

A decorative border consisting of a vertical line of lightning bolts on both the left and right sides of the slide. Each lightning bolt is composed of several overlapping, slanted rectangular segments in the colors red, blue, teal, orange, and yellow.

How to Use SAS Shareware with RACF

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Getting Started

- Download from the Georgia IRUG Website a copy of the SAS Shareware which will be found at; <http://www.garug.net/> or request from
- Use IBM unload utility IRRDBU00 to create a current copy of the RACF database, SPECIAL authority needed.

More Getting Started

- In order to write software that is accurate the download (IRRDBU00) must be performed as often as the software is run.
- No particular authority is needed to run these reports using this method, only access to the files created by the Security Administrator must be given.

Continue the Setup

- After downloading the file, virus check the file.
- Create a separate directory on your PC for the file.
- Obtain a copy of PKUNZIP and unzip the file in the new directory.
- Have a mechanism available for loading the programs to the mainframe.

Helpful Hints

- There are number of files that get unzipped from this process that are documentation that should be read. Start with the one labeled readme.1st.
- Upload the files to the mainframe.
- A valid job card is needed to substitute for the one that is included in the various programs.

Important Items

- Obtain copy of the RACF manual which contains the RACF record layouts. Not all fields are coded on the reports.
- There are various RACF records which have various fields that can be used for various types of programming.
- Start your programming with the jobs which end in the extensions *.jcl. They are the easiest to work with for starters.

Default Program Classes

- With the *.jcl group of jobs there are several types of jobs.
- DS in name means Dataset Job.
- GP in name means Group Job.
- GR in name means General Resource job.
- US in name means User job.

```

/USJOB3 JOB (X,XXX,SEC),'SEC ADMIN',CLASS=K,MSGCLASS=H
/**      CODE IN AT TOP ANY VALID JOB CARD(S)
/*****
/**      SAS RACF USER REPORTS - USES 200 LEVEL RECORDS
/*****
//STEP01 EXEC PGM=IEFBR14
//DELETE1 DD DSN=PGMR.US.RACFDB,DISP=(MOD,DELETE),
//DELETE1 DD DSN=TEST.AUDIT.RACFDB,DISP=(MOD,DELETE), ****
//      UNIT=SYSDA,SPACE=(TRK,1)
/*****
//FILEAID EXEC PGM=FILEAID
//SYSPRINT DD SYSOUT=*
//SYSLIST DD SYSOUT=*
//SYSTOTAL DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//DD01 DD DSN=TEST.AUDIT.RACF.FLATFILE,DISP=SHR ****
//DD01 DD DSN=SECR.RACFDB.FLAT,DISP=SHR
//DD01O DD DSN=TEST.AUDIT.RACFDB ****
//DD01O DD DSN=PGMR.US.RACFDB,
//      DISP=(,CATLG,DELETE),
//      UNIT=SYSDA,
//      SPACE=(CYL,(32,0),RLSE),
//      DCB=(RECFM=VB,LRECL=2048,BLKSIZE=10960)
//SYSIN DD *
$$$DD01 DROP IF=(5,NE,C'0200')
/*
/**
****
ENTRIES MADE AT GUARDIAN

```

Changing the Code

- Replace top line where it begins with USJOB3 with valid JCL jobcard.
- Replace SECR.RACFDB.FLAT with the file name created by the database unload. This should have an access rule that permits you to read the file, writing to it is not needed.
- File created by Data Security.

