



Pearson System of Courses

Deploy with System Center Configuration Manager (SCCM) for Windows

Version 3.0

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Deployment Process Overview

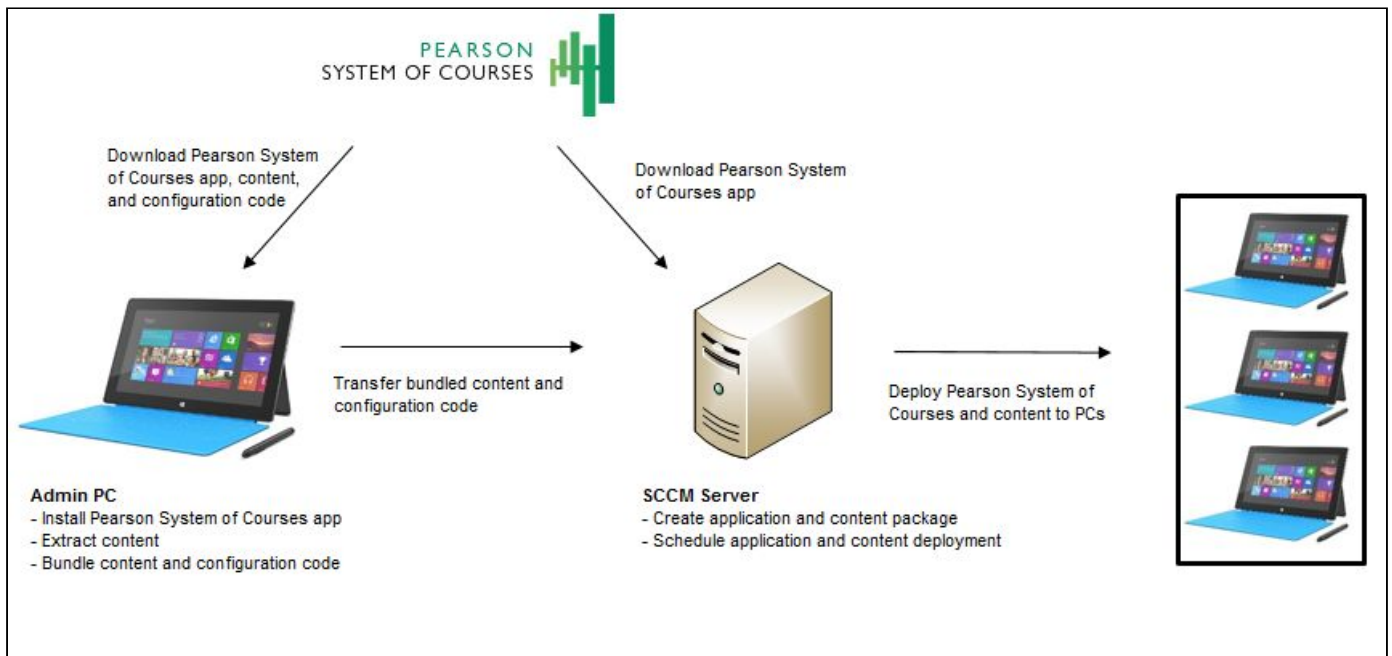


Figure 1: SCCM Deployment Process

System Center Configuration Manager (SCCM) is a Client Management Tool used to manage and deploy software to a large group of computers. The SCCM deployment process is used to deploy both the Pearson System of Courses app and content using the Local Area Network. An admin would download a Pearson System of Courses content package, deploy it to the desired device collection and then repeat the process to deploy the Pearson System of Courses app. Deployment can also be scheduled in waves in order to prioritize them and also ease bandwidth utilization.

Prerequisites and Assumptions

To enable this process, the following prerequisites must be met:

- SCCM and network share infrastructure
- Computers are joined to an Active Directory domain
- Computers are on the same area local network
- Ability to access the Pearson Content Dashboard
- Install trusted root certificate
- EMCopy and 7-Zip software
- Configure the ACL permissions to your files/folders before migrating them to the client computers

This blueprint was created with the following assumptions:

- Windows 8.1 Pro/Enterprise
- Windows 10 Pro/Enterprise

Pearson System of Courses Environment Preparation

Configure Active Directory Organizational Unit

Applying the Pearson System of Courses prerequisites by leveraging organizational units and group policy specific to Pearson System of Courses app users is the preferred method of managing the Pearson System of Courses prerequisites. Only the objects in the Pearson System of Courses organizational units will have the group policy applied to them as opposed to having the group policy applied to the entire domain which may include non-Pearson System of Courses app users. In order to successfully install the Pearson System of Courses prerequisites using Group Policy, you need to perform the following steps in Active Directory.

1. Launch Active Directory Users and Computers and create an Active Directory Organizational Unit by right-clicking on your domain and then going to **New** → **Organizational Unit** as shown in Figure 2 below.

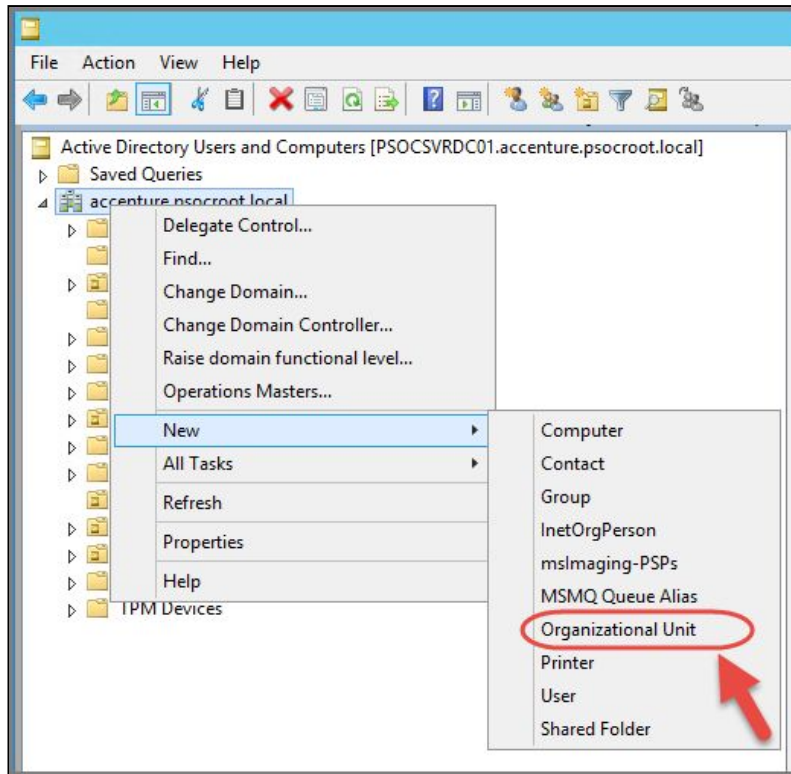


Figure 2

2. Give the Organizational Unit a name and then click **OK** as shown in Figure 3 below.

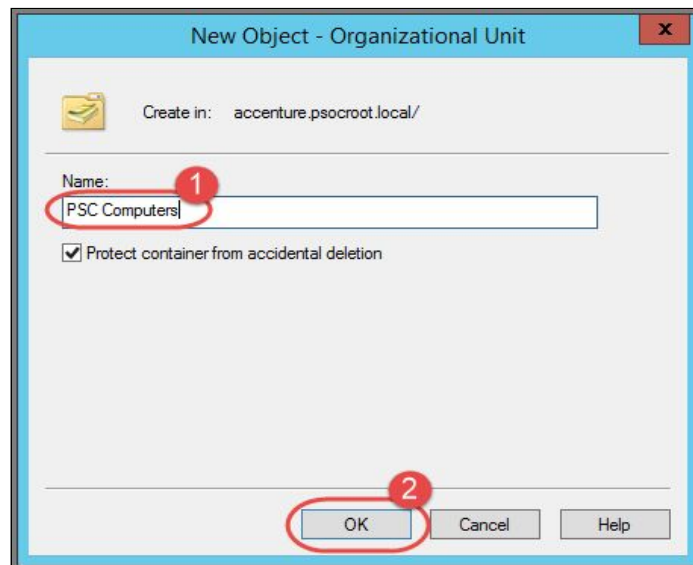


Figure 3

3. Next Add Computer Objects to this new Organizational Unit as shown in Figure 4 below.

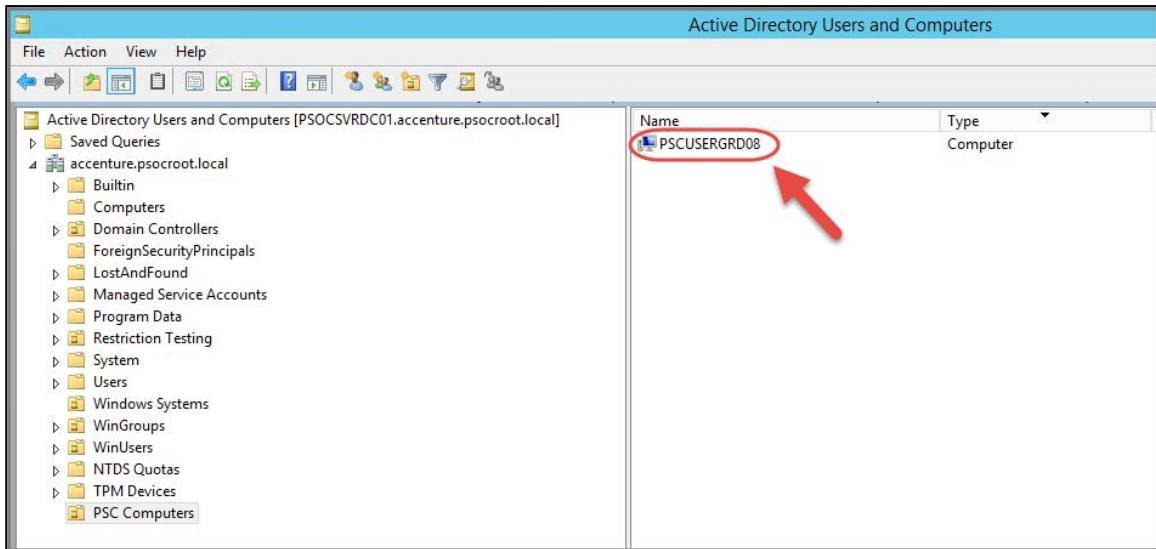


Figure 4

Configure for App Package Deployment

The following section lists the steps required to complete the Pearson System of Courses prerequisites within Group Policy.

1. Launch Group Policy Management and in the console tree, expand the Forest → Domains → *Your Domain* and then right-click on the *Organizational Unit* and then select **Create a GPO** in this domain, and **Link it here...** as shown in Figure 5.

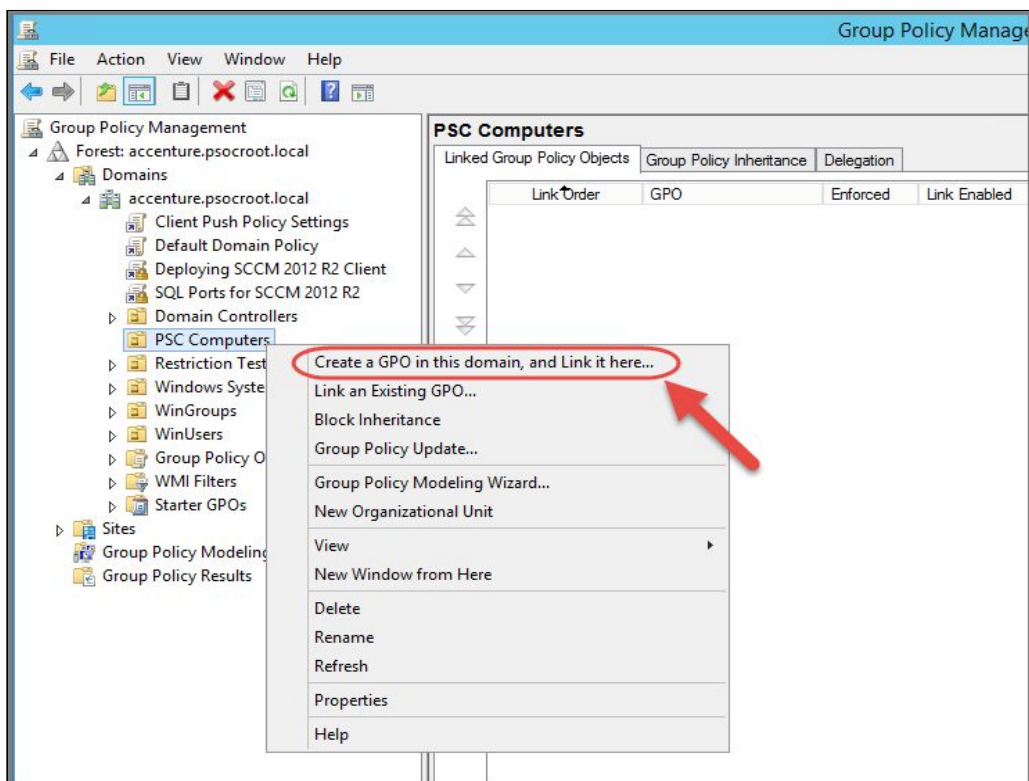


Figure 5

2. In the New GPO window, give the new Group Policy Object a name as shown in Figure 6 below then click **OK**.

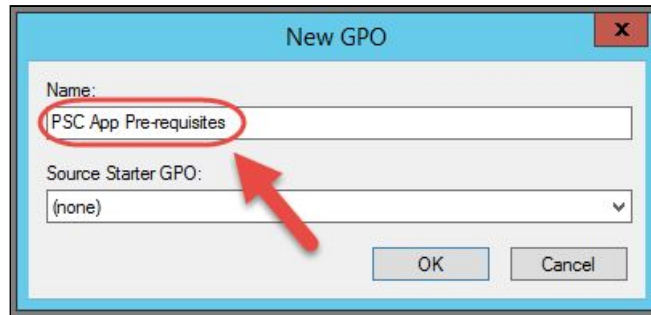


Figure 6

3. In the Group Policy Management console tree, go ahead and right-click on the new GPO you just created and then select **Edit...** as shown in Figure 7 below.

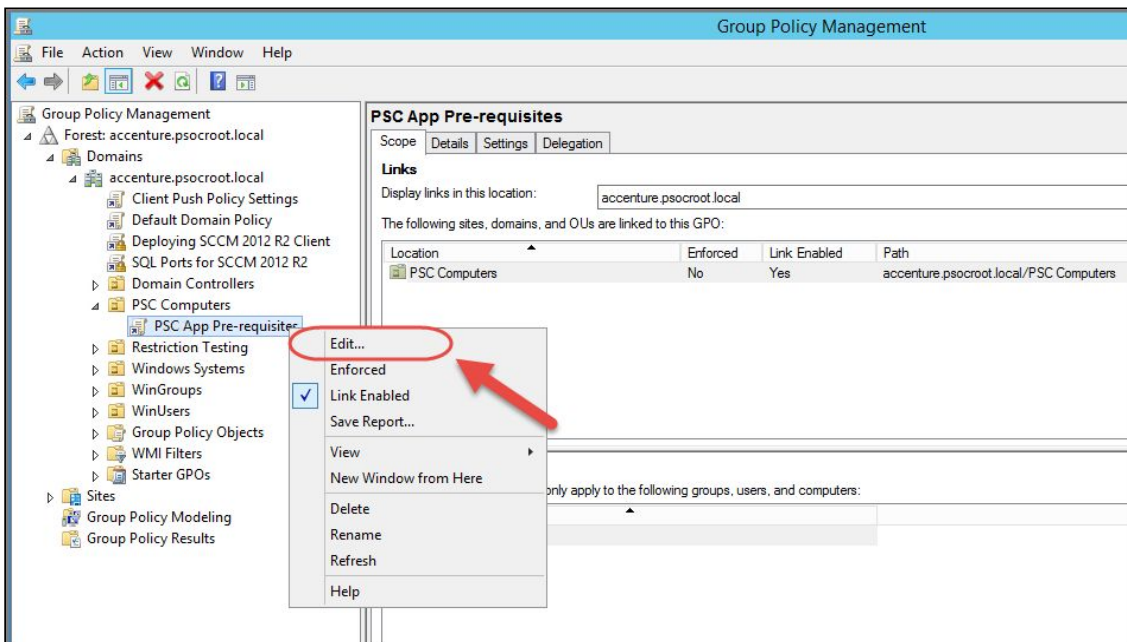


Figure 7

4. In the Group Policy Editor, browse to **Computer Configuration** → **Policies** → **Administrative Template Policy** → **Windows Components** → **App Package Deployment**. In the Setting pane, right-click on **Allow development of Windows Store apps without installing a developer license** and then select **Edit** as shown in Figure 8.

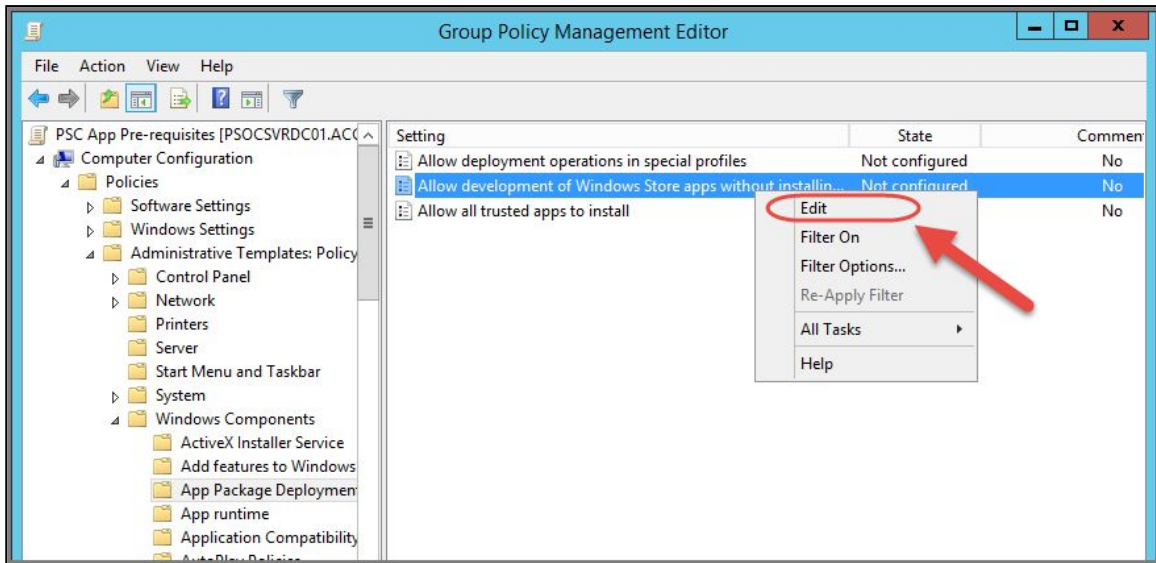


Figure 8

5. Select **Enabled** to enable **Allow development of Windows Store apps without installing a developer license**. Click **Apply** and then click **Next Setting** as shown in Figure 9 below.

