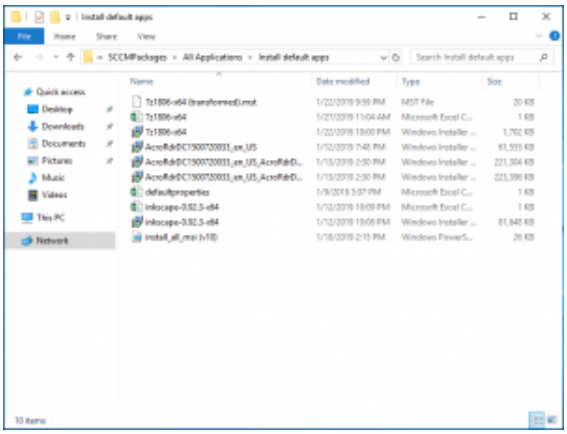
Install all the MSI installation files in a folder



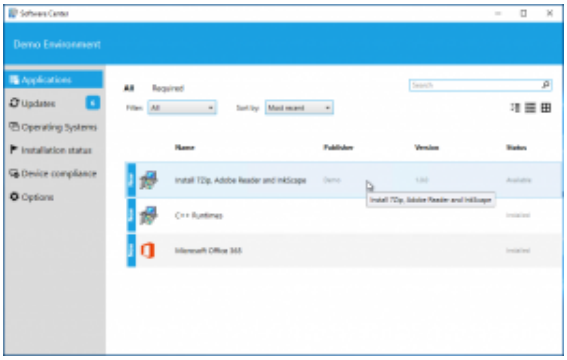
All the files in a folder

If you want to install a bunch of MSI files you put them in a folder and install them with a batch file. There is a downsize: you must modify the batch file for each situation. With this PowerShell script you can install all the MSI files in the folder, including applying transform and patch files. You can add your own properties in a csv settings file.

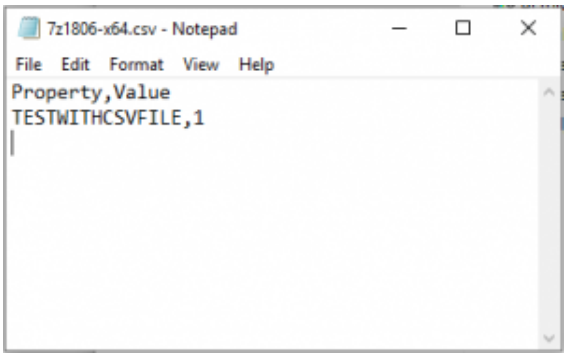
There are some parameters:

- **Install**: Use this swith to specify an installation.
- **Uninstall**: Use this swith to specify an uninstall.
- **MSIPath**: Specify the location where the MSI files are located.
- **Loglocation**: Specify the logfile location.

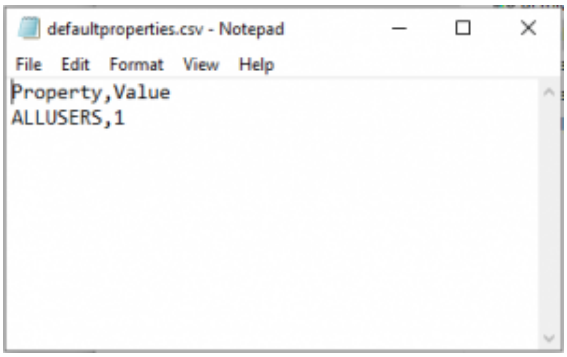
The default log location is C:\Windows\system32\LogFiles.



You can add a transform file.



