

IBM Cloudscape

IBM Cloudscape is the original embeddable, all Java™, object-relational database management system (ORDBMS). With a small footprint but big functionality, Cloudscape dramatically lowers the cost of development, testing, and support. Cloudscape allows you to create a single version of your application that addresses all platforms supporting a fully functional Java Virtual Machine (JVM). Easily embedded and highly secure, Cloudscape requires zero administration and scales from laptop or desktop applications to low-end appliance and more robust server applications. Cloudscape's support of complex SQL transactions and JDBC allows your applications to migrate to DB2 UDB when they need to grow.

The Cloudscape Enterprise Solution Suite

Cloudscape Personal Edition: A unique, Java™, embeddable, SQL-based ORDBMS with a footprint of approximately two megabytes. The Personal Edition is licensed for single-user deployment.

Cloudscape Server Edition: The Server Edition includes the Cloudscape Network Server. The Network Server provides multi-user connectivity to Cloudscape databases within a single system or over a network. It receives and replies to queries from clients using standard Distributed Database Architecture (DRDA) protocol. Databases are accessed through the Cloudscape Network Server using IBM's JDBC driver, the DB2 JDBC Universal Driver. The Server Edition is licensed for multiple-user deployment.

Cloudscape's Value-Added Features

Zero Administration Required

The Cloudscape product family is designed for deployment in unsupervised environments, so it requires no database administration and no resource management, eliminating the need for a database administrator at each client installation site. A Cloudscape-enabled application is invisible to non-technical end users.

Multiple Platform Compatibility

Cloudscape fully supports Sun Microsystems™ Java technology standards and runs on any standard Java Virtual Machine (JVM) version 1.2 and beyond. It supports Java 2 and the Java 2 Enterprise Edition (J2EE™). It has been verified on Windows®2000, Windows NT®, Linux™, Solaris™, AIX™, and Mac®OS.

(To see an updated list of tested JVMs, please visit <http://www.ibm.com/software/data/cloudscape/requirements.html>.)

Big Performance in a Compact Design

Cloudscape is fine-tuned for performance, efficient use of resources, and highly concurrent use. Cloudscape provides:

- Serializable, read-committed, read-uncommitted, and repeatable-read isolation levels
- Row level locking
- Optimal transaction performance
- Low memory overhead for a connection

- Expedient access time and space reclamation for long rows
- Cost-based optimizer that supports hash joins, sort avoidance, and row- or table-level locking based on percent of data selected
- Fast query compilation
- High-speed bulk load
- Stored prepared statements
- Multiple configurable properties
- Multiple user support for over 300 simultaneous connections

Advanced Security Features

- Signed JAR files
- LDAP and NIS+ secure user authentication
- Configurable disk encryption, supporting both diverse encryption algorithms and encryption providers other than the default Java Cryptography Extension (JCE) provider

Internationalization and Localization Support

Cloudscape supports international characters and formats without requiring special accommodations for various locations around the globe. Cloudscape offers:

- Per-database locale for NCHAR, NVARCHAR data and operations
- Localized installers, tools, and user interfaces for Spanish, Japanese, German, Italian, simplified and traditional Chinese, French, Korean, and Brazilian Portuguese
- Error messages and documents available in all the languages listed above
- Unicode support

Note: For the most current information, please visit

<http://www.ibm.com/software/data/cloudscape/support/index.html>.

SQL Features

- SQL-92E compliance, as well as many other SQL99 features, with extensions for Java
- Triggers
- Multicolumn B-Tree indexes
- Transaction commit and rollback
- Transactional isolation (serializability)
- Crash recovery
- Multithreaded connections
- Online backup
- Cost-based query optimization
- Data import/export with fast load and fast create index
- Unlimited length rows and ability to stream column values to the client
- Static SQL - precompiled statements
- Cloudscape's support of complex SQL transactions and JDBC allows your applications to migrate to DB2 UDB when they need to grow.

Java Features

- JDBC driver certified for use with Java compatible, Enterprise Edition (J2EE) branded products

- Extended support for J2EE features such as global transactions and connection pooling
- Ability to use any Java class or interface as a column type
- Built-in performance diagnostics: query statistics, lock table, and space usage table
- Java stored procedures and triggers
- SQL language extensions for Java: CLASS, INSTANCEOF, NEW
- Ability to treat any java.sql.ResultSet as a virtual table
- Method and class aliases
- Storage of JAR files in the database, including signed JARs
- Type 4 JDBC 3.0 driver

Virtual Table Interface™

Cloudscape's flexible SQL-92-based grammar allows a user to construct virtual or derived tables dynamically within SQL-J statements. The Cloudscape Virtual Table Interface:

- Presents external data as a table within the database
- Is updateable, allowing for external data modification
- Gathers optimizer costing information for a VTI class
- Allows the use of data in other databases, HTML tables, or flat files

Cview

Cview is an elegant graphical user interface that is used to create and manage the Cloudscape database system. Cview allows users to:

- Create and access databases
- Browse and define tables and indexes
- Browse, edit, and insert data
- Browse object data and execute methods
- Execute SQL statements
- Define and browse triggers, constraints, database properties, and more

For more information about the Cloudscape Enterprise solution, visit <http://www-3.ibm.com/software/data/cloudscape/>. Click on Downloads for a free 60-day evaluation version.

For sales information or to inquire about purchasing Cloudscape, please e-mail: oemcloud@us.ibm.com. IBM Cloudscape is sold primarily through OEM and ISV markets.

