

# As Cool as ICE! Using ICETOOL with RACF Data

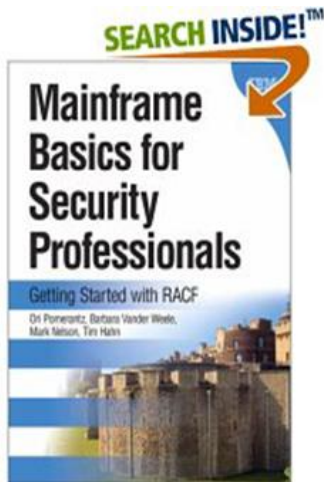
## Lab Instructions

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## Background

- **The “As Cool As ICE” lab demonstrates:**
  - How to unpack the RACFICE package
  - How to execute all of the RACF reports
  - How to write your own Report
- **Each of you has a user ID of the form SHARBnn**
  - “nn” is a number that I’ve assigned to your workstation
  - All user IDs have the same password (“firstpw”)
- **You will be using read-only SMF Unload and RACF Database Unload Utility output**
  - Note: NOT REAL WORLD!
- **This is a guided tour... please let your tour guide (me) know if you are having any problems.**

## Step 1: LOGON

- You should be sitting at a IBM Personal Communications Manager (PCOMM) session that looks like this:

```
Enter Your Userid:  
Password:                               New password:  
Application: tso  
Application Required. No Installation Default
```

- When prompted, enter TSO as the application name

## Step 1: LOGON...

- You are now connected to TSO. Enter your user ID (SHARBnn, where “nn” is a number that you have been assigned)

```
IKJ56700A ENTER USERID -  
sharb09
```

## Step 1: LOGON...

- Next, you'll see the traditional TSO/E logon panel. Enter your password (which is not "firstpw"... it will be given to you by the instructor).

```
----- TSO/E LOGON -----  
  
Enter LOGON parameters below:                                RACF LOGON parameters:  
  
Userid    ===> SHARB09                                       New Password ===>  
  
Password  ===> firstpw                                       Group Ident  ===>  
  
Procedure ===> SHARE  
  
Acct Nmbr ===> SHR  
  
Size      ===>  
  
Perform   ===>  
  
Command   ===> ISPF  
  
Enter an 'S' before each option desired below:  
      -Nomail          -Nonotice          S -Reconnect          -OIDcard  
  
PF1/PF13 ==> Help      PF3/PF15 ==> Logoff    PA1 ==> Attention     PA2 ==> Reshow  
You may request specific help information by entering a '?' in any entry field
```

## Step 2: Getting into your Data Set

- Next, you'll see the ISPF LOGON Panel. Enter option 3.4

```
----- SHARE ISPF 6.1 SCROLLABLE PRIMARY OPTION MENU ----- S1
OPTION ==> 3.4

D Alternate Dialog ==> CMD(%????)
D2 Alternate Dialog ==> PANEL(????)

More:
The time is 2:33 p.m. on Thursday, July 28, 2016 (2016.210)
Your uid is SHARB09 dsn prefix is SHARB09 proc is SHARE sys is S1

0 SETTINGS - Specify ISPF parameters
1 VIEW - View source data or output listing
1P VIEW-OE - View/Browse files in the Open Edition file system
2 EDIT - Create or change source data
2P EDIT-OE - Edit files in the Open Edition file system
3 UTILITIES - Perform utility functions
3P ISHELL-OE - Open Edition ISPF shell
4 FOREGROUND - Invoke language processors in foreground
5 BATCH - Submit job for language processing
6 COMMAND - Enter TSO command, CLIST, or REXX exec
7 DIALOG TEST - Perform dialog testing
8 LM UTILITIES - Perform library administrator utility functions
9 IBM PRODUCTS - Additional IBM program development products
F1=HELP F2=SPLIT F3=END F4=RETURN F5=RFIND F6=RCHANGE
F7=UP F8=DOWN F9=SWAP F10=LEFT F11=RIGHT F12=RETRIEVE
```

