SAS® GLOBAL FORUM 2019

USERS PROGRAM

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Automate in a Dash with SAS®: Time-Saving Techniques for Building Quality Improvement Dashboards

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Automate in a Dash with SAS®

Overview

Data Preparation

- Dynamic data sourcing
- Save time and increase accuracy in performing routine tasks

Reporting

- Report Structure
- Report Distribution

Automation

- SAS Enterprise Guide
- Windows Task Scheduler

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On Your Mark, Get Set

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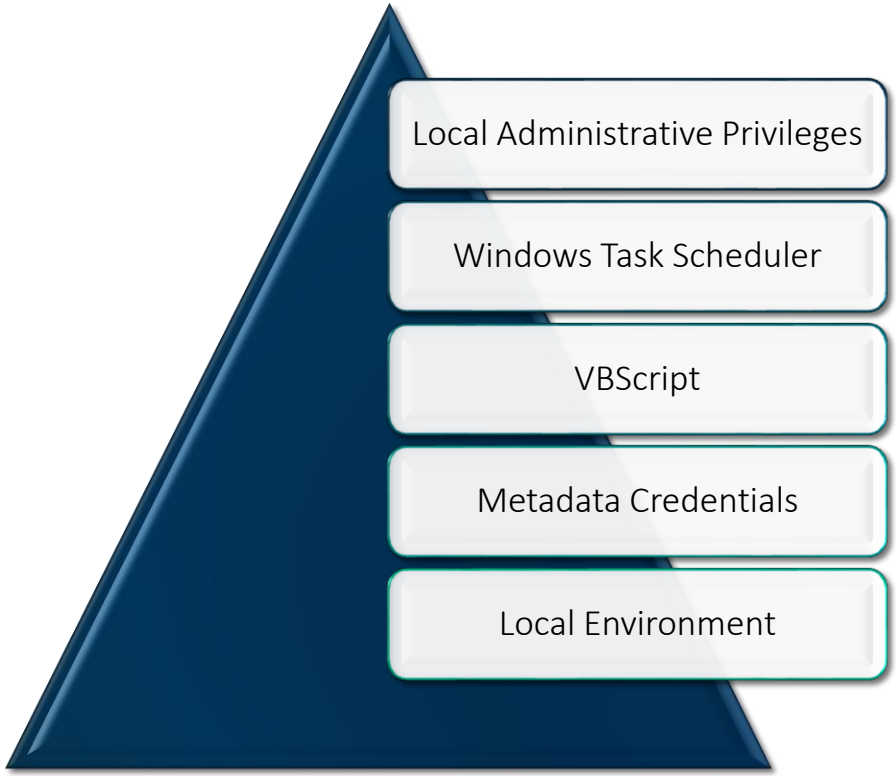
Your Environment

Key Technical Details to Consider



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Finding the Most Current File in a Directory

Business Case 1

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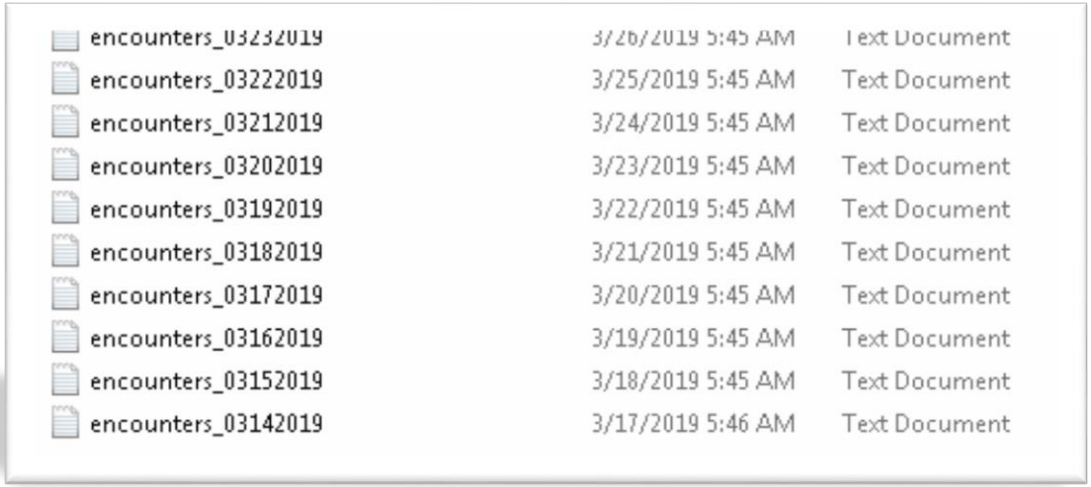
About

Data Source File Structure

About the data:

Fictitious dataset that contains admission data at the encounter level.



