

JRH DB2I2

In Expert Mode –with RXDB2I2
For DB2 Smart Recovery

By JRH Golden State Software Inc.

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- ❑ This Presentation demonstrates how to use JRH RxDb2i2 to perform a Smart DB2/zOS Point Of Time recovery.

 - ❑ The Input to this process is a Database name which required to be recovered to Most Current Quiesce Point.
 - ❑ Utilize RxDb2i2 to stream line a Serial of JRH DB2I2 commands. Which includes checking to see which Table Space for selected Database has been opened for Update Since Most Current Quiesce Point.
 - ❑ The Output of the Smart Recovery contains DB2 Recover to RBA utility Job Steps together with DB2 Rebuild Indexes Job Steps for All Table Space has been Updated since Most Current Quiesce Point.
-

Issue RXDB2I2 and press assigned DB2I2 PF key to select line objects between LINEOBJ and END_LINEOBJ together with db2i2 commands prefixed with DB2I2REX to process a group of DB2I2 commands together. The default DD name for the information between LINEOBJ and END_LINEOBJ are dynamically allocated to DB2I2RXL

line 182	Drill down from DB to get TS lines	input IDD=DB2I2RXL	output ODSN=t0
line 183	build where predicate with QBUILD	input IDSN=t0	output ODSN=t1
line 184	RUN query to get SETRBA command	input IDSN=pds.cntl(qq)	output ODSN=t2
line 185	execute SETRBA command from RUN output with rxdb2i2	input IDSN=t2	
line 186-187	REPORT to RBA to check for open and update	input IDSN=t0	output ODSN=t3
line 188	submit the generated REPORT to RBA job	output in db2i2.report.recovery	
line 191	wait for 10 seconds with TWAIT		
line 192-196	check if any objects return from Report to RBA		
line 197-198	Generate RECOVERY job	input IDSN=db2i2.report.recovery	output ODSN=t4
line 199-201	Append REBUILD steps after recovery job	input IDSN=db2i2.report.recovery	output ODSN=t4

```

Session D - [32 x 80]
File Edit View Communication Actions Window Help
[Icons] Up Down Enter DB2I2 END

File Edit Edit_Settings Menu Utilities Compilers Test Help Db2i2
SSID(DB9G) Connect() Ucase(ON) Sysibm(SYSIBM) ----- DB2I2 9.0
EDIT DB2ADM.DB2I2.WKBENCH8 Columns 00001 00072
Command ==> rxdb2i2 Scroll ==> CSR
ss0176 -- =====
000177 -- Smart Recovery with Report To RBA Recovery to Last Quiesec Point --
000178 -- =====
000179 LINEOBJ
000180 DB DDB2ADM
000181 END_LINEOBJ
000182 db2i2rex "idd=db2i2rxl odsn=t0 t=n"
000183 db2i2rex "qbuild fl=dbname f2=tsname idsn=t0 odsn=t1"
000184 db2i2rex "run idsn=pds.cntl(qq) odsn=t2 t=n"
000185 db2i2rex "rxdb2i2 idsn=t2"
000186 db2i2rex "report parmutil=pu(rptrba)",
000187 "idsn=t0 odsn=t3 jobnm=db2admrp"
000188 Address Tso "Submit T3"
000189 -- PAUSE Here for 10 Seconds Until Prevoius Submitted Job is Done
000190 -- WAIT formate 'PERIOD hh:mm:ss'
000191 x = Wait('PERIOD 00:00:10')
000192 If sysdsn(db2i2.report.recovery) \= 'OK' Then
000193 Do
000194 Say "** No objects needed to be Recovered"
000195 Exit 4
000196 End
000197 db2i2rex "recover parmutil=pu(rcvrrbaa)",
000198 "idsn=db2i2.report.recovery odsn=t4"
000199 db2i2rex "rebuild parmutil=pu(rbldall)",
000200 "idsn=db2i2.report.recovery odsn=t4",
000201 "append step#=10 jobcard=n",
000202 "template=tmp(rb)"
ss0203 Say "Finally Something Make Sense!!!!!!"

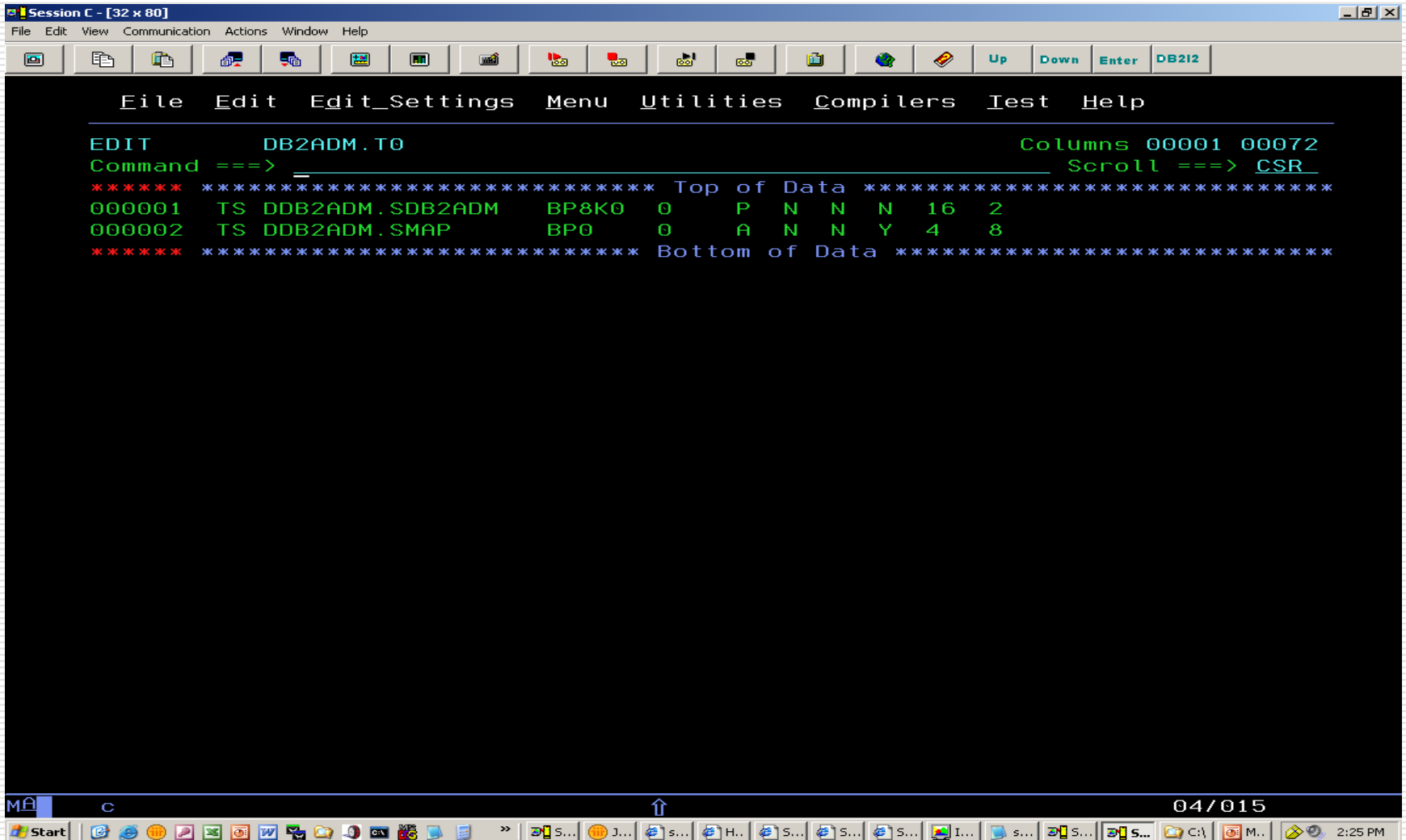
```