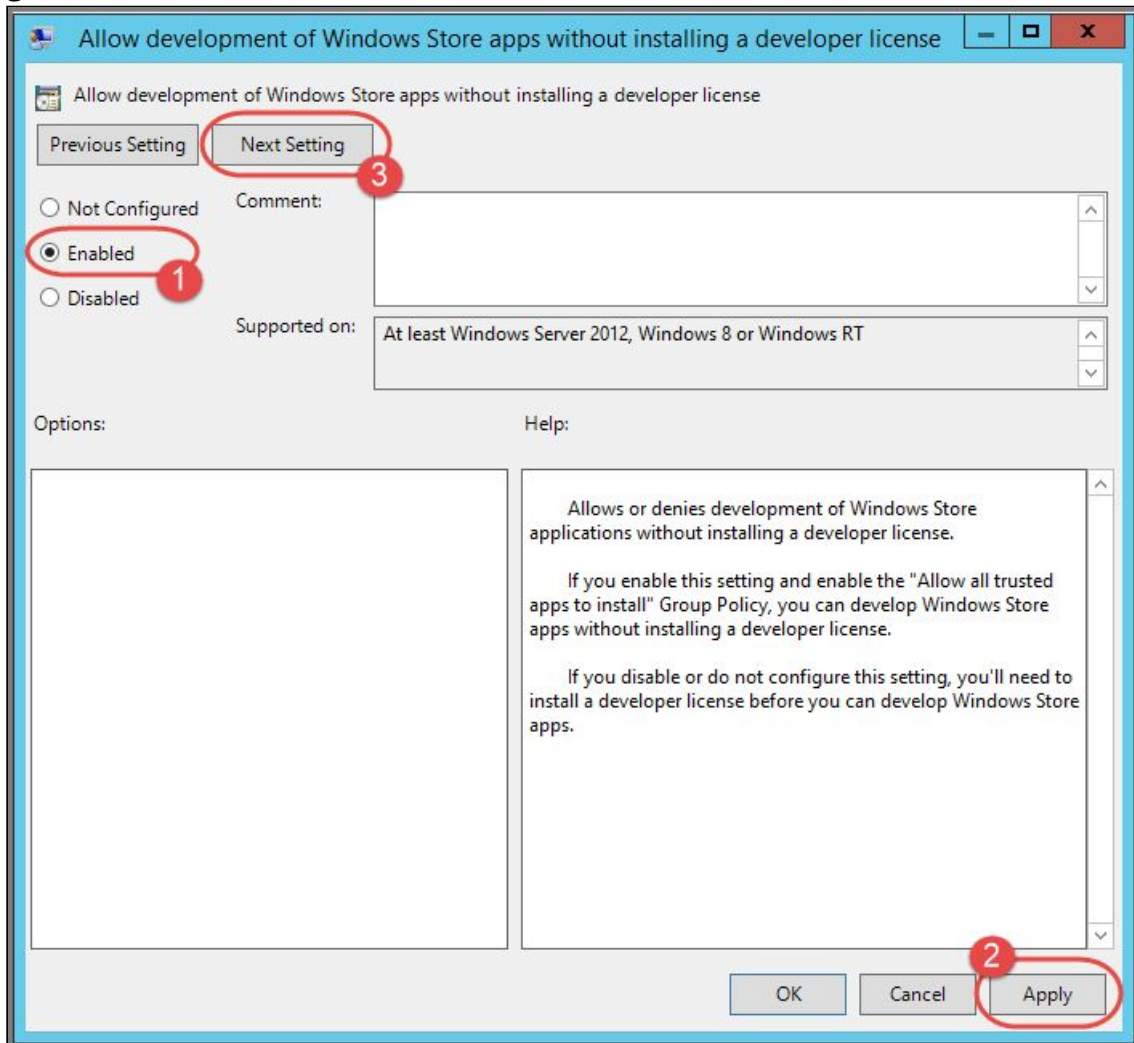


Figure 9

6. Select **Enabled to Allow Trusted Apps to Install** then click **Apply** and **OK** as shown in Figure 10 below.

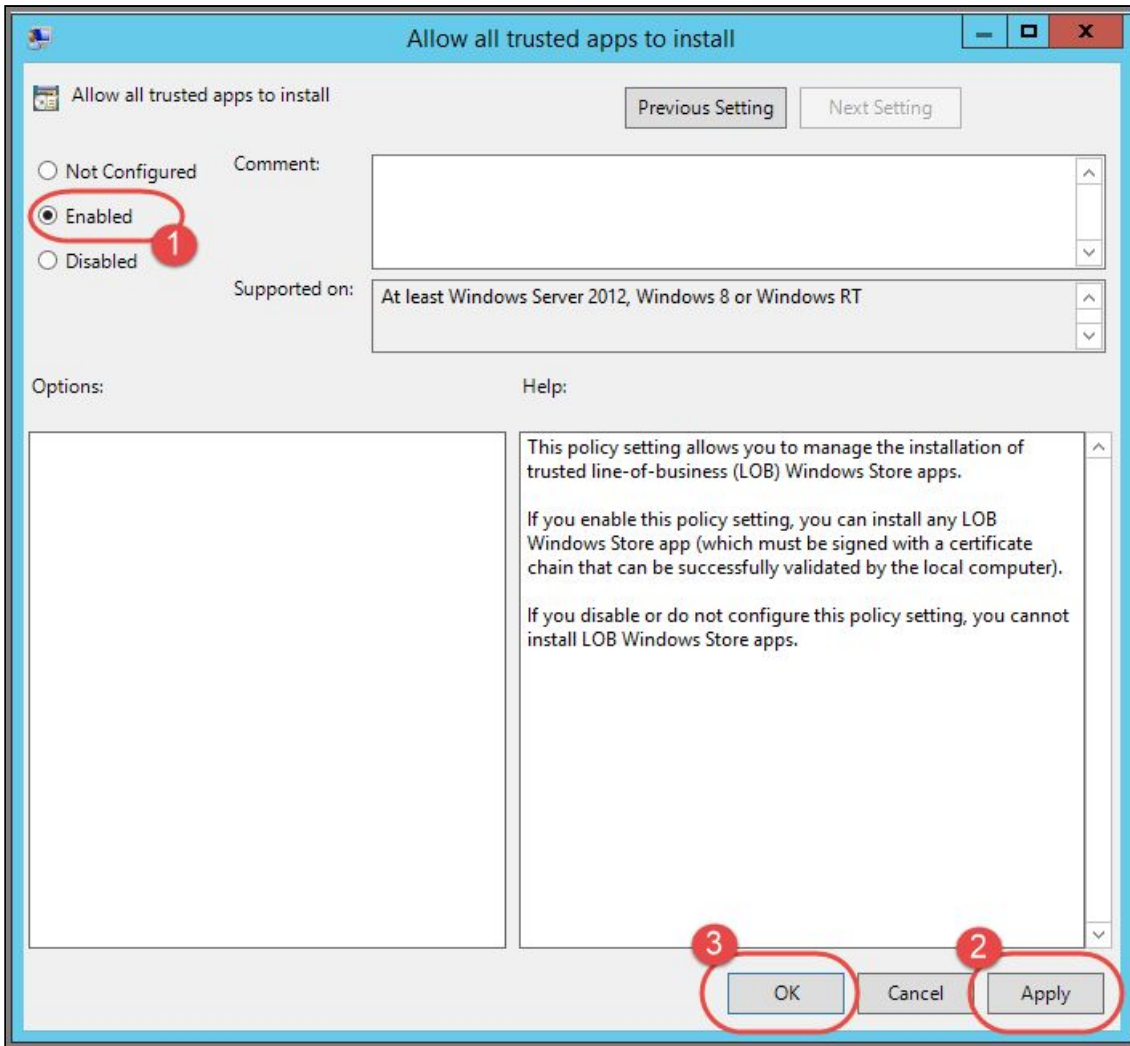


Figure 10

- The two policies you just configured should now show an Enabled State in the Group Policy Management Editor window as shown in Figure 11 below.

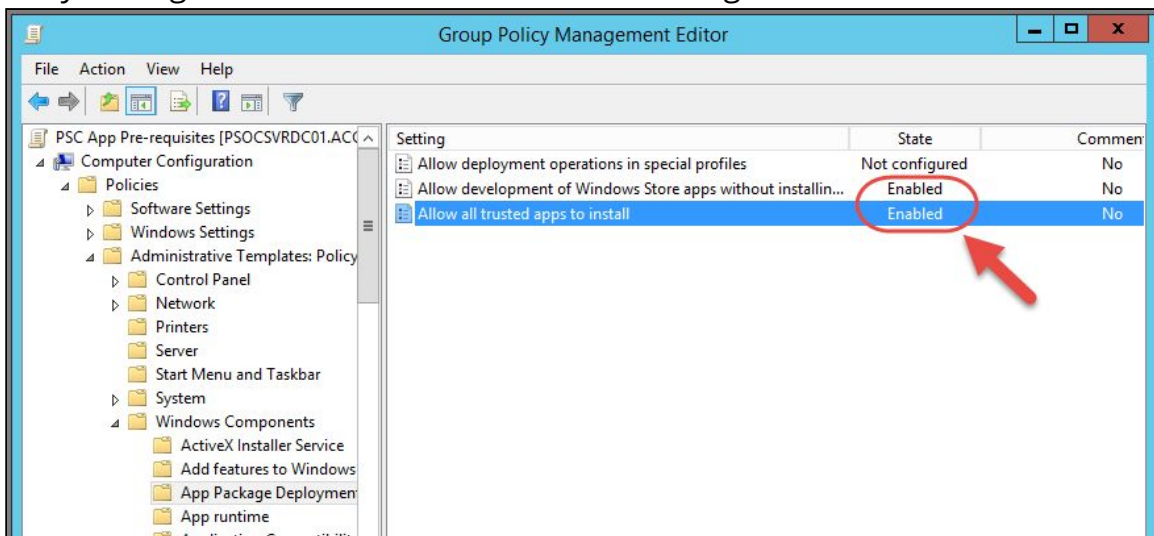


Figure 11

Set Folder Permissions Using Group Policy

The following section lists the steps required to set permissions on the **PSoC** folder for

Pearson System of Courses computers by using group policy.

Note: Although the path to the folder is, by default, pointing to the folder on the server, the path is relative to the client to whom this group policy will be applied.

1. On the Group Policy server, create a folder on the root the drive and C:\PSoC.
2. Next launch Group Policy Management and navigate to the GPO you created for the *Pearson System of Courses Computers* Organizational Unit and then select **Edit...** as shown in Figure 12 below.

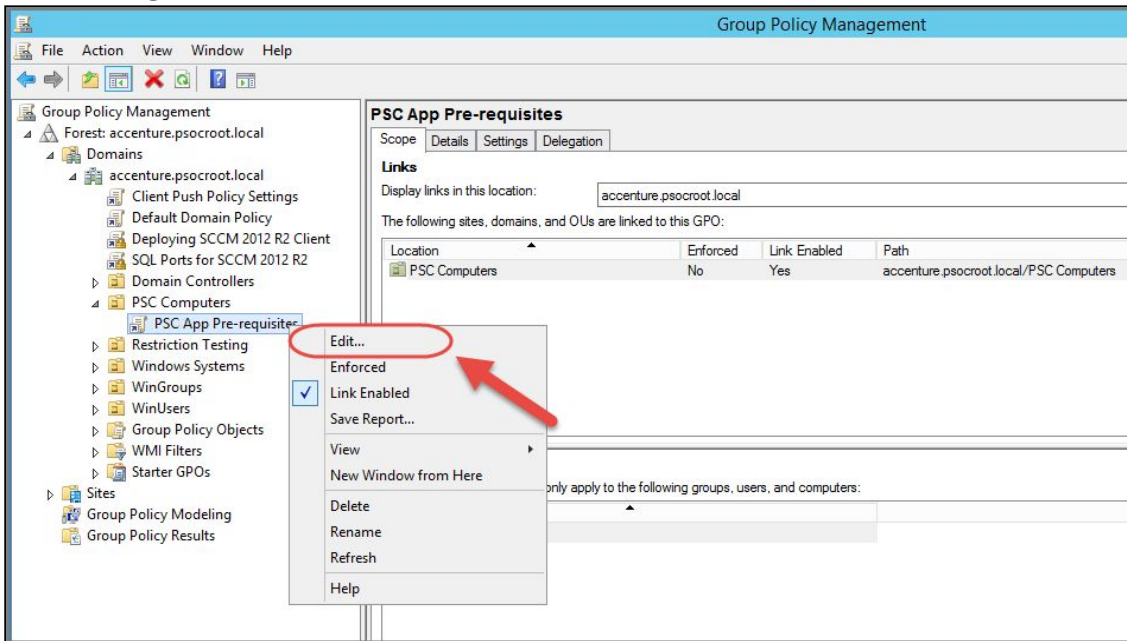


Figure 12

3. Browse to Computer Configuration, Windows Settings, Security Settings, then right-click **File System** and then select **C:\PSoC** folder and then click **OK** as shown in Figure 13.

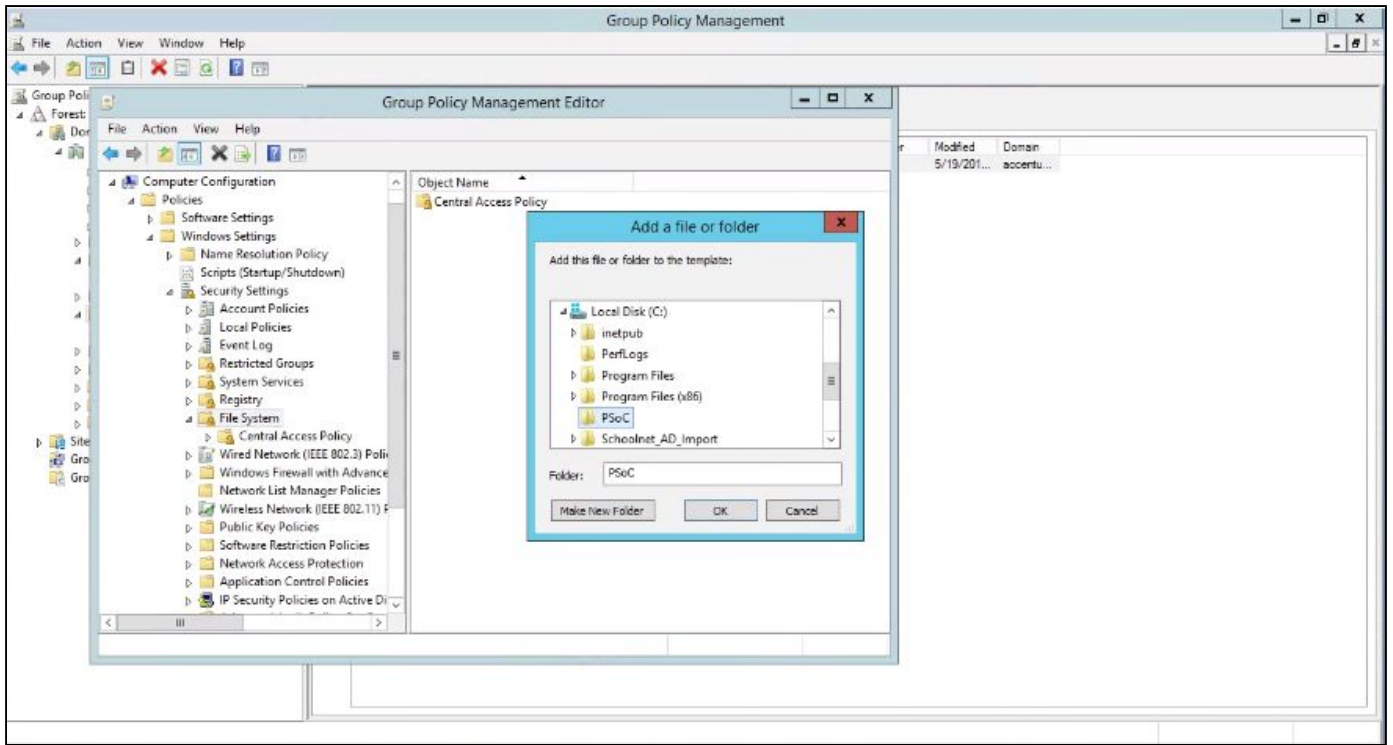


Figure 13

- When the Database Security for %SystemDrive%\PSoC window appears, select **Users** and then **Full Control** as shown in Figure 14.

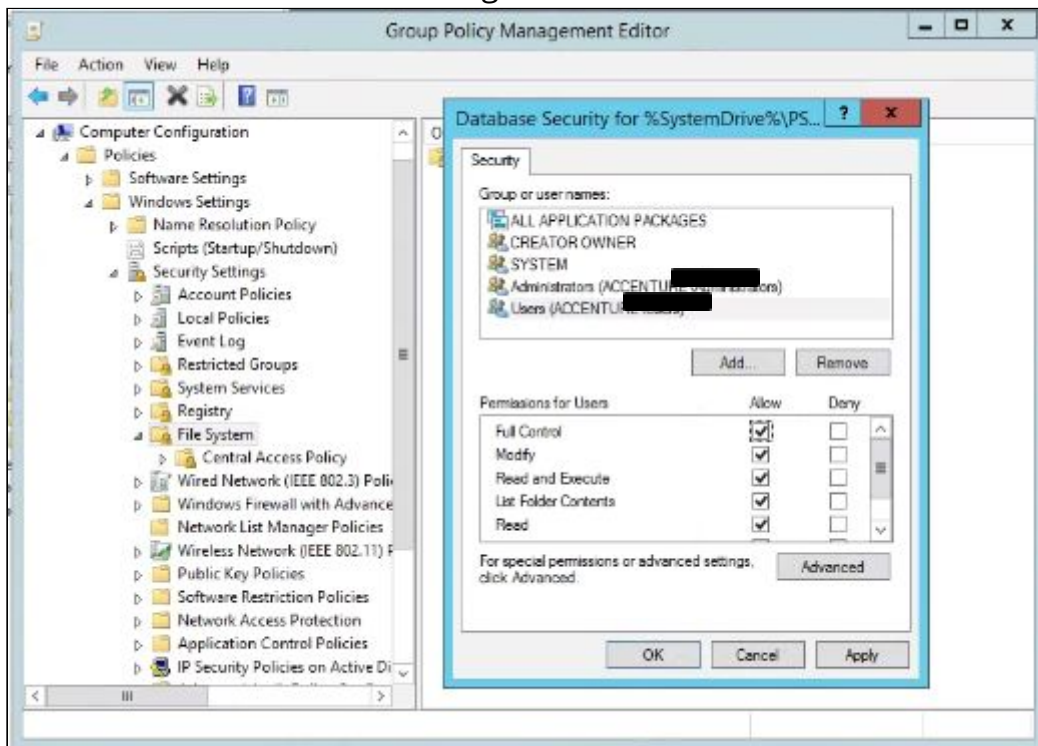


Figure 14

- Select **OK** to Configure this file or folder then to also Propagate inheritable permissions to all subfolders and files as shown in Figure 15.

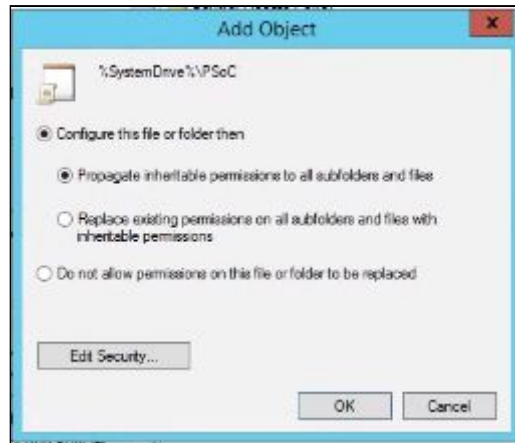


Figure 15

Process

Before the successful implementation of the Pearson System of Courses, the application and relevant Grade content need to be downloaded from the Pearson Content Dashboard, extracted, and stored on a network location. If you're not able to access the Pearson Content Dashboard, contact your Pearson System of Courses technical contact or Pearson Support.

In addition, a script package needs to be built in order to execute the content copy from the network location to the SCCM clients. This is explained in detail in the coming sections.

Pearson System of Courses Content Deployment Preparation

Prepare Content on the Admin PC

In order to deploy extracted content to client devices, this step is required in order to save students about one hour of content extraction time per device. This will allow students to launch the application and access the lessons right away without having to wait while the content is extracted.

1. Startup an Admin PC with Windows 8.1 or Windows 10 installed.
2. Open File Explorer.
3. Navigate to C:\.
4. Right click and select **New Folder** and enter PSoC as the name as shown in Figure 16.

Note: The folder name has to be entered precisely as PSoC and it's also case sensitive.

