# File Copy Utility

## Introduction

This application automates the copying of files to specified folders. It is a command-line application written in C#. It can be used to update files in various locations, for example, updating library files in various developer folders.

The application makes use of configuration files to determine the files to copy and whether to archive the original file. The use of a configuration files offers great flexibility as to which files are copied and to which location.

**Example Scenario 1:** All developers are to be upgraded to the latest library file.

In this scenario, a single configuration file can be used to copy the latest files to each developer folder.

**Example Scenario 2:** Each developer chooses when to upgrade to a particular set of library files

In this scenario, a configuration file for each developer can be used. Each developer can run the utility whenever they are ready to upgrade.

**Example Scenario 3:** Developer needs to switch between various library file versions

The developer can create a configuration file for each version of library files. When the developer needs to switch to a different library version, simply run the application with the correct configuration file and the correct library version files are copied.

## Application Features

* **Ease of Use:** Simply run the application from the command-line with the configuration file as a parameter and the application will copy the configured file(s).
* **Immediate Feedback:** The application will provide immediate feedback as it runs. Any error is reported immediately so corrective action can be taken.
* **Detailed Logging:** The application will log every file copy, move and delete to a detailed log file so every action is documented to avoid any surprises.
* **Safe Processing:** The application will stop at the first error and will report details of the error at the command-line and in the detailed log file. This will avoid introducing errors in multiple folders. The utility will verify that all Source Files and Destination Folders exist before starting to process.
* **Process by Destination:** The copying is done by order of destination folders. For example if file1 and file2 need to be copied to Bob’s folder and to Mary’s folder, Bob’s folder is updated with both files followed by Mary’s folder being updated. This way, if file2 is problematic, we would only affect Bob’s folder, and not have a partial update affecting multiple users.
* **Archiving:** Before a file is copied to a destination folder, any existing file will be renamed (archived) by appending an optional string (“libz\_”) and by the timestamp of the operation (20190928\_085859). Example existing file will be archived from file1.txt to file1.txt.libz\_20190928\_085859. This file can be left in the folder or can be deleted by the utility by a configuration setting. Simply searching for libz\_ with Windows file search will allow you to easily find archive files in multiple folders.
* **Flexible Configuration File:** The Configuration file supports one or more Source File(s) to be copied and supports one or more Destination Folder(s) to copy the files to. It also supports the “//” comment delimiter so lines can be disabled and re-enabled as needed within the configuration file.

## Application Usage – Configuration File

The first step is to create a configuration file.

***Sample Configuration File: ExpenseProcedures.txt***

ARCHIVE\_FILE\_SUFFIX=.zyx

ARCHIVE\_FILE\_DELETE=TRUE

SOURCE\_FILE=C:\folder1\Expenses.xlsx

SOURCE\_FILE=\\server1\c\accounting\Procedures.pdf

//SOURCE\_FILE=\\server1\c\accounting\Notes.pdf

DESTINATION\_FOLDER=C:\USERS\Bob\Shared Files\

DESTINATION\_FOLDER=C:\USERS\Mary\Shared Files\

When you run the application from the command line: **CopyUtility ExpenseProcedures.txt**

The utility will:

1. Verify that 2 Source files exist (3rd SOURCE\_FILE is commented out and will not be processed)
2. Verify that 2 Destination folders exist
3. If the file Expenses.xlsx exists in Bob’s shared folder, it will be archived to C:\USERS\Bob\Shared\Files\Expenses.xlsx.zyx20190928\_085859
4. The new Expenses.xlsx is copied to Bob’s shared folder.
5. In this case, ARCHIVE\_FILE\_DELETE=TRUE so the archive file will be deleted.
6. The file Procedures.pdf is copied to Bob’s shared folder.
7. The process is repeated for Mary’s shared folder.

## Application Feedback

The application will provide command-line feedback when you run the application. Any error is reported for corrective action. General details of the process are displayed.

C:\users\claudio>CopyUtility ExpenseProcedures.txt

Starting to Process

Process File: ExpenseProcedures.txt

Timestamp Used: 20190928\_085859

Operation details will be logged to file: CopyUtilityLog\_20190928\_085859.txt

Source Files to Process: 2

Destination Folders to Process: 2

End of Processing

## Detailed Log File

As indicated in the command-line output, details of the operation can be found in the file: C:\users\claudio\CopyUtilityLog\_20190928\_085859.txt. This will contain all of the information displayed in the command-line but will also contain every file operation (copy, move, delete) that the utility performs complete with file(s).

Example Log File:

2019/09/28 20:14:25 Starting to Process

2019/09/28 20:14:25 Process File: ExpenseProcedures.txt

2019/09/28 20:14:25 Timestamp Used: 20190928\_085859

2019/09/28 20:14:25 Operation details will be logged to file: CopyUtilityLog\_20190928\_085859.txt

2019/09/28 20:14:25 Source Files to Process: 2

2019/09/28 20:14:25 Destination Folders to Process: 2

2019/09/28 20:14:25 Archived Destination File: c:\USERS\Bob\ Shared Files \Expenses.xlsx to c:\USERS\Bob\ Shared Files\Expenses.xlsx.zyx20190928\_085859

2019/09/28 20:14:25 Copied Source File: c:\folder1\Expenses.xlsx to c:\USERS\Bob\Shared Files\Expenses.xlsx

2019/09/28 20:14:25 Deleted Archive File: c:\USERS\Bob\Shared Files\Expenses.xlsx.zyx20190928\_085859

2019/09/28 20:14:25 Archived Destination File: c:\USERS\Bob\Shared Files\Procedures.pdf to c:\USERS\Bob\Shared Files\Procedures.pdf.zyx20190928\_085859

2019/09/28 20:14:25 Copied Source File: \\server1\c\accounting\Procedures.pdf to c:\USERS\Bob\Shared Files\Procedures.pdf

2019/09/28 20:14:25 Deleted Archive File: c:\USERS\Bob\Shared Files\Procedures.pdf.zyx20190928\_085859

2019/09/28 20:14:25 Archived Destination File: c:\USERS\Mary\ Shared Files \Expenses.xlsx to c:\USERS\Mary\ Shared Files\Expenses.xlsx.zyx20190928\_085859

2019/09/28 20:14:25 Copied Source File: c:\folder1\Expenses.xlsx to c:\USERS\Mary\Shared Files\Expenses.xlsx

2019/09/28 20:14:25 Deleted Archive File: c:\USERS\Mary\Shared Files\Expenses.xlsx.zyx20190928\_085859

2019/09/28 20:14:25 Archived Destination File: c:\USERS\Mary\Shared Files\Procedures.pdf to c:\USERS\Mary\Shared Files\Procedures.pdf.zyx20190928\_085859

2019/09/28 20:14:25 Copied Source File: \\server1\c\accounting\Procedures.pdf to c:\USERS\Mary\Shared Files\Procedures.pdf

2019/09/28 20:14:25 Deleted Archive File: c:\USERS\Mary\Shared Files\Procedures.pdf.zyx20190928\_085859

2019/09/28 20:14:26 End of Processing.