

# Replication To Uplevel Shares For Server Drive Backup with Microsoft SyncToy

## Introduction

Microsoft SyncToy is a Microsoft “PowerToys” program that was first introduced by Microsoft for Windows XP, and carried forward in later Microsoft versions. It allows the contents of a folder or an entire share to be replicated to a locally mounted network share. This can be used, for example, to do a server backup: simply replicate the data from a Windows Server file system to an Uplevel network share, and then let the Uplevel network share encrypt, compress, de-duplicate and back up the data to the cloud.

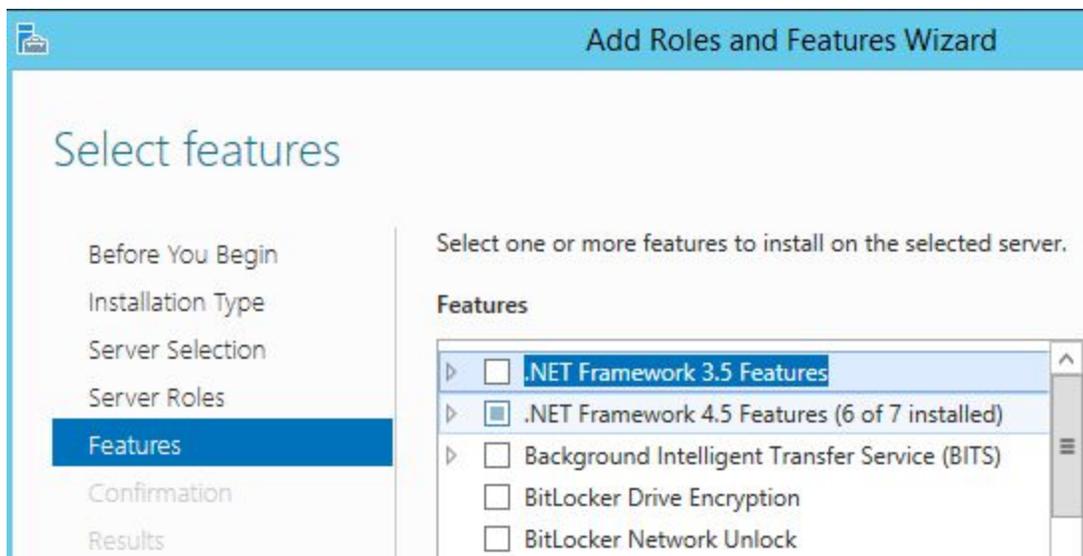
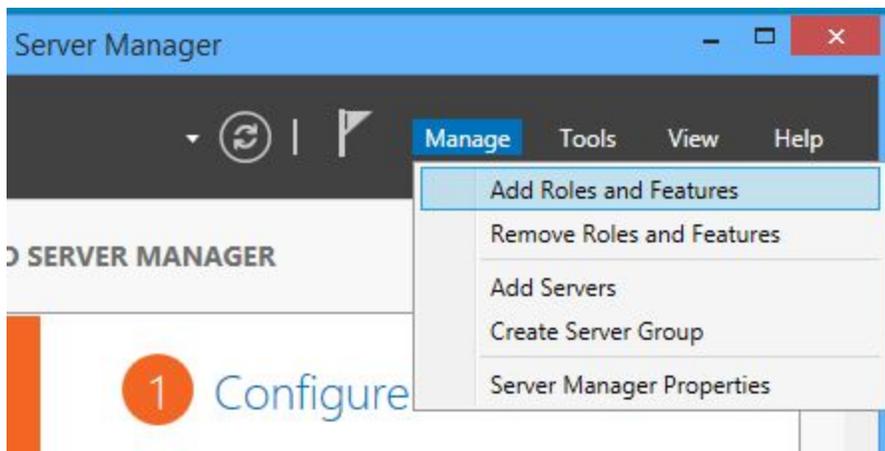
The benefit of using replication (rather than traditional backup) is that instead of creating a new backup image every time, the modified files are copied (“replicated”) to the Uplevel network share. A new backup image could be many gigabytes in size and will consume an enormous amount of time to push to the cloud over most Internet links. Replicating just the modified files to the Uplevel network share will allow the Uplevel backup system to push only the modified data to the cloud, saving a huge amount of time.