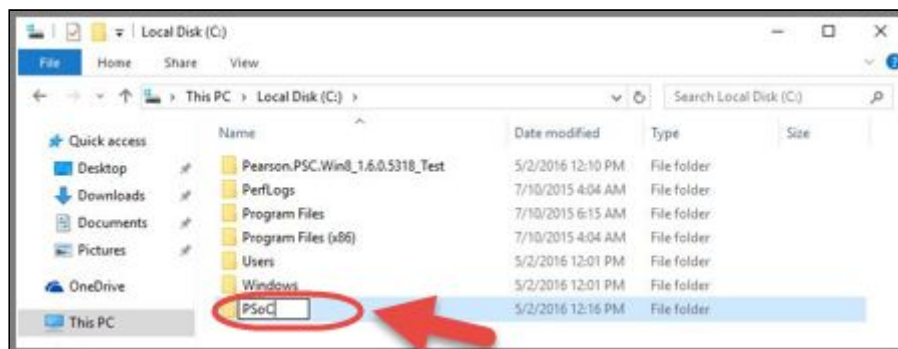


Figure 16

5. Open the PSoC folder and create a folder named SideloadContent as shown in Figure 17.

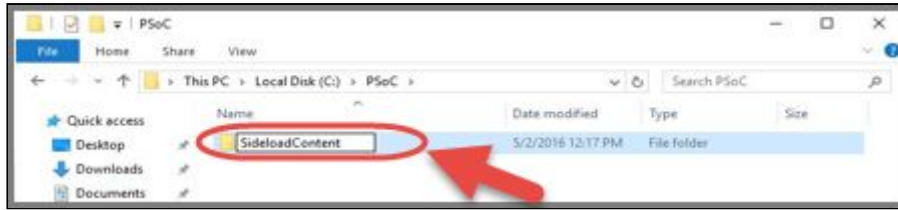


Figure 17

6. Login to the Pearson System of Courses content download website at <https://ccsoc-content-download.azurewebsites.net/>.
7. Select **CUSTOM (FOR PARTNERS)** and use the login provided by your Pearson Support Contact - Refer to Figure 18.



Figure 18

8. Download the sideload Packages. Refer to Figure 19.
 - a. Select desired grades.
 - i. Note: It is recommended to sideload all the grades into a single Image to streamline the Image deployment process.
 - b. Save the file to C:\PSoC\SideloadContent.

Grade	ELA	Last Modified	Size (bytes)	MATH	Last Modified	Size (bytes)
9	ELA	6/3/2016		n/a	n/a	n/a
10	ELA	6/3/2016		n/a	n/a	n/a
11	ELA	6/3/2016		n/a	n/a	n/a
12	ELA	6/3/2016		n/a	n/a	n/a

Figure 19

9. Download the Pearson System of Courses configuration code:
 - a. Save the file to C:\PSoC\SideloadContent. Refer to Figure 20.



Figure 20

10. Download the Pearson System of Courses app:

- a. Download the Pearson System of Courses App package to your Desktop. Refer to Figure 21.

Installation files	Last Modified
2-12 Win Release 2.1	6/4/2016

Figure 21

- b. Right click on the Pearson System of Courses app package and select Extract All to your Desktop
 - i. Note: This will create a folder in your Desktop named something like release n.n_....

11. Navigate to the Desktop and the release n.n_...\Pearson.PSC... folder

12. Right-click the Add-AppDevPackage.ps1 then select Run with PowerShell to install the App. Refer to Figure 22.

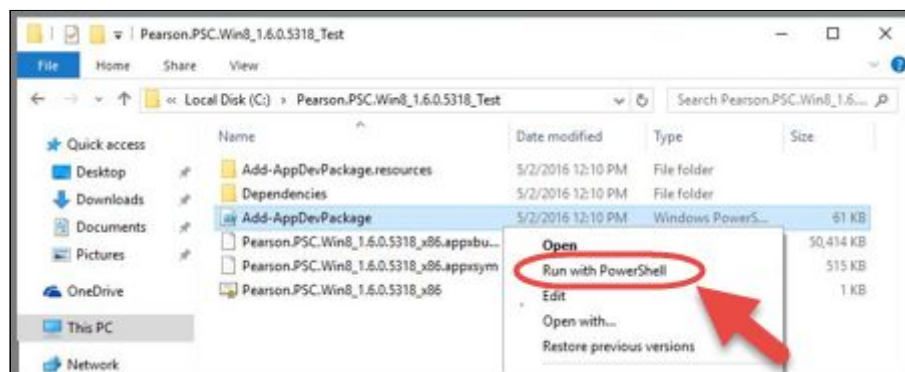


Figure 22

13. Open the Pearson System of Courses app.

14. Select **Load** as shown in Figure 23.

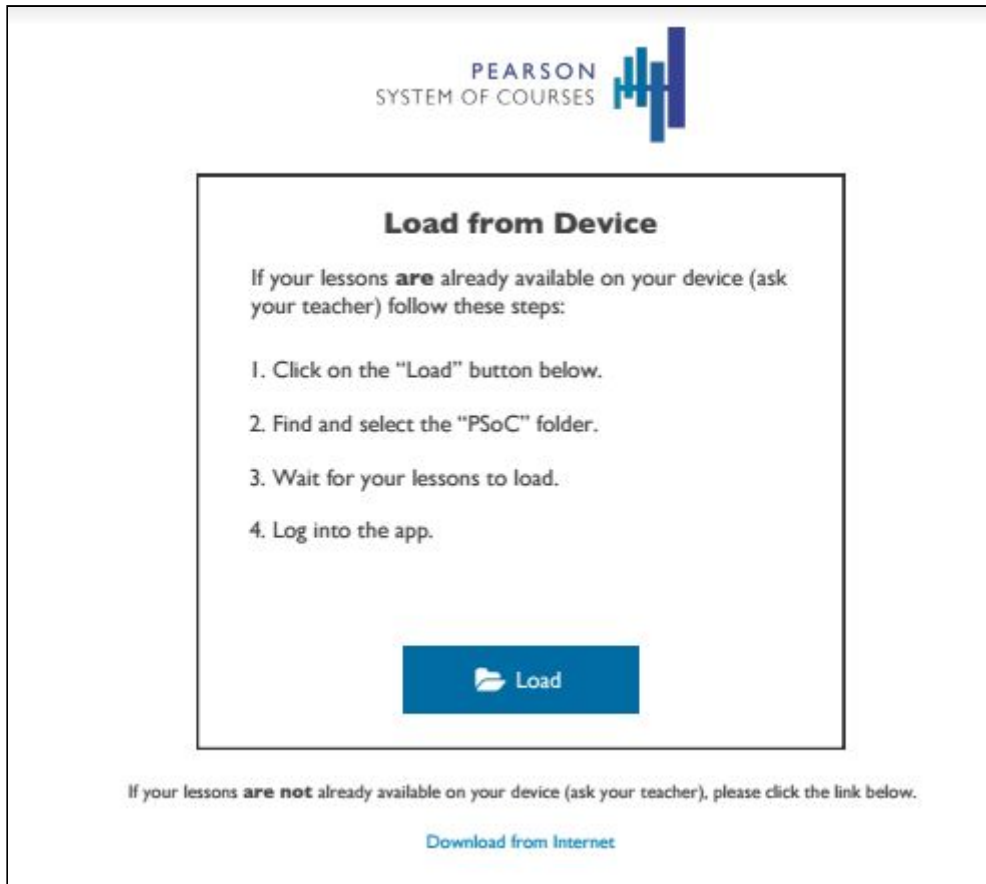


Figure 23

15. Select the C:\PSoC folder and the content will begin to extract. See Figure 24 and Figure 25 based on your operating system.
- c. For Windows 8.1:



Figure 24

- d. For Windows 10:

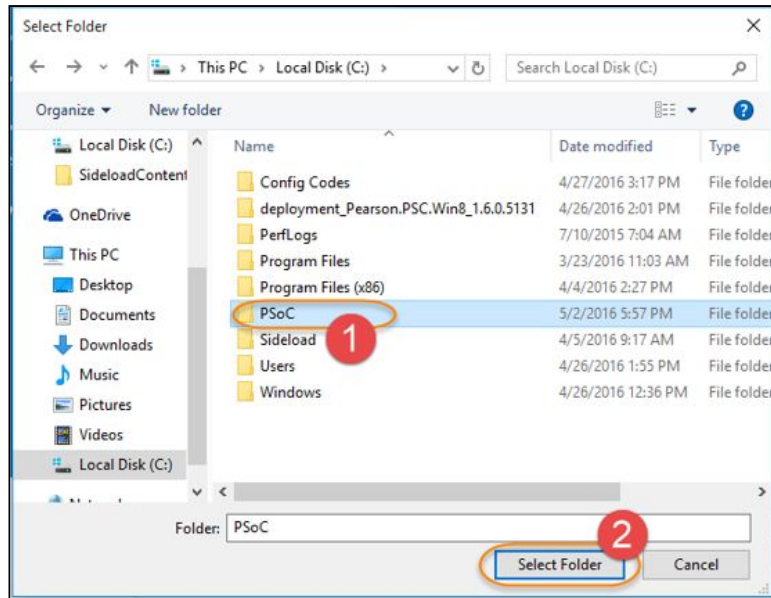


Figure 25

16. The Content will now start extracting into the C:\PSoC folder.
 - e. Note: This process takes about fifteen minutes to complete. Please wait until the Pearson System of Courses content extraction process completes before proceeding.
17. Login to the Content Dashboard and download the configuration code:
 - a. Select Configuration Code and save the file to C:\PSoC\SideloadContent.
18. After the Content has fully extracted and the configuration code has been copied, next compress the following files and folders into a 'Content.zip' file, see Figure 26 & Figure 27.
 - a. C:\PSoC\Content
 - b. C:\PSoC\SideloadContent
 - c. Content.database.sqlite

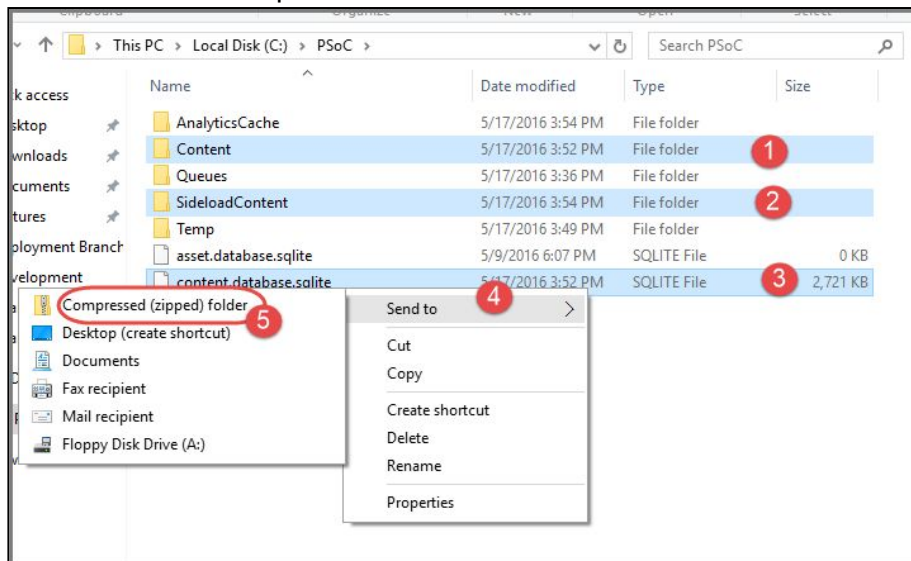


Figure 26

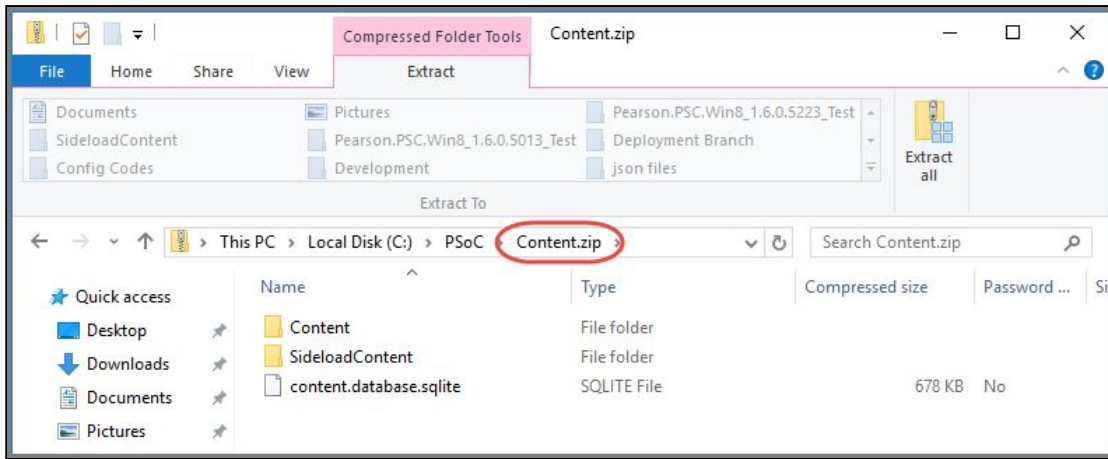


Figure 27

19. Create a folder on the C:\ root and call it ContentRoot.
20. Place the Content.zip file into the *ContentRoot* folder as shown in Figure 28.

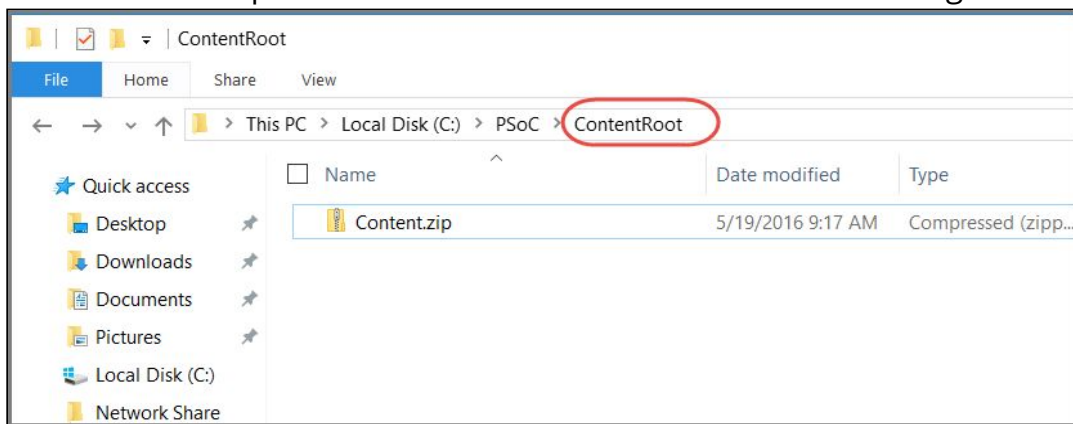


Figure 28

Content Deployment Script

In this process, a combination of EMCopy and 7-Zip are used to deploy compressed content over the LAN and then extracted to the shared repository on the target SCCM client computers. The script utilized in this example leverages EMCopy to copy content from the Network Share to the client computer. On the client computer, 7zip is then utilized to extract the content into the Shared Repository. Logs are generated by hostname for troubleshooting purposes.

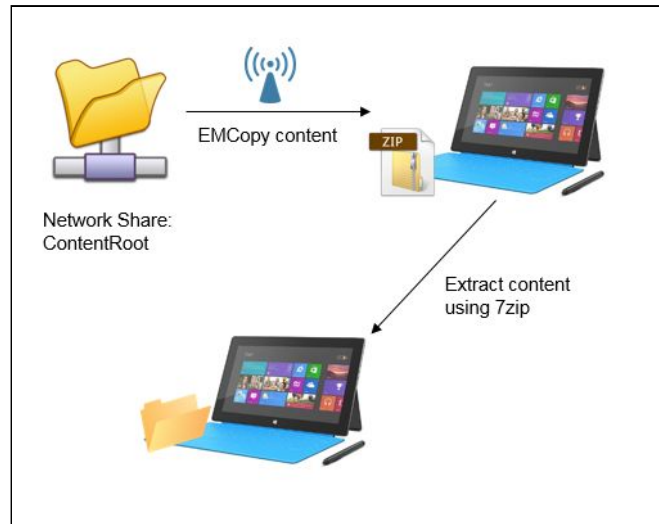


Figure 29: Content Copy & Extraction Overview

Content copy/extraction over the LAN can also be achieved using different tools of your choice, however in this example we have chosen to use EMCopy and 7-Zip. Please reference the software's user guide if using different products.

EMCopy

EMCopy – This is a command-line file based migration tool that is used to replicate SMB files/directories including ability to replicate ACL permissions and ownership similar to RoboCopy but with more enhanced features

Note: Configure the ACL permissions to your files/folders before migrating them to the client computers and EMCopy will replicate the source folder permissions with the target folders.

1. Download EMCopy.exe from here as shown in Figure 30: <https://sso.emc.com/sso/login.htm?CTAuthMode=BASIC> (registration required for new users).

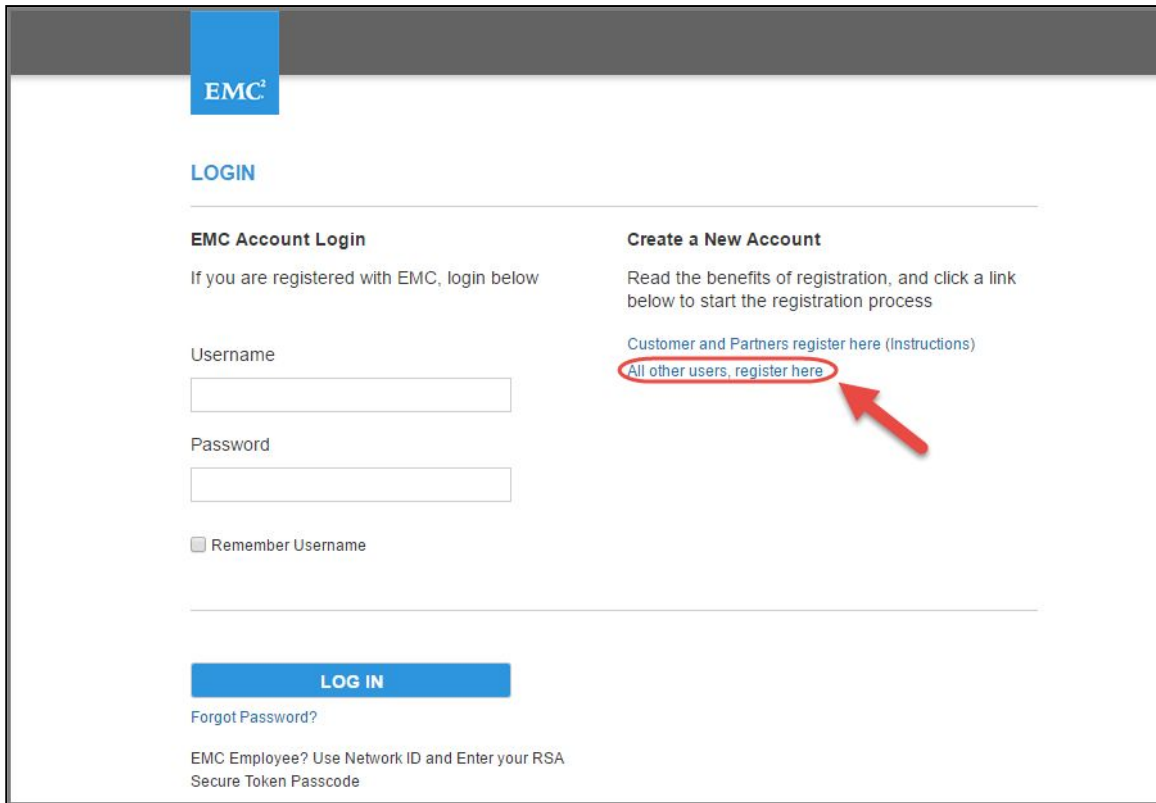


Figure 30

2. Create a folder on the Network Share and name it EMCopy and save this emcopy.exe file in this folder as shown in Figure 31.



Figure 31

7-zip

7-Zip - 7-Zip is a utility program that helps you extract compressed files and also create your own compressed files in several different formats

Follow these steps to download 7-Zip:

1. Download the 7za.exe file from the 7-Zip site here: <http://www.7-Zip.org/download.html>.
2. Locate this file: 7-Zip Extra: standalone console version, 7z DLL, Plugin for Far Manager as shown in Figure 32.



