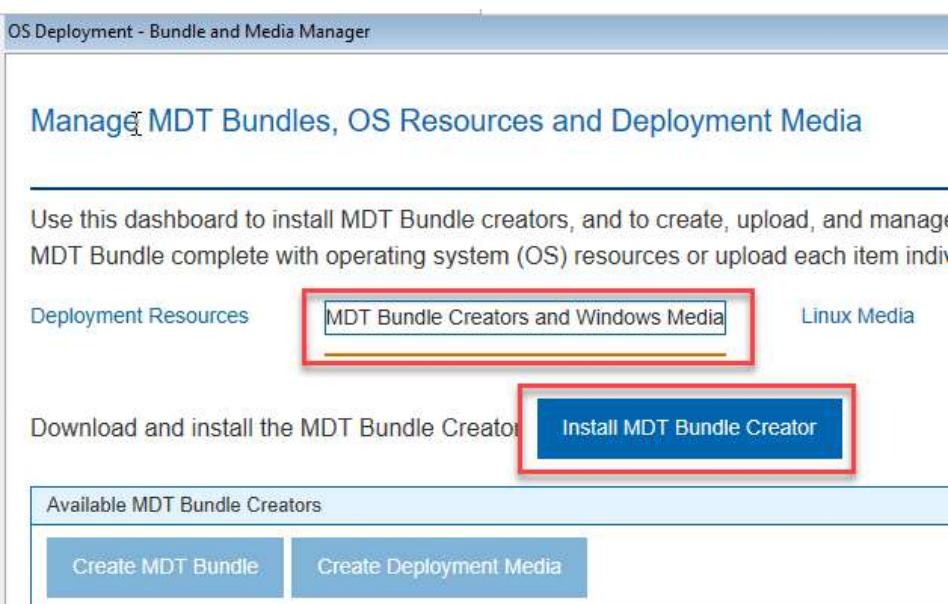
## Exercise 4: Install MDT Bundle Creator

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.



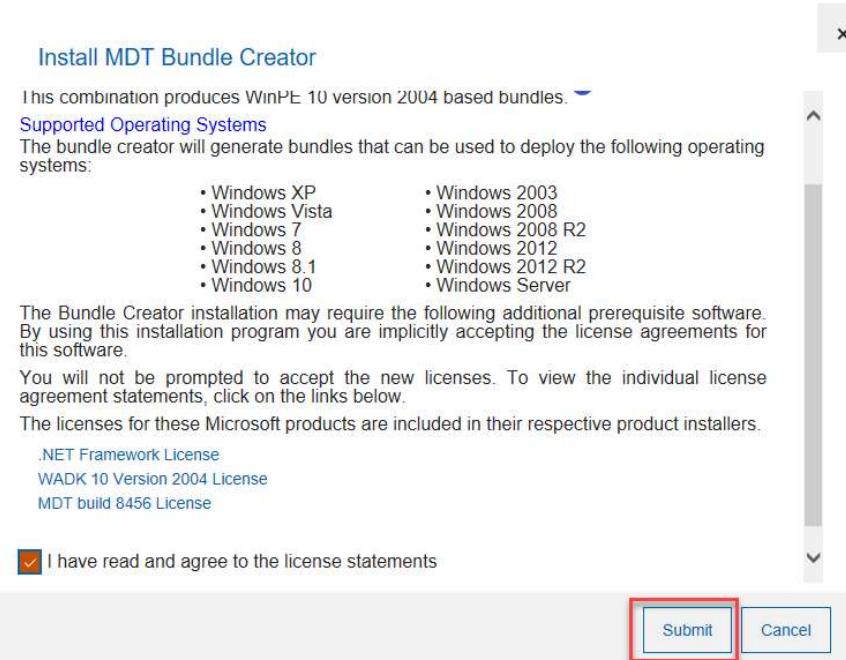
- \_\_\_\_\_ b. Click on the tab: **MDT Bundle Creators and Windows Media**, then on the button: **Install MDT Bundle Creator**



- \_\_\_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.

The screenshot shows the 'Take Multiple Actions' dialog box. The 'Post-Action' tab is selected. In the target list, the entry 'BESFNDAPPSERVER' is highlighted with a red box. The table below shows the targets:

Computer Name	OS
BESFNDAPPSERVER	Win2016 10.0...
BESFNDCENTOS	Linux CentOS ...
BESFNDOSDTARGET	Win7 6.1.7601
BESFNDWIN10	Win10 10.0.18...
BESFNDWINROOT	Win2019 10.0...

- \_\_\_\_\_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):

The screenshot shows the 'Manage MDT Bundles, OS Resources and Deployment Media' dashboard. The 'MDT Bundle Creators and Windows Media' tab is selected. A red box highlights the 'BESFNDAPPSERVER' entry in the list:

Target	Status	OS Deployment Server	Deployment Kit	MDT Bundle Creator Version	MDT Version	MDT Bundle Creation Date	Warnings
BESFNDAPPSERVER	Available	0					

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

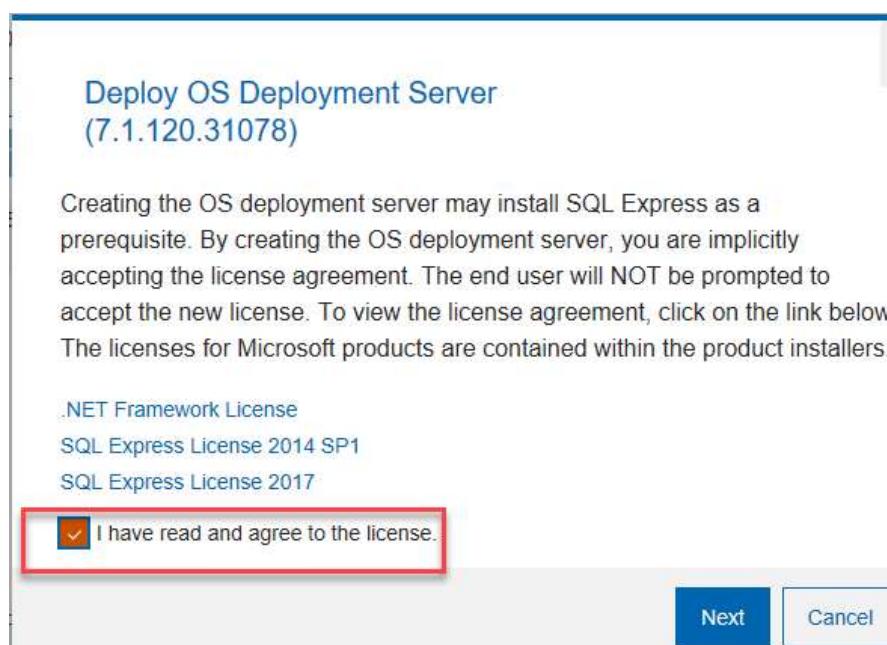
## Exercise 5: Installing the BigFix Bare Metal OS Deployment Server

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.**

The screenshot shows the 'OS Deployment - Bare Metal Server Manager' interface. The left sidebar has a tree view with 'Systems Lifecycle Domain' expanded, showing 'Asset Discovery', 'Inventory Management', 'OS Deployment and Bare Metal Imaging' (which is expanded to show 'Health Checks', 'Setup', 'Manage Images and Drivers', 'Manage Bare Metal Servers' (which is expanded to show 'Server Management' - this item is highlighted with a red box), 'Manage Scripting Environments', 'Activity History', 'Maintenance and Configuration (8)', 'Deploy OS using RAD Profiles (0)', and 'Rare Metal Target Operations (0)'). The right main area is titled 'Bare Metal OS Deployment Server Manager'. It contains a sub-section 'From this dashboard you can manage the installation, upgrade, and targeting rules to single profiles.' and a status message 'Latest Server version from network: 7.1.1.20 (310.78)'. Below this is a table titled 'Installed OS Deployment Servers' with one row. At the bottom of the main area are three buttons: 'Install... (1)' (highlighted with a red box), 'Upgrade (0)', and 'Uninstall... (0)'.

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.

### Deploy OS Deployment Server (7.1.120.31078)

#### Data Location

Default location (%SystemDrive%\BFOSD Files)

Drive with the most free space

Specify location:

#### HTTPS Port:

443

#### SQL install location (if required):

Use default location (%ProgramFiles%\Microsoft SQL Server)

Back

Next

\_\_\_ 5. Provide the ADMINISTRATOR (OS) credentials for the target: **BESFNDAPPSERVER**

- \_\_\_ a. Username: **Administrator**
- \_\_\_ b. Password: **bigfixrocks**
- \_\_\_ c. Confirm Password: **bigfixrocks**

### Deploy OS Deployment Server (7.1.120.31078)

Enter the username and password for the default login on the OS deployment server.

Note that there may be some processing time. Navigating away from dashboard before completion will cause the installation to fail.

#### User name

Administrator

#### Password

\*\*\*\*\*

Back

Install

- \_\_\_d. Click Install.
  - \_\_\_e. When the “action” opens, select: **BESFNDAPP SERVER** as your target, click OK.
  - \_\_\_f. This will take solid 15+ minutes to complete. Wait for the completion.
- Note:** You can use Baretail on BESFNDAPP SERVER’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):

The screenshot shows a dashboard titled "Bare Metal OS Deployment Server Manager". It displays a list of installed servers with columns for Server Name, Architecture, Server IP, Server Version, Server Status, Relay Status, Proxy Agent Status, Last Update Time, Warnings, and Actions. One server, "BESFNDAPP SERVER", is highlighted with a red box. The "Actions" column for this server shows a refresh icon and a pencil icon. The top right corner of the page has a timestamp "Last Updated: 03/30/2021 11:02:47 AM" and a red box around a circular arrow icon.

Installed OS Deployment Servers										
	Server Name	Architecture	Server IP	Server Version	Server Status	Relay Status	Proxy Agent Status	Last Update Time	Warnings	Actions
<input type="checkbox"/>	BESFNDAPP SERVER	x64	10.0.0.6 169.254.78.202	7.1.120.31078	Running	Running	ServerStatusNotAvailable	Tue Mar 30 10:57:16 AM		

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)**.

The screenshot shows a list of fixlets and tasks. The search bar at the top contains the text "Proxy". Below the search bar, the list includes items such as "CEBA-2020:1149 - Gssproxy Bug Fix and Enhancemen..." and "Install BigFix Proxy Agent (Version 10.0.0)". A red arrow points to the "Install BigFix Proxy Agent (Version 10.0.0)" item.

- \_\_\_d. Click: Take Action and select: **BESFNDAPP SERVER**, 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: **BESFNDAPP SERVER**, 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:

Installed OS Deployment Servers									Find				
	Install... (0)	Upgrade (0)	Uninstall... (0)	Server Name	Architecture	Server IP	Server Version	Server Status	Relay Status	Proxy Agent Status	Last Update Time	Warnings	Actions
<input type="checkbox"/>	BESFNDAPP SERVER	x64	10.0.0.6 169.254.78.202	7.1.120.31078	Running	Running	Running	Running	Running	Running	Wed, 24 Mar 2021 02:14:24 PM	<span style="color: yellow;">!</span>	<span style="color: blue;">🔗</span> <span style="color: green;">📝</span>

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: **BESFNDAPP SERVER** 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 one at a time. MDT gets totally confused if you try to import multiple OS's at the same time.
- \_\_\_i. COMPLETED: Login to the server: **BESFNDAPP SERVER**
  - \_\_\_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: **BESFNDAPP SERVER**

\_\_\_x. COMPLETED: Click the button: Create MDT Bundle

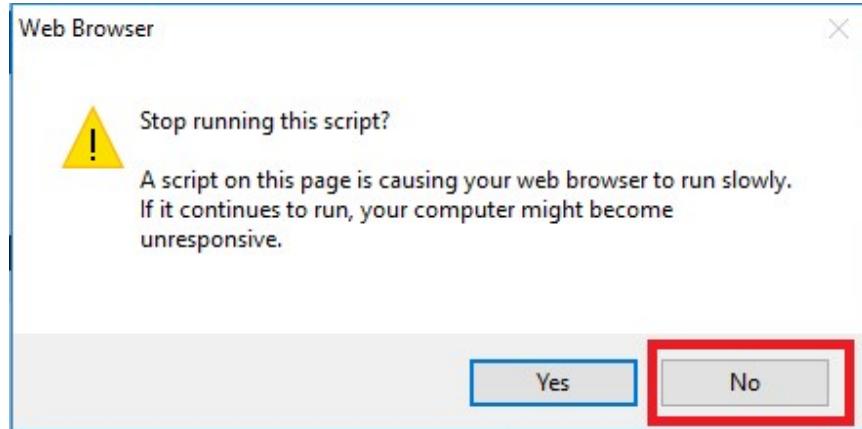
The screenshot shows the 'Manage MDT Bundles, OS Resources and Deployment Media' page. At the top, there are tabs for 'Deployment Resources', 'MDT Bundle Creators and Windows Media' (which is selected), and 'Linux Media'. Below the tabs, a message says: 'Use this dashboard to install MDT Bundle creators, and to create, upload, and manage MDT bundles and operating system resources needed for capture and deployment of operating systems. You can upload an MDT Bundle complete with operating system (OS) resources or upload each item individually.' There are three main buttons: 'Install MDT Bundle Creator' (highlighted with a red box), 'Create MDT Bundle' (highlighted with a red box), and 'Create Deployment Media'. A table below lists 'Available MDT Bundle Creators' with columns: Target, Status, OS Deployment Server, Deployment Kit, MDT Bundle Creator Version, MDT Version, MDT Bundle Creation Date, and Warnings. One row for 'BESFNDAPPSERVER' is highlighted with a red box.

- \_\_\_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).

The screenshot shows the 'Create MDT Bundle and OS Resources' dialog box. It has a 'Wizard' tab (selected) and a 'Manual' tab. The main area contains instructions: 'Use this wizard to create MDT Bundle and OS Resources. You can upload the new MDT Bundle from the MDT Resources tab.' Below this, a section titled 'Creation Options' has three radio buttons: 'Create both MDT Bundle and OS Resources' (selected and highlighted with a red box), 'Create a new MDT Bundle only', and 'Create new OS Resources only'. Another section titled 'Include all ISO images from this path' has a checked checkbox (highlighted with a red box) and a text input field containing 'c:\isos\Win1803'. At the bottom, there is an unchecked checkbox for 'Include the following ISO images or the extracted ISO folders' and a text input field containing 'C:\osdImage.iso'. The dialog has 'Submit' and 'Cancel' buttons at the bottom right.

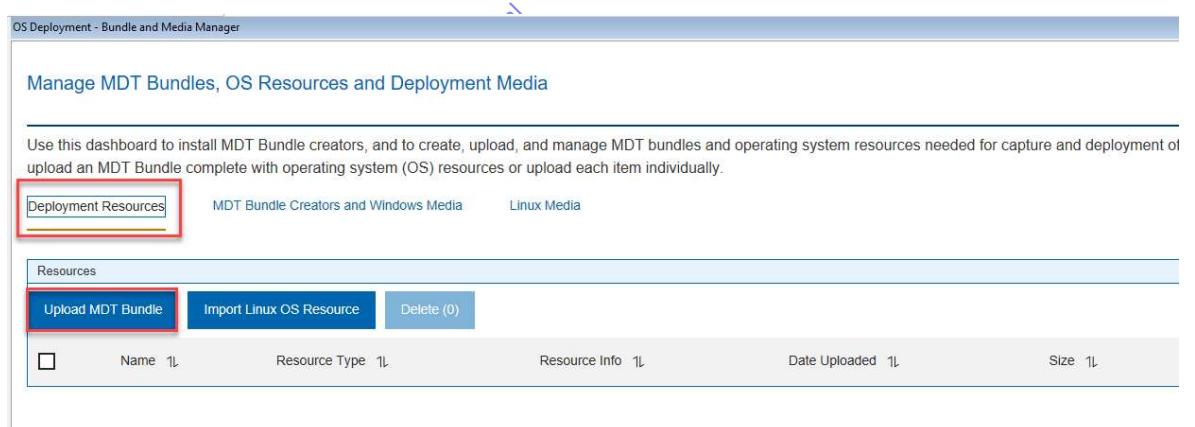
Note: You can monitor the BESFNDAPPSERVER's endpoint log to watch the install process and how it creates the bundle.