04/022

Connected to remote server/host 192.86.33.29 using lu/pool TCP00003 and port 623

\\Mhmtor07\HP Color LaserJet 4600 - NP970 on NP

Result from drill down of DB DDB2ADM and result is stored in t0; Press PF3 to execute next command QBUILD which generates WHERE predicates. Press PF3 to process next command.

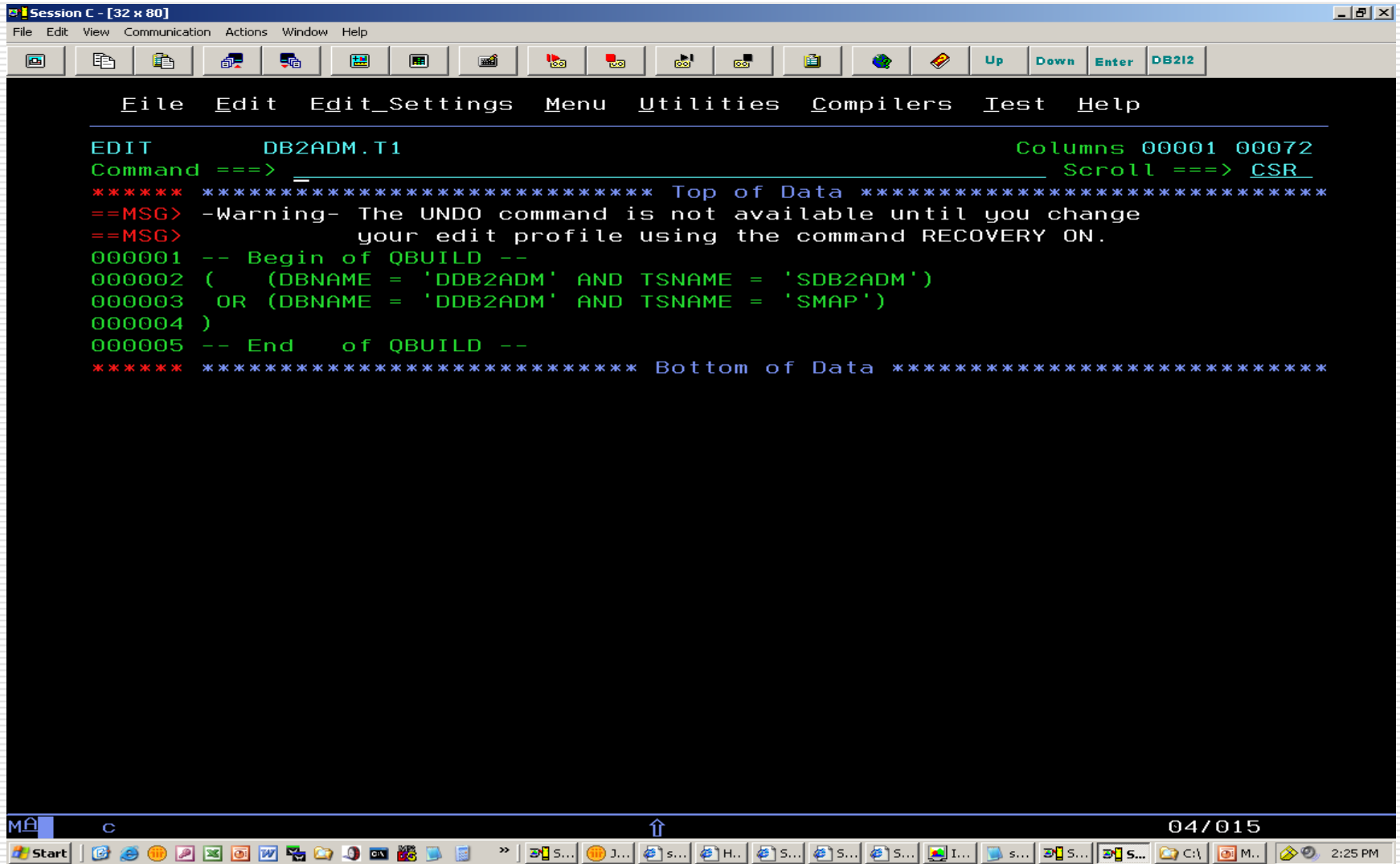


The screenshot shows a terminal window titled "Session C - [32 x 80]". The window has a menu bar with "File", "Edit", "Edit_Settings", "Menu", "Utilities", "Compilers", "Test", and "Help". Below the menu bar is a toolbar with various icons and buttons labeled "Up", "Down", "Enter", and "DB212". The main area of the terminal displays the following text:

```
EDIT          DB2ADM.T0          Columns 00001 00072
Command ==> _____          Scroll ==> CSR_
*****      *****      Top of Data *****
000001  TS  DDB2ADM.SDB2ADM  BP8K0  0  P  N  N  N  16  2
000002  TS  DDB2ADM.SMAP    BP0    0  A  N  N  Y  4   8
*****      *****      Bottom of Data *****
```