The general approach here is to use Microsoft SyncToy to perform the backup, and then to use Microsoft Task Scheduler to trigger repeated replications at the desired interval. SyncToy is a standard program that runs once, performs the replication, and then quits. Using Task Scheduler will allow the replication to be automated, so that it runs periodically and always keeps the data on the Uplevel network share up to date.

## Installing SyncToy

SyncToy is part of the .NET framework, but it needs to be installed - it is not enabled by default. However, it can be easily downloaded from the Microsoft site.

1. Add a new feature “.NET Framework 3.5 Features” from Server Manager.



2. Visit Microsoft Download Center  
<https://www.microsoft.com/en-us/download/details.aspx?id=15155>.
3. Click the “Download” button.

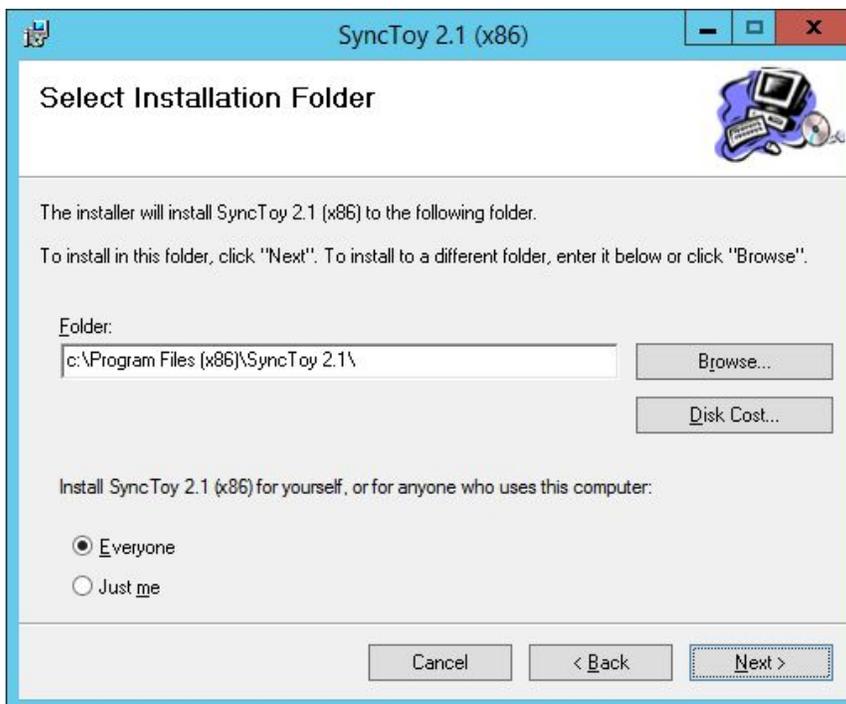
4. Select the version you wish to download. If you use the 32-bit version of Windows 10, select the x86 version, but if you use 64-bit Windows (Windows 10 or Windows Server), be sure to select the 64-bit version of SyncToy. Click the Next button to start the download.
5. Once the download is completed, locate the file you just downloaded and double click it to start the setup.
6. Setup will now give you a warning message. Read it, check “I have read and understand the warning above” and click the Next button.



