

# BigQuery

Google BigQuery is a data warehouse platform.

## Schema

You can define table schemas via JSON documents which get ingested at the same time as your data using the `bq` tool.

## Data Types

Data Types List from [google documentation](#)

Name	Data type	Description
<a href="#">Integer</a>	INT64	Numeric values without fractional components
<a href="#">Floating point</a>	FLOAT64	Approximate numeric values with fractional components
<a href="#">Numeric</a>	NUMERIC	Exact numeric values with fractional components
<a href="#">BigNumeric</a>	BIGNUMERIC	Exact numeric values with fractional components
<a href="#">Boolean</a>	BOOL	TRUE or FALSE (case-insensitive)
<a href="#">String</a>	STRING	Variable-length character (Unicode) data
<a href="#">Bytes</a>	BYTES	Variable-length binary data
<a href="#">Date</a>	DATE	A logical calendar date
<a href="#">Date/Time</a>	DATETIME	A year, month, day, hour, minute, second, and subsecond
<a href="#">Time</a>	TIME	A time, independent of a specific date
<a href="#">Timestamp</a>	TIMESTAMP	An absolute point in time, with microsecond precision
<a href="#">Struct (Record)</a>	STRUCT	Container of ordered fields each with a type (required) and field name (optional)

Name	Data type	Description
<a href="#">Geography</a>	<code>GEOGRAPHY</code>	A pointset on the Earth's surface (a set of points, lines and polygons on the <a href="#">WGS84</a> reference spheroid, with geodesic edges)
<a href="#">JSON</a>	<code>JSON</code>	Represents JSON, a lightweight data-interchange format

## Differences between JSON and Record/Struct

JSON type allows you to ingest JSON without pre-defining the schema whereas a record/struct must be pre-defined and all the fields must be known in advance.

JSON fields are more fiddly to query and work with in general. It seems like you can't do things like [UNNEST](#) them.

## Nested/Repeated Columns

To allow a column (or object) to repeat (e.g. to have an array of values) you must use `mode: NESTED` in your schema.

[See Nested and repeated columns documentation](#)

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