FoundationUPS Application Documentation

Description

FoundationUPS is a .Net console application that provides user profile service for SharePoint Foundation 2010, synchronizing site collection User Information List (UIL) account information with Active Directory.

We created this application for two main reasons:

1. As a way to clean up the people picker (e.g. remove inactive users) and
2. So that workflows and forms that are dependent on a users job title would work correctly when job titles changed.

Options can be set to select which web apps are processed as well as which user names to exclude. A runtime argument determines if the UIL will actually be updated or whether it will be dry run. All changes/removals are logged each time the application runs - whether in update mode or in dry run mode.

Accounts in the UIL which are not found in AD or are inactive in AD will be removed from the UIL. UIL accounts active in AD will have various properties (Department, Display Name, Title, etc.) checked and updated with AD information.

In our testing we have found that removing a user account from the UIL does not affect meta data on documents that user may have uploaded to a site (i.e. Created by, Created date, Modified date values are not affected).

Since this is a console application, no changes are made to the SharePoint environment and the application can be set to run from a scheduled task. Also, the application only uses the SharePoint object model. No changes are made directly to the SQL databases.

In the event of an error, an email will be sent to the address set in the config file. The SMTP server used for sending out emails will be the one setup in SharePoint Central Administration for that site collection.

Technical Specifications and Environment

- OS: Windows
- .Net framework: 3.5
- SharePoint 2010 (version 14.0.0.0)
- Server: Needs to run from either the WFE or App server
- File system: Requires directory setup as share for log files
- Permission: User or service account that runs the application must have rights to the SharePoint Configuration database.

Configuration and Setup

The application consists of two files:

1. **FoundationUPS.exe** – executable.
2. **FoundationUPS.exe.config** – configuration file containing modifiable settings (log directory, web apps to include, user names to exclude, etc.).

Both these files need to be located in the same directory on either the WFE or App server.

General Setup

1. Create a directory to hold the two application files (**FoundationUPS.exe, FoundationUPS.exe.config**).
2. Setup this directory as a share to be used as the parent for the log files directory. A sub-directory will automatically be created by the application the first time it runs. (see the Configuration File Setup section for more details).

Configuration File Setup

The **FoundationUPS.exe.config** is a text file containing settings used by the application. These settings can be modified using any text editor.

Sample config file

```xml
<?xml version="1.0"?>
<configuration>
  <startup>
    <supportedRuntime version="v2.0.50727" />
  </startup>
  <appSettings>
    <!-- Location for log files. Format: \\<server>\<share>\<directory> (Must be set
up as a share on the server) -->
    <add key="FUPSLogDirectory" value="\\tvsapp1x\FoundationUPS\Log" />
    <!-- Domain against which application will run AD checks -->
    <add key="Domain" value="MYDOMAIN"/>
    <!-- From address used to send error emails-->
    <add key="EmailFromAddress" value="FUPS@mydomain.com"/>
    <!-- Email addresses that will receive error emails (comma delimited if more
than one) -->
    <add key="EmailToAddresses" value="me@mydomain.com"/>
    <!-- List of usernames to exclude from processing (comma delimited if more than
one) -->
    <!-- (Note: site admin accounts and usernames starting with "svc_" are already
excluded) -->
    <add key="ExcludeList" value="system"/>
    <!-- List of WebApps (as listed in IIS) to process (comma delimited if more than
one) (e.g. "QA Village Square,QA PMPoint") -->
    <add key="WebAppList" value="QA Village Square,QA PMPoint"/>
    <!-- Remove flag.  Set to "true" to have items inactive in AD (or not in AD)
removed from the list.  Otherwise set to "false" -->
    <add key="Remove" value="false"/>
    <!-- All accounts from this domain will be removed from UILs - even if active in
AD -->
    <add key="RemoveAllDomain" value=""/>
  </appSettings>
</configuration>
```

Section Descriptions

- **FUPSLogDirectory**: This will determine where the log files will be created. A share must be created for the application to reach the server. The actual log directory will be created automatically if it doesn't already exist. For example a share (FoundationUPS) can be created on server tvsapp1x. FUPSLogDirectory can then be set to [\\tvsapp1x\FoundationUPS\Log](\\tvsapp1x\FoundationUPS\Log). If the "Log" directory doesn't exist then it will be created.

- **Domain**: Determines which domain will be used for checking the UIL accounts. Only usernames in the UIL with matching domain will be checked against AD. I.e. if the UIL contains usernames from both MYDOMAIN and LCPROD and this setting is set to MYDOMAIN, only MYDOMAIN usernames will be checked against AD. LCPROD usernames will be skipped.

- **EmailFromAddress**: The email address that will show as the "From" address on emails sent by the application. This address does not need to be an actual Exchange address.