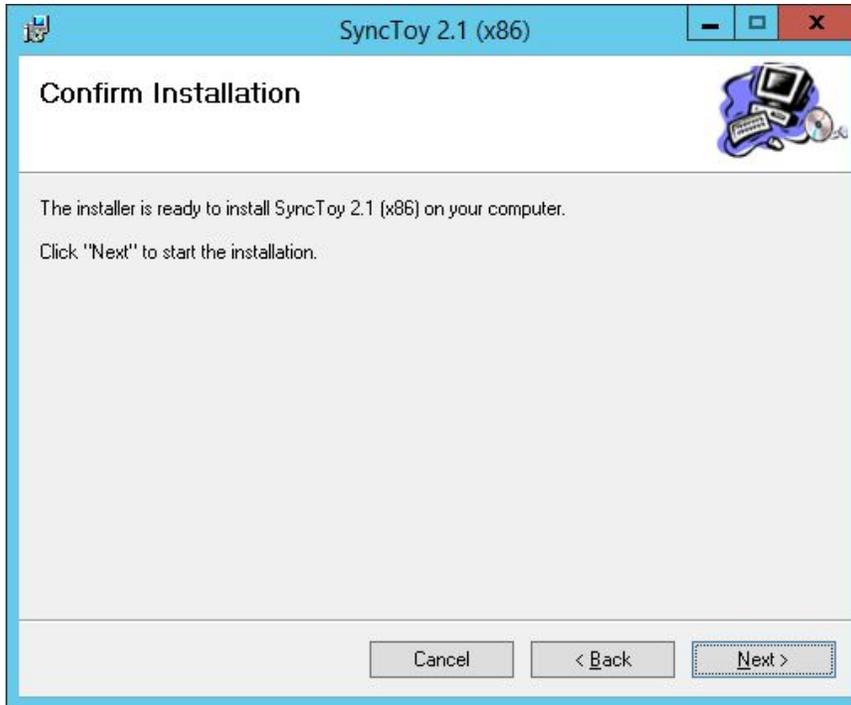
7. Now you'll see a License agreement. Read it, select the I Agree option and click the Next button.



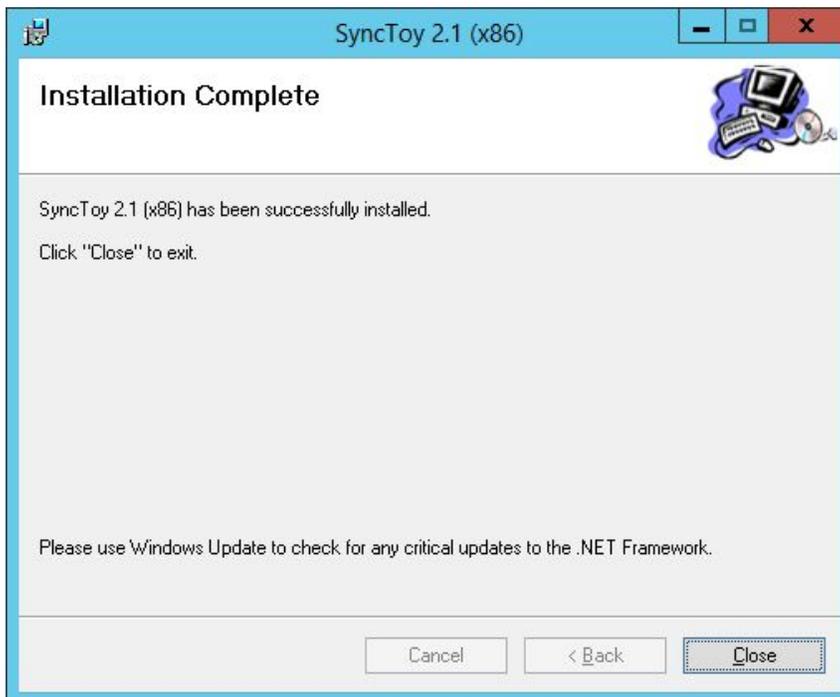
8. Select the destination directory where you want to install SyncToy. If you want, you can install the application just for the current user or for all users on this computer. Once you're done, click the Next button.



