# z/OS Introduction and Workshop

## Security Server (RACF)

# Unit objectives

After completing this unit, you should be able to:

- Describe RACF authentication process

- Describe SAF base 'element'

- List RACF commands

- List RACF options

- Understand significance of Protect All switch

- Run RACF administrator and auditor reports

- Reset passwords

# RACF – Resource Access Control Facility

RACF (part of Security Server) and the other available packages are add-on products which provide the basic security framework on a z/OS mainframe

Identify and authenticate users

Authorize users to access protected resources

Log and report attempted unauthorized access

Control means of access to resources

# RACF functions overview



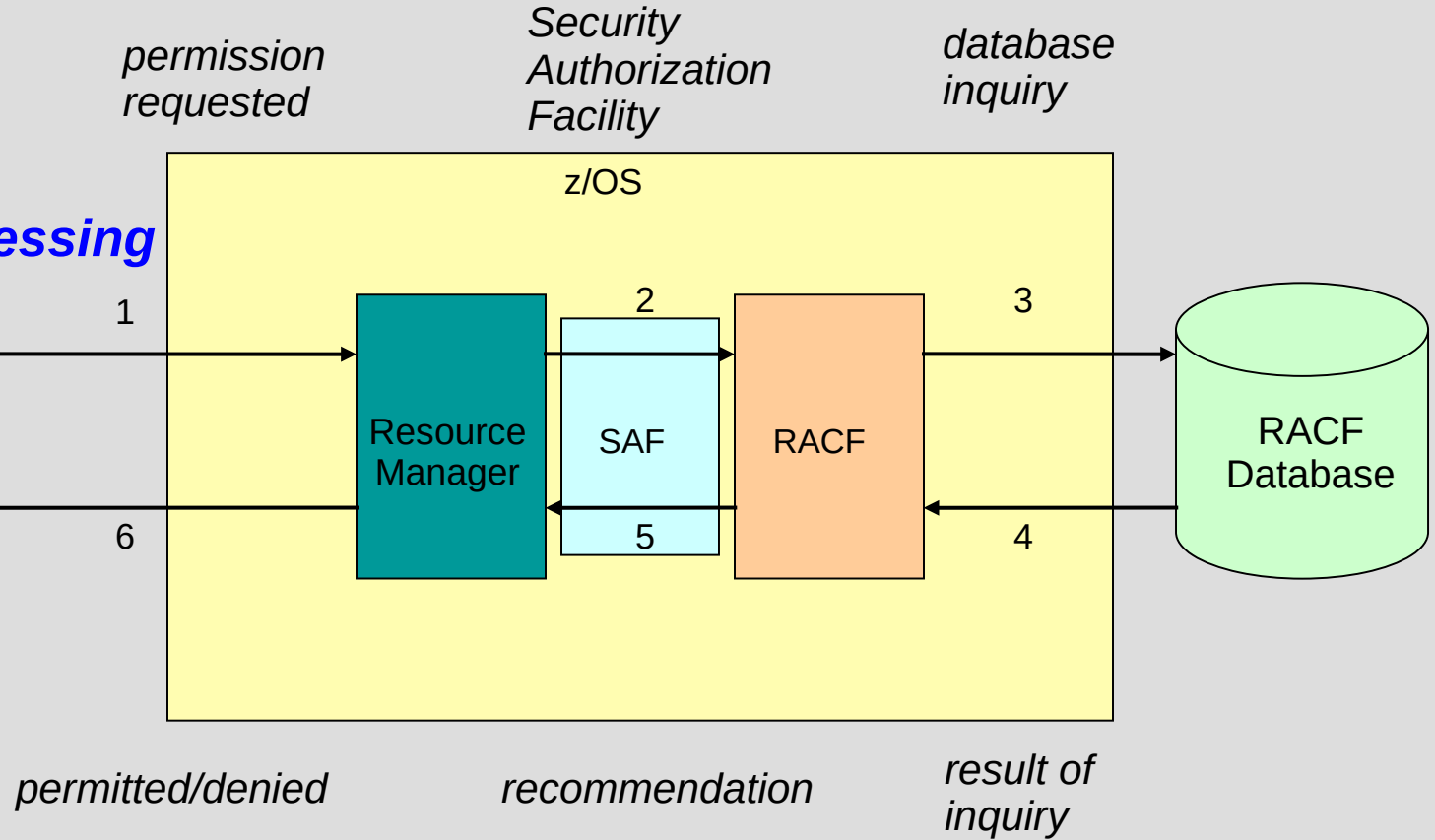Security administration

User identification and authorization

**R A C F**

**RACF database**

Audit and integrity reports violation alerts

Resource authorization checking and system control

**RACF Security Processing**

permission requested

Security Authorization Facility

database inquiry

z/OS

1

Resource Manager

2

SAF

RACF

3

RACF Database

6

5

4

permitted/denied

recommendation

result of inquiry

# RACF - System Authorization Facility (SAF)

SAF is part of z/OS

Uses RACF if it is present

Can also use an optional exit routine

SAF is a system service and is a common focal point for all products providing
resource control.

SAF is invoked at control points within the code of the resource manager

# RACF – Administration
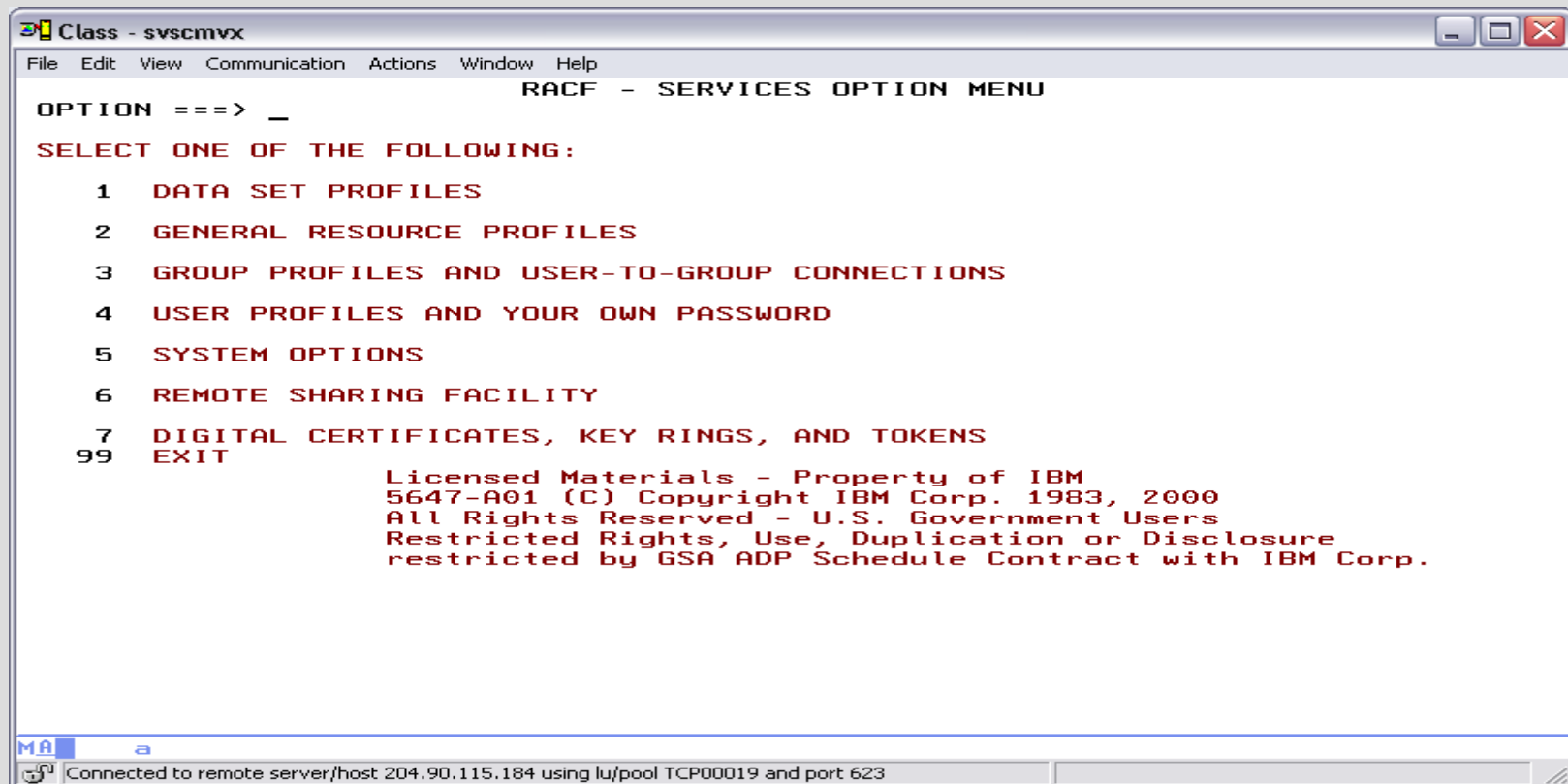
ISPF RACF Panels

RACF Native Commands

TSO

Batch

Console (selected commands only)

RACF Utilities

# RACF – Administration  (Panels)

```
ADDGROUP    (AG)    Add Group Profile
ADDSD(AD)    Add Data Set Profile
ADDUSER     (AU)    Add User Profile
ALTDSD      (ALD)   Alter Data Set Profile
ALTGROUP    (ALG)   Alter Group Profile
ALTUSER     (ALU)   Alter User Profile
CONNECT     (CO)    Connect User to Group
DELDSD      (DD)    Delete Data Set Profile
DELGROUP    (DG)    Delete Group Profile
DELUSER     (DU)    Delete User Profile
HELP    Obtain RACF Help…TSO HELP racf cmd
LISTDSD     (LD)    List Data Set Profile
LISTGRP     (LG)    List Group Profile
LISTUSER    (LU)    List User Profile
PASSWORD    (PW)    Specify User Password
PERMIT      (PE)    Maintain Resource Access Lists
```
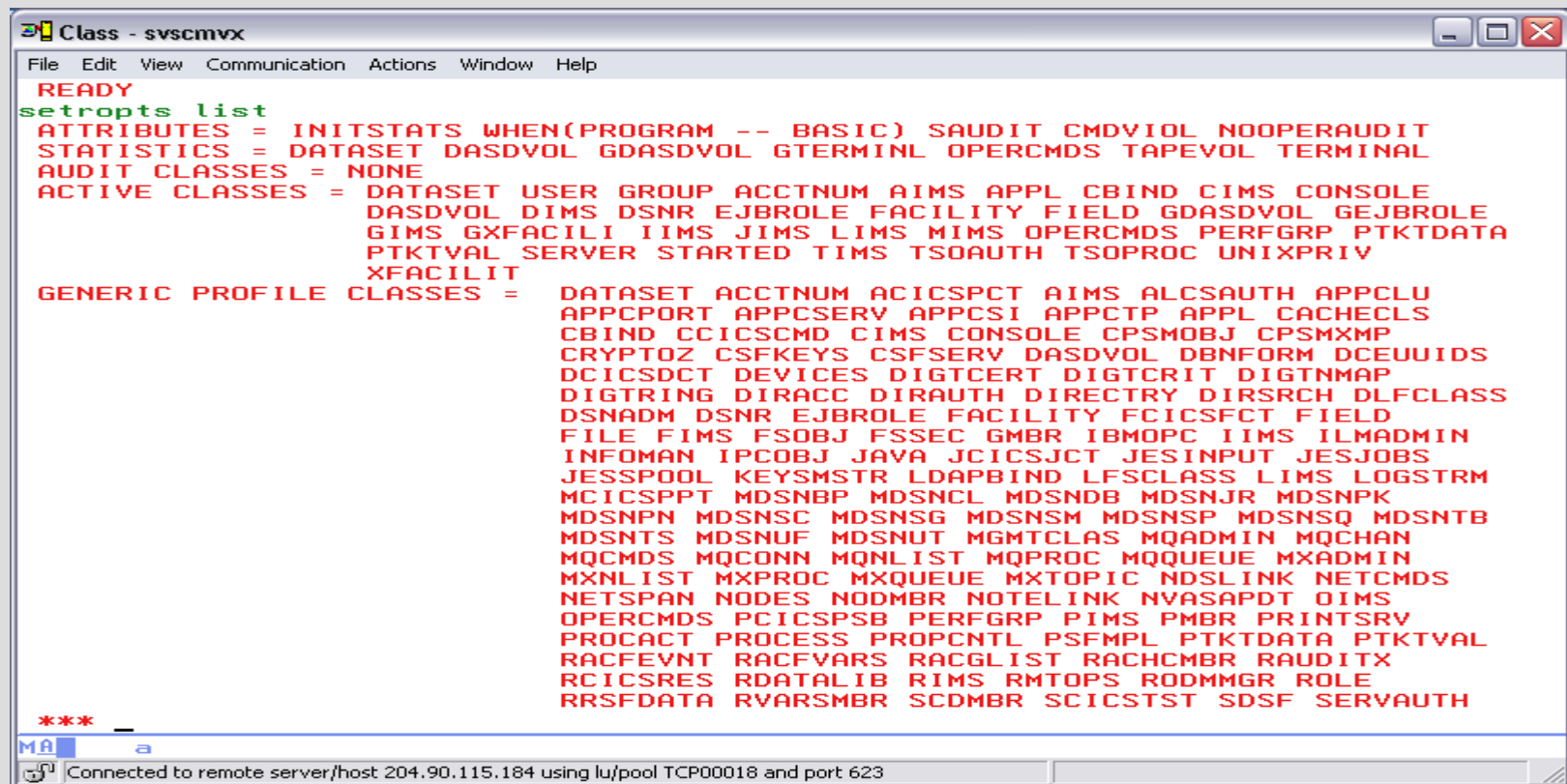
RACDCERT    RACF Digital Certificate
RACLINK        Administer User ID Associations
RACPRIV        Set Write-Down Privileges
RALTER          (RALT)  Alter General Resource Profile
RDEFINE        (RDEF) Define General Resource Profile
RDELETE        (RDEL) Delete General Resource Profile
REMOVE          (RE)     Remove User from Group
RESTART        Restart RRSF Functions
RLIST   (RL)     List General Resource Profile
RVARY Change Status of RACF Database
SEARCH          (SR)     Search RACF Database
SETROPTS      (SETR) Set RACF Options
SIGNOFF        Sign Off Sessions
STOP   Shutdown RRSF
TARGET          Define RRSF Nodes
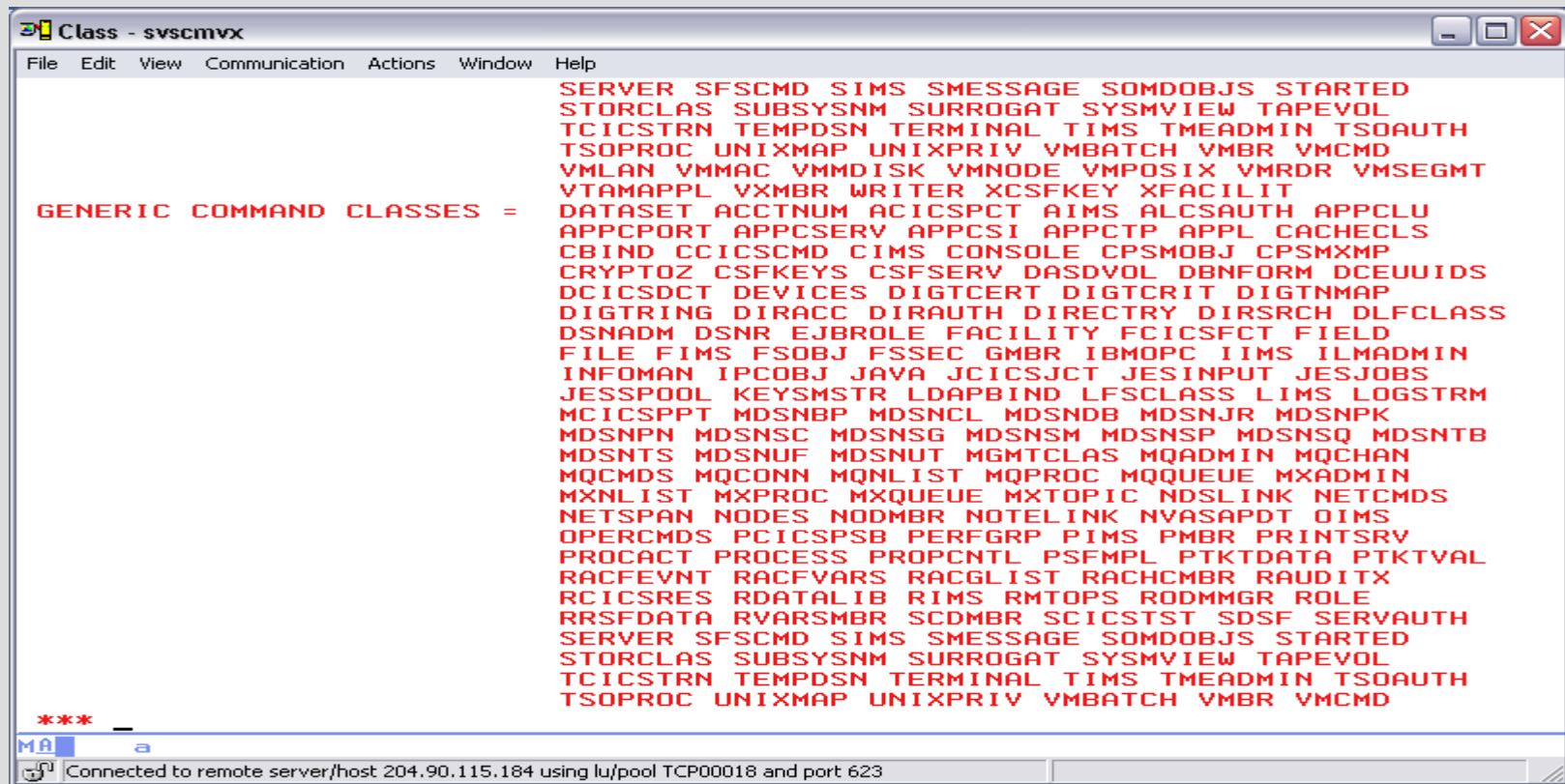
# RACF - Structure Overview
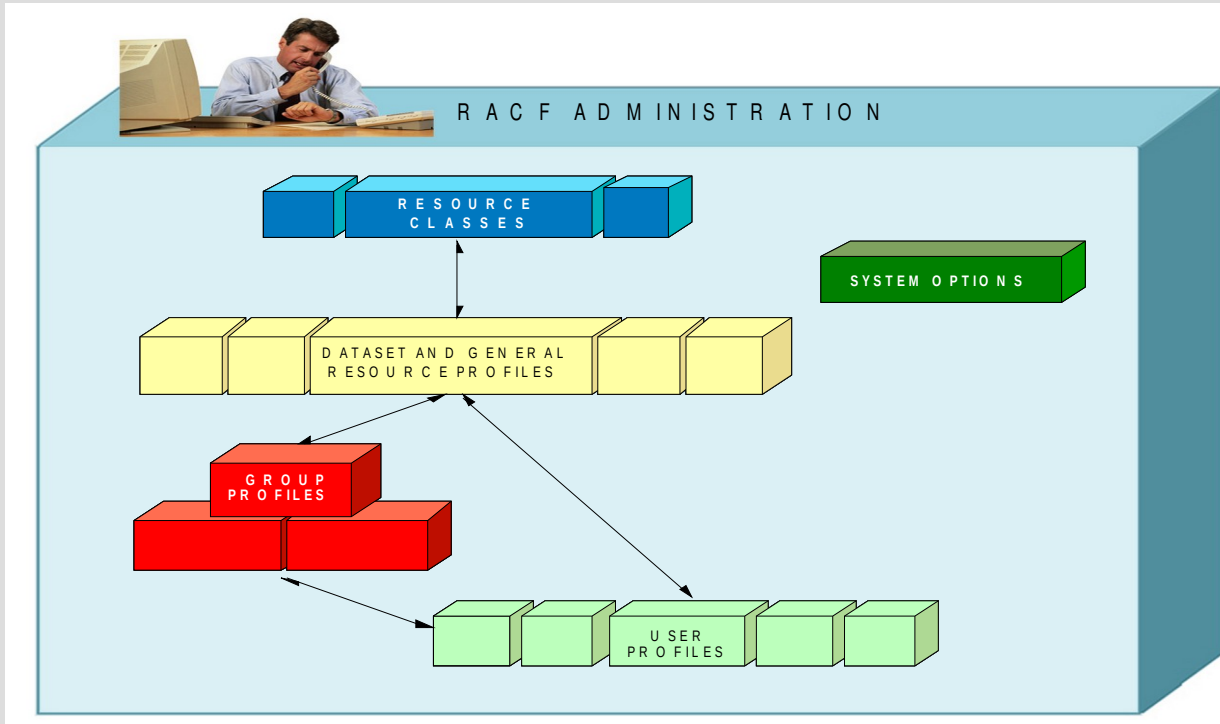
# RACF – System Options



```
  READY
setropts list
 ATTRIBUTES = INITSTATS WHEN(PROGRAM -- BASIC) SAUDIT CMDVIOL NOOPERAUDIT
 STATISTICS = DATASET DASDVOL GDASDVOL GTERMINL OPERCMDS TAPEVOL TERMINAL
 AUDIT CLASSES = NONE
 ACTIVE CLASSES = DATASET USER GROUP ACCTNUM AIMS APPL CBIND CIMS CONSOLE
                  DASDVOL DIMS DSNR EJBROLE FACILITY FIELD GDASDVOL GEJBROLE
                  GIMS GXFACILI IIMS JIMS LIMS MIMS OPERCMDS PERFGRP PTKTDATA
                  PTKTVAL SERVER STARTED TIMS TSOAUTH TSOPROC UNIXPRIV
                  XFACILIT
 GENERIC PROFILE CLASSES =   DATASET ACCTNUM ACICSPCT AIMS ALCSAUTH APPCLU
                             APPCPORT APPCSERV APPCSI APPCTP APPL CACHECLS
                             CBIND CCICSCMD CIMS CONSOLE CPSMOBJ CPSMXMP
                             CRYPTOZ CSFKEYS CSFSERV DASDVOL DBNFORM DCEUUIDS
                             DCICSDCT DEVICES DIGTCERT DIGTCRIT DIGTNMAP
                             DIGTRING DIRACC DIRAUTH DIRECTRY DIRSRCH DLFCLASS
                             DSNADM DSNR EJBROLE FACILITY FCICSFCT FIELD
                             FILE FIMS FSOBJ FSSEC GMBR IBMOPC IIMS ILMADMIN
                             INFOMAN IPCOBJ JAVA JCICSJCT JESINPUT JESJOBS
                             JESSPOOL KEYSMSTR LDAPBIND LFSCLASS LIMS LOGSTRM
                             MCICSPPT MDSNBP MDSNCL MDSNDB MDSNJR MDSNPK
                             MDSNPN MDSNSC MDSNSG MDSNSM MDSNSP MDSNSQ MDSNTB
                             MDSNTS MDSNUF MDSNUT MGMTCLAS MQADMIN MQCHAN
                             MQCMDS MQCONN MQNLIST MQPROC MQQUEUE MXADMIN
                             MXNLIST MXPROC MXQUEUE MXTOPIC NDSLINK NETCMDS
                             NETSPAN NODES NODMBR NOTELINK NVASAPDT OIMS
                             OPERCMDS PCICSPSB PERFGRP PIMS PMBR PRINTSRV
                             PROCACT PROCESS PROPCNTL PSFMPL PTKTDATA PTKTVAL
                             RACFEVNT RACFVARS RACGLIST RACHCMBR RAUDITX
                             RCICSRES RDATALIB RIMS RMTOPS RODMMGR ROLE
                             RRSFDATA RVARSMBR SCDMBR SCICSTST SDSF SERVAUTH
 ***
```