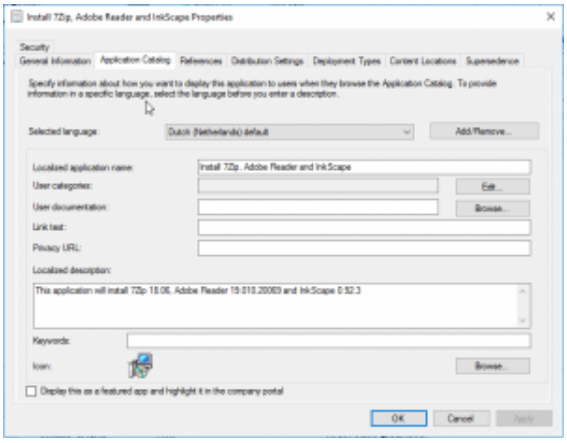
You can specify a settings file for each application.



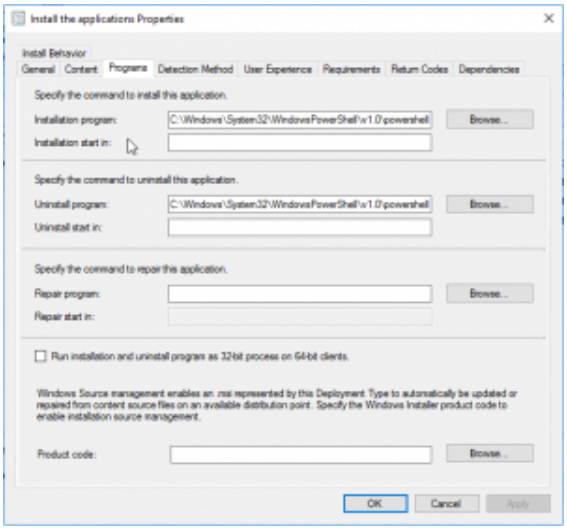
The default settings file is applied to all installations in the folder.

You can also use SCCM to install all the MSI files in the folder. Create an application with one deployment type. You can add all the product codes from each MSI file to identify a

successful installation.



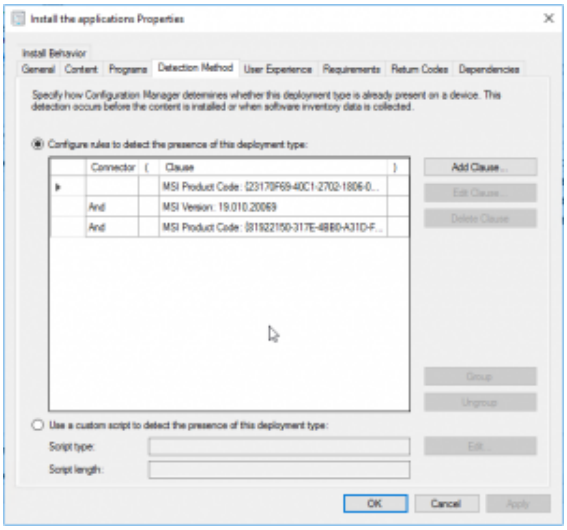
SCCM: The ‘Application Catalog’ tab.



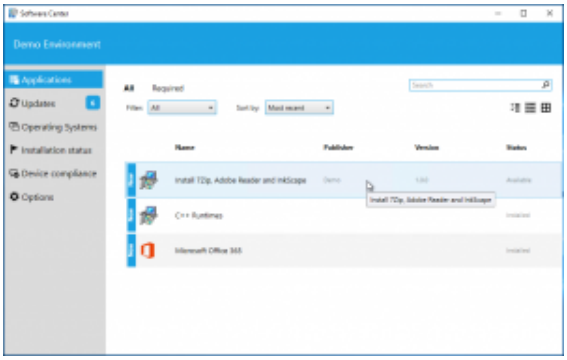
SCCM: Program

The **Install** line is:

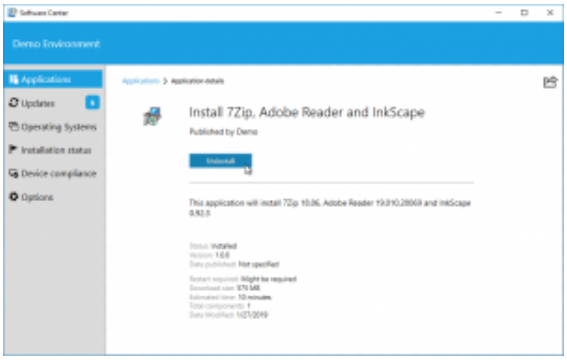
The **Uninstall** line is:



SCCM: Detection rule



Installation on the client.



