

# Chapter 3 : Advanced SQL

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## 1 Data Types

Each column in a database table is required to have a name and a data type. The data type of a column defines what value the column can hold : integer, character, date-time, boolean and it also identifies how SQL will interact with the stored data.

It is certainly best for data to be stored in its optimal format from the beginning, but if it isn't, you can always change it in your query. It is particularly common for dates or numbers, for example, to be stored as strings. This becomes problematic when you want to sum a column and you get an error because SQL is reading numbers as strings. When this happens, you can use **CAST** or **CONVERT** to change the data type to a numeric one that will allow you to perform the sum.

You can actually achieve this with two different types of syntax, both of which produce the same result :

```
CAST(column\_name AS integer)
or
column\_name::integer
```

Looking at a real database table for example :

```
SELECT CAST(funding_total_usd AS varchar),
founded_at_clean::varchar
FROM tutorial.crunchbase_companies_clean_date
```

## 2 Date Format