SQL Date and Time

Date –

In SQL, the date is something which has default format and which represents the occurrence of an event. The structure of the date is, YYYY-MM-DD

Time –

In SQL, the time is also written 3 notations. The structure is HH:MM:SS

If we combine both we call it as timestamp (SQL, POSTGRES, ORACLE) and in SQL Server it is called DateTime.

DateTime Values –

1. Date column from the table.

Example –

SELECT order\_id, order\_time

FROM pizza\_sales

1. Hardcoded Date String

Example –

SELECT order\_id, order\_time, '2015-12-12' AS HardCoded

FROM pizza\_sales

1. GETDATE() Function –

Returns the current date and time at the moment when the query is executed.

Example –

SELECT order\_id, order\_time, '2015-12-12' AS HardCoded, GETDATE() Today

FROM pizza\_sales

Function Overview –

Part Extraction –

DAY

MONTH

YEAR

DATEPART

DATENAME

DATETRUNC

EOMONTH

Format & Casting –

FORMAT

CONVERT

CAST

Calculations –

DATEADD

DATEDIFF

Validation –

ISDATE

DAY(), MONTH(), YEAR() –

Returns the day, month and year respectively.

Example –

SELECT order\_id, order\_date, YEAR(order\_date) Year, MONTH(order\_date) Month, DAY(order\_date) Day

FROM pizza\_sales

DATEPART() –

Example –

SELECT order\_id, order\_date, order\_time, DATEPART(YEAR, order\_date) Year,

DATEPART(MONTH, order\_date) Month, DATEPART(DAY, order\_date) Day, DATEPART(HOUR, order\_time) Hour,

DATEPART(QUARTER, order\_date) Quarter, DATEPART(WEEK, order\_date) Week

FROM pizza\_sales

DATENAME() –

Example –

SELECT order\_id, order\_date, order\_time, DATENAME(MONTH, order\_date) Month,

DATENAME(WEEKDAY, order\_date) Week, DATENAME(DAY, order\_date) Day,

DATENAME(YEAR, order\_date) Year

FROM pizza\_sales

The difference between DATENAME and DATEPART is DATENAME stores everything in string and not integer.

DATETRUNC() –

Example –

SELECT order\_id, order\_date, order\_time, DATETRUNC(MINUTE, order\_time),

DATETRUNC(DAY, order\_date), DATETRUNC(YEAR, order\_date)

FROM pizza\_sales

EOMONTH() –

Returns the last day of the month.

Example –

SELECT order\_id, order\_date, order\_time, EOMONTH(order\_date)

FROM pizza\_sales

Data Aggregation –

-- How many orders were placed each year?

SELECT order\_id, YEAR(order\_date), quantity

FROM pizza\_sales

-- How many orders were placed each month?

SELECT order\_id, MONTH(order\_date), quantity

FROM pizza\_sales

SELECT order\_id, DATENAME(MONTH, order\_date), quantity

FROM pizza\_sales

-- Show order from February?

SELECT \* FROM pizza\_sales

WHERE DATENAME(MONTH, order\_date) = 'February'

SELECT \* FROM pizza\_sales

WHERE MONTH(order\_date) = 2

Which function to use when?

Which part to extract? -> Day/Month? -> Numeric? -> DAY(), MONTH()

Which part to extract? -> Day/Month? -> Full Name? -> DATENAME()

Which part to extract? -> Year? -> YEAR()

Which part to extract? -> Other Parts? -> DATEPART()