

Re: COBOL stored procedure for DB2

Source: <http://coding.derkeiler.com/Archive/Cobol/comp.lang.cobol/2007-04/msg00189.html>

- *From:* Simon Tobias <Simon.Tobias@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 13 Apr 2007 13:12:56 +0000 (UTC)
-

Hello pompeyoc,

Great, I'm glad the SP is at least being executed now!

Regarding how you precompile the app, you must specify target mfcob to db2 prep, rather than target ibmcob.

Have you also confirmed that, prior to executing the CALL statement, the host variables specified within the client app have the appropriate values?

Assuming that the app is not picking up the parameters correctly, could you please repost the snippets showing :

1. Client code --- the CALL statement being used.
2. SP code --- the LINKAGE SECTION content and PROCEDURE DIVISION USING ... statement.
3. The DB2 CREATE PROCEDURE statement.

Regarding (3), for the sample shipping with DB2 itself, they use :

```
DYNAMIC RESULT SETS 0
LANGUAGE COBOL
PARAMETER STYLE GENERAL
NO DBINFO
FENCED
NOT THREADSAFE
MODIFIES SQL DATA
PROGRAM TYPE SUB
```

I noticed that you had 'no sql' in your earlier email:

```
db2 "create procedure dbipas.spprog (in policy char(10), out plan
char(3)) dynamic result sets 0 no sql language cobol external name
'spprog' parameter style general program type sub"
```

You should be specifying either 'READS SQL DATA' or 'MODIFIES SQL DATA' depending on the SQL statements actually being executed within your SP.

SimonT.

Re: COBOL stored procedure for DB2

On Apr 12, 9:05 pm, Simon Tobias <Simon.Tob...@xxxxxxxxxxxxxxxxxxxxxxxxxxxx>
wrote:

Hello pompeyoc,

I've gone back to the IBM documentation, to remind myself of the requirements for building and executing COBOL SP's using Object COBOL 4.1, rather than Server Express (which I'm more familiar with).

If you refer to chapter 6

[offftp://ftp.software.ibm.com/ps/products/db2/info/vr7/pdf/letter/db2axe...](http://ftp.software.ibm.com/ps/products/db2/info/vr7/pdf/letter/db2axe...)

, it covers a few steps required to set up the db2 environment.

Specifically

:

"1. Before building a stored procedure on AIX 4.2.1 using the Micro Focus 4.1

compiler, execute the following commands:

```
db2stop
```

```
db2set DB2LIBPATH=$LIBPATH
```

```
db2set DB2ENVLIST="COBDIR LIBPATH"
```

```
db2set
```

```
db2start
```

Ensure that db2stop stops the database and LIBPATH is set properly in your

shell environment. The last db2set command is issued to display your settings: make sure DB2LIBPATH and DB2ENVLIST are set correctly."

I suspect that this the cause of your SQL1131N error. The stored procedure

is loaded under the control of DB2 -- as opposed to the client-side environment

-- hence DB2 will need to inherit the COBOL environment for the purposes

of executing the stored procedure.

Regards,

SimonT.

On Apr 11, 11:22 pm, Simon Tobias

<Simon.Tob...@xxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

Hi.

IBM do provide COBOL samples, which include demos of how to build/deploy/execute stored procedures.

If you have the Application Development

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Client installed --- which
I'm
guessing
you have ! --- you should find these demos
under the
samples/cobol_mf
directory.
The makefile will include appropriate build
instructions for the
stored procedure,
as well as the client app. I would look at
using the inpci
(client)
and
inpsrv (Stored Procedure) demo to make
sure things are working ok
for
you,
especially with how the SP itself is linked.
Unfortunately I don't have a UDB 7.2
installation on AIX to hand to
confirm the cob command used for creating
the SP module.
SimonT.

I am trying to learn how to
use stored procedures
written in COBOL
so I wrote 2 small programs
to test it out: the stored
procedure
and the the calling program.
I have no problems
compiling them but
when the calling program
enters the SP, it either hangs
or gives
me sqlcode -1131.

We are on AIX 5.2 (I think)
running DB2 UDB ver 7.2
and MF COBOL
4.1.

Below are the programs I
wrote:

Calling program
(spcaller.sqb)
identification division.