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



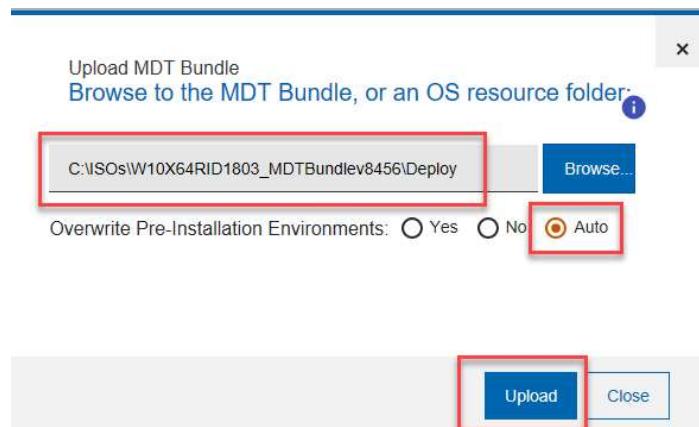
Once that completes, you need to import the bundle

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

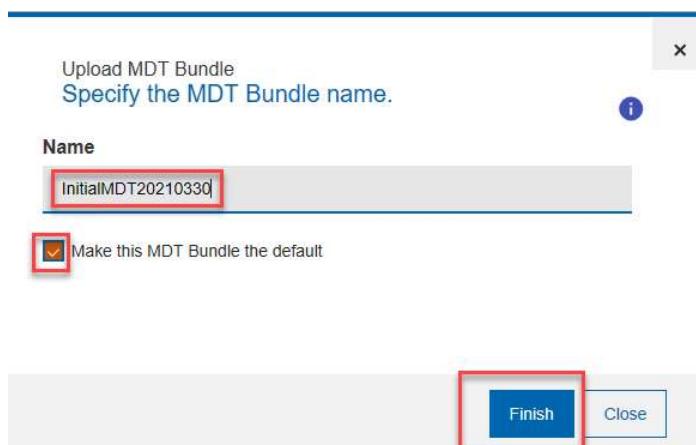


- \_\_\_\_ 4. Navigate to: **OS-Deployment and Bare Metal Imaging -> Setup -> Bundles and Media Manager**
- \_\_\_\_ 5. Select: **Deployment Resources tab**
- \_\_\_\_ 6. Click on the: **Upload MDT Bundle button**
- \_\_\_\_ 7. Browse to: **C:\ISOs\W10X64RID1803\_MDTBundlev8456\Deploy**
- \_\_\_\_ 8. 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

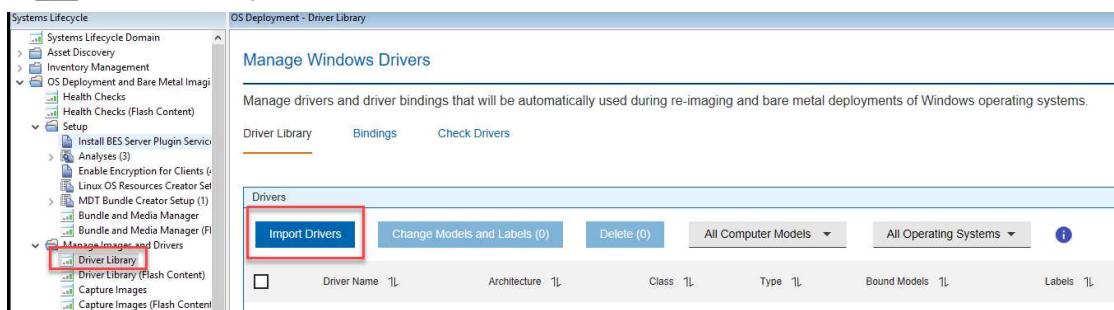
**NOTE:** Here is the reason you needed to deploy the Proxy and Mgmt Extender - OSD needs to know what Drivers it needs to deploy when it does a Bare Metal deploy to a target.

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**

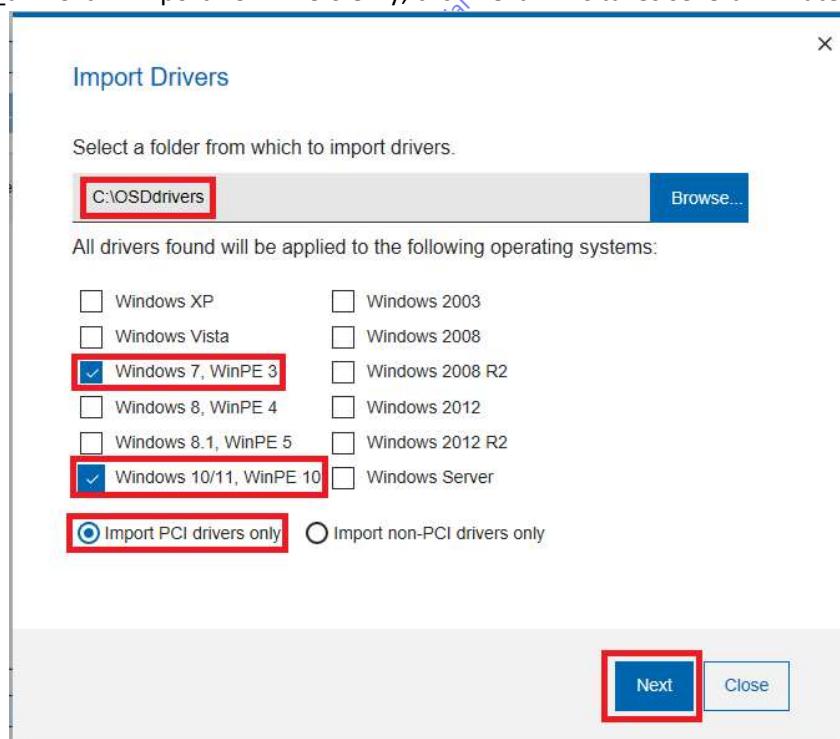
- \_\_\_\_\_ a. Select: Import Drivers



- \_\_\_\_\_ b. Browse for the drivers, use the path: C:\OSDdrivers

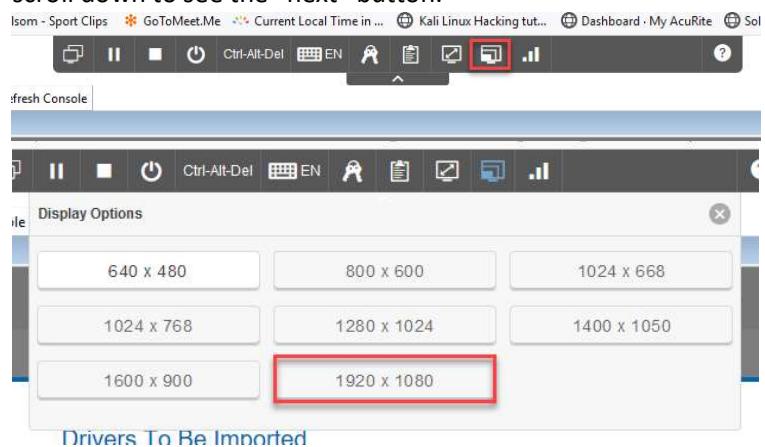
- \_\_\_\_\_ c. Select the os: Windows 7, WinPE3 and Windows 10, WinPE10

- \_\_\_\_\_ 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.



#### Drivers To Be Imported

A screenshot of a driver import interface. The top section is titled 'Drivers' and shows a list of drivers with checkboxes. Several checkboxes are checked, and one is highlighted with a red box. The columns are labeled: Driver Name, Architecture, Class, Type, and Provider. The bottom section is titled 'Selected Driver Details' and shows fields for Name, Imported From, and Setup File. At the bottom right, there are buttons for Back, Next (highlighted with a red box), and Cancel.

- \_\_\_ 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.

#### Available Computer Models

Optional select the models to bind to the imported drivers.  
You can specify a free-text label.



##### Labels

Vmware

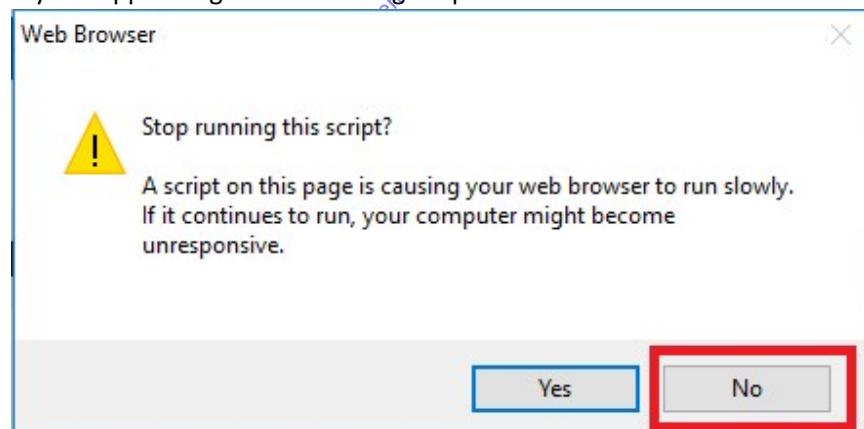
##### Models

- VMware Virtual Platform
- VMware7,1

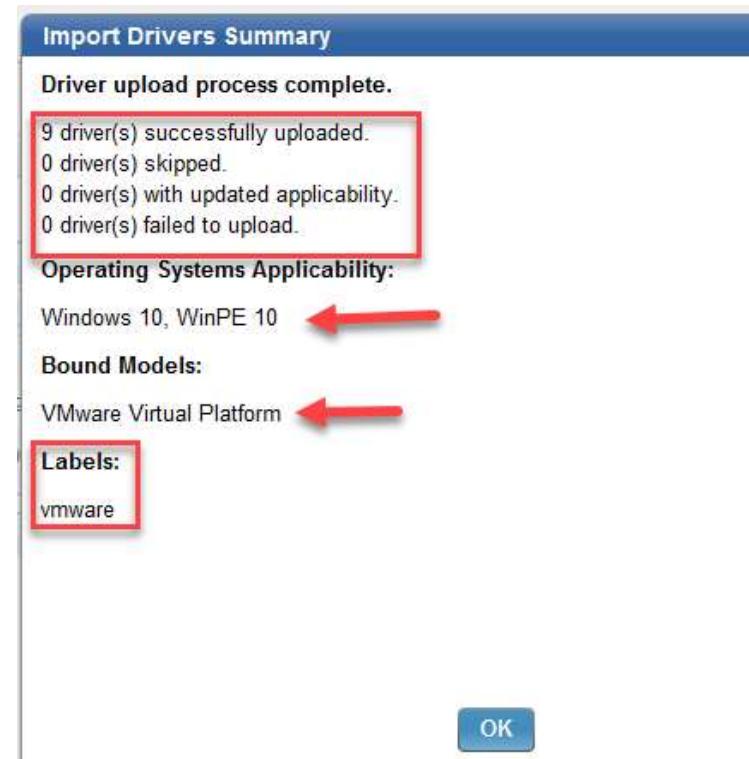
Import

Close

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:



**Import Drivers Results**

**Drivers**

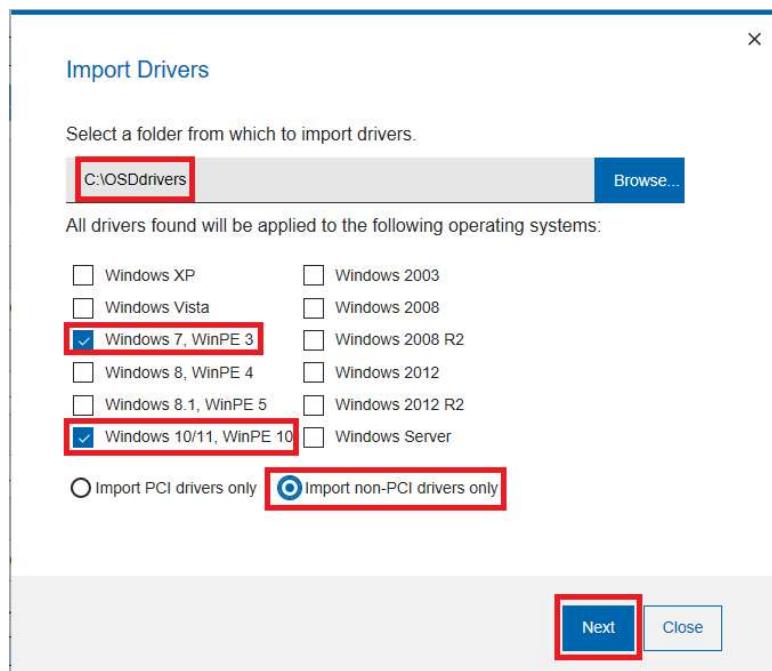
Driver Name	Architect...	Class	Type	Provider	Status
VMware MEDIA driver (ver. 04/21/2009,5.10.0.3506)	any	MEDIA	PCI	VMware	Green
VMware, Inc. SCSIAdapter driver (ver. 08/02/2019,1.3.1)	x86-64	SCSIAdapter	PCI	VMware, Inc.	Green
VMware, Inc. SCSIAdapter driver (ver. 08/02/2019,1.3.1)	x86-64	SCSIAdapter	PCI	VMware, Inc.	Green
VMware, Inc. Display driver (ver. 10/18/2019,8.16.07.00)	x86-64	Display	PCI	VMware, Inc.	Green
VMware, Inc. System driver (ver. 07/11/2019)	x86_64	System	PCI	VMware, Inc.	Green

**Imported Driver Details**

Name  
 Imported From

OK

- \_\_\_\_\_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 off 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

The screenshot shows the 'OS Deployment - Image Library' dashboard. At the top, there are several buttons: 'Import Image' (highlighted with a red box), 'Copy Settings from...', 'Deploy to Computer...', 'Pre-Cache', and 'Delete'. Below these buttons is a table with columns: 'Image Name', 'OS Version', 'Origin', 'Partitions', 'Date Captured', and 'Image File Size'. A single row is visible, showing 'Win10x64R1803\_1617657882.wim', 'Windows 10 x64 B17134.706 (1803)', 'Setup', '1', 'Mon, 05 Apr 2021 02:24:42 PM', and '4.21 GB'. On the left side, there is a navigation tree under 'Systems Lifecycle' with nodes like 'Asset Discovery', 'Inventory Management', 'OS Deployment and Bare Metal Imaging' (which is expanded to show 'Health Checks', 'MDT Bundle Creator Setup', 'Manage Images and Drivers', and 'Image Library'), and 'Setup'.

\_\_\_\_\_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!

[Import Image](#)

Select an image to import: specify the path or file or click "Browse" to select the path or file or to map a network drive.

