

DIR in SAS

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Topic in Presentation

- Business Request & Challenge in SAS ETL
- A New Solution of DIR in SAS
- Key Code
- Sample of the Macro
- Question

Business Request & SAS ETL Challenge

- Scenario

1. Need load data from flat files
2. File name has random number
3. Choose the file with same name
 - In different sub-folder
 - Last modified date
 - File size requirement
4. Automatically and scheduled running
 - Job repeat daily
 - triggered in middle night

Solution with SAS Macro

1. Create a SAS macro
2. Scan all files in a special folder with sub-folder
3. Export to a SAS dataset with file path, name, size and modified time
4. Further processing in data step

Considerable Methods

1. Using X command,

```
x 'dir c:\_mysas /s > c:\temp\mysas.lst';
```

- But actually it absolutely forbidden by SAS Admin

2. Using filename pipe ,

```
filename pipedir pipe "dir c:\_mysas /s" lrecl=32767;
```

```
data filenames;
```

```
infile pipedir trunccover;
```

```
input line $char1000.;
```

```
run;
```

- But usually it could be disable by SAS Admin

Considerable Methods (continues)

3. Using SAS functions , like
 - **DOPEN, DREAD:** opens a directory, and returns a identifier (file/ folder) name
 - **DNUM :** how many identifiers
 - **MOPEN :** identifiers type, folder or file
 - **FOPEN, FINFO:** open a file ,and get information of file size, modified date, created date

Key SAS Code

```
did=dopen("mydir"); /*open Directory*/
if did > 0 then do;
  do i=1 to DNUM(DID);
    FNAME=UPCASE(dread(did,i)); /*Read a Directory*/
    FID=MOPEN(DID,FNAME);
    IF FID EQ 0 THEN DO; /*This is a Folder */
    ELSE DO; /*This is a File */
      TYPE="FILE";
      FTYPE=SCAN(FNAME,-1,".");
      IF FTYPE EQ FNAME THEN FTYPE="";
      thisfile=catx("\",&dir",fname);
      rc2=filename("myfile",thisfile);
      fid2=fopen("myfile"); /*open selected file*/
      /* Get File infor. size, created date, last modified date*/
      file_size=input(finfo(fid2,"File Size (bytes)",8.);
      file_md_dt=input(finfo(fid2,"last modified"),anydtm21.);
      file_cr_dt=input(finfo(fid2,"create time"),anydtm21.);
      format file_md_dt file_cr_dt datetime. file_size comma12.;
      rc2=fclose(fid2);
    END;
```

Sample of the Macro: %SASDIR()

- %SASDIR(FOLDER, /*must indicate */
DOUT=_SASDIR, /*optional, out dataset*/
DEEP=1); /*optional, max is 9*/
- %include "C:_MYSAS\SASCODE\My macro\m_sasdir.sas";
- %*sasdir*(C:\Users\admin, deep=3);

Benefits of %SASDIR()

- Using SAS Data Step Functions
- Isolate to OS, no matter in Windows or Unix
- All file information in SAS Dataset, easy for further processing
- Can scan sub directory, max to 9 levels

Question & Answer

%Thank you;