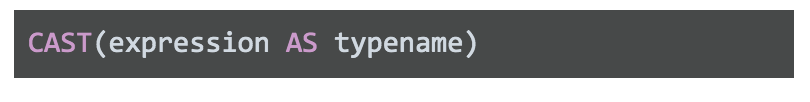
**Common conversions**

The following table summarizes some of the more common conversions made with the **CAST** function. Refer to [Conversion Rules in Standard SQL](https://cloud.google.com/bigquery/docs/reference/standard-sql/conversion_rules) for a full list of functions and associated rules.

| **Starting with** | **CAST function can convert to:** |
| --- | --- |
| Numeric (number) | - Integer - Numeric (number) - Big number - Floating integer - String |
| String | - Boolean - Integer - Numeric (number) - Big number - Floating integer - String - Bytes - Date - Date time - Time - Timestamp |
| Date | - String - Date - Date time - Timestamp |

**The CAST function (syntax and examples)**

**CAST** is an American National Standards Institute (ANSI) function used in lots of programming languages, including BigQuery. This section provides the BigQuery syntax and examples of converting the data types in the first column of the previous table. The syntax for the CAST function is as follows:

CAST (expression AS typename)

Where **expression** is the data to be converted and **typename** is the data type to be returned.

**Converting a number to a string**

The following **CAST** statement returns a string from a numeric identified by the variable MyCount in the table called MyTable.

SELECT CAST (MyCount AS STRING) FROM MyTable

In the above SQL statement, the following occurs:

* **SELECT** indicates that you will be selecting data from a table
* **CAST** indicates that you will be converting the data you select to a different data type
* **AS** comes before and identifies the data type which you are casting to
* **STRING** indicates that you are converting the data to a string
* **FROM** indicates which table you are selecting the data from

**Converting a string to a number**

The following **CAST** statement returns an integer from a string identified by the variable MyVarcharCol in the table called MyTable. (An integer is any whole number.)

SELECT CAST(MyVarcharCol AS INT) FROM MyTable

In the above SQL statement, the following occurs:

* **SELECT** indicates that you will be selecting data from a table
* **CAST** indicates that you will be converting the data you select to a different data type
* **AS** comes before and identifies the data type which you are casting to
* **INT** indicates that you are converting the data to an integer
* **FROM** indicates which table you are selecting the data from

**Converting a date to a string**

The following **CAST** statement returns a string from a date identified by the variable MyDate in the table called MyTable.



In the above SQL statement, the following occurs:

* **SELECT** indicates that you will be selecting data from a table
* **CAST** indicates that you will be converting the data you select to a different data type
* **AS** comes before and identifies the data type which you are casting to
* **STRING** indicates that you are converting the data to a string
* **FROM** indicates which table you are selecting the data from

**Converting a date to a datetime**

Datetime values have the format of YYYY-MM-DD hh: mm: ss format, so date and time are retained together. The following **CAST** statement returns a datetime value from a date.



In the above SQL statement, the following occurs:

* **SELECT** indicates that you will be selecting data from a table
* **CAST** indicates that you will be converting the data you select to a different data type
* **AS** comes before and identifies the data type which you are casting to
* **DATETIME** indicates that you are converting the data to a datetime value
* **FROM** indicates which table you are selecting the data from

**The SAFE\_CAST function**

Using the **CAST** function in a query that fails returns an error in BigQuery. To avoid errors in the event of a failed query, use the **SAFE\_CAST** function instead. The **SAFE\_CAST** function returns a value of Null instead of an error when a query fails.

The syntax for **SAFE\_CAST** is the same as for **CAST**. Simply substitute the function directly in your queries. The following **SAFE\_CAST** statement returns a string from a date.



## More information

Browse these resources for more information about data conversion using other SQL dialects (instead of BigQuery):

* [CAST and CONVERT](https://docs.microsoft.com/en-us/sql/t-sql/functions/cast-and-convert-transact-sql?view=sql-server-ver15): SQL Server reference documentation
* [MySQL CAST Functions and Operators](https://dev.mysql.com/doc/refman/8.0/en/cast-functions.html): MySQL reference documentation
* [How to: SQL Type Casting](https://www.blendo.co/blog/how-to-sql-type-casting/): Blog about type casting that has links to other SQL short guides