ProCOBOL® Precompiler

Gettting Started

Release 8.0.6 for Windows NT and Windows 95/98

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ORACLE

Pro*COBOL Precompiler Getting Started, Release 8.0.6 for Windows NT and Windows 95/98

Part No. A69941-01

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Contact Us!

Oracle Pro*COBOL Preocompiler Getting Started, Release 8.0.6 for Windows NT and 95/98

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This document describes how to contact Oracle Corporation if you have issues with the documentation or software.

Read the section...	If you...
How to Contact Oracle Technical Publications	Have issues with Documentation
How to Contact Oracle Support Services	Have issues with Software
Resources for Oracle Partners and Developers	Want to join an Oracle partner or application developer program

How to Contact Oracle Technical Publications

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- Did you find any errors?
- Is the information clearly presented?
- Do you need more information? If so, where?
- Are the examples correct? Do you need more examples?
- What features did you like most about this manual?
- Do you have suggestions for improvement? Please indicate the chapter, section, and page number (if available).

You can send comments regarding documentation to *ntdoc@us.oracle.com*

How to Contact Oracle Support Services

Please copy this page and distribute within your organization as necessary.

Oracle Support Services can be reached at the following telephone numbers. The hours of business are detailed in your support contract and the *Oracle Customer Support Guide* in your kit.

Oracle Support Services In...	Call...
All locations	The telephone number for your country is listed at the following Web site: `http://www.oracle.com/support/contact_us/sup_hot_phone.html` Oracle Support Services telephone numbers are also listed in the *Oracle Customer Support Guide* in your kit.

Please complete the following checklist before you call. If you have this information ready, your call can be processed much quicker.

❏ Your CPU Support Identification Number (CSI Number) if applicable.

_____

_____

❏ The hardware name on which your application is running.

_____

_____

_____

❏ The operating system name and release number on which your application is running.

_____

_____

_____

- ❑ The release numbers of the Oracle Server and associated products involved in the current problem. For example, Oracle8 Server release 8.0.6.0.0 and Oracle Replication Manager release 1.6.0.0.0.

- ❑ Are you using 16-bit or 32-bit Oracle software?

- ❑ The third-party vendor and version you are using.

- ❑ The exact error codes and messages. Please write these down as they occur. They are critical in helping Oracle Support Services to quickly resolve your problem.

- ❑ A description of the issue, including:
  - **What happened?** For example, the command used and its result.

- **When did it happen?** For example, during peak system load, or after a certain command, or after an operating system upgrade.

  _____

  _____

  _____

- **Where did it happen?** For example, on a particular system, or within a certain procedure or table.

  _____

  _____

  _____

- **What is the extent of the problem?** For example, production system unavailable, or moderate impact but increasing with time, or minimal impact and stable.

  _____

  _____

  _____

❑ Keep copies of any trace files, core dumps, and redo log files recorded at or near the time of the incident. Oracle Support Services may need these to further investigate your problem.

Resources for Oracle Partners and Developers

This section provides information on partner programs and resources for Oracle database administrators and application developers.

Information Source	Description
Oracle Corporation Home Page `http://www.oracle.com`	This Web site is the starting point for general information on Oracle Corporation.
Alliance Online `http://alliance.oracle.com`	Oracle provides leading-edge technology, education, and technical support that enables you to effectively integrate Oracle into your business. By joining the Oracle Partner Program, you demonstrate to customers that you are committed to delivering innovative Oracle-based solutions and services. The greater your commitment to Oracle, the more we can help you grow your business. It's that simple. The value you derive is associated directly with your level of commitment.
Oracle Education `http://education.oracle.com/`	Customers come to Oracle Education with a variety of needs. You may require a complete curriculum based on your job role to enable you to implement new technology. Or you may seek an understanding of technology related to your key area of responsibility to help you meet technical challenges. You may be looking for self-paced training that can be used as an ongoing resource for reference and hands-on practice. Or, you may be interested in an overview of a new product upgrade. Whatever your training need, Oracle Education has the solution.
Oracle Technology Network `http://technet.oracle.com/`	The Oracle Technology Network is your definitive source for Oracle technical information for developing for the Internet platform. You will be part of an online community with access to free software, Oracle Technology Network-sponsored Internet developer conferences, and discussion groups on up-to-date Oracle technology. Membership is free.
Oracle Store `http://oraclestore.oracle.com/`	This is Oracle's online shopping center. Come to this site to find special deals on Oracle software, documentation, publications, computer-based training products, and much more.