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Bringing the Data Into Your Project

Techniques to Bring Data in Quickly

Use the Filename statement with a PIPE and an asterisk wildcard (*) and windows command features to output the name of each file in your directory

```
FILENAME dirname PIPE 'dir "\\encounters_*.txt" /b ';
```

```
DATA getfilenames;
  INFILE dirname lrecl=200 truncover;
  INPUT file_name $94.;
RUN;
```

	file_name
1	encounters_03142019.txt
2	encounters_03152019.txt
3	encounters_03162019.txt
4	encounters_03172019.txt
5	encounters_03182019.txt
6	encounters_03192019.txt
7	encounters_03202019.txt
8	encounters_03212019.txt
9	encounters_03232019.txt
10	encounters_03242019.txt

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Bringing the Data Into Your Project

Techniques to Bring Data in Quickly

Use SAS code to identify the most current file in the dataset.

```
DATA getfilenames2;
 SET Work.getfilenames;
 LENGTH name $100.;
 name=substr(file_name,1,11);
 date=substr(file_name,12,8);
 datevar=input(date,mmddyy10.);
 FORMAT datevar mmddyy10.;
 PROC SORT Data=Work.getfilenames2;
 BY datevar;
RUN;

DATA Work.curr_file;
 SET Work.getfilenames2;
 tday = '24MAR2019'D;
 FORMAT tday MMDDYY10.;
 IF datevar = tday THEN OUTPUT curr_file;
RUN;

DATA Work.curr_file2(KEEP=latest_file);
 SET curr_file;
  latest_file = file_name;
 CALL SYMPUT('latest_file',latest_file);
RUN;
```

	latest_file
1	encounters_03242019.txt

```
Data curr_munip;
 INFILE "\\&latest_file";
 INPUT
   enc                : ?? BEST8.
   pat_id             : ?? BEST8.
   admit_type         : $CHAR10.
   adate              : ?? MMDDYY10.
   ddate              : ?? MMDDYY10.
   hosp               : $CHAR4.;
RUN;
```


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Bring the Contents of all Files in a directory into a SAS® Dataset

Business Case 2

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Reading in all of the Contents of a Directory

The Dynamic FILENAME Statement

- You can include a FILENAME statement in your pathname to quickly read in the contents of all files in a directory.

```
DATA work.alldata;
 LENGTH getfilevar $ 256;
 INFILE "\\encounters_*.txt" FILENAME=getfilevar;

 getfilevar_final = getfilevar;

INPUT
   enc                 : ?? BEST8.
   pat_id              : ?? BEST8.
   admit_type          : $CHAR10.
   adate               : ?? MMDDYY10.
   ddate               : ?? MMDDYY10.
   hosp                : $CHAR4.;

   IF pat_id ne . THEN OUTPUT;
RUN;
```


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Reading in all of the Contents of a Directory

Results

Here is the Output:

	admit_type	adate	ddate	hosp	enc	pat_id	getfilevar_final
1	Emergency	10/01/2018	10/01/2018	Loc1	74908	390	encounters_03232019.txt
2	Emergency	10/01/2018	10/01/2018	Loc1	74909	391	encounters_03232019.txt
3	Emergency	10/01/2018	10/01/2018	Loc1	74910	392	encounters_03232019.txt
4	Outpatient	10/01/2018	10/01/2018	Loc1	74911	393	encounters_03242019.txt

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Automatically Distribute Daily Volume by E-Mail

Business Case 3

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Auto Distribute a Daily Volume Report By E-Mail

Business Case 3

Add a PLOT option to PROC FREQ

```
ods graphics on;
ods pdf file="encounters.pdf";
proc freq data=work.alldata;
table hosp*admit_type / plots=freqplot(scale=percent);
run;
ods pdf close;
quit;
```


