*Revolutionize the way databases and applications are developed, tested and deployed.*

IBM Information Management software

# IBM Optim Development Studio and Optim pureQuery Runtime

## Highlights

- ***Accelerate time to market, simplify impact analysis and isolate problems quickly***
- ***Provision test data, while respecting data privacy***
- ***Boost performance for new or existing Java applications***
- ***Enhance security, minimize risk and improve audit readiness***
- ***Promote collaboration among developers and database administrators***

### What's needed to bridge the gap between Java Developers and DBAs?

The web applications built upon Java® technology support interactive business operations that drive revenue. But Java application development poses many new challenges for IT organizations. Frameworks like Hibernate® and Apache® Open JPA make object-oriented development quick and easy, with less need for specialized SQL skills. However, the auto-generated data access layers may result in poor application performance and manageability. It is not surprising that developers and DBAs find it difficult to collaborate.

Bridging the gap between developers and DBAs is not easy. Developers are valued based on their object-oriented design skills and the timely delivery of Java application functionality. DBAs are valued based on their skills in relational database technology and how well they can optimize performance to meet service levels. As a result, IT organizations are challenged to achieve flexibility, efficiency and true collaboration. So how can IT organizations help improve Java application development, consistently meet service level agreements and lower costs?

### Speed application development, impact analysis and problem resolution

IBM® Optim™ Development Studio significantly improves the way databases and business applications are built, tested and deployed. This integrated database development environment speeds application design, development and deployment, while increasing database access efficiency and performance.

Optim Development Studio provides a complete Eclipse®-based environment for building database objects, queries and database logic, including stored procedures and user-defined functions for IBM DB2®, IBM Informix® and Oracle® databases. Optim Development Studio also

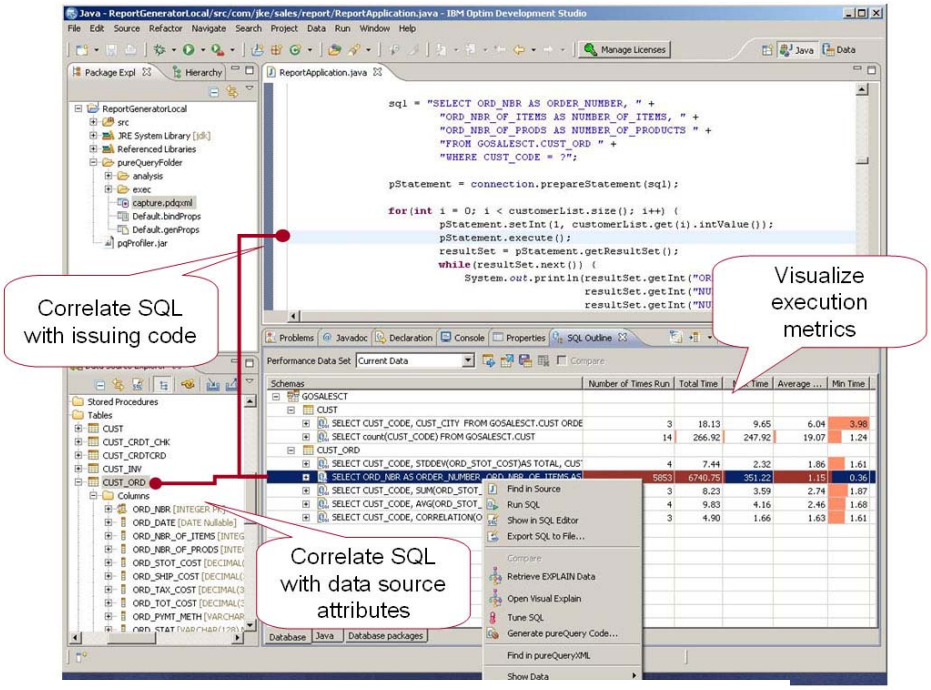
provides a seamless SQL/Java experience, including SQL assistance, validation, execution and analysis. Java developers can take advantage of contextual assistance for defining and debugging data routines, including SQL statements, XQuery statements, stored procedures and user-defined functions. Drag-and-drop features enable creating Web services from any SQL, XQuery or stored procedures. Developers can quickly and easily generate and customize a data access layer using Java objects, JSON or XML.

Unique in the industry, Optim Development Studio provides an SQL outline that correlates application SQL with the Java code that executes it and the database objects it references. Developers can spend a considerable amount of time isolating performance issues: first to a specific SQL statement, then to the source application and finally to the originating code. Three-tier architectures and popular frameworks make this isolation more difficult because the developer may never see the SQL generated by the framework.

Using the SQL outline for rapid problem isolation, developers can trace SQL statements back to the originating line in the source application, even if the SQL was generated using a framework. In addition, developers can readily visualize the specific SQL statements and application code that may be affected by a proposed schema change. Starting from database objects in the Data Source Explorer or from a DDL script provided by the DBA, developers can instantly see all the SQL that is affected by proposed changes. Using Optim Development Studio, Java application developers can achieve up to 50 percent productivity improvement, thus increasing their overall value to the team.