Information Source	Description
Oracle Support Services' Support Web Center `http://www.oracle.com/support/`	Oracle Support Services offers a range of programs so you can select the support services you need and access them in the way you prefer: by telephone, electronically, or face to face. These award-winning programs help you maintain your investment in Oracle technology and expertise.
Oracle*MetaLink* `http://www.oracle.com/support/elec_sup/index.html`	Oracle*MetaLink* is Oracle Support Services' premier Web support service. It is available to Oracle*metals* customers (Gold, Silver, Bronze), 24 hours a day, seven days a week.
Oracle*Lifecycle* `http://www.oracle.com/support/sup_serv/lifecycle/index.html`	Oracle*Lifecycle* is designed to deliver customized, industry-focused, full life-cycle support solutions that enable industry leaders to use Oracle technology to make smart business decisions, achieve operational excellence, and succeed in their markets.
Expert*ONLINE* `http://www.oracle.com/support/sup_serv/online/index.html`	Oracle Support Services has launched a new line of services called Expert*ONLINE*. These services provide online database administration for companies looking to supplement their existing DBA staff or fill a DBA role. Services range from Expert*DETECT*, a monitoring, diagnostic, and recommendation service, to Expert*DBA*, a full online database administration service.
Virtual Support Analyst (VSA) `http://www.oracle.com/support/sup_serv/vsa_start.html`	VSA is Oracle's Internet e-mail service; it is available to U.S. customers with an Oracle*metals* support agreement. With VSA, you can initiate a request for assistance through e-mail, bypassing the queues you may encounter when using telephone support. VSA also enables you to access Oracle's bug database.
Customer Service `http://www.oracle.com/support/cus_serv/index.html`	This site provides resources to make your interactions with Oracle as easy as possible. Among the things you can do are ■ Learn what is a CPU Support Identification (CSI) number ■ Update your technical contact information ■ Find out whom to contact for invoice and collection issues ■ Request product update shipments ■ Access a glossary of Oracle Support Services terms

Information Source	Description
U.S. Customer Visit Program `http://www.oracle.com/support/cus_serv/cus_visit.html`	This U.S.-based program has been established to help our customers understand and obtain maximum benefit from the support services they have purchased. The visit typically offers a customized orientation presentation, a comprehensive overview and demonstration of Oracle's electronic services, and helpful tips on working more effectively with Oracle Support Services.
Support Web Center Library `http://www.oracle.com/support/library/index.html`	This site contains articles, guides, and other documentation to help you leverage the wealth of knowledge and reference material that Oracle Support Services produces.
Product Availability *infowin@us.oracle.com*	Send an e-mail to request information on future product releases on Oracle for Windows NT and Windows 95/98.

Preface

This guide provides introductory information for the Oracle Pro*COBOL precompiler running under the Microsoft Windows NT and Windows 95/98 operating systems. Specific topics discussed in this preface are:

Prerequisites

This guide assumes that you:

- can use a COBOL compiler in the Windows NT and Windows 95/98 environments
- are familiar with Windows NT and Windows 95/98 commands such as deleting and copying files
- understand the concepts of the search path, configuration files, and directory structure
- are able to use a text editor to make changes to an ASCII text file

Intended Audience

This guide is necessary for anyone who wants to use Pro*COBOL release 8.0.6 and/or 1.8.28 for Windows NT and Windows 95/98.

How This Guide Is Organized

This guide contains the following chapters:

Chapter 1, "Introducing Pro*COBOL"

Describes the Oracle programmatic interface for the COBOL language running under the Windows NT and Windows 95/98 operating systems.

Chapter 2, "Building Pro*COBOL Applications"

Provides an overview of building Oracle database applications with Pro*COBOL release 8.0.6 and 1.8.28 for Windows NT and Windows 95/98.

Conventions

The following conventions are used in this guide.