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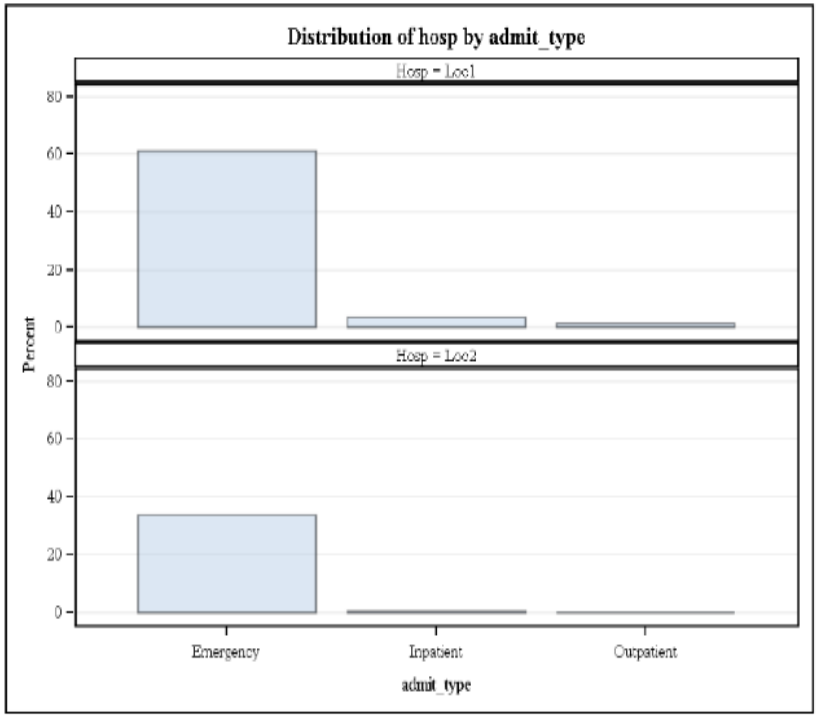
Auto Distribute a Daily Volume Report By E-Mail

Results

Frequency Percent Row Pct Col Pct	Table of hosp by admit_type			
	admit_type			
hosp(Hosp)	Emergency	Inpatient	Outpatient	Total
Loc1	11473 61.30 92.73 64.60	661 3.53 5.34 94.29	239 1.28 1.93 94.09	12373 66.11
Loc2	6287 33.59 99.13 35.40	40 0.21 0.63 5.71	15 0.08 0.24 5.91	6342 33.89
Total	17760 94.90	701 3.75	254 1.36	18715 100.00



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Report Distribution

E-Mailing From SAS

Ensure that you have set up your communication configurations for your e-mail server.

```
EMAILSYS="SMTP"
EMAILID="sender information"
EMAILHOST="name of outgoing mail server"
EMAILPORT="port";
```

```
FILENAME enctr EMAIL
SUBJECT = "Daily Encounters by Location"
Importance= "High"

To = "Shavonne.Standifer@tmcmed.org"
From = "Shavonne.Standifer@tmcmed.org"
attach = "encounters.pdf";


ods graphics on;
ods pdf file="encounters.pdf";
proc freq data=work.alldata;
table hosp*admit_type / plots=freqplot(scale=percent);
run;
ods pdf close;
quit;


data _null_;
file enctr;
put "Greetings,";
Put "This email shows daily encounter volumes.";
Put "Thanks,";
Put "Shavonne J. Standifer";
Run;
```


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Auto Distribute a Report that Shows Performance Over Time

Business Case 4

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Showing Measures over Time

Key Performance Indicators (KPI's)

Here is a snapshot of the source data:

hospital	measure_name	q1	q2	q3	q4
Loc 1	Falls	3	2	1	0

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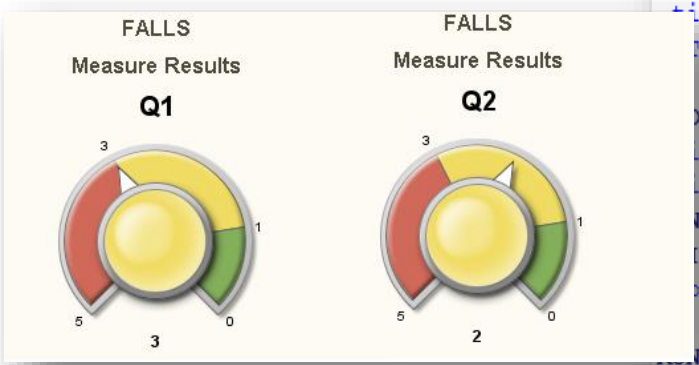
Showing Measures over Time