The terminal window is running on a Windows operating system, as indicated by the taskbar at the bottom. The taskbar shows the Start button, several application icons, and the system tray with the date "04/015" and time "2:25 PM".

Result from QBUILD command and stored in t1.
Press PF3 to process next command.



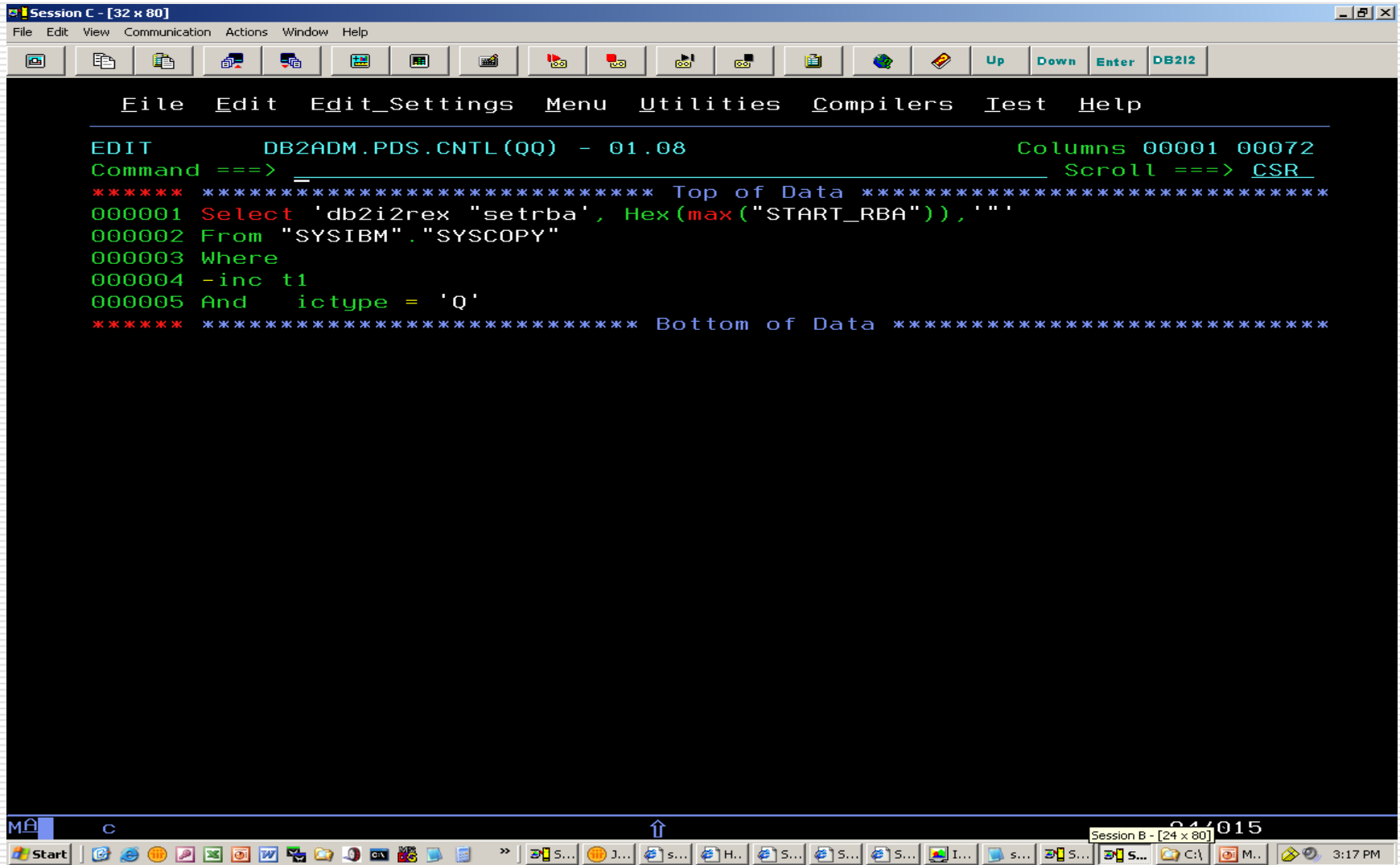
The screenshot shows a terminal window titled "Session C - [32 x 80]". The window has a menu bar with "File", "Edit", "View", "Communication", "Actions", "Window", and "Help". Below the menu bar is a toolbar with various icons and function keys: "Up", "Down", "Enter", and "DB212". The main content area displays the following text:

```
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT          DB2ADM.T1                      Columns 00001 00072
Command ==>  _                               Scroll ==>  CSR
*****      ***** Top of Data *****
==MSG> -Warning- The UNDO command is not available until you change
==MSG>          your edit profile using the command RECOVERY ON.
000001 -- Begin of QBUILD --
000002 (      (DBNAME = 'DDB2ADM' AND TSNAME = 'SDB2ADM')
000003 OR (DBNAME = 'DDB2ADM' AND TSNAME = 'SMAP')
000004 )
000005 -- End   of QBUILD --
*****      ***** Bottom of Data *****
```