Uninstall on the client.

A demonstration of this script can be found on my YouTube channel: [the script and AppV Repository]() or view it below:

The script:

```
<#

.SYNOPSIS
    Installs all MSI's in a folder. By default, it is the folder where the script is located, but you can specify another location.

.DESCRIPTION
    Installs all MSI's in a folder. By default, it is the folder where the script is located, but you can specify another location.
    If there is a MST that starts with the MSI name, then the MSI / MST combination will be installed.
    If there is a MSP that starts with the MSI name, then the MSI / MSP combination will be installed.

    Valid combinations:
    -> MSI file: Application_1.20.msi
    -> MST file: Application_1.20_transform.mst
    -> MSP file: Application_1.20_Update_to_1.40.msp
    -> CSV file: Application_1.20.csv

    Invalid combinations:
    -> MSI file: Application_1.20.msi
    -> MST file: Application_1.20.msi.mst     (.msi should be removed)
    -> MST file: Application_patch.msp        (not the full msi file name)

.EXAMPLE
    Installs all the MSIs that are in the folder where the script is located.
    ."\install_all_msi (v10).ps1"

.EXAMPLE
    Installs all the MSIs that are in the folder where the script is located.
    ."\install_all_msi (v10).ps1" -Install

.EXAMPLE
    Uninstalls all the MSIs that are in the folder
```

```
\\server\share\MSIs.
       ."\install_all_msi (v10).ps1" -Uninstall -MSIPath
\\server\share\MSIs

.EXAMPLE
      Uninstalls all the MSIs that are in the folder
\\server\share\MSIs. Logfiles are written to C:\Logs
       ."\install_all_msi (v10).ps1" -Uninstall -MSIPath
\\server\share\MSIs -LogLocation C:\Logs

.NOTES
    Author:  Willem-Jan Vroom
    Website: https://www.vroom.cc/
    Twitter: @TheStingPilot

 v0.1:
   * Initial version.

 v1.0:
   * Added: properties handler:
         - defaultproperties.csv -> will be applied to all MSI
packages or MSI / MST combination in the folder.
                                    This file can be in either
the location where the script is, or in the location
                                   where the MSI files are.
         - .csv     -> will be applied only to the given MSI
or MSI / MST combination.
                                    This file must be in the
same directory as the MSIs.
     This file must have the following header layout:
         Property,Value
         ALLUSERS,1
         ADDLOCAL,ALL
     The content may be different.
   * Install and uninstall switch added.
   * Check if user has admin rights. It throws up an error in
case not.
   * Added the command line options MSIPath and LogLocation.
   * Added patch support. The pathname must start with the
same name as the MSI.
   * Check if both install and uninstall switches are used.
```

```
   * Bugfix: error messages when there are quotes around the
MSI file name.

#>

[CmdLetBinding()]

param
 (
  # Use this switch to specify an installation.
  [Parameter(Mandatory=$False)]
  [Switch] $Install,

  # Use this switch to specify an uninstall.
  [Parameter(Mandatory=$False)]
  [Switch] $Uninstall,

  # Specify the location where the MSI files are located.
  [Parameter(Mandatory=$False)]
  [String] $MSIPath = "",

  # Specify the logfile location.
  [Parameter(Mandatory=$False)]
  [String] $LogLocation = ""
 )

#
================================================================
============================================================
# Function block
#
================================================================
============================================================

  Function CreateLogFile
  {

   <#
   .NOTES
================================================================
============================================================
```

```
   Created with:     Windows PowerShell ISE
   Created on:       9-January-2019
   Created by:       Willem-Jan Vroom
   Organization:
   Functionname:     CreateLogFile
=================================================================
=================================================================
   .SYNOPSIS

   This function creates the logfile

   #>

   param
    (
     [string] $LogFile
    )

   New-Item $LogFile -Force -ItemType File | Out-Null
  }

Function WriteToLog
 {
  <#
  .NOTES
=================================================================
=================================================================
  Created with:     Windows PowerShell ISE