Convention	Example	Meaning
All uppercase plain	ORANT\DATABASE\INITORCL.ORA	Indicates command names, SQL reserved words, and keywords, as in ALTER DATABASE. All uppercase plain is also used for directory names and file names.
Italic	Italic used to indicate a variable: *ORACLE_HOME**filename* Italic used for emphasis: The WHERE clause may be used to *join* rows in different tables.	Indicates a value that you must provide. For example, if a command asks you to type *filename*, you must type the actual name of the file. Italic is also used for emphasis in the text and to indicate the titles of other guides.
Oracle8 database		The database component of Oracle8.
C:\>	C:\> ORANT\DATABASE	Represents the Windows NT or Windows 95/98 command prompt of the current hard disk drive. Your prompt may differ and may, at times, reflect the subdirectory in which you are working. Referred to as the *MS-DOS command prompt* in this guide.
Backslash (\) before a directory name	\DATABASE	Indicates that the directory is a subdirectory of the root directory.
Oracle home	Go to the *ORACLE_HOME*\DATABASE directory.	Oracle home is represented as the hard drive letter and the top level directory where your Oracle software is installed. In this guide, the convention *ORACLE_HOME* is used to indicate your Oracle home directory, which may be: C:\ORANT for Windows NT C:\ORAWIN95 for Windows 95 C:\ORAWIN98 for Windows 98 or whatever you may have called your Oracle home.

Convention	Example	Meaning
Symbols	period . comma , hyphen - semicolon ; colon : equal sign = backslash \ single quote ‘ double quote “ parentheses ()	Symbols other than brackets and vertical bars must be entered in commands exactly as shown.

Documentation Library

This guide is part of a larger library of Oracle documentation. The Oracle documentation library consists of two types of documentation:

Documentation Type	Describes
Operating System-specific	Installation, configuration, and use of Oracle products in a Windows NT or Windows 95/98 environment. Operating system-specific documents are occasionally referred to in the generic documentation set. These documents are easy to identify because they always mention their specific operating system in their title.
Generic	Oracle database, Oracle networking, and Application Programming Interfaces information that is uniform across all operating system platforms. The majority of documents in your documentation set belong to this category. While reading through the generic documentation set, you are occasionally asked to refer to your platform (or operating system) documentation for procedures specific to the Windows NT or Windows 95/98 operating systems. To easily identify where these generic documentation references are described in your operating system documentation, see the index of this guide for the following entry: generic documentation references All generic documentation references described in this guide appear under this index entry.

Related Documents

For more information, see the following manuals.

- *Oracle8 Enterprise Edition for Windows NT Installation CD-ROM Insert*
- *Oracle8 Enterprise Edition Release Notes*
- *Oracle8 Enterprise Edition Getting Started for Windows NT*
- *Oracle Enterprise Manager Configuration Guide*
- *Oracle Enterprise Manager Administrator's Guide*
- *Net8 Getting Started for Windows NT and Windows 95*
- *Net8 Administrator's Guide*
- *Oracle8 Parallel Server Concepts and Administration*
- *Oracle Parallel Server Management User's Guide*
- *Oracle8 Concepts*
- *Oracle8 Reference*
- *Oracle8 Error Messages*
- *Pro*COBOL Precompiler Programmer's Guide*

1

Introducing Pro*COBOL

This chapter describes the Oracle programmatic interface for the COBOL language running under the Windows NT and Windows 95/98 operating systems. Specific topics discussed are:

- What is Pro*COBOL?
- What is Release 1.8.28?
- PL/SQL Support
- Features
- Restrictions

What is Pro*COBOL?

To access an Oracle8 database, you use a high-level query language called Structured Query Language (SQL). You often use SQL through an interactive interface, such as SQL*Plus.

Pro*COBOL is a precompiler that converts SQL statements embedded within COBOL programs into standard Oracle run-time library calls. The output file can then be compiled by a COBOL compiler.

Additional Information: For more information, see the *Pro*COBOL Precompiler Programmer's Guide.*

Use the Pro*COBOL precompiler when rapid development and compatibility with other systems are your priorities. Pro*COBOL supports the following compilers:

- Fujitsu COBOL version 4.0 or later for 32-bit Windows NT and Windows 95/98

  Note: Pro*COBOL does not support the following Fujitsu COBOL extensions:

  - USAGE BIT clause in data description entry
  - CHARACTER TYPE clause in data description entry
  - PRINTING POSITION clause in data description entry
  - @OPTIONS compiler option directing statement
  - Literal coded on column 73 or later

- MERANT Micro Focus NetExpress version 3.0 for 32-bit Windows NT and Windows 95

  Note: Pro*COBOL does not support Object Oriented COBOL (OOCOBOL) specifications for either compiler.

