



## Persysent Suite 6.0

# CAPTURE BASE IMAGE

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## Planning Process

It is important to understand up front all the steps that will occur in the preparation and deployment of an image. Take the time to be aware of some of the concepts and planning decisions so that the actual process goes smoothly.

One of the first things to be taken into consideration is: which kind of image to build. There are different ways for an image to be prepared depending on what is trying to be accomplished. Next, a machine must be selected that will be used to build the base image. Once a machine has been chosen to perform the base Windows installation, the desired operating system needs to be installed. If multiple operating systems are to be deployed, each one will need to be installed and captured separately. Also, ensure that OEM media is not used to install Windows. Volume license media in combination with volume license Keys (VLK) should be used. The following processes described in this document should be performed using the built in “Administrator” account.

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## Base Image Setup

It is recommended that the operating system be installed into a virtual machine. The main reason for this is the ability to take snapshots. Snapshots allow you to go back in time in case there is a mistake. They also allow you to go back before the system is syspreped, which enables you to make updates to the computer and sysprep it again for deployment. If a virtual machine is not possible, then it is recommended that an image is taken before the reference machine is syspreped. This is because it is not recommended that you sysprep a machine that has already been syspreped. This base image allows you to be able to restore the reference computer to the state prior to sysprep taking place. Another reason for this image is if issues arise during the sysprep or capture process, this image can be used to start over.

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## Sysprep

Sysprep removes any machine specific information, security identifiers, resets activation, and generalizes the operating system for deployment. Executing sysprep is necessary to have a successful deployment. Deploying an image that has not been syspreped is not recommended.



## Running Sysprep

Sysprep can be run by running the application directly. This presents a user interface where you can select basic options. The recommended method, however, is to run sysprep via the command line and pass in the necessary parameters. Below is an example running sysprep with generalize option, Out of Box Experience (OOBE), shutdown, and unattend file to use.

```
C:\Windows\System32\Sysprep\Sysprep /generalize /oobe /shutdown  
/unattend:c:\unattend.xml
```

Any errors encountered during the sysprep process are located in the log below:

```
C:\Windows\System32\Sysprep\Panther\setuperr.log
```

## Creating an Answer File

An answer file or unattend file is used to configure Windows during the setup process when the operating system is deployed. It is recommended that an unattend file is used as this will eliminate manual setup and post configuration tasks, ensuring a consistent deployment.

A basic unattend is included below. Please see the references section for a walkthrough of creating your own unattend file.



Unattend.xml

## High Level Steps

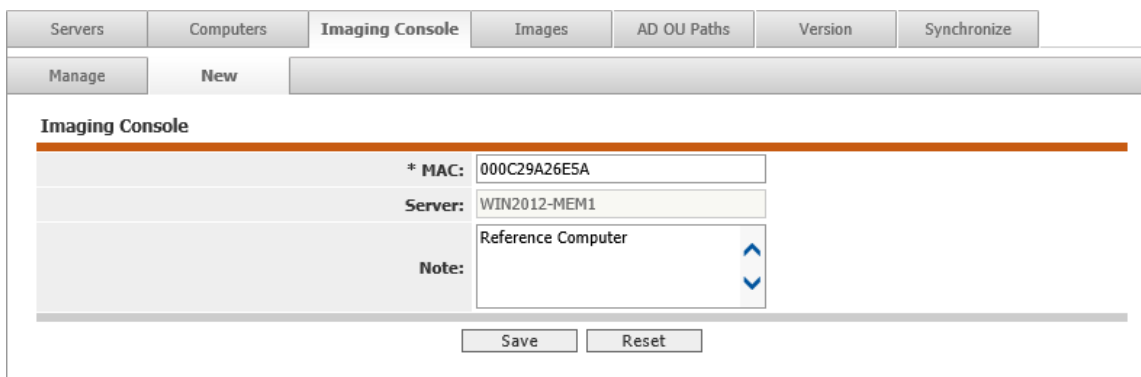
Below are the high-level steps to capture an image.

