

Microsoft SQL Server Data Types Cheatsheet

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Here is the full list of all supported data types in Microsoft SQL Server, including string, number, date, and some other types.

String types

Data type	Description	Maximum size
char(n)	Fixed width character string with <code>n</code> is the number of characters to store. Non-Unicode data.	8,000 characters
varchar(n)	Variable width character string with <code>n</code> is the number of characters to store. Non-Unicode data.	8,000 characters
varchar(max)	Variable width character string with maximum number of characters is 2GB. Non-Unicode data.	1,073,741,824 characters
text	Variable width character string. Non-Unicode data.	2GB of text data
nchar(n)	Fixed width character string with <code>n</code> is the number of characters to store. Unicode data.	4,000 characters
nvarchar(n)	Variable width character string with <code>n</code> is the number of characters to store. Unicode data.	4,000 characters
nvarchar(max)	Variable width character string with maximum number of characters is 2GB. Unicode data.	536,870,912 characters
ntext	Variable width character string. Unicode data.	2GB of text data
binary(n)	Fixed width binary string.	8,000 bytes
varbinary	Variable width binary string.	8,000 bytes
varbinary(max)	Variable width binary string.	2GB
image	Variable width binary string.	2GB

Number types

Data type	Description	Storage
bit	0, 1, or NULL	

Data type	Description	Storage
tinyint	From 0 to 255	1 byte
smallint	From -32,768 to 32,767	2 bytes
int	From -2,147,483,648 to 2,147,483,647	4 bytes
bigint	From -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807	8 bytes
decimal(p,s)	Fixed precision and scale numbers. <div>p</div> defaults to 18, if not specified. <div>s</div> defaults to 0, if not specified.	5-17 bytes
dec(p,s)	Fixed precision and scale numbers. <div>p</div> defaults to 18, if not specified. <div>s</div> defaults to 0, if not specified.	5-17 bytes
numeric(p,s)	Fixed precision and scale numbers. <div>p</div> defaults to 18, if not specified. <div>s</div> defaults to 0, if not specified.	5-17 bytes
smallmoney	From -214,748.3648 to 214,748.3647	4 bytes
money	From -922,337,203,685,477.5808 to 922,337,203,685,477.5807	8 bytes
float(n)	Floating point number data from -1.79E + 308 to 1.79E + 308 <div>n</div> default to 53, if not specified.	4 or 8 bytes
real	Equivalent to float(24)	4 bytes

Date data types:

Data type	Description	Storage
datetime	From January 1, 1753 to December 31, 9999	8 bytes
datetime2	From January 1, 0001 to December 31, 9999	6-8 bytes
smalldatetime	From January 1, 1900 to June 6, 2079	4 bytes
date	Store a date only. From January 1, 0001 to December 31, 9999	3 bytes
time	Store a time only. From 00:00:00.0000000 to 23:59:59.9999999	3-5 bytes
datetimeoffset	From January 1, 0001 to December 31, 9999. Time zone offset range from -14:00 to +14:00.	8-10 bytes

Data type	Description Storage	
timestamp	Stores a unique number that gets updated every time a row gets created or modified. The timestamp value is based upon an internal clock and does not correspond to real time. Each table may have only one timestamp variable.	

Some other types:

Data type	Description
sql_variant	Stores up to 8,000 bytes of data of various data types, except text, ntext, and timestamp
uniqueidentifier	Stores a globally unique identifier (GUID)
xml	Stores XML formatted data. Maximum 2GB
cursor	Stores a reference to a cursor used for database operations
table	Stores a result-set for later processing