Figure 32

3. Within the *ContentRoot* folder, copy the 7za.exe file into it as shown in Figure 33.

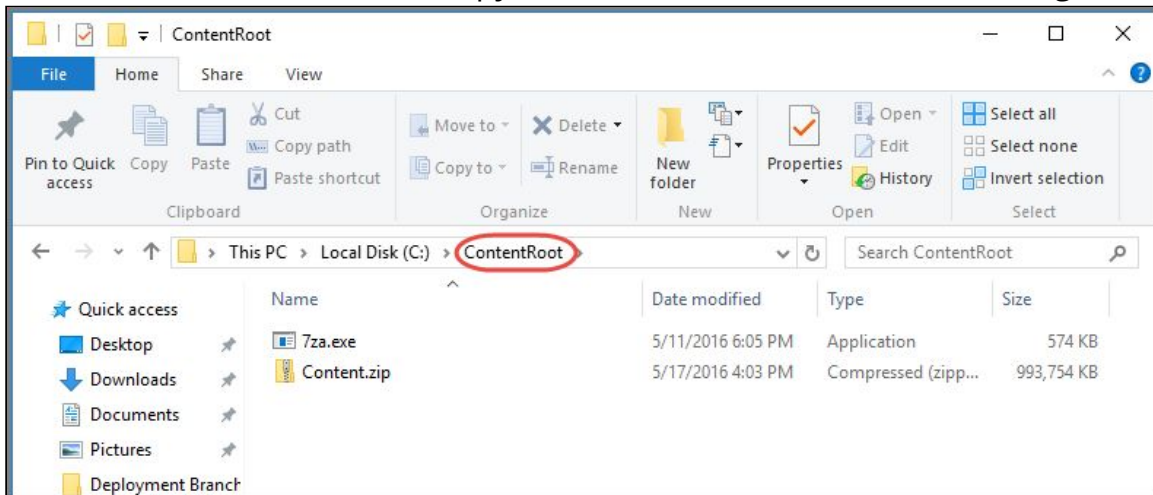


Figure 33

4. Create a folder on the network (SCCM will deploy content from this folder to the client computers): i.e. \\SERVER\Network Share.
5. Copy the ContentRoot folder from the Admin's PC to the Network Share as shown in Figure 34.

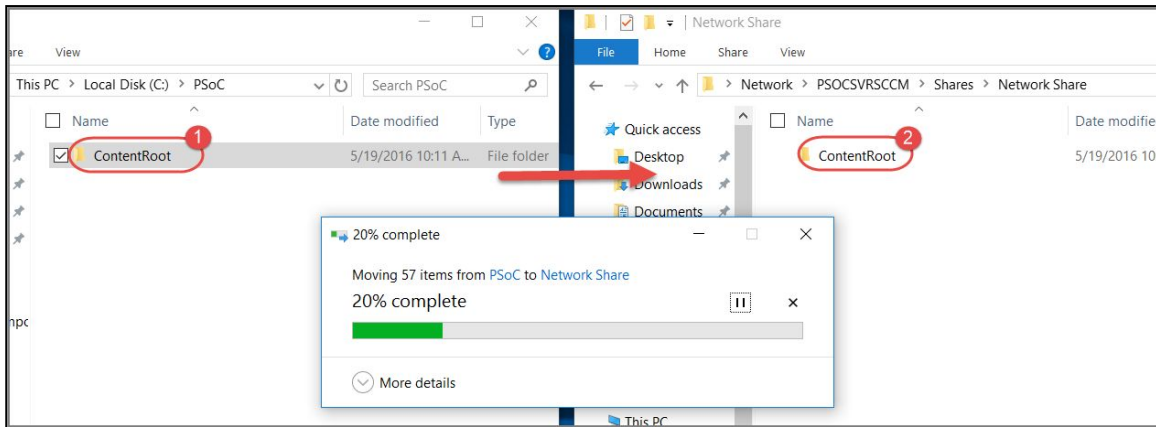


Figure 34

Script Creation

1. Launch Notepad and copy and paste the commands below in the text file

```
.\emcopy.exe "\\%SERVER%\%NETWORKSHARE%\%Content Root%" "C:\PSoC" /s
/c /log+:\%SERVER%\%NETWORKSHARE%\EMCOPY\%COMPUTERNAME%.txt

"C:\PSoC\7za.exe" x "C:\PSoC\%Content.zip%" -oC:\PSoC | findstr /i /v
"Extracting"
>\\%SERVER%\%NETWORKSHARE%\7zip\%COMPUTERNAME%_7zip_Log.txt 2>&1

del "C:\PSoC\%Content.zip%"
```

2. Replace the %% variables in red with the correct server/folder/file names.
 - a. %SERVER% is the File Share Server and location of the EMCopy and 7zip files
 - b. %Content Root% is the folder location of the compressed Content file
 - c. %COMPUTERNAME% is the target machine. This path does not need to be changed in the command above.
 - d. %NETWORKSHARE% is the shared location on the network where content will be deployed from
 - e. %Content.zip% is the zip file containing the content, config file, & content database
3. Save the Notepad file and then change the extension from *.txt to *.bat, click Yes when the Rename warning appears as shown in Figure 35 below.

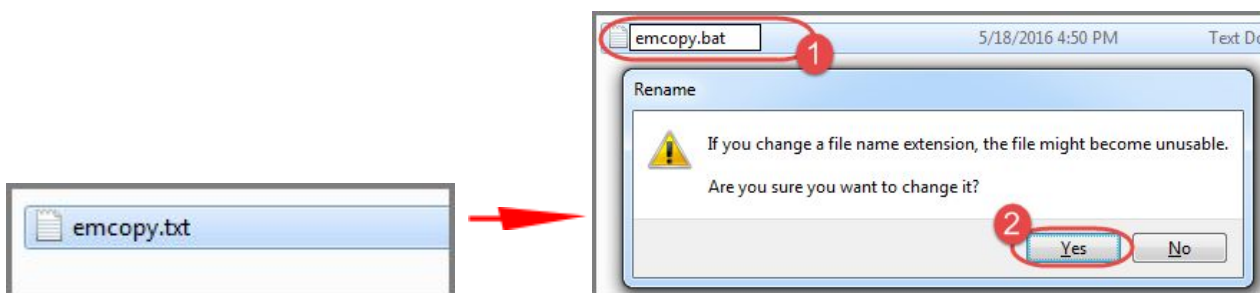


Figure 35

4. Save this file in the same source folder as the emcopy.exe file in the EMCopy network folder as shown in Figure 36.

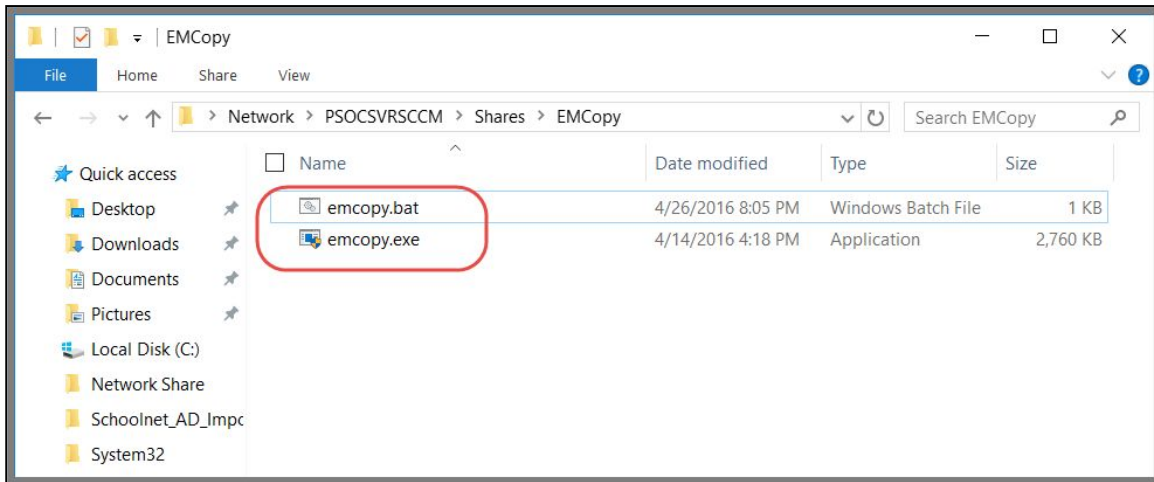


Figure 36

SCCM Configuration: Content Deployment

Follow these steps for the configuration of Content deployment:

1. Browse to the Software Library and expand Application Management.
2. Select Packages and then click on Create a New Package as shown in Figure 37.

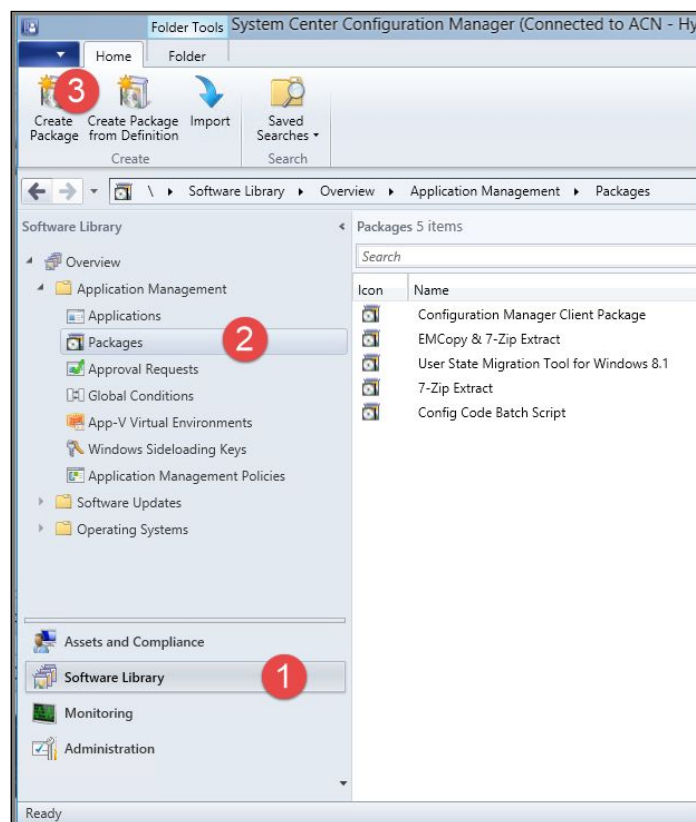


Figure 37

3. In the Specify information about this package window, choose a name for the script package and type it in the required Name field and then click Next as illustrated in Figure 38.

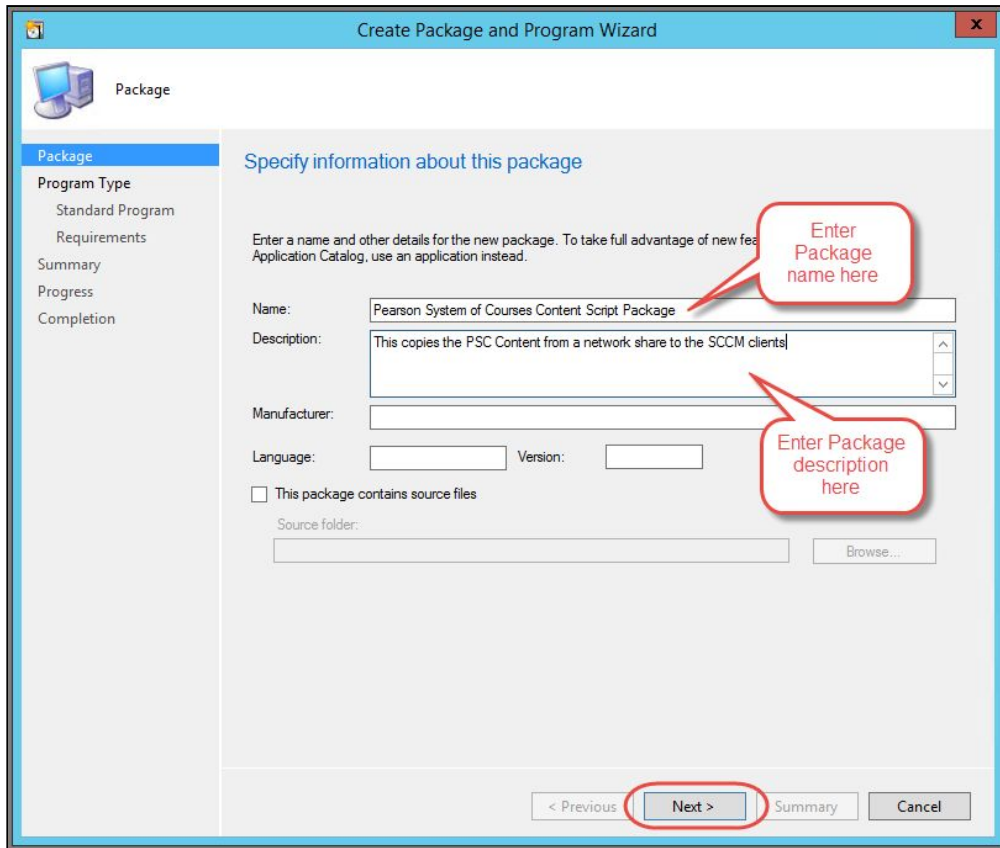


Figure 38

4. Leave the Standard Program option selected in Choose the program type that you want to create and then click **Next**.
5. In the Specify information about this program window, type the name of the script again and then browse to and select the script under Command Line as shown Figure 39.

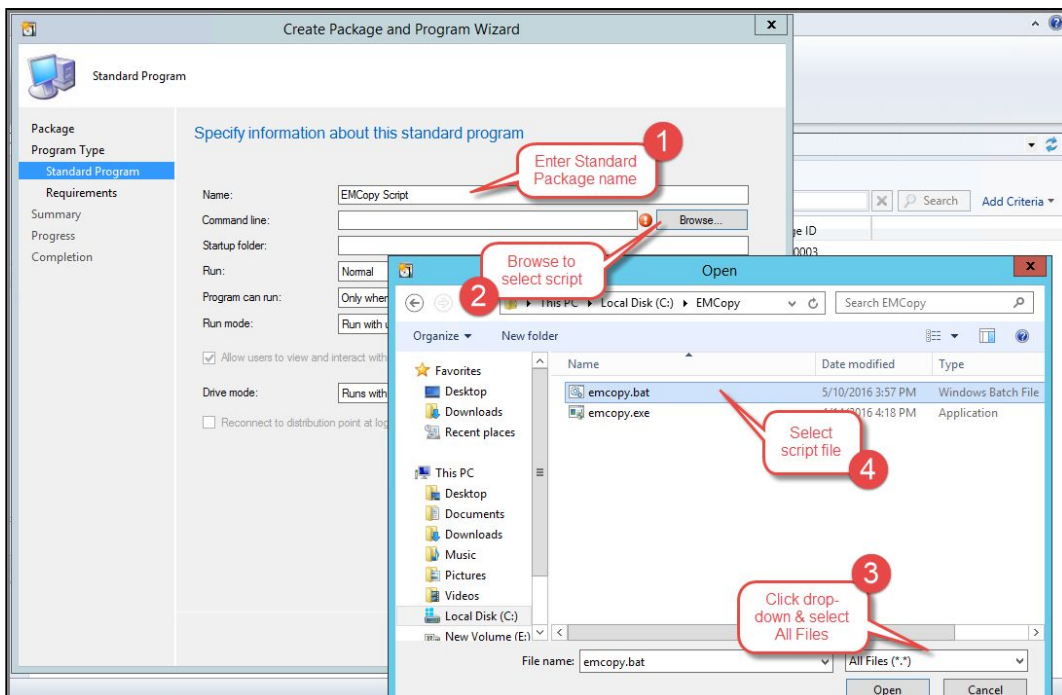


Figure 39

6. Under the Program can run: drop down menu, select Whether or not user is logged on and then click Next as shown in Figure 40.

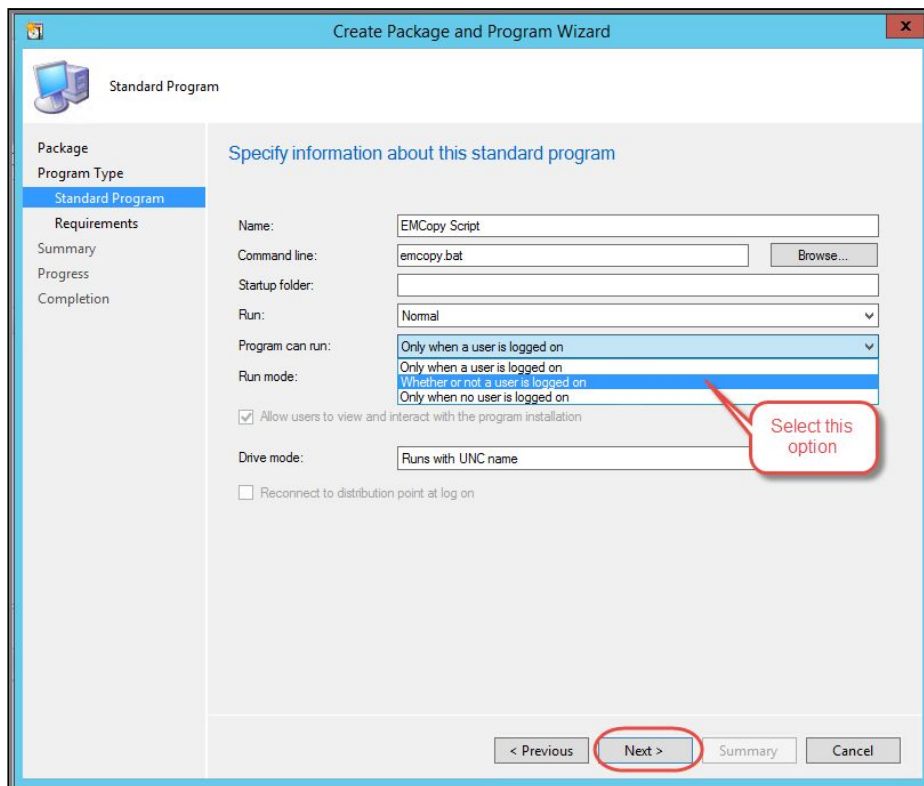


Figure 40

7. In the Specify the requirements for this standard program window, select the desired operating systems this script should run on or leave the default settings of all platforms and then click **Next** as shown in Figure 41.

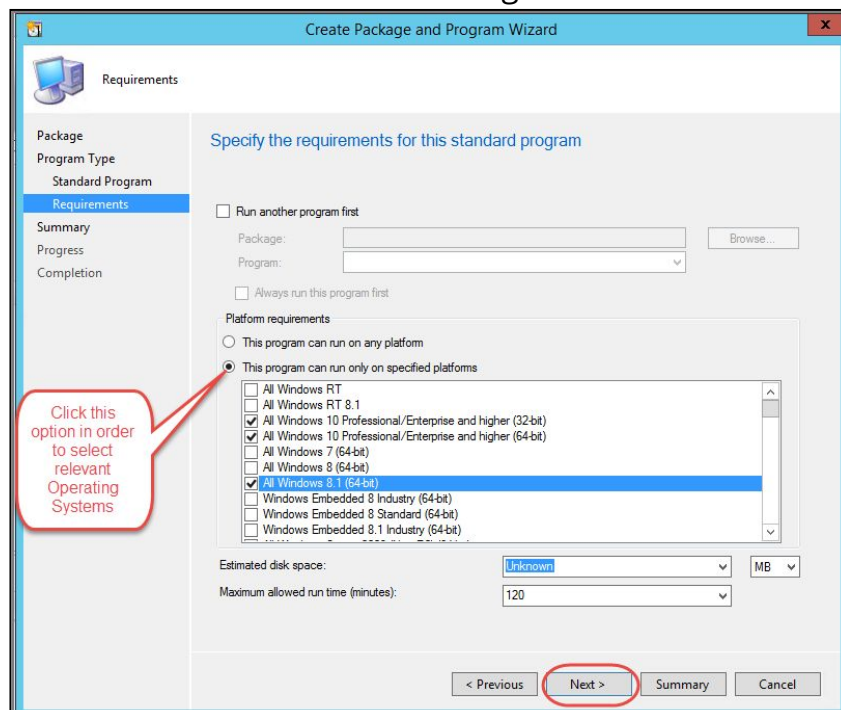


Figure 41

8. Click **Next** to confirm the settings.
9. To select the location of the EMCopy source files: Right-click the Package you just created --> Click Properties --> Select the Data Source tab --> Click Set under Source folder --> Select Network path of the source folder --> Browse to the source folder on

the Network Share --> Click Select Folder, see Figure 42.