1. Prepare a machine (preferably a virtual machine) with OS and applications.
2. Run Disk Cleanup and select all items and perform cleanup.
3. Create the unattend.xml file
4. Copy the unattend.xml file to C:\ of the machine to be captured
5. Run sysprep: ***C:\Windows\System32\Sysprep\Sysprep /generalize /oobe /shutdown /unattend:c:\unattend.xml***
6. Machine will shut down automatically.
7. Boot machine to Persistent via PXE/USB or CD/DVD.
8. Capture an image

## Capture Base Image

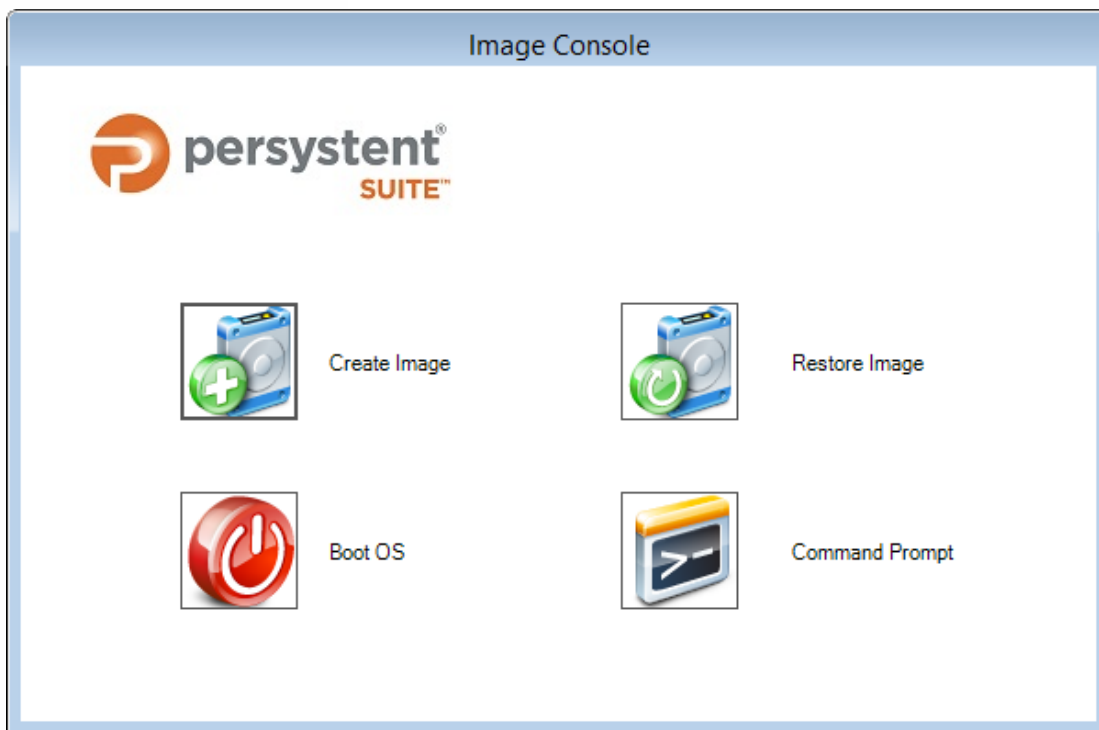
The image can now be captured and uploaded to the Suite server. An image of the machine can be capture by booting via PXE/USB or CD/DVD. Follow these steps to capture an image:

1. Launch the WebUI web console.
2. Log into the web console.
3. In the left navigation pane under **Servers** select the server that will store the image.
4. In the main navigation area select the **Imaging Console** tab.
5. Select **New**.
6. In the **MAC** field enter the MAC address of the machine to be captured.
7. Click **Save**.

