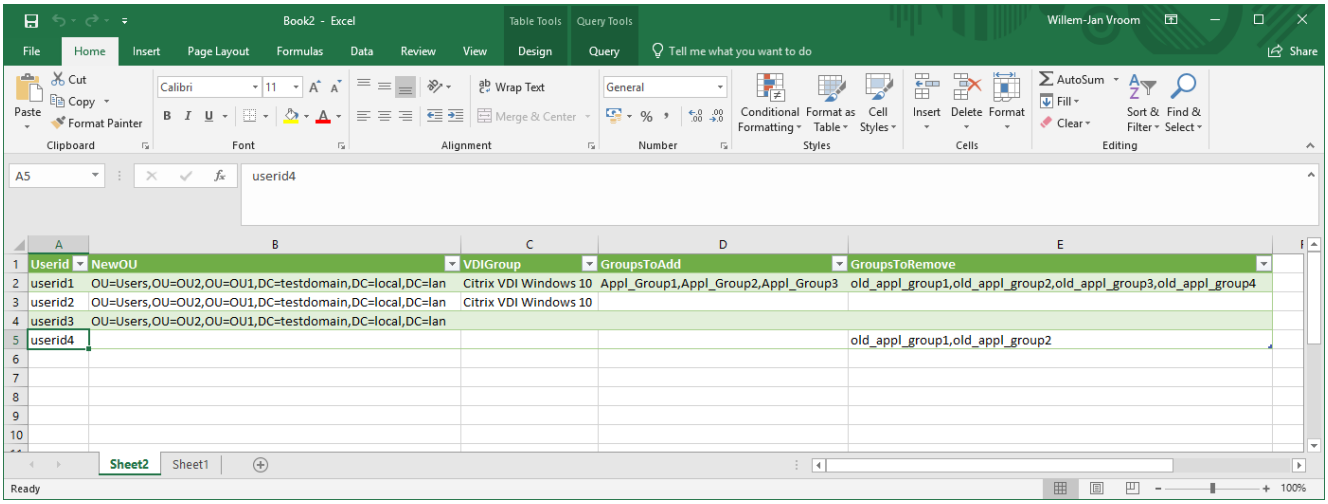
Migrate users from Windows 7 to Windows 10 automatically

For a migration from Windows 7 to Windows 10 it is needed to do the following with the users' account:

- Move it to a different OU
- Add it to a new VDI group
- Add it to the new application groups
- Remove it from the previous application groups
- Clear the profile path, if needed.

To do this, I created a Powershell script.

The users who need to be migrated from Windows 7 to Windows 10 are in a csv file:



Userid	NewOU	VDIGroup	GroupsToAdd	GroupsToRemove
userid1	OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan	Citrix VDI Windows 10	Appl_Group1,Appl_Group2,Appl_Group3	old_appl_group1,old_appl_group2,old_appl_group3,old_appl_group4
userid2	OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan	Citrix VDI Windows 10		
userid3	OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan			
userid4				old_appl_group1,old_appl_group2

- The column **Userid** contains the userid
- The column **NewOU** contains the OU where the user should be moved to. This column can be empty.
- The colum **VDIGroup** contains the new VDI group. This column can be empty.
- The colum **GroupsToAdd** contains the groups the user should be added to. Split the groups with a comma. This column can be empty.
- The colum **GroupsToRemove** contains the groups the user

should be removed from. Split the groups with a comma. This column can be empty.

An example:

```
"Userid","NewOU","VDIGroup","GroupsToAdd","GroupsToRemove"
"userid1","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","Citrix VDI Windows 10","Appl_Group1,Appl_Group2,Appl_Group3","old_appl_group1,old_appl_group2,old_appl_group3,old_appl_group4"
"userid2","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","Citrix VDI Windows 10","",""
"userid3","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","","","",""
"userid4","","","","old_appl_group1,old_appl_group2"
```

The are some parameters:

- **FileWithUseridsInCSVFormat**: CSV Filename that contains all the userids that should be migrated. If not mentioned than the script name is used.
- **LogFilePrefix**: The name the logfile starts with. So the logfiles are grouped together. Default = ZZZ-Logfile_
- **ProductionRun**: Use the swith ProductionRun to modify. If not specified, the script is run in test mode.
- **FullCleanUp**: Use the swith FullCleanUp to remove all unneeded groups.
- **ClearProfilePath**: Use the swith ClearProfilePath to clear the profile path.