More Changes in the Code

- Change the JCL name PGMR.US.RACFDB to a file name that is recognized as temporary and do that for all of the *.jcl jobs.
- Creation of the temporary files improves performance. SAS then does not have to go against the entire RACF database.

```

//SASST11 EXEC SAS
//FT11F001 DD SYSOUT=*
//FT12F001 DD SYSOUT=*
//RACFIN DD DSN=PGMR.US.RACFDB,DISP=SHR
//RACF DD DUMMY
//SYSIN DD *
DATA RACF;
  INFILE RACFIN;
  INPUT RECTYP $ 1-4 USERID $ 6-13 CREATD $ 15-24 OWNER $ 26-33
  ADSP $ 35-38 SPECIAL $ 40-43 OPER $ 45-48 REVOKE $ 50-53
  PSWDINT $ 60-62 PSWDDT $ 64-73 NAME $ 75-94 DFLTGRP $ 96-103
  LJOB DT $ 114-123 INSTD $ 125-165 UAUDIT $ 381-384
  AUDITOR $ 386-389 PSWDGEN $ 401-403 UPRE $ 6-9 ;
  IF LJOB DT EQ ' ' ;
  IF REVOKE EQ 'YES' THEN STATUS = 'REVOKED';
  ELSE STATUS = ' ' ;
  IF PSWDDT EQ ' ' ;
PROC SORT OUT=LIST12;
  BY USERID;
PROC PRINT NOOBS UNIFORM SPLIT='*';
  VAR USERID DFLTGRP LJOB DT STATUS CREATD;
  ID NAME;
  LABEL USERID=' RACF*USERID';
  LABEL DFLTGRP='DEFAULT* GROUP';
  LABEL STATUS=' USER*STATUS';
  LABEL LJOB DT=' LAST DATE* USED';
  LABEL CREATD=' CREATION* DATE';
TITLE1 'RACF USER REPORT';
TITLE2 'UNUSED USERIDS TO BE DELETED FROM RACF';
/**

```

Logic Changes in the Code

- At the bottom inside of the single parentheses report titles can be changed as desired, auto self centering.
- Line before PROC SORT determines what type of report is extracted. You can select on fields such as; PSWDINT (password interval), DFLTGRP (default group), and PSWDDT (password date).
- Allow for all positions when coding.

SASRUS_x - User Default Jobs

- Default jobs available include; Users by name, by ID, users with special, users with auditor, revoked users, default group NE owner, users with operations, default password never set, user ID by logon PROC, and unused user ID's.
- The means is available to create much more.


```
//SASST03 EXEC SAS
//FT11F001 DD SYSOUT=*
//FT12F001 DD SYSOUT=*
//RACFIN DD DSN=PGMR.DS.RACFDB,DISP=SHR
//RACF DD DUMMY
//SYSIN DD *
DATA RACF;
  INFILE RACFIN;
  INPUT RECTYP $ 1-4 NAME $ 6-49 GEN $ 58-61 VOL $ 51-56
  CREATD $ 63-72 OWNER $ 74-81 UACC $ 129-136 WARN $ 484-487;
  IF GEN EQ 'YES' THEN GENL = 'GENERIC ';
  ELSE GENL = 'DISCRETE';
  IF WARN EQ 'YES' THEN WARNL = 'WARNING';
  ELSE WARNL = ' ';
  IF UACC EQ 'ALTER';
PROC PRINT NOOBS UNIFORM SPLIT='*';
VAR GENL VOL CREATD OWNER UACC WARNL;
ID NAME;
  LABEL NAME='NAME';
  LABEL GENL='GENERIC OR* DISCRETE?';
  LABEL VOL='VOLUME';
  LABEL CREATD='CREATION* DATE';
  LABEL OWNER='OWNER';
  LABEL UACC='UACC';
  LABEL WARNL='WARNING* MODE?';
TITLE1 'RACF DATASET PROFILE REPORT';
TITLE2 'DATASETS WITH UACC = ALTER ';
```

Logic Changes for DS Reports

- See slide # 12, both bullets apply!
- You can create reports selecting on VOL (DASD volume), OWNER (dataset owner), UACC, and any other field that is on the record but not listed (check RACF manuals).
- Many default reports are provided that cover many reporting needs.