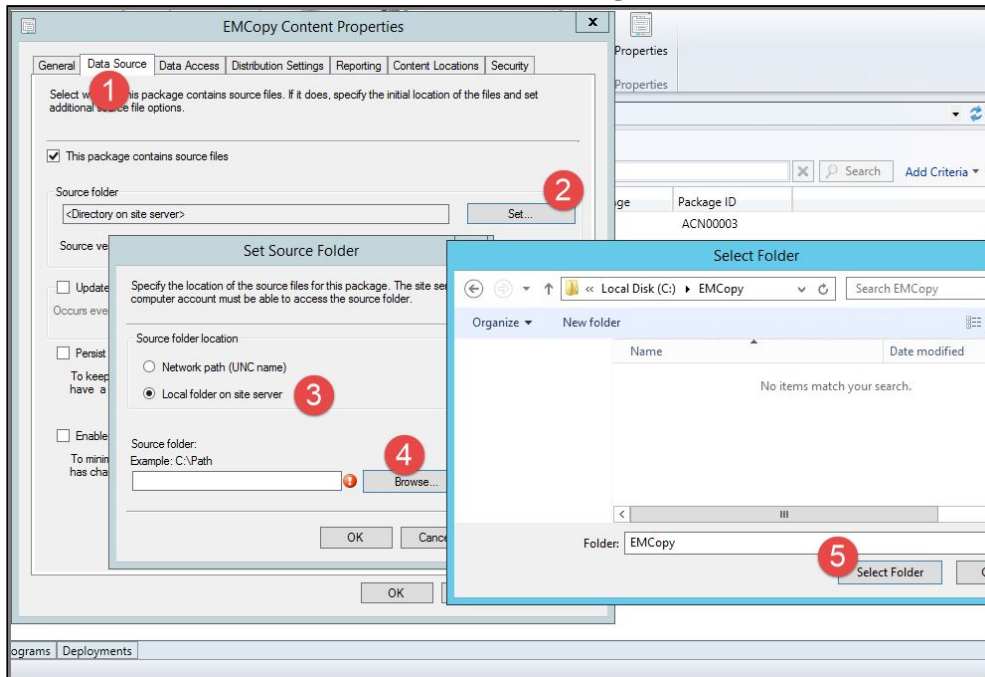


Figure 42

Pearson System of Courses Application Deployment Preparation

SCCM Configuration: Application Deployment

1. Launch the System Center Configuration Manager (SCCM) console and browse to the Software Library, expand Application Management and then select **Applications**.
2. Click on **Create Application** to create the Pearson System of Courses Application, see Figure 43.

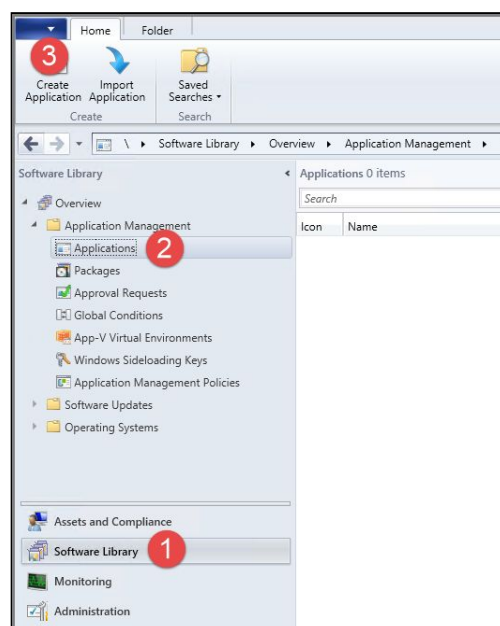


Figure 43

3. In the Specify settings for the application window, select Windows app package for application type.
4. Click Browse to select the appx package or type the network path of the location where the appx package is located and then click Next as shown in Figure 44.

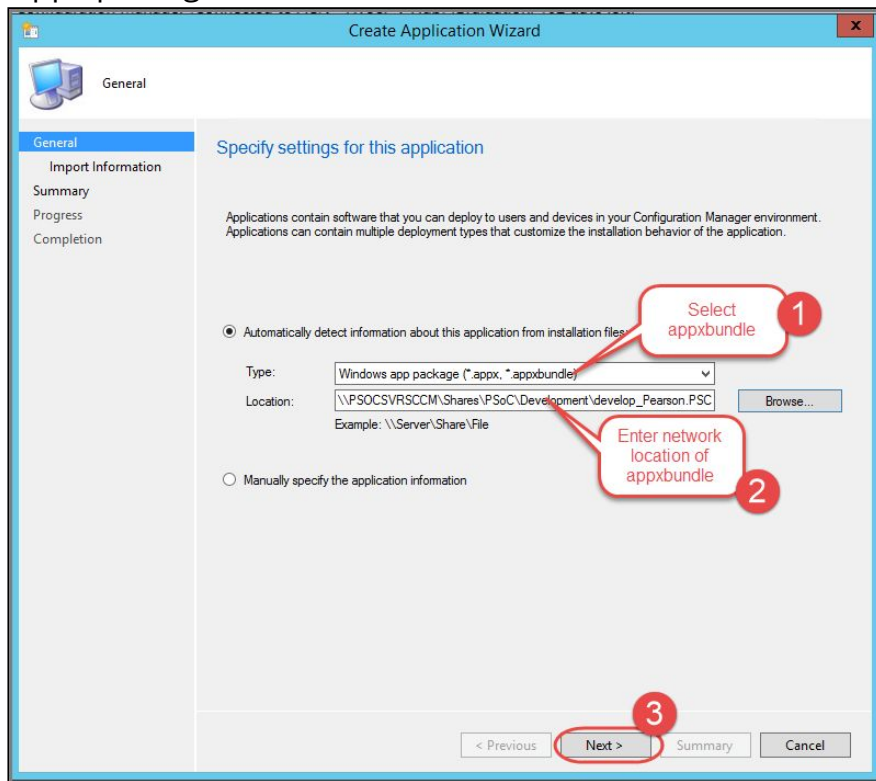


Figure 44

5. Click **Next** at the View Important Information window.
6. Enter the Name of the Application as you would like it to appear on the SCCM client devices in the Specify information about this application window, see Figure 45.

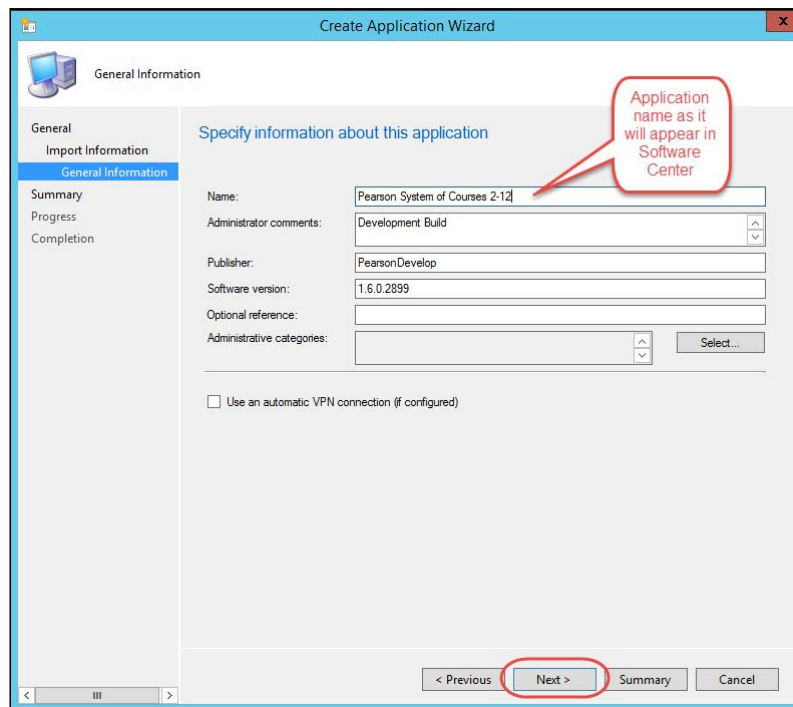


Figure 45

7. Click **Next** at the Specify information about the application window.
8. Click **Next** to confirm settings at the Summary window.

9. Click **Close** to complete the Application creation process as shown in Figure 46.

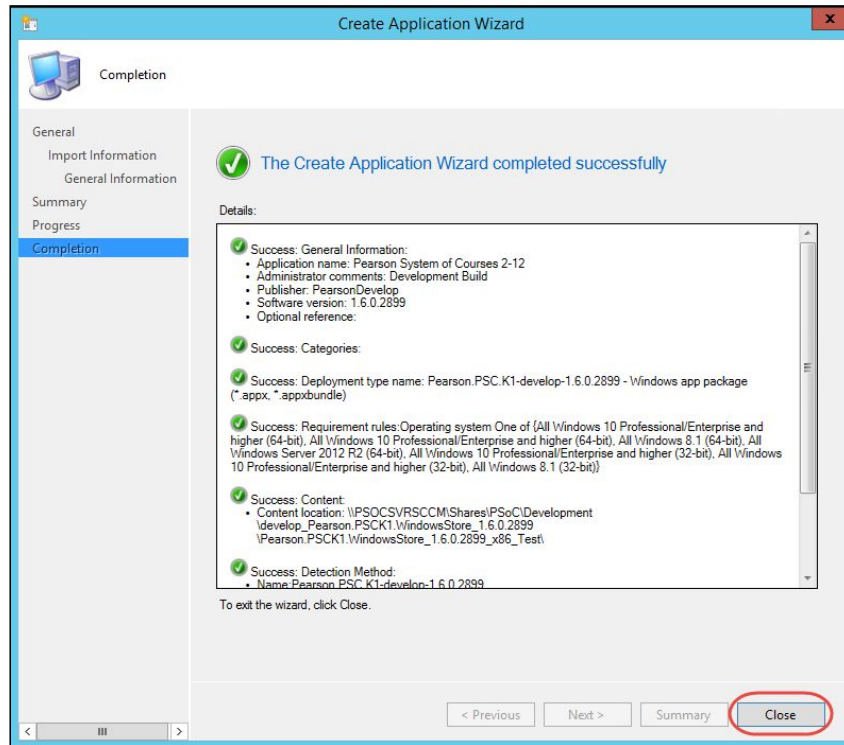


Figure 46

Install Dependencies for the Application

To successfully deploy the App to client computers, you are required to add the Microsoft Visual C++ Runtime Package which is provided/included with the Pearson System of Courses app package you downloaded from the Content Dashboard. To install this dependency, follow these steps:

1. Launch the SCCM console and browse to the Software Library.
2. Select Application Management and then Applications on the Software Library tree then right-click the newly created application and then select Properties as shown in Figure 47.

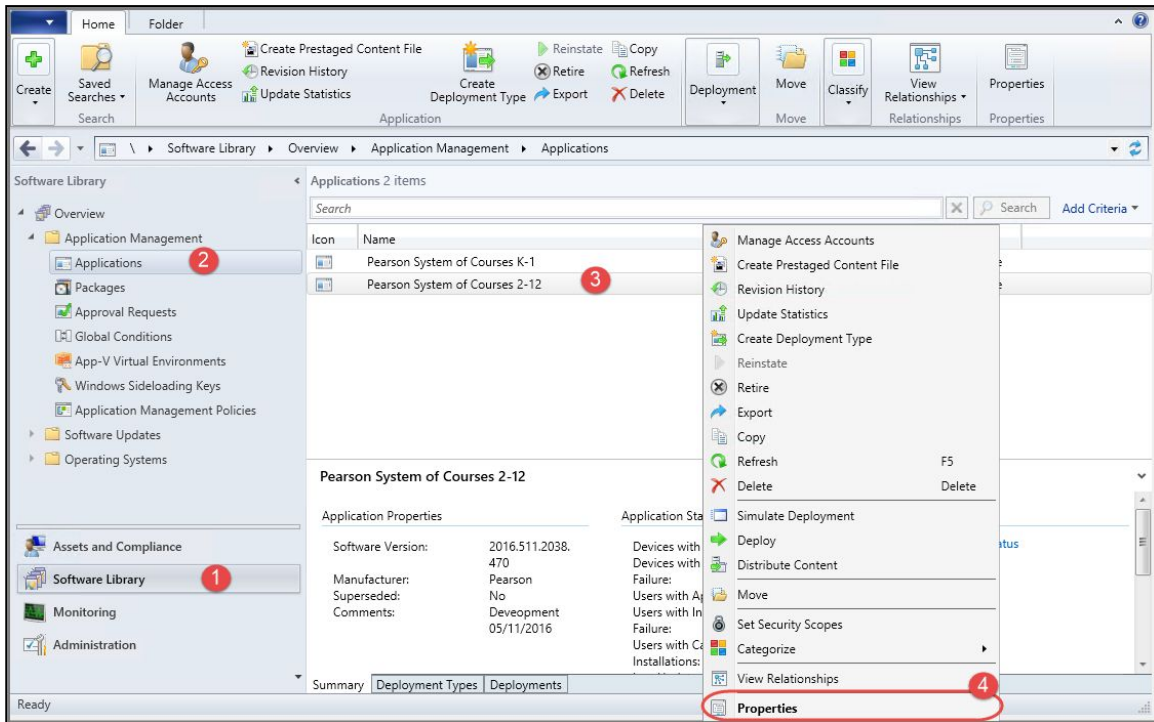


Figure 47

3. Click on the **Deployment Types** tab.
4. Click **Add** and select the application dependencies following the steps you took to add the app package and then click Next at the Specify Settings for this deployment window, see Figure 48.

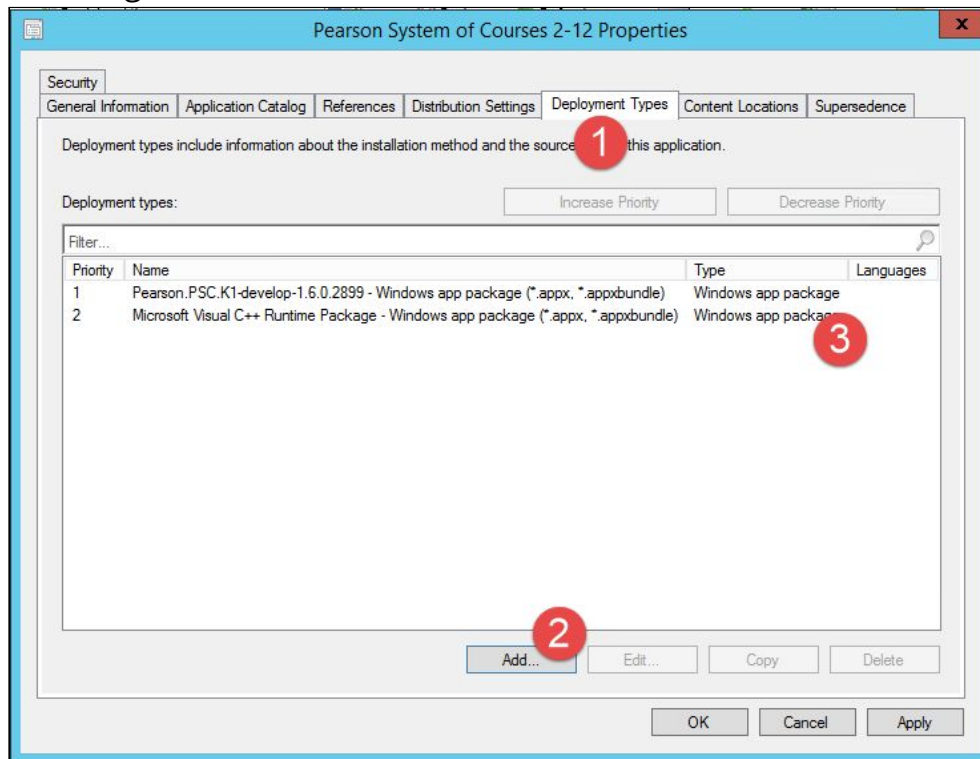


Figure 48

5. Click **Next** after the import has succeeded.
6. Click **Next** at the Specify information about this deployment type window.
7. At the Specify installation requirements for this deployment type window, add the operating system that this application should install to or leave the default (Windows 8.1, Windows 10, & Windows Server 2012 R2).
8. Click **Next**.

9. Click **Next** at the Specify software dependencies for this deployment type window.
10. Click **Next** to confirm the settings for this Deployment Type.
11. Click **Close** when the Create deployment type wizard completed successfully window shows up.
12. Verify that you now have the application and dependency packages in the Deployment Types window as shown in Figure 49.

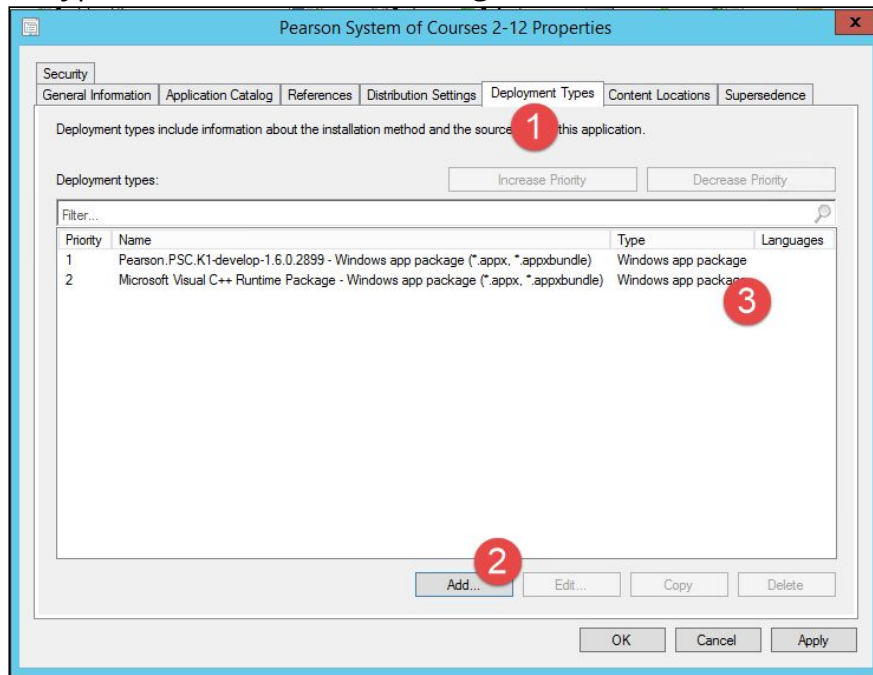


Figure 4

13. Click **Apply** and **OK** to close the application properties window.

Pearson System of Courses Deployment Execution

Deploy the Pearson System of Courses Content

Note: This is the same process used to deploy the application as well.

1. Launch the System Center Configuration Manager (SCCM) console and browse to the Software Library, expand Application Management and then select Packages.
2. Right-click on the Pearson System of Courses Content Script Package you created and select **Deploy** as shown in Figure 50.