# RACF – System Options



```
                              SERVER SFSCMD SIMS SMESSAGE SOMDOBJS STARTED
                              STORCLAS SUBSYSNM SURROGAT SYSMVIEW TAPEVOL
                              TCICSTRN TEMPDSN TERMINAL TIMS TMEADMIN TSOAUTH
                              TSOPROC UNIXMAP UNIXPRIV VMBATCH VMBR VMCMD
                              VMLAN VMMAC VMMDISK VMNODE VMPOSIX VMRDR VMSEGMT
                              VTAMAPPL VXMBR WRITER XCSFKEY XFACILIT
GENERIC COMMAND CLASSES =     DATASET ACCTNUM ACICSPCT AIMS ALCSAUTH APPCLU
                              APPCPORT APPCSERV APPCSI APPCTP APPL CACHECLS
                              CBIND CCICSCMD CIMS CONSOLE CPSMOBJ CPSMXMP
                              CRYPTOZ CSFKEYS CSFSERV DASDVOL DBNFORM DCEUUIDS
                              DCICSDCT DEVICES DIGTCERT DIGTCRIT DIGTNMAP
                              DIGTRING DIRACC DIRAUTH DIRECTRY DIRSRCH DLFCLASS
                              DSNADM DSNR EJBROLE FACILITY FCICSFCT FIELD
                              FILE FIMS FSOBJ FSSEC GMBR IBMOPC IIMS ILMADMIN
                              INFOMAN IPCOBJ JAVA JCICSJCT JESINPUT JESJOBS
                              JESSPOOL KEYSMSTR LDAPBIND LFSCLASS LIMS LOGSTRM
                              MCICSPPT MDSNBP MDSNCL MDSNDB MDSNJR MDSNPK
                              MDSNPN MDSNSC MDSNSG MDSNSM MDSNSP MDSNSQ MDSNTB
                              MDSNTS MDSNUF MDSNUT MGMTCLAS MQADMIN MQCHAN
                              MQCMDS MQCONN MQNLIST MQPROC MQQUEUE MXADMIN
                              MXNLIST MXPROC MXQUEUE MXTOPIC NDSLINK NETCMDS
                              NETSPAN NODES NODMBR NOTELINK NVASAPDT OIMS
                              OPERCMDS PCICSPSB PERFGRP PIMS PMBR PRINTSRV
                              PROCACT PROCESS PROPCNTL PSFMPL PTKTDATA PTKTVAL
                              RACFEVNT RACFVARS RACGLIST RACHCMBR RAUDITX
                              RCICSRES RDATALIB RIMS RMTOPS RODMMGR ROLE
                              RRSFDATA RVARSMBR SCDMBR SCICSTST SDSF SERVAUTH
                              SERVER SFSCMD SIMS SMESSAGE SOMDOBJS STARTED
                              STORCLAS SUBSYSNM SURROGAT SYSMVIEW TAPEVOL
                              TCICSTRN TEMPDSN TERMINAL TIMS TMEADMIN TSOAUTH
                              TSOPROC UNIXMAP UNIXPRIV VMBATCH VMBR VMCMD
***
```

# RACF – System Options

# RACF – System Options



```
                          JESSPOOL JIMS KCICSJCT KERBLINK KEYSMSTR
                          LDAPBIND LFSCLASS LIMS LOGSTRM MCICSPPT
                          MDSNBP MDSNCL MDSNDB MDSNJR MDSNPK MDSNPN
                          MDSNSC MDSNSG MDSNSM MDSNSP MDSNSQ MDSNTB
                          MDSNTS MDSNUF MDSNUT MGMTCLAS MIMS MQADMIN
                          MQCHAN MQCMDS MQCONN MQNLIST MQPROC MQQUEUE
                          MXADMIN MXNLIST MXPROC MXQUEUE MXTOPIC
                          NCICSPPT NDSLINK NETCMDS NETSPAN NODES
                          NODMBR NOTELINK NVASAPDT OIMS OPERCMDS
                          PCICSPSB PERFGRP PIMS PMBR PRINTSRV PROCACT
                          PROCESS PROGRAM PROPCNTL PSFMPL PTKTDATA
                          PTKTVAL QCICSPSB QIMS RACFEVNT RACFHC
                          RACFVARS RACGLIST RACHCMBR RAUDITX RCICSRES
                          RDATALIB REALM RIMS RMTOPS RODMMGR ROLE
                          RRSFDATA RVARSMBR SCDMBR SCICSTST SDSF
                          SECDATA SECLABEL SECLMBR SERVAUTH SERVER
                          SFSCMD SIMS SMESSAGE SOMDOBJS STARTED
                          STORCLAS SUBSYSNM SURROGAT SYSMVIEW TAPEVOL
                          TCICSTRN TEMPDSN TERMINAL TIMS TMEADMIN
                          TSOAUTH TSOPROC UCICSTST UIMS UNIXMAP
                          UNIXPRIV VCICSCMD VMBATCH VMBR VMCMD VMEVENT
                          VMLAN VMMAC VMMDISK VMNODE VMPOSIX VMRDR
                          VMSEGMT VMXEVENT VTAMAPPL VXMBR WCICSRES
                          WIMS WRITER XCSFKEY XFACILIT
  AUTOMATIC DATASET PROTECTION IS IN EFFECT
  ENHANCED GENERIC NAMING IS NOT IN EFFECT
  REAL DATA SET NAMES OPTION IS INACTIVE
  JES-BATCHALLRACF OPTION IS INACTIVE
  JES-XBMALLRACF OPTION IS INACTIVE
  JES-EARLYVERIFY OPTION IS INACTIVE
  PROTECT-ALL OPTION IS NOT IN EFFECT
  ***  _
```
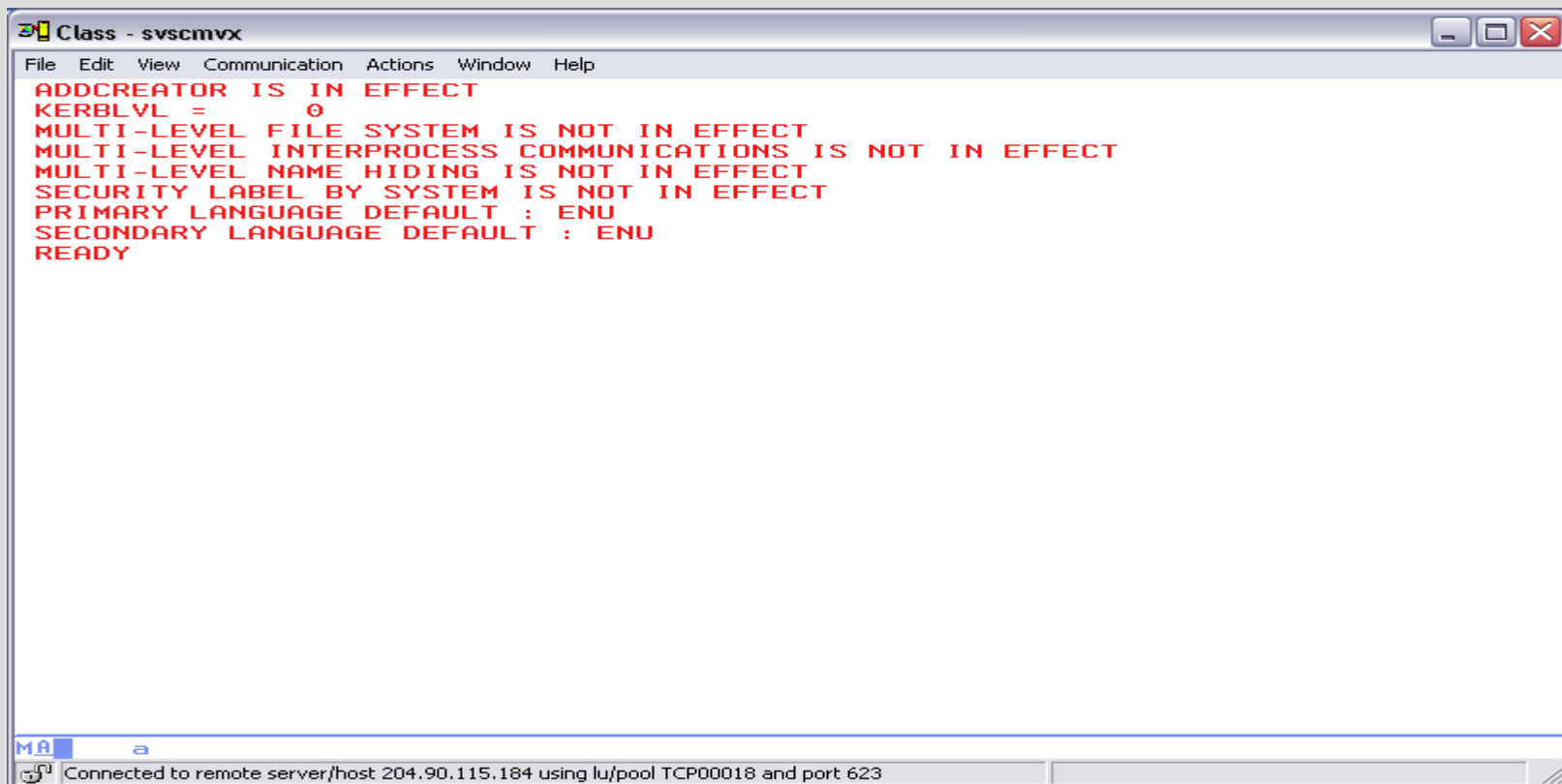
# RACF – System Options



```
Class - svscmvx

File  Edit  View  Communication  Actions  Window  Help

 TAPE DATA SET PROTECTION IS INACTIVE
 SECURITY RETENTION PERIOD IN EFFECT IS      0 DAYS.
 ERASE-ON-SCRATCH IS INACTIVE
 SINGLE LEVEL NAMES NOT ALLOWED
 LIST OF GROUPS ACCESS CHECKING IS ACTIVE.
 INACTIVE USERIDS ARE NOT BEING AUTOMATICALLY REVOKED.
 NO DATA SET MODELLING BEING DONE.
 PASSWORD PROCESSING OPTIONS:
   PASSWORD CHANGE INTERVAL IS  60 DAYS.
   PASSWORD MINIMUM CHANGE INTERVAL IS   0 DAYS.
   MIXED CASE PASSWORD SUPPORT IS NOT IN EFFECT
   NO PASSWORD HISTORY BEING MAINTAINED.
   USERIDS NOT BEING AUTOMATICALLY REVOKED.
   NO PASSWORD EXPIRATION WARNING MESSAGES WILL BE ISSUED.
   NO INSTALLATION PASSWORD SYNTAX RULES ARE PRESENT.
 DEFAULT RVARY PASSWORD IS IN EFFECT FOR THE SWITCH FUNCTION.
 DEFAULT RVARY PASSWORD IS IN EFFECT FOR THE STATUS FUNCTION.
 SECLEVELAUDIT IS INACTIVE
 SECLABEL AUDIT IS NOT IN EFFECT
 SECLABEL CONTROL IS NOT IN EFFECT
 GENERIC OWNER ONLY IS NOT IN EFFECT
 COMPATIBILITY MODE IS NOT IN EFFECT
 MULTI-LEVEL QUIET IS NOT IN EFFECT
 MULTI-LEVEL STABLE IS NOT IN EFFECT
 NO WRITE-DOWN IS NOT IN EFFECT
 MULTI-LEVEL ACTIVE IS NOT IN EFFECT
 CATALOGUED DATA SETS ONLY, IS NOT IN EFFECT
 USER-ID FOR JES NJEUSERID IS : ????????
 USER-ID FOR JES UNDEFINEDUSER IS : ++++++++
 PARTNER LU-VERIFICATION SESSIONKEY INTERVAL MAXIMUM/DEFAULT IS    30 DAYS.
 APPLAUDIT IS NOT IN EFFECT
 ***  _
MA   a

Connected to remote server/host 204.90.115.184 using lu/pool TCP00018 and port 623
```
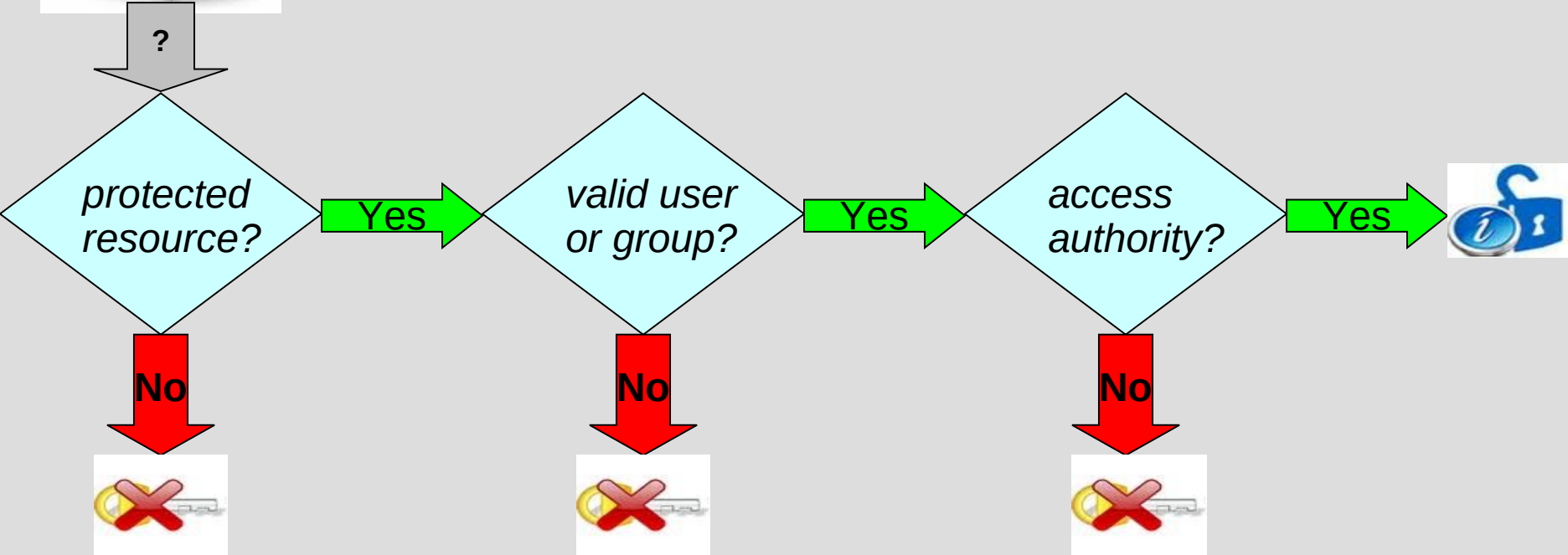
# RACF – System Options



```
Class - svscmvx

File   Edit   View   Communication   Actions   Window   Help

ADDCREATOR IS IN EFFECT
KERBLVL =       0
MULTI-LEVEL FILE SYSTEM IS NOT IN EFFECT
MULTI-LEVEL INTERPROCESS COMMUNICATIONS IS NOT IN EFFECT
MULTI-LEVEL NAME HIDING IS NOT IN EFFECT
SECURITY LABEL BY SYSTEM IS NOT IN EFFECT
PRIMARY LANGUAGE DEFAULT : ENU
SECONDARY LANGUAGE DEFAULT : ENU
READY

MA      a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00018 and port 623
```
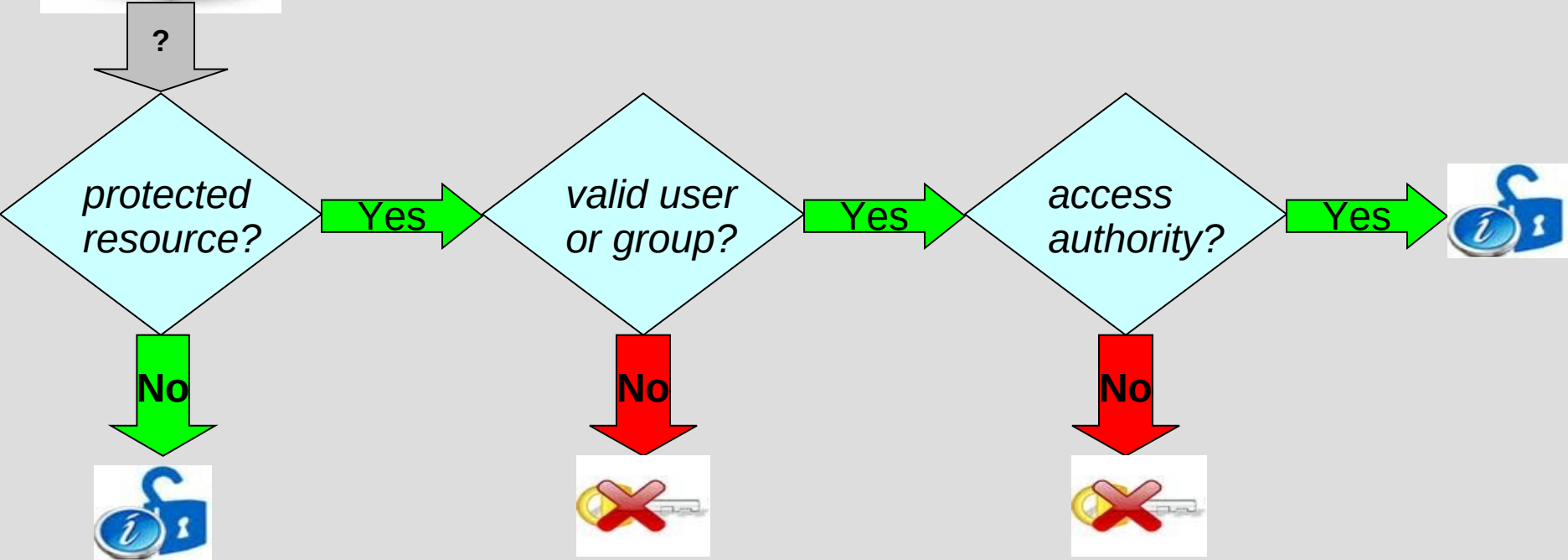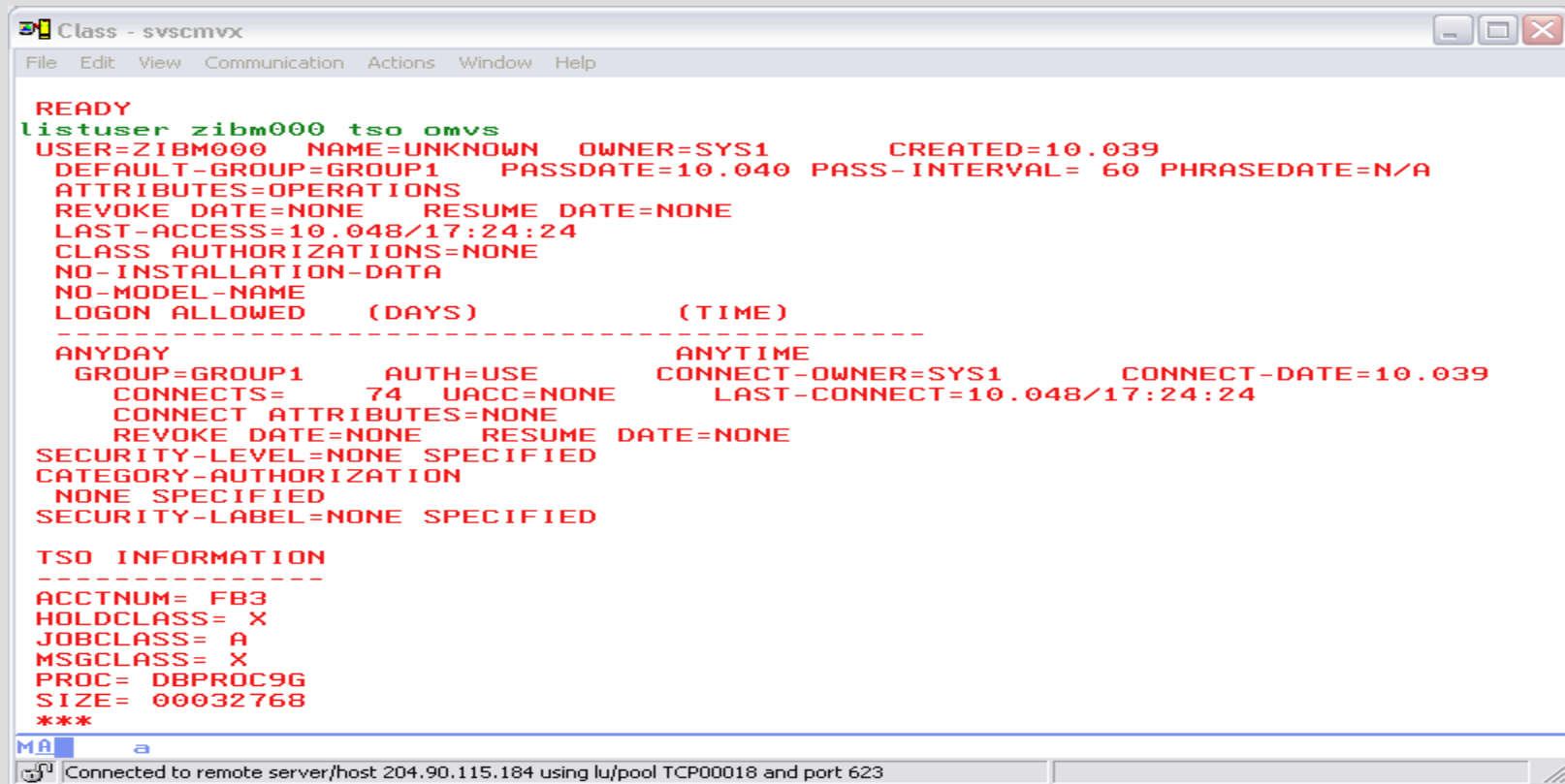
RACF Profile checking
when Protect All in effect