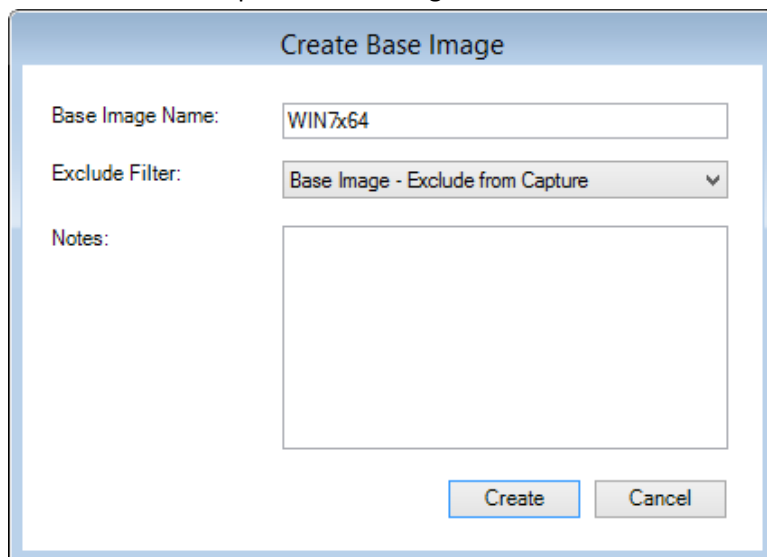


Servers	Computers	<b>Imaging Console</b>	Images	AD OU Paths	Version	Synchronize
Manage	<b>New</b>					
<b>Imaging Console</b>						
* MAC:	000C29A26E5A					
Server:	WIN2012-MEM1					
Note:	Reference Computer					
		Save		Reset		

8. Configure the machine with OS and applications as needed.
9. Run Disk Cleanup and select all items and perform cleanup.
10. Copy the unattend.xml file to C:\ of the machine to be captured.
11. Create snapshot of the machine if it's a virtual machine. This will be used in future to update the base image.
12. Run sysprep command from command-line (Run as an administrator):  
***C:\Windows\System32\Sysprep\Sysprep /generalize /oobe /shutdown /unattend:c:\unattend.xml***
13. Machine will shut down automatically.
14. Create snapshot of the machine if it's virtual. This can be deleted once the image is captured successfully.
15. Boot the machine to Persystem via PXE/USB or CD/DVD.
16. Computer will boot into the **Image Console**.



17. Select **Create Image** from the **Image Console**.
18. Enter the following information:
  - A. Enter a name for the image
  - B. Under **Exclude Filter** select **Base Image- Exclude from Capture**.
  - C. Then enter a description of the image



19. Click **Create**.
20. The capture process has started. This may take some time, wait for it to finish.
21. Once finished, the computer can be removed from the **Imaging Console** in the WebUI.
22. Image will be added to the WebUI under **Base Images** tab.

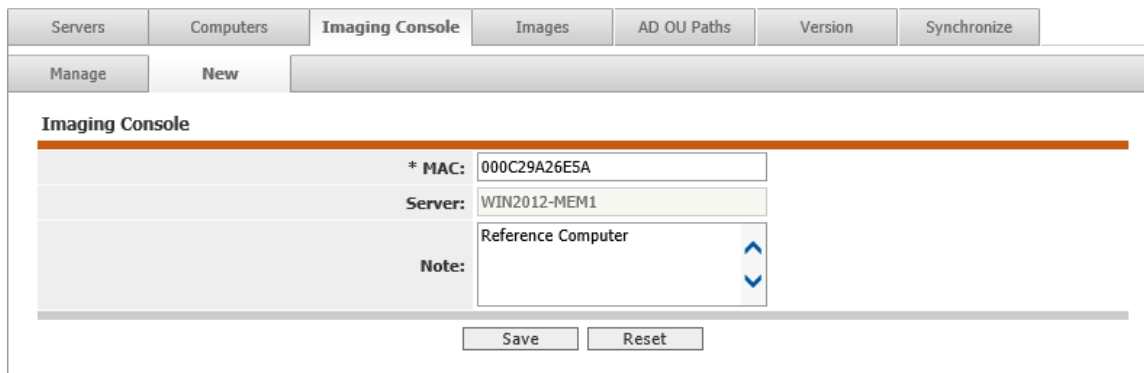
Base Images											
Name	Size (MB)	Model	OS Description	Service Pack	Platform	FSType	Synchronize	Created On	Type	Domain	
<input type="checkbox"/> Windows 10 1709	6348	VMware Virtual Platform	Windows 10 Pro		AMD64	NTFS	No	2/12/2018 8:51:37 PM	Workgroup	Workgroup	
<input type="checkbox"/> Windows 7 6.1	4340	VMware Virtual Platform	Windows 7 Enterprise		AMD64	NTFS	No	2/12/2018 8:54:43 PM	Workgroup	Workgroup	
<input type="checkbox"/> Windows 7 x64 Enterprise .net 4.5 Sysprep	4290	VMware Virtual Platform	Windows 7 Enterprise		AMD64	NTFS	No	2/12/2018 8:54:53 PM	Workgroup	Workgroup	

Total Records: 3    Page: ALL    Lines: ---

## Update Existing Base Image (Only if image was prepared on physical computer and not VM)

The base image needs to be updated with latest windows updates, application updates and any other settings over time. Here are the steps to update existing base image:

1. Launch the WebUI web console.
2. Log into the web console.
3. In the left navigation pane under **Servers** select the server where the existing base image is stored.
4. In the main navigation area select the **Imaging Console** tab.
5. Select **New**.
6. In the **MAC** field enter the MAC address of the machine where we will restore the current image which needs to be updated.
7. Click **Save**.