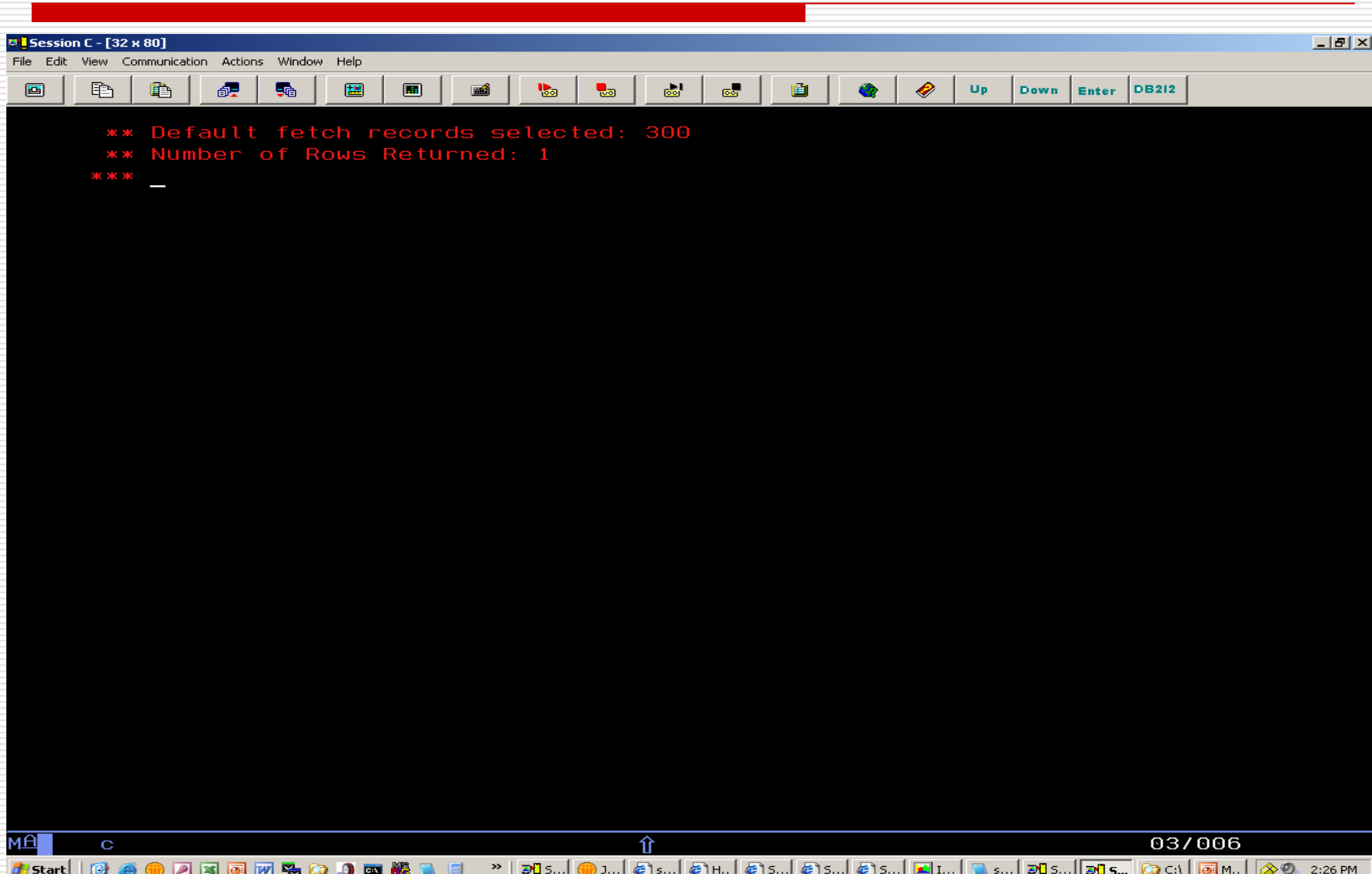
The terminal window is running on a Windows operating system, as indicated by the taskbar at the bottom. The taskbar shows the Start button, several application icons, and the system tray with the date "04/015" and time "2:25 PM".

Run the following query with -inc from the output of QBUILD to generate the last Quiesce RBA point with DB2I2REX "SETRBA quiesce-point-rba"