protected resource? — Yes → valid user or group? — Yes → access authority? — Yes →

No

No

No

RACF Profile checking
when Protect All *NOT* in effect

protected resource? → **Yes** → valid user or group? → **Yes** → access authority? → **Yes** →

**No** ↓      **No** ↓      **No** ↓

# RACF – User Profiles
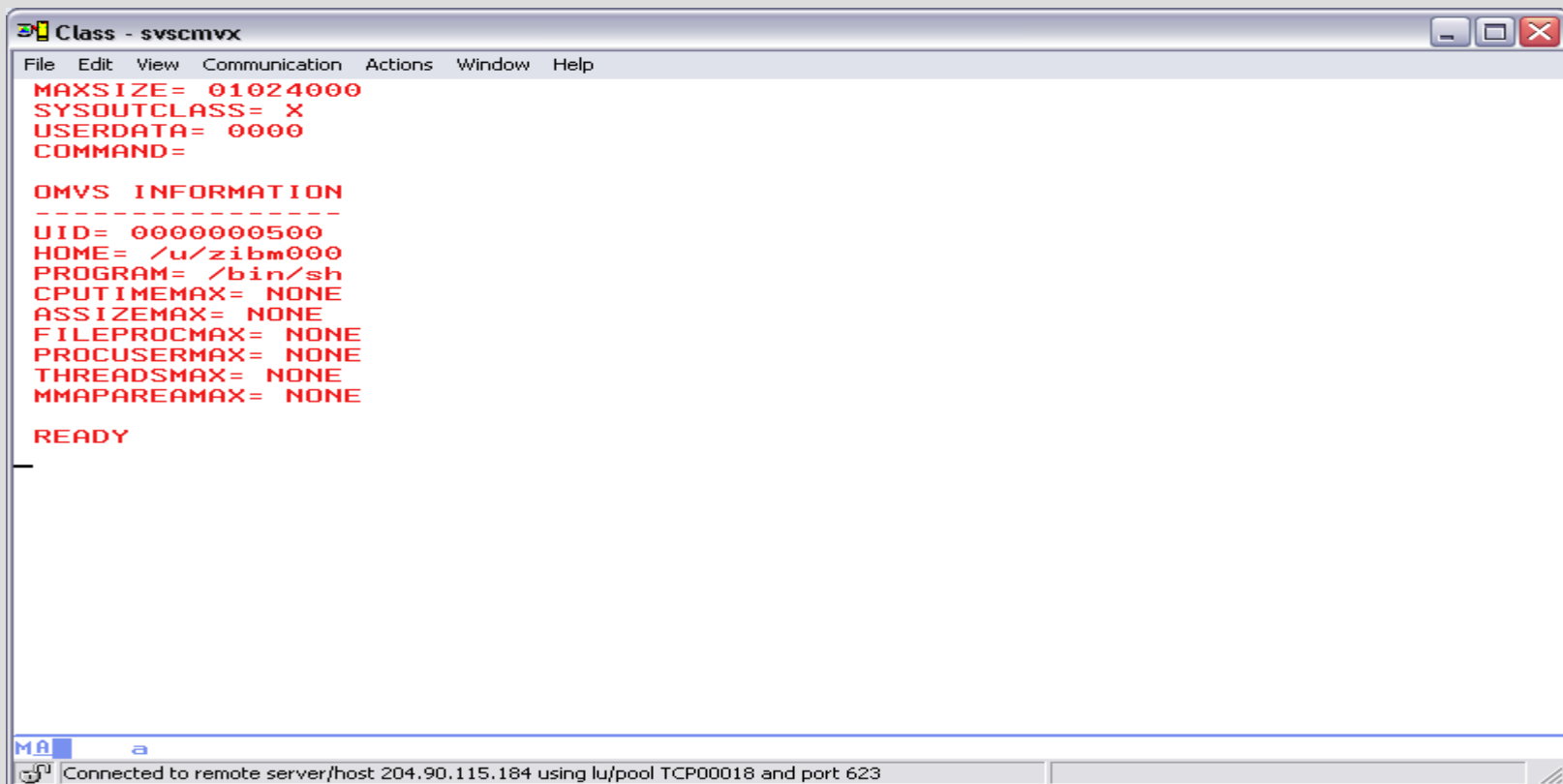


```
READY
listuser zibm000 tso omvs
 USER=ZIBM000   NAME=UNKNOWN    OWNER=SYS1      CREATED=10.039
   DEFAULT-GROUP=GROUP1     PASSDATE=10.040 PASS-INTERVAL= 60 PHRASEDATE=N/A
   ATTRIBUTES=OPERATIONS
   REVOKE DATE=NONE    RESUME DATE=NONE
   LAST-ACCESS=10.048/17:24:24
   CLASS AUTHORIZATIONS=NONE
   NO-INSTALLATION-DATA
   NO-MODEL-NAME
   LOGON ALLOWED    (DAYS)          (TIME)
   -------------------------------------------------
   ANYDAY                           ANYTIME
    GROUP=GROUP1      AUTH=USE       CONNECT-OWNER=SYS1      CONNECT-DATE=10.039
     CONNECTS=     74  UACC=NONE       LAST-CONNECT=10.048/17:24:24
     CONNECT ATTRIBUTES=NONE
     REVOKE DATE=NONE    RESUME DATE=NONE
 SECURITY-LEVEL=NONE SPECIFIED
 CATEGORY-AUTHORIZATION
  NONE SPECIFIED
 SECURITY-LABEL=NONE SPECIFIED

 TSO INFORMATION
 ---------------
 ACCTNUM= FB3
 HOLDCLASS= X
 JOBCLASS= A
 MSGCLASS= X
 PROC= DBPROC9G
 SIZE= 00032768
 ***
```

# RACF – User Profiles

```
Class - svscmvx

File  Edit  View  Communication  Actions  Window  Help

 MAXSIZE=  01024000
 SYSOUTCLASS= X
 USERDATA=  0000
 COMMAND=

 OMVS  INFORMATION
 ----------------
 UID=  0000000500
 HOME=  /u/zibm000
 PROGRAM=  /bin/sh
 CPUTIMEMAX=  NONE
 ASSIZEMAX=  NONE
 FILEPROCMAX=  NONE
 PROCUSERMAX=  NONE
 THREADSMAX=  NONE
 MMAPAREAMAX=  NONE

 READY
 _

MA        a
     Connected to remote server/host 204.90.115.184 using lu/pool TCP00018 and port 623
```
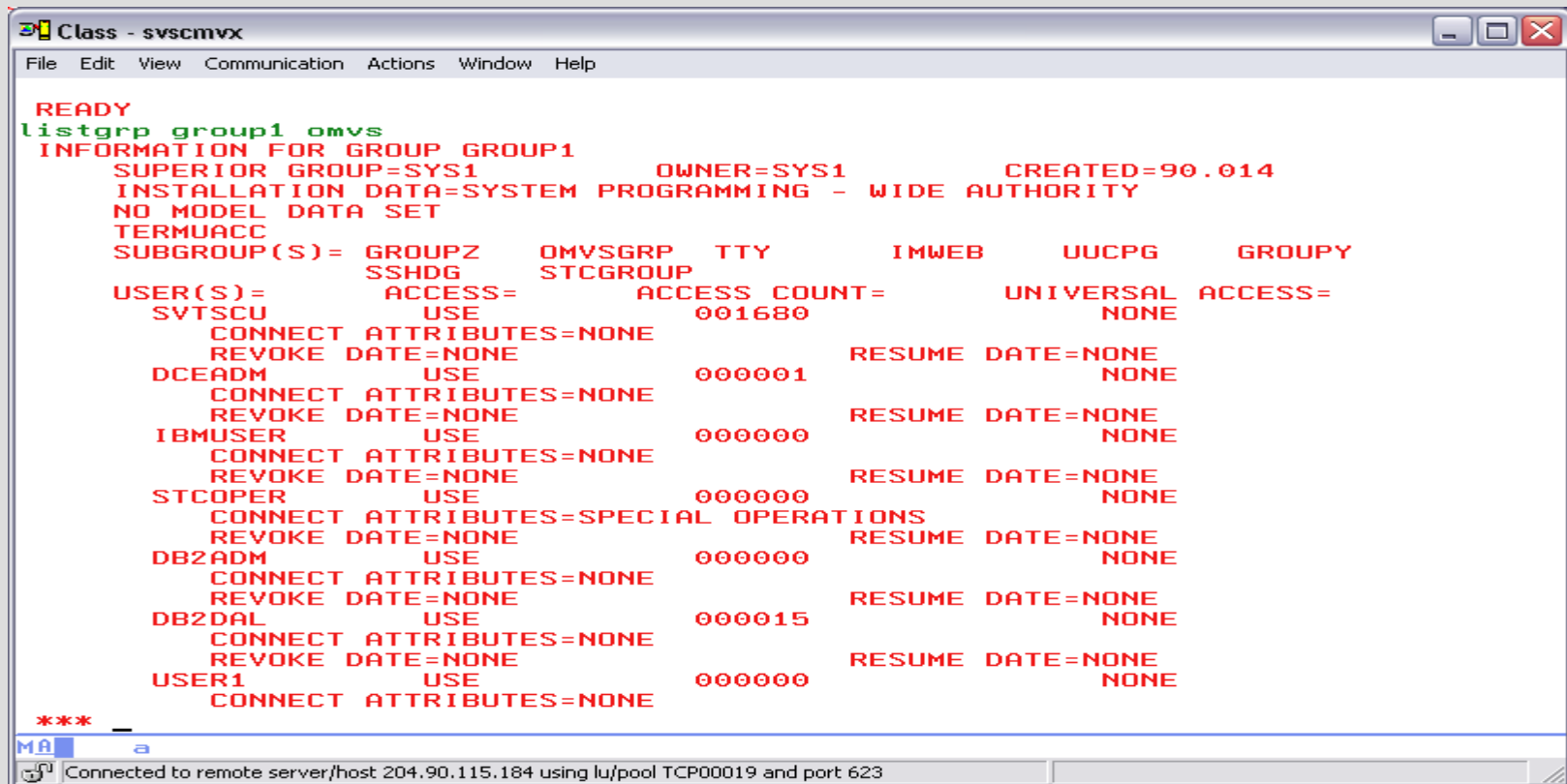
# RACF – Group Profiles



```
 READY
listgrp group1 omvs
 INFORMATION FOR GROUP GROUP1
     SUPERIOR GROUP=SYS1                OWNER=SYS1           CREATED=90.014
     INSTALLATION DATA=SYSTEM PROGRAMMING - WIDE AUTHORITY
     NO MODEL DATA SET
     TERMUACC
     SUBGROUP(S)= GROUPZ    OMVSGRP  TTY       IMWEB      UUCPG      GROUPY
                  SSHDG     STCGROUP
     USER(S)=        ACCESS=        ACCESS COUNT=       UNIVERSAL ACCESS=
       SVTSCU         USE             001680                   NONE
         CONNECT ATTRIBUTES=NONE
         REVOKE DATE=NONE                    RESUME DATE=NONE
       DCEADM         USE             000001                   NONE
         CONNECT ATTRIBUTES=NONE
         REVOKE DATE=NONE                    RESUME DATE=NONE
       IBMUSER        USE             000000                   NONE
         CONNECT ATTRIBUTES=NONE
         REVOKE DATE=NONE                    RESUME DATE=NONE
       STCOPER        USE             000000                   NONE
         CONNECT ATTRIBUTES=SPECIAL OPERATIONS
         REVOKE DATE=NONE                    RESUME DATE=NONE
       DB2ADM         USE             000000                   NONE
         CONNECT ATTRIBUTES=NONE
         REVOKE DATE=NONE                    RESUME DATE=NONE
       DB2DAL         USE             000015                   NONE
         CONNECT ATTRIBUTES=NONE
         REVOKE DATE=NONE                    RESUME DATE=NONE
       USER1          USE             000000                   NONE
         CONNECT ATTRIBUTES=NONE
 ***  _
```

Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623

# RACF – Group Profiles

# RACF – Group Profiles



```
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM027         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM028         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM029         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM030         USE            000005                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM101         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM102         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM103         USE            000000                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE
       ZIBM100         USE            000001                    NONE
           CONNECT ATTRIBUTES=NONE
                REVOKE DATE=NONE                    RESUME DATE=NONE

 OMVS INFORMATION
 ----------------
 GID= 0000000000
 READY
 _
```