**Provision test data while complying with privacy requirements**

Now developers can easily provision realistic test data and also respect privacy policies. Integrating Optim Development Studio with IBM InfoSphere™ Data Architect allows users to define privacy models, apply them to database objects, and share those definitions with developers. Developers can readily identify sensitive database objects and all the SQL that is accessing them to assure that those database objects are appropriately protected within the application.




*Optim Development Studio provides an SQL outline display.*

When developers want to provision test data, they can immediately visualize privacy policies associated with source data in the Optim Development Studio. Simple copy/paste operations can be used to copy related tables from pre-built test database. Developers can also generate test data definitions for use in the IBM Optim Test Data Management and IBM Optim Data Privacy Solutions that offer capabilities to subset, extract and mask data from production databases to create right-sized, production-like, fictionalized testing environments.

### Optimize performance for new and existing applications

Optim Development Studio facilitates development-time query tuning. Developers can capture and visualize potential query hotspots to identify which queries are executed most frequently or take the most time. They can visualize catalog statistics, review a graphical representation of the access plan or launch IBM Optim Query Tuner to get expert advice for tuning queries for DB2.

IBM Optim pureQuery Runtime provides a high-performance data access platform that helps simplify the tasks of developing, managing and optimizing database applications and services. Optim pureQuery Runtime provides an innovative approach for building and maximizing database and application performance, while providing capabilities that improve Java developer productivity.

This proven runtime environment accelerates the performance of Java code. When deployed on any popular Java application server platforms, such as IBM WebSphere® Application Server, Optim pureQuery Runtime can enhance performance, manageability and security for Java applications connecting to IBM DB2 for Linux™, UNIX® and Microsoft® Windows®; Oracle, DB2 for IBM System i® (DB2 Connect required), DB2 for IBM z/OS® (DB2 Connect required) and Informix Dynamic Server.

Organizations can take advantage of JDBC and SQL best practices that are built into the pureQuery API and tooling for new applications. It is easier to use JDBC features, like batching multiple updates to a single table to minimize network trips from the client to the database and back. And for existing applications, pureQuery can improve best practices and workload performance after the fact, for example SQL statements that use string literals can be converted to parameter markers or host variables, improving your ability to find queries that are already cached. Unique to IBM servers, pureQuery also leverages heterogeneous batching capabilities, making it possible to batch updates across multiple tables to further reduce network traffic.

Unique to DB2 servers, Optim pureQuery Runtime simplifies the use of static SQL, a standard in z/OS shops for many years, with both Java and .NET applications. Static SQL improves performance, security and manageability, and now static SQL can be used without requiring changes in the development environment. Performance has been measured in double-digit throughput improvement because in essence, the query is always cached, which for IBM z/OS environments in particular, translates into reduced CPU requirements that can lead to substantial savings. The access plan is locked-in pre-execution, so response times are stable and predictable.

Static SQL also enhances security. Based on the principle of least privilege, static SQL limits user access to tables, and instead allows access only to specific SQL statements. Using pre-prepared SQL minimizes the risk of SQL injection. Finally, static SQL improves manageability: it simplifies the process of tracing SQL statements to the originating application, it provides the context needed for charge-back accounting, and it provides the starting point for impact analysis and capacity planning.

Perhaps most importantly, IBM provides many paths for using Optim pureQuery Runtime capabilities, so any Java or .NET application can benefit without changing a single line of application code or even having access to the source code. Whether applied to new custom development, framework-based development or packaged applications, Optim pureQuery Runtime provides substantial value to developers and DBAs alike.

### Promote full-lifecycle application data management

Optim Development Studio and Optim pureQuery Runtime help reduce costs throughout the application development lifecycle. Developers can deliver reliable, quality Java applications in less time. DBAs have more flexibility in optimizing, securing and managing application databases. Integration with InfoSphere Data Architect, Optim Query Tuner, Optim Test Data Management, Optim Data Privacy Solutions and IBM Rational® development software help to align IT with business objectives. When used together, these offerings increase organizational productivity and effectiveness, while improving application performance, security and manageability.

### About IBM Optim Integrated Data Management Solutions

IBM Optim Integrated Data Management Solutions offer proven, integrated capabilities to manage enterprise application data from requirements to retirement. With Optim, teams can share data artifacts (like models, policies and metadata) to align data management with business goals and improve collaboration.

Today, organizations of all types leverage Optim to improve performance, streamline database administration, speed application development, and enable effective governance. Optim delivers better business outcomes, at lower cost, with less risk, while providing capabilities that scale across enterprise applications, databases and platforms.

### For more information

To learn more about IBM Optim Integrated Data Management Solutions, contact your IBM sales representative or visit: **http://www-01.ibm.com/software/data/data-management/**

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