SASRDSx - Dataset Default Jobs

- Dataset default reports include; all dataset profiles, discrete datasets, UACC = alter, UACC = control, UACC = update, UACC = read, UACC = none, datasets in warning mode, datasets on specific volumes (alter as needed), erase-on-scratch datasets, specific high level qualifiers, and more. Multiple parameters can be used.



```
//GPJOB2 JOB (X,XXX,SEC),'SEC ADMIN',CLASS=K,MSGCLASS=H
//*****
//* SAS RACF GROUP REPORTS - USES 102 LEVEL EXTRACT RECORDS
//*****
//FILEAID EXEC PGM=FILEAID
//SYSPRINT DD SYSOUT=*
//SYSLIST DD SYSOUT=*
//SYSTOTAL DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//DD01 DD DSN=SECR.RACFDB.FLAT,DISP=SHR
```



TEMPORARY DATASETS BELOW SHOULD BE CHANGED

```
//DD01O DD DSN=&&SASGDB,
//      DISP=(,CATLG,DELETE),
//      UNIT=SYSDA,
//      SPACE=(CYL,(32,0),RLSE),
//      DCB=(RECFM=VB,LRECL=2048,BLKSIZE=10960)
//SYSIN DD *
$$$$D01 DROP IF=(5,NE,C'0102')
```

```

//GPJOB2 JOB (X,XXX,SEC),'SEC ADMIN',CLASS=K,MSGCLASS=H
//*****
//* SAS RACF GROUP REPORTS - USES 102 LEVEL EXTRACT RECORDS
//*****
    ADD THIS SECTION TO THE CODE FOR GROUP JOBS
//STEP01 EXEC PGM=IEFBR14
//DELETE1 DD DSN=TEST.AUDIT.RACFDB,DISP=(MOD,DELETE),
//      UNIT=SYSDA,SPACE=(TRK,1)
    TILL HERE ADD ABOVE
//FILEAID EXEC PGM=FILEAID
//SYSPRINT DD SYSOUT=*
//SYSLIST DD SYSOUT=*
//SYSTOTAL DD SYSOUT=*
//SYSUDUMP DD SYSOUT=*
//DD01 DD DSN=TEST.AUDIT.RACF.FLATFILE,DISP=SHR
    CHANGE THE TEMPORARY DATASET ON THE LINE BELOW TO:
//DD01O DD DSN=TEST.AUDIT.RACFDB,
//      DISP=(,CATLG,DELETE),
//      UNIT=SYSDA,
//      SPACE=(CYL,(32,0),RLSE),
//      DCB=(RECFM=VB,LRECL=2048,BLKSIZE=10960)
//SYSIN DD *
$SDD01 DROP IF=(5,NE,C'0102')

```



```
//SASSTEP1 EXEC SAS
//FT11F001 DD SYSOUT=*
//FT12F001 DD SYSOUT=*
//RACFIN DD DSN=TEST.AUDIT.RACFDB,DISP=(OLD,DELETE,DELETE)
//RACF DD DUMMY
//SYSIN DD *
DATA RACF;
  INFILE RACFIN;
  INPUT RECTYP $ 1-4 NAME $ 6-13 MEMID $ 15-22 AUTH $ 24-31;
  IF NAME = 'COMP100';

  PUT IN ABOVE FIELD ANY GROUP NAME YOU WANT REVIEWED

PROC SORT OUT=LIST7;
  BY NAME;
PROC PRINT NOOBS UNIFORM SPLIT='*';
  VAR MEMID AUTH;
  ID NAME;
  LABEL NAME='RACF*GROUP*NAME';
  LABEL MEMID='GROUP*MEMBER';
  LABEL AUTH='AUTHORITY';
  BY NAME;
TITLE1 'RACF GROUP REPORT';
TITLE2 'SPECIFIC GROUP MEMBERS';
```

SASRGPx - Group Default Jobs

- Refer to Slide #12, items still apply.
- Reports on any groups can be created.
- One option available permits a match run with all group ID's and their names.
- Default reports include; all groups with install info, all groups with listing of all member ID's, and a report to create specific group listings.