# RACF – Data Set & General Resource Profiles



```
|
 READY
ld da('zibm000.*') all
 INFORMATION FOR DATASET ZIBM000.* (G)

 LEVEL    OWNER       UNIVERSAL ACCESS      WARNING     ERASE
 -----    --------    ----------------      -------     -----
  00      ZIBM000          NONE               NO         NO

 AUDITING
 --------
 FAILURES(READ)

 NOTIFY
 --------
 NO USER TO BE NOTIFIED

 YOUR ACCESS    CREATION GROUP    DATASET TYPE
 -----------    --------------    ------------
   ALTER           SYS1            NON-VSAM

 GLOBALAUDIT
 -----------
  NONE

 NO INSTALLATION DATA

                  SECURITY LEVEL
 ----------------------------------------------
 NO SECURITY LEVEL

 ***  _
MA        a
```
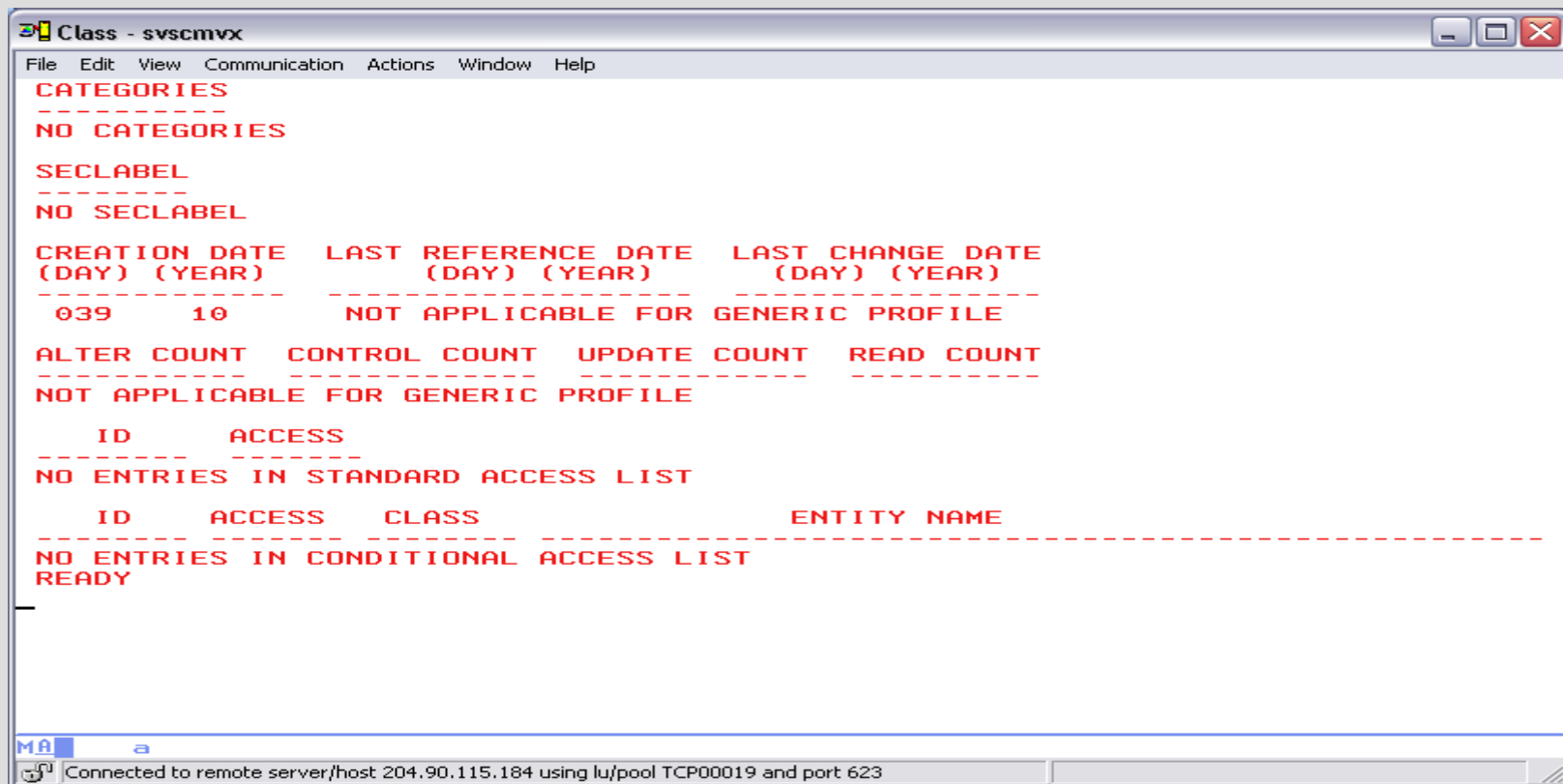
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623

# RACF – Data Set & General Resource Profiles

# RACF – Data Set & General Resource Profiles

# RACF – Data Set & General Resource Profiles



```
AUDITING
---------
FAILURES(READ)

GLOBALAUDIT
-----------
NONE

NOTIFY
------
NO USER TO BE NOTIFIED

CREATION DATE      LAST REFERENCE DATE    LAST CHANGE DATE
 (DAY) (YEAR)          (DAY) (YEAR)          (DAY) (YEAR)
--------------     --------------------   ----------------
   014     90             014    90            014    90

ALTER COUNT      CONTROL COUNT      UPDATE COUNT      READ COUNT
-----------      -------------      ------------      ----------
   000001            000001            000001            000001

USER          ACCESS      ACCESS COUNT
----          ------      ------ -----
GROUP1        READ         000000
SYS1          READ         000000
DASUSER       READ         000000
ZIBM000       READ         000000
ZIBM001       READ         000000
ZIBM002       READ         000000
ZIBM003       READ         000000
ZIBM004       READ         000000
***  _
```
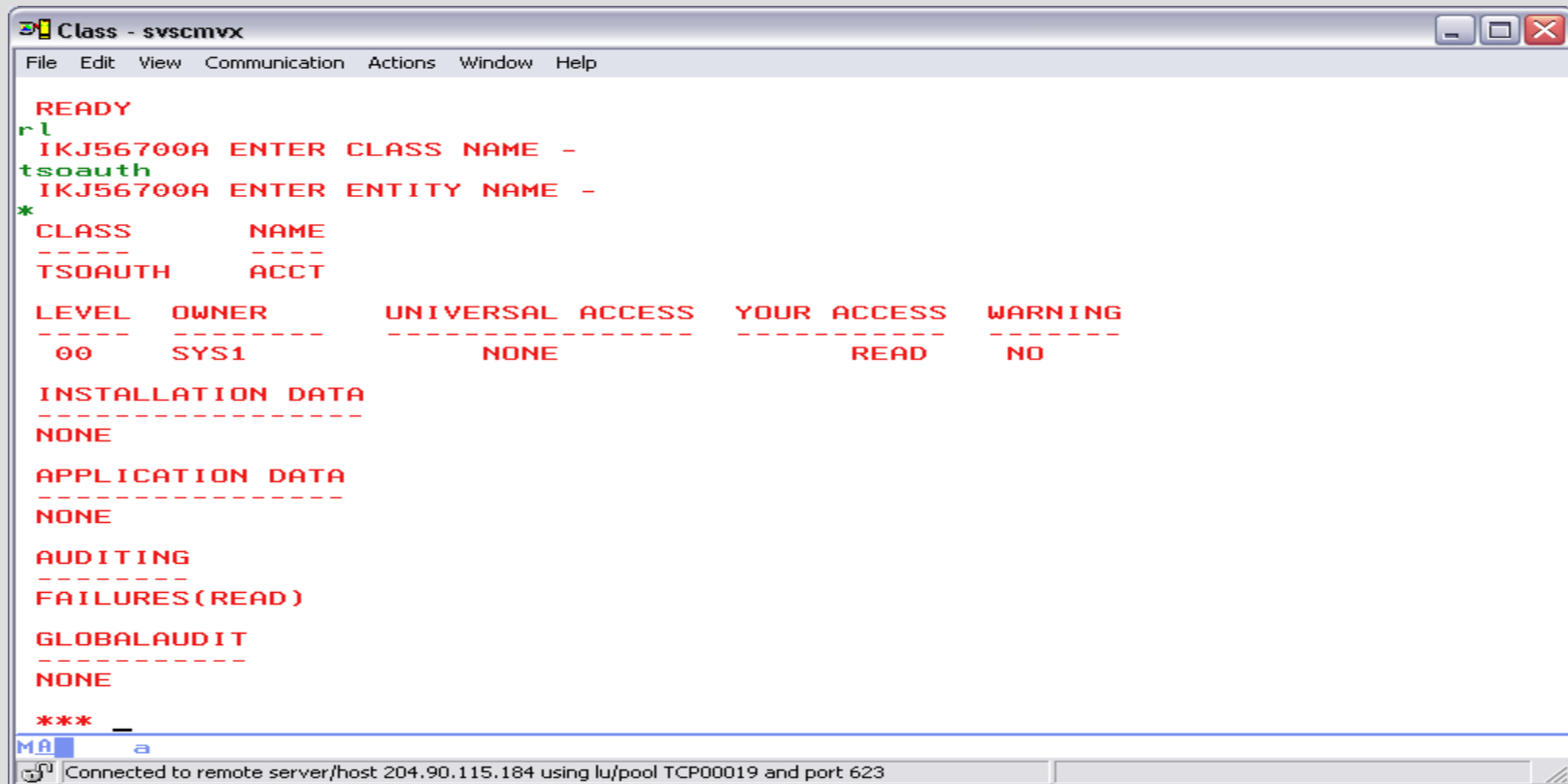
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623

# RACF – Resource Classes

# RACF – Resource Classes



```
Class - svscmvx
File  Edit  View  Communication  Actions  Window  Help

NOTIFY
------
NO USER TO BE NOTIFIED


CLASS        NAME
-----        ----
TSOAUTH      CONSOLE

LEVEL   OWNER        UNIVERSAL ACCESS   YOUR ACCESS   WARNING
-----   -----        ----------------   -----------   -------
 00     GROUP1            NONE             READ         NO

INSTALLATION DATA
-----------------
DEFINITIONS TO GET TSO/E EXTENDED CONSOLES

APPLICATION DATA
----------------
NONE

AUDITING
--------
FAILURES(READ)

GLOBALAUDIT
-----------
NONE

NOTIFY
***  _
MA      a
```
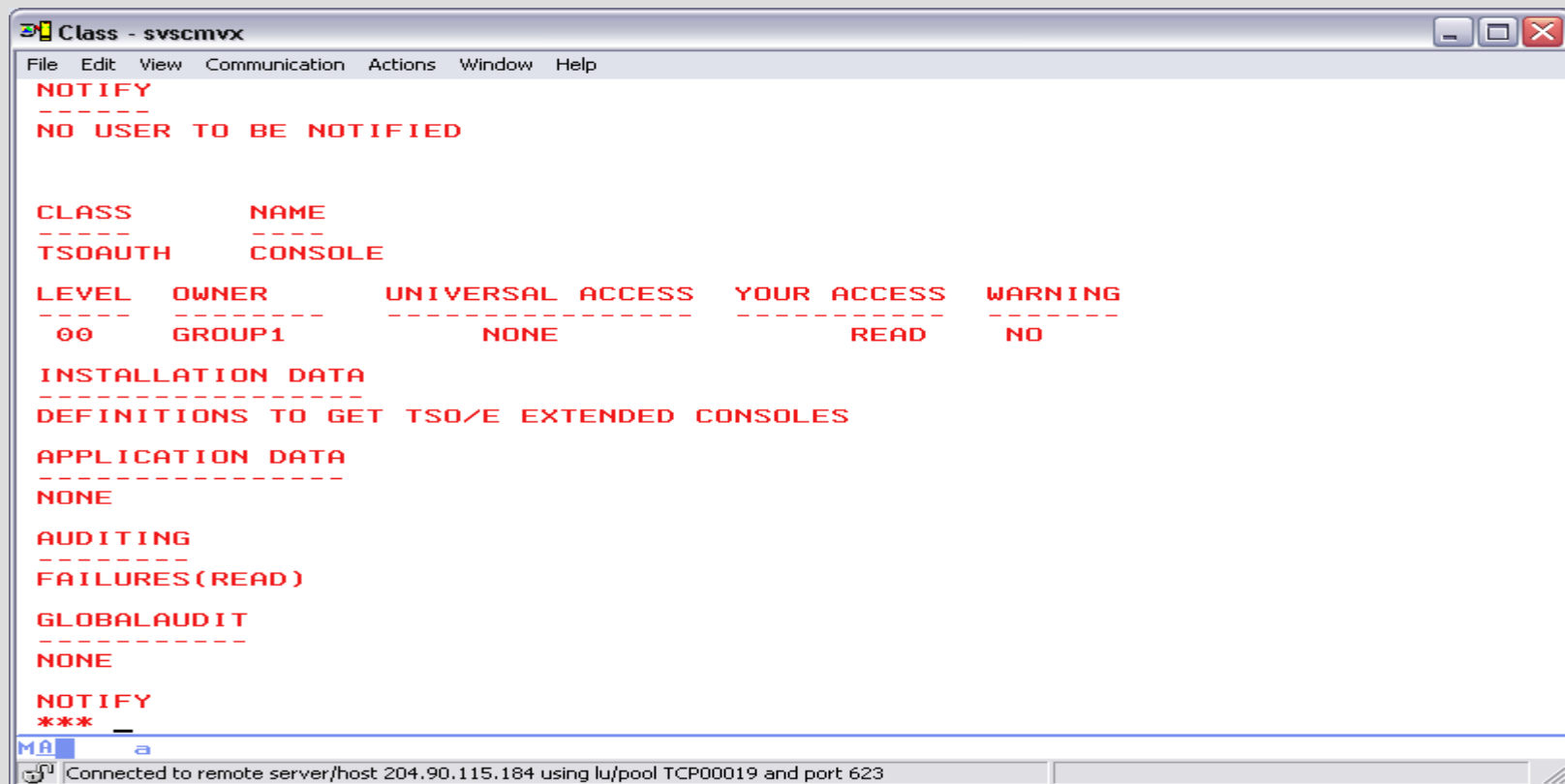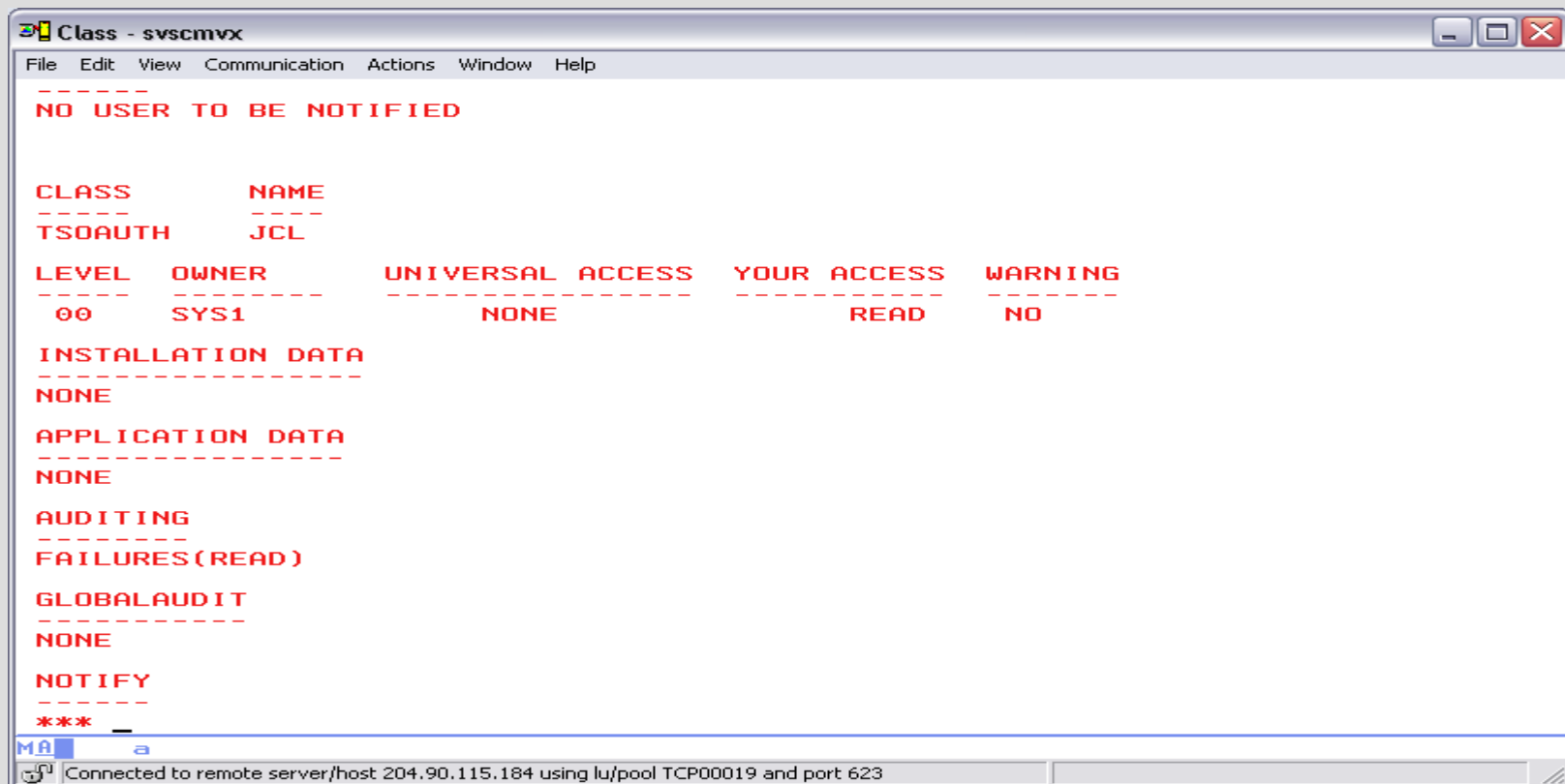
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623

# RACF – Resource Classes

# RACF – Resource Classes

# RACF – TSO Command Help



```
 READY
help rlist

 FUNCTION
 RLIST (List general resource profile)

     Use the RLIST command to display information on resources
     belonging to classes specified in the class descriptor table. Note
     that the DATASET, USER, and GROUP classes are not defined in the
     class descriptor table.

     Note: The RLIST command might provide unpredictable results when
           searching on the DIGTCERT and DIGTRING classes. Due to the
           lowercase characters in these classes, the profile filter on
           the RLIST command might not function correctly.

     RACF uses the class descriptor table to determine if a class is
     defined to RACF, the syntax of resource names within the class,
     and whether the class is a resource grouping class.

     Profiles are listed in alphabetical order. Generic profiles are
     listed in the same order as they are searched for a resource
     match. (This also applies to the names in the global access
     table.)

     RACF date handling: RACF interprets dates with 2-digit years as
     follows. (The yy value represents the 2-digit year.)
     *   If 70 <  yy <= 99, the date is interpreted as 19yy.
     *   If 00 <= yy <= 70, the date is interpreted as 20yy.

 ***
```