  Created on:       9-January-2019
  Created by:       Willem-Jan Vroom
  Organization:
  Functionname:     WriteToLog
=================================================================
=================================================================
  .SYNOPSIS

  This function adds a line to the logfile

  #>

  param
```

```
     (
      [string] $LogFile,
      [string] $line
     )

   $timeStamp = (Get-Date).ToString('G').Replace("/","-")
   $line = $timeStamp + " - " + $line
   Add-Content -Path $LogFile -Value $line -Force
 }

 Function Import-PropertyFile
  {
   <#
   .NOTES
================================================================
================================================================
   Created with:     Windows PowerShell ISE
   Created on:       9-January-2019
   Created by:       Willem-Jan Vroom
   Organization:
   Functionname:     Import-PropertyFile
================================================================
================================================================
   .SYNOPSIS

   This function imports all the properties that are mentioned
in the given property-file

   #>

   param
    (
     [string] $PropertyFile
    )

   $arrItems      = @()
   $strProperties = ""

   if(Test-Path $PropertyFile)
    {
     $arrItems = @(Import-CSV $PropertyFile)
```

```
     if($arrItems.Count -ge 1)
      {
        WriteToLog -LogFile $strLogFile -line "The property
file $PropertyFile is applied."
       ForEach($objItem in $arrItems)
        {
         $strProperty    = $objItem.Property
         $strValue       = $objItem.Value
          $strLine        = $strProperty + "=" + $strValue + "
"
         $strProperties += $strLine
        }
       }
    }
    Return $strProperties
  }

Function Get-MSIFileInformation
 {

  <#
  .NOTES
================================================================
================================================================
  Created with:     Windows PowerShell ISE
  Created on:       9-January-2019
  Created by:       Willem-Jan Vroom
  Organization:
  Functionname:     Get-MSIFileInformation
================================================================
================================================================
  .SYNOPSIS

  This function reads the various properties from a MSI file.
        This    function    has    been    found    on
http://www.scconfigmgr.com/2014/08/22/how-to-get-msi-file-info
rmation-with-powershell/
   All credits, including the copyright go to Nickolaj
Andersen.

  #>
```

```
  param
   (
    [parameter(Mandatory=$true)]
    [ValidateNotNullOrEmpty()]
    [System.IO.FileInfo]$Path,

    [parameter(Mandatory=$true)]
    [ValidateNotNullOrEmpty()]
        [ValidateSet("ProductCode",  "ProductVersion",
"ProductName",   "Manufacturer",   "ProductLanguage",
"FullVersion")]
    [string]$Property
   )
  Process
   {
    try
     {
        # Read property from MSI database
            $WindowsInstaller = New-Object -ComObject
WindowsInstaller.Installer
                                          $MSIDatabase    =
$WindowsInstaller.GetType().InvokeMember("OpenDatabase",
"InvokeMethod", $null, $WindowsInstaller, @($Path.FullName,
0))
        $Query = "SELECT Value FROM Property WHERE Property =
'$($Property)'"
                                             $View     =
$MSIDatabase.GetType().InvokeMember("OpenView",
"InvokeMethod", $null, $MSIDatabase, ($Query))
             $View.GetType().InvokeMember("Execute",
"InvokeMethod", $null, $View, $null)
          $Record = $View.GetType().InvokeMember("Fetch",
"InvokeMethod", $null, $View, $null)
        $Value = $Record.GetType().InvokeMember("StringData",
"GetProperty", $null, $Record, 1)
        # Commit database and close view
            $MSIDatabase.GetType().InvokeMember("Commit",
"InvokeMethod", $null, $MSIDatabase, $null)
        $View.GetType().InvokeMember("Close", "InvokeMethod",
$null, $View, $null)
        $MSIDatabase = $null
```

```
        $View = $null

        # Return the value
        return $Value
     }
    catch
     {
      Write-Warning -Message $_.Exception.Message ; break
     }
  }
  End
  {
    # Run garbage collection and release ComObject
[System.Runtime.Interopservices.Marshal]::ReleaseComObject($Wi
ndowsInstaller) | Out-Null
    [System.GC]::Collect()
  }
}

Function Check-HasAdminRights
 {

  <#
  .NOTES
================================================================
================================================================