## Step 2: Getting into your Data Sets...

- Enter “SHAREBnn.RACFICE” as the “Dpname Level”, where nn=your user ID

```

Menu RefList RefMode Utilities Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
Data Set List Utility

Option ==>
                                     More:   +
blank Display data set list         P Print data set list
  V Display VTOC information         PV Print VTOC information

Enter one or both of the parameters below:
Dpname Level . . . SHARB09.RACFICE
Volume serial . . .

Data set list options
Initial View                               Enter "/" to select option
1 1. Volume                               / Confirm Data Set Delete
  2. Space                                 / Confirm Member Delete
  3. Attrib                                / Include Additional Qualifiers
  4. Total                                 / Display Catalog Name
                                           / Display Total Tracks
                                           Prefix Dpname Level

When the data set list is displayed, enter either:
F1=Help      F2=Split      F3=Exit      F7=Backward  F8=Forward  F9=Swap
F10=Actions  F12=Cancel

```

## Step 2: Getting into your Data Sets...

- You should see your data set for this project. Put a “e” in the comand field

```

Menu  Options  View  Utilities  Compilers  Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
DSLIS - Data Sets Matching SHARB09.RACFICE                               Row 1 of 1
Command ===>                                                            Scroll ===> PAGE

Command - Enter "/" to select action                                     Message                               Volume
-----
e_      SHARB09.RACFICE.CNTL                                           SHTSO7
***** End of Data Set list *****

```

```

F1=Help   F2=Split   F3=Exit   F5=Rfind   F7=Up     F8=Down   F9=Swap
F10=Left  F11=Right  F12=Cancel

```





## Step 3: Creating your RACFICE Members

- Change the two occurrences of “SHARBNN” to your user ID

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL(IEBUPDTE) - 01.03          Columns 00001 00072
Command ==>          Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to CAPS ON (from CAPS OFF) because the
==MSG>          data does not contain any lower case characters.
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
000100 //SHARB09I JOB , 'UNLOAD RACFICE RPTS', CLASS=A,
000200 //          MSGLEVEL=(1,1), NOTIFY=&SYSUID, MSGCLASS=H
000300 //UNLOAD EXEC PGM=IEBUPDTE, PARM=NEW
000400 //SYSPRINT DD SYSOUT=*
000500 //SYSUT2 DD DSN=SHARB09.RACFICE.CNTL, DISP=SHR
000600 //SYSIN DD DSN=SYS1.SAMPLIB(IRRICE), DISP=SHR
***** ***** Bottom of Data *****
```

## Step 3: Creating your RACFICE Members...

- Use the **SUB** command to submit the job.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL(IEBUPDTE) - 01.03           Columns 00001 00072
Command ==> sub                                           Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to CAPS ON (from CAPS OFF) because the
==MSG>           data does not contain any lower case characters.
==MSG> -Warning- The UNDO command is not available until you change
==MSG>           your edit profile using the command RECOVERY ON.
000100 //SHARB09I JOB  , 'UNLOAD RACFICE RPTS',CLASS=A,
000200 //           MSGLEVEL=(1,1),NOTIFY=&SYSUID,MSGCLASS=H
000300 //UNLOAD EXEC PGM=IEBUPDTE,PARM=NEW
000400 //SYSPRINT DD  SYSOUT=*
000500 //SYSUT2 DD   DSN=SHARB09.RACFICE.CNTL,DISP=SHR
000600 //SYSIN DD   DSN=SYS1.SAMPLIB(IRRICE),DISP=SHR
***** ***** Bottom of Data *****
```

```
F1=Help      F2=Split    F3=Exit     F5=Rfind    F6=Rchange  F7=Up
F8=Down     F9=Swap     F10=Left   F11=Right   F12=Cancel
```

## Step 3: Creating your RACFICE Members...

- **Wait for the job completion message. MAXCC=0 is what you want. If you get something else, we'll have to go into SDSF to figure out what happened.**

```
18.13.53 JOB16649 $HASP165 SHARB09I ENDED AT N1 MAXCC=0 CN(INTERNAL)
***
```

## Step 3: Creating your RACFICE Members...

- Press “END” (PF3) twice to get back to this panel. Put an “e” in the command field.

```

Menu Options View Utilities Compilers Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
DSLIST - Data Sets Matching SHARB09.RACFICE                                Row 1 of 1
Command ==>                                                                Scroll ==> PAGE

Command - Enter "/" to select action                                     Message                                Volume
-----
e_          SHARB09.RACFICE.CNTL                                         SHTSO7
***** End of Data Set list *****