GENERAL RESOURCE REPORT

```
//SASST03 EXEC SAS
//FT11F001 DD SYSOUT=*
//FT12F001 DD SYSOUT=*
//RACFIN DD DSN=PGMR.GR.RACFDB,DISP=SHR
//RACF DD DUMMY
//SYSIN DD *
DATA RACF;
  INFILE RACFIN;
  INPUT RECTYP $ 1-4 NAME $ 6-26 CLASS $ 253-260 GEN $ 262-265
  CREATD $ 271-280 OWNER $ 282-289 UACC $ 337-344
  INSTAL $ 368-408;

  IF CLASS EQ 'FACILITY';

PROC PRINT NOOBS UNIFORM SPLIT='*';
VAR OWNER UACC CREATD;
ID NAME;
  LABEL OWNER='PROFILE* OWNER';
  LABEL CREATD='CREATION* DATE';
  LABEL UACC='UNIVERSAL* ACCESS';
TITLE1 'RACF GENERAL RESOURCE PROFILE REPORT';
TITLE2 'RACF FACILITY CLASS PROFILE REPORT';
/*
```

SASRGRx - Resource Default Jobs

- Refer to Slide #12, items still apply.
- Report on any resource can be created.
- Among available default reports include; all general resources, facility, CICS transactions, APPL access, TERMINAL access list, general resources for a specific authorized ID.

PART ONE OF TWO PAGES

```
//SASST01 EXEC SAS
//FT11F001 DD SYSOUT=*
//FT12F001 DD SYSOUT=*
//RACFIN1 DD DSN=SECR.GR0.RACFDB,DISP=SHR
//RACFIN2 DD DSN=SECR.GR3.RACFDB,DISP=SHR
//RACF DD DUMMY
//SYSIN DD *
DATA RACF1;
  INFILE RACFIN1;
  INPUT RECTYP $ 1-4 NAME $ 6-26 CLASS $ 253-260 GEN $ 262-265
  CREATD $ 271-280 OWNER $ 282-289 UACC $ 337-344
  INSTAL $ 368-408;
DATA RACF2;
  INFILE RACFIN2;
  INPUT RECTYP $ 1-4 NAME $ 6-26 CLASS $ 253-260 MEM $ 262-306
  PADSD $ 527-534 VOLNAME $ 536-541;
PROC SORT DATA=RACF1;
  BY NAME;
```

PART TWO OF TWO PAGES

```
PROC SORT DATA=RACF2;  
  BY NAME;  
DATA RESULT;  
  MERGE RACF1 RACF2;  
  BY NAME;
```

```
  IF CLASS EQ 'PROGRAM';
```

WITH 2 INPUTS IN SAS STEP PRIMARY LOGIC
CONTROLLED AFTER PROC SORT STEP

```
PROC SORT OUT=LIST1;  
  BY NAME;  
PROC PRINT NOOBS UNIFORM SPLIT='*';  
  VAR MEM VOLNAME PADSD INSTAL;  
  ID NAME;  
  LABEL MEM='LOADLIB';  
  LABEL VOLNAME='VOLUME';  
  LABEL PADSD='PADCHECK';  
  LABEL INSTAL='INSTALLATION*  DATA';  
  BY NAME;  
  TITLE1 'RACF GENERAL RESOURCES  
REPORT';  
  TITLE2 'RACF CONTROLLED PROGRAMS';  
/**
```

Program Properties Table

- SASPPT.JCL is a program that creates report on the entries in the PPT.
- Authority needed to run this program is the authority needed to run DSMON Report . Part of DSMON is invoked to create input file.
- Gives three reports on the entries in PPT.

Active Class Report

- SASRUT1.JCL is a report designed to produce listing of all, active, and inactive classes.
- Authority needed to run this program is the authority needed to run DSMON Report . Part of DSMON is invoked to create input file.

Last Thoughts

- After running these reports, spend a short amount of time reviewing the other jobs that are provided in the zip file.
- Review the other templates with your resident SAS expert.
- There are other reports that provide useful info that can be constantly reused.

More Last Thoughts

- Once fixed and written these reports can provide cheap and useful reporting tools.
- Other reports available include; Groups with no users, permits to users and groups that do not exist and more.