# RACF – TSO Command Help

```
Class - svscmvx                                                    _  □  ✕

File   Edit   View   Communication   Actions   Window   Help

Issuing options

    The following table identifies the eligible options for issuing
    the RLIST command:

+--------------+--------------+--------------+--------------+--------------+
| As a RACF    | As a RACF    | With         | With         | From the     |
| TSO          | operator     | command      | automatic    | RACF         |
| command?     | command?     | direction?   | command      | parameter    |
|              |              |              | direction?   | library?     |
+--------------+--------------+--------------+--------------+--------------+
| Yes          | Yes          | Yes          | No           | Yes          |
+--------------+--------------+--------------+--------------+--------------+

    For information on issuing this command as a RACF TSO command or
    as a RACF operator command, see z/OS Security Server RACF Command
    Language Reference.

    You must be logged on to the console to issue this command as a
    RACF operator command.

Related commands
    *   To list a data set profile, see "LISTDSD (List data set
        profile)".
    *   To list a user profile, see "LISTUSER (List user
        profile)".
    *   To list a group profile, see "LISTGRP (List group
        profile)".
    *   To obtain a list of general resource profiles, see
        "SEARCH (Search RACF database)".

 ***  _
MA    a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```
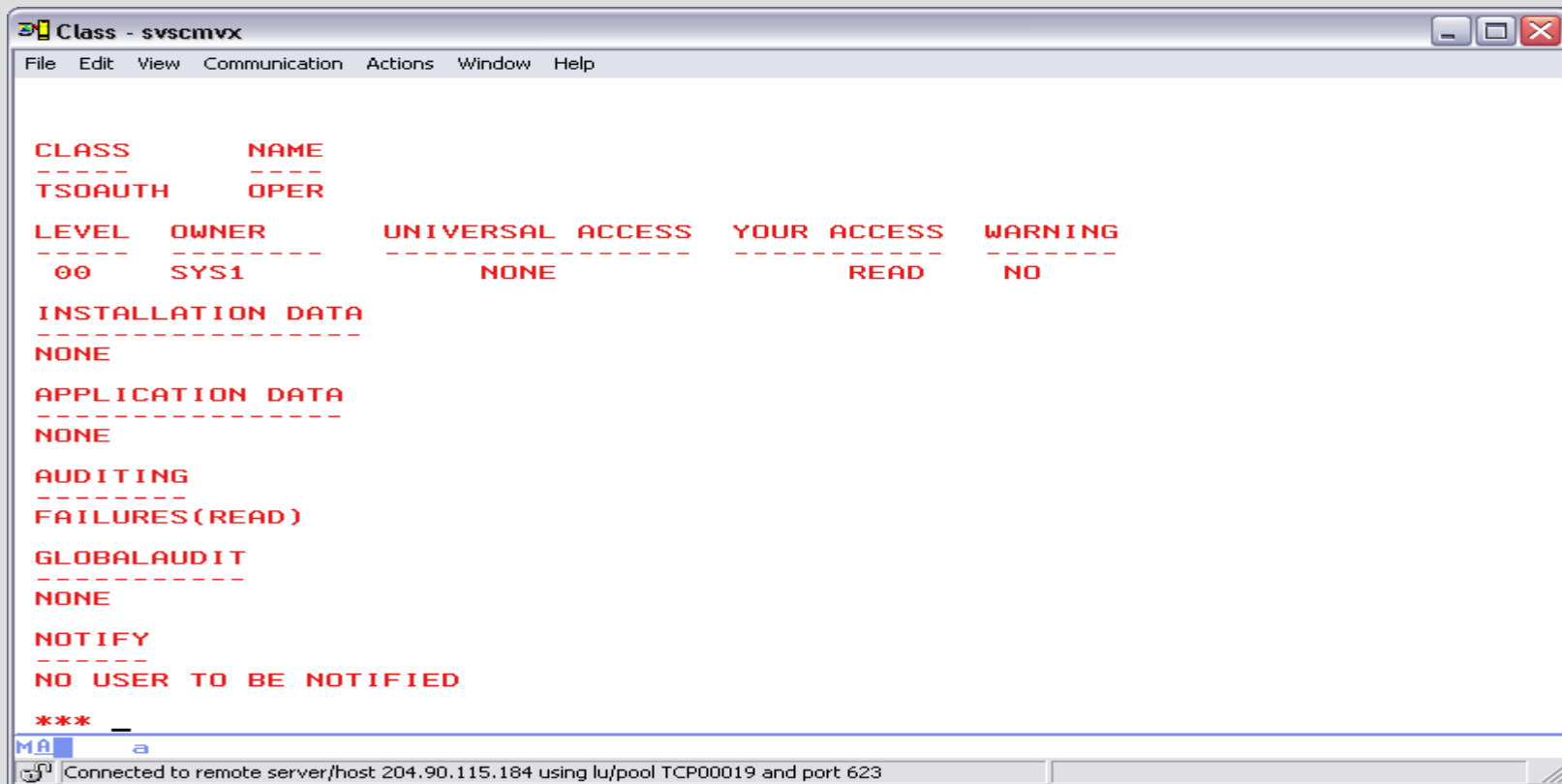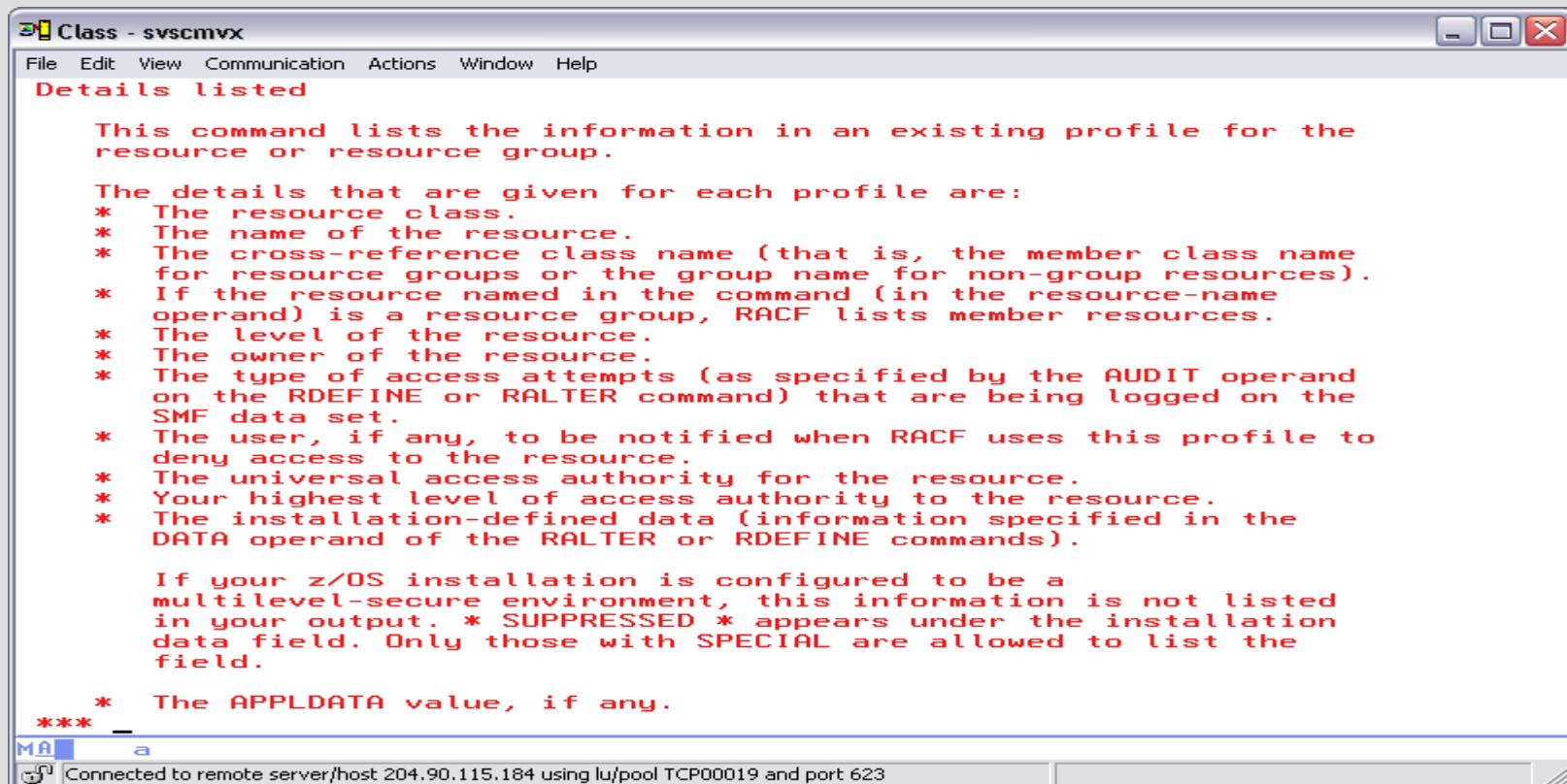
# RACF – TSO Command Help



```
Class - svscmvx                                                    _ □ ✕

File   Edit   View   Communication   Actions   Window   Help

Details listed

    This command lists the information in an existing profile for the
    resource or resource group.

    The details that are given for each profile are:
    *   The resource class.
    *   The name of the resource.
    *   The cross-reference class name (that is, the member class name
        for resource groups or the group name for non-group resources).
    *   If the resource named in the command (in the resource-name
        operand) is a resource group, RACF lists member resources.
    *   The level of the resource.
    *   The owner of the resource.
    *   The type of access attempts (as specified by the AUDIT operand
        on the RDEFINE or RALTER command) that are being logged on the
        SMF data set.
    *   The user, if any, to be notified when RACF uses this profile to
        deny access to the resource.
    *   The universal access authority for the resource.
    *   Your highest level of access authority to the resource.
    *   The installation-defined data (information specified in the
        DATA operand of the RALTER or RDEFINE commands).

        If your z/OS installation is configured to be a
        multilevel-secure environment, this information is not listed
        in your output. * SUPPRESSED * appears under the installation
        data field. Only those with SPECIAL are allowed to list the
        field.

    *   The APPLDATA value, if any.
***  _
MA        a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```

# RACF – TSO Command Help



```
              you  have  the  group-AUDITOR  attribute.
     *   You  have  alter  access  for  the  profile  name  from  the  GLOBAL
         ENTRY  TABLE  (if  this  table  contains  an  entry  for  the  profile).
     *   If  the  profile  is  in  the  FILE  or  DIRECTORY  class,  the  second
         qualifier  of  the  profile  name  is  your  user  ID.
     *   For  a  discrete  profile,  you  are  on  the  access  list  for  the
         resource  and  you  have  ALTER  authority.  (If  you  have  any  other
         level  of  authority,  you  cannot  use  the  operand.)
     *   For  a  discrete  profile,  your  current  connect  group  (or,  if
         list-of-groups  checking  is  active,  any  group  to  which  you  are
         connected)  is  in  the  access  list  and  has  ALTER  authority.
     *   For  a  discrete  profile,  the  universal  access  authority  of  the
         resource  is  ALTER.


SYNTAX
RLIST

The  complete  syntax  of  the  RLIST  command  is:

+-----------------------------------------------------------------------------+
|  subsystem-prefixRLIST  |  subsystem-prefixRL                                |
+-------+---------------------------------------------------------------------+
|       |  class-name                                                         |
+-------+---------------------------------------------------------------------+
|       |  (profile-name ...) | *                                             |
+-------+---------------------------------------------------------------------+
|       |   ALL                                                               |
+-------+---------------------------------------------------------------------+
|       |   AT(node.userid ...) | ONLYAT(node.userid ...)                     |
+-------+---------------------------------------------------------------------+
***  _
```
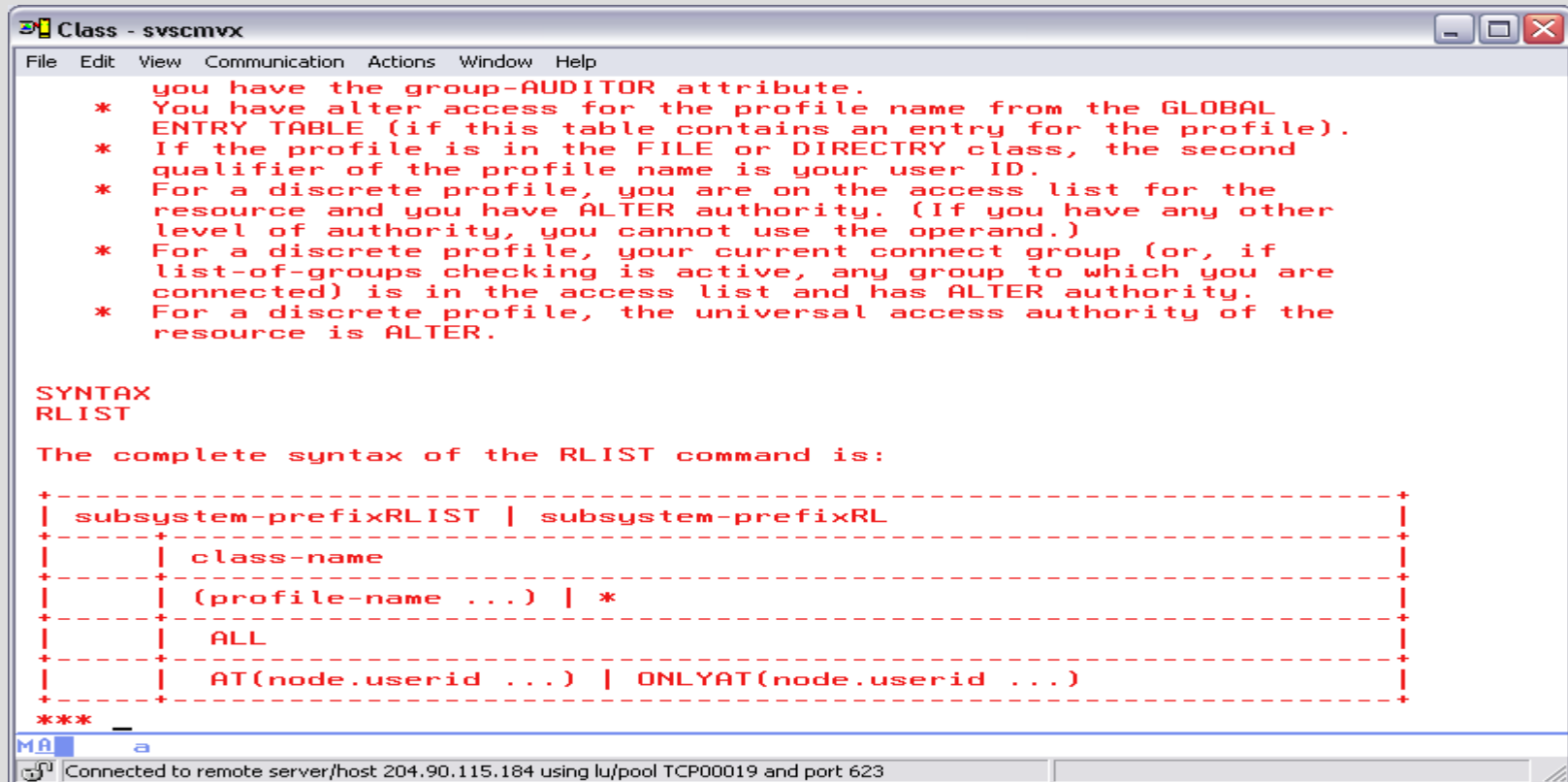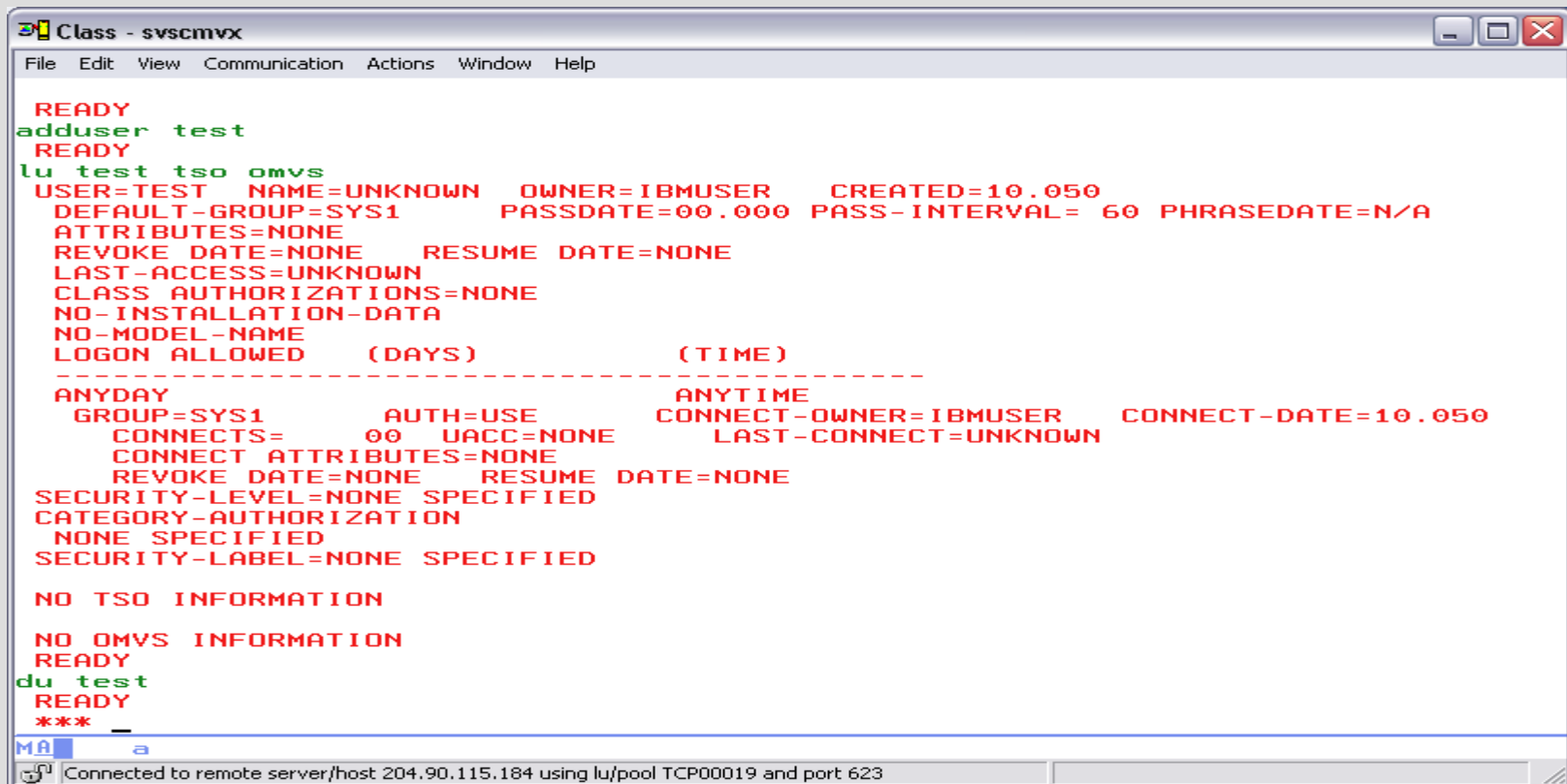
MA         a

Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623

# RACF – Add User Profile



```
 READY
adduser  test
 READY
lu  test  tso  omvs
 USER=TEST   NAME=UNKNOWN   OWNER=IBMUSER    CREATED=10.050
  DEFAULT-GROUP=SYS1         PASSDATE=00.000 PASS-INTERVAL= 60 PHRASEDATE=N/A
  ATTRIBUTES=NONE
  REVOKE DATE=NONE    RESUME DATE=NONE
  LAST-ACCESS=UNKNOWN
  CLASS AUTHORIZATIONS=NONE
  NO-INSTALLATION-DATA
  NO-MODEL-NAME
  LOGON ALLOWED   (DAYS)          (TIME)
  --------------------------------------------
  ANYDAY                          ANYTIME
   GROUP=SYS1        AUTH=USE        CONNECT-OWNER=IBMUSER    CONNECT-DATE=10.050
     CONNECTS=     00  UACC=NONE        LAST-CONNECT=UNKNOWN
     CONNECT ATTRIBUTES=NONE
     REVOKE DATE=NONE    RESUME DATE=NONE
 SECURITY-LEVEL=NONE SPECIFIED
 CATEGORY-AUTHORIZATION
  NONE SPECIFIED
 SECURITY-LABEL=NONE SPECIFIED

 NO TSO INFORMATION

 NO OMVS INFORMATION
 READY
du test
 READY
 ***  _
```
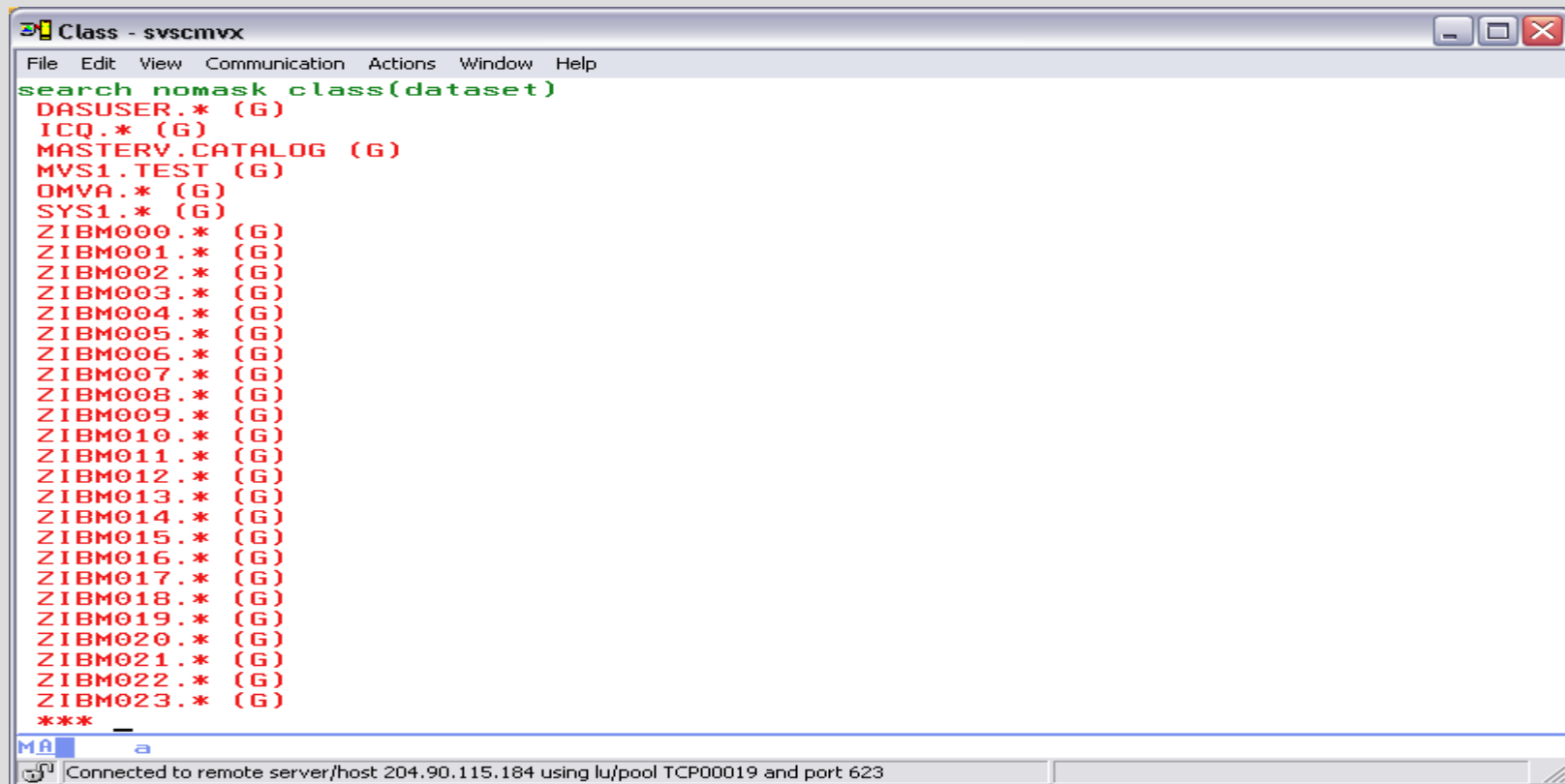
# RACF – Search



```
Class - svscmvx                                              [_][□][X]
File  Edit  View  Communication  Actions  Window  Help
search nomask class(dataset)
 DASUSER.* (G)
 ICQ.* (G)
 MASTERV.CATALOG (G)
 MVS1.TEST (G)
 OMVA.* (G)
 SYS1.* (G)
 ZIBM000.* (G)
 ZIBM001.* (G)
 ZIBM002.* (G)
 ZIBM003.* (G)
 ZIBM004.* (G)
 ZIBM005.* (G)
 ZIBM006.* (G)
 ZIBM007.* (G)
 ZIBM008.* (G)
 ZIBM009.* (G)
 ZIBM010.* (G)
 ZIBM011.* (G)
 ZIBM012.* (G)
 ZIBM013.* (G)
 ZIBM014.* (G)
 ZIBM015.* (G)
 ZIBM016.* (G)
 ZIBM017.* (G)
 ZIBM018.* (G)
 ZIBM019.* (G)
 ZIBM020.* (G)
 ZIBM021.* (G)
 ZIBM022.* (G)
 ZIBM023.* (G)
 ***
MA          a
    Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```
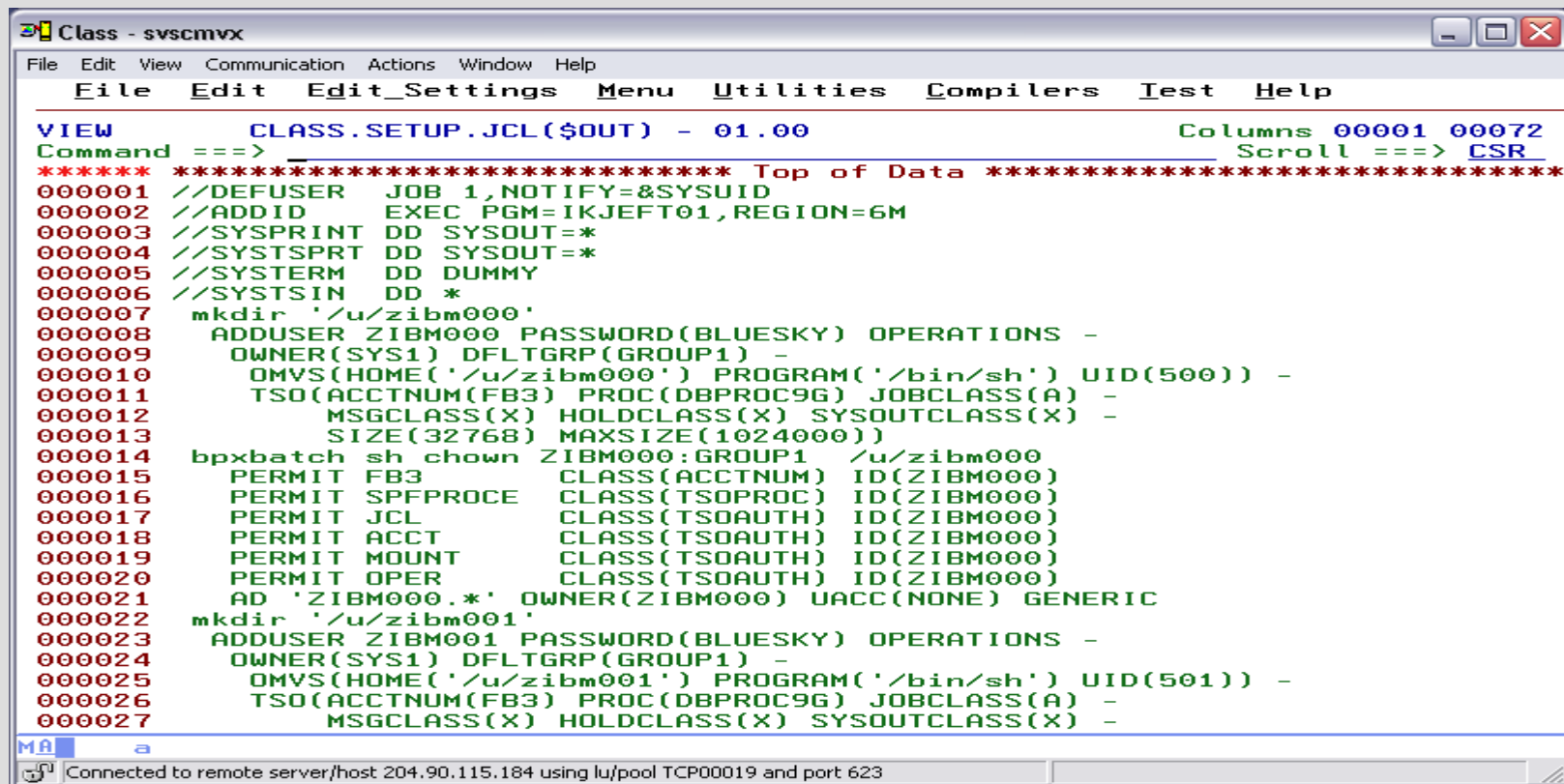
# RACF – Search

# RACF – Add User Profile with TSO and Unix Segment



```
Class - svscmvx

File  Edit  View  Communication  Actions  Window  Help

  File      Edit    Edit_Settings    Menu    Utilities    Compilers    Test    Help

VIEW           CLASS.SETUP.JCL($OUT) - 01.00                    Columns 00001 00072
Command ===> _                                                  Scroll ===> CSR
****** *************************** Top of Data ***************************
000001 //DEFUSER   JOB 1,NOTIFY=&SYSUID
000002 //ADDID      EXEC PGM=IKJEFT01,REGION=6M
000003 //SYSPRINT DD SYSOUT=*
000004 //SYSTSPRT DD SYSOUT=*
000005 //SYSTERM  DD DUMMY
000006 //SYSTSIN  DD *
000007  mkdir '/u/zibm000'
000008   ADDUSER ZIBM000 PASSWORD(BLUESKY) OPERATIONS -
000009    OWNER(SYS1) DFLTGRP(GROUP1) -
000010    OMVS(HOME('/u/zibm000') PROGRAM('/bin/sh') UID(500)) -
000011    TSO(ACCTNUM(FB3) PROC(DBPROC9G) JOBCLASS(A) -
000012      MSGCLASS(X) HOLDCLASS(X) SYSOUTCLASS(X) -
000013      SIZE(32768) MAXSIZE(1024000))
000014  bpxbatch sh chown ZIBM000:GROUP1  /u/zibm000
000015   PERMIT FB3        CLASS(ACCTNUM) ID(ZIBM000)
000016   PERMIT SPFPROCE   CLASS(TSOPROC) ID(ZIBM000)
000017   PERMIT JCL        CLASS(TSOAUTH) ID(ZIBM000)
000018   PERMIT ACCT       CLASS(TSOAUTH) ID(ZIBM000)
000019   PERMIT MOUNT      CLASS(TSOAUTH) ID(ZIBM000)
000020   PERMIT OPER       CLASS(TSOAUTH) ID(ZIBM000)
000021   AD 'ZIBM000.*' OWNER(ZIBM000) UACC(NONE) GENERIC
000022  mkdir '/u/zibm001'
000023   ADDUSER ZIBM001 PASSWORD(BLUESKY) OPERATIONS -
000024    OWNER(SYS1) DFLTGRP(GROUP1) -
000025    OMVS(HOME('/u/zibm001') PROGRAM('/bin/sh') UID(501)) -
000026    TSO(ACCTNUM(FB3) PROC(DBPROC9G) JOBCLASS(A) -
000027      MSGCLASS(X) HOLDCLASS(X) SYSOUTCLASS(X) -
MA    a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```

# RACF – Adding a TSO and Unix Profile



```
File   Edit   View   Communication   Actions   Window   Help

   File    Edit    Edit_Settings    Menu    Utilities    Compilers    Test    Help

VIEW          CLASS.LAB.EXEC(DEFZID) - 01.01              Columns 00001 00072
Command ===> _                                             Scroll ===> CSR
****** ************************** Top of Data **************************
000001 /* REXX */
000002 "FREE FI(indd)"
000003 "FREE FI(outdd)"
000004 "FREE FI(alias)"
000005 "ALLOC FI(indd)  DA('CLASS.SETUP.JCL($IN)') SHR REUSE"
000006 "ALLOC FI(outdd) DA('CLASS.SETUP.JCL($OUT)') OLD REUSE"
000007 "ALLOC FI(alias) DA('CLASS.SETUP.JCL($ALIAS)') OLD REUSE"
000008 "EXECIO 0 DISKW alias (OPEN "
000009 "EXECIO 0 DISKW outdd (OPEN "
000010 /***********************************************************/
000011 d.1 = '//DEFALIAS JOB 1,NOTIFY=&SYSUID'
000012 d.2 = '//ALIAS EXEC PGM=IDCAMS'
000013 d.3 = '//SYSPRINT  DD SYSOUT=*'
000014 d.4 = '//SYSIN   DD *'
000015 "EXECIO 4 DISKW alias (stem d.        "
000016 /***********************************************************/
000017 l.1 = '//DEFUSER   JOB 1,NOTIFY=&SYSUID'
000018 l.2 = '//ADDID     EXEC PGM=IKJEFT01,REGION=6M'
000019 l.3 = '//SYSPRINT DD SYSOUT=*'
000020 l.4 = '//SYSTSPRT DD SYSOUT=*'
000021 l.5 = '//SYSTERM  DD DUMMY'
000022 l.6 = '//SYSTSIN   DD *'
000023 "EXECIO * DISKW outdd (stem l.        "
000024 /***********************************************************/
000025 "EXECIO * DISKR indd  (STEM u. FINIS"
000026 do i=1 to u.0
000027 u = space(u.i)
MA     a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```

# RACF – Adding a TSO and Unix Profile