- Windows format image (.wim)
- Linux captured image (.lim)
- Installation Media (.iso)
- Installation Media folder (uncompressed .iso)

C:\ISOs\Win1803\Win1803.iso

[Browse...](#)

[Upload](#)

[Analyze](#)

[Cancel](#)

**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.

### Import Image

Select an image to import: specify the path or file or click "Browse" to select the path or file or to map a network drive. i

- Windows format image (.wim)
- Linux captured image (.lim)
- Installation Media (.iso)
- Installation Media folder (uncompressed .iso)

C:\ISOs\Win1803\Win1803.iso

[Browse...](#)

**Check the information below and choose whether to continue or not**

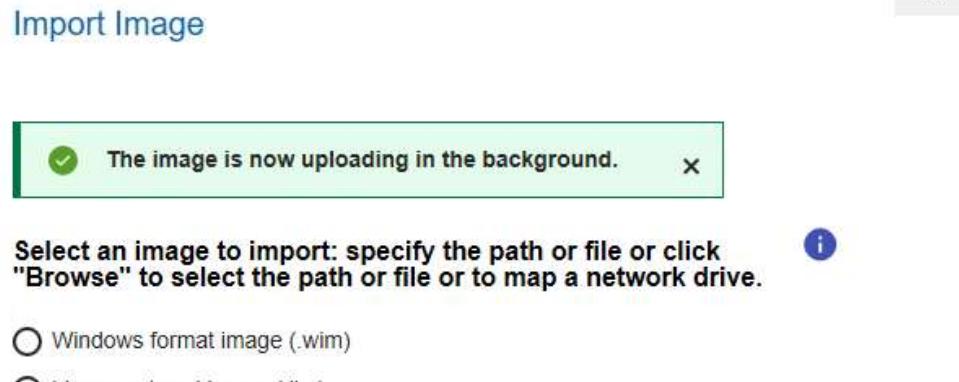
OS	Windows 10
Release ID	1803
OS Version	10.0.17134.706
Architecture	X64
Size on Disk	4.21GB
Editions List	Windows 10 Enterprise Windows 10 Enterprise N Windows 10 Pro Windows 10 Pro N Windows 10 Pro Education Windows 10 Pro Education N

[Upload](#)

[Analyze](#)

[Cancel](#)

- \_\_\_\_\_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:

Image Name	OS Version	Origin	Partitions	Date Captured	Image File Size	Size on Disk	Warnings	Actions
Win10x64R1909_1617314798.wim	Windows 10 x64 B18363.418 (1909)	Setup	1	Thu, 01 Apr 2021 03:06:38 PM	4.18 GB	4.18 GB		
Win10x64R1803_1617312666.wim	Windows 10 x64 B17134.706 (1803)	Setup	1	Thu, 01 Apr 2021 02:31:06 PM	4.21 GB	4.21 GB		

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:

The screenshot shows the 'Image Library' section of the OS Deployment dashboard. It displays two imported WIM files:

Image Name	OS Version	Origin	Partitions	Date Captured	Image File Size	Size on Disk	Warnings	Actions
Win10x64R1909_1617314798.wim	Windows 10 x64 B18363.418 (1909)	Setup	1	Thu, 01 Apr 2021 03:06:38 PM	4.18 GB	4.18 GB		
Win10x64R1803_1617381023.wim	Windows 10 x64 B17134.706 (1803)	Setup	1	Fri, 02 Apr 2021 09:30:23 AM	4.21 GB	4.21 GB		

- \_\_\_\_\_ 2. Select the Windows 1803 wim file. *This causes OSD to active the Profile section.*

The screenshot shows the 'Image Library' section of the OS Deployment dashboard. The 'Win10x64R1803\_1619038073.wim' file is selected, highlighted with a red box. Below the table, the 'Profiles' section is visible, also with a red box around the 'Create Bare Metal Profile' button.

Name	Type	OS	Servers With Profile	Servers Out of Sync	Warnings	Actions

- \_\_\_\_\_3. Click: Create Bare Metal Profile. The profile screen is presented. This screen will be presented in four parts. Part 1:

### Bare Metal Profile properties

Specify bare metal profile parameters

#### Required Fields

Display Name	Win10 x64 Bare Metal - 1803 Enterprise
Edition	Windows 10 Enterprise
Registered Owner	HCL
Registered Organization	HCL
Image Locale	English - United States
Image Keyboard Locale	0409:00000409
Time Zone	Pacific Standard Time (GMT-08:00)

- \_\_\_\_\_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:

## Bare Metal Profile properties

Hostname Rule	LAB	i
MDT Bundle	initialMDT20200401 (3.10.33) (Default)	▼
Deployment Final Action	Restart	▼
Administrator Password	*****	∅
Client version	10.0.2.52	▼

### Required Domain Credentials

Join Computer To	Workgroup	▼	i
------------------	-----------	---	---

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

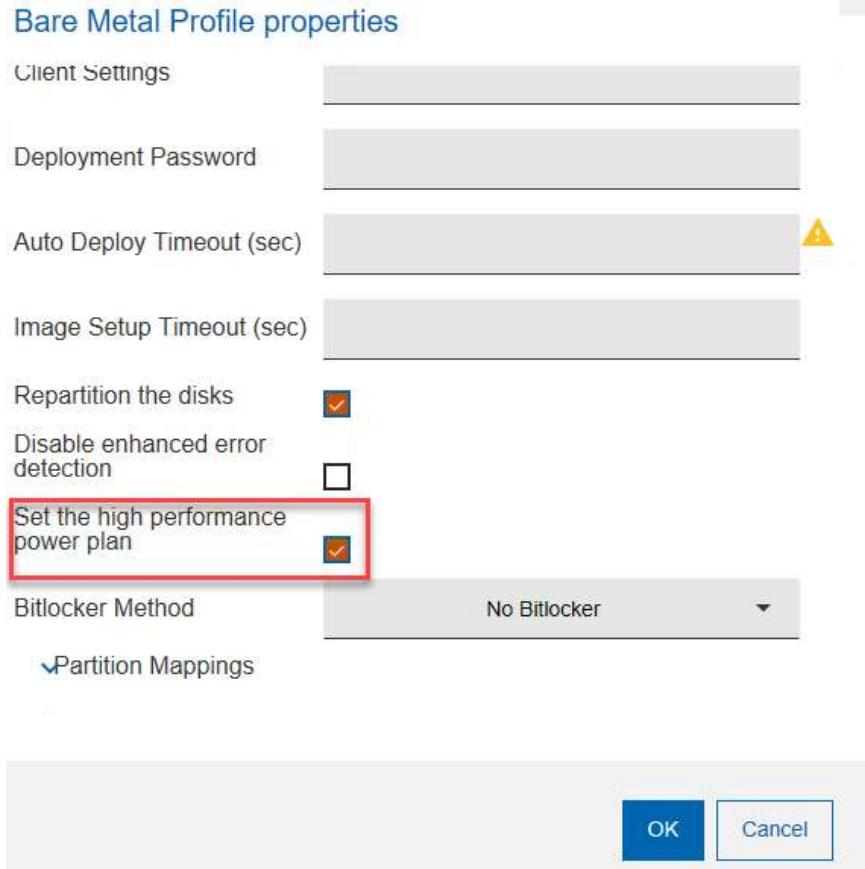
Bare Metal Profile properties

Workgroup/Domain Name	workgroup
<b>Optional Fields</b>	
Product Key	
Prompt end user for properties	<input type="checkbox"/>
Assign Relays	<input checked="" type="checkbox"/>
Client Settings	
Deployment Password	
Auto Deploy Timeout (sec)	
Image Setup Timeout (sec)	

- \_\_\_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:

### Bare Metal Profile properties

```
SMSTSOrgName=BigFix OS Deployment  
TaskSequenceID=D_W10X64_01  
ActivePowerPlan=8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c  
UILanguage=en-us  
UserLocale=en-us  
KeyboardLocale=0409:00000409  
TimeZone=004  
TimeZoneName=Pacific Standard Time  
FinishAction=RESTART  
OSDPrefix=LAB  
BFCClientVersion=10.0.2.52  
BFCClientFileName=BigFix-BES-Client-10.0.2.52.exe  
BFCClientSettings=_RelaySelect_Automatic:0|_RelayServer1:http://(dns  
name as string):52311/bfmirror/downloads/_RelayServer2:http://(host  
name of root server):52311/bfmirror/downloads/  
  
BitsPerPel=32  
VRefresh=60  
XResolution=1920  
YResolution=1080  
  
BFImageIndex=3  
BFPartitionMapping=0:0:1%::T:F:0;0:1:99%:C:3:F:T:4483298411
```

Undo Changes

OK

Cancel

Click OK. The profile is created.

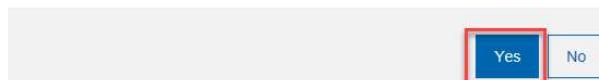
\_\_\_t. Select the profile and click on the button: **Send to Server**

Profiles							Find	
		Create Bare Metal Profile	Create Reimage Profile	Send to Server	Delete ( 1 )			
Name	Type	OS	Servers With Profile	Servers Out of Sync	Warnings	Actions		
<input checked="" type="checkbox"/> Name								
<input checked="" type="checkbox"/> Win10 x64 Bare Metal - 1909 Enterprise	Bare Metal	Win10	0	0				

- 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).

[Pre-cache the image](#)

Also pre-cache the selected items?



- v. Take Action: select the server **BESFNDAPPSERVER**
- w. Click **OK**. This will take a good 20 min.
- x. You can monitor the “action”.

~confidential~

Status	Count	Percentage
Not Reported	1	100.00%

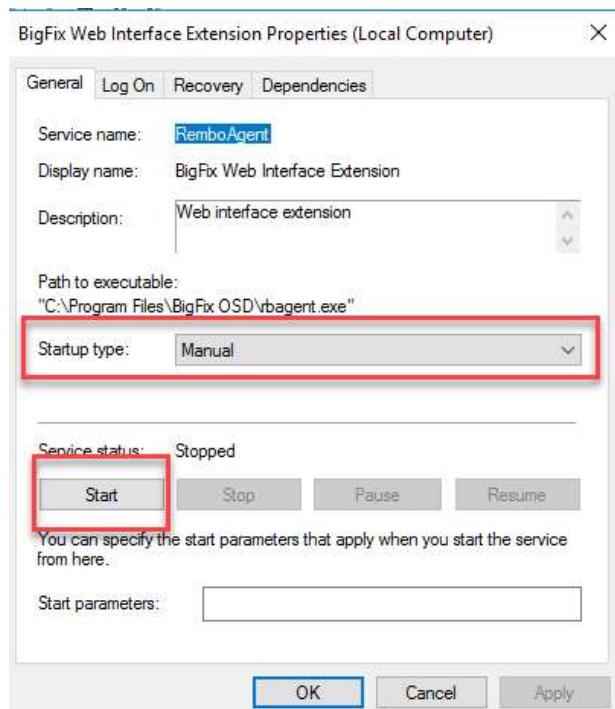
File	Status	Details
Win10x64R1803_1619038073.wim.BFOSD	Downloading	0 bytes of 4.21 GB downloaded: 0.00%
Win10x64R1803_1619038073.driverinfo.BFOSD	Complete	Cached on Server
66478E430965B94C78BB8BDEA427AAD38B2CA53F.zip.BFOSD	Downloading	0 bytes of 596 MB downloaded: 0.00%
88C9B7DD7D9C59717C6CE5D98ADEF0F84F25FE9C.zip.BFOSD	Downloading	0 bytes of 92.56 MB downloaded: 0.00%

This completes the creation and deployment of the OSD Profiles.

## Exercise 11: Fine Tune OSD and TFTP

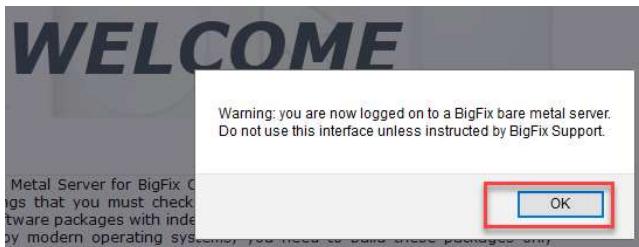
OSD uses TFTP (Trivial File Transfer Protocol) to deploy the WIMs and drivers to the target system. The default out of the box settings are too slow. Changing these settings will greatly improve the speed of OSD.

- \_\_\_\_\_ 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

The OS deployment server configuration is divided in six different sections, each corresponding to a specific module of the OS deployment server. To modify the parameters of a section, click on the 'edit' icon on the title bar of the section.

Global debug level: 3: Log significant information

IP address or target name of the backup OS deployment server: 0.0.0.0

Maximum size of the OS deployment server's log files: 0

Network interfaces used by the OS deployment server:

Web interface

Disable the HTTP module: No

\_\_\_ 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

UDP port for TFTP requests: 69

Enter the maximum size of the TFTP segment in bytes. This parameter can be used to reduce the size of packets sent by the OS deployment server if required by the underlying network. This may be useful for instance when network traffic is encrypted by routers.

Max. TFTP Segment Size: 1432

Enter the number of seconds to wait before starting a MTFTP transfer. This period of time is used by PXE clients to replicate together. The higher the value is, the more replicated clients will be, but latency will be introduced when booting clients individually. The PXE standard's default value is 2.

Seconds to wait before starting a MTFTP stream: 2

Enter the multicast IP address and port used by the OS deployment server when sending MTFTP data to PXE clients.

IP address used by targets for MTFTP: 232.1.0.1:8500

Enter the UDP port used on the OS deployment server to receive MTFTP request packets from PXE clients. The default value is 4015.

UDP port for MTFTP requests: 4015

If you want to disable the Bare Metal Server for BigFix OS deployment boot service during given timeframes, you can schedule no-boot periods. The

Contextual actions: Save, Cancel, Logout

\_\_\_ 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**

Description

Set your TFTP settings in the Winpe BCD for tuning WinPE download speed in the corresponding Bare Metal Server(s). Note: the **Bare Metal Server(s) RESTART** is required when the action is completed.

Complete the following form and click Take Action:

Parameter name	Parameter value
*Select ramdiskTftpWindowSize:	4
*Select ramdiskTftpBlockSize:	1432
*Select WinPE type:	PE 10
*Select if permanent tftp:	False

- \_\_\_\_\_ e. Take Action: select the server: **BESFNDAPP SERVER**
- \_\_\_\_\_ 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: **BESFNDAPP SERVER**
- \_\_\_\_\_ i. Click on the “pencil” icon

OS Deployment - Bare Metal Server Manager

Bare Metal OS Deployment Server Manager Last Updated: 04/5/2021 04:01:06 PM C

From this dashboard you can manage the installation, upgrade, and uninstallation of Bare Metal OS Deployment Servers. You can add new profiles or delete profiles defined on the servers. You can also add targeting rules to single profiles.

Latest Server version from network: 7.1.1.20 (310.78) ▾

Installed OS Deployment Servers										
	Install... (0)	Upgrade (0)	Uninstall... (0)							Find
	Server Name	Architecture	Server IP	Server Version	Server Status	Relay Status	Proxy Agent Status	Last Update Time	Warnings	Actions
<input type="checkbox"/>	BESFNDAPP SERVER	x64	10.0.0.6 169.254.78.202	7.1.120.31078	Running	Running	Running	Mon, 05 Apr 2021 03:58:53 PM		

\_\_\_j. Scroll to the bottom and click the button: **Restart**.

