The month that ended a day early.

D8A.ACADEMY/RESOURCES/DATE-RANGES

THE PROBLEM

`'2026-09-30'`	as a timestamp means 00:00:00
`<= end_date`	← the 30th is not in the month

HALF-OPEN

`>= start`	the first instant, included
`< '2026-10-01'`	← exclusive end: no last day to lose
`DATE_TRUNC + INTERVAL`	start of month, + '1 month' = end

REMEMBER

time zone	midnight where? say it in the query
DATE columns	BETWEEN is fine: no time to lose
adjacent ranges	end of one = start of the next

WORTH MEMORIZING

01 The same month, two ways

A timestamp boundary is an instant. '2026-09-30' is the first instant of the 30th, so BETWEEN keeps none of that day.

LOSES SEPT 30

```sql
SELECT COUNT(*)
FROM orders
WHERE created
  BETWEEN '2026-09-01'
      AND '2026-09-30';
-- stops at 00:00 on the 30th
```

HALF-OPEN

```sql
SELECT COUNT(*)
FROM orders
WHERE created >= '2026-09-01'
  AND created < '2026-10-01';
-- every second of September
```

02 Trap: the boundary that moves

Three boundaries that look right and count the wrong rows.

YOU WROTE	WHAT HAPPENS	WRITE INSTEAD
`<= '2026-09-30'`	the 30th after 00:00 is gone	`< '2026-10-01'`
`'2026-09-01'` on timestamptz	midnight in UTC, not in Paris: 2 h off	`'2026-09-01 00:00 Europe/Paris'`
`end = the last day`	February: 28 or 29, you compute it	`start + INTERVAL '1 month'`

→ Adjacent ranges share a boundary: the end of September is the start of October, and the same instant is counted exactly once.

Free to share. More sheets at d8a.academy