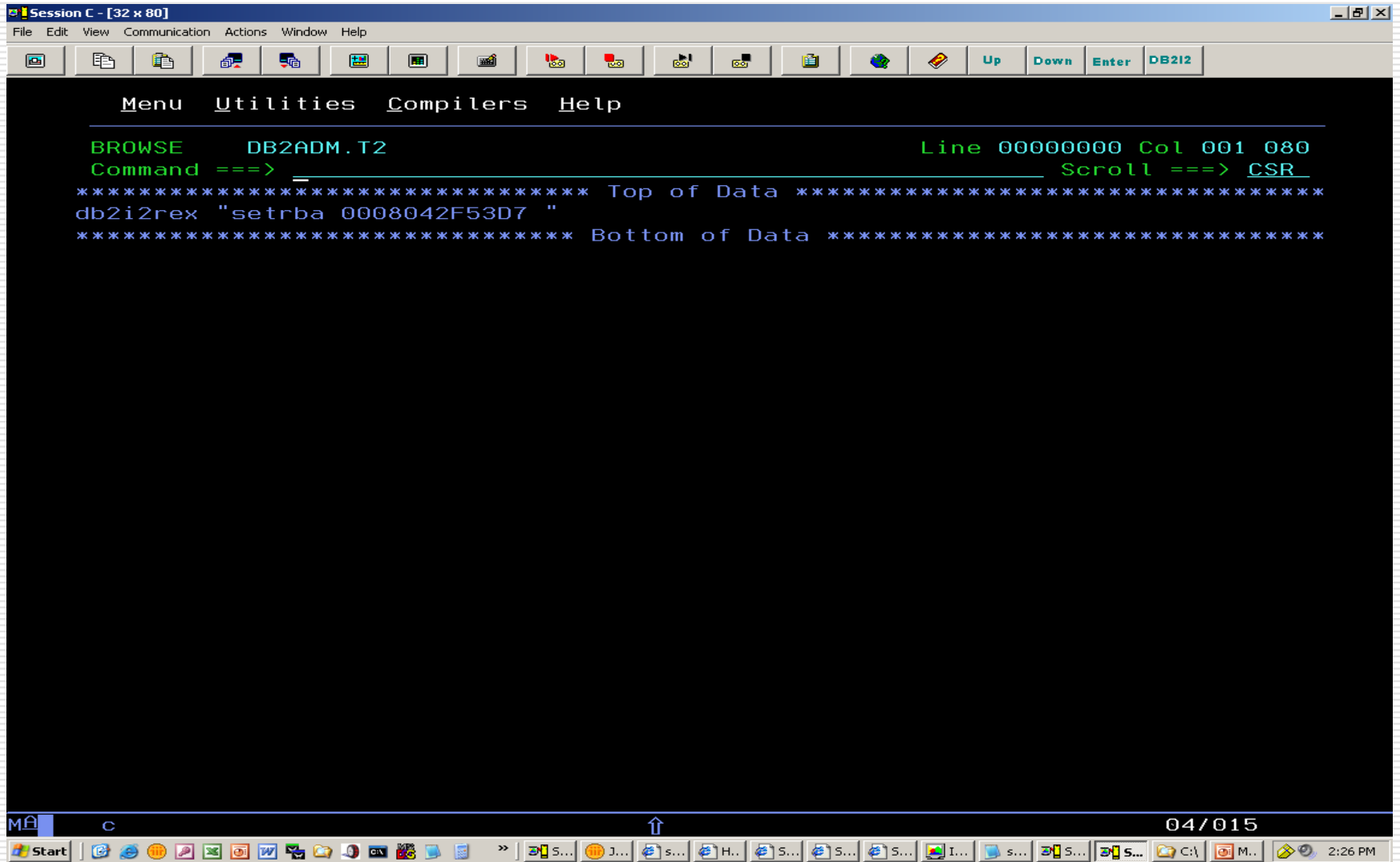


```
Session C - [32 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help
EDIT          DB2ADM.PDS.CNTL(QQ) - 01.08          Columns 00001 00072
Command ==> _                                     Scroll ==> CSR
***** Top of Data *****
000001 Select 'db2i2rex "setrba", Hex(max("START_RBA")), ''
000002 From "SYSIBM"."SYSCOPY"
000003 Where
000004 -inc t1
000005 And  ictype = 'Q'
***** Bottom of Data *****
```