```
Class - svscmvx

File  Edit  View  Communication  Actions  Window  Help

   File     Edit   Edit_Settings    Menu    Utilities    Compilers    Test    Help

VIEW         CLASS.LAB.EXEC(DEFZID) - 01.01              Columns 00001 00072
Command ===>                                             Scroll ===> CSR
000025 "EXECIO * DISKR indd  (STEM u. FINIS"
000026 do i=1 to u.0
000027 u = space(u.i)
000028 l=translate(u,'abcdefghijklmnopqrstuvwxyz','ABCDEFGHIJKLMNOPQRSTUVWXYZ')
000029 U=translate(u,'ABCDEFGHIJKLMNOPQRSTUVWXYZ','abcdefghijklmnopqrstuvwxyz')
000030 uid = 499+i
000031 grp = GROUP1
000032 l.1 = " mkdir '/u/"l"'"
000033 L.2 = '   ADDUSER 'U' PASSWORD('BLUESKY') OPERATIONS - '
000034 l.3 = '   OWNER(SYS1) DFLTGRP('grp') - '
000035 l.4 = "    OMVS(HOME('/u/"l") PROGRAM('/bin/sh') UID("uid")) - "
000036 l.5 = '    TSO(ACCTNUM(FB3) PROC(DBPROC9G) JOBCLASS(A) - '
000037 l.6 = '       MSGCLASS(X) HOLDCLASS(X) SYSOUTCLASS(X) - '
000038 l.7 = '       SIZE(32768) MAXSIZE(1024000))'
000039 l.8 = ' bpxbatch sh chown' U':GROUP1 ' /u/'l
000040 l.9 = '      PERMIT FB3       CLASS(ACCTNUM) ID('U')'
000041 l.10 = '     PERMIT SPFPROCE  CLASS(TSOPROC) ID('U')'
000042 l.11 = '     PERMIT JCL       CLASS(TSOAUTH) ID('U')'
000043 l.12 = '     PERMIT ACCT      CLASS(TSOAUTH) ID('U')'
000044 l.13 = '     PERMIT MOUNT     CLASS(TSOAUTH) ID('U')'
000045 l.14 = '     PERMIT OPER      CLASS(TSOAUTH) ID('U')'
000046 l.15 = '     AD '''U'.*'' OWNER('U') UACC(NONE) GENERIC'
000047 "EXECIO * DISKW outdd (stem l.       "
000048 /***********************************************************/
000049 d.1 = '   DEFINE ALIAS(NAME('U') RELATE(CATALOG.USERAA))'
000050 "EXECIO 1 DISKW alias (stem d.      "
000051 /***********************************************************/
000052 end
MA    a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00019 and port 623
```
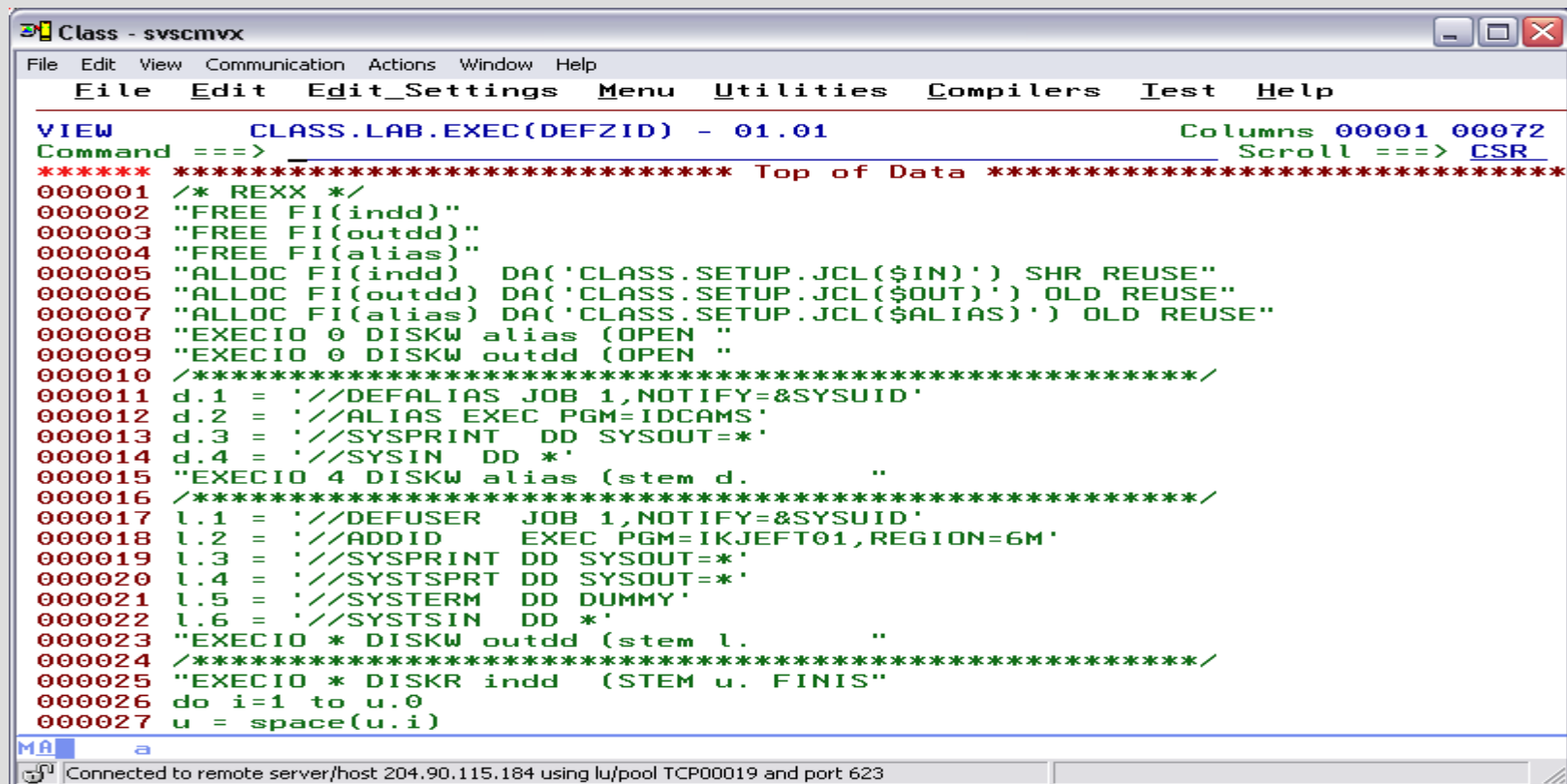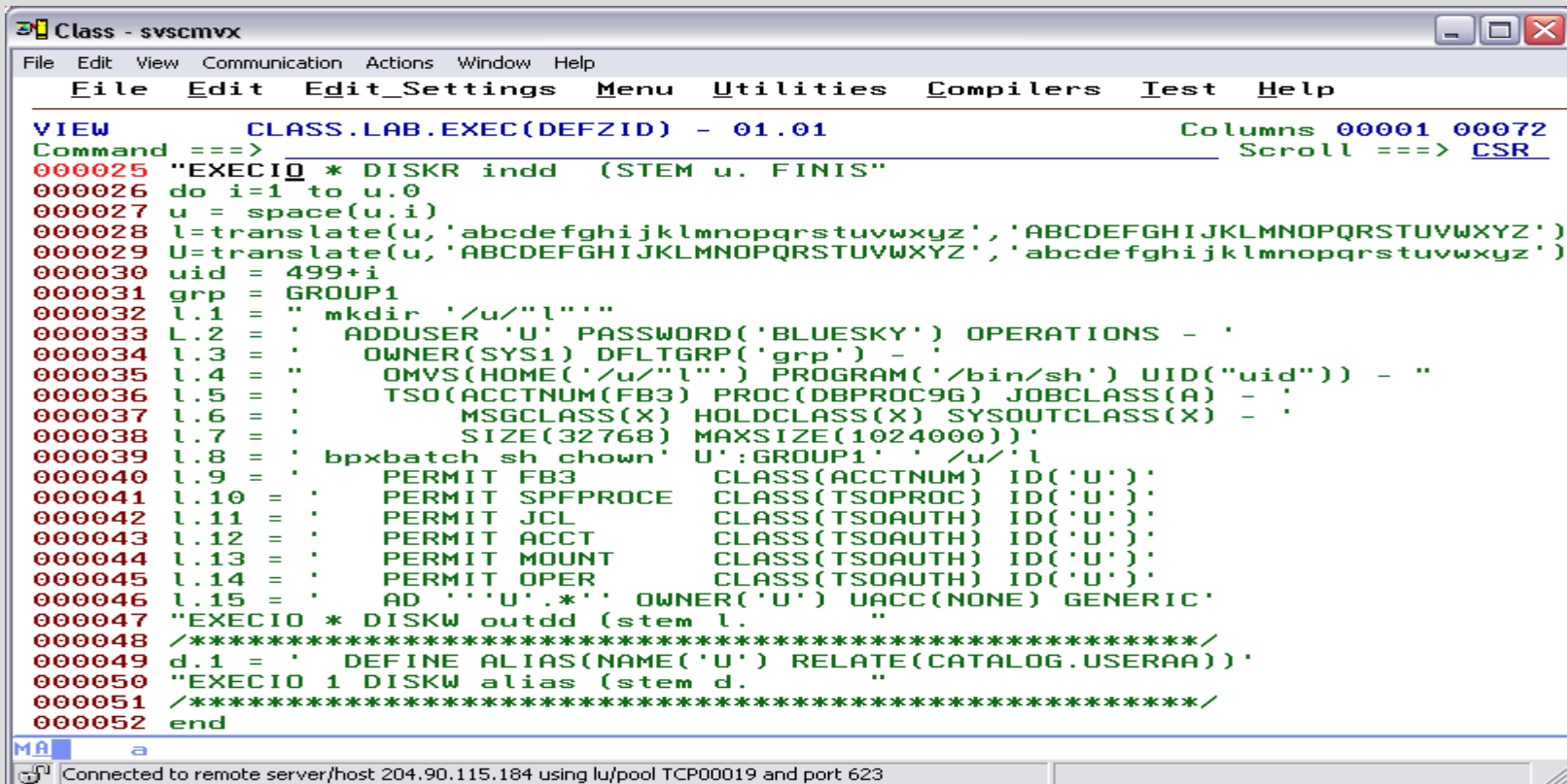
# RACF – User Attributes

SPECIAL -  At the system level can issue all RACF commands and is used only for special users, RACF Administrator. This attribute gives the user full control over all of the RACF profiles in the RACF database.

*Users with the SPECIAL attribute do not have access to all resources, but they can use commands to give themselves access to all resources.*

## RACF User Attributes

OPERATIONS - Has full access authorization to all RACF-protected resources in the classes DATASET, DASDVOL, GDASDVOL, PSFMPL, TAPEVOL, VMBATCH, VMCMD, VMMDISK, VMNODE, and VMRDR classes.
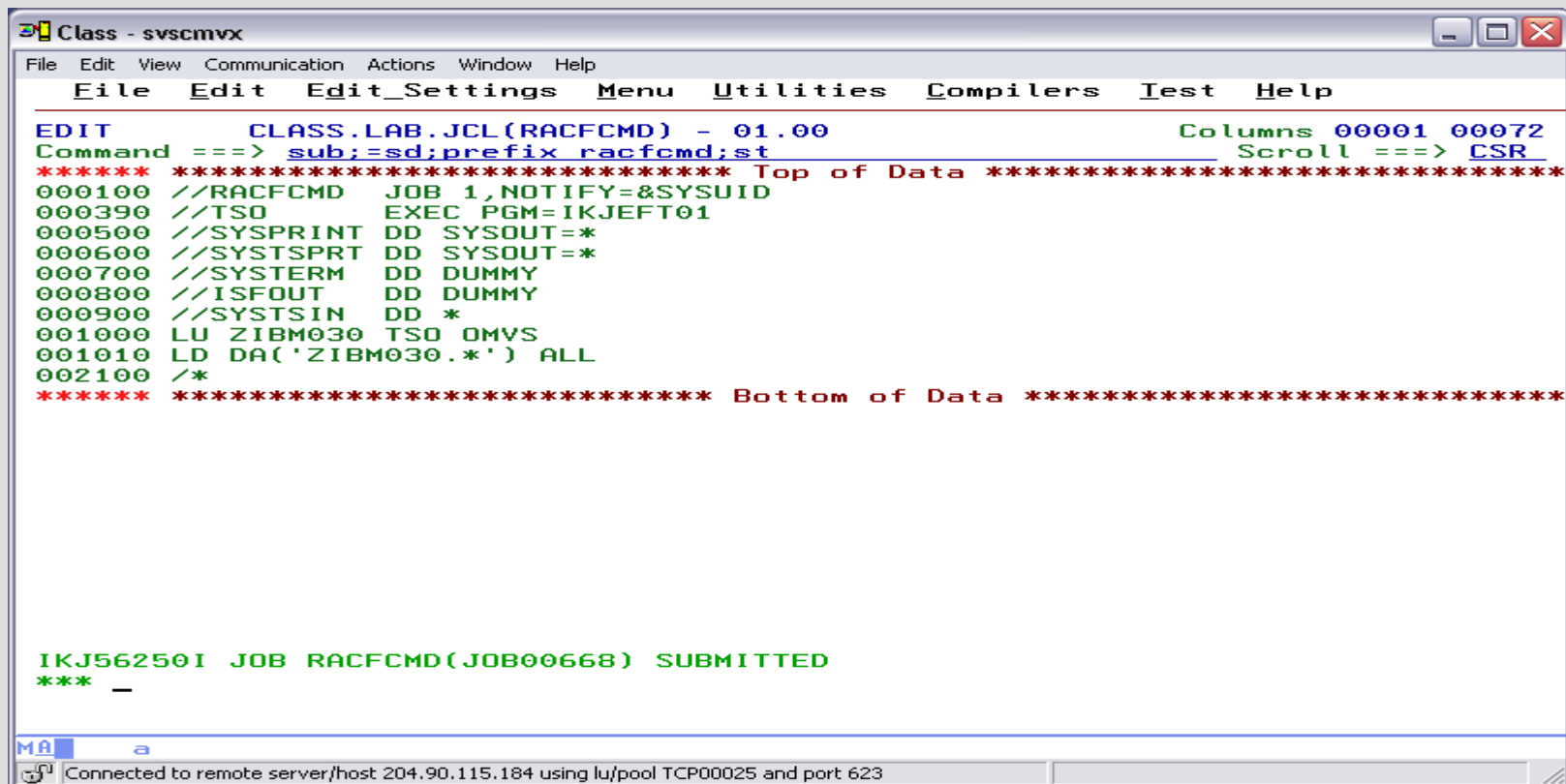
# RACF User Attributes

AUDITOR - The AUDITOR attribute is given to users who are responsible for auditing RACF security controls and functions. To provide a check and balance on RACF security measures, you should give the AUDITOR attribute to security or group administrators other than those who have the SPECIAL attribute.

# RACF User Attributes

REVOKE - You can prevent a RACF user from entering the system by assigning the REVOKE attribute. This attribute is useful when you want to prevent a user from entering the system, but you can or will not use the DELUSER command because the user still owns RACF resource profiles.

## RACF Commands in Batch

## RACF Commands in Batch

# RACF Commands in Batch

# RACF Commands in Batch

# RACF Commands in Batch



```
Class - svscmvx

File   Edit   View   Communication   Actions   Window   Help

    Display    Filter    View    Print    Options    Help
-----------------------------------------------------------------------------
 SDSF OUTPUT DISPLAY RACFCMD    JOB00668   DSID    103 LINE 48      COLUMNS 02- 81
 COMMAND INPUT ===> _                                       SCROLL ===> CSR
READY
LD DA('ZIBM030.*') ALL
INFORMATION FOR DATASET ZIBM030.* (G)

LEVEL   OWNER      UNIVERSAL ACCESS      WARNING    ERASE
-----   --------   ----------------      -------    ------
 00     ZIBM030          NONE              NO        NO

AUDITING
--------
FAILURES(READ)

NOTIFY
--------
NO USER TO BE NOTIFIED

YOUR ACCESS    CREATION GROUP    DATASET TYPE
-----------    --------------    ------------
   ALTER           SYS1            NON-VSAM

GLOBALAUDIT
-----------
 NONE

NO INSTALLATION DATA

               SECURITY LEVEL
-----------------------------------------------------------
MA       a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```
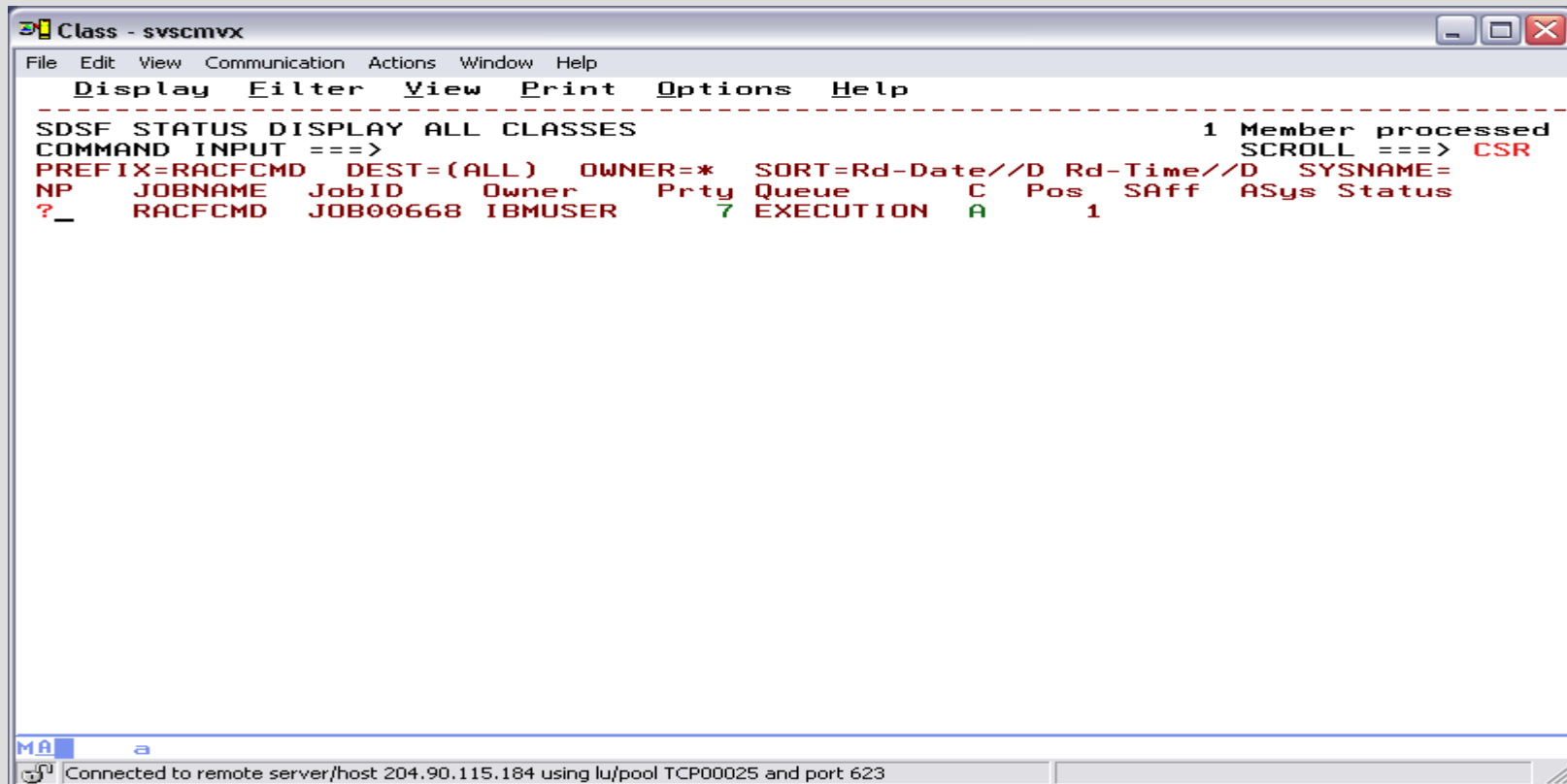
# RACF Command



```
Class - svscmvx                                                    _ □ X
File  Edit  View  Communication  Actions  Window  Help

   Display    Filter    View    Print    Options    Help
-------------------------------------------------------------------------
HQX7760 ----------------- SDSF PRIMARY OPTION MENU ----------------------
COMMAND INPUT ===> ulog;/>rvary;ulog_              SCROLL ===> CSR

DA     Active users              INIT   Initiators
I      Input queue               PR     Printers
O      Output queue              PUN    Punches
H      Held output queue         RDR    Readers
ST     Status of jobs            LINE   Lines
                                 NODE   Nodes
LOG    System log                SO     Spool offload
SR     System requests           SP     Spool volumes
MAS    Members in the MAS
JC     Job classes               RM     Resource monitor
SE     Scheduling environments   CK     Health checker
RES    WLM resources
ENC    Enclaves                  ULOG   User session log
PS     Processes

END    Exit SDSF



MA     a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```
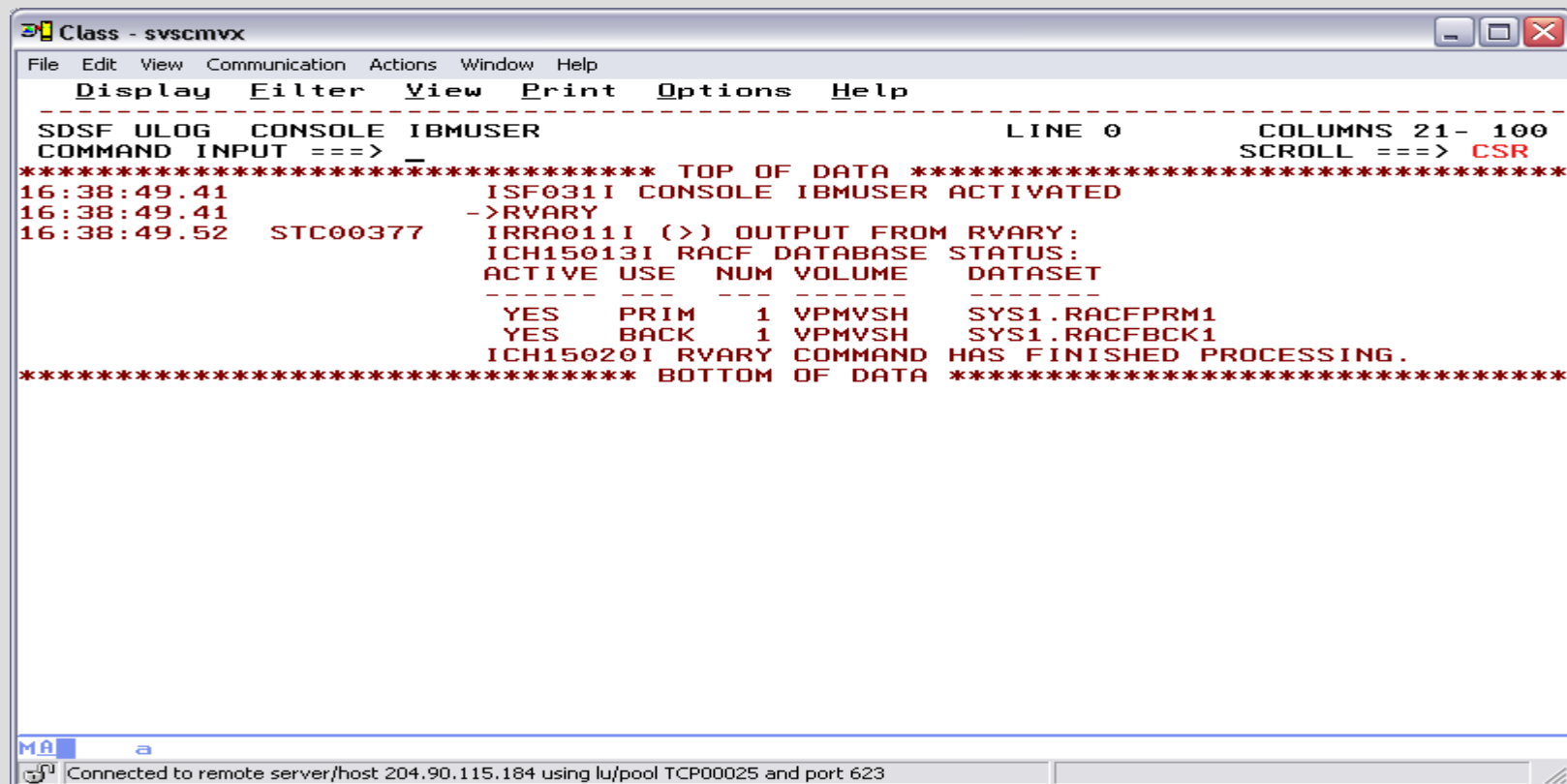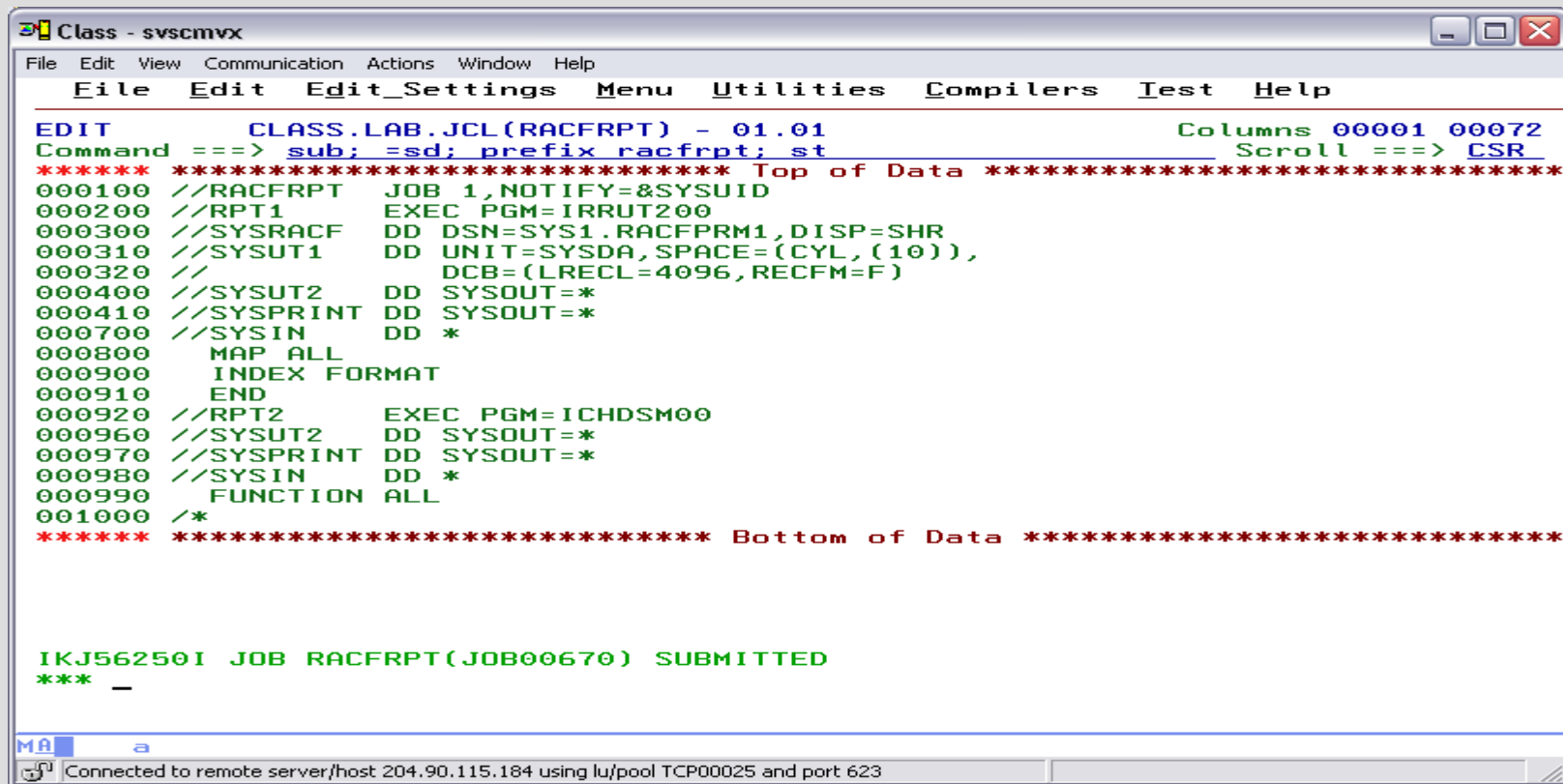
## RACF Command



