

# COBOL

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# Migrating COBOL DMS

There are two parts to migrating a COBOL DMS (data mover script):

1. Migrate the data mover script to `%PS_HOME%/src/cbl`
2. Run the data mover script in Data mover

Migrating the script ensures that the correct version of the file exists in your target environment.

Running the data mover script updates the COBOL SQL statements table `PS_SQLSTMT_TBL` with the latest version of the data mover script.

It is the `PS_SQLSTMT_TBL` that stores the version of the SQL statements run by a COBOL process. It is good practice to have the DMS script files in sync with the version in the SQL statements table to avoid confusion.

When comparing versions of SQL statements (e.g. for comparing patches) use the `PS_SQLSTMT_TBL` as your definitive source, as the version in `%PS_HOME%/src/cbl/` may not be same!

# COBOL SQL Trace

This article explains how to enable a COBOL SQL trace on a COBOL process definition.

First, determine the COBOL SQL process parameters by navigating to:

PeopleTools > Process Scheduler > Process Types

Open the COBOL SQL process appropriate for your operating system and database platform (e.g. UNIX and Oracle).

Type Definition	Type Definition Options
Process Type:	COBOL SQL
Operating System:	UNIX
Database Type:	Oracle
<b>Details</b>	
Description:	COBOL SQL
Generic Process Type:	COBOL
Command Line:	PSRUN
Parameter List:	%%PRCSNAME%% %%DBTYPE%%/%%DBNAME%%/%%OPRID%%/%%OPRPSWD%%/%%RUNCNTLID%%/%%INSTANCE%%/%%DBFLAG%%
Working Directory:	
Output Destination:	
<input type="checkbox"/> Restart Enabled	

Copy the text in the Parameter List excluding %%PRCSNAME%% (not required).

```
%%DBTYPE%%/%%DBNAME%%/%%OPRID%%/%%OPRPSWD%%/%%RUNCNTLID%%/%%INSTANCE%%/%%DBFLAG%%
```

Next, override the Process Definition parameter list for the COBOL you want to trace by navigating to:

PeopleTools > Process Scheduler > Processes

Open your COBOL process definition. In this example, I'm using the `PTPDBTST` simple COBOL test program delivered with PeopleTools. In the override options, set the parameter list option to override.

Paste the parameter list you copied into here, but make one small change. Just before `%%DBFLAG%%` there are two slashes `//`. In between these slashes enter your trace SQL bit mask. I normally use `135`. So the parameter list should now look like this:

```
%%DBTYPE%%/%%DBNAME%%/%%OPRID%%/%%OPRPSWD%%/%%RUNCNTLID%%/%%INSTANCE%%/135/%%DBFLAG%%
```

**Process Definition** | **Process Definition Options** | **Override Options** | **Destination** ▶

**Process Type:** COBOL SQL  
**Name:** PTPDBTST

**Override Options** | Parameter list = Override  
Parameters changed with /135/

**Parameters**

\*Parameter List:

\*Command Line:

\*Working Directory:

Finally, run your COBOL through the appropriate run control page. In the view log/trace file list you should see a file with the extension `.trc`. This is the COBOL SQL trace with timings.

File List		
Name	File Size (bytes)	Datetime Created
<a href="#">CBL PTPDBTST 2319627.log</a>	446	30/04/2009 15:32:26.000000 AEST
<a href="#">cobsql 2319627.trc</a> ←	This is the COBOL trace file	09 15:32:26.000000 AEST

# Compiling

Compiling COBOL locally can save you considerable time during the development/troubleshooting stage.

In order to compile COBOL locally you will need to have the MicroFocus NetExpress COBOL compiler installed on your machine. This requires a license.

The steps for compiling COBOL locally are:

- Install Microfocus NetExpress
- Configure the `%COBR00T%` system variable to point to the Microfocus NetExpress compiler path
- Copy the batch files for compiling COBOLs from `%PS_HOME%\src\cbl\win32` to your `C:\WINDOWS` directory
- Copy all COBOLs to a local directory, for example `C:\COBOL`
- Compile COBOLs using the `CBLMAKE.BAT` batch script

When you install Microfocus, put it in a directory with no spaces. I like to use something like

`C:\NetExpress` rather than the default directory. This is just a preference, I'm not sure if it causes any issues.

You will need create a system environment variable called `COBR00T`. This points to the Base directory of your Microfocus NetExpress installation. For example, `C:\NetExpress\Base`.

Browse to your PeopleSoft File Server and copy the following files from `%PS_HOME%\src\cbl\win32` to your `C:\WINDOWS` directory:

- `ASCII.DIR`
- `CBLRULE.BAT`
- `CBLMAKE.BAT`
- `CBLCRINT.BAT`
- `CBLCD.BAT`
- `EBCDIC.DIR`

Copying them to your `WINDOWS` directory lets you run them from anywhere as they are automatically in the system path.

Alternatively you could add `%PS_HOME%\src\cbl\win32` to your system path.

Copy all the COBOLs from your PeopleSoft file server to a local directory ( `C:\COBOL` ).

Command prompt to the local directory and attempt to compile a program (e.g. the delivered `PTPDBTST` program) by issuing the command (note that you drop the `.cbl` extension):

```
cblmake PTPDBTST
```

Hopefully it compiles for you. If not, you may have forgot to set the `COBR00T` environment variable. Make sure you set this first.

To build all cobols, run the following command (in Windows) from `%PS_HOME%\setup` :

```
cblbld.bat C: \temp
```

This will copy source COBOLs from `%PS_HOME%\src\cbl\base` to `C:\Temp` (or whatever drive and directory you specify), compile them and put them in a directory named `%PS_HOME%\CBLBIN(A/E/U)` where `A=Ansi` , `E=EBCDIC` and `U=Unicode` .

After the build, the build log will be displayed. You can also view the build log by opening the file `CBLBLD.LOG` which will be located in the compile directory (e.g. `C:\Temp` ).

If you find the following throughout your log file:

```
...
Creating error listing (COB0L1.LIS)
Creating error listing (COB0L2.LIS)
Creating error listing (COB0L3.LIS)
...
```

It may mean your Microfocus NetExpress license has expired. Check by starting Microfocus

NetExpress. COBOLs will not compile on Windows systems when the license has expired.

If compiling gives the following error:

```
Application Program Failed                                     Action Type
: SQL CONNEC
In Pgm Section   : SQLRT:GG100 SQL-CONNECT
With Return Code: 9989Error Message   : SQLRT: Operator ID not allowed to submit COBOL from
client
```

This can be caused by having `%PS_HOME%\bin\client\winx86\` in your system path. Remove this location from your system path and try again.