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W

X XSQLDA

Υ

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alias

An SQL correlation name.

array A data structure consisting of multiple dimensions and elements of a single InterBase data type and stored in a single column. Similar to an array in C.

attach

To connect to and open a database for use. An attachment can be local or remote.

BLOB data type A binary data type, variable in size, used to store unformatted data such as text, graphics, or any other data.

BLOB filter

A user-written routine for processing <u>BLOB</u> data, for example, to convert the data from one format to another.

buffer cache

An area of memory allocated to a database attachment on the server, used to speed data access by keeping frequently-used data and index pages in the server's core memory.

CHARACTER data type A fixed-length string data type, 1 to 32,767 characters in size, used to store text.

checkpoint A point in time in which accumulated log file data reaches a predetermined size and is written to disk. It is part of the deprecated <u>WAL protocol</u>.

computed column A column whose value is derived from a formula or an arithmetic expression.

database engine The InterBase server component that handles all database access to a database file.

database handle

A name assigned to a database by an application that must be used in subsequent references to that database.

DATE data type A numeric data type, <u>ISC_QUAD</u>in size, used to store day and time values from January 1, 100 a.d. to February 29, 32768 a.d.. The size of ISC_QUAD is platform-specific.

DECIMAL data type A numeric data type, variable in size, used to store real numbers with a fixed decimal point. The user-specified range of precision is at least one to fifteen digits.

default transaction

The transaction under which SQL statements are executed unless a named transaction is explicitly used instead.

disk shadow See <u>shadow</u>.

domain

A column definition template, global to the database, upon which actual column definitions in tables may be based.

DOUBLE PRECISION data type A numeric data type, 64 bits in size, used to store real numbers up to fifteen decimal points of precision.

event

A named string, up to 31 characters in length, usually about a change, posted to the InterBase <u>event manager</u> by a <u>trigger</u> or a <u>stored procedure</u>.

event alerter

A trigger or stored procedure that posts an event message, usually about a change, to the InterBase <u>event manager</u>.

event manager An InterBase process that receives event messages and notifies applications about them.

extended SQL descriptor area A user-declared data structure, used to hold DSQL for input and output.

external function

See <u>user-defined function</u>.

external table

A flat data file used by a database as if it were an internal table.

filter See <u>BLOB filter</u>.

FLOAT data type A numeric data type, 32 bits in size, used to store real numbers up to seven decimal points of precision.

garbage collection Automatic deletion of record versions superseded by more current data.

gbak An InterBase utility for backing up and restoring databases.

generator A database object accessed by the built-in function, GEN_ID(), to generate sequential integer values, often used to assign unique values to a column.

gfix An InterBase utility for performing database maintenance such as shutting down the database and recovering limbo transactions.

gpre The InterBase preprocessor used to convert embedded SQL statements and variables into a format acceptable to a host-language compiler.

gsec An InterBase utility for maintaining the security database, <u>isc4.gdb</u>.

handle See <u>database handle</u>.

host language A programming language, such as C, used for database application development.

INTEGER data type A numeric data type, 32 bits in size, used to store integer values ranging from - 2,147,483,648 to 2, 147,486,647.

ISC_LONG Data type of correct size to contain an address.

ISC_QUAD 64-byte data structure used to hold <u>BLOB</u> IDs and <u>DATE</u> values.

isc4.gdb The InterBase security database, unique to each server, whose entries determine whether a remote client has permission to attach to a database.

isql Interactive SQL, an InterBase utility for data definition, data manipulation, and viewing metadata.

limbo transaction

A transaction that is neither committed nor rolled back, usually because of a failure of a twophase commit or system failure.

lock

A level of access granted by the lock manager to a database resource.

locking A mechanism that controls access to database resources.

lock manager A feature that coordinates the sharing of database resources among multiple processes.

log buffer An area of memory set aside to store database changes. These changes are written to log files when the buffers become full or when the changes are committed.

log file

Disk files that permanently record changes flushed from log buffers. When a log file becomes full, the WAL protocol determines whether a new log file is used or an old log file is reused.

metadata

Database system tables that describe the database's tables, columns, indexes, triggers, privileges, views, domains, procedures, and integrity constraints.

multi-database access

Accessing more than one database at the same time.

multi-database application An application that accesses more than one database at a time.

multi-file database

A database that stores its data in more than one file.

multi-generational architecture InterBase's structure for maintaining multiple record versions of data. It enables readers and writers concurrent and consistent access to data.

named transaction

A transaction explicitly named and started by an application to control execution of SQL statements in place of the default transaction.

NUMERIC data type A numeric data type, variable in size, used to store real numbers with a fixed decimal point. The user-specified range of precision can be exactly one to fifteen digits.

ODS (on disk structure) The physical layout and binary image of database files stored on disk. The ODS version depends on the InterBase version being used.

page

An internal InterBase storage structure that determines how data is stored on disk. A page affects the levels of index buckets and storage, retrieval, and buffering of data. Allowable page sizes are: 1KB, 2KB, 4KB, and 8KB.

record version

An instance of data tied to a specific transaction. Transactions that update the same data create multiple record versions.

recovery Reconstructing the database in the event of disk or network failure, or other disasters.

remote database

A database on a server that is accessed by a client across a network.

segment A unit of BLOB data stored or retrieved in a single operation. Segments can be up to 64 kilobytes in size.

shadow

A physical copy of the database. Changes to the database are written simultaneously to the shadow.

shadow file

One or more files that make up a shadow.

shadow set

A group of shadow files that make up a single shadow.

short-term recovery Bringing a database up to date by applying changes stored in log files. Log files contain committed changes not yet written to the database.

slice A contiguous subset of array elements retrieved and manipulated with a single statement.

SMALLINT data type A numeric data type, signed short in length, used to store integer values ranging from - 32,768 to 32,767.

SQLDA SQL descriptor area. See <u>extended SQL descriptor area</u>.

status vector

An array of twenty <u>ISC_LONG</u> elements used to report run-time errors by a database to an application.

stored procedure

A stored procedure is a self-contained program written in InterBase procedure and trigger language, and stored as part of a database's metadata. Stored procedures can be invoked directly from applications, or can be substituted for a table or view in a SELECT statement. Stored procedures can receive input parameters from and return values to applications and can execute on the server.

stored procedure and trigger language

A complete programming language for <u>stored procedures</u> and <u>triggers</u> that includes SQL data manipulation statements and extensions, including IF. . . THEN . . ELSE, WHILE . . . DO, FOR SELECT . . . DO, exceptions, and error handling.

subtype A number that specifies the type of data contained in a $\underline{\text{BLOB}}$.

sweep A process that checks a database record by record to garbage collect outdated record versions.

synchronous events An event posted to a waiting application when it occurs. See <u>event</u>.

transaction name

A unique name that must be used to distinguish a transaction from others in a multitransaction program.

trigger A self-contained routine associated with a table or view that automatically performs an action when a row in the table or view is inserted, updated, or deleted.

two-phase commit A mechanism that guarantees transactions affecting multiple databases are committed in their entirety or not at all.

UDF (user-defined function) A database function written entirely in a host language to perform data manipulation tasks not directly supported by InterBase. Executed on the server.

VARCHAR data type A variable string data type, 1 to 32,767 characters bytes in size, used to store text.

WAL (write-ahead log) protocol

WAL was a feature of earlier versions of InterBase on NetWare only. **This feature is deprecated and not supported in current versions of InterBase.** WAL was a method for caching data input and output. The WAL protocol stores changes in log buffers and files that are used in short-term recovery.

XSQLDA See extended SQL descriptor area.