**Data type categories**

Data types in SQL Server are organized into the following categories:

Exact numerics

Unicode character strings

Approximate numerics

Binary strings

Date and time

Other data types

Character strings

In SQL Server, based on their storage characteristics, some data types are designated as belonging to the following groups:

* Large value data types: **varchar(max)**, and **nvarchar(max)**
* Large object data types: **text**, **ntext**, **image**, **varbinary(max)**, and **xml**

**Note**

sp\_help returns -1 as the length for the large-value and **xml** data types.

**Exact numerics**

[bigint](https://docs.microsoft.com/en-us/sql/t-sql/data-types/int-bigint-smallint-and-tinyint-transact-sql?view=sql-server-ver16)

[numeric](https://docs.microsoft.com/en-us/sql/t-sql/data-types/decimal-and-numeric-transact-sql?view=sql-server-ver16)

[bit](https://docs.microsoft.com/en-us/sql/t-sql/data-types/bit-transact-sql?view=sql-server-ver16)

[smallint](https://docs.microsoft.com/en-us/sql/t-sql/data-types/int-bigint-smallint-and-tinyint-transact-sql?view=sql-server-ver16)

[decimal](https://docs.microsoft.com/en-us/sql/t-sql/data-types/decimal-and-numeric-transact-sql?view=sql-server-ver16)

[smallmoney](https://docs.microsoft.com/en-us/sql/t-sql/data-types/money-and-smallmoney-transact-sql?view=sql-server-ver16)

[int](https://docs.microsoft.com/en-us/sql/t-sql/data-types/int-bigint-smallint-and-tinyint-transact-sql?view=sql-server-ver16)

[tinyint](https://docs.microsoft.com/en-us/sql/t-sql/data-types/int-bigint-smallint-and-tinyint-transact-sql?view=sql-server-ver16)

[money](https://docs.microsoft.com/en-us/sql/t-sql/data-types/money-and-smallmoney-transact-sql?view=sql-server-ver16)

**Approximate numerics**

[float](https://docs.microsoft.com/en-us/sql/t-sql/data-types/float-and-real-transact-sql?view=sql-server-ver16)

[real](https://docs.microsoft.com/en-us/sql/t-sql/data-types/float-and-real-transact-sql?view=sql-server-ver16)

**Date and time**

[date](https://docs.microsoft.com/en-us/sql/t-sql/data-types/date-transact-sql?view=sql-server-ver16)

[datetimeoffset](https://docs.microsoft.com/en-us/sql/t-sql/data-types/datetimeoffset-transact-sql?view=sql-server-ver16)

[datetime2](https://docs.microsoft.com/en-us/sql/t-sql/data-types/datetime2-transact-sql?view=sql-server-ver16)

[smalldatetime](https://docs.microsoft.com/en-us/sql/t-sql/data-types/smalldatetime-transact-sql?view=sql-server-ver16)

[datetime](https://docs.microsoft.com/en-us/sql/t-sql/data-types/datetime-transact-sql?view=sql-server-ver16)

[time](https://docs.microsoft.com/en-us/sql/t-sql/data-types/time-transact-sql?view=sql-server-ver16)

**Character strings**

[char](https://docs.microsoft.com/en-us/sql/t-sql/data-types/char-and-varchar-transact-sql?view=sql-server-ver16)

[varchar](https://docs.microsoft.com/en-us/sql/t-sql/data-types/char-and-varchar-transact-sql?view=sql-server-ver16)

[text](https://docs.microsoft.com/en-us/sql/t-sql/data-types/ntext-text-and-image-transact-sql?view=sql-server-ver16)

**Unicode character strings**

[nchar](https://docs.microsoft.com/en-us/sql/t-sql/data-types/nchar-and-nvarchar-transact-sql?view=sql-server-ver16)

[nvarchar](https://docs.microsoft.com/en-us/sql/t-sql/data-types/nchar-and-nvarchar-transact-sql?view=sql-server-ver16)

[ntext](https://docs.microsoft.com/en-us/sql/t-sql/data-types/ntext-text-and-image-transact-sql?view=sql-server-ver16)

**Binary strings**

[binary](https://docs.microsoft.com/en-us/sql/t-sql/data-types/binary-and-varbinary-transact-sql?view=sql-server-ver16)

[varbinary](https://docs.microsoft.com/en-us/sql/t-sql/data-types/binary-and-varbinary-transact-sql?view=sql-server-ver16)

[image](https://docs.microsoft.com/en-us/sql/t-sql/data-types/ntext-text-and-image-transact-sql?view=sql-server-ver16)

**Other data types**

[cursor](https://docs.microsoft.com/en-us/sql/t-sql/data-types/cursor-transact-sql?view=sql-server-ver16)

[rowversion](https://docs.microsoft.com/en-us/sql/t-sql/data-types/rowversion-transact-sql?view=sql-server-ver16)

[hierarchyid](https://docs.microsoft.com/en-us/sql/t-sql/data-types/hierarchyid-data-type-method-reference?view=sql-server-ver16)

[uniqueidentifier](https://docs.microsoft.com/en-us/sql/t-sql/data-types/uniqueidentifier-transact-sql?view=sql-server-ver16)

[sql\_variant](https://docs.microsoft.com/en-us/sql/t-sql/data-types/sql-variant-transact-sql?view=sql-server-ver16)

[xml](https://docs.microsoft.com/en-us/sql/t-sql/xml/xml-transact-sql?view=sql-server-ver16)

[Spatial Geometry Types](https://docs.microsoft.com/en-us/sql/t-sql/spatial-geometry/spatial-types-geometry-transact-sql?view=sql-server-ver16)

[Spatial Geography Types](https://docs.microsoft.com/en-us/sql/t-sql/spatial-geography/spatial-types-geography?view=sql-server-ver16)