```

```

F1=Help      F2=Split   F3=Exit   F5=Rfind   F7=Up      F8=Down   F9=Swap
F10=Left     F11=Right  F12=Cancel

```

## Step 3: Creating your RACFICE Members...

- Whoa! Look at all the members! These were extracted from 'SYS1.SAMPLIB' by the IEBUPDTE job that you just submitted. This is the RACFICE report package.
- Select the **\$\$CNTL\$\$** member by putting an "s" in the command column

```

Menu  Functions  Confirm  Utilities  Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL          Row 00001 of 00091
Command ===>          Scroll ===> DATA
Name           Prompt           Size  Created           Changed           ID
-----
  $$$COPYR
  s  $$CNTL$$
  $CFQG
  $CHLQ
  $ULAST90
  ACD$
  ACD$CNTL
  ALDS
  ALDSCNTL
  ASOC
  ASOCCNTL
  BGGR
  BGGRCNTL
  CADU
  CADUCNTL
  CCMD
  CCMDCNTL
F1=Help  F2=Split  F3=Exit  F5=Rfind  F7=Up    F8=Down  F9=Swap
F10=Left F11=Right F12=Cancel

```

## Step 4: Preparing your first RACFICE Job

- Delete the first two lines of the file by putting a “d” at the front of the line number. Put a “b” on the third line, and put COPY JOBCARD on the command line.

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00          Columns 00001 00072
Command ==> COPY JOBCARD          Scroll ==> CSR
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to CAPS OFF (from CAPS ON) because data
==MSG>          contains lower case characters.
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>          this member, but will be generated if data is saved.
d36800 //USER01I  JOB MSGLEVEL=(0,0),CLASS=5,NOTIFY=&SYSUID,MSGCLASS=H
d36900 /*JOBPARM  S=ANY,LINES=99
b37000 /*-----
137100 /*
137200 /* RACFICE - Create reports from RACF database unload utility
137300 /*          (IRRDBU00) and RACF SMF unload utility (IRRADU00)
137400 /*
137500 /*
137600 /* RACF Database Reports
137700 /*
137800 /*      Name      Description

```

## Step 4: Preparing your first RACFICE Job...

- The old job card will be delete and one for this system inserted. Change the SHARBNN to your user ID

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00          Member JOBCARD copied
Command ===>                                          Scroll ===> CSR
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to CAPS OFF (from CAPS ON) because data
==MSG>                contains lower case characters.
==MSG> -Warning- The UNDO command is not available until you change
==MSG>                your edit profile using the command RECOVERY ON.
==MSG> -CAUTION- Profile is set to STATS ON. Statistics did not exist for
==MSG>                this member, but will be generated if data is saved.
000100 // SHARB09J JOB CLASS=A,MSGLEVEL=(1,1),MSGCLASS=H,NOTIFY=&SYSUID,
000200 //                REGION=0M
000300 //*-----
137000 //*-----
137100 //*
137200 //* RACFICE - Create reports from RACF database unload utility
137300 //*                (IRRDBU00) and RACF SMF unload utility (IRRADU00)
137400 //*
137500 //*
137600 //* RACF Database Reports
137700 //*
F1=Help      F2=Split      F3=Exit      F5=Rfind      F6=Rchange      F7=Up
F8=Down      F9=Swap       F10=Left     F11=Right     F12=Cancel