What is Release 1.8.28?

Oracle Corporation expects that any application written for Pro*COBOL release 1.8.*x* should precompile successfully with Pro*COBOL release 8.0.6. However, some vendor extensions may not be accepted and the application may not precompile successfully when migrating from release 1.8.x to release 8.0.6.

Note: To install Pro*COBOL release 1.8.28, you need to choose Custom Installation when installing the Oracle programmer products.

If you simply want to migrate a release 1.8.*x* application to release 8.0.6 without using any of the new features of Pro*COBOL version 8, but the application does not precompile successfully, then do the following:

- Use release 1.8.28.
- Report the problem to Oracle Support Services.

Note: Oracle Corporation recommends that you use release 8.0.6 to develop new applications.

Because of these two releases, your Oracle home directory can contain two directories for Pro*COBOL:

This Directory...	Contains...
ORACLE_HOME\PRO80	Pro*COBOL release 8.0.6
ORACLE_HOME\PRO18	Pro*COBOL release 1.8.28

PL/SQL Support

This release of Pro*COBOL supports PL/SQL release 8.0, Oracle's procedural language extension to the SQL language standard for enhancing performance of the Oracle database.

Additional Information: For more information on PL/SQL, see the *PL/SQL User's Guide and Reference*.

For more information on embedding PL/SQL in your Pro*COBOL applications, see Chapter 6 of the *Pro*COBOL Precompiler Programmer's Guide*.

Features

Pro*COBOL supports the following:

- Oracle databases release 8.0
- embedded PL/SQL blocks
- bundled database calls, which can provide better performance in client/server environments
- full ANSI compliance for embedded SQL programming
- calls to PL/SQL stored procedures

Restrictions

Pro*COBOL does not support the following:

- user exits
- access to the Oracle Call Interface
- Oracle8 object types
- graphical user interface
- 16-bit code generation

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Building Pro*COBOL Applications

This chapter provides an overview of building Oracle database applications with Pro*COBOL release 8.0.6 and 1.8.28 for Windows NT and Windows 95/98. Specific topics discussed are:

- Precompiling Pro*COBOL Applications
- Compiling and Linking Pro*COBOL Applications
- Building the Sample Programs

Note: Build and execute Pro*COBOL applications in an MS-DOS command prompt session with the default settings for the screen buffer size and the windows size. These settings ensure successful execution of the Pro*COBOL applications.

Precompiling Pro*COBOL Applications

This section describes the basics of precompiling a Pro*COBOL application. For additional information, see the Getting Started guide and the Release Notes that are provided with the product.

The Pro*COBOL Commands

You can use one of three commands to precompile a file:

Use...	For Pro*COBOL Release...
PROCOB80 *filename*	8.0.6
PROCOB18 *filename*	1.8.28
PROCOB *filename*	8.0.6 or 1.8.28 (depending on the value of the PROCOB_ DFLT configuration parameter)

By default, if no extension is provided, Pro*COBOL tries to open *filename*.PCO. If the ONAME option is not specified, Pro*COBOL generates a file named *filename*.CBL.

The PROCOB_DFLT Configuration Parameter

The PROCOB_DFLT configuration parameter indicates which release of Pro*COBOL is started when you use the PROCOB command. There are two valid values: PROCOB80 and PROCOB18. The default value is PROCOB80.

Additional Information: For instructions on how to modify the PROCOB_DFLT configuration parameter, see Appendix C, "Configuration Parameters and the Registry" in your main Windows-specific getting started manual.

Precompiler Options

Many useful options are available at precompile time. They let you control how resources are used, how errors are reported, how input and output are formatted, how cursors are managed, and so on.

Additional Information: See Chapter 7 of the *Pro*COBOL Precompiler Programmer's Guide* for more information about precompiler options and configuration files.