Results

- Use Proc GKPI to create a visualization of performance.




```
ods pdf file="fall_measures.pdf" startpage=no;
ods graphics on;
goptions reset=all rotate=landscape
device=javaimg
xpixels=240
ypixels=200;
itle;
itle1 'FALLS';
 Title2 'Measure Results';
C GKPI mode=raised;
al actual=&fallsq1 bounds=(5 3 1 0) / LABEL='Q1' lfont=(h=20 pt);
al actual=&fallsq2 bounds=(5 3 1 0) / LABEL='Q2' lfont=(h=20 pt);
;
T;
ds pdf close;
 title;
;
```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Project Automation

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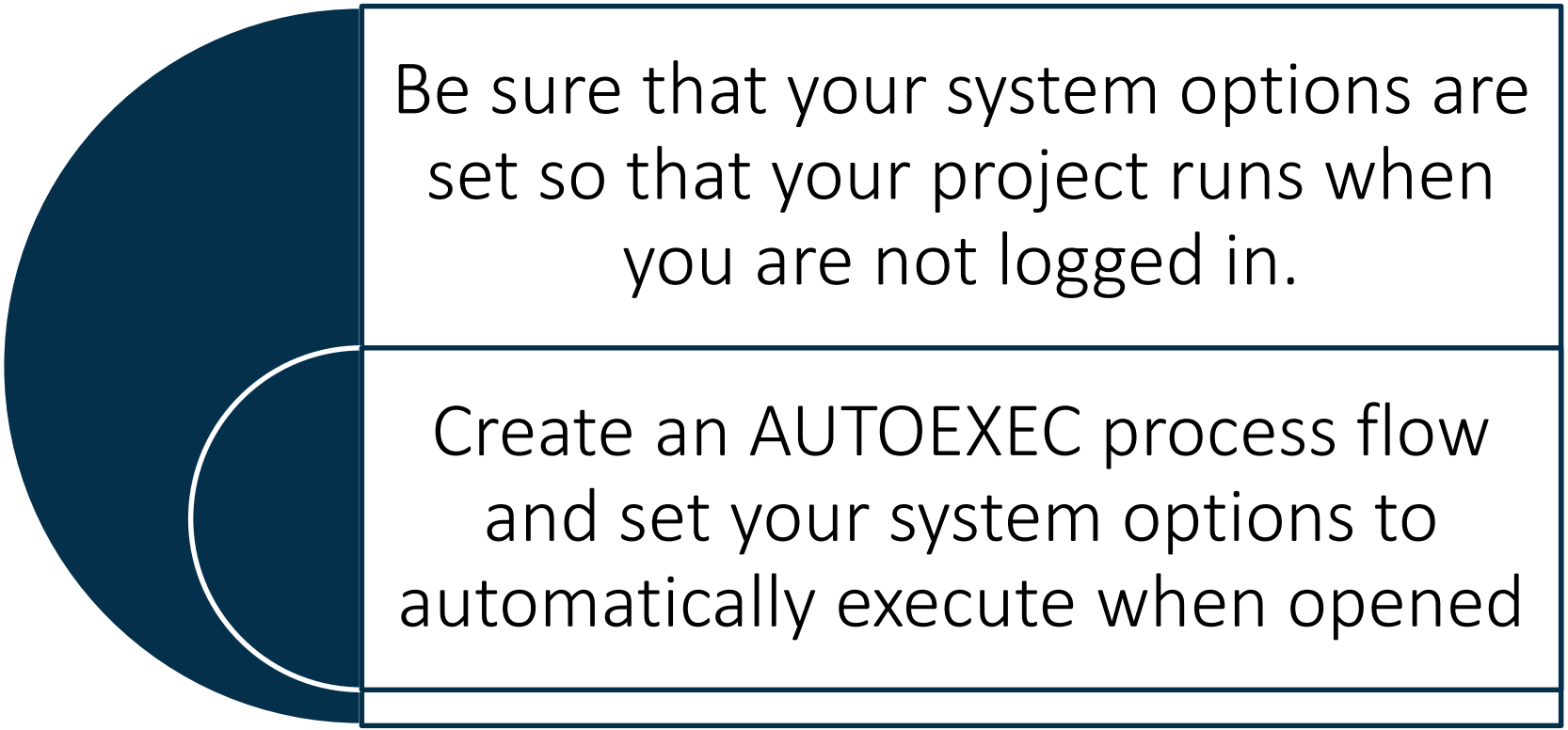
Project Automation

Automation with SAS® Enterprise Guide



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Conclusion

This paper discussed useful techniques in data reporting automation that you can include in your reports and dashboards. The examples in this paper were created to help business analysts utilize the automation features of SAS® Enterprise Guide. The examples will give some ideas to use in your own custom reporting.

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Thank you!

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