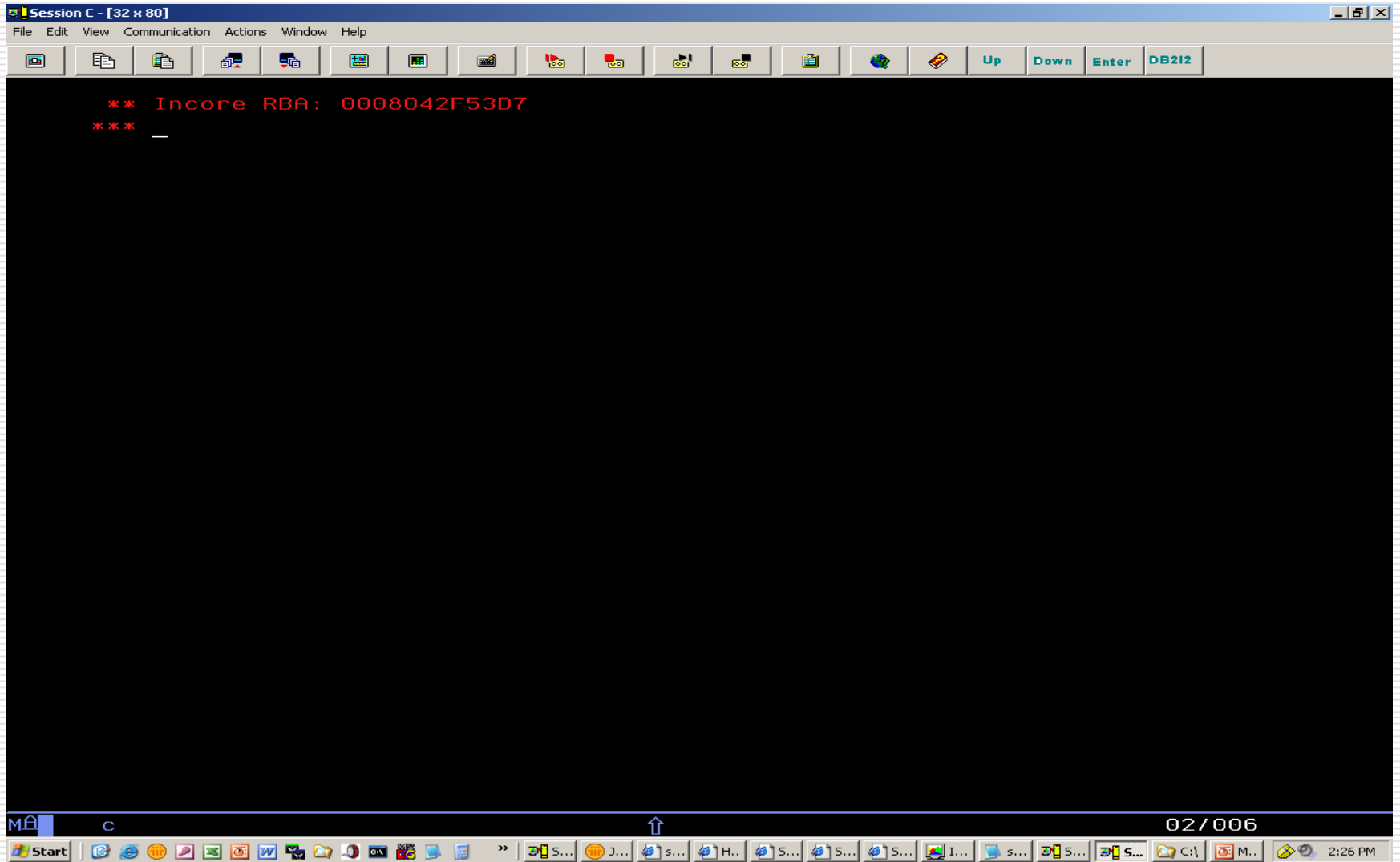
Result from the RUN command



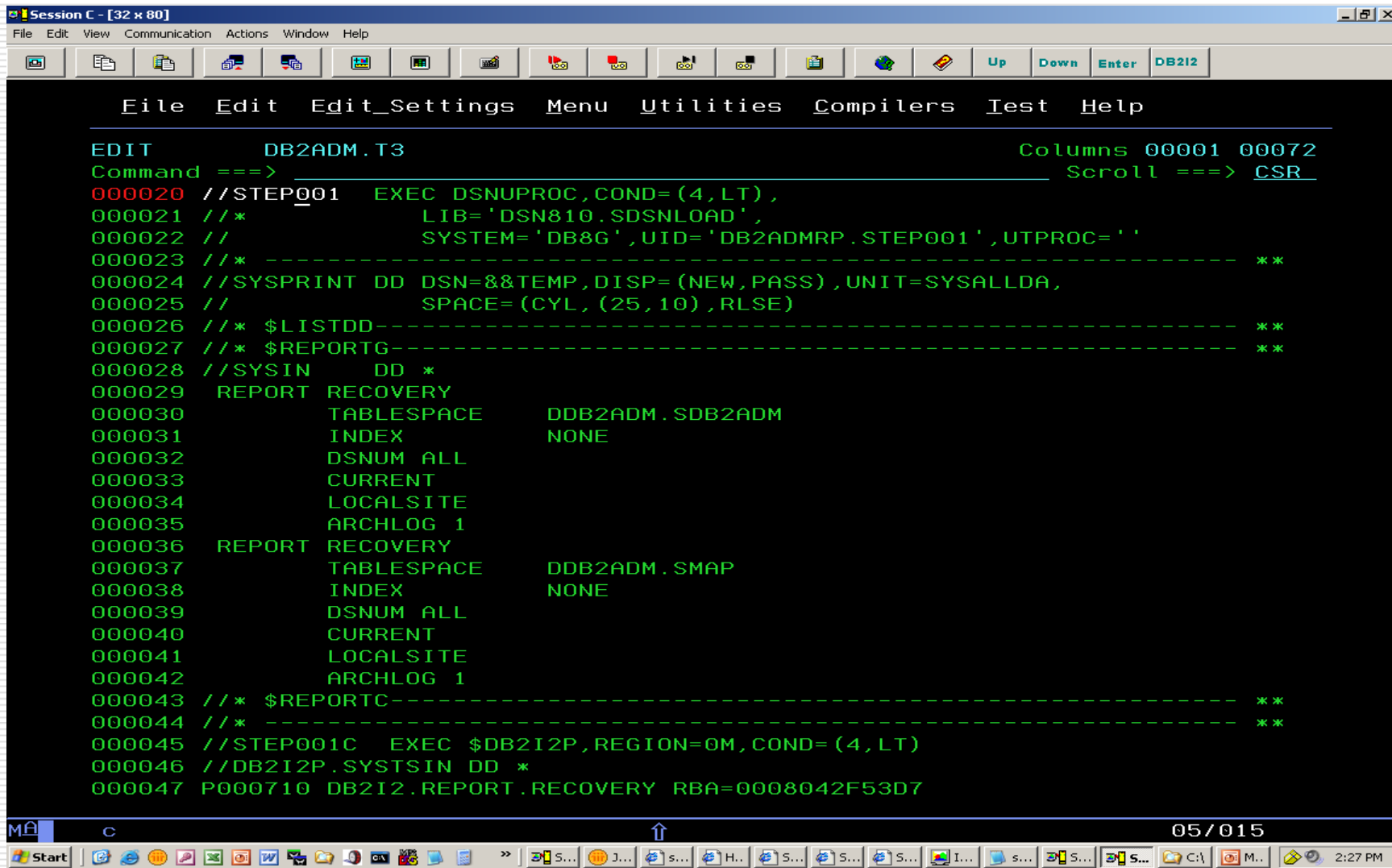
The RUN output is stored in t2.
Press PF3 to process next command.



Execute the SETRBA command generated from RUN output in t2 to set the Incore RBA to be used in later REPORT to RBA command



Result from REPORT to RBA command stored in T3.
Submit generated Report job in t3.
Press PF3 to process next command.

