

APPENDIX D

DB2 Limits

You can use this appendix as a handy reference for the various physical and structural limitations to which DB2 must conform. There are two columns, the first showing the V7 limit, the second showing the V8 limit. If the limit did not change between V7 and V8, the V8 column will be blank.

Item	V7 Limit	V8 Limit
STOGRROUP name	8 bytes	128 bytes
Volumes per STOGRROUP	133	
Database name	8 bytes	
Maximum number of databases	65,217	
Authorization ID	8 bytes	128 bytes
Tablespace name	8 bytes	
Maximum segment size	64 pages	
Largest Partitioned Table Space	16 terabytes	128 terabytes
Largest Segmented Table Space	64 gigabytes	
Largest Simple Table Space	64 gigabytes	
Table name	18 bytes	128 bytes
View name	18 bytes	128 bytes
Alias name	18 bytes	128 bytes
Synonym name	18 bytes	128 bytes
Column name	18 bytes	128 bytes
Referential constraint name	8 bytes	128 bytes
Check constraint name	18 bytes	128 bytes
Maximum length of the check constraint text	3,800 bytes	
Cursor name (except for DECLARE CURSOR WITH RETURN *)	18 bytes	128 bytes
Host identifier	64 bytes	
Location name	16 bytes	
Number of base tables per view	225	
Maximum number of columns in a table (or view)	750 **	
Index name (8 bytes recommended ***)	18 bytes	128 bytes
Columns per index	64	
Index key size (number of nullable columns ****)	255 bytes	2,000 bytes
Plan name	8 bytes	
Package name	8 bytes	
Trigger package name	8 bytes	128 bytes
Collection name	18 bytes	128 bytes
Package Version name	64 bytes	
DBRM name	8 bytes	
Schema name	8 bytes	128 bytes
Stored Procedure name	18 bytes	128 bytes
User-defined function name	18 bytes	128 bytes
Trigger name	8 bytes	128 bytes

Item	V7 Limit	V8 Limit
Maximum length of CHAR	255 bytes	
Largest VARCHAR		
(4KB pages)	4,046 bytes	
(8KB pages)	8,128 bytes	
(16KB pages)	16,320 bytes	
(32KB pages)	32,704 bytes	
Maximum length of GRAPHIC	127 DBCS characters	
Largest VARGRAPHIC		
(4KB pages)	4,046 bytes	
(8KB pages)	8,128 bytes	
(16KB pages)	16,320 bytes	
(32KB pages)	32,704 bytes	
Maximum length of BLOB	2,147,483,647 bytes	
Maximum length of CLOB	2,147,483,647 bytes	
Maximum length of DBCLOB	1,073,741,824 DBCS characters	
Largest SMALLINT	32,767	
Smallest SMALLINT	-32,768	
Largest INTEGER	2,147,483,647	
Smallest INTEGER	-2,147,483,648	
Largest DECIMAL	$10^{31} - 1$	
Smallest DECIMAL	$1 - 10^{31}$	
Largest FLOAT	7.2×10^{75}	
Smallest FLOAT	-7.2×10^{75}	
Smallest positive FLOAT	5.4×10^{-79}	
Largest negative FLOAT	-5.4×10^{79}	
Smallest DATE	0001-01-01	
Largest DATE	9999-12-31	
Smallest TIME	00.00.00	
Largest TIME	24.00.00	
Smallest TIMESTAMP	0001-01-01-00.00.00.000000	
Largest TIMESTAMP	9999-12-31-24.00.00.000000	
Physical Storage		
SMALLINT	2 bytes	
INTEGER	4 bytes	
REAL	4 bytes	
DOUBLE PRECISION	8 bytes	
DECIMAL(<i>p</i> , <i>m</i>)	(TRUNCATE(<i>p</i> /2)+1) bytes	
CHAR(<i>n</i>)	<i>n</i> bytes	
VARCHAR(<i>n</i>)	<i>n</i> + 2 bytes	
LONG VARCHAR	size of tablespace page	
GRAPHIC(<i>n</i>)	$2 * n$	
VARGRAPHIC(<i>n</i>)	$(2 * n) + 2$ bytes	
LONG VARGRAPHIC	Size of tablespace page	
DATE	4 bytes	

Item	V7 Limit	V8 Limit
TIME	3 bytes	
TIMESTAMP	10 bytes	
Maximum LOB data set size	64GB	
Row length		
(4KB pages)	4,056 bytes	
(8KB pages)	8,138 bytes	
(16KB pages)	16,330 bytes	
(32KB pages)	32,714 bytes	
Row length (with EDITPROC)		
(4KB pages)	4,046 bytes	
(8KB pages)	8,128 bytes	
(16KB pages)	16,320 bytes	
(32KB pages)	32,704 bytes	
Maximum number of rows per page		
(user tables)	255	
(DB2 Catalog & Directory)	127	
Maximum number of tables		
in a FROM clause	15	225
Maximum number of tables per SELECT/INSERT/UPDATE/DELETE	225	
Maximum number of subqueries in an SQL statement	14	
Maximum number of triggers, stored procedures, and UDFs referenced by a single SQL statement	16 nested levels	
Maximum length of SQL path	254 bytes	
Largest SQL statement	32,765 bytes	2,097,152 bytes
Columns***** per SELECT	750	
Largest string literal	255 bytes	32,704 bytes
SQL correlation ID	18 bytes	128 bytes
Predicates per WHERE clause	750	
Predicates per HAVING clause	750	
Length of columns in ORDER BY	4,000	
Length of columns in GROUP BY	4,000	
Maximum length of host and indicator variables pointed to in SQLDA	32,767 bytes	
Maximum size of a single stored procedure parm	2 gigabytes-1 for a LOB*****	
Concurrent users	2,000	
Open data sets	32,727	100,000
Largest active log data set	2GB	
Largest archive log data set	2GB	

Item	V7 Limit	V8 Limit
Maximum active log copies	2	
Maximum archive log copies	2	
Maximum active log data sets	31	93
Maximum archive log volumes	1,000	10,000
Maximum DBRM entry size	131,072 bytes	
<i>* The maximum size of a cursor declared WITH RETURN is 30 bytes.</i>		
<i>** If the table is a dependent, it can contain a maximum of 749 columns. The value (749 or 750) depends on the complexity of the CREATE VIEW statement.</i>		
<i>*** If the index name is longer than 8 bytes, DB2 derives an index space name using the index name. An index space name must be unique in the given database. The index space name that DB2 generates for index names of nine characters or more may be hard to track when you're performing DASD management and object monitoring. It also is helpful to have the index space names be the same when comparing files from different environments; for example, comparing QA to production.</i>		
<i>**** The maximum length of the key for a partitioning index remains 255 even for DB2 V8. For V7 and V8, both partitioning and nonpartitioning indexes, you must subtract 1 for each nullable column in the index to determine the total maximum length of the columns that can be assigned to the index. For V8 padded indexes, you must also subtract 2 times the number of varying-length columns in the key.</i>		
<i>***** The maximum is for all items in the SELECT list, not just columns. For example, expressions and constants can be included in the SELECT list.</i>		
<i>***** The maximum number of bytes passed for LOB data is subject to the capabilities of the application programming language and environment being used.</i>		