```
 Class - svscmvx                                                    _ □ ✕
File  Edit  View  Communication  Actions  Window  Help
     Display    Filter    View    Print    Options    Help
  -----------------------------------------------------------------------
  SDSF ULOG   CONSOLE IBMUSER                      LINE 0        COLUMNS 21- 100
  COMMAND INPUT ===> _                                          SCROLL ===> CSR
************************************* TOP OF DATA ******************************
16:38:49.41                    ISF031I CONSOLE IBMUSER ACTIVATED
16:38:49.41                    ->RVARY
16:38:49.52    STC00377        IRRA011I (>) OUTPUT FROM RVARY:
                               ICH15013I RACF DATABASE STATUS:
                               ACTIVE USE   NUM VOLUME    DATASET
                               ------ ---   --- ------    -------
                                 YES   PRIM   1 VPMVSH    SYS1.RACFPRM1
                                 YES   BACK   1 VPMVSH    SYS1.RACFBCK1
                               ICH15020I RVARY COMMAND HAS FINISHED PROCESSING.
*********************************** BOTTOM OF DATA *****************************




MA    a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```

# RACF Administrator Utility

```
Class - svscmvx                                                    _ □ ✕

File  Edit  View  Communication  Actions  Window  Help

 File    Edit    Edit_Settings    Menu    Utilities    Compilers    Test    Help

EDIT          CLASS.LAB.JCL(RACFRPT) - 01.01              Columns 00001 00072
Command ===> sub; =sd; prefix racfrpt; st                        Scroll ===> CSR
****** *********************************** Top of Data ***************************
000100 //RACFRPT   JOB 1,NOTIFY=&SYSUID
000200 //RPT1      EXEC PGM=IRRUT200
000300 //SYSRACF   DD DSN=SYS1.RACFPRM1,DISP=SHR
000310 //SYSUT1    DD UNIT=SYSDA,SPACE=(CYL,(10)),
000320 //               DCB=(LRECL=4096,RECFM=F)
000400 //SYSUT2    DD SYSOUT=*
000410 //SYSPRINT DD SYSOUT=*
000700 //SYSIN     DD *
000800    MAP ALL
000900     INDEX FORMAT
000910     END
000920 //RPT2      EXEC PGM=ICHDSM00
000960 //SYSUT2    DD SYSOUT=*
000970 //SYSPRINT DD SYSOUT=*
000980 //SYSIN     DD *
000990    FUNCTION ALL
001000 /*
****** *********************************** Bottom of Data *************************



 IKJ56250I JOB RACFRPT(JOB00670) SUBMITTED
 ***  _

MA         a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```

## RACF Administrator Utility

# RACF Administrator Utility

```
Class - svscmvx                                                    _ □ ✕

File  Edit  View  Communication  Actions  Window  Help

   Display   Filter   View   Print   Options   Help
--------------------------------------------------------------------------------
SDSF JOB DATA SET DISPLAY - JOB RACFRPT   (JOB00670)      LINE 1-7 (7)
COMMAND INPUT ===>                                    SCROLL ===> CSR
PREFIX=RACFRPT   DEST=(ALL)   OWNER=*   SYSNAME=
NP    DDNAME    StepName ProcStep DSID Owner    C Dest          Rec-Cnt Page
      JESMSGLG  JES2              2    IBMUSER   W LOCAL              19
      JESJCL    JES2              3    IBMUSER   W LOCAL              13
      JESYSMSG  JES2              4    IBMUSER   W LOCAL              28
      SYSUT2    RPT1            103    IBMUSER   W LOCAL               4
 s    SYSPRINT  RPT1            104    IBMUSER   W LOCAL           1,299
 s_   SYSUT2    RPT2            105    IBMUSER   W LOCAL           1,187
      SYSPRINT  RPT2            106    IBMUSER   W LOCAL              21




MA   a
  Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```
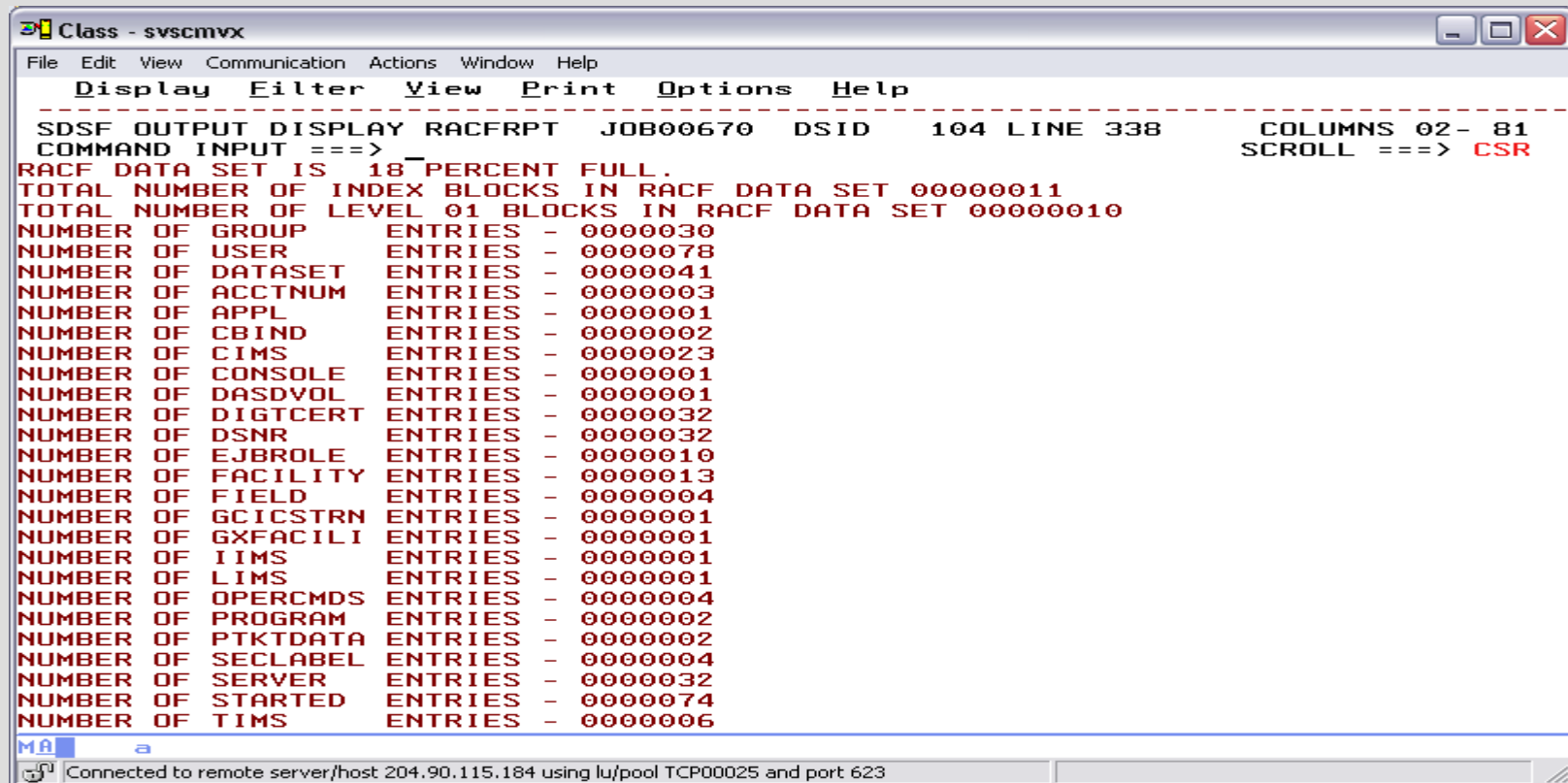
# RACF Administrator Utility

```
Class - svscmvx                                               _ □ X

File  Edit  View  Communication  Actions  Window  Help

    Display   Filter   View   Print   Options   Help
 ----------------------------------------------------------------
  SDSF  OUTPUT DISPLAY RACFRPT    JOB00670   DSID   104 LINE 338       COLUMNS 02- 81
  COMMAND INPUT ===> _                                         SCROLL ===> CSR
 RACF DATA SET IS  18 PERCENT FULL.
 TOTAL NUMBER OF INDEX BLOCKS IN RACF DATA SET 00000011
 TOTAL NUMBER OF LEVEL 01 BLOCKS IN RACF DATA SET 00000010
 NUMBER OF GROUP     ENTRIES - 0000030
 NUMBER OF USER      ENTRIES - 0000078
 NUMBER OF DATASET   ENTRIES - 0000041
 NUMBER OF ACCTNUM   ENTRIES - 0000003
 NUMBER OF APPL      ENTRIES - 0000001
 NUMBER OF CBIND     ENTRIES - 0000002
 NUMBER OF CIMS      ENTRIES - 0000023
 NUMBER OF CONSOLE   ENTRIES - 0000001
 NUMBER OF DASDVOL   ENTRIES - 0000001
 NUMBER OF DIGTCERT  ENTRIES - 0000032
 NUMBER OF DSNR      ENTRIES - 0000032
 NUMBER OF EJBROLE   ENTRIES - 0000010
 NUMBER OF FACILITY  ENTRIES - 0000013
 NUMBER OF FIELD     ENTRIES - 0000004
 NUMBER OF GCICSTRN  ENTRIES - 0000001
 NUMBER OF GXFACILI  ENTRIES - 0000001
 NUMBER OF IIMS      ENTRIES - 0000001
 NUMBER OF LIMS      ENTRIES - 0000001
 NUMBER OF OPERCMDS  ENTRIES - 0000004
 NUMBER OF PROGRAM   ENTRIES - 0000002
 NUMBER OF PTKTDATA  ENTRIES - 0000002
 NUMBER OF SECLABEL  ENTRIES - 0000004
 NUMBER OF SERVER    ENTRIES - 0000032
 NUMBER OF STARTED   ENTRIES - 0000074
 NUMBER OF TIMS      ENTRIES - 0000006
MA       a
  Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```

# RACF Administrator Utility



```
Class - svscmvx

File  Edit  View  Communication  Actions  Window  Help

   Display   Filter   View   Print   Options   Help
---------------------------------------------------------------------
 SDSF OUTPUT DISPLAY RACFRPT   JOB00670   DSID     105 LINE   DATA SET DISPLAYED
 COMMAND INPUT ===> _                                      SCROLL ===> CSR
******************************* TOP OF DATA *******************************
RACF DATA SECURITY MONITOR
                                                 S Y S T E M     R E P O R T

CPU-ID                             0178E0
CPU MODEL                          2097
OPERATING SYSTEM/LEVEL             z/OS 1.11.0
SYSTEM RESIDENCE VOLUME            VIMVSB
SMF-ID                             S0W1
RACF (FMID HRF7760) IS ACTIVE
RACF DATA SECURITY MONITOR
                           P R O G R A M   P R O P E R T I E S   T A B L
PROGRAM             BYPASS PASSWORD          SYSTEM
NAME                PROTECTION               KEY
---------------------------------------------------------------------
IEDQTCAM              NO                      YES
ISTINM01             YES                      YES
IKTCAS00              NO                      YES
AHLGTF               NO                      YES
HHLGTF               NO                      YES
IHLGTF               NO                      YES
IEFIIC               NO                      YES
IEEMB860            YES                      YES
IEEVMNT2             NO                      YES
IASXWR00             NO                      YES
CSVVFCRE             NO                      YES
HASJES20             NO                      YES
DFSMVRC0             NO                      YES
MA          a
Connected to remote server/host 204.90.115.184 using lu/pool TCP00025 and port 623
```

# RACF Administrator Utility

File   Edit   View   Communication   Actions   Window   Help

```
     Display    Filter    View    Print    Options    Help
 --------------------------------------------------------------------------------
  SDSF  OUTPUT DISPLAY  RACFRPT    JOB00670   DSID     105 LINE 146        COLUMNS 02- 81
  COMMAND  INPUT ===> _                                                    SCROLL ===> CSR
                                      S E L E C T E D     U S E R      A T T R I B U T
 USERID                   ------------------- ATTRIBUTE TYPE ----------------- -------
                          SPECIAL              OPERATIONS      AUDITOR         REVOKE      NODE.US

 --------------------------------------------------------------------------------
 DB2ADM                   SYSTEM               SYSTEM
 DB2DAL                   SYSTEM               SYSTEM                                      SYSTEM
 DB8GRFSH                                      SYSTEM
 DB9GENVQ                                      SYSTEM
 DB9GENV5                                      SYSTEM
 DB9GENV6                                      SYSTEM
 DB9GENV7                                      SYSTEM
 DB9GRFSH                                      SYSTEM
 DCEADM                   SYSTEM               SYSTEM
 IBMUSER                  SYSTEM               SYSTEM          SYSTEM
 OPER                     SYSTEM
 STCOPER                  SYSTEM               GROUP
 STRTASK                  SYSTEM               SYSTEM
 SVTSCU                   SYSTEM               SYSTEM                                      SYSTEM
 ZIBM000                                       SYSTEM
 ZIBM001                                       SYSTEM
 ZIBM002                                       SYSTEM
 ZIBM003                                       SYSTEM
 ZIBM004                                       SYSTEM
 ZIBM005                                       SYSTEM
 ZIBM006                                       SYSTEM
 ZIBM007                                       SYSTEM
 RACF  DATA  SECURITY  MONITOR
 MA          a
```

## RACF Administration – reset password and resume a revoked user profile

```
//RACFCMD    JOB 1,NOTIFY=&SYSUID
//STEP1      EXEC PGM=IKJEFT01
//SYSPRINT   DD SYSOUT=*
//SYSTSPRT   DD SYSOUT=*
//SYSTERM    DD DUMMY
//SYSTSIN    DD *
   ALU ZIBM001 PASSWORD(BLUESKY) RESUME
   ALU ZIBM002 PASSWORD(BLUESKY) RESUME
```

## RACF Administration – remove OPERATIONS attribute

```
//RACFCMD    JOB 1,NOTIFY=&SYSUID
//STEP1      EXEC PGM=IKJEFT01
//SYSPRINT   DD SYSOUT=*
//SYSTSPRT   DD SYSOUT=*
//SYSTERM    DD DUMMY
//SYSTSIN    DD *
   ALU ZIBM001 NOOPERATIONS
   ALU ZIBM002 NOOPERATIONS
```

# Professional Manuals and Information

Security Server (RACF) Bookshelf

RACF Web Site

+ z/OS Security Server RACF

| z/OS Security Server RACF Auditor's Guide | SA23-2290-40 | 17 Dec 2019 | PDF icha800_v2r4.pdf (1.2MB) |
|---|---|---|---|
| z/OS Security Server RACF Command Language Reference | SA23-2292-40 | 23 Jun 2020 | PDF icha400_v2r4.pdf (3.54MB) |
| z/OS Security Server RACF General User's Guide | SA23-2298-40 | 10 Jul 2019 | PDF icha100_v2r4.pdf (748KB) |
| z/OS Security Server RACF Security Administrator's Guide | SA23-2289-40 | 23 Jun 2020 | PDF icha700_v2r4.pdf (4.32MB) |

# Unit summary

Having completed this unit, you should be able to:

- Describe RACF authentication process
- Describe SAF base 'element'
- List RACF commands
- List RACF options
- Understand significance of Protect All switch
- Run RACF administrator and auditor reports
- Reset passwords