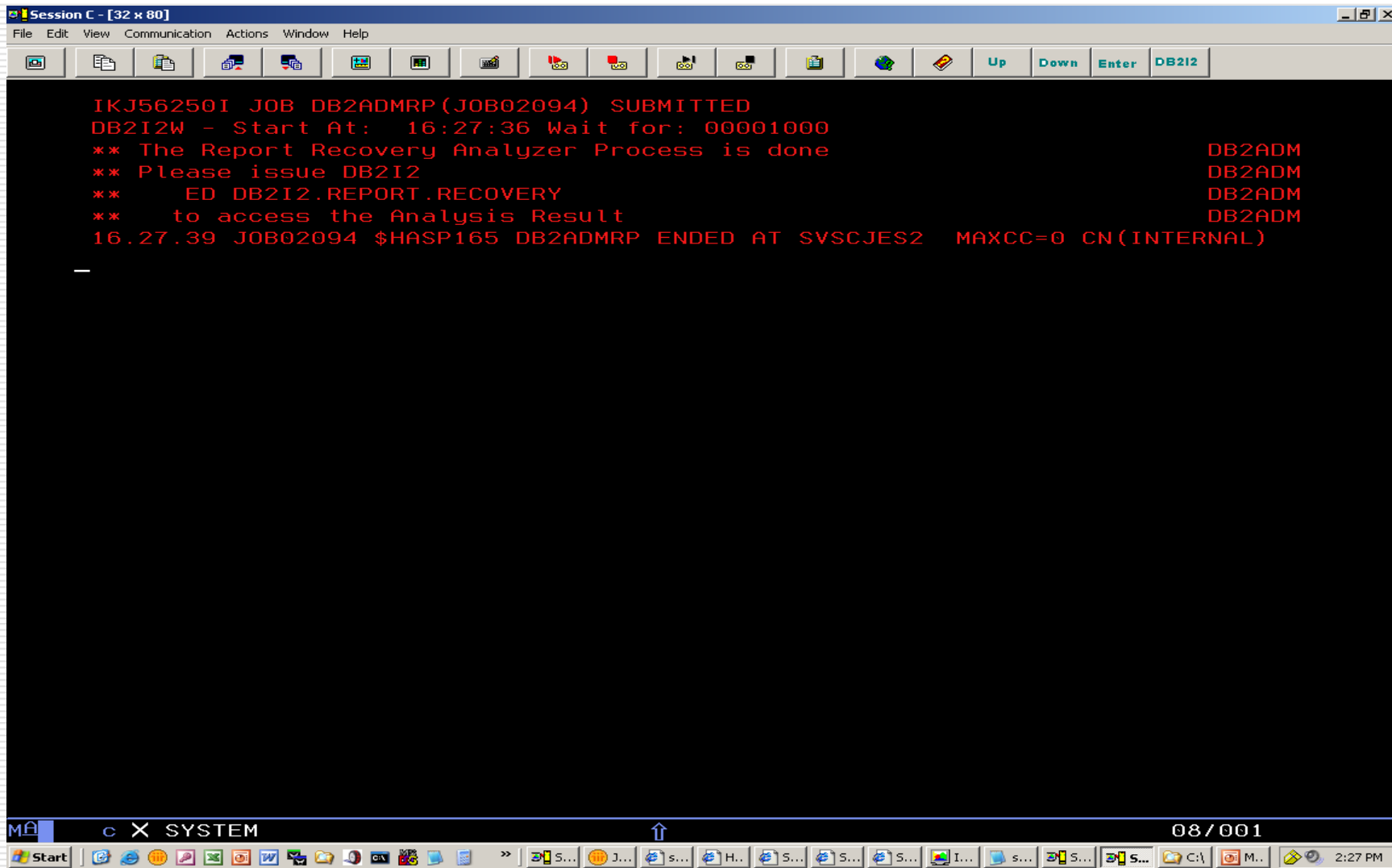


The screenshot shows a mainframe terminal window titled "Session C - [32 x 80]". The window has a menu bar with "File", "Edit", "Edit_Settings", "Menu", "Utilities", "Compilers", "Test", and "Help". Below the menu bar is a toolbar with various icons. The main area of the window displays a JCL job definition for a DB2 recovery report. The job is named "DB2ADM.T3" and is being edited. The JCL code is as follows:

```
EDIT          DB2ADM.T3          Columns 00001 00072
Command ==>          Scroll ==> CSR
000020 //STEP001  EXEC DSNUPROC,COND=(4,LT),
000021 //*          LIB='DSN810.SDSNLOAD',
000022 //          SYSTEM='DB8G',UID='DB2ADMRP.STEP001',UTPROC=''
000023 //* ----- **
000024 //SYSPRINT DD DSN=&&TEMP,DISP=(NEW,PASS),UNIT=SYSALLDA,
000025 //          SPACE=(CYL,(25,10),RLSE)
000026 //* $LISTDD----- **
000027 //* $REPORTG----- **
000028 //SYSIN      DD *
000029 REPORT RECOVERY
000030          TABLESPACE      DDB2ADM.SDB2ADM
000031          INDEX              NONE
000032          DSNUM ALL
000033          CURRENT
000034          LOCALSITE
000035          ARCHLOG 1
000036 REPORT RECOVERY
000037          TABLESPACE      DDB2ADM.SMAB
000038          INDEX              NONE
000039          DSNUM ALL
000040          CURRENT
000041          LOCALSITE
000042          ARCHLOG 1
000043 //* $REPORTC----- **
000044 //* ----- **
000045 //STEP001C  EXEC $DB2I2P,REGION=0M,COND=(4,LT)
000046 //DB2I2P.SYSTSIN DD *
000047 P000710 DB2I2.REPORT.RECOVERY RBA=0008042F53D7
```

The terminal window also shows a status bar at the bottom with "MA", "c", an up arrow, "05/015", and a taskbar with various application icons and the time "2:27 PM".

Wait for 10 seconds with TWAIT then check if any objects required Recovery
(Any TS objects which are Opened for Update after the Select RBA point will be recorded in db2i2.report.recovery)



```
IKJ56250I JOB DB2ADMRP(JOB02094) SUBMITTED
DB2I2W - Start At: 16:27:36 Wait for: 00001000
** The Report Recovery Analyzer Process is done
** Please issue DB2I
** ED DB2I2.REPORT.RECOVERY
** to access the Analysis Result
16.27.39 JOB02094 $HASP165 DB2ADMRP ENDED AT SVSCJES2 MAXCC=0 CN(INTERNAL)
```

Result from RECOVER command with the input from the output of REPORT job with the selected RBA.