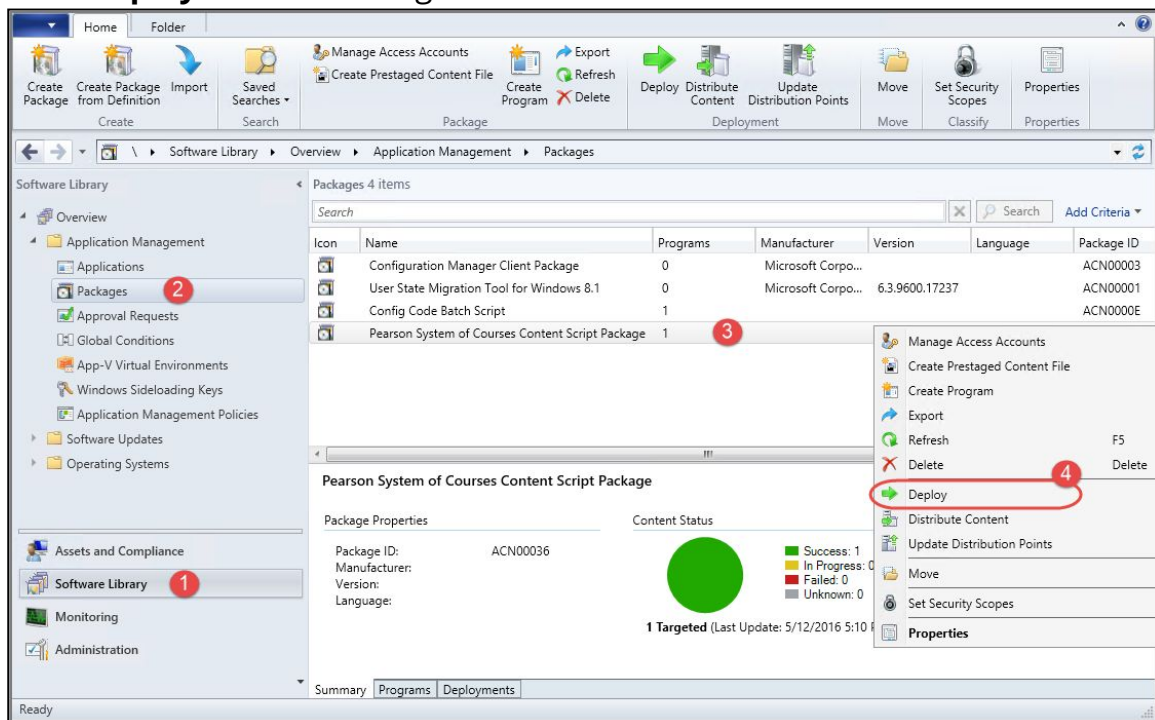


Figure 50

3. In the Specify General Information for this Deployment window click **Browse** under Collection.
4. Select Device Collection from the drop down menu and then select the desired user or device collection to deploy to and then click **OK**
5. Click **Next**.
6. In the Specify the Content Destination Window, click **Add** to select the distribution point where this package will be deployed from and then click **Next**.
7. In the Specify Settings to Control How this Software is Deployed window, select **Required** under the Purpose drop down menu then click **Next**.
8. Select the desired deployment schedule in the Specify the Schedule for the Deployment and then click **Next**.
9. Click **Next** at the Specify the User Experience for the Installation of this software window.
10. Click **Next**.
11. Click **Next** to confirm the settings for this new deployment.
12. Click **Close** to exit the Deploy Software Wizard as shown in Figure 51 below.

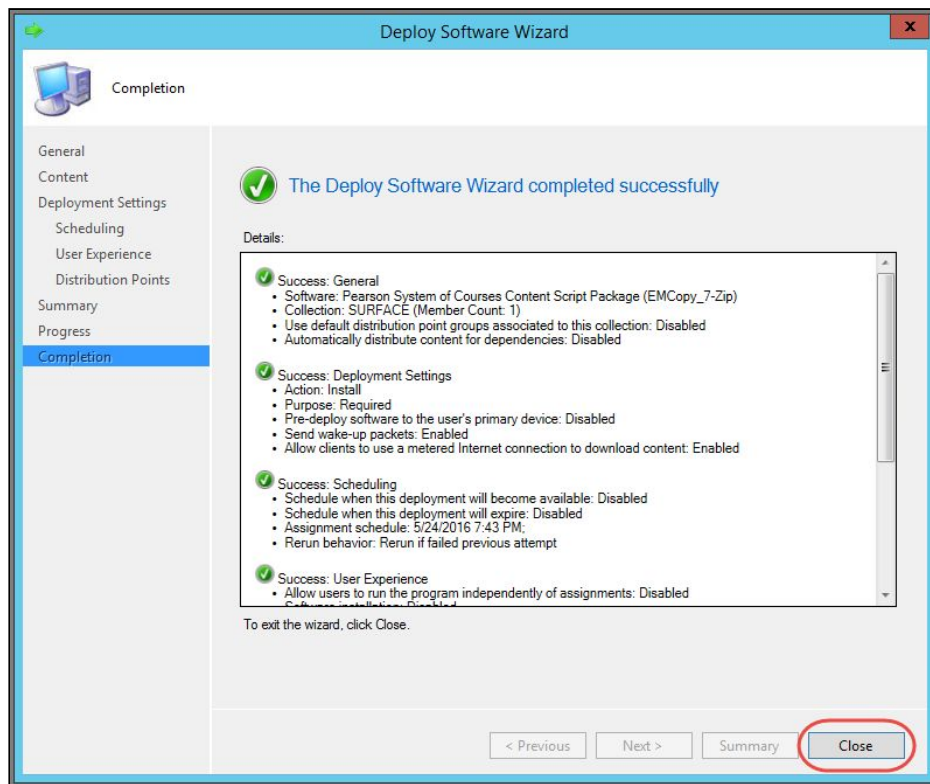


Figure 51

Deploy the Pearson System of Courses Application

1. Launch the SCCM console and browse to the Software Library.
2. Click on the Pearson System of Courses application and then click **Deploy** as shown in Figure 52.

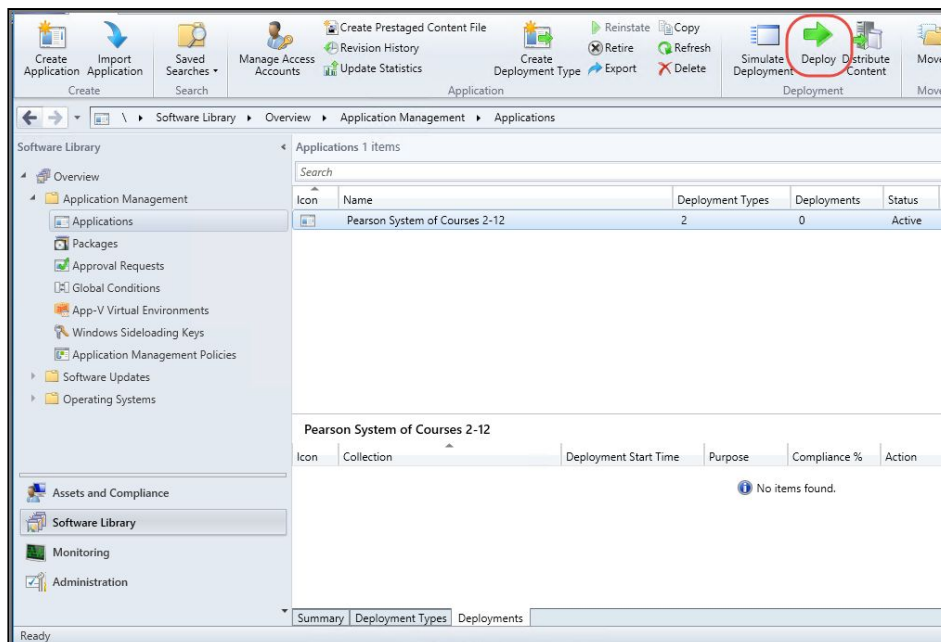


Figure 52

3. In the Specify General Information for the Deployment window click **Browse** under Collection.
4. In the Select Collection window, select Device collection you want to deploy to and

then click **OK** as shown in Figure 53.

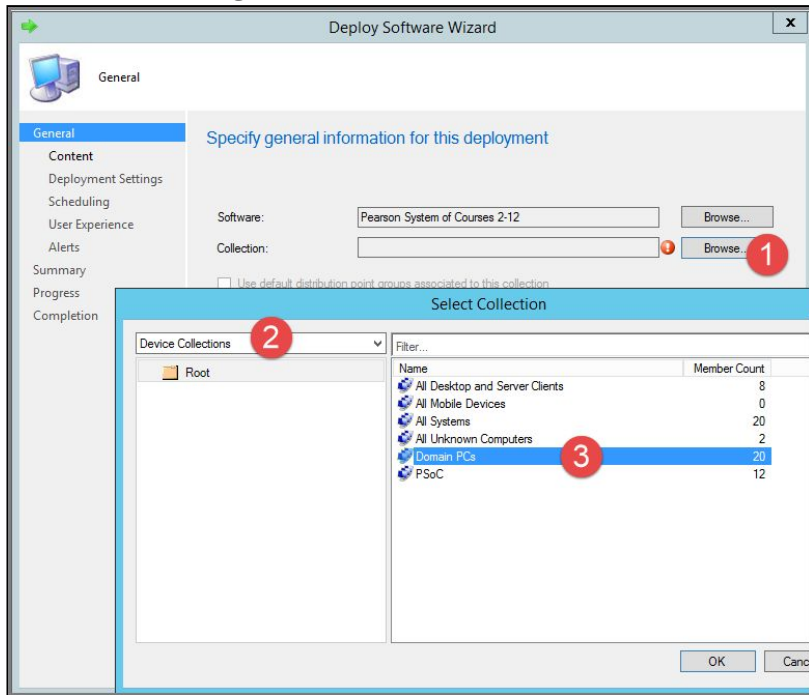


Figure 53

5. Click **Next**.
6. In the Specify the Content Destination Window, click **Add** to select the distribution point where this application will be deployed from.
7. In the Add Distribution Points window, select the appropriate Distribution Point and then click **OK** then click **Next** as shown in Figure 54.

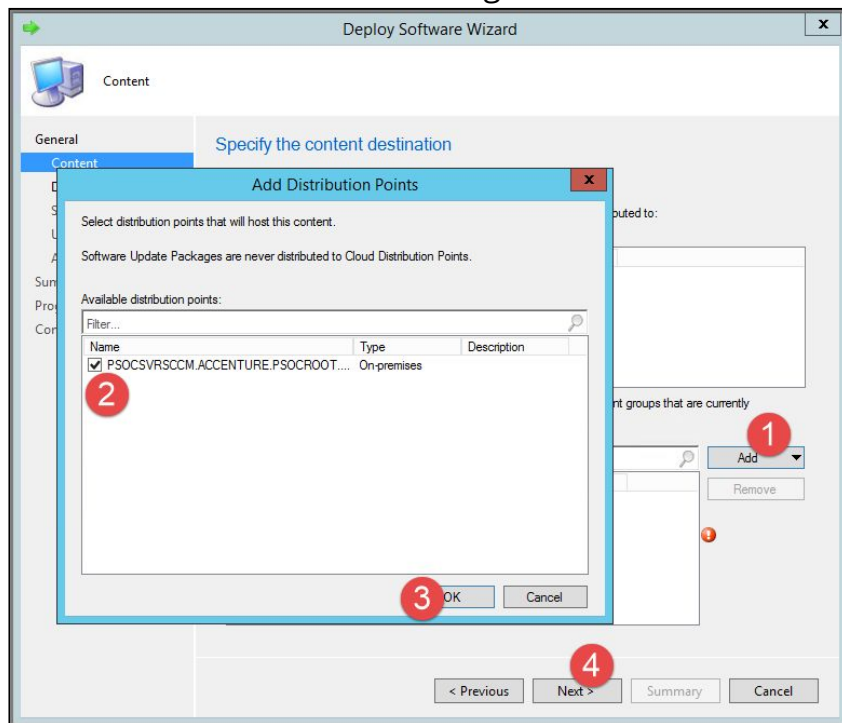


Figure 54

8. In the Specify settings to control how this software is deployed window, select **Required** under the Purpose drop down menu then click **Next** as shown in Figure 55.

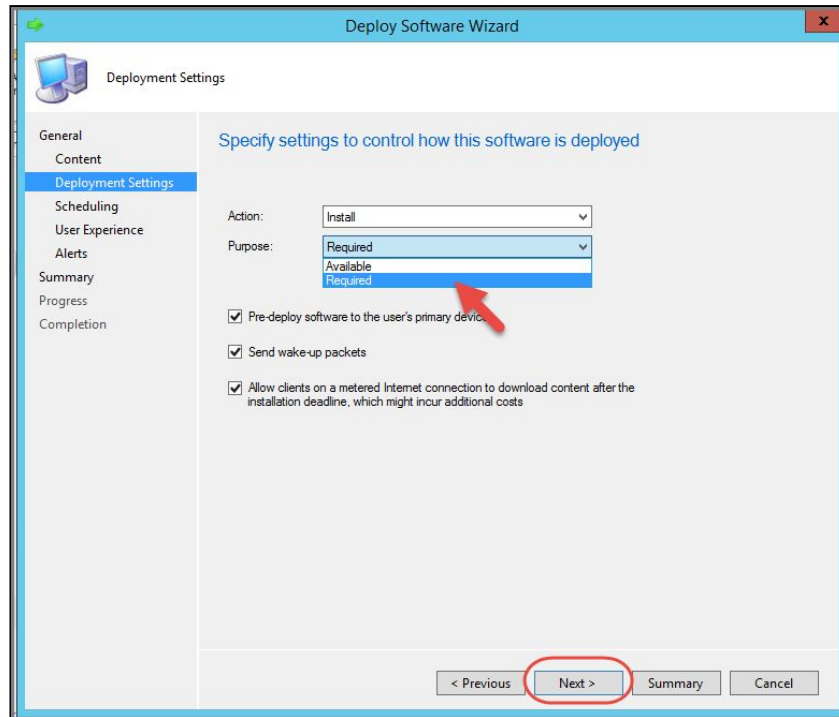


Figure 55

9. Select the desired deployment schedule in the Specify the Schedule for the Deployment window and then click **Next**.
10. Click **Next** at the Specify the user experience for the installation of this software window.
11. Click **Next**.
12. Click **Next** to confirm the settings for the deployment.
13. Click **Close** to exit the Deploy Software Wizard.

Verify the Installation

If you want to confirm successful app and content deployment, you will need to follow the steps below on a client computer. In addition, the first time the application is launched, you will see UI shown in Figure 41, this is an intentional effect of the Pearson System of Courses app update and this step is important and can be completed quickly.

Note: The below instructions can be provided to your teachers or students as a self-help guide.

1. To confirm that the application deployed at scheduled time, login to client device and open Software Center.
2. You should see installed application/s and when they were installed as shown in Figure 56.

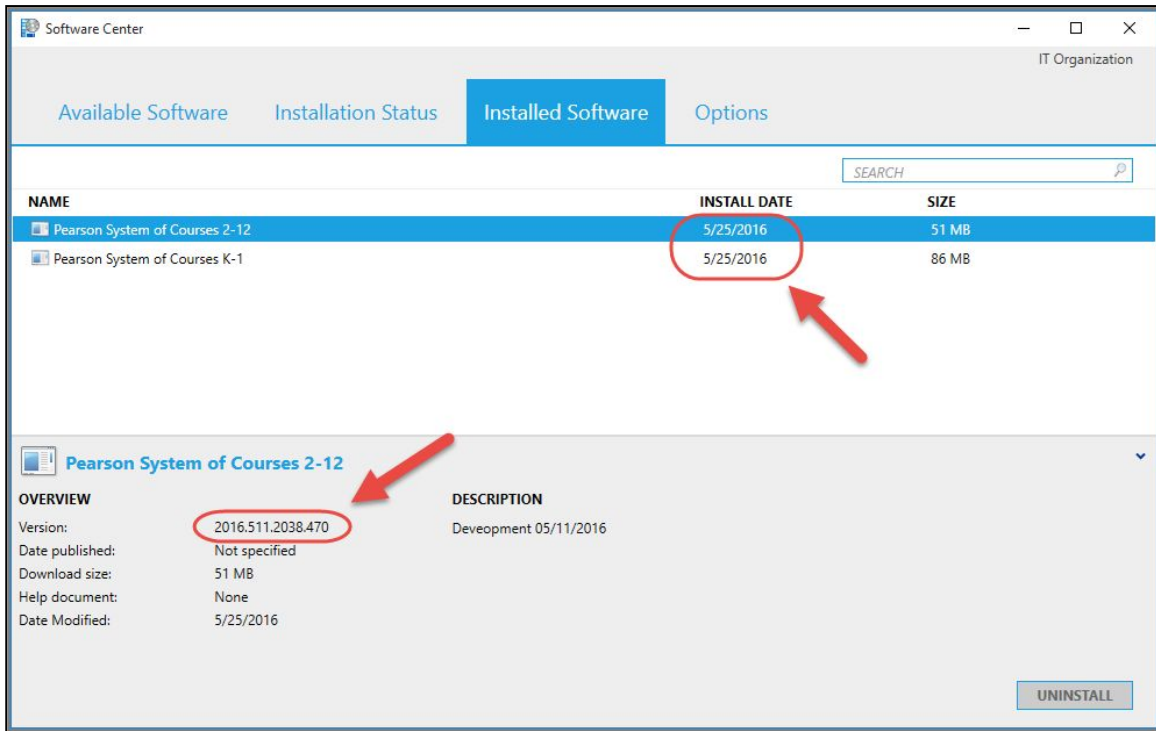


Figure 56

3. Also as illustrated in the Software Center window above in Figure 56, you can validate that the version installed is correct by checking the Version under the Overview section.