Manage Bare Metal Server  
BESFNDAPP SERVER

Sync

**Status**

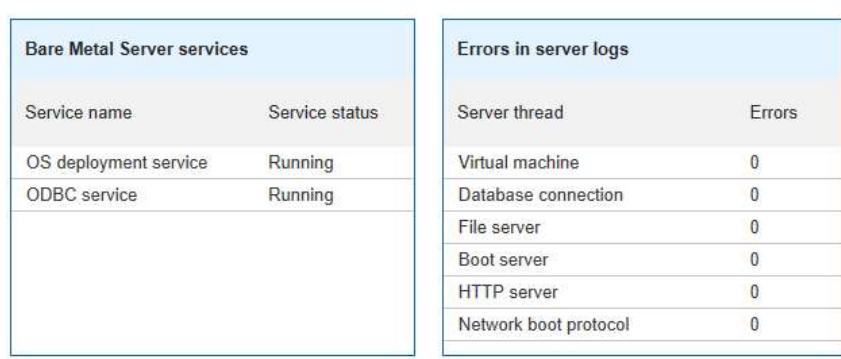
Latest heart-beat from Bare Metal Server (local time): **Mon, 05 Apr 2021 03:58:53 PM**

DHCP status is: **Active**

Check the status of the services before initiating any actions

Bare Metal Server services		Errors in server logs	
Service name	Service status	Server thread	Errors
OS deployment service	Running	Virtual machine	0
ODBC service	Running	Database connection	0
		File server	0
		Boot server	0
		HTTP server	0
		Network boot protocol	0

**Start**   **Stop**   **Restart**   **Close**



\_\_\_k. **Take Action:** Select the server **BESFNDAPP SERVER**, 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.

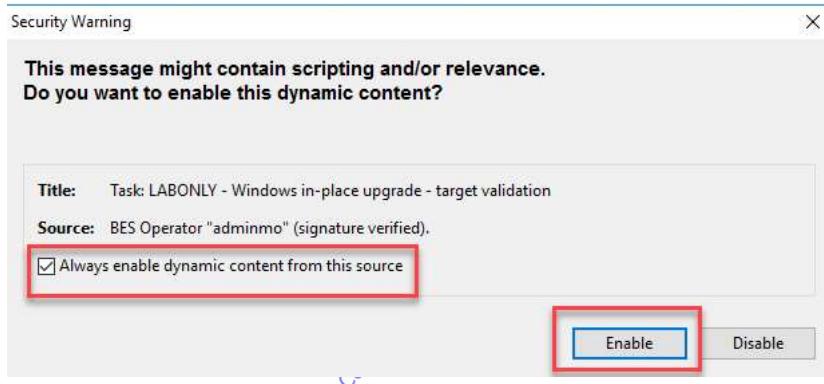
This completes the fine-tuning section.

## Exercise 12: Upgrade an existing Win7 target.

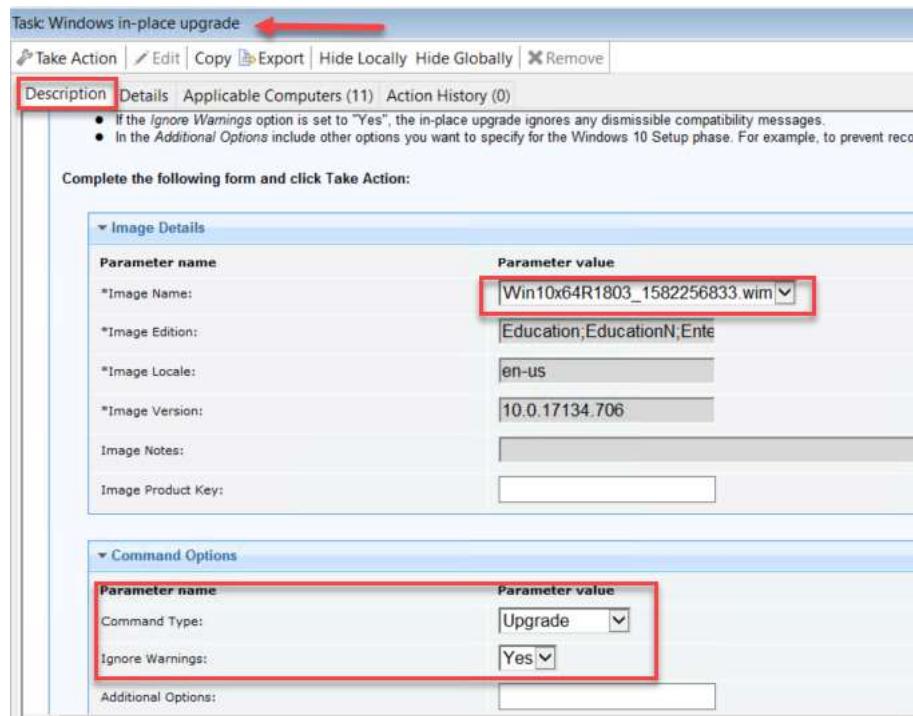
In this exercise, you use BigFix to upgrade a Win7 target to Win10.

- \_\_\_ 1. Ensure you are logged into server: **BESFNDAPP SERVER**
  - \_\_\_ 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**

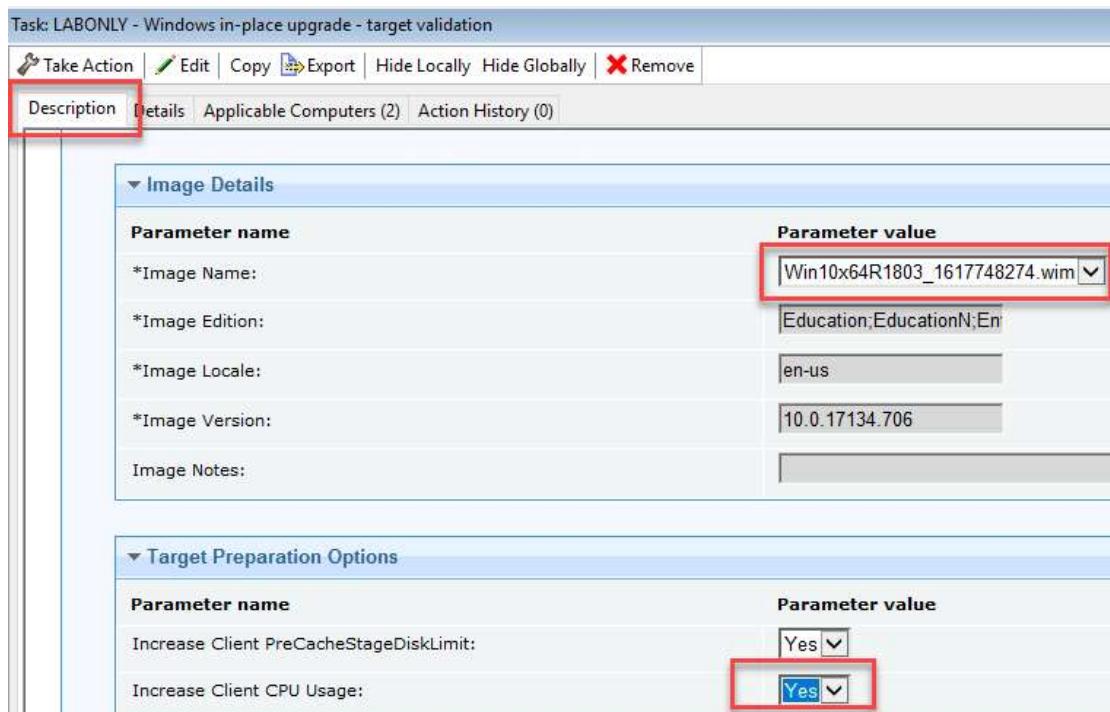
You may get this popup:



- \_\_\_ 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**

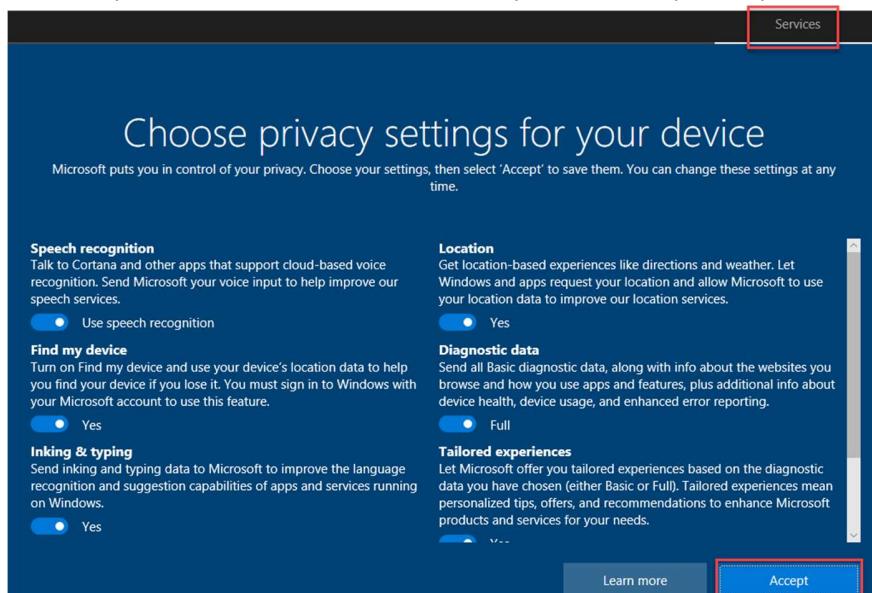
\_\_\_\_\_10. Click **Take Action**

\_\_\_\_\_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:

Computers	
Computer Name	OS
BESFNDAPPSERVER	Win2016 10.0.14393.4283 (1607)
BESFNDCENTOS	Linux CentOS 7.5.1804 (3.10.0-862....)
<b>BESFNDOSDTARGET</b>	<b>Win10 10.0.17134.706 (1803)</b>
BESFNDWIN10	Win10 10.0.17134.1246 (1803)
BESFNDWINROOT	Win2016 10.0.14393.4283 (1607)

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 reimaging profile, and then deploy it.

- \_\_\_\_ 1. Login to your **BESFNDAPP SERVER**
  - \_\_\_\_ 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:

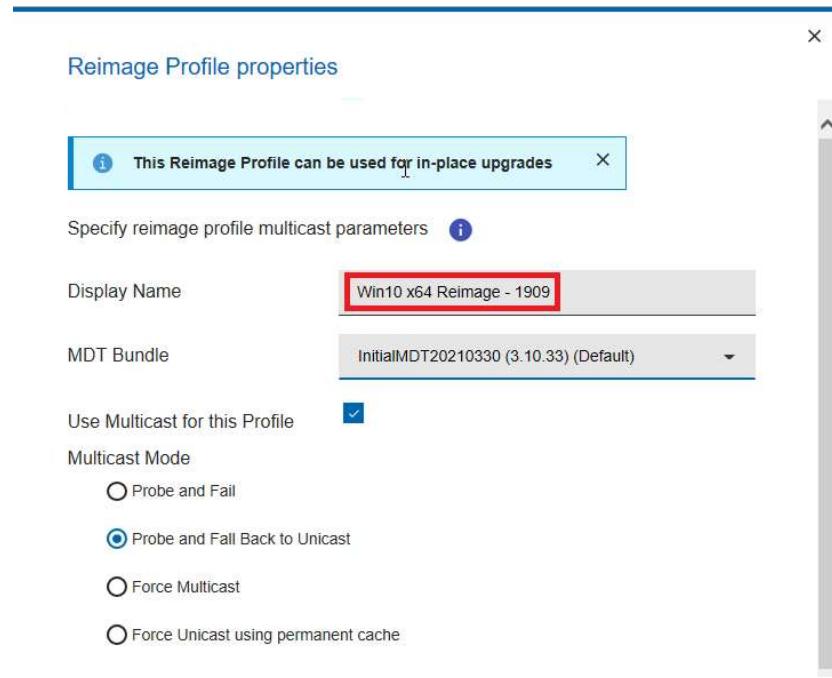
This screenshot shows the 'Image Library' section of the OS Deployment dashboard. It displays two WIM files: 'Win10x64R1909\_1695703367.wim' and 'Win10x64R1803\_1695700450.wim'. The table includes columns for Image Name, OS Version, Origin, Partitions, Date Captured, Image File Size, Size on Disk, Warnings, and Actions. The 'Actions' column contains edit icons for each row.

Image Name	OS Version	Origin	Partitions	Date Captured	Image File Size	Size on Disk	Warnings	Actions
Win10x64R1909_1695703367.wim	Windows 10 x64 B18363.418 (1909)	Setup	1	Tue, 25 Sep 2023 09:42:47 PM	4.18 GB	4.18 GB		
Win10x64R1803_1695700450.wim	Windows 10 x64 B17134.706 (1803)	Setup	1	Tue, 25 Sep 2023 08:54:10 PM	4.21 GB	4.21 GB		

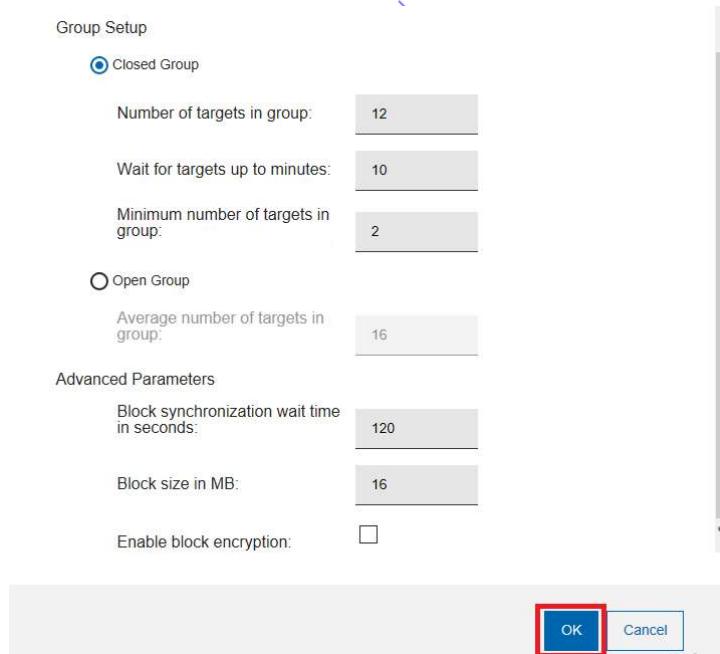
- \_\_\_\_ 5. Select the Windows 1909 wim file. This causes OSD to active the Profile section.

This screenshot shows the 'Image Library' section with the 'Win10x64R1909\_1695703367.wim' file selected, indicated by a red box around its row. Below the library, the 'Profiles' section is visible, featuring buttons for 'Create Bare Metal Profile' and 'Create Reimage Profile'. The 'Create Reimage Profile' button is highlighted with a red box.

- \_\_\_\_ 6. Click: Create Reimage Profile to launch the Reimage Profile properties



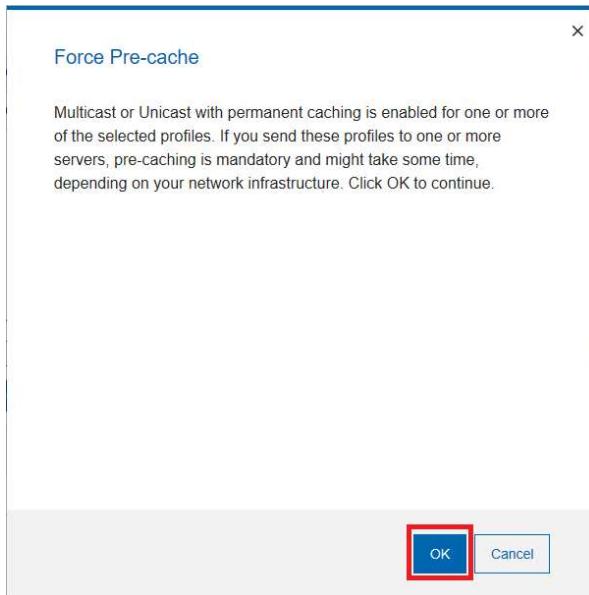
7. Display Name: Change this to match the version of the OS you are deploying. In this example replace the string to be: **Win10 x64 Reimage – 1909**



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

Profiles						
Create Bare Metal Profile		Create Reimage Profile		Send to Server		Delete ( 1 )
<input checked="" type="checkbox"/>	Name <b>1L</b>	Type <b>1L</b>	OS <b>1L</b>	Servers With Profile <b>1L</b>	Servers Out of Sync <b>1L</b>	Warnings Actions
<input checked="" type="checkbox"/>	Win10 x64 Reimage - 1909	Reimage	Win10 x64	0	0	

- \_\_\_\_\_ 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 button: **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.