Viewing the Available Options

To see a list of available options and their default values, enter the following at the MS-DOS command prompt:

```
C:\> PROCOB
```

To see the option, defaults, and the restrictions (if any) on values, enter the following at the MS-DOS command prompt:

```
C:\> PROCOB /?
```

MAXLITERAL Option for Fujitsu COBOL

If you are using the Fujitsu COBOL compiler, set the MAXLITERAL option to 160. The Fujitsu COBOL compiler cannot handle string literals that are longer than 160 characters. You can set this option in the configuration file as well as at the command line. The default value of the MAXLITERAL option is 256.

Configuration File

Pro*COBOL reads the configuration file for options before processing options supplied at the command line.

- For release 8.0.6, the configuration file is called PCBCFG.CFG. This file is located in the *ORACLE_HOME*\PRO80 directory.
- For release 1.8.28, the configuration file is called PCCCOB.CFG. This file is located in the *ORACLE_HOME*\PRO18 directory.

The configuration file has the following two options:

- comp5=yes
- include=*ORACLE_HOME*\PRO80\COBOL\INCLUDE (for release 8.0.6)

  or

  include=*ORACLE_HOME*\PRO18\COBOL\INCLUDE (for release 1.8.28)

Check the following table to see whether you should change the value of comp5:

If you are using Fujitsu COBOL...	If you are using MERANT Micro Focus COBOL...
comp5 must be set to yes (comp5=yes). ■ All COMP data items (if they are potential host variables) are converted to COMP–5. ■ All data items generated by the precompiler will be declared as COMP–5.	comp5 can be set to yes (comp5=yes) or no (comp5=no). If comp5=yes: ■ All COMP data items (if they are potential host variables) are converted to COMP–5. ■ All data items generated by the precompiler will be declared as COMP–5. If comp5=no: ■ The precompiler ignores COMP–5 host variables. ■ Precompiled files generally do not run on Intel platforms. **Workaround:** During the compilation stage, use the MERANT Micro Focus COBOL compiler directive: MAKESYN "COMP–5" = "COMP" This statement directs the compiler to treat COMP items as if they are COMP–5 items.

The INCLUDE option enables the provided .COB files in the *ORACLE_HOME*\PRO80\COBOL\INCLUDE directory (for release 8.0.6) and the *ORACLE_HOME*\PRO18\COBOL\INCLUDE directory (for release 1.8.28) to be included without an explicit INCLUDE= option at the command line.

Using Embedded PL/SQL

If you are using embedded PL/SQL blocks, do the following:

1. Enter the SQLCHECK option and the USERID string to connect at the precompiling command line.
2. Specify the SQLCHECK=FULL option to check the syntax or semantics of embedded SQL statements and PL/SQL blocks.

Additional Information: For an example of a command line string, see the *Pro*COBOL Precompiler Programmer's Guide* or review the PL/SQL MAKE file.

Compiling and Linking Pro*COBOL Applications

This section describes how to compile and link Pro*COBOL applications using the following compilers:

- Fujitsu Compiler
- MERANT Micro Focus Compiler

Fujitsu Compiler

You can build and execute a Fujitsu COBOL application in two ways:

- Using Fujitsu COBOL PROGRAMMING-STAFF
- Using the COBOL32 and LINK Commands

Using Fujitsu COBOL PROGRAMMING-STAFF

Programs generated by Pro*COBOL can be compiled and executed from within Fujitsu COBOL PROGRAMMING-STAFF.

To avoid potential inconsistencies when calling routines in the Oracle libraries, use the `"COMP5YES"` option. This step is required because binary numbers for COBOL BINARY/COMP data are stored in Big Endian format. Oracle libraries expect binary numbers to be stored in Little Endian format (machine format).

The compiler option "TEST" must be selected when the COBOL application is compiled.

When you click Build/Rebuild, PROGRAMMING-STAFF generates the executable and WINSVD debug information.

After building the application, you can debug the application using the Interactive Debugger "WINSVD." To start "WINSVD", choose WINSVD from the Tools menu of PROGRAMMING-STAFF.

Using the COBOL32 and LINK Commands

For release 8.0.6, the following commands can be used to build an executable:

```
COBOL32 -M sample1.cbl
LINK sample1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:sample1.exe ORACLE_HOME\pro80\lib\sqllib80.lib
```

For release 1.8.28, the following commands can be used to build an executable:

```
COBOL32 -M sample1.cbl
```

```
LINK sample1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:sample1.exe ORACLE_HOME\pro18\lib\sqllib80.lib
```

These commands produce SAMPLE1.EXE, which can be executed like any other Windows NT or Windows 95/98 program.