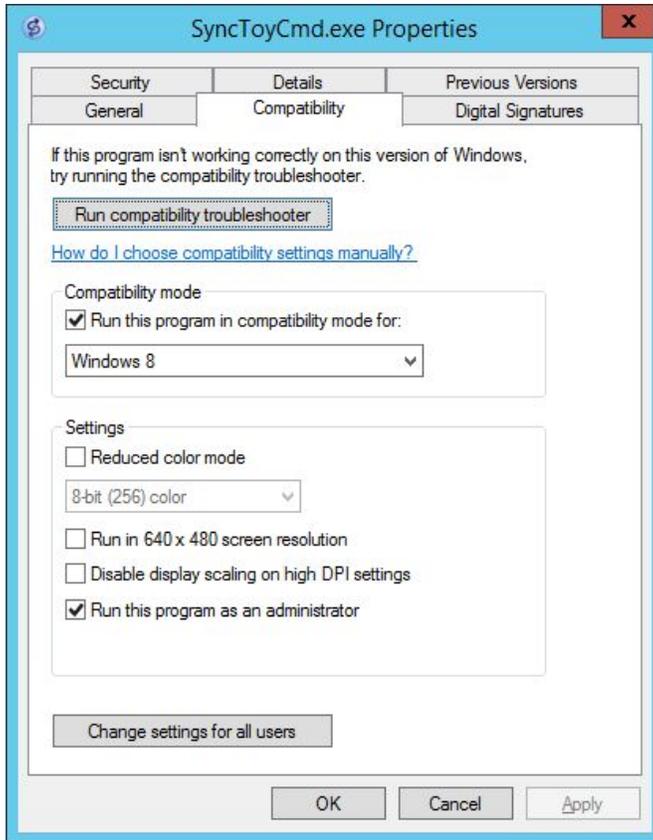
9. Click Next button once again to start the installation process.



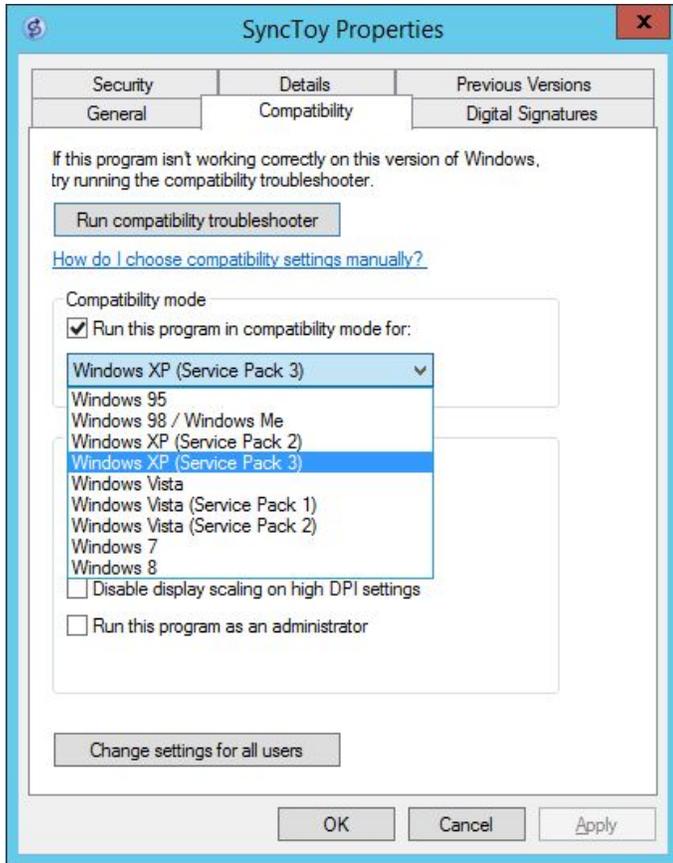
10. Once the setup is completed click the Close button.



11. At the folder "C:\Program Files (x86)\SyncToy 2.1" find SyncToyCmd.exe and set "Run in compatibility mode" for Windows 8



12. At the folder "C:\Program Files (x86)\SyncToy 2.1" find SyncToy.exe and set "Run in compatibility mode" for Windows XP SP3