Action: Profile properties

Stop Copy Export Remove

Summary Computers (1) Target

Status

0.00% Completed (0 of 1 applicable computers)

Status	Count	Percentage
Evaluating	1	100 00%

Downloads

File	Status	Details
Win10x64R1909_1695703367.wim.BFOSD	Downloading	2.66 GB of 4.17 GB downloaded: 63.80%
Win10x64R1909_1695703367.driverinfo.BFOSD	Complete	Cached on Server
EB13C1470AAC3B73651607C3C2E1CB43721DC60.zip.BFOSD	Downloading	633 MB of 633 MB downloaded: 100.00%
3AB43DECA29EE41C6A70084F52E0DD209304F9C.zip.BFOSD	Downloading	633 MB of 633 MB downloaded: 100.00%
88C9B7DD7D9C59717C6CE5D98ADEF0F84F25FE9C.zip.BFOSD	Complete	Cached on Server
B6BE45AC660C713F93C383A56BB5A3A6E500C963.zip.BFOSD	Complete	Cached on Server

- \_\_\_\_\_ 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**

Image Library										
Import Image	Copy Settings from...	Deploy to Computer...	Pre-Cache	Delete	Upload Mode	Find				
Image Name	OS Version	Origin	Partitions	Date Captured	Image File Size	Size on Disk	Warnings	Actions		
Win10x64R1909_1695703367.wim	Windows 10 x64 B18363.418 (1909)	Setup	1	Tue, 25 Sep 2023 09:42:47 PM	4.18 GB	4.18 GB				
Win10x64R1803_1695700450.wim	Windows 10 x64 B17134.706 (1803)	Setup	1	Tue, 25 Sep 2023 08:54:10 PM	4.21 GB	4.21 GB				

\_\_\_\_\_16.Select the Win10x64R1909\_1695703367.wim image and the click: Deploy to Computer...

Deploy Image to Computer

This wizard allows you to create deployment actions that reimagine a computer with the specified settings.

Image: Win10x64R1909\_1695703367.wim

Edition: Windows 10 Enterprise

Template:

[Modified] Default

Save Template...  
Delete Template...

>Options

\_\_\_\_\_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.

Administrator Password

Authenticating Relay Password

Disable enhanced error detection  
 Set the high performance power plan

Create Baseline Reimage Computer Cancel Go to Settings to ac

\_\_\_\_\_19.Enter **bigfixrocks** as the **Administrator Password**

\_\_\_\_\_20.Click the check for **Set the high performance power plan**

~Options

Wizard

Manual

\_\_\_ 21. Scroll back up the page to the Options section and Click **Manual**

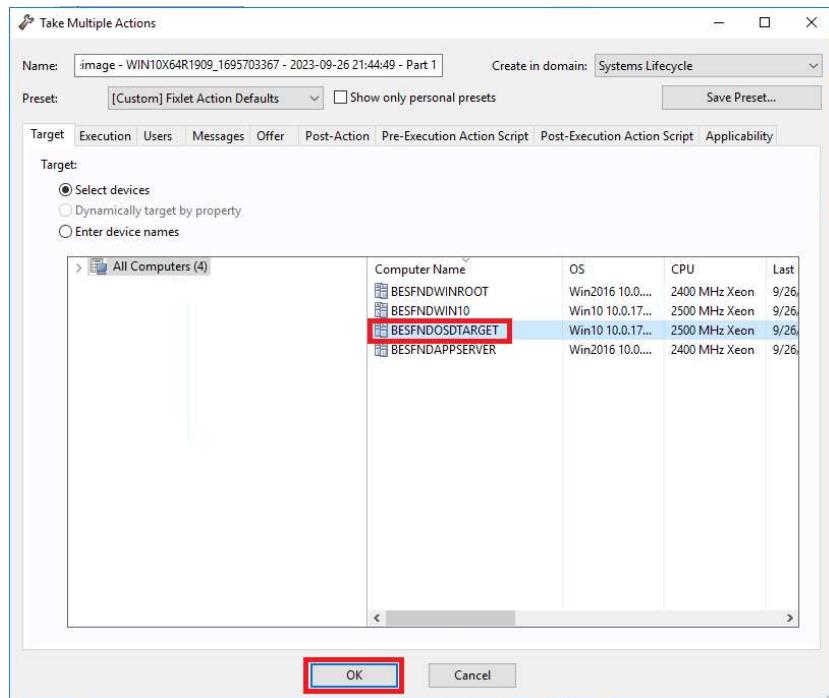
Warning: Editing this tab incorrectly can cause failure during the imaging process.

```
{("TimeZoneName=" & (if (it contains "...") then (preceding text of first "..." of it) else it) of concatenation "...") of items 1 of it whose (item 0 of it) of (item 0 of it = value "Std" of item 1 of it, name of item 1 of it) of (string value of select "StandardName from Win32_TimeZone" of wmi, keys of key "HKLM\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Time Zones" of registry))}DoNotCreateExtraPartition=YESWipeDisk=NOTaskSequenceID=D_W10X64_01ActivePowerPlan=8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c|;; USM Settings .....UserDataLocation=AUTOScanStateArgs=/v:6 /c /localonly /o /uel:60LoadStateArgs=/lac /ae /cUSMTMigFiles001=BFMigUser.xmlUSMTMigFiles002=MigApp.xml
```

Undo Changes

\_\_\_ 22. In manual section scroll down until you find the **USM Settings** section and add /iae 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**.

partial

Status		
0.00% Completed (0 of 1 applicable computers)		
Status	Count	Percentage
Running (member action 00-175)	1	100.00%

Member Actions		
This multiple action group has the following component actions:		
<a href="#">00-174: Validate Endpoint</a> <a href="#">00-175: Download and Set up MDT Resource Files</a> <a href="#">00-176: Download and Set up OS Resource Files</a> <a href="#">00-177: Download and Set up WIM Image</a> <a href="#">00-178: Create User State Migration Configuration File</a> <a href="#">00-179: Tag Reimaged Computer</a> <a href="#">00-180: Determine Applicable Drivers</a> <a href="#">00-181: Download Applicable Drivers and Apply</a> <a href="#">00-182: Prepare custom settings configuration file</a> <a href="#">00-183: Initiate Reimage Action</a>		

\_\_\_\_\_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 reimagine 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.

Action: BigFix OS Deployment: Windows Reimage - WIN10X64R1909\_1695703367 - 2023-09-26 21:44:49 - Part 2

Stop | Copy | Export | Remove

Summary | Reported Computers (1) | Target

**Status**

100.00% Completed (1 of 1 applicable computers)

Status	Count	Percentage
Completed	1	100.00%

**Member Actions**

This multiple action group has the following component actions:

[00-185- Post Reimage Tasks](#)

**Behavior**

**Messages**

No user interface will be shown before running this action.  
The following message will be displayed while running the action:

System Reimage  
This system is currently in the process of being reimaged. This may take a long time.

\_\_\_\_\_27 Wait until PART 2 completes.

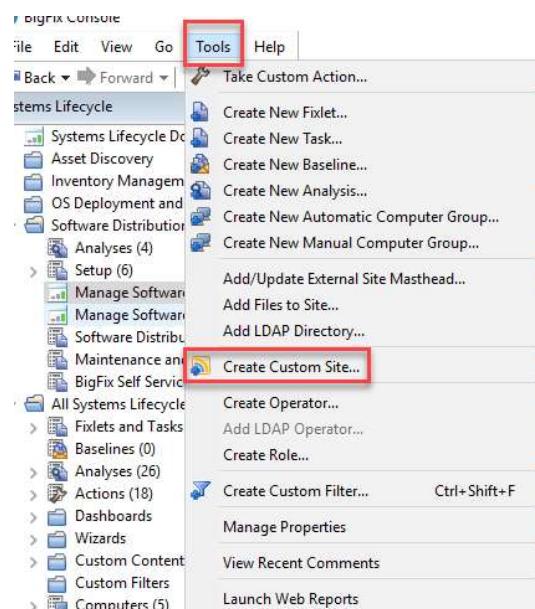
This completes the re-image of the machine

Confidential

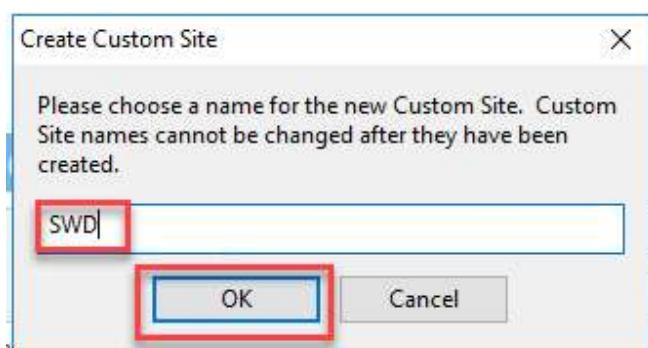
## Exercise 14: Create a Software Package for use by OSD

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 **SoftWare Distribution** module. In that module is a software packager wizard. This makes importing of software packages very easy.

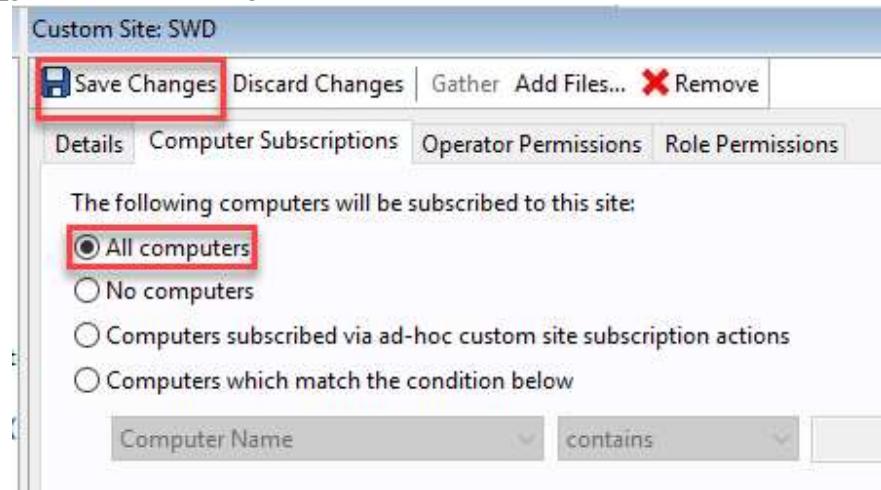
- \_\_\_\_ 1. Login to your **BESFNDAPPSERVER**
  - \_\_\_\_ a. User: **Administrator**
  - \_\_\_\_ b. Passwd: **bigfixrocks**
- \_\_\_\_ 2. Launch the BigFix Console (if not already launched).
  - \_\_\_\_ a. User: **adminmo**
  - \_\_\_\_ b. Passwd: **B1gfixrocks**
- \_\_\_\_ 3. Create custom Site 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



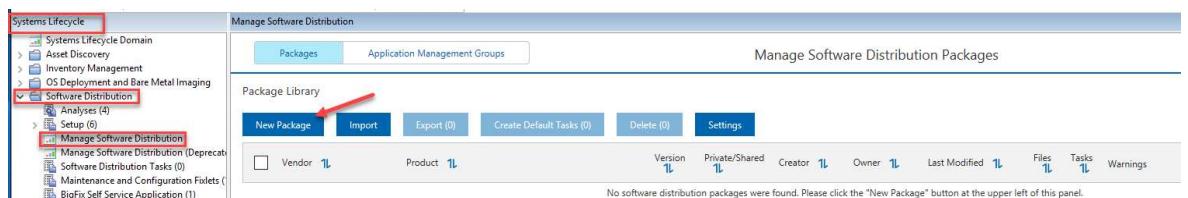
- \_\_\_\_ c. Use this for the name of the site: SWD



- \_\_\_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**  
*(Category)*
- \_\_\_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

The screenshot shows the 'Manage Software Distribution' interface with the 'Packages' tab selected. The main area is titled 'Package Library'. At the top, there are buttons for 'New Package', 'Import', 'Export (0)', 'Create Default Tasks (0)', 'Delete (0)', and 'Settings'. Below these are two rows of package details:

Vendor	Product	Version	Private/Shared	Created
Vendor 1	Product 1	11.0	Shared	admin
Vmware	VmwareTools	11.0	Shared	admin

Below the table, there are two links: 'Manage File' and 'Manage Tasks'. A red arrow points from the 'Manage File' link to the 'Add Files...' button. The 'Add Files...' button is highlighted with a red box. To its right is a 'Delete (0)' button. Further down, there is a section titled 'Files In Package "VmwareTools"' with a 'File Name' column and a 'Size' column. A note at the bottom says 'No files have been added to this package'.

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

The dialog box is titled 'Add Files to Package'. It contains instructions: 'Select a new file or bundle of files to add, and specify its relative path within the package structure.' There are three options:

- Add File: A text input field with a 'Browse' button, which is highlighted with a red box.
- Add Folder: A text input field with a 'Browse' button.
- Compress folders at depth: A dropdown menu set to '1' and a text input field for 'Name of Compressed folders' containing 'compressedPackageData'.

Below these are two more options:

- Add File URL: A text input field.
- Use Relative Path: A text input field.

A note at the bottom says 'Note: Do not leave the Software Distribution Dashboard while the file upload process is ongoing.' At the bottom right are 'Add to Package' and 'Cancel' buttons.

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

### Add Files to Package

Select a new file or bundle of files to add, and specify its relative path within the package structure.

The screenshot shows the 'Add Files to Package' dialog box. The 'Add Folder' tab is active. In the 'Path' field, 'C:\VmwareToolsSrc\Windows' is entered. The 'Depth' dropdown is set to '1'. The 'Name of Compressed folders:' field contains 'compressedPackageData'. The 'Add File' and 'Add File URL' tabs are also present but not selected.

Note: Do not leave the Software Distribution Dashboard while the file upload process is ongoing.

The screenshot shows the 'Add to Package' dialog box. It has two buttons: 'Add to Package' (highlighted with a red box) and 'Cancel'.

- \_\_\_\_\_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.

The screenshot shows the BigFix package management interface. At the top, there are buttons for 'New Package', 'Import', 'Export (0)', 'Create Default Tasks (0)', 'Delete (0)', and 'Settings'. A search bar at the top right says 'Search Packages'. Below these are tabs for 'Manage Files' and 'Manage Tasks', with 'Manage Tasks' being the active tab and highlighted with a red box. The main area displays a table of files in the 'VmwareTools' package, with a red callout bubble pointing to it stating: 'All of the new files and directories are added.' The table columns include File Name, Size, File Status, Date Added, and Relative Path. The files listed are autorun.ico, autorun.inf, manifest.txt, setup.exe, setup64.exe, VMwareToolsUpgrader.exe, and compressedPackageData-202103051524.btemp.