  Created with:     Windows PowerShell ISE
  Created on:       11-January-2019
  Created by:       Willem-Jan Vroom
  Organization:
  Functionname:     Check-HasAdminRights
================================================================
================================================================
  .SYNOPSIS

   This function checks if an user has admin rights. The
function returns $true or $false

  #>

        If    (([Security.Principal.WindowsPrincipal]
```

```
[Security.Principal.WindowsIdentity]::GetCurrent()).IsInRole([
Security.Principal.WindowsBuiltInRole] "Administrator"))
   {
    Return $True
   }
    else
   {
    Return $False
   }
 }

 Function Remove-TrailingCharacter
{

<#
.NOTES
===========================================================================
===========================================================================
=================
Created with:     Windows PowerShell ISE
Created on:       18-January-2019
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Remove-TrailingCharacter
===========================================================================
===========================================================================
=================
.SYNOPSIS

This function removes a trailing character from a string
#>

param
(
 [string] $RemoveCharacterFrom = "",
 [string] $Character           = ""
)

if($RemoveCharacterFrom.Length -gt 0)
 {
if(($RemoveCharacterFrom.SubString($RemoveCharacterFrom.Length
```

```
-1,1)) -eq $Character)
  {
                            $RemoveCharacterFrom         =
$RemoveCharacterFrom.Substring(0,$RemoveCharacterFrom.Length-1
)
  }
 }


 Return $RemoveCharacterFrom

}

 Function Add-TrailingCharacter
{

<#
.NOTES
================================================================
================================================================
================
Created with:     Windows PowerShell ISE
Created on:       06-September-2018
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Add-TrailingCharacter
================================================================
================================================================
================
.SYNOPSIS

This function adds a trailing backslash to a string
#>

param
(
 [string] $AddCharacterTo = "",
 [string] $Character      = ""
)

if($AddCharacterTo.Length -gt 0)
```

```
 {
    $AddCharacterTo  =  Remove-TrailingCharacter  -
RemoveCharacterFrom $AddCharacterTo -Character $([char]34)
  if(($AddCharacterTo.SubString($AddCharacterTo.Length-1,1)) -
ne $Character)
  {
   $AddCharacterTo = $AddCharacterTo + $Character
  }
 }
Else
 {
  $AddCharacterTo = $Character
 }

 Return $AddCharacterTo

}

Function Get-AllFilesWithPattern
 {

  <#
  .NOTES
================================================================
============================================================
  Created with:     Windows PowerShell ISE
  Created on:       13-January-2019
  Created by:       Willem-Jan Vroom
  Organization:
  Functionname:     Get-AllFilesWithPattern
================================================================
============================================================
  .SYNOPSIS

  Find all files in the given folder that matches a filter.

  #>

  param
   (
    [string] $FolderToLookIn,
```

```
    [string] $Pattern
   )

   $FolderToLookIn = Remove-TrailingCharacter -Character "\" -
RemoveCharacterFrom $FolderToLookIn

   $arrItems = @()
    $arrItems = Get-ChildItem -Path $FolderToLookIn -Filter
$Pattern
   $arrItems | Sort-Object -Property Name | Out-Null

   Return $arrItems
 }

Function Get-LastItemOfAnArryAndPutItInAString
 {

  <#
  .NOTES
================================================================
================================================================
  Created with:     Windows PowerShell ISE
  Created on:       13-January-2019
  Created by:       Willem-Jan Vroom
  Organization:
  Functionname:     Get-LastItemOfAnArryAndPutItInAString
================================================================
================================================================
  .SYNOPSIS

  Returns the last item of string.

  #>

  param
   (
    [string] $FileName,
    [string] $OldExtension,
    [string] $NewExtension,
    [string] $WhereToLook
   )
```

```
   $arrFiles    = @()
   $strFileName = ""
                $FilePattern     =     $FileName     -
Replace($OldExtension,$NewExtension)
    $arrFiles     = Get-AllFilesWithPattern -FolderToLookIn
$WhereToLook -Pattern $FilePattern