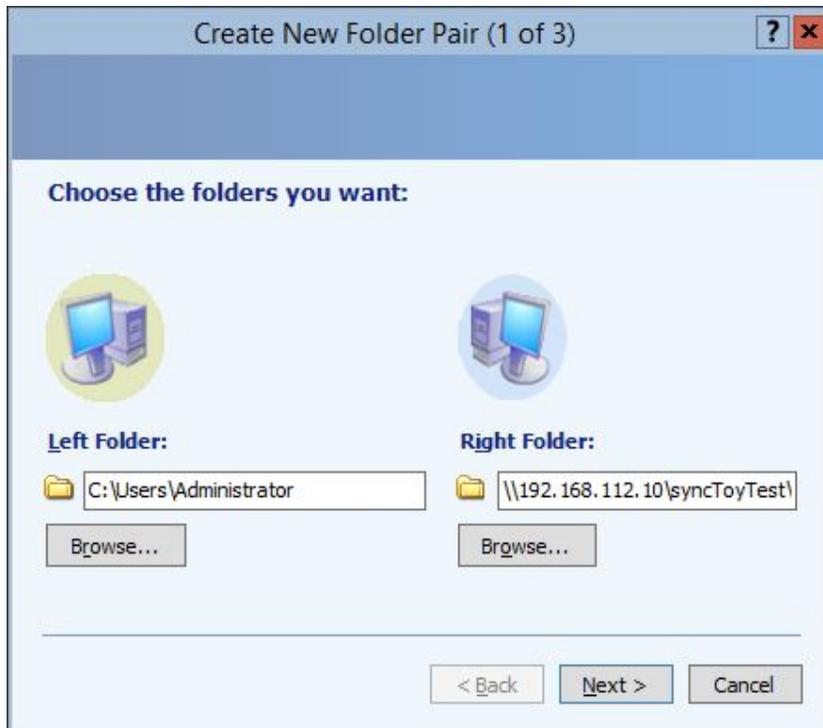


## Configuring and Running SyncToy

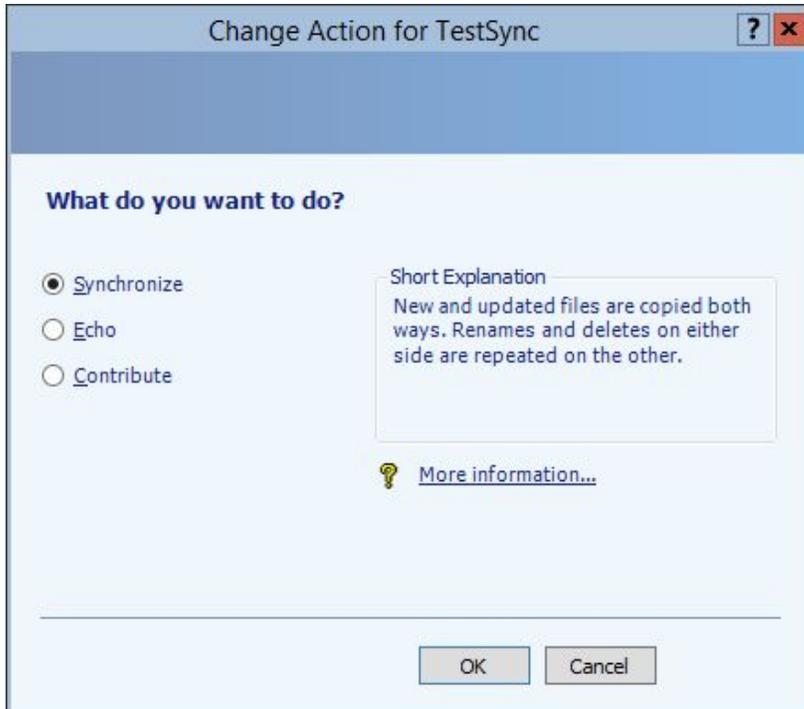
1. Start SyncToy by double clicking the C:\Program Files (x86)\SyncToy 2.1\SyncToy.exe.
2. When the application starts click the Create New Folder Pair.



3. Now you need to select the left folder and right folder. The contents of the left folder will be synchronized to the right folder. Click Browse and select the two folders that you want to synchronize. Normally, the left folder is the drive or top-level folder on the Windows Server, and the right folder is the top level of the mapped drive to which the Uplevel share has been mapped. After you're done selecting the folders, click the Next button.