- \_\_\_\_\_19. Click on the: **Managed Tasks** tab

- \_\_\_\_\_20. The Managed Tasks tap opens, select: **New Task**

The screenshot shows the 'Manage Software Distribution' interface. At the top, there are tabs for 'Packages' and 'Application Management Groups', with 'Packages' being the active tab. Below these are buttons for 'New Package', 'Import', 'Export (0)', 'Create Default Tasks (0)', and 'Delete (0)'. The main area shows a package library with a 'VmwareTools' package selected. The 'Manage Tasks' tab is selected and highlighted with a red box. At the bottom, there are buttons for 'New Task...', 'Delete (0)', 'Add to AMG: (0)', and 'Remove from AMG: (0)'. The 'New Task...' button is also highlighted with a red box. A red callout bubble points to the 'New Task...' button with the text: 'All of the new files and directories are added.'

- \_\_\_ 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.

### Create Distribution Task

Select the group of files you want to include in this task.

Available Files from package "VmwareTools"

	Name	Relative Path	URL
<input checked="" type="checkbox"/>	setup.exe		
<input checked="" type="checkbox"/>	autorun.ico		
<input checked="" type="checkbox"/>	autorun.inf		
<input checked="" type="checkbox"/>	manifest.txt		
<input checked="" type="checkbox"/>	setup.exe		

7 files included

Next

Cancel

- \_\_\_ 23. For the Installation Command use: **Setup64.exe /s /v"/qn /l\*v """%TEMP%\vmmsi.log"""**

Configure  
Setup64.exe

### Create Distribution Task

Define the installation command which will be run to install the selected software package on endpoints. The installation command will be run from the root folder of the software package.

Predefined Installation command:

Installation Command:

Run Command As:

System User  Current User (Windows Only)  Local User (Windows Only)

Back

Next

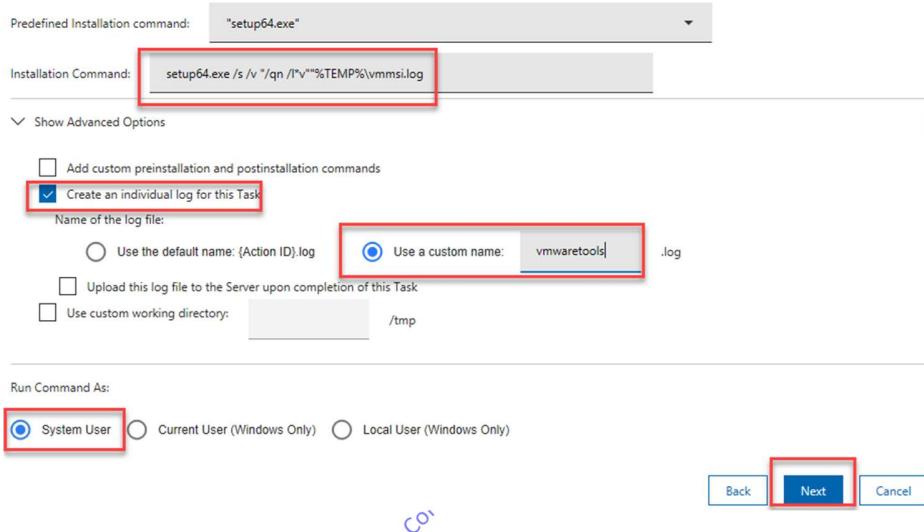
Cancel

**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.

#### Create Distribution Task

Define the installation command which will be run to install the selected software package on endpoints. The installation command will be run from the root folder of the software package.



The screenshot shows the 'Create Distribution Task' dialog. In the 'Predefined Installation command:' dropdown, 'setup64.exe' is selected. Below it, the 'Installation Command:' field contains 'setup64.exe /s /v "/qn /l\*v "%TEMP%\vmmsi.log"'. A red box highlights this field. Under 'Show Advanced Options', the 'Create an individual log for this Task' checkbox is checked. Another red box highlights this checkbox. The 'Name of the log file:' section shows 'Use a custom name:' selected with 'vmwaretools' typed into the input field, also highlighted with a red box. Other options like 'Add custom preinstallation and postinstallation commands' and 'Upload this log file to the Server upon completion of this Task' are shown but not highlighted. At the bottom, 'Run Command As:' has 'System User' selected, highlighted with a red box. The 'Next' button is highlighted with a red box.

- \_\_\_\_\_ 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

Create Distribution Task

Define additional applicability conditions.

- Do not use any additional applicability conditions.  
 Target using the following applicability conditions:

Insert the Relevance here.

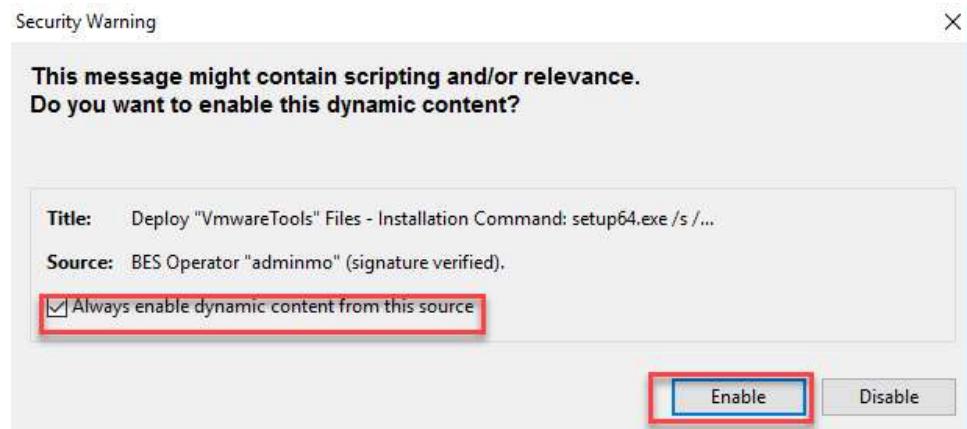
(exists setting "vmwaretools" whose (value of it as lowercase contains "Y" as lowercase) of client)

**⚠ The Relevance Builder is not available**

**⚠ IMPORTANT!** - If you intend to make custom changes to the action or relevance, view the editing instructions at the beginning of the generated action.

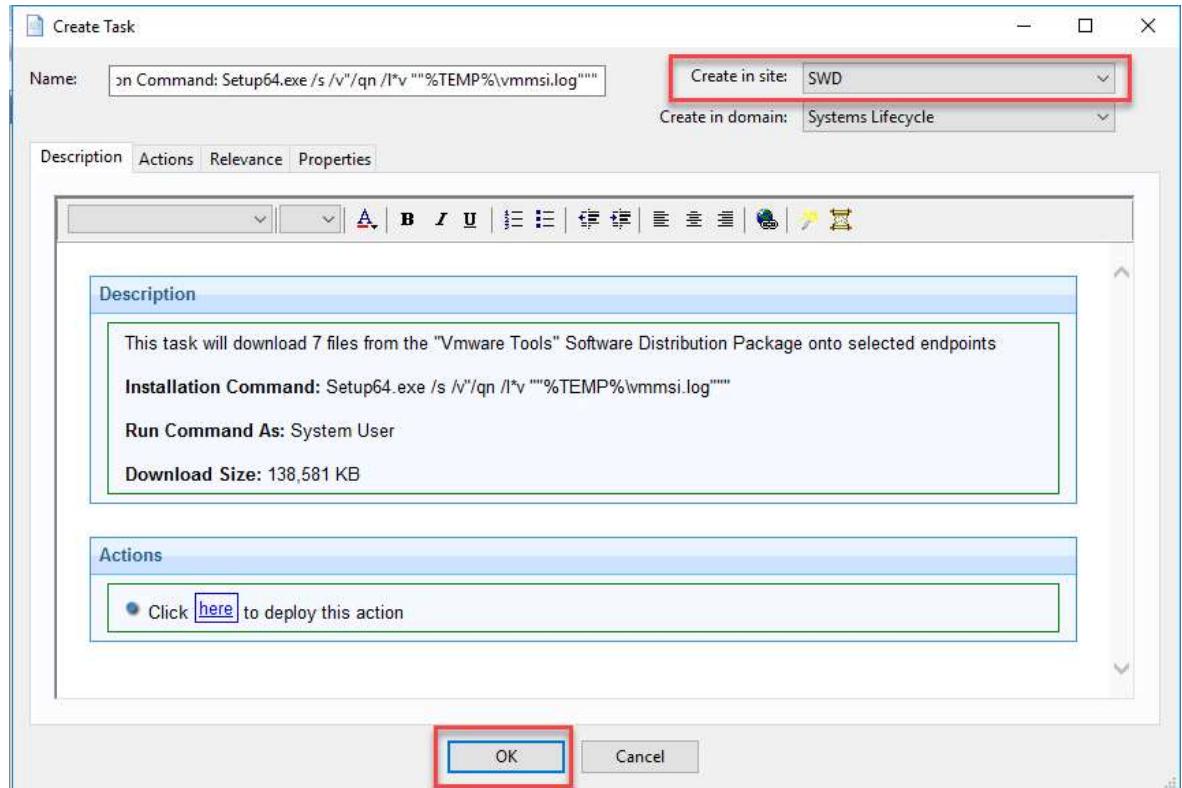
[Back](#) [Create Task](#) [Cancel](#)

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**.

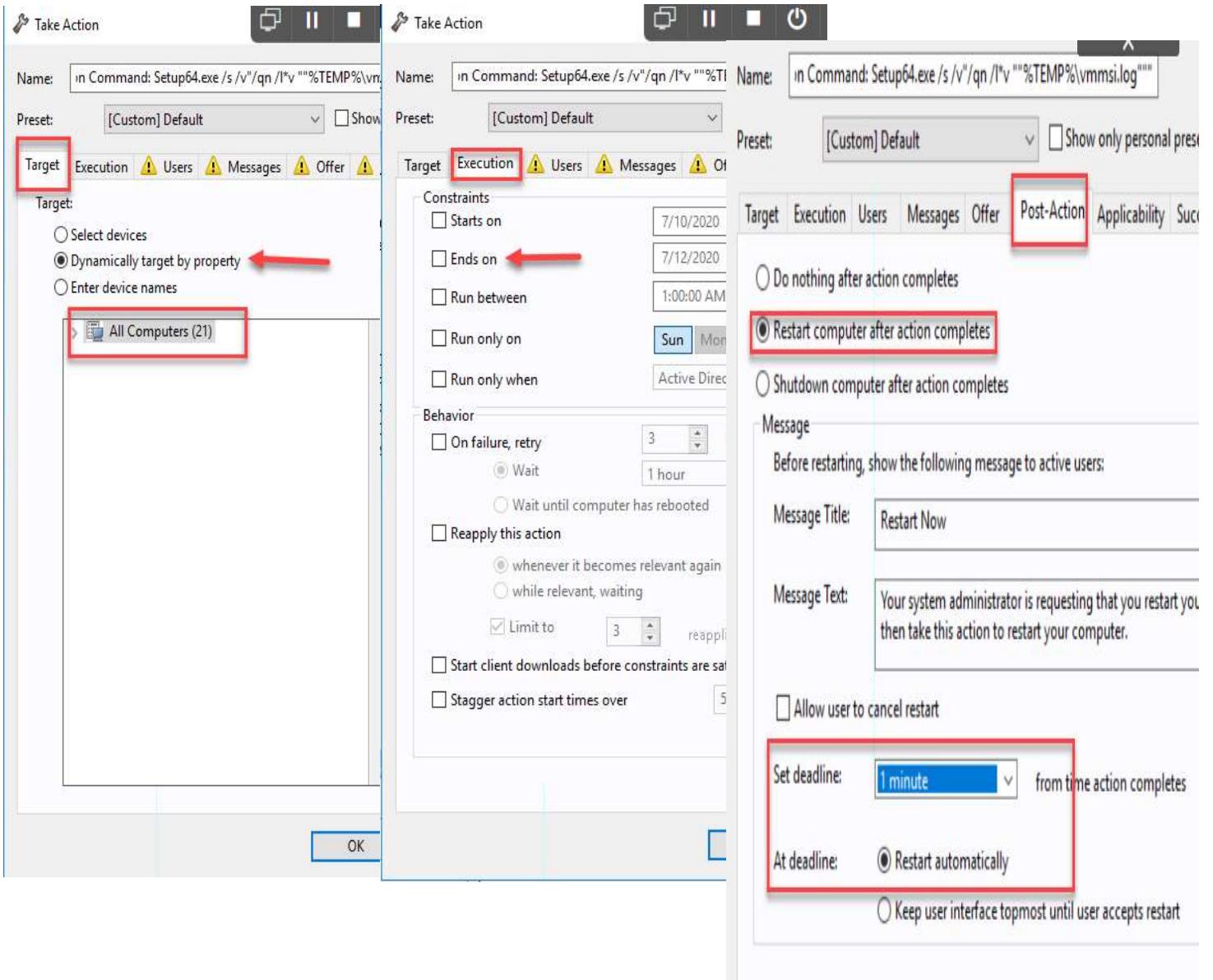


This creates the task for installing VMware tools, it is looking for our specific client setting:  
 vmwaretools:Y

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

### Bare Metal Profile properties

Specify bare metal profile parameters

#### Required Fields

Display Name	Win10 x64 Bare Metal - win10 1909-ENT vmwaretools
Edition	Windows 10 Enterprise
Registered Owner	HCL
Registered Organization	HCL
Image Locale	English - United States
Image Keyboard Locale	0409:00000409
Time Zone	Pacific Standard Time (GMT-08:00)

#### 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

#### Bare Metal Profile properties

The screenshot shows the 'Bare Metal Profile properties' window with the following configuration:

- Hostname Rule: LAB (highlighted with a red box)
- MDT Bundle: initialMDT20210421 (3.10.33) (Default) (highlighted with a red arrow)
- Deployment Final Action: Restart (highlighted with a red arrow)
- Administrator Password: (redacted with dots) (highlighted with a red box)
- Client version: 10.0.2.52 (highlighted with a red arrow)
- Required Domain Credentials**
  - Join Computer To: Workgroup (highlighted with a red arrow)
  - Workgroup/Domain Name: workgroup (highlighted with a red arrow)

### **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:

Bare Metal Profile properties

The screenshot shows the 'Bare Metal Profile properties' window. Under 'Optional Fields', several checkboxes are present:

- Prompt end user for properties (unchecked)
- Assign Relays (checked, indicated by a red arrow)
- Client Settings (set to 'vmwaretools:Y', indicated by a red arrow)
- Deployment Password
- Auto Deploy Timeout (sec)
- Image Setup Timeout (sec)
- Repartition the disks (checked, indicated by a red arrow)
- Disable enhanced error detection (unchecked)
- Set the high performance power plan (checked, indicated by a red arrow)

A yellow warning icon is visible next to the 'Auto Deploy Timeout' field.