For release 8.0.6, the following commands can be used to build an executable for debugging:

```
COBOL32 -M -Dt sample1.cbl
LINK sample1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:sample1.exe ORACLE_HOME\pro80\lib\sqllib80.lib /DEBUG /DEBUGTYPE:COFF
```

For release 1.8.28, the following commands can be used to build an executable for debugging:

```
COBOL32 -M -Dt sample1.cbl
LINK sample1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:sample1.exe ORACLE_HOME\pro18\lib\sqllib80.lib /DEBUG /DEBUGTYPE:COFF
```

These commands produce SAMPLE1.EXE, as well as WINSVD debug information. Fujitsu COBOL applications can be debugged using the Interactive Debugger "WINSVD".

MERANT Micro Focus Compiler

You can build and execute a MERANT Micro Focus COBOL application in two ways:

- Using the IDE (using NetExpress only)
- Using Animator (products other than NetExpress)
- Using the COBOL and CBLLINK Commands (all products)
- Using COBSQL

In each of these the COBSQL utility may be used with the following advantages:

- Pro*COBOL is run by the MERANT Micro Focus compiler and does not need to be run as a separate step.
- Animation is done using the `.pco` source file rather than the `.cbl` file produced by Pro*COBOL.
- The `MAKEYSYN` directive is provided automatically and need not be specified manually.

Using the IDE

A program generated by Pro*COBOL can be compiled and executed from within the MERANT Micro Focus NetExpress IDE. Simply add the `.cbl` file generated by Pro*COBOL to a Net Express project. To avoid potential inconsistencies when calling routines in the Oracle libraries the program should be compiled using the directive:

```
MAKESYN "COMP-5" = "COMP"
```

This directive can be specified in the build setting for the source file, the project settings or via a `$SET` line at the start of the source file. When you select **Rebuild** or **Rebuild All** the IDE generates an executable ready to Run or Animate.

Using Animator

Programs can be compiled and executed from within the MERANT Micro Focus COBOL debugger, Animator V2.

To avoid potential inconsistencies when calling routines in the Oracle libraries, select the menu option Compiler Directives, and enter:

```
MAKESYN "COMP-5" = "COMP"
```

This step is required because MERANT Micro Focus COBOL stores binary numbers in Big Endian format. Oracle libraries expect binary numbers to be stored in Little Endian format (machine format).

Using the COBOL and CBLLINK Commands

COBOL and CBLLINK can be used to build programs can be in two ways, depending on whether the Pro*COBOL runtime is to be statically linked or accessed through a DLL at runtime.

For dynamic linking the commands are:

```
COBOL sample1 /MAKESYN"COMP-5"="COMP";
CBLLINK sample1
```

For static linking Pro*COBOL 8.0.6 the commands are:

```
COBOL sample1 /LITLINK /MAKESYN"COMP-5"="COMP";
CBLLINK sample1 ORACLE_HOME\pro80\lib\sqllib80.lib
```

For static linking Pro*COBOL 1.8.28 the commands are:

```
COBOL sample1 /LITLINK /MAKESYN"COMP-5"="COMP";
```

```
CBLLINK sample1 ORACLE_HOME\pro18\lib\sqllib80.lib
```

The previous commands produce SAMPLE1.EXE, which can be executed like any other Windows NT or Windows 95/98 program.

Note: MERANT Micro Focus COBOL must be installed on the same system as Pro*COBOL to successfully execute the file.

Using COBSQL

COBSQL can be used to simplify preprocessing and debugging. To use COBSQL, specify the following directive to the COBOL compiler:

```
PREPROCESS(COBSQL) COBSQLTYPE=ORACLE8 ENDP
```

or the short form:

```
P(COBSQL) CSQLT=ORA8 ENDP
```

COBSQLTYPE should be set to `ORACLE` or `ORA` for versions of Pro*COBOL prior to release 8.0. The directive may be set with a `$SET` line at the start of the source file, on the COBOL command line, in program build settings or project settings for NetExpress, or with SQL compiler directives settings for Animator. At compile time, COBSQL runs Pro*COBOL as a background task and passes its output to the COBOL compiler together with additional information required to enable Animator to track execution using the `.pco` file rather than `.cbl` file.