   if($arrFiles.Count -gt 0)
    {
     $strFileName = $arrFiles[-1].ToString()
    }

   Return $strFileName
}

#
=============================================================
============================================================
# End function block
#
=============================================================
============================================================

#
=============================================================
============================================================
# Define the variables.
#
=============================================================
============================================================

   $strCurrentDir               =  Split-Path  -parent
$MyInvocation.MyCommand.Definition

  if($MSIPath.Length -eq 0)
   {
    $MSIPath = $strCurrentDir
   }
  if($LogLocation.Length -eq 0)
   {
    $LogLocation = $Env:Windir + "\SYSTEM32\LogFiles"
   }
```

```
  $LogLocation              = Add-TrailingCharacter -
AddCharacterTo $LogLocation   -Character "\"
  $MSIPath                  = Add-TrailingCharacter -
AddCharacterTo $MSIPath       -Character "\"
  $strCurrentDir            = Add-TrailingCharacter -
AddCharacterTo $strCurrentDir -Character "\"

  $strTransform          = ""
  $strDefaultPropFile    = $MSIPath + "defaultproperties.csv"

  $strDefaultProperties  = ""
  $strActivity           = ""
  $strPatch              = ""
  $strSingleOrMultipleMSI = "MultipleMSI"

  $arrDefaultProperties  = @()
  $arrMSIFiles           = @()
  $arrMSPFiles           = @()
  $arrMSIFiles              = Get-AllFilesWithPattern -
FolderToLookIn $MSIPath -Pattern "*.msi"
  $numMSIFiles           = $arrMSIFiles.Count
  $numCounter            = 1

#
============================================================
============================================================
# Stop the script for a non admin user
#
============================================================
============================================================

  if(-not(Check-HasAdminRights))
  {
   Write-Error "The current user has no admin rights. Please
rerun  the  script  with  elevated  rights."  -Category
PermissionDenied
   Exit 999
  }

#
============================================================
```

```
=============================================================
# Create the log file location if not exists
#
=============================================================
=============================================================

  if(-not (Test-Path $LogLocation))
   {
    New-Item -Path $LogLocation -ItemType Directory -Force -
Confirm:$False | Out-Null
   }

#
=============================================================
=============================================================
# Define the logfile for the install or uninstall of all the
MSIs.
#
=============================================================
=============================================================

  $strLastPartOfFileName = " (" + (Get-Date).ToString('G') +
").log"
                       $strLastPartOfFileName          =
$strLastPartOfFileName.Replace(":","-").Replace("/","-")

  if($numMSIFiles -eq 1)
   {
    $strSingleOrMultipleMSI = "SingleMSI"
   }

  if($Install -or (-not $Uninstall))
   {
      $strLogFile                    =  $LogLocation  +
$strSingleOrMultipleMSI + $strLastPartOfFileName
    $strActivity           = "Installing MSIs in the folder
$MSIPath"
   }
    else
   {
    $strLogFile             = $LogLocation + "Uninstall" +
```

```
$strSingleOrMultipleMSI + $strLastPartOfFileName
    $strActivity           = "Uninstalling MSIs in the folder
$MSIPath"
   }

  CreateLogFile -LogFile $strLogFile

#
================================================================
================================================================
# Give an error message if both parameters install and
uninstall are used.
#
================================================================
================================================================

if($Install -and $Uninstall)
 {
  $strErrorMessage = "Both install and uninstall parameters
are mentioned. That is not possible. Only one of them should
be used."
                              WriteToLog              -line
"================================================================
================================================================" -
LogFile $strLogFile
  WriteToLog -line "FATAL ERROR!" -LogFile $strLogFile
  WriteToLog -line $strErrorMessage -LogFile $strLogFile