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```
program-id. spcaller.  
environment division.  
input-output section.  
file-control.  
working-storage section.  
exec sql begin declare  
section end-exec.  
01 work-area.  
05 lnk-stored-proc pic  
x(12).  
05 lnk-policy pic x(10).  
05 lnk-plan pic x(3).  
exec sql end declare section  
end-exec.  
exec sql include sqlca  
end-exec.  
exec sql include sqlda  
end-exec.  
procedure division.  
00000-main-rtn.  
exec sql connect to  
noadmldb user dbmssi using  
dbmssi  
end-exec  
exec sql set schema dbipas  
end-exec  
initialize work-area  
accept lnk-policy from  
command-line  
move "sprog" to  
lnk-stored-proc  
display "calling sprog"  
exec sql  
call :lnk-stored-proc  
(:lnk-policy, :lnk-plan)  
end-exec  
if sqlcode not= 0  
display 'error in sp = '  
sqlcode  
else  
display "policy number : "  
lnk-policy  
display "plancode : "  
lnk-plan  
end-if  
exec sql connect reset  
end-exec  
stop run.  
The database name is  
"noadmldb" and the schema  
is "dbipas" but the
```

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account running the
program is "dbmssi". Our
DBA says this account
has
all privileges of the instance
except for commands that
alter the
database/tables such as
DROP.

SP program: (spprog.cbl)
identification division.
program-id. spprog.
environment division.
input-output section.
file-control.
data division.
working-storage section.
linkage section.
01 lnk-policy pic x(10).
01 lnk-plan pic x(3).
procedure division using
lnk-policy lnk-plan.
00000-main-rtn.
move "XXX" to lnk-plan
goback.

This used to be a little
longer and had embedded
SQL commands in
it

but I removed them to try
and figure out where the
problem was.

I compiled the sp program
using the commands:
cob -c -x spprog.cbl
cob -x -o spprog spprog.o
-Q -bnoentry -Q
-bE:oadmi.exp -Q -bI:
\$DB2PATH/lib/db2g.imp
-L\$DB2PATH/lib -ldb2
-ldb2gmf

...and copied the executable
file spprog to the
\$INSTHOME/sql/lib/
function directory. I then
prepped/bound/compiled the
calling
program

using the commands:
db2 prep spcaller.sqb
bindfile target ibmcob

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```
db2 bind spcaller.bnd
cob -c -x spcaller.cbl
cob -x -o spcaller spcaller.o
-lb2 -ldb2gmf
-L$DB2PATH/lib
```

I also tried using "target
mfcob" for db2 prep but
with the same
results.

I then created the procedure
with the CREATE
PROCEDURE command as
follows:

```
db2 "create procedure
dbipas.spprog (in policy
char(10), out plan
char(3)) dynamic result sets
0 no sql language cobol
external name
```

```
'spprog' parameter style
general program type sub"
```

My co-worker also wrote a
VB program to run the SP
but it also

hangs

when it tries to call it:

```
Option Explicit
```

```
Private Sub cmdOK_Click()
```

```
txtPlan.Text =
```

```
ExecSP(txtPolNo.Text)
```

```
End Sub
```

```
Private Function
```

```
ExecSP(ByVal sPolno As
```

```
String) As String
```

```
Dim cmCallSP As
```

```
Command
```

```
Dim parmSP As Parameter
```

```
Dim sSQLState As String
```

```
Dim g_sConnection As
```

```
String
```

```
g_sConnection =
```

```
"DSN=NONADMI;UID=dbmssi;PWD=dbmssi"
```

```
Screen.MousePointer =
```

```
vbHourglass
```

```
Set cmCallSP = New
```

```
Command
```

```
cmCallSP.CommandText =
```

```
"spprog"
```

```
cmCallSP.CommandType =
```

```
adCmdStoredProc
```

```
cmCallSP.ActiveConnection
```

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```
= g_sConnection
Set parmSP =
cmCallSP.CreateParameter("policy",
adChar,
adParamInput, 10, sPolno)
Call
cmCallSP.Parameters.Append(parmSP)
Set parmSP =
cmCallSP.CreateParameter("plan",
adChar,
adParamOutput, 3)
Call
cmCallSP.Parameters.Append(parmSP)
cmCallSP.Execute
ExecSP =
cmCallSP.Parameters("plan").Value
End Function
Can anyone tell me what I'm
doing wrong? We have tons
of COBOL
programs that I would like
to use as stored procs so
they can be
called by VB6 programs
running on Windows XP or
2000.
Thanks in advance for your
help.– Hide quoted text –
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Hi, Simon. Thanks for taking the time to reply to my problem.

I actually got the db2 prep/bind and cob commands and compiler options from the bldapp and bldsrv files in the samples directory but I didn't know about the make file so I tried following the steps there as you suggested. It's pretty much the same as what I did before except for the wrapsrv command. I did the wrapsrv command and changed all references to my sp from "spprog" to "spprog!spprog_wrap" including the EXTERNAL NAME in my CREATE PROCEDURE command but still got the SQLCODE -1131. Am I supposed to invoke the CREATE WRAPPER command for this? Do I

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need to include the
checkerr program when I link it?

Thanks again!

Pompeyo C– Hide quoted text –

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You are a genius! I followed your instructions and my stored procedure is now running. I added sql commands to insert rows into a dummy table and it worked fine. My only problem is the SP is not getting the IN variable passed by the calling program and the calling program is not getting the value of the OUT variable set by the SP. Can you help me again?

Thanks!

Pompeyo C