

## SQL SERVER DATA TYPES

<b>Data type</b>	<b>Description</b>	<b>Storage</b>
char(n)	Fixed width character string. Maximum 8,000 characters	Defined width
varchar(n)	Variable width character string. Maximum 8,000 characters	2 bytes + number of chars
varchar(max)	Variable width character string. Maximum 1,073,741,824 characters	2 bytes + number of chars
text	Variable width character string. Maximum 2GB of text data	4 bytes + number of chars
nchar	Fixed width Unicode string. Maximum 4,000 characters	Defined width x 2
nvarchar	Variable width Unicode string. Maximum 4,000 characters	
nvarchar(max)	Variable width Unicode string. Maximum 536,870,912 characters	
ntext	Variable width Unicode string. Maximum 2GB of text data	
bit	Allows 0, 1, or NULL	
binary(n)	Fixed width binary string. Maximum 8,000 bytes	
varbinary	Variable width binary string. Maximum 8,000 bytes	
varbinary(max)	Variable width binary string. Maximum 2GB	
image	Variable width binary string. Maximum 2GB	

**Number types:**

<b>Data type</b>	<b>Description</b>	<b>Storage</b>
tinyint	Allows whole numbers from 0 to 255	1 byte
smallint	Allows whole numbers between -32,768 and 32,767	2 bytes
int	Allows whole numbers between -2,147,483,648 and 2,147,483,647	4 bytes
bigint	Allows whole numbers between -9,223,372,036,854,775,808 and 9,223,372,036,854,775,807	8 bytes
decimal(p,s)	Fixed precision and scale numbers.	5-17 bytes
	Allows numbers from $-10^{38} + 1$ to $10^{38} - 1$ .	
	The p parameter indicates the maximum total number of digits that can be stored (both to the left and to the right of the decimal point). p must be a value from 1 to 38. Default is 18.	
	The s parameter indicates the maximum number of digits stored to the right of the decimal point. s must be a value from 0 to p. Default value is 0	
numeric(p,s)	Fixed precision and scale numbers.	5-17 bytes
	Allows numbers from $-10^{38} + 1$ to $10^{38} - 1$ .	
	The p parameter indicates the maximum total number of digits that can be stored (both to the left and to the right of the decimal point). p must be a value from 1 to 38. Default is 18.	
smallmoney	The s parameter indicates the maximum number of digits stored to the right of the decimal point. s must be a value from 0 to p. Default value is 0	4 bytes
	Monetary data from -214,748.3648 to 214,748.3647	
money	Monetary data from -922,337,203,685,477.5808 to 922,337,203,685,477.5807	8 bytes
float(n)	Floating precision number data from $-1.79E + 308$ to $1.79E + 308$ .	4 or 8 bytes
	The n parameter indicates whether the field should hold 4 or 8 bytes. float(24) holds a 4-byte field and float(53) holds an 8-byte field. Default value of n is 53.	
real	Floating precision number data from $-3.40E + 38$ to $3.40E + 38$	4 bytes

**Date types:**

<b>Data type</b>	<b>Description</b>	<b>Storage</b>
datetime	From January 1, 1753 to December 31, 9999 with an accuracy of 3.33 milliseconds	8 bytes
datetime2	From January 1, 0001 to December 31, 9999 with an accuracy of 100 nanoseconds	6-8 bytes
smalldatetime	From January 1, 1900 to June 6, 2079 with an accuracy of 1 minute	4 bytes
date	Store a date only. From January 1, 0001 to December 31, 9999	3 bytes
time	Store a time only to an accuracy of 100 nanoseconds	3-5 bytes
datetimeoffset	The same as datetime2 with the addition of a time zone offset	8-10 bytes
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	

**Other data types:**

<b>Data type</b>	<b>Description</b>
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