                              WriteToLog              -line
"================================================================
================================================================" -
LogFile $strLogFile
  Write-Error $strErrorMessage -Category InvalidArgument
  Exit 991
 }

#
================================================================
================================================================
# Write default settings to the logfile
#
================================================================
```

```
==========

                              WriteToLog             -line
"============================================================
============================================================" -
LogFile $strLogFile
   WriteToLog -line "Log location: $LogLocation" -LogFile
$strLogFile
  WriteToLog -line "MSI Path:     $MSIPath"     -LogFile
$strLogFile
  WriteToLog -line $($strActivity + ":")        -LogFile
$strLogFile

  ForEach ($objMSIFile in $arrMSIFiles)
   {
     WriteToLog -line " * $($objMSIFile.Name)" -LogFile
$strLogFile
   }
                              WriteToLog             -line
"============================================================
============================================================" -
LogFile $strLogFile

#
============================================================
============================================================
# In case of an installation:
# Define the default properties.
#
============================================================
============================================================

  if ($Install -or (-not $Uninstall))
   {
    $strDefaultProperties = Import-PropertyFile -PropertyFile
$strDefaultPropFile
   }
#
============================================================
============================================================
# Start the real installation or uninstall.
```

```
# The installation is skipped if a MSI has already been
installed.
# The uninstall is only done if the product has already been
installed.
#
================================================================
================================================================

  ForEach ($objMSIFile in $arrMSIFiles)
   {
    Write-Progress -Activity $($strActivity + ".") -Status
"Processing $objMSIFile." -PercentComplete ($numCounter /
$numMSIFiles * 100)
    $strMSIFileName    = $MSIPath + $objMSIFile
     $strProductName     = Get-MSIFileInformation -Path
$strMSIFileName -Property ProductName
      $strProductVersion = Get-MSIFileInformation -Path
$strMSIFileName -Property ProductVersion
     $strProductCode     = Get-MSIFileInformation -Path
$strMSIFileName -Property ProductCode
                  $strRegPathX64                          =
"HKLM:\SOFTWARE\WOW6432Node\Microsoft\Windows\CurrentVersion\U
ninstall\"+$strProductCode
    $strRegPathX64     = $strRegPathX64 -replace(" ","")
                  $strRegPathX86                          =
$strRegPathX64.Replace("WOW6432Node\","")
    if($Install -or (-not $Uninstall))
     {
                                                          #
================================================================
================================================================
      # The install
                                                          #
================================================================
================================================================

      $strTransform      = ""
      $strPatch          = ""
                   $strMSTFileName             =   Get-
LastItemOfAnArryAndPutItInAString -FileName $objMSIFile -
OldExtension ".msi" -NewExtension "*.mst" -WhereToLook
```

```
$MSIPath
                    $strMSPFileName             =   Get-
LastItemOfAnArryAndPutItInAString -FileName $objMSIFile -
OldExtension ".msi" -NewExtension "*.msp" -WhereToLook
$MSIPath
                     $strPropFile                        =
$strMSIFileName.Replace("msi","csv")

                                                                #
================================================================
================================================
      # Apply a patch (msp file) (if available)
                                                                #
================================================================
================================================

      if($strMSPFileName.Length -ge 1)
       {
         $strPatch = " /update " + $([char]34) + $MSIPath +