The script:

```
<#
.NOTES
================================================================================
================================================================================
Created with:     Windows PowerShell ISE
```

Created on: 06-September-2018
Created by: Willem-Jan Vroom
Organization:
Filename: Migrate users (v03).ps1
==========
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==========
.DESCRIPTION:

This script prepares the users for the migration from Windows 7 to Windows 10.

.USAGE:

Create a CSV file with the following layout:

"Userid","NewOU","VDIGroup","GroupsToAdd","GroupsToRemove"
"userid1","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","Citrix VDI Windows 10","Appl_Group1,Appl_Group2,Appl_Group3","old_appl_group1,old_appl_group2,old_appl_group3,old_appl_group4"
"userid2","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","Citrix VDI Windows 10","",""
"userid3","OU=Users,OU=OU2,OU=OU1,DC=testdomain,DC=local,DC=lan","","","",""
"userid4","","","","old_appl_group1,old_appl_group2"

.PARAMETERS:

-FileWithUseridsInCSVFormat:
The filename with the users to be modified.

-LogFilePrefix
The name the logfile starts with. So the logfiles are grouped together. Default = ZZZ-Logfile_

-ProductionRun
If the switch is used then ActiveDirectory is modified. If not used then a test run is done, and Active Directory is not modified.

```
-FullCleanUp
If this switch is used then the following groups will be
removed from the users' account:
 * All gg_appl groups
 * WM-Users

 -ClearProfilePath
 If this switch is used then the profile path will be cleared.
.VERSION HISTORY:
 v0.1:
   * Initial version.

 v0.2:
   * The logfilename has been changed.

 V0.3:
   * The logfile mentions 'RUNNING IN TEST MODE' in case the
swith -ProductionRun is not used.
#>

param
(
[Parameter(HelpMessage="CSV Filename that contains all the
userids that should be migrated. Default = the script name,
with the csv extension.")]
[String] $FileWithUseridsInCSVFormat="",

[Parameter(HelpMessage="The name the logfile starts with. So
the logfiles are grouped together. Default = ZZZ-Logfile_")]
[String] $LogFilePrefix = "ZZZ-Logfile_",

[Parameter(HelpMessage="Use the swith ProductionRun to modify.
If not specified, the script is run in test mode.")]
[Switch] $ProductionRun,

[Parameter(HelpMessage="Use the swith FullCleanUp to remove
all unneeded groups.")]
[Switch] $FullCleanUp,

[Parameter(HelpMessage="Use the swith ClearProfilePath to
clear the profile path.")]
```

```
[Switch] $ClearProfilePath
)

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

Function Write-EntryToResultsFile
{

<#
.NOTES
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================
Created with:     Windows PowerShell ISE
Created on:       03-August-2018
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Write-EntryToResultsFile
================================================================
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================
.DESCRIPTION:

This function adds the success or failure information to the
array that contains the log
information.

#>
param
 (
  $strUserid,
  $ErrorMessage = "",
  $Action       = ""
```

```
 )
 $Record             = [ordered] @{"Username" = "";"Action"=
"";"Testmode"="";"Error"= ""}
 $Record."Username" = $strUserid
 $Record."Action"   = $Action
 $Record."Testmode" = -not($ProductionRun)
 $Record."Error"    = $ErrorMessage
 $objRecord         = New-Object PSObject -Property $Record
 $Global:arrTable   += $objRecord
}

Function Remove-ProfilePathFromUserProfileInAD
{

<#
.NOTES
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================================================================
================
Created with:     Windows PowerShell ISE
Created on:       06-September-2018
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Remove-ProfilePathFromUserProfileInAD
================================================================
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================
.DESCRIPTION:

This function clears the ProfilePath from AD.

#>

  param
   (
    $strUserid
   )
   Try
      {
                $strUserDN  =  (Get-ADUser  -Identity
$strUserid).distinguishedName
```

```
        Set-ADUser -Identity $strUserDN -Clear profilePath -
WhatIf:(-not($ProductionRun)) -Confirm:$false
       Write-EntryToResultsFile -strUserid $strUserid -Action
"Clear profile path"
      }
       Catch
      {
         Write-EntryToResultsFile -strUserid $strUserid -
ErrorMessage $_.Exception.Message -Action "Clear profile path"
       Continue
      }
}

Function Move-ADUserToOtherOU
{

<#
.NOTES
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================================================================
================
Created with:     Windows PowerShell ISE
Created on:       06-September-2018
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Move-ADUserToOtherOU
================================================================
================================================================
================
.DESCRIPTION:

This function moves the user to another OU.

#>

  param
   (
    $strUserid,
    $strDestinationOU
   )
   Try
```

```
     {
      if($strDestinationOU.Length -gt 0)
      {
                $strUserDN  =  (Get-ADUser  -Identity
$strUserid).distinguishedName
         Move-ADObject -Identity $strUserDN -TargetPath
$strDestinationOU   -WhatIf:(-not($ProductionRun))   -
Confirm:$false
       Write-EntryToResultsFile -strUserid $strUserid -Action
"Move AD User to OU $strDestinationOU."
      }
     }
      Catch
     {
        Write-EntryToResultsFile -strUserid $strUserid -
ErrorMessage $_.Exception.Message -Action "Move AD User to OU
$strDestinationOU."
      Continue
     }
}

Function Add-ADMemberToGroup
{

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

This function adds a user to an AD group.
```

```
#>

  param
   (
    $strUserid,
    $strADGroupName
   )
   Try
     {
      if($strADGroupName.Length -gt 0)
      {
                $strUserDN  =  (Get-ADUser  -Identity
$strUserid).distinguishedName
        Add-ADGroupMember -Identity $strADGroupName -Members
$strUserDN -WhatIf:(-not($ProductionRun)) -Confirm:$false
       Write-EntryToResultsFile -strUserid $strUserid -Action
"Add AD group $strADGroupName to user."
      }
     }
      Catch
     {
        Write-EntryToResultsFile -strUserid $strUserid -
ErrorMessage $_.Exception.Message -Action "Add AD group
$strADGroupName to user."
      Continue
     }
}

Function Remove-ADMemberFromGroup
{

<#
.NOTES
================================================================
================================================================
================
Created with:     Windows PowerShell ISE
Created on:       06-September-2018
Created by:       Willem-Jan Vroom
Organization:
Functionname:     Remove-ADMemberFromGroup
```

```
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================================================================
================
.DESCRIPTION:

This function removes a user from an AD group.

#>

  param
   (
    $strUserid,
    $strADGroupName
   )
   Try
     {
      if($strADGroupName.Length -gt 0)
      {
                $strUserDN  =  (Get-ADUser  -Identity
$strUserid).distinguishedName
       Remove-ADGroupMember -Identity $strADGroupName -Members
$strUserDN -WhatIf:(-not($ProductionRun)) -Confirm:$false
       Write-EntryToResultsFile -strUserid $strUserid -Action
"Remove AD group $strADGroupName from user."
      }
     }
      Catch
     {
        Write-EntryToResultsFile -strUserid $strUserid -
ErrorMessage $_.Exception.Message -Action "Remove AD group
$strADGroupName from user."
      Continue
     }
}

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