```



## Step 4: Preparing your first RACFICE Job...

- Press “scroll down” (PF8) approximately four (4) times until you see the data below.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00 Columns 00001 0007
Command ==> Scroll ==> CSR
143200 /** VIOL Access violations
143300 /** WARN Accesses allowed due to WARNING mode profiles
143400 /**-----
143500 // JCLLIB ORDER=USER01.RACFICE.CNTL
143600 // SET ADUDATA=USER01.RACFICE.IRRADU00 IRRADU00 dat
143700 // SET DBUDATA=USER01.RACFICE.IRRDBU00 IRRDBU00 dat
143800 // SET ICECNTL=USER01.RACFICE.CNTL ICETOOL dat
143900 /**-----
144000 /**----- IRRDBU00-Based Reports -----
144100 /**-----
144200 //ALDS EXEC RACFICE,REPORT=ALDS
144300 //ASOC EXEC RACFICE,REPORT=ASOC
144400 //BGGR EXEC RACFICE,REPORT=BGGR
144500 //CCON EXEC RACFICE,REPORT=CCON
144600 //CGEN EXEC RACFICE,REPORT=CGEN
144700 //CPRO EXEC RACFICE,REPORT=CPRO
144800 //CONN EXEC RACFICE,REPORT=CONN
144900 //GRPM EXEC RACFICE,REPORT=GRPM
F1=Help F2=Split F3=Exit F5=Rfind F6=Rchange F7=Up
F8=Down F9=Swap F10=Left F11=Right F12=Cancel
```

## Step 4: Preparing your first RACFICE Job...

- **Change**
  - the JCLLIB statement to 'SHARBnn.RACFICE.CNTL', where nn=you
  - ADUDATA to MARKN.SAMPLE.IRRADU00
  - DBYDATA to MARKN.SAMPLE.IRRDBU00
  - ICECNTL to SHARBnn.RACFICE.CNTL, where nn = you
- **Type SUB on the command line to submit the job**
- **Wait for the job completion message. MAXCC=0 is what we want. If you don't get it, we'll need to go into SDSF to figure out what happened.**

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT      SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00        Columns 00001 00072
Command ==>    sub                                   Scroll ==> CSR
143200 //*      VIOL    Access violations
143300 //*      WARN    Accesses allowed due to WARNING mode profiles
143400 //*-----
143500 //              JCLLIB ORDER=SHARB09.RACFICE.CNTL
143600 //              SET ADUDATA=MARKN.SAMPLE.IRRADU00        IRRADU00 data
143700 //              SET DBUDATA=MARKN.SAMPLE.IRRDBU00        IRRDBU00 data
143800 //              SET ICECNTL=SHARB09.RACFICE.CNTL          ICETOOL data
143900 //*-----
144000 //*----- IRRDBU00-Based Reports -----
144100 //*-----
144200 //ALDS      EXEC RACFICE,REPORT=ALDS
144300 //ASOC      EXEC RACFICE,REPORT=ASOC
144400 //BGGR      EXEC RACFICE,REPORT=BGGR
144500 //CCON      EXEC RACFICE,REPORT=CCON
144600 //CGEN      EXEC RACFICE,REPORT=CGEN
144700 //CPRO      EXEC RACFICE,REPORT=CPRO
144800 //CONN      EXEC RACFICE,REPORT=CONN
144900 //GRPM      EXEC RACFICE,REPORT=GRPM

```

## Step 5: Looking at the RACFICE Output

- Press PF2 to start a second ISPF session and enter S.H on the command line to start SDSF to look at the output

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00          Columns 00001 00072
. . . . .
----- SHARE ISPF 6.1 SCROLLABLE PRIMARY OPTION MENU ----- S1
OPTION  ==> s.h

D Alternate Dialog ==> CMD(%????)
D2 Alternate Dialog ==> PANEL(????)

                                                    More:      +

The time is 6:39 p.m. on Friday, February 25, 2011 (2011.056)
Your uid is SHARB09 dsn prefix is SHARB09 proc is SHARE sys is S1

0  SETTINGS      - Specify ISPF parameters
1  VIEW          - View source data or output listing
1P VIEW-OE       - View/Browse files in the Open Edition file system
2  EDIT          - Create or change source data
2P EDIT-OE       - Edit files in the Open Edition file system
3  UTILITIES     - Perform utility functions
3P ISHELL-OE     - Open Edition ISPF shell
4  FOREGROUND    - Invoke language processors in foreground
5  BATCH         - Submit job for language processing
F1=HELP          F2=SPLIT          F3=END            F4=RETURN         F5=RFIND          F6=RCHANGE
F7=UP            F8=DOWN            F9=SWAP           F10=LEFT          F11=RIGHT         F12=RETRIEVE

```

## Step 5: Looking at the RACFICE Output...

- You will see a couple of jobs. The last one (SHARBnnJ) is the one that you just submitted. Put an s in the NP and press enter to review your job
  - If you don't see any output, use the SDSF "SET DISPLAY ON" to see your display filters.

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL($$CNTL$$) - 01.00             Columns 00001 00072
. . . . .
  Display  Filter  View  Print  Options  Search  Help
-----
SDSF HELD OUTPUT DISPLAY ALL CLASSES LINES 6,501              LINE 1-2 (2)
COMMAND INPUT ==>>>                                           SCROLL ==>>> CSR
NP   JOBNAME  JobID   Owner    Prty C ODisp Dest              Tot-Rec  Tot-
s SHARB09I JOB16649 SHARB09  144 H HOLD  LOCAL              1,753
    SHARB09J JOB16654 SHARB09  128 H HOLD  LOCAL              4,748

F1=HELP      F2=SPLIT     F3=END       F4=RETURN    F5=IFIND     F6=BOOK
F7=UP        F8=DOWN     F9=SWAP     F10=LEFT     F11=RIGHT    F12=RETRIEVE
```

