

# COBOL-IT<sup>®</sup> CitSQL Family 1.3



COBOL-IT CitSQL® is the COBOL-IT Family of Pre-Compilers which includes COBOL-IT Pre- compiler for MySQL, COBOL-IT Pre-compiler for PostgreSQL and COBOL-IT Pre-compiler for ODBC.



The CitSQL pre-compilers translate COBOL ESQL commands into CALLs to functions which are included in the CitSQL Runtime Component.

The CitSQL for MySQL and CitSQL for PostgreSQL runtime components are designed to make native calls directly to the database ensuring the very highest level of performance possible. The CitSQL for ODBC runtime component makes calls to the Microsoft ODBC interface which in turn can connect to Microsoft SQL Server.

## SUPPORTS MYSQL, POSTGRESQL AND ODBC

The CitSQL Family of products extends COBOL-IT's commitment to embrace Open Source solutions.

CitSQL provides Pre-compilers for the latest versions of Open Source Databases MySQL and PostgreSQL.

CitSQL is designed for use with 32-bit Databases that support the Open Database Connectivity standard (ODBC) created by Microsoft.

CitSQL generates code that can access MySQL, PostgreSQL and ODBC. SQL statements are passed directly to the database. Database error-reporting on unsupported ESQL statements is supported.

## PRE-COMPILER AND RUNTIME COMPONENT

The CitSQL Pre-compiler serves as a replacement to COBOL ESQL Pre-compilers provided by other vendors.

The CitSQL Pre-compiler transforms EXEC SQL statements so that they can be compiled by the COBOL-IT Compiler. This is done by commenting out the EXEC SQL statements and replacing them with CALL "RCQxSQL" statements.

The CitSQL Runtime Component is a DLL (Windows) or shared object (Linux/Unix) that is the target of the CALL statements produced by the CitSQL pre-compiler. No linking needs to be done.

CitSQL provides different Runtime Components for the different databases, each of which is developed specifically for the target database.

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## NATIVE CALL INTERFACE FOR HIGH PERFORMANCE

CitSQL binaries are optimized for high performance, allowing them to target different databases on different machines using the host database's Native Call Interface.

The Runtime Component makes native calls to the target MySQL and PostgreSQL databases, and is highly optimized for the ODBC standard.

## COMPATIBLE WITH DEVELOPER STUDIO

CitSQL is compatible with COBOL-IT Developer Studio for purposes of editing precompiling, compiling and debugging.

The Developer Studio can be configured to recognize programs that require precompiling by their file extensions.

The Developer Studio can be configured to include pre-processing in the compiler command and to run a selected script while pre-processing.

Compiler errors are stored in a Problems View and provide a simple clickable interface that returns to the line on which the compiler error was detected.

When debugging your code inside the Developer Studio, you may elect either to debug the original source code or the source code generated by the pre-compiler.

## LOG MODE FOR TRACING SQL OPERATIONS

CitSQL can be run in Log Mode to create a trace of SQL operations, enhancing debugging of programs with ESQL statements.

Running CitSQL in Log Mode can greatly reduce the time required to analyze an unexpected behavior.

## CITSQL FEATURES AND BENEFITS

FEATURE	BENEFIT
Run pre-compiler commands from a highly configurable resource file.	Resource files support wildcard syntax that allows for short-hand designation of name and location of source files and can be used to apply multiple options to multiple files.
Runtime components make native calls to the database	Native calls to the database provide the highest level of performance.
Intelligent handling of unrecognized SQL statements.	Different databases can support their own extensions to deal with table spaces, indexing methods, special column types and more. CitSQL will pass along SQL statements directly to the database that it does not recognize. This greatly expands the ability of the pre-processor to work across multiple databases.
Application of Standard Prefix	CitSQL allows the user to avoid collisions between generated variables and pre-existing variables with the application of a prefix to the generated variables. This eliminates the need to resolve conflicts which can be time-consuming.
Supports multiple quoting conventions	Allows the user to use the same source code with different databases having different quoting conventions without changing the source code.
Allocate extra memory for pre-compiling of very large source files	Effectively removes limitations caused by memory when handling very large source files.
LogMode to trace SQL operations for debugging purposes	Provides an effective debugging tool with a log file that contains a full record of SQL operations performed.
Produce output in "free" source format	Allows user to match output format to the source format that they prefer and which matches their corporate coding conventions.
The precompiled source code produced by CitSQL produces calls to the runtime component which is included with the product as either a DLL (Windows) or shared object (Linux/Unix)	There is no need to statically link the runtime component to the program.
Integrated with the Developer Studio for purposes of pre-compiling, compiling and debugging.	Provides users of CitSQL with all of the compiling, editing and debugging capabilities of the Developer Studio.

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## PLATFORM SUPPORT

For the most recent information about Platform Support for CitSQL for MySQL, CitSQL for PostgreSQL and CitSQL for ODBC, please reference the COBOL-IT Port List.

## ABOUT COBOL-IT

**Lightweight. Open Source. Subscription-based. Proven.**

COBOL-IT is an efficient, open-source COBOL compiler and runtime system, available for Windows and Linux. With modern development tools based around Eclipse and Enterprise support provided by the industry experts in COBOL, COBOL-IT is the only credible open source COBOL provider for Enterprise IT systems.

Click [here](#) to learn more about COBOL-IT products and services.

**[www.cobol-it.com](http://www.cobol-it.com)**