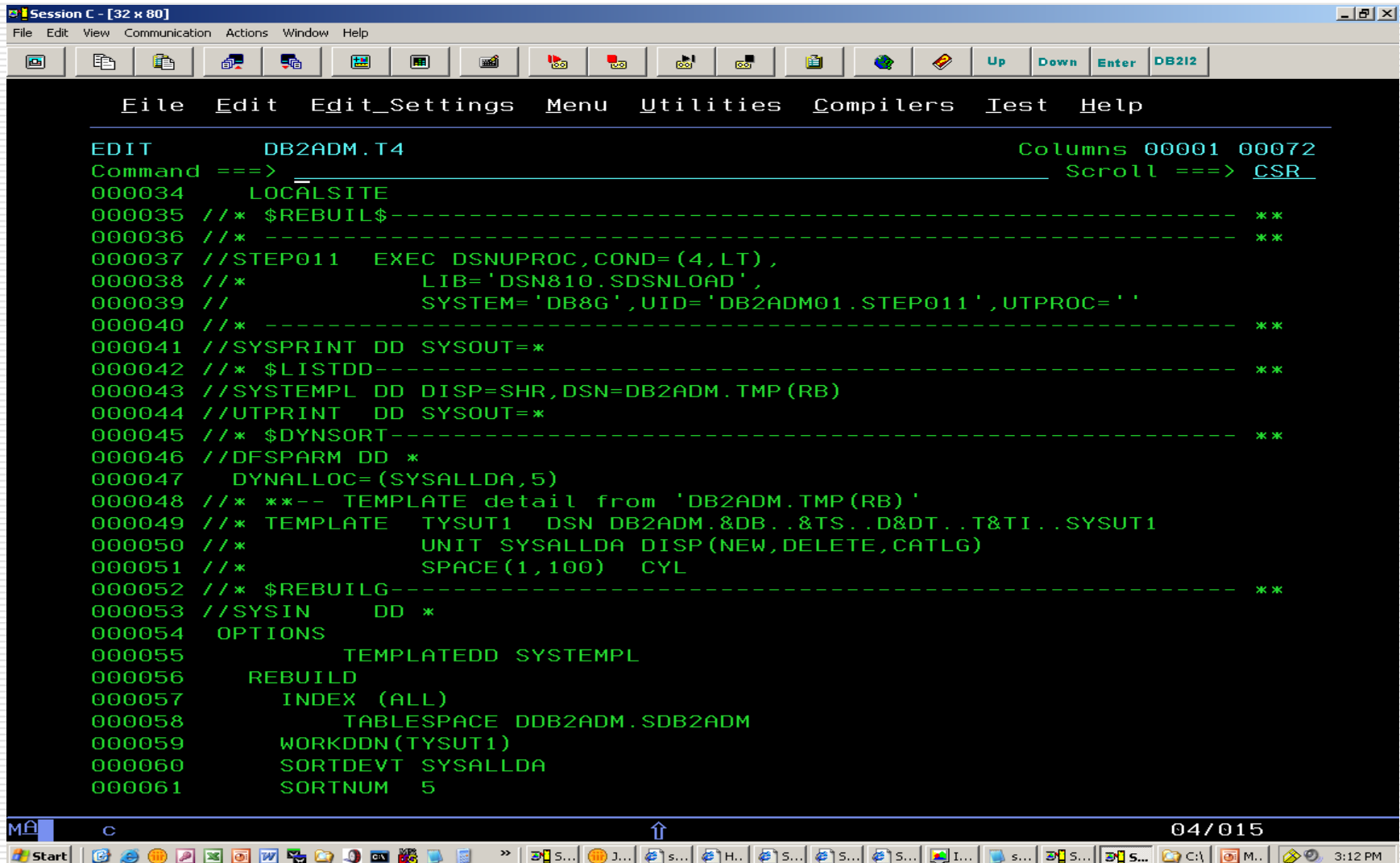
Press PF3 to process next command.

```
Session C - [32 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT          DB2ADM.T4                      Columns 00001 00072
Command ==>                                     Scroll ==> CSR
000018  //* $RECOVER$-----**
000019  /*-----**
000020  //STEP001  EXEC DSNUPROC,COND=(4,LT),
000021  /*          LIB='DSN810.SDSNLOAD',
000022  //          SYSTEM='DB8G',UID='DB2ADM01.STEP001',UTPROC=''
000023  /*-----**
000024  /* $LISTDD-----**
000025  //SYSPRINT DD SYSOUT=*
000026  /* Copy taken at 2008-04-21 12.13.05 with RBA=0008042ED267
000027  //DD00001  DD DSN=DB2ADM1.DDB2ADM.SDB2ADM.P00000.BKUP.G0001V00,
000028  //          DISP=OLD
000029  /* $RECOVER-----**
000030  //SYSIN    DD *
000031  RECOVER
000032  TABLESPACE DDB2ADM.SDB2ADM DSNUM ALL
000033  TORBA X'0008042F53D7'
000034  LOCALSITE
***** Bottom of Data *****

MÁ  C                                     05/015
Start | [Icons] | [Taskbar] | 3:11 PM
```

REBUILD indexes job steps are appended at the end of the Recovery Job



```
Session C - [32 x 80]
File Edit View Communication Actions Window Help
File Edit Edit_Settings Menu Utilities Compilers Test Help

EDIT          DB2ADM.T4                      Columns 00001 00072
Command ==>  _____ Scroll ==> CSR
000034      LOCALSITE
000035 //* $REBUILD$-----**
000036 //* -----**
000037 //STEP011 EXEC DSNUPROC,COND=(4,LT),
000038 //*          LIB='DSN810.SDSNLOAD',
000039 //          SYSTEM='DB8G',UID='DB2ADM01.STEP011',UTPROC=' '
000040 //* -----**
000041 //SYSPRINT DD SYSOUT=*
000042 //* $LISTDD-----**
000043 //SYSTEMPL DD DISP=SHR,DSN=DB2ADM.TMP(RB)
000044 //UTPRINT  DD SYSOUT=*
000045 //* $DYSORT-----**
000046 //DFSPARM DD *
000047      DYNALLOC=(SYSALLDA,5)
000048 //* **-- TEMPLATE detail from 'DB2ADM.TMP(RB)'
000049 //* TEMPLATE  TYSUT1  DSN DB2ADM.&DB..&TS..D&DT..T&TI..SYSUT1
000050 //*          UNIT SYSALLDA DISP(NEW,DELETE,CATLG)
000051 //*          SPACE(1,100)  CYL
000052 //* $REBUILDG-----**
000053 //SYSIN    DD *
000054 OPTIONS
000055      TEMPLATEDD SYSTEMPL
000056      REBUILD
000057      INDEX (ALL)
000058      TABLESPACE DDB2ADM.SDB2ADM
000059      WORKDDN(TYSUT1)
000060      SORTDEVT SYSALLDA
000061      SORTNUM 5
```

Any REXX commands can be used inside RXDB212.
A Say command end this demonstration.