## Step 5: Looking at the RACFICE Output...

- **Scroll up and down and look at some of the reports that have been created. Note that many will be empty as there isn't data relevant to all of the reports.**
- **Next, we'll run a short report that you will tailor. To do that, swap back to your member edit screen (PF9) and END out of that member with PF3**

## Step 6: Running your own ICETOOL Report

- Select the member ICETOOL by typing “s icetool” on the command line

```

Menu Functions Confirm Utilities Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL          Member $$CNTL$$ saved
Command ==> s ICETOOL          Scroll ==> DATA
      Name      Prompt      Size  Created      Changed      ID
-----  -
      $$CNTL$$ *Edited      118  2011/02/25  2011/02/25 18:48:26  SHARB09
      $CFQG
      $CHLQ
      $ULAST90
      ACD$
      ACD$CNTL
      ALDS
      ALDSCNTL
      ASOC
      ASOCCNTL
      BGGR
      BGGRCNTL
      F1=Help   F2=Split   F3=Exit   F5=Rfind   F7=Up      F8=Down    F9=Swap
      F10=Left  F11=Right  F12=Cancel
      . . . . .
      Display Filter View Print Options Search Help
-----
SDSF OUTPUT DISPLAY SHARB09J JOB16654  DSID      2 LINE 0          COLUMNS 02- 81
COMMAND INPUT ==>          SCROLL ==> CSR

```

## Step 6: Running your own ICETOOL Report...

- Change the jobname to SHARBnnl where “nn” is you
- This report shows all of the users whose user ID starts with ‘TEST’. How?

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT      SHARB09.RACFICE.CNTL(ICETOOL) - 01.01          Columns 00001 00072
Command ===>                                          Scroll ===> CSR
***** ***** Top of Data *****
==MSG> -CAUTION- Profile changed to CAPS OFF (from CAPS ON) because data
==MSG>           contains lower case characters.
==MSG> -Warning- The UNDO command is not available until you change
==MSG>           your edit profile using the command RECOVERY ON.
000010 //SHARB09I JOB CLASS=A,MSGLEVEL=(1,1),MSGCLASS=H,NOTIFY=&SYSUID,
000020 //          REGION=0M
000030 // * -----
000040 //RACFICE    EXEC PGM=ICETOOL,PARM='MSGPRT=ALL'
000050 //TOOLMSG     DD SYSOUT=*
000060 //PRINT       DD SYSOUT=*
000070 //DFSMSG      DD SYSOUT=*
000080 //DBUDATA     DD DISP=SHR,DSN=MARKN.SAMPLE.IRRDBU00

```

## Step 6: Running your own ICETOOL Report...

- Scroll down to the TITLE line and change the title to something else. Don't go too long, though.....
- The INCLUDE statement selects the records that are in the report. We're only looking for TEST user IDs in this example
- Submit the job by typing "sub" on the command line
- Swap your session (PF9), which takes you back into SDSF, and select your job

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT SHARB09.RACFICE.CNTL(ICETOOL) - 01.02 Columns 00001 00072
Command ===> Scroll ===> CSR
000500 PAGE -
000600 TITLE('My report title') -
000700 DATE(YMD/) -
000800 TIME(12:) -
000900 BLANK -
001000 ON(10,8,CH) HEADER('User ID')
001100 /*
001200 //TSTUCNTL DD *
001300 SORT FIELDS=COPY
001400 INCLUDE COND=(5,4,CH,EQ,C'0200',AND,10,4,CH,EQ,C'TEST')
001500 /*
```