- **EmailToAddresses**: A comma delimited list of one or more valid email addresses. These email addresses will receive any error emails from the application.

- **ExcludeList**: A comma delimited list of usernames that need to be excluded from processing. E.g. "dawillson,jhsmith". Note that SharePoint site admin accounts and accounts starting with "svc_" (i.e. service accounts) are already excluded and don't need to be added here.

- **WebAppList**: A comma delimited list of web apps that need to have their site collection UIL's processed. E.g. "QA Village Square,QA PMPoint". The web app names need to be exactly the same as listed in IIS.

- **Remove**: A flag (set to "true" or "false") that determines if user accounts in the UIL will be removed if the user is inactive in AD (or not found in AD). Setting the flag to "true" will activate the remove function. Note: For items to be removed from the UIL, this flag ("Remove") must be set to "true" AND the application must be run with the "/Update" argument (see the *Running the Application* section for details on using arguments).

- **RemoveAllDomain:** When a domain (e.g. LCQA) is listed, the application will remove from the UILs all accounts belonging to that domain – regardless of whether the account is active in AD or not. With the argument set to /NoUpdate, accounts that would be removed will be logged but no actual removal will occur. With the argument set to /Update, accounts will be removed from the UILs.

Running the Application

FoundationUPS is a console application so it does not include a user interface. It is made to run directly from a command prompt or as part of a scheduled task.

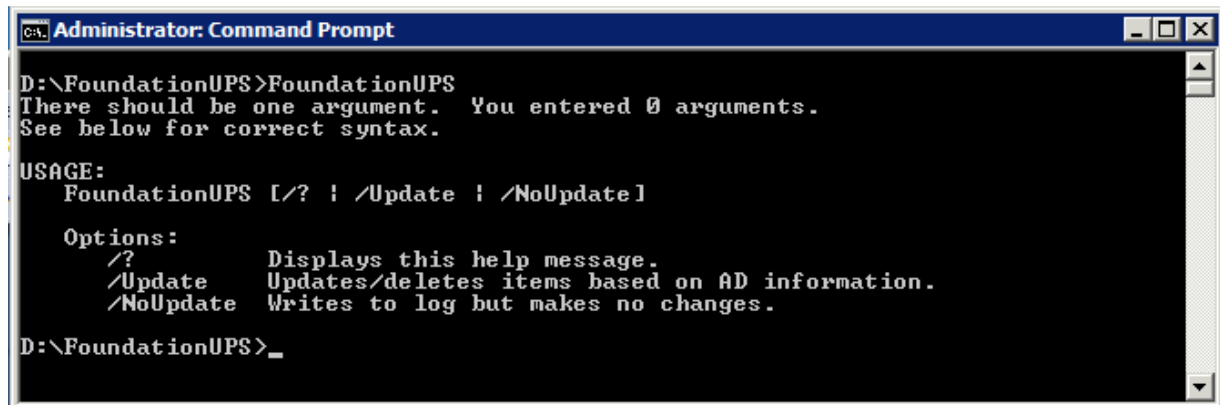Running FoundationUPS requires one argument. See below for usage.

USAGE:
```
FoundationUPS [/? | /Update | /NoUpdate]

Options:
    /?          Displays this help message.
    /Update     Updates/deletes items based on AD information.
    /NoUpdate   Writes to log but makes no changes.
```

If the required argument is omitted the following will be displayed in the command window.

```
Administrator: Command Prompt                                    _ □ ✕

D:\FoundationUPS>FoundationUPS
There should be one argument.  You entered 0 arguments.
See below for correct syntax.

USAGE:
    FoundationUPS [/? ¦ /Update ¦ /NoUpdate]

    Options:
        /?          Displays this help message.
        /Update     Updates/deletes items based on AD information.
        /NoUpdate   Writes to log but makes no changes.

D:\FoundationUPS>_
```

Log File

A log file will be generated each time the application is run and will be located in the directory set in the FoundationUPS.exe.config file (see Configuration File Setup section). The log will include the name of the web app, the URL for each site collection and any differences between the user information in the UIL and AD.

The naming convention for the log file is:

FUPSLog_yyyyMMdd_hhmmss.log

Where:
yyyy – year
MM – month
dd – day
hh – hour
mm – minutes
ss - seconds

Troubleshooting

1. When set up to run from a scheduled task the task seems to terminate successfully in a few seconds but no log file is generated.
    a. In Windows 2008 R2 and above, exe files copied over from another computer will automatically be flagged as blocked keeping it from running from a scheduled task. Go to the files properties and unblock the file. This only needs to be done once.
2. Application returns a "System.NullReferenceException, Object reference not set to an instance of an object."
    a. The application is not able to get a reference to the local farm. This is usually a result of the user running the application not having permissions to the content database.