Verify the Pearson System of Courses App and Content

1. Open the Pearson System of Courses App. Refer to Figure 57.

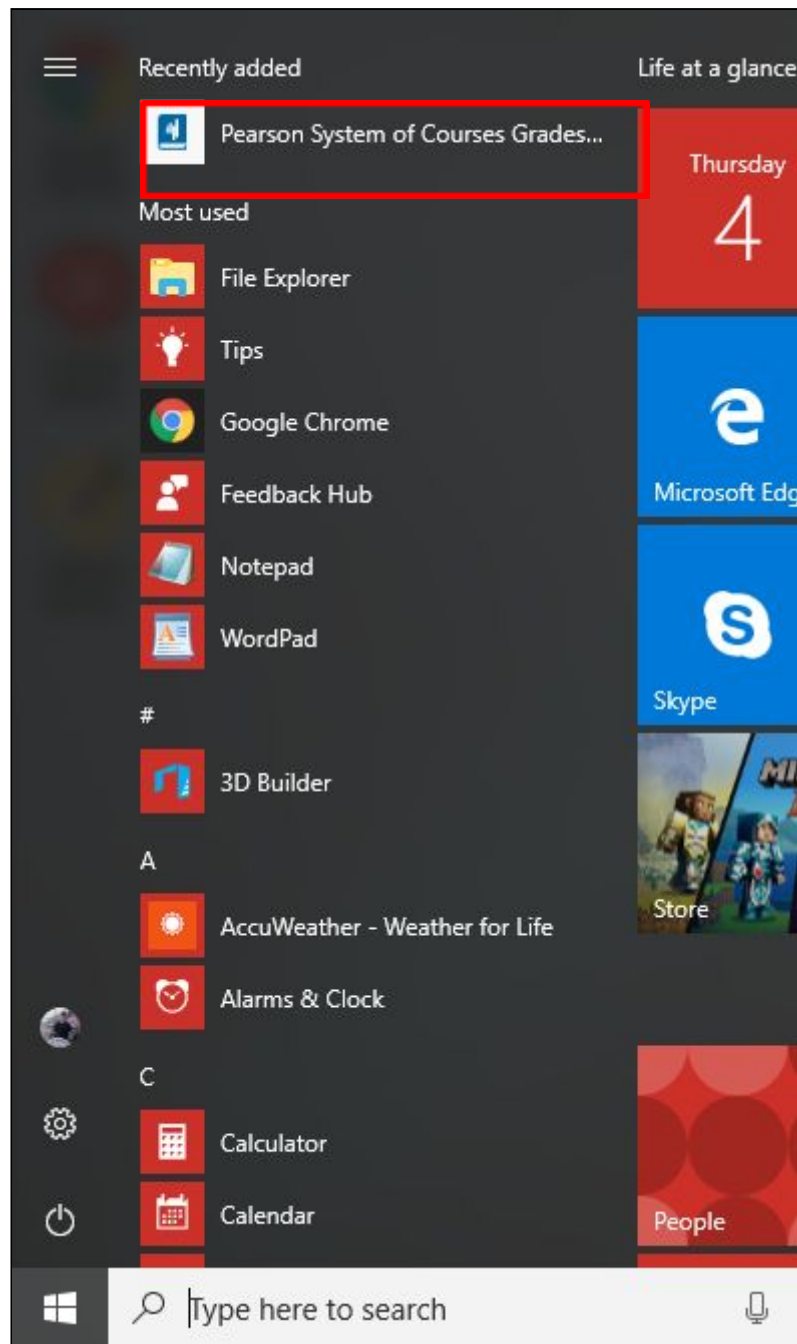


Figure 57

2. Select **Load**. Refer to Figure 58.

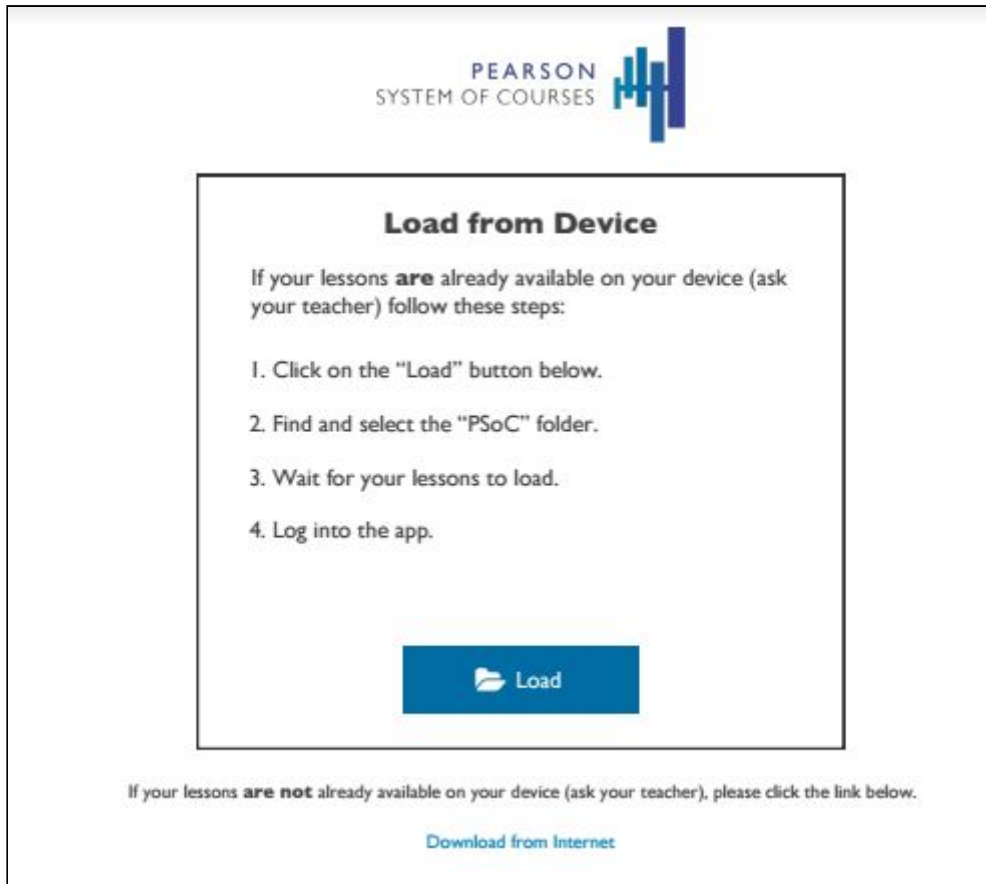


Figure 58

3. Select the **C:\PSoC** folder. Refer to Figure 59 and Figure 60.
 - a. For Windows 8.1:

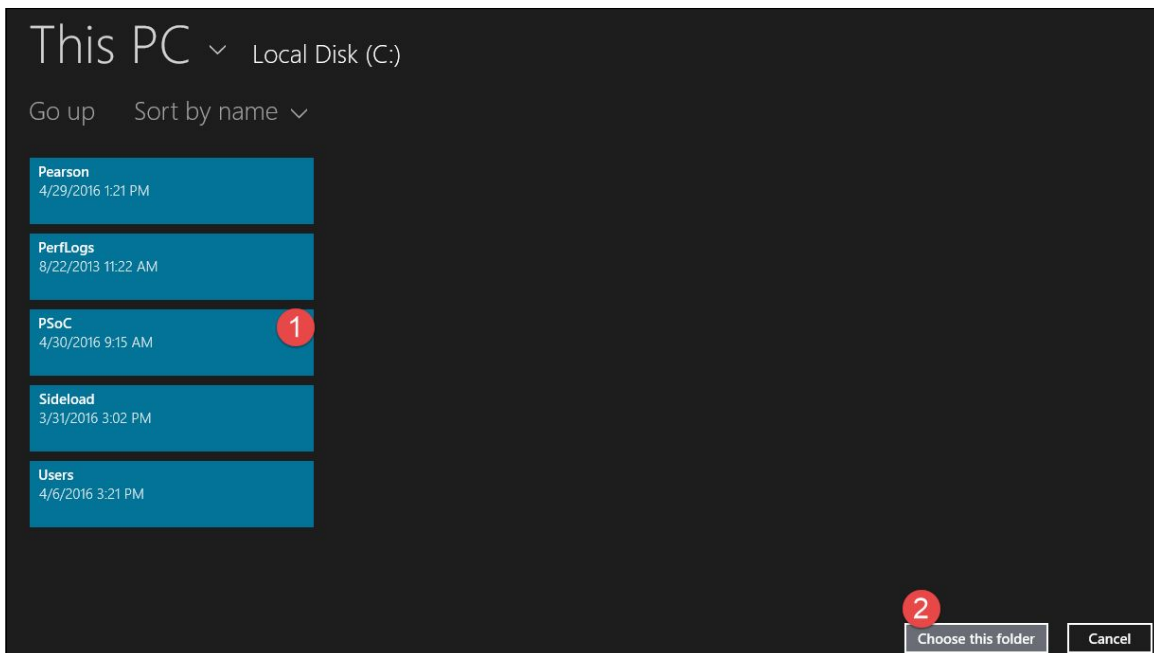


Figure 59

- b. For Windows 10:

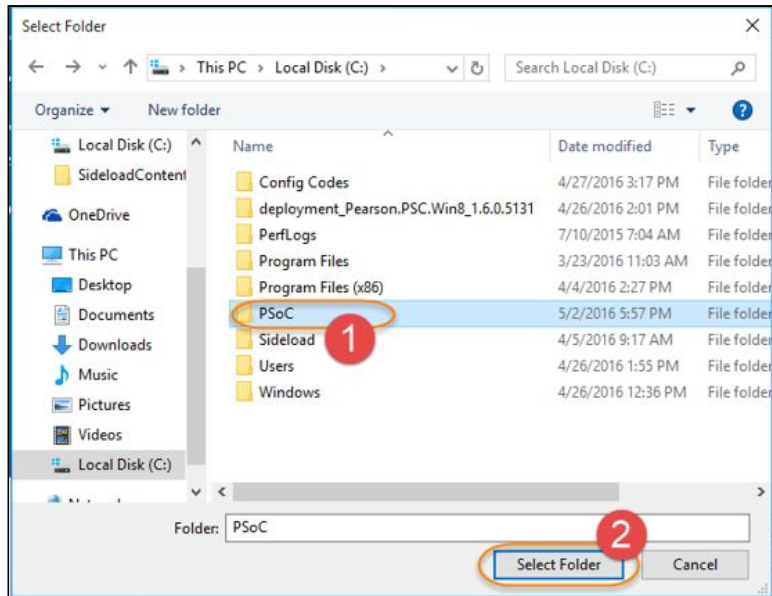


Figure 60

4. After selecting the PSoC folder, the App will begin sideload the Configuration Code only. Select **Okay** once the newly added configuration code is sideloaded. Refer to Figure 65.

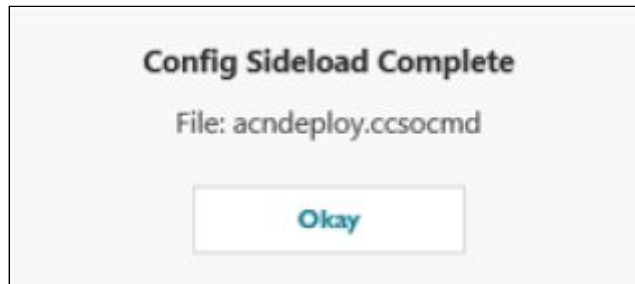


Figure 61

5. Login to the Pearson System of Courses app using either student or teacher Pearson System of Courses credentials and confirm that Pearson System of Courses content is on the device.

Update the Pearson System of Courses App

This process will instruct the admin on how to update the current Pearson System of Courses application package from an older version of the app to a newer version of the app once it has been made available. Follow these steps to update the app:

1. Launch the System Center Configuration Manager (SCCM) console and browse to the Software Library, expand Application Management and then select **Applications**
2. Right-click on the Pearson System of Courses app and click on **Properties** as shown in Figure 62.

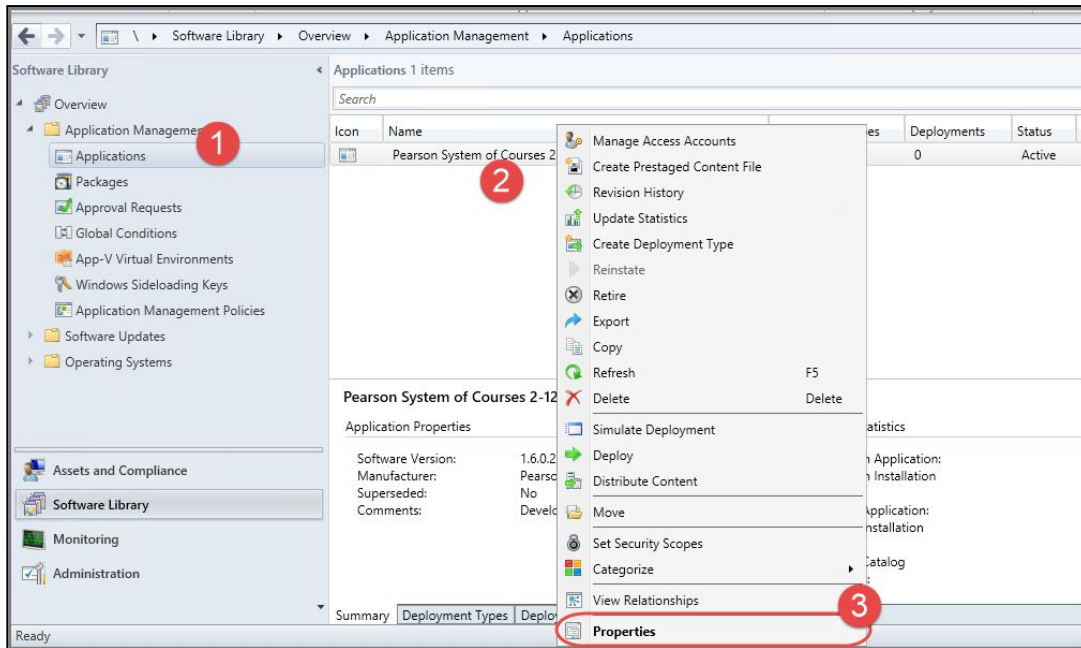


Figure 62

3. Select the **Deployment Types** tab.
4. Remove the old Appx app and dependency bundles and click **Yes** when the Configuration Manager warnings appear as shown in Figure 63 and Figure 64.

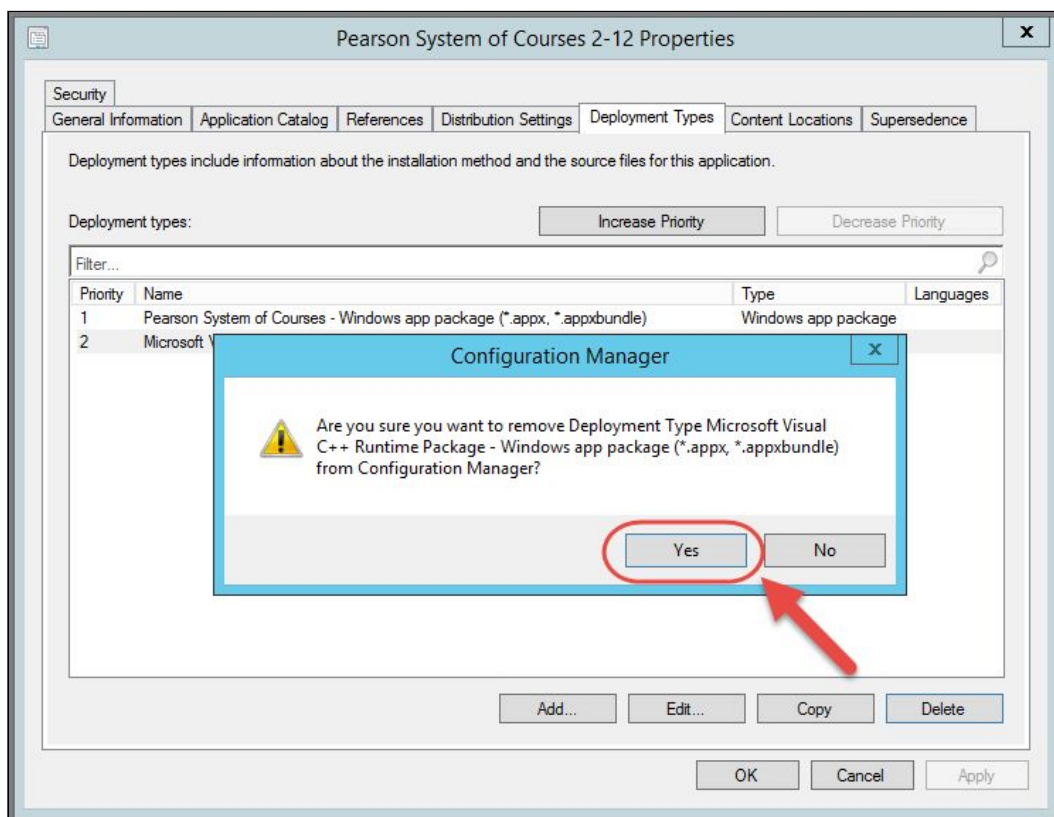


Figure 63

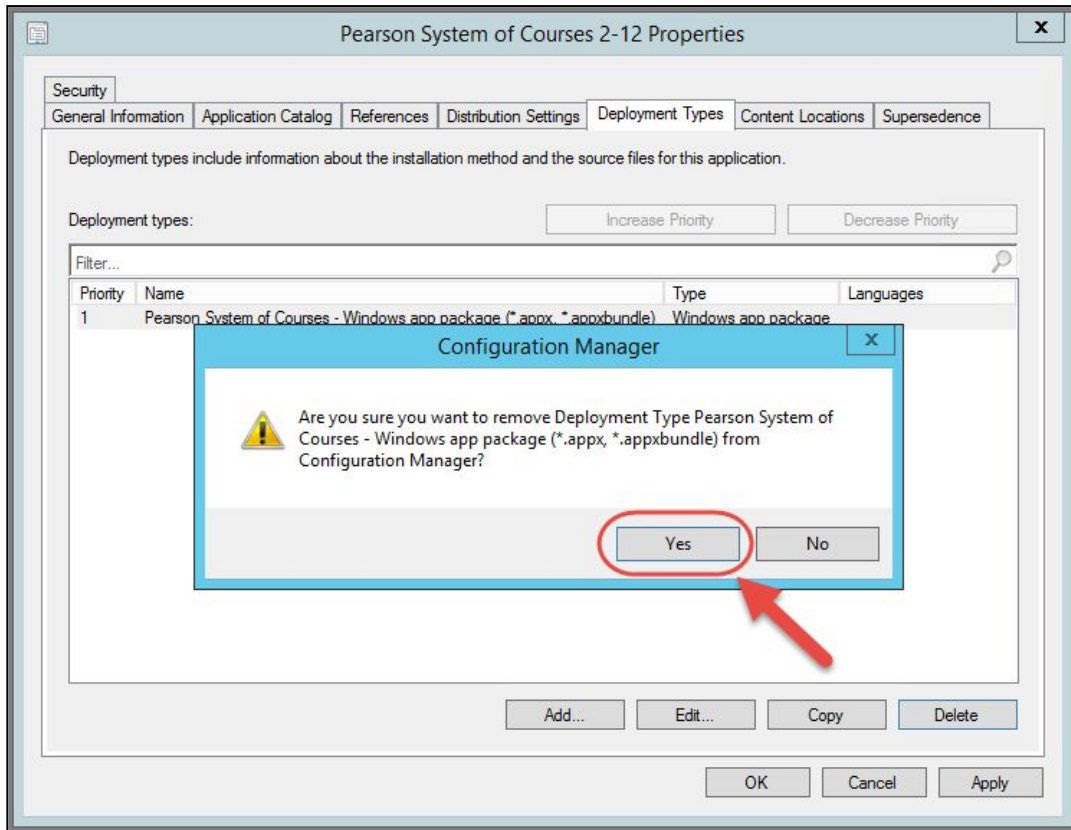


Figure 64

5. Click **Add** to add the appx App and dependency bundles and then click **OK**, see Figure 65.

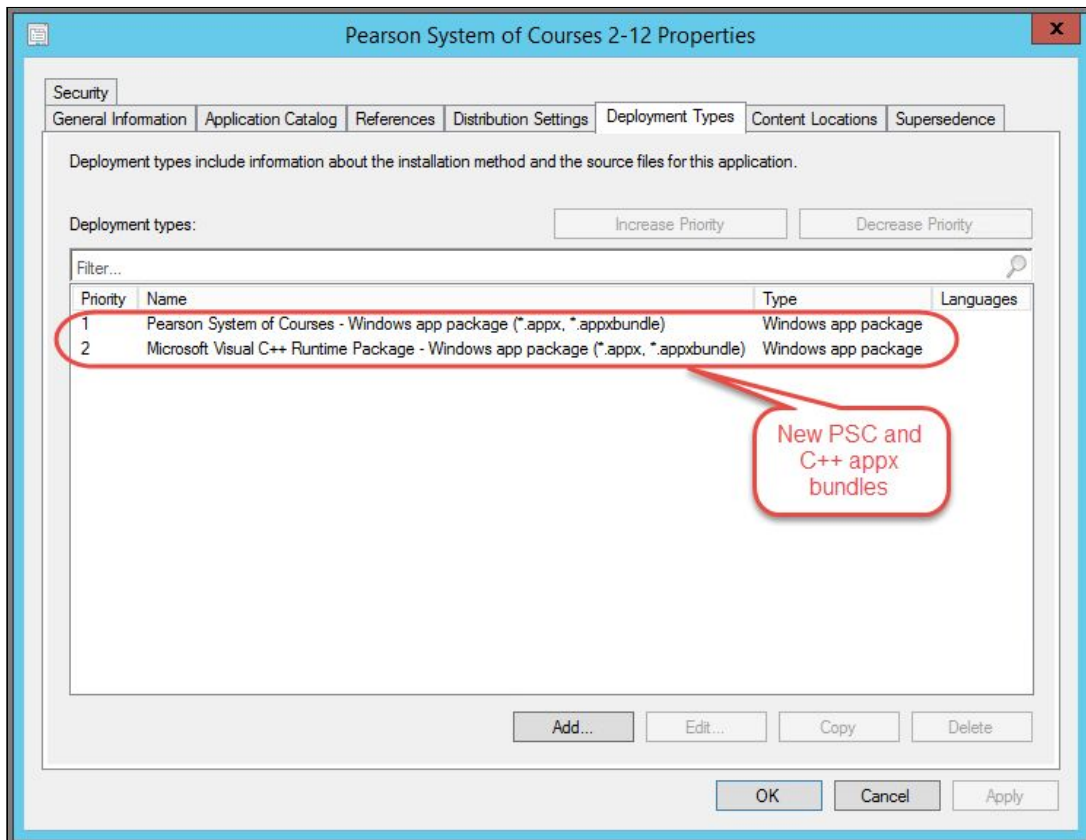


Figure 65

6. Click **OK** to close out the Pearson App's Properties window.

7. The Pearson System of Courses App will be automatically pushed to all machines in the Device Collection.
 - a. Note: All machines in the device collection will be updated at the same time, limit the size of your device collection/s if you want to control bandwidth utilization and also create more than one device collection if you want to schedule your deployments in waves.