## Step 6: Running your own ICETOOL Report...

- And here it is!
- Once your done looking at it, PF9 (SWAP) to get to the report JCL

```
File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL(ICETOOL) - 01.02          Columns 00001 00072
Command ==>                                         Scroll ==> CSR
. . . . .
  Display Filter View Print Options Search Help
-----
SDSF OUTPUT DISPLAY SHARB09I JOB16655 DSID   104 LINE 1          COLUMNS 02- 81
COMMAND INPUT ==>                                         SCROLL ==> CSR
- 1 -          My report title          11/02/25          06:54:10 pm

User ID
-----
TESTUSER
TEST0001
TEST0002
TEST0003
TEST0004
TEST0005
TEST0006
TEST0007
```

# Step 7: Adding Fields to your own ICETOOL Report

- **Let's add a few fields to your report. Using the information from the USER BASIC DATA record in RACF Macros and Interfaces. Pick a few fields and add them to the report as ON(fieldname) statements. A copy of things to remember**
  - Always add 4 to the starting position document in Macros and Interfaces to account for the record descriptor word
  - Remember to add the DFSORT character (“-”) to each record (**except the last**)
- **Type ‘sub’ on the command like to submit the job.**

```

  File  Edit  Edit_Settings  Menu  Utilities  Compilers  Test  Help
  sssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
  EDIT          SHARB09.RACFICE.CNTL(ICETOOL)  - 01.02          Columns 00001 00072
  Command ====>                                         Scroll ====> CSR
  000200 //TOOLIN      DD *
  000300  SORT      FROM(DBUDATA)  TO(TEMP01)  USING(TSTU)
  000400  DISPLAY  FROM(TEMP01)    LIST(PRINT)  -
  000500          PAGE              -
  000600          TITLE('My Report Title') -
  000700          DATE(YMD/)          -
  000800          TIME(12:)           -
  000900          BLANK              -
  001000          ON(10,8,CH)    HEADER('User ID') -
  001010          ON(44,4,CH)   HEADER('Special') -
  001011          ON(49,4,CH)   HEADER('Operations') -
  001012          ON(390,4,CH)  HEADER('Auditor')
  001020
  001100 /*
  F1=Help      F2=Split      F3=Exit      F5=Rfind      F6=Rchange      F7=Up
  F8=Down      F9=Swap       F10=Left     F11=Right     F12=Cancel
  . . . . .
  . . . . .
  Display Filter View Print Options Search Help
  -----
  SDSF OUTPUT DISPLAY SHARB09I JOB16656  DSID    103 LINE 20          COLUMNS 02- 81

```

# Step 7: Adding Fields to your own ICETOOL Report...

- PF9 to swap back to SDSF to look at your report

```

File Edit Edit_Settings Menu Utilities Compilers Test Help
ssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssssss
EDIT          SHARB09.RACFICE.CNTL(ICETOOL) - 01.02          Columns 00001 00072
. . . . .
Display Filter View Print Options Search Help
-----
SDSF OUTPUT DISPLAY SHARB09I JOB16678  DSID   104 LINE 0          COLUMNS 02- 81
COMMAND INPUT ==>          SCROLL ==> CSR
***** TOP OF DATA *****
- 1 -          My Report Title          11/02/26          12:11:18 am

User ID      Special      Operations      Auditor      Last Job Date
-----
TESTUSER    NO          NO          NO          TESTUSER
TEST0001    NO          NO          NO          TEST0001
TEST0002    NO          NO          NO          TEST0002
TEST0003    NO          NO          NO          TEST0003
TEST0004    NO          NO          NO          TEST0004
TEST0005    NO          NO          NO          TEST0005
TEST0006    NO          NO          NO          TEST0006
TEST0007    NO          NO          NO          TEST0007
TEST0008    NO          NO          NO          TEST0008

F1=HELP      F2=SPLIT      F3=END          F4=RETURN      F5=IFIND      F6=BOOK
F7=UP        F8=DOWN      F9=SWAP        F10=LEFT      F11=RIGHT     F12=RETRIEVE
  
```

## Summary

- **We've just scratched the surface... there are so many reports that you can create....**
- **Look at the 'SYS1.SAMPLIB(IRRICE)' reports... there are a lot of interesting techniques used there**
- **Look at the RACF Downloads section of the RACF web page**  
– [www.ibm.com/racf](http://www.ibm.com/racf) resources->downloads
- **The “Introduction to DFSORT” manual is \*outstanding\* and**
- **...and if you have any questions, please e-mail me!**