

## AMX ThumbnailPhoto

This tutorial is for IT staff who are experienced in identity management, it requires insight into how the Active Directory works, and a working knowledge of Windows.

This exercise will demonstrate some of the more advanced features of AMX, specifically:

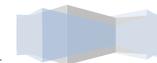
- Extracting thumbnail images from the Active Directory
- Extracting image files from a directory
- Using name to join an image to a User Account in the Active Directory
- Using a lookup table to join an image to a User Account in the Active Directory
- Loading images into the Active Directory
- Updating images in the Active Directory

AMX runs on Windows and must be setup as shown in the AMX Tutorial Setup document. In this tutorial identityReport and identitySync are run from the Command Line using AMXRun which sets the environment variables, in production it is expected to be run by the Task Scheduler.

### 1. Extracting thumbnails from the Active Directory

1. Review the ImageFile1.properties, the Active Directory properties must be configured as in Tutorial AD1.

```
ActiveDirectoryResource1 = dc.corp.example.com  
ActiveDirectoryAccountContainer1 = OU=accounts,DC=corp,DC=example,DC=com  
ActiveDirectoryName1 = corp
```



2. Review the schema `ActiveDirectorySchemalImage1.txt`. The `thumbnailPhoto` attribute which has the `SyncFile` attribute flag. Photos are written to a subdirectory called `thumbNailPhoto`, this may need to be created. Run `identityReport`:

```
C:\AMX\Tutorial1>..\identityReport.exe ImageFile1.properties
Begins Thu, 28 Apr 2016 16:24:31 GMT identityReport
ActiveDirectory 1 dc.corp.example.com
Extracted 102 Accounts
Ends Thu, 28 Apr 2016 16:24:32 GMT

C:\AMX\Tutorial1>
```

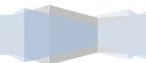
The Active Directory adapter extracts images from the Active Directory into jpeg files and stores them in a subdirectory `jpegPhoto` or `thumbnailPhoto` with a filename constructed from the attribute with the `DisplayName` flag defined in `ActiveDirectorySchemalImage1.txt`.

The report `IdentityReportImageFile1.csv` contains the details of the thumbnail and the account.

### 3. Extracting image files from a directory

This tutorial shows how to use AMX tools to extract images from one or more directories containing image files using the `ImageFile` adapter. Image files are created in situations where security or HR take photographs of their employees to make badges. These photos are often taken with a simple digital camera, stored in a directory, used to make the badge or loaded into the HRMS system and kept for posterity. `IdentitySync` can use these photos, find the Active Directory user and load a smaller thumbnail version into the Active Directory where it can be used by Outlook, Lync and Sharepoint etc.

To use the photos, the identity of the subject must be established. Photos only have the name of the image file to do this, and every unique organisation will come up with a unique way of naming these photos. AMX tools have facilities to use the image file



name to create a join with the Active Directory. This tutorial will explore different ways to do this with AMX attribute modifiers, hopefully one of the methods will suit your situation.

1. Review ImageFile2.properties, the directory containing the sample images is defined in property ImageFileResource1 and in this case is UserImages.
2. Run `identityReport ImageFile2.properties` and review the report `IdentityReportImageFile2.csv`
3. The issue is how to associate an image with an Active Directory account.

#### 4. Using name to join an image to a User Account in the Active Directory

The AMX installation has 2 test images in the directory `Tutorial1\UserImages`. As a start we will use the file names to create a Name which can be directly linked to an Active Directory account.

From the `Tutorial1` directory run `..\identityReport.exe Image2.properties`. It will create a report in `IdentityReportImageFile2.csv` with the filename and the fullname of each image. The `ImageFileSchema1.txt` entry to extract the `fullName`:

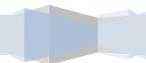
```
FileName,fullName;replace/^\.*\\//;replace/.jpg//;replace/.gif//;displayName;ignoreCase
```

The `replace` first removes the directory name and then the file extension.

These can be matched to Active Directory accounts using an Active Directory schema entry:

```
name,FullName;ignoreCase;displayName;join
```

This will associate an image with an Active Directory account and can be used to manage the images in an Active Directory using `identitySync`.



## 5. Using a lookup table to join an image to a User Account in the Active Directory

Unfortunately the photos may have names like IMG\_0033.jpg which means deriving a name needs a cross reference. If there is a log of names and corresponding photos it can be used as a lookup. Use of a lookup has an advantage that the images do not need to be renamed or moved. It is preferable to leave the images unaltered whenever possible. Given a cross reference file it needs to be manipulated into a format such as:

```
IMG_0033.jpg,Alban Wilson  
IMG_0034.jpg,Alban Wilson2009  
IMG_0035.jpg,Blane Anderson  
IMG_0036,Calum Scott
```

The corresponding ImageFile schema:

```
FileName,fullName;replace/^.*\\//;lookup=ImageFileLookup.csv;displayName;ignoreCase
```

## 6. Loading images into the Active Directory

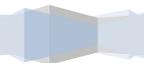
identitySync is used to update the Active Directory.

1. Update ImageFile2.txt, uncomment the Active Directory resource

```
ActiveDirectoryResource1 = dc.corp.example.com
```

2. Rename a single image in UserImages to match the name of an Active Directory account that has no thumbnail
3. Run identitySync

```
C:\AMX\Tutorial1>identitySync.exe ImageFile2.properties  
Warning: Not run as administrator
```



```
Begins Fri, 29 Apr 2016 13:43:53 GMT analyze
ImageFile 1 UserImages
Extracted 284 Identities
ImageFile Identity Finished Fri, 29 Apr 2016 13:43:55 GMT
Total of 284 Identities
```

```
ActiveDirectory 1 dc.corp.example.com
Extracted 102 Accounts
Account joins      3
Account creates   0
Account updates   0
Account disables  0
Account deletes   0
Image Updates     1
ActiveDirectory Finished Fri, 29 Apr 2016 13:43:55 GMT
Ends Fri, 29 Apr 2016 13:43:55 GMT
```

```
C:\AMX\Tutorial1>
```

**4. Check the ActionFile.txt which will show a single update**

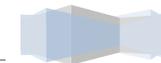
```
28/09/2015|corp;CN=bruce
wood,OU=EDN,OU=accounts,DC=corp,DC=example,DC=com|Update|ImageFile=|ImageFile=UserImages\Bruce
Wood.jpg
```

**5. To actually make the update run identitySync in the do mode.**

```
C:\AMX\Tutorial1>identitySync.exe ImageFile2.properties do
```

**6. To reverse the update run identitySync in the undo mode.**

```
C:\AMX\Tutorial1>identitySync.exe ImageFile2.properties undo
```



## 7. Updating images in the Active Directory

identitySync only updates new or changed images, to see this a real image will have to be updated in the Active Directory. The second time identitySync is run there will be no update unless the image is changed in UserImages or if the imagesize property is changed in the properties file.