```
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#
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================
# Declares the variables.
#
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================

  $valCounter                          = 1
  $Global:arrTable                     = @()
  $strActivity                          = "Modifying users in
Active Directory."
  $arrGroupMustContainForFullCleanUp = @("gg_appl","WM-Users")
  $strCurrentPath                       = Split-Path -parent
$MyInvocation.MyCommand.Definition
    $strCurrentFile                                    =
$MyInvocation.MyCommand.Name


#
================================================================
================================================================
================
# Define the CSV Import File.
#
================================================================
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================

  if($FileWithUseridsInCSVFormat.Length -eq 0)
   {
    $strCSVFileName = $strCurrentFile -Replace ".ps1",".csv"
   }
    else
   {
```

```
    if($FileWithUseridsInCSVFormat.ToLower().IndexOf(".csv") -
eq -1)
    {
     $FileWithUseridsInCSVFormat = $FileWithUseridsInCSVFormat
+ ".csv"
    }
    $strCSVFileName = $FileWithUseridsInCSVFormat
   }

#
================================================================
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================
# Check if the string $strCSVFileName is a path. In that case,
nothing has to be done.
# In case it is not a path, then the current location should
be added.
#
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================

  if (-not(Split-Path($strCSVFileName)))
  {
   $strCSVFileName = $strCurrentPath + "\" + $strCSVFileName
  }

