

 **See Also:**
"SQLJ"

Client-Side APIs

50

Most developers today use an API to embed SQL in their database applications.

For example, two popular APIs for enabling programs to communicate with Oracle Database are Open Database Connectivity (ODBC) and JDBC. The Oracle Call Interface (OCI) and Oracle C++ Call Interface (OCCI) are two other common APIs for client-side programming.

OCI and OCCI

As an alternative to precompilers, Oracle provides the OCI and OCCI APIs.

OCI lets you manipulate data and schemas in a database using a host programming language such as C. OCCI is an object-oriented interface suitable for use with C++. Both APIs enable developers to use native subprogram invocations to access Oracle Database and control SQL execution.

In some cases, OCI provides better performance or more features than higher-level interfaces. OCI and OCCI provide many features, including the following:

- Support for all SQL [DDL](#), [DML](#), query, and transaction control facilities available through Oracle Database
- Instant client, a way to deploy applications when disk space is an issue
- Thread management, connection pooling, globalization functions, and direct path loading of data from a C application

OCI and OCCI provide a library of standard database access and retrieval functions in the form of a dynamic run-time library (OCILIB). This library can be linked in an application at run time. Thus, you can compile and link an OCI or OCCI program in the same way as a nondatabase application, avoiding a separate preprocessing or precompilation step. [Figure 19-3](#) illustrates the development process.