

Glossary of ETP Terms

The terms defined here are referred to in the ETP documentation. For a more extensive list of terms or for definitions of terms mentioned here that are not included in this glossary, refer to the glossaries of the Adabas manuals listed in the introduction to this manual.

Adabas

Adabas (Adaptable **D**Ata**B**ase **S**ystem)

Software AG's database product. The main parts of an Adabas database are the Data Storage (Data), the Associator for tracking the data, the Work area for performing database operations and holding interim results, Temp for general temporary storage, Sort for required sorting operations, and the Protection Log (PLOG).

Adabas Control Block (CB)

The communication area for performing Adabas calls. This area comprises the fields where user programs specify the command code, Adabas file number, etc.

Administration file

The Adabas file that contains definitions of the ETP master and replicate files and the ETP operating profiles. To run ETP, an administration file must be defined for Natural which contains all information about master and replicate files. This is done as described in the section Defining the Administration File.

Software AG recommends that the administration file be located on any database having an ETP master file.

Asynchronous

An ETP master file and its replicate files are usually not updated simultaneously. The replicate copies are instead resynchronized with the master file sometime after the master file update; in other words, the replicate files are resynchronized *asynchronous* of the master file update.

Confirmation file

The Adabas file that records the state of the replicate file as compared to the master file. At least one confirmation file must be located on every physical database containing replicate files.

Database Administrator (DBA)

Controls and manages the database resources. Tasks include defining database distribution, assigning a structure and resources, creating and maintaining programming and operation standards, ensuring high performance, resolving user problems, defining and teaching user training, controlling database access and security, and planning for growth and the integration of new database resource applications and system upgrades. Also known as the Database Analyst.

Database

An Adabas database comprises Adabas files administered by the Adabas nucleus. The logical components of an Adabas database are the Data, Associator, Work, TEMP and SORT.

DBID (database ID)

The numeric identifier of the physical Adabas database. Each physical database must have a unique identifier. Depending on where it is applied or read, the DBID can be in either decimal, hexadecimal or binary notation. When entered in the ETP maintenance utility menus, the notation is always decimal.

Descriptor

A field in an Adabas file used as a reference. For each descriptor, Adabas creates an inverted list in the Associator. Descriptors make it possible to read a file in logical sequence and to formulate search criteria to find specific records. Descriptors can be defined as unique descriptors, which means that each value of the descriptor may only occur once in a file. It is also possible to define hyperdescriptors, subdescriptors, superdescriptors and phonetic descriptors.

Distribution key

When you define replicate files having only a part (subset) of the records contained in the master file, you must specify a field and value(s) or value range(s) to uniquely identify which master file records the replicate file contains. The record field you specify becomes the distribution key. The distribution key can be any arbitrary Adabas field (not necessarily a descriptor), but cannot be a periodic group, a multiple-value field, or a phonetic descriptor. See also Key value.

ET (End Transaction command)

All application programs that change an ETP master file must use Adabas ET logic. ET logic is denoted by specifying an OP (Open) command to begin and an ET command to end the transaction. ET logic ensures that all "housekeeping" is done (log data is stored, records are released, etc.). If the following master file transaction fails, Adabas autobackout function can more successfully restore all ETP files to their status before the unsuccessful transaction started.

Field, database

The smallest named unit of data information in the database. A field usually contains a "piece" of information (last name, employee number, age, or similar). One or more fields, each having its own two-character name, make up a database record. A single Adabas record can contain one or more of the following types of fields:

- A *elementary field* contains one value;
- A *multiple-value field* contains several "stacked" (from 1 to 65534, depending on the Adabas version and definition of the FDT) values of identical data type, or occurrences, per record. The "stack" grows or shrinks as values are added or removed. Multiple-value fields are useful for holding repetitive information within a single record (autos owned, multiple part numbers for a single stock item);
- A *periodic group*, which has the same "stack" structure as a multiple-value field, but the occurrences in the stack hold their relative positions. Specific positions must be specified for new occurrences, and deleted occurrences leave vacant slots in the stack.

Field Definition Table (FDT)

A table that defines each file's record structure and content. There is one FDT for each database file. FDTs, stored in the Associator's fixed area, have three parts: the first is a list of the file's fields in physical record order, the second part is a "quick index" to the records in the first part, and the third part defines the files sub/superfields and sub-/super-/hyper- and phonetic descriptors.

FNR (file number)

The physical number of an Adabas file. An ETP master or replicate file is always specified by its Adabas database ID (see DBID) and file number.

Format Buffer (FB)

Holds the field definitions (formats and names) to or from which data is written or read in the Adabas database files.

Internal Sequence Number (ISN)

Every Adabas record is assigned an internal sequence number (ISN) to identify the record. Each record keeps its original ISN, regardless of where it is located.

Records in a physical database file have four-byte ISNs ranging from MINISN to MAXISN. In replicated files, a record has the same ISN in all file copies. In partitioned files, the ISN ranges are non-overlapping for each physical file.

Inverted list

A logically sorted list of the ISNs for each field that is defined as a descriptor. The inverted lists are located in the Adabas Associator.

Key value

A specific value/value range or combination of one or more values/value ranges that are in the distribution key field of all the records in a "partial"(subset) replicate file. ETP uses the distribution key and key value to determine whether or not a change to a particular master file must be applied to the replicate file.

Log file

The Adabas file that records the updates made to one or more master files on the same Adabas database. ETP replication tasks look in the log file for change information when they resynchronize replicate files with their master files.

Master file

The Adabas file used as a reference in an ETP replicate file set. Either the master or a replicate file can be read by programs, but updates can only be made to the master file.

Multiple-value field

See also Field.

OP (Open command)

An Open (OP) command marks the beginning of an ET logic transaction.

Periodic group

A group of fields which can have several (0 to 99) occurrences within a record. See also Field .

Phonetic descriptor

A phonetic descriptor makes it possible to search for a field value on the basis of the sound of the value; all values that sound similar to the value will be found.

Physical database

A physical database identified by its database ID is defined with Adabas utilities. An Adabas nucleus running in an address space allows access to the physical files in the physical database.

Physical file

A physical file contains database records. Each physical file is identified by a file number.

Record Buffer (RB)

The portion of the calling program's parameter area, called the User Buffer, that contains the data transferred during Adabas read, search, and update operations. When reading data field definitions, Adabas also returns the field definition information in the Record Buffer.

Replication task

A transaction that updates a replicate file or files with the changes recorded in the log file of the related master file. Replication tasks are started from within the ETP maintenance utility.

Synchronous

A distributed database having absolute data integrity in replicate files must change all other replicate copies at the same time when one copy has been changed. This *synchronous* updating ensures that all copies are consistent at all times. ETP uses asynchronous control of replicate files to reduce the overhead of maintaining replicate files while offering site-defined control of the data integrity. See also Asynchronous.

Time stamp

The hexadecimal date/time notation that ETP uses to mark changes and other activity. When entering a time value in the ETP maintenance utility, you can enter the hexadecimal time stamp found in the log file entry.

User

A batch or on-line application program that makes Adabas calls.