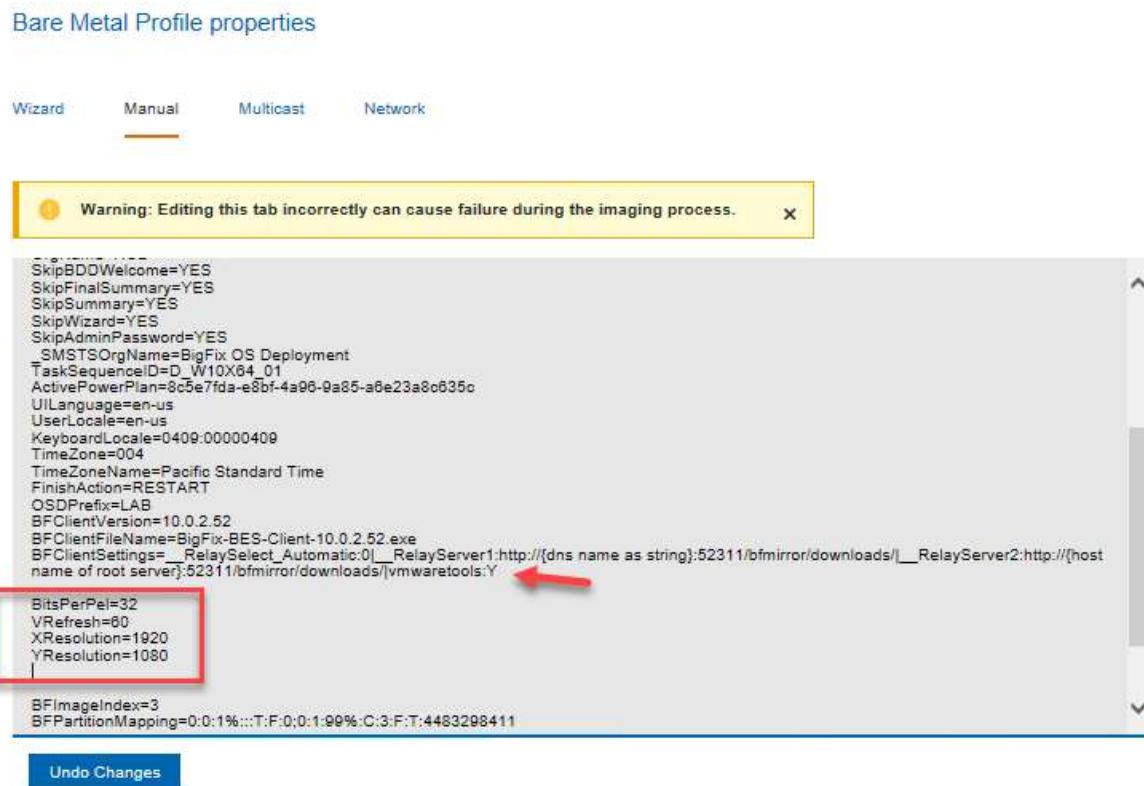
### **Part 3**

- \_\_\_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

Profiles					
		Create Bare Metal Profile		Create Reimage Profile	
				Send to Server	
<input checked="" type="checkbox"/>	Name	1	Type	1	Servers With Profile
<input checked="" type="checkbox"/>	Win10 x64 Bare Metal - 1909-ENT-vmwaretools		Bare Metal	Win10	0

\_\_\_z. Click Send to Server,

\_\_\_aa. Click Yes to pre-cache this.

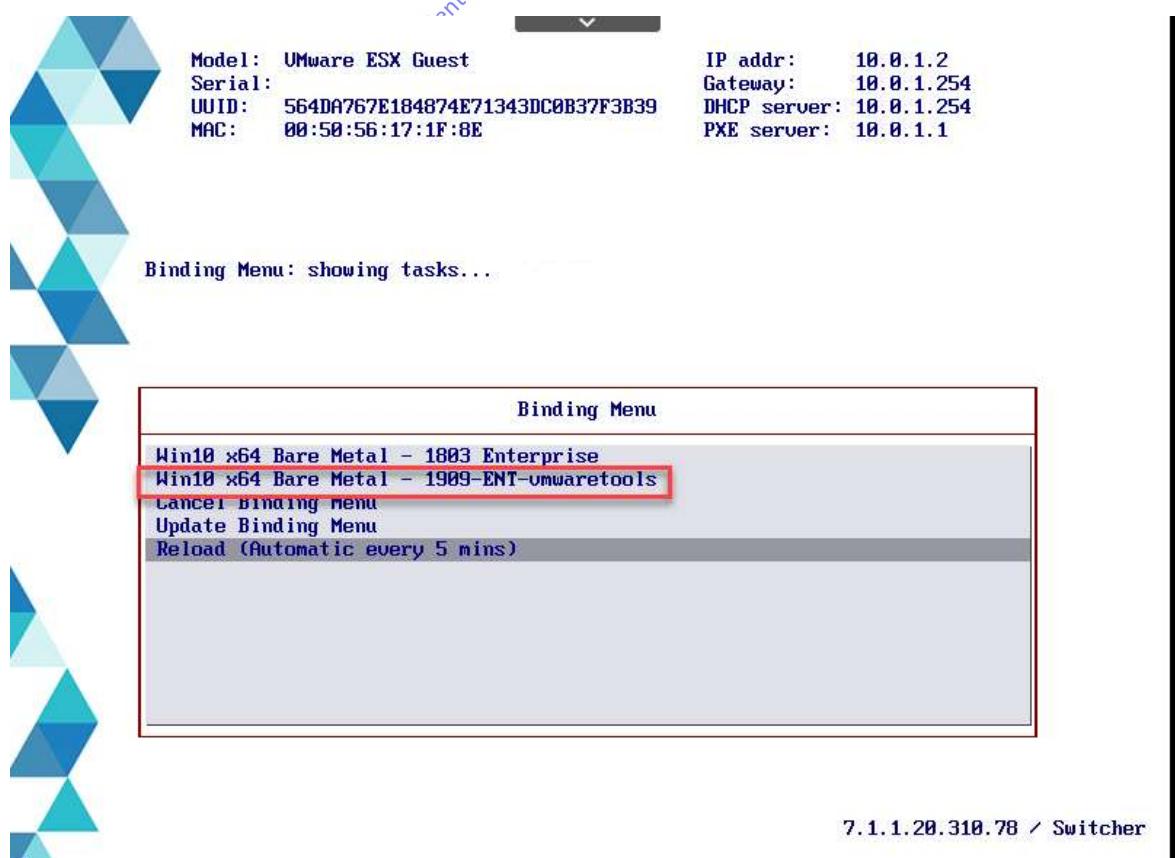
- \_\_\_ bb. Take action pops up – Select your server: **BESFNDAPP SERVER**
- \_\_\_ cc. Click **OK**, this takes a good 30+ min.

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: **BESFNDAPP SERVER**
- \_\_\_ 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:

Status	Count	Percentage
Completed	1	100.00%

File	Status	Details
autorun.ico.bfswd	Complete	Cached on Server
autorun.inf.bfswd	Complete	Cached on Server
manifest.txt.bfswd	Complete	Cached on Server
setup.exe.bfswd	Complete	Cached on Server
setup64.exe.bfswd	Complete	Cached on Server

Status	Exit Code	Computer Name	OS	CPU	Last Report Ti...	Locked	BES
Completed	1641	LAB-05056072C08	Win10 10.0.18...	2300 MHz Xeon	7/10/2020 3:10...	No	Ma

\_\_\_ 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):

Computers	
Computer Name	OS
10.0.1.2	
BESFNDAPPSERVER	Win2016 10.0.14393.4283 (1607)
BESFNDCENTOS	Linux CentOS 7.5.1804 (3.10.0-862....)
<b>BESFNDOSDTARGET</b>	Win10 10.0.18363.418 (1909)
<b>BESFNDOSDTARGET</b>	Win10 10.0.17134.706 (1803)
BESFNDWIN10	Win10 10.0.17134.1246 (1803)
BESFNDWINROOT	Win2016 10.0.14393.4283 (1607)

**13.** If necessary, you can right-click on the “old” name and remove from database.

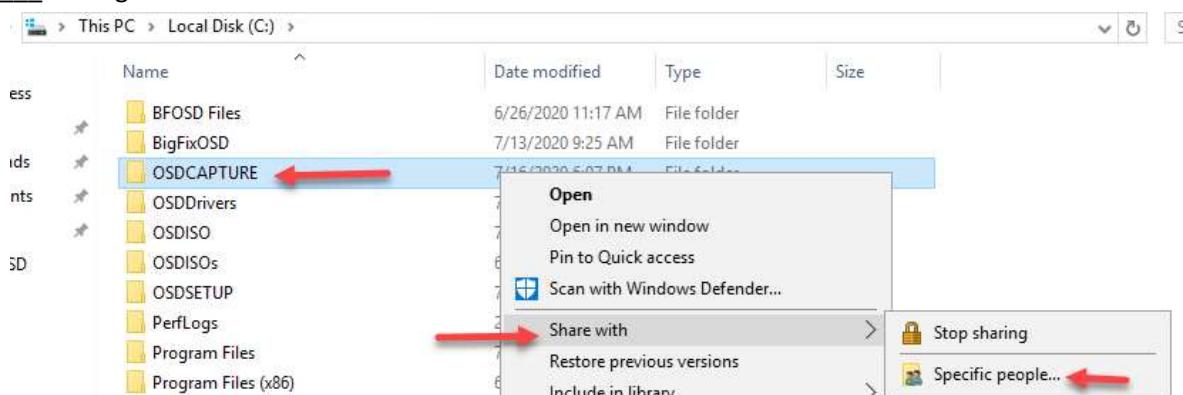
This completes the exercise to create a new OSD profile that also uses client settings to install software after OSD had built the target.

## Exercise 17: Capture an existing system\*

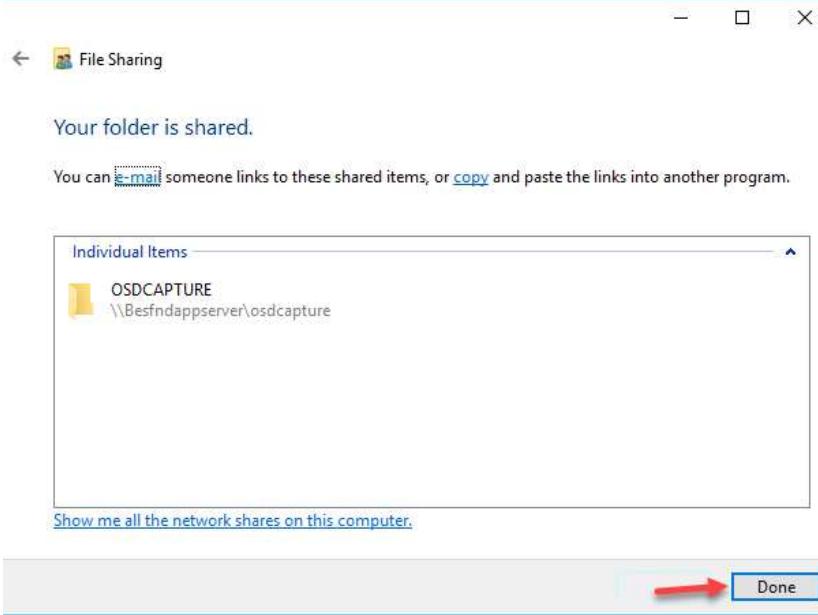
In this exercise, you will use BigFix to capture a running windows 10 system. There are multiple reasons for doing this, a prime example is you have a software package that cannot be installed silently.

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 (**BESFNDAPP SERVER**) 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 (**BESFNDAPP SERVER**), 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

The screenshot shows the 'Capture Wizard' interface. At the top, it says 'OS Deployment - Capture' and 'Capture Wizard'. Below that, a note states: 'This dashboard is used to capture an image of a currently running Windows computer.' The first section, '1) Specify SMB Share Information', has a heading 'Image Destination Folder' and a text input field containing a placeholder. Below it is a checkbox labeled 'Enable Remote Logging' and a section for 'Location For Logging' with a text input field. The second section, '2) Choose Capture Options', has a heading 'Operating System and Architecture'. It includes dropdown menus for 'OS to capture' (set to 'Select'), 'Architecture' (set to 'Select'), and 'MDT Bundle' (set to 'Select').

- \_\_\_\_\_5. Input the following:

- \_\_\_\_\_a. Image Destination Folder: **\\**
- \_\_\_\_\_b. Enable Remote Logging: **Check the box**
- \_\_\_\_\_c. Location for Logging: **\\**
- \_\_\_\_\_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.

Confidential

Your screen should look something like this:

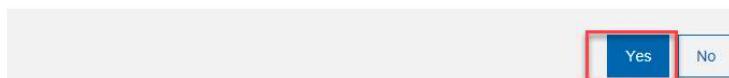
\_\_\_\_\_i. Click: **Capture Image**

The screenshot shows the 'OS Deployment - Capture' interface. The 'Capture Wizard' section is active, with the sub-step '1) Specify SMB Share Information' highlighted in green. The 'Image Destination Folder' field contains '\\IOSDCAPTURE'. Below it, the 'Location For Logging' field shows '\\IOSDCAPTURE\LOGS' with an orange warning icon indicating 'Enable Remote Logging' is checked. The 'Specify Credentials' section has 'Specify Credentials' selected. Under 'User name', 'Administrator' is entered. The 'Password' field contains a masked password. The 'Enable 9.0 Encryption' checkbox is checked. The next step, '2) Choose Capture Options', is shown in green. The 'Operating System and Architecture' section is expanded, showing 'OS to capture' set to 'Windows 10' and 'Architecture' set to 'x64'. Under 'MDT Bundle', 'initialMDT20210421 (3.10.33) (Default)' is selected. The 'Miscellaneous Options' section includes 'Multiple Partitions' (checkbox checked), 'Before Capturing' (checkboxes for 'Defragment Disk', 'Check and Repair Disk Problems', and 'Disable enhanced error detection'), and 'Image Capture Notes' containing 'Win1909, besclient, vmwaretools.' At the bottom are 'Capture Image' and 'Reset' buttons.

Answer Yes to the “sys prep” question:

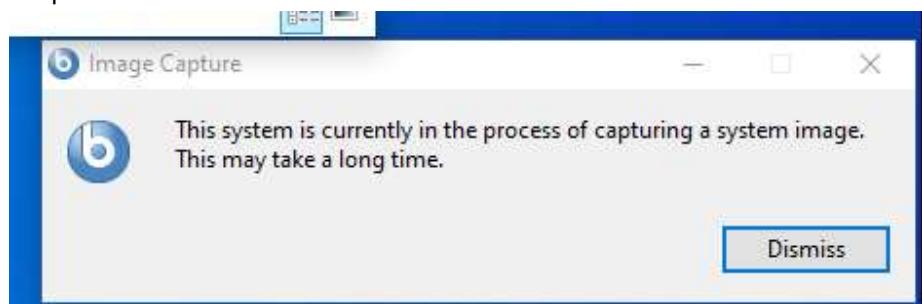
**Warning**

This capture will use the Microsoft System Preparation Tool (Sysprep.exe) to prepare the captured image for re-deployment in an enterprise environment. This process can affect the product activation of the captured system, rendering it unable to re-activate. It is highly recommended that you capture an image from a virtual machine with snapshot restoration capability. Do you want to continue?