$strMSPFileName + $([char]34)
        WriteToLog -LogFile $strLogFile -line "The patch file
'$strMSPFileName' has been found and is applied."
       }

                                                                #
================================================================
================================================
      # Apply a transform file (mst) (if available)
                                                                #
================================================================
================================================

      if($strMSTFileName.Length -ge 1)
       {
        $strMSTFileName = $MSIPath + $strMSTFileName
          $strTransform   = "TRANSFORMS=" + $([char]34) +
$strMSTFileName + $([char]34)+" "
        WriteToLog -LogFile $strLogFile -line "The transform
file '$strMSTFileName' has been found and is applied."
       }
```

```
         WriteToLog -line "Installing application: $strProductName"     -LogFile $strLogFile
                WriteToLog  -line  "ProductVersion: $strProductVersion" -LogFile $strLogFile

       if(-not ((Test-Path $strRegPathX64) -or (Test-Path $strRegPathX86)))
       {
        $strProperties    = " "
        $strProperties    = Import-PropertyFile -PropertyFile $strPropFile
         $strMSILogFile     = "/l*v " + $([char]34) + $LogLocation + $strProductName + " " + $strProductVersion +".log" + $([char]34)
        $strArguments     = "/i "   + $([char]34) + $MSIPath + $objMSIFile + $([char]34) + $strPatch + " /qb! " + $strDefaultProperties + $strProperties + $strTransform + $strMSILogFile

       $strArguments     = $strArguments  -replace("   ","")
        WriteToLog -line "Command that is run:       msiexec $($strArguments)" -LogFile $strLogFile
        $StartProcess = (Start-Process -FilePath "msiexec.exe" -ArgumentList $strArguments -Wait -PassThru)
        WriteToLog -line "Result: $($StartProcess.ExitCode)" -LogFile $strLogFile
                                    WriteToLog    -line "=========================================================================================================" -LogFile $strLogFile
       }
        else
       {
         WriteToLog -line "This application has already been installed, thus skipping." -LogFile $strLogFile
                                    WriteToLog    -line "=========================================================================================================" -LogFile $strLogFile
       }
     }
```

```
      else
     {
                                                                  #
================================================================
================================================
      # The uninstall
                                                                  #
================================================================
================================================

         WriteToLog -line "Uninstalling application:
$strProductName"     -LogFile $strLogFile
                WriteToLog  -line  "ProductVersion:
$strProductVersion" -LogFile $strLogFile
         if((Test-Path $strRegPathX64) -or (Test-Path
$strRegPathX86))
       {
          $strMSILogFile      = "/l*v " + $([char]34) +
$LogLocation + "Uninstall_"+ $strProductName + "  " +
$strProductVersion +".log" + $([char]34)
         $strArguments      = "/x "   + $strProductCode + "
/qb! " + $strMSILogFile

        $strArguments      = $strArguments  -replace("   ","")

        WriteToLog -line "Command that is run:         msiexec
$($strArguments)" -LogFile $strLogFile
        $StartProcess = (Start-Process -FilePath "msiexec.exe"
-ArgumentList $strArguments -Wait -PassThru)
        WriteToLog -line "Result: $($StartProcess.ExitCode)" -
LogFile $strLogFile

                                        WriteToLog    -line
"================================================================
================================================" -
LogFile $strLogFile
       }
        else
       {
          WriteToLog -line "This application has not been
installed, thus skipping." -LogFile $strLogFile
```

```
        WriteToLog -line " " -LogFile $strLogFile
       }
     }
    $numCounter++
   }

#
================================================================
================================================================
# Done!
#
================================================================
================================================================
```

Current version: [install_all_msi (v10).zip]