Uninstall the Pearson System of Courses App

In the following steps, the Pearson System of Courses app is uninstalled including the user-specific content stored in the AppData folder. However, shared content stored in the C:\PSoC folder doesn't get uninstalled

Note: This folder should only be uninstalled after confirming that there are no other Pearson System of Courses users on the specific device. See [below](#) for instructions.

1. Launch the System Center Configuration Manager (SCCM) console and browse to the Software Library, expand Application Management and then select **Applications**.
2. Right-click on the application you want to uninstall then select **Deploy** as shown in Figure 66.

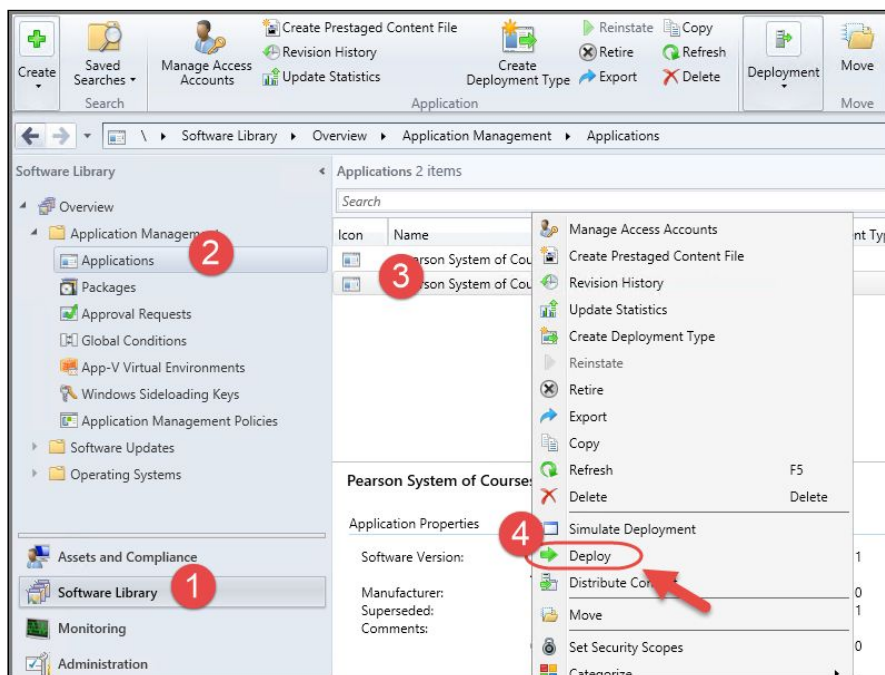


Figure 66

3. In the Specify general information for this deployment window, click **Browse** under Collection.
 4. In the Select Collection window, select **Device Collection** and then the desired device collection and then click **OK** and then **Next** as shown in Figure 67.
- Warning:** Make sure to select the appropriate Device Collection this way you don't accidentally remove the app from unintended collections.

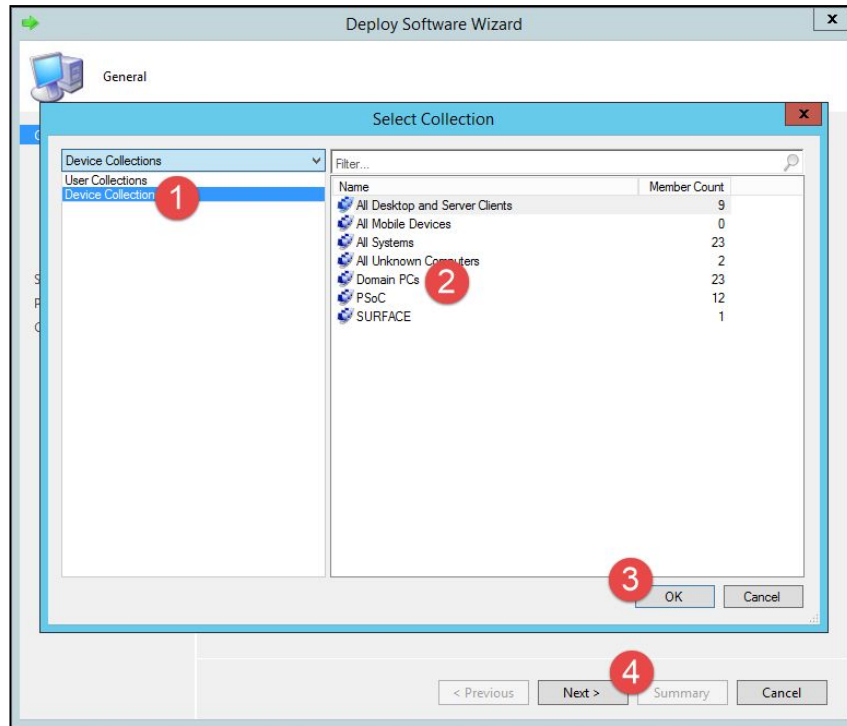


Figure 67

5. In the Specify the content destination window, verify that the correct distribution point is already populated and then click **Next** as shown below in Figure 68.

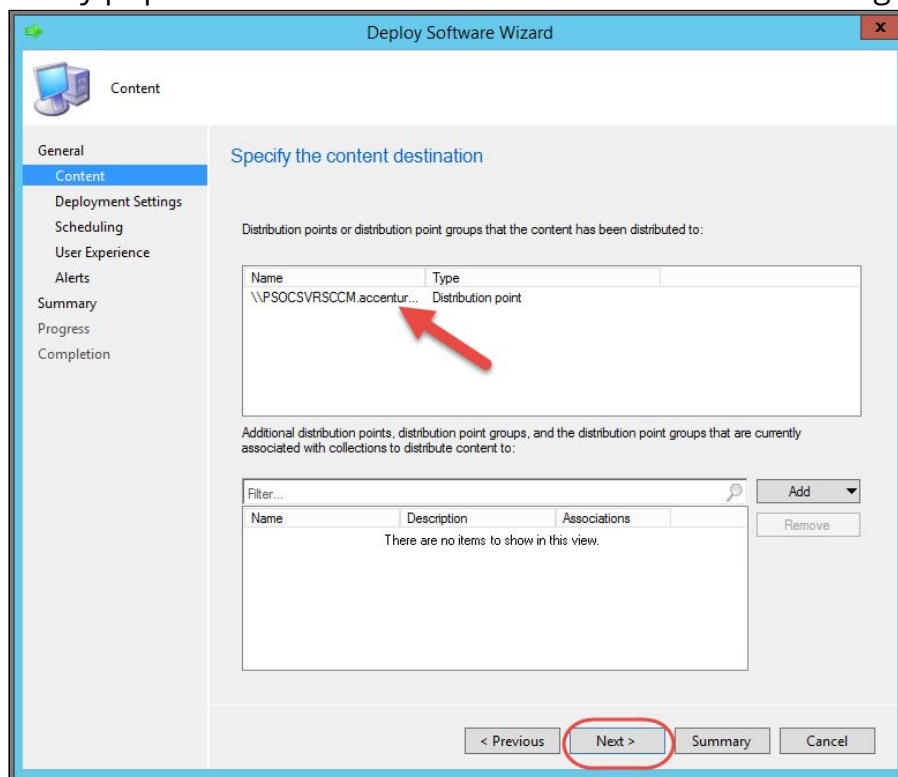


Figure 68

6. In the Specify settings to control how this software is deployed window, click the dropdown under Action and select **Uninstall** as shown in Figure 69.

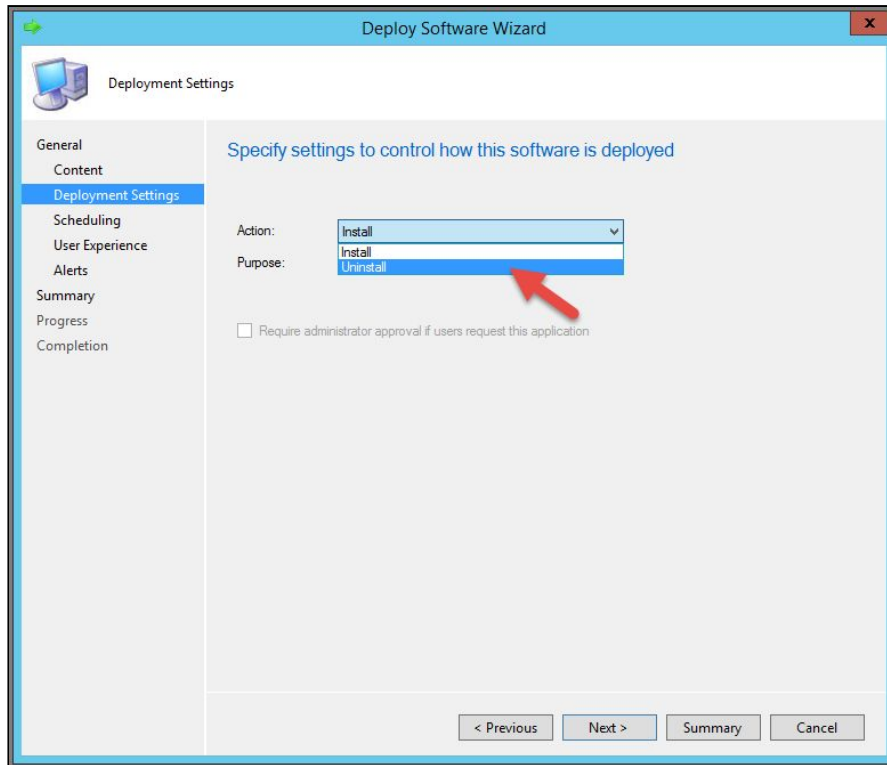


Figure 69

- Once you select Uninstall, the Purpose field will default to the option that was used to install the application which in this example is Required. Check all 3 checkboxes and then click **Next** as shown in Figure 70.

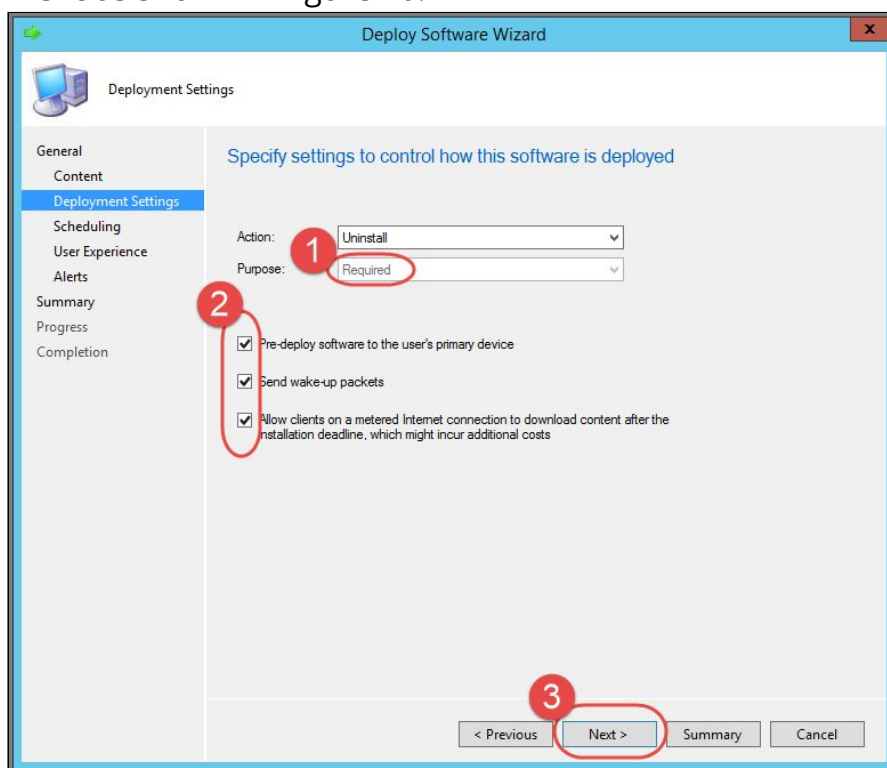


Figure 70

- In the Specify the schedule for this deployment window, select a specific schedule to begin the uninstall or leave the default and then click **Next** as shown in Figure 71.

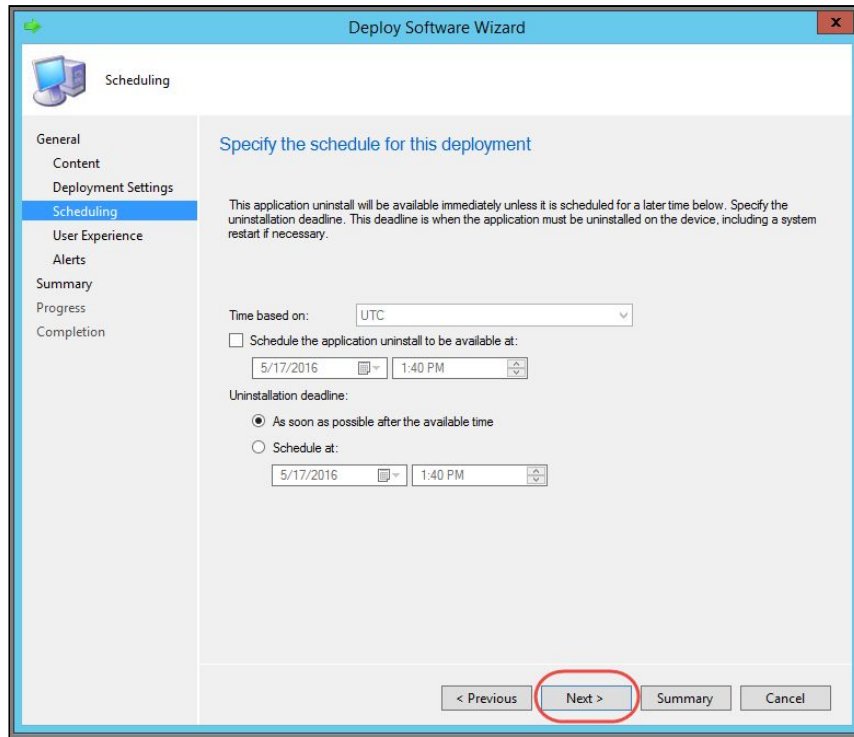


Figure 71

9. At the Specify the user experience for the removal of this software on the selected devices window, click **Next**.
10. Click **Next** at the Specify Configuration Manager and Operation Manager alert options window.
11. Click **Next** at the Confirm the settings for this new deployment window.
12. Click **Close** at The Deploy Software Wizard completed successfully window.
13. SCCM will now uninstall the application at the scheduled time.
14. Verify application has been uninstalled by launching Software Center on the SCCM client device and making sure the Pearson System of Courses app icon is no longer available on the client device.

Remove Pearson System of Courses Content

After uninstalling the Pearson System of Courses app that used the shared **C:\PSoC** folder, the Pearson System of Courses content is not automatically removed with the Pearson System of Courses app. You can manually remove the Pearson System of Courses content by deleting the C:\PSoC folder by following the steps below.

Note: Before deleting the **C:\PSoC** folder, ensure that there are no other users on the particular device that utilize the shared Pearson System of Courses content that resides in the folder.

1. Browse to the C:\PSoC folder and right-click on it and select Delete. Refer to Figure 72.

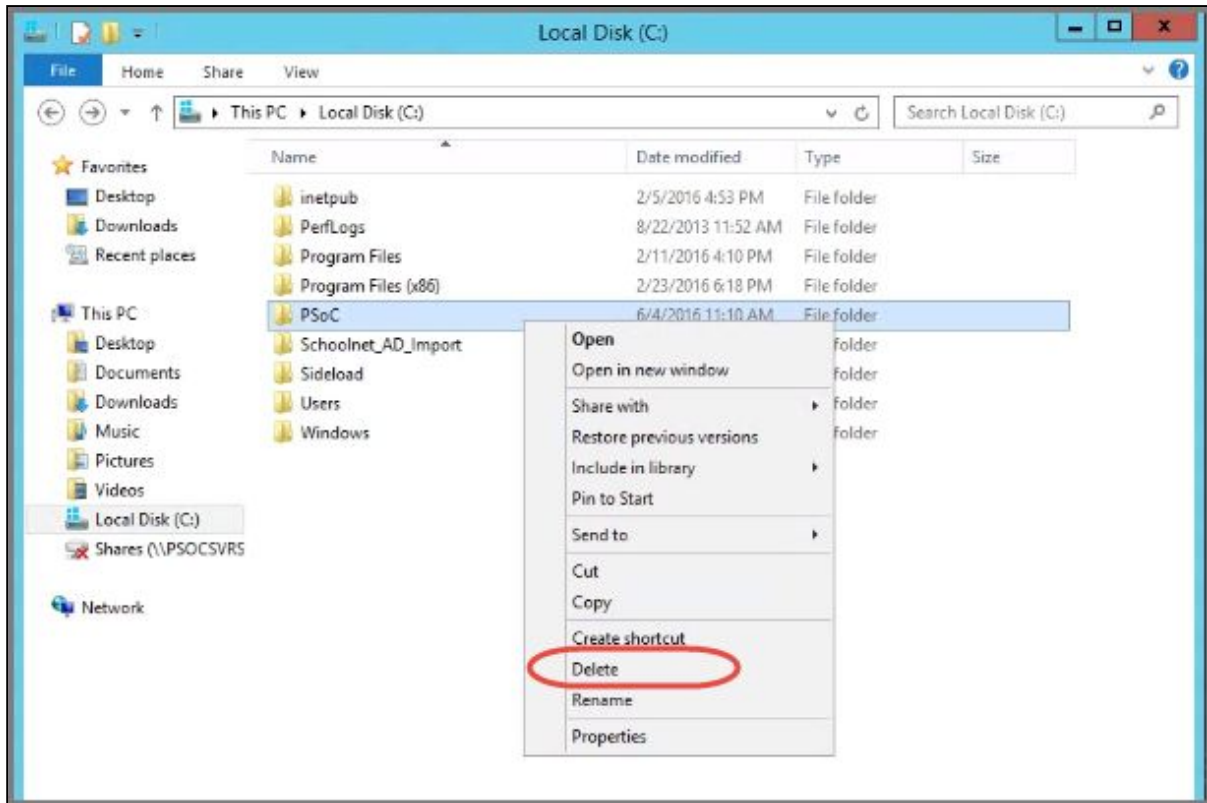


Figure 72

2. Next, to completely remove the folder from the local disk, go to the Recycle Bin and empty it. Refer to Figure 73.

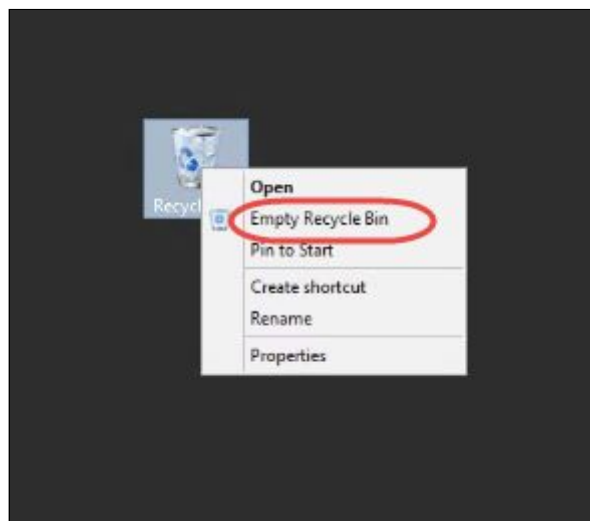


Figure 73

Appendix

For more information on SCCM 2012 R2 please visit:

- [SCCM 2012 R2 Installation Guide](#)
- [SCCM Capabilities](#)