When using COBSQL there is no need to deal directly with the `.cbl` file. Instead, add the `.pco` file to a NetExpress project, or open it with Animator.

Building the Sample Programs

This section describes how to use the basic precompiling, compiling, and linking commands to build the sample programs. This section also describes the preparations required for running the Pro*COBOL sample programs. Follow these guidelines when you build Oracle database applications.

Building the Demonstration Tables

To run the Pro*COBOL sample programs, you must have a database account with the user name SCOTT and the password TIGER. If no such account exists on your database, create one before running the sample programs.

Additional Information: See your Oracle8 documentation or your database administrator for more information.

The SCOTT account must contain the EMP and DEPT tables. If the account does not contain these tables, use the DEMOBLD script to create them.

To run the DEMOBLD script:

1. Start the local Oracle database, or SQL*Net software if you are connecting to a remote database.
2. Start Server Manager or SQL*Plus.
3. Connect to the database as user name SCOTT with password TIGER.
4. Run the DEMOBLD.SQL script (located in the *ORACLE_HOME*\DBS directory).

If you encounter errors, ensure that all paths and file names reflect the configuration of your system. The commands to run the sample programs assume that the *ORACLE_HOME*\PRO80\COBOL\SAMPLES directory (for release 8.0.6) or the *ORACLE_HOME*\PRO18\COBOL\SAMPLES directory (for release 1.8.28) is the current working directory. You may need to modify the sample link script to reflect the configuration of your system. See "Compiling and Linking Pro*COBOL Applications" on page 2-5 for more information.

The DEMOBLD.SQL script contains constraint options in several statements. You may customize it before running the script.

Building the Sample Programs

Pro*COBOL supplies four batch files: two for Fujitsu COBOL, and two for MERANT Micro Focus COBOL.

Fujitsu Compiler

The sample directories for release 8.0.6 and release 1.8.28 contain a batch file called FJMAKEIT.BAT.

For release 8.0.6, this batch file does the following:

```
procob iname=%1.pco ireclen=132 maxliteral=160
cobol32 -M %1.cbl
link %1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:%1.exe ORACLE_HOME\pro80\lib\sqllib80.lib
```

For release 1.8.28, this batch file does the following:

```
procob iname=%1.pco ireclen=132 maxliteral=160
cobol32 -M %1.cbl
link %1.obj f3bicimp.lib libc.lib kernel32.lib user32.lib
/out:%1.exe ORACLE_HOME\pro18\lib\sqllib80.lib
```

To build the sample programs, run this batch file with any sample file. Do not provide the file extension. For example:

```
FJMAKEIT sample1
```

MERANT Micro Focus Compiler

The sample directories for release 8.0.6 and release 1.8.28 contain a batch file called MAKEIT.BAT. For release 8.0.6, this batch file does the following:

```
procob iname=%1.pco ireclen=132
cobol %1 /ganim /litlink makesyn "COMP-5" = "COMP";
cbllink %1 /M%1 ORACLE_HOME\pro80\lib\sqllib80.lib
```

For release 1.8.28, this batch file does the following:

```
procob iname=%1.pco ireclen=132
cobol %1 /ganim /litlink makesyn "COMP-5" = "COMP";
cbllink %1 /M%1 ORACLE_HOME\pro18\lib\sqllib80.lib
```

To build the sample programs, run this batch file with any sample file. Do not provide the file extension. For example:

```
MAKEIT sample1
```

Sample Files

The *ORACLE_HOME*\PRO80\COBOL\SAMPLES (for release 8.0.6) and *ORACLE_HOME*\PRO18\COBOL\SAMPLES (for release 1.8.28) directories contain the following sample files:

- SAMPLE1.PCO
- SAMPLE2.PCO
- SAMPLE3.PCO
- SAMPLE4.PCO
- SAMPLE6.PCO
- SAMPLE7.PCO
- SAMPLE8.PCO
- SAMPLE9.PCO
- SAMPLE10.PCO
- SAMPLE11.PCO
- SAMPLECO.PCO

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