4. Now you need to select which method of synchronization you want to use. There are three methods available: Synchronize, Echo and Contribute.
  - a. The Synchronize option will synchronize any new, deleted or renamed files. This means that if you delete or rename any file in either of the two folders, the changes will be performed to the second folder as well.
  - b. The second option is Echo, and it works similarly as the previous option but with one difference. While using this option changes are only applied from the left to the right folder. This means that if you make any changes in the right folder, they won't be applied to the left folder.
  - c. The last option is called Contribute, and it's the safest option to use. This option allows you to rename files in the left folder in order to update the right folder. Changes in the right folder won't affect the left folder at all. It's also important to mention that this option doesn't allow deleting, so even if you delete a file in the left folder, that folder won't be deleted in the right folder.
5. After you've selected the option that works best for you click the Next button.

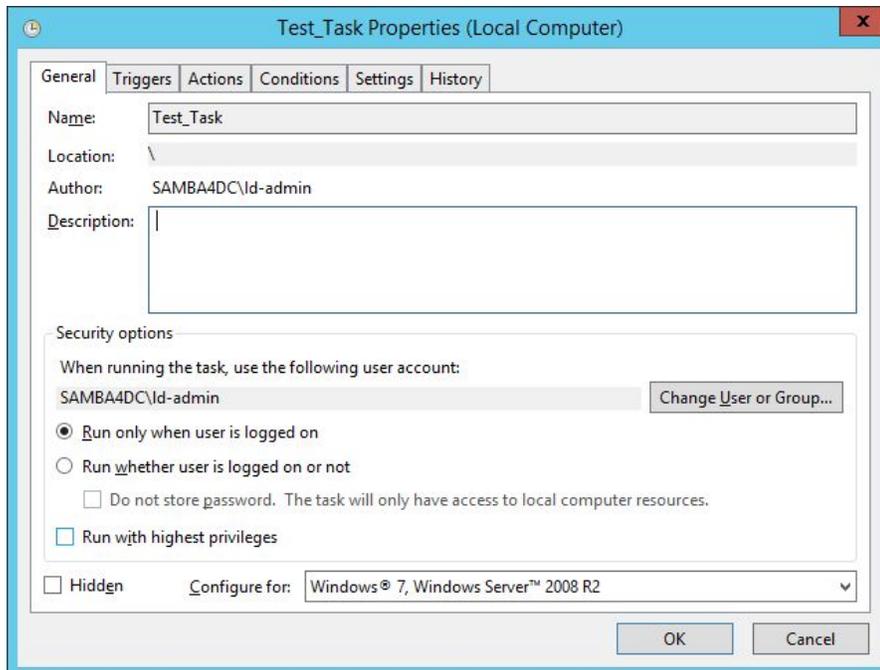


6. Enter the name of the folder pair and click the Finish button.

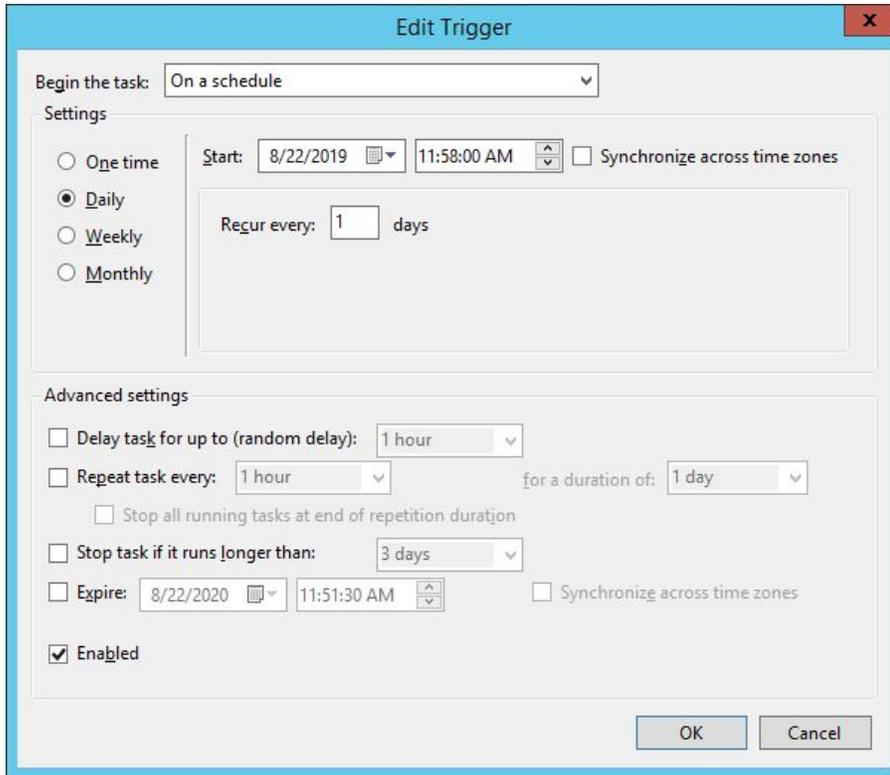


## Setting Up SyncToy For Automated Replication

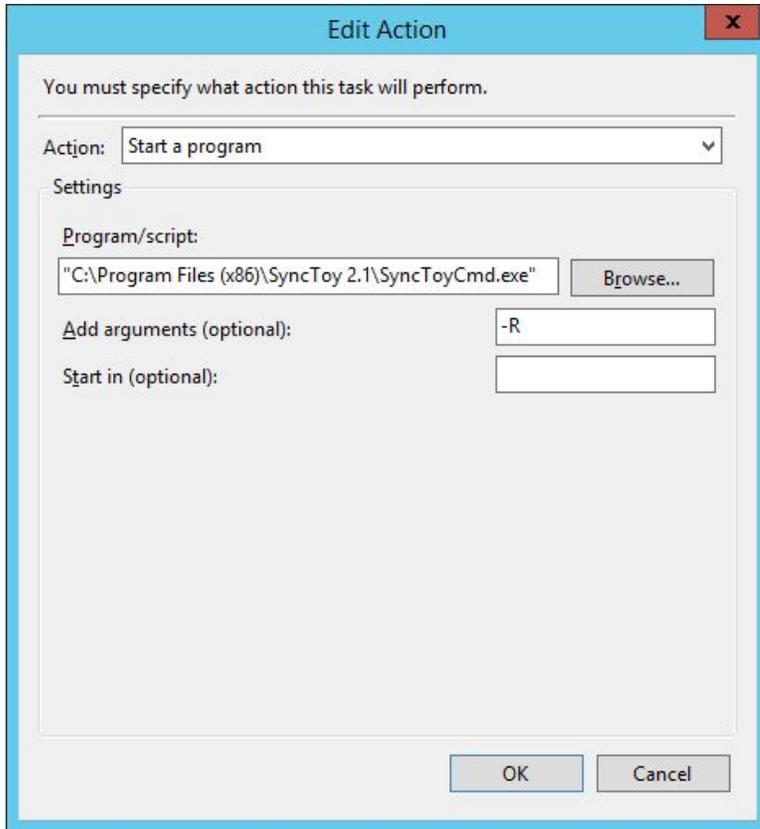
1. In Control Panel\All Control Panel Items\Administrative Tools\Task Scheduler Click on Create Task in the “Actions” pane on the right.
2. In the “Create Task” window --- General Tab, type in a Name - for example, “Test\_Task” - and choose the “Windows 7, Server 2008 R2” compatibility option.



3. In the Trigger tab, add a new trigger and choose the frequency of when you want the task to be run. If you frequently make changes to the files, Daily is a good choice.



4. In the Action tab, add a new action and choose "C:\Program Files (x86)\SyncToy 2.1\SyncToyCmd.exe", and set the argument "-R". Click "Ok"



Click "Ok" in the "Properties" window to save your task. This will automatically run SyncToy to perform the replication at the frequency you chose.