- \_\_\_ 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:

Action: BigFix OS Deployment: Capture Windows 10 x64 to \\10.0.1.1\OSDCAPTURE

Stop | Copy | Export | Remove

Summary | Computers (1) | Target

**Status**

100.00% Completed (1 of 1 applicable computers)

Status	Count	Percentage
Completed	1	100.00%

**Member Actions**

This multiple action group has the following component actions:

- [00-425: Validation](#)
- [00-426: Download and Set up MDT Resource Files](#)
- [00-427: Create Image Info File](#)
- [00-428: Determine Applicable Drivers](#)
- [00-429: Download Applicable Drivers and Apply](#)
- [00-430: Prepare custom settings configuration file](#)
- [00-431: Initiate Capture Action](#)

View from the target:

```
cmd :> x:\Windows\system32\cmd.exe - x:\Windows\system32\startnet.cmd
W <NOT> Skipping unmap of X: (Local Fixed Disk)
W <NOT> DriveLetter: A: (Label: "") is in use
W <NOT> DriveLetter: E: (Label: "") is in use
W <NOT> DriveLetter: X: (Label: "Boot") is in use
W <NOT> First DriveLetter free is C:
W <NOT> Assigning letter C: to partition 0:0 (offset 0)
W <NOT> First DriveLetter free is D:
W <NOT> Assigning letter D: to partition 0:1 (offset 0)
W <NOT> *** End of output for [cscript X:\Windows\TEMP\tpm_B7AFA2DE75F8319C_1\orderVolumes.vbs]

W <INF> Command [cscript X:\Windows\TEMP\tpm_B7AFA2DE75F8319C_1\orderVolumes.vbs] successfully completed in 6.83 seconds
W <INF> Volumes have been ordered
W <NOT> CDROM Found on E:
W <NOT> Need to remap e: on p
W <INF> Command exited successfully
Microsoft DiskPart version 10.0
Copyright (C) Microsoft Corporation 2008. All rights reserved.

Volume 0 is the selected volume.

DiskPart successfully assigned the drive letter or mount point.
Stopping Web extension
    1 file(s) copied.
Could Not Find X:\current.bat
    1 file(s) moved.
```

Installation Progress

BigFix OS Deployment  
Running: Lite Touch Installation

Running action: Error detection - Clean Phase 1

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:

## BESFNDAPP SERVER c:\OSDCAPTURE

| OSDCAPTURE

| Share | View

This PC > Local Disk (C:) > OSDCAPTURE >			
	Name	Date modified	Type
ess	LOGS	4/23/2021 2:03 PM	File folder
ds	Win10x64_BESFNDWIN10_1619461080499.driverinfo	4/26/2021 12:41 PM	DRIVERINFO File
nts	Win10x64_BESFNDWIN10_1619461080499.imageinfo	4/26/2021 12:18 PM	IMAGEINFO File
	Win10x64_BESFNDWIN10_1619461080499.WIM	4/26/2021 12:18 PM	WIM File
			9,149,397 KB

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: BESFNDAPP SERVER
- \_\_\_\_\_ 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:

This PC > Local Disk (C:) > OSDCAPTURE >			
	Name	Date modified	Type
	Win10x64_BESFNDWIN10_1909_cap.WIM	5/26/2021 4:45 PM	WIM File
	Win10x64_BESFNDWIN10_1909_cap.imageinfo	5/26/2021 4:45 PM	IMAGEINFO File
	Win10x64_BESFNDWIN10_1909_cap.driverinfo	5/26/2021 5:28 PM	DRIVERINFO File
	LOGS	5/26/2021 4:45 PM	File folder

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: **BESFNDAPP SERVER**
  - \_\_\_\_ 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: BESAPP SERVER
  - \_\_\_ 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 Media Manager Dashboard**

OS Deployment - Bundle and Media Manager

### Manage MDT Bundles, OS Resources and Deployment Media

Use this dashboard to install MDT Bundle creators, and to create, upload, and manage MDT bundles and operating system (OS) resources or upload each item individually.

Deployment Resources      **MDT Bundle Creators and Windows Media**      Linux Media

Download and install the MDT Bundle Creator      **Install MDT Bundle Creator**

Available MDT Bundle Creators				
<b>Create MDT Bundle</b>	<b>Create Deployment Media</b>			
Target 1	Status 1	OS Deployment Server 1	Deployment Kit 1	MDT Bundle 1
BESFNDAPPSERVER	Available	7.1.120.31078	WADK 10.0 (2004)	3.10.33

- \_\_\_\_\_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**

Manage MDT Bundles, OS Resources and Deployment Media

Use this dashboard to install MDT Bundle creators, and to create, upload, and manage MDT bundles and operating system (OS) resources or upload each item individually.

Deployment Resources      **MDT Bundle Creators and Windows Media**      Linux Media

Download and install the MDT Bundle Creator      **Install MDT Bundle Creator**

Available MDT Bundle Creators				
<b>Create MDT Bundle</b>	<b>Create Deployment Media</b>			
Target 1	Status 1	OS Deployment Server 1	Deployment Kit 1	MDT Bundle 1
BESFNDAPPSERVER	Available	7.1.120.31078	WADK 10.0 (2004)	3.10.33

- \_\_\_\_\_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.

## OS Deployment Servers and Bare Metal Profiles

Select the OS Deployment Server where the files used for the media will be downloaded



Installed OS Deployment Servers				
OS Deployment Server	Server IP	Server Version	Server Status	Warnings
BESFNDAPPSERVER	10.0.0.6 - 10.0.1.1	7.1.120.31078	Running	

Access the [Bare Metal Server Manager](#) dashboard for problem determination information for the selected server.

Select the Bare Metal Profiles to be included in the media



Bare Metal Profiles		
<input type="checkbox"/> Image Filename	Name	OS Architecture
<input type="checkbox"/> Win10x64R1803_1619038073.wim	Win10 x64 Bare Metal - 1803 Enterprise	Win10
<input checked="" type="checkbox"/> Win10x64R1909_1619040917.wim	Win10 x64 Bare Metal - 1909-ENT-vmwaretools	Win10

Next

Cancel

9. The Create Deployment Media screen appears.

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- \_\_\_ 10. Create Deployment Media Screen shot 1 of 2 (you don't have to make any changes to this screen):

[Create Deployment Media](#)

Create a deployment CD/DVD or USB media with Windows Pre-Installation Environment 10.0 (2004)

**OS Architecture**

**Media Startup Behavior**

OS Architecture to be included in the media:

x86  x64

Boot at User Request only

Inject all available Windows Pre-Installation Environment Drivers

**OS Deployment Server**

Name

BESFNDAPPSERVER

Specify the connection details

Server IP

10.0.0.6

SSL port

443

Password

**OK**

**Close**

- \_\_\_ 11. Scroll down till you find the section: **Media Output File**.

- \_\_\_ 12. Change the name of the ISO from sampleCD.iso to **labosdwin1909.iso**

[Create Deployment Media](#)

**Media Output File**

Choose the deployment media format and the type of output to be created

CD/DVD

Output ISO File

c:\OSDISO\labosdwin1909.iso

Mounted USB Key

Drive Letter

Format the USB Key

USB Key Content

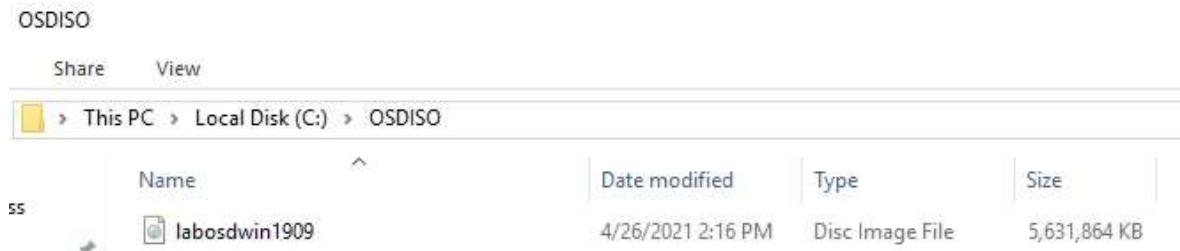
Output Directory

c:\OSDUSB

**OK**

**Close**

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.

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## 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:

The screenshot shows the Skytap interface with the title "BigFix-BESFND302O\_v3.3.9 (Mark Leaphart)". The main area displays four running virtual machines (VMs): BESFNDAPPSERVER, BESFNDOSDTARGET, BESFNDWIN10, and BESFNDWINROOT. Each VM has its status (Running), endpoints (e.g., 2, 1, 1, 2), and resource details (e.g., 4 GB RAM, 75 GB storage). To the right, there's a sidebar titled "Course information" which lists attachments, including "00-Bigfix OSD Labs - V1.2..." (7 MB).

- \_\_\_\_ 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:

The screenshot shows the "Resources" tab in the Skytap interface. The "ISOs" button is highlighted with a red box. Below it, there's an "Actions" dropdown menu.

- \_\_\_\_ 4. This opens a new dialog, simply click on the "click here" link:

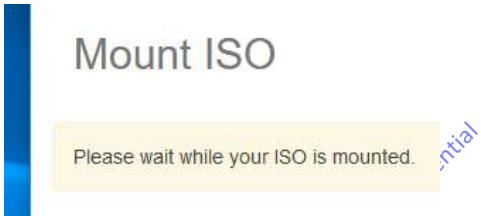
The screenshot shows a new dialog box with the text "To mount an ISO in your lab, click here." A red box highlights the "click here" link.

- \_\_\_5. Now select the VM: BESFNDOSDTARGET and the ISO: 1803\_WO\_drivers.iso(US-Central) then click on MOUNT ISO

## Mount ISO



- \_\_\_6. You will get the message:

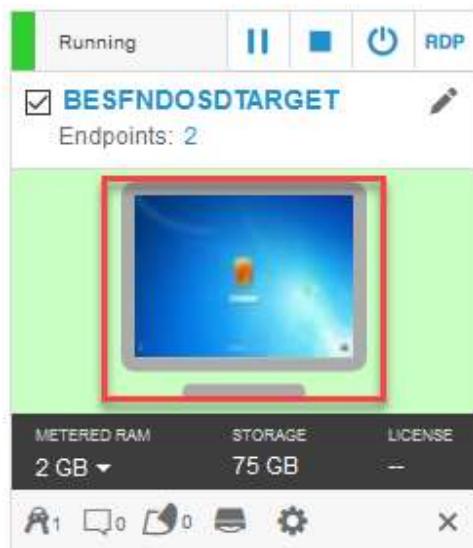


- \_\_\_7. Followed by:

## Mount ISO

Your ISO has been mounted. You can now close this window.

\_\_\_\_\_8. Click on the “screen” icon to access the BESFNDOSDTARGET target.



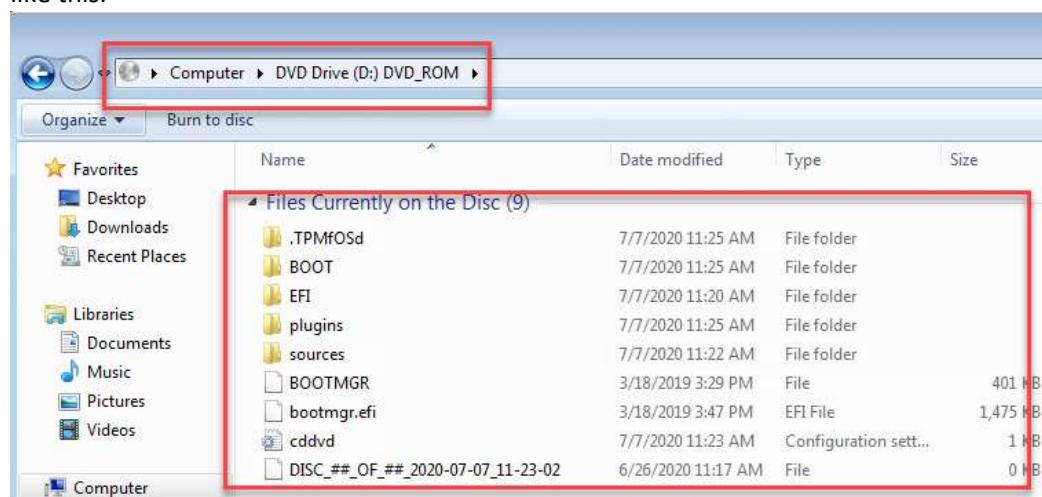
\_\_\_\_\_9. After you click on the “screen” it opens a new tab in your browser, open the tab:  
BESFNDDOSWin10 – Skytap

\_\_\_\_\_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:

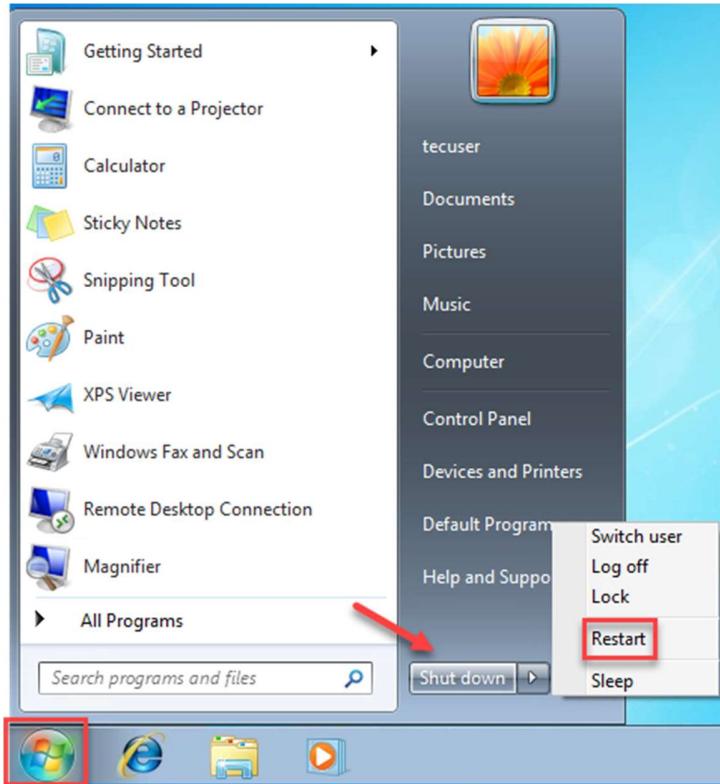


Name	Date modified	Type	Size
<b>Files Currently on the Disc (9)</b>			
.TPMfOsd	7/7/2020 11:25 AM	File folder	
BOOT	7/7/2020 11:25 AM	File folder	
EFI	7/7/2020 11:20 AM	File folder	
plugins	7/7/2020 11:25 AM	File folder	
sources	7/7/2020 11:22 AM	File folder	
BOOTMGR	3/18/2019 3:29 PM	File	401 KB
bootmgr.efi	3/18/2019 3:47 PM	EFI File	1,475 KB
cddvd	7/7/2020 11:23 AM	Configuration sett...	1 KB
DISC_##_OF_##_2020-07-07_11-23-02	6/26/2020 11:17 AM	File	0 MB

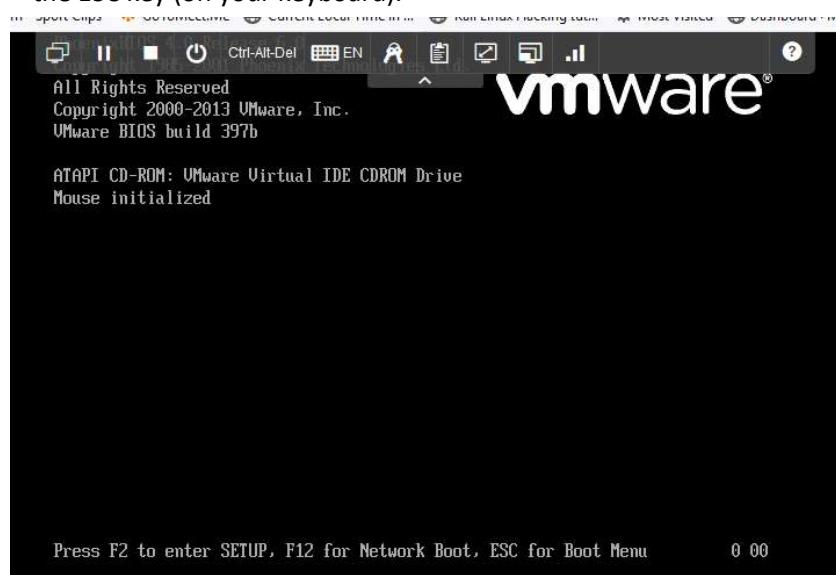
\_\_\_\_\_12. If that is not there, review steps 5-8

\_\_\_\_\_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-xxxxxxx 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-xxxxxxx computer.

This completes this exercise.

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