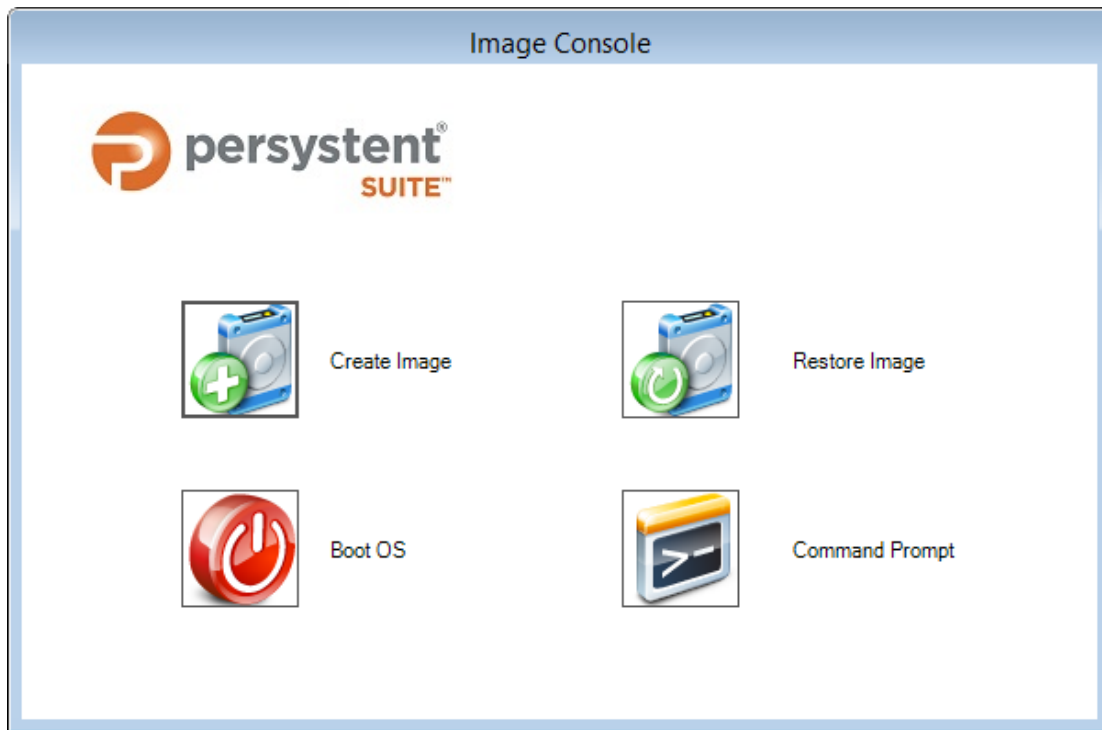


The screenshot shows the 'Imaging Console' web interface. The 'New' button is highlighted. The form contains the following fields:

- \* MAC:** 000C29A26E5A
- Server:** WIN2012-MEM1
- Note:** Reference Computer

Buttons for 'Save' and 'Reset' are visible at the bottom of the form.

8. PXE boot the machine where we will restore the current base image.
9. Computer will boot into the **Image Console**.



10. Select **Restore Image** from the **Image Console**.
11. Select current base image from the pulldown list which needs to be updated.
12. Click **Restore**.
13. Once finished, boot to the OS to make necessary changes to the computer.
14. Follow the steps in section “Capture Base Image” to recapture the updated base image.

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## Verifying the Gold Image

The gold image is the image that has been fully prepared and captured for OS deployment. It is a good idea to test it on your various hardware platforms to ensure that everything works without issue. Verify that all of the drivers that were part of the image are correctly installed when the image is deployed. Also, be sure to verify that all of the settings defined in your sysprep file are correctly applied to the machine. If any issues occur, this is the time to detect and correct them.

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## References

### Walkthrough: Build a Simple Answer File

<https://technet.microsoft.com/en-us/library/cc749317%28v=ws.10%29.aspx>

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