#
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================
# Define the log file. This log file contains all the results.
#
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================================================================
================

  $strLastPartOfFileName = " (" + (Get-Date).ToString('F') +
").csv"
   $strLastPartOfFileName = $strLastPartOfFileName -replace
":","-"
```

```
  If(-not($ProductionRun))
  {
   $strLastPartOfFileName = " (RUNNING IN TEST MODE)" +
$strLastPartOfFileName
  }

  $strCSVLogFileSucces   = $strCSVFileName -Replace ".csv",
$strLastPartOfFileName

  $strPathName           = (Split-Path $strCSVLogFileSucces) +
"\"
       $strFileName                                        =
$strCSVLogFileSucces.Substring($strPathName.Length,($strCSVLog
FileSucces.Length - $strPathName.Length))

  $strCSVLogFileSucces   = $strPathName + $LogFilePrefix +
$strFileName
#
================================================================
================================================================
================
# Read the CSV file.
#
================================================================
================================================================
================
  if(Test-Path $strCSVFileName)
  {
   $arrUserids = @(Import-Csv $strCSVFileName)
  }
   Else
  {
    Write-Host "The import file $strCSVFileName does not
exists."
   Exit 1
  }
#
================================================================
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================
# Process the users in the CSV file.
```

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

  Clear-Host

  If(-not($ProductionRun))
  {
  $strActivity = $strActivity + " (RUNNING IN TEST MODE)"
  }

  ForEach($objUser in $arrUserids)
  {
   $strUserid = $objUser.Userid
    Write-Progress -Activity $strActivity -Status "Processing
user  $strUserid"  -PercentComplete  ($valCounter  /
$arrUserids.Count * 100)
   Try
   {
    $strNewOU          = $objUser.NewOU
    $strVDIGroup       = $objUser.VDIGroup
    $arrGroupsToAdd    = $objUser.GroupsToAdd.Split(",")
    $arrGroupsToRemove = $objUser.GroupsToRemove.Split(",")
   }
    Catch
   {
    Write-Host "There is something wrong with the CSV filename
$strCSVFileName while processing $strUserid."
    Exit 1
   }
   # Clear the profile path
   If($ClearProfilePath)
   {
       Remove-ProfilePathFromUserProfileInAD  -strUserid
$strUserid
   }
   # Move the user to another OU:
      Move-ADUserToOtherOU  -strUserid  $strUserid  -
strDestinationOU $strNewOU
   # Add the user to the new VDI group:
```

```
    Add-ADMemberToGroup -strUserid $strUserid -strADGroupName
$strVDIGroup

   # Add the user to various groups:
   ForEach($objGroupToAdd in $arrGroupsToAdd)
   {
     Add-ADMemberToGroup -strUserid $strUserid -strADGroupName
$objGroupToAdd
   }
   # Remove the user to various groups:
   ForEach($objGroupToRemove in $arrGroupsToRemove)
   {
      Remove-ADMemberFromGroup -strUserid $strUserid -
strADGroupName $objGroupToRemove
   }
   # Full Clean Up
   if($FullCleanUp)
   {
      $arrGroups = @(Get-ADUser $strUserid -Properties
MemberOf).MemberOf
    forEach($objGroup in $arrGroups)
    {
    $strGroup=(Get-ADGroup $objGroup).Name
                    forEach($objGroupMustContain    in
$arrGroupMustContainForFullCleanUp)
     {
                               $strGroupMustContain    =
$objGroupMustContain.ToString().ToLower()
      if($strGroup.ToLower().IndexOf($strGroupMustContain) -eq
0)
       {
          Remove-ADMemberFromGroup -strUserid $strUserid -
strADGroupName $strGroup
       }
     }
    }
   }

   $valCounter++
   Sleep 2
  }
```

```
  Sleep 2

#
================================================================
================================================================
================
# Write the results to the csv file.
#
================================================================
================================================================
================
  If($Global:arrTable.Count -gt 0)
  {
     $Global:arrTable | Export-Csv $strCSVLogFileSucces -
NoTypeInformation
  }
   Else
  {
    Write-Host "Something went wrong while writing the logfile
$strCSVLogFileSucces. Maybe nothing to report..."
  }
```

Any feedback to improve this script is appreciated. You can download the scripts here:

1. Migrate users (v01)
2. Migrate users (v02)
3. Migrate users (v03)