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## Sharding vs. Partitioning - What's the Difference?

### ◆ Partitioning

- Divides a large table into smaller chunks (called partitions)
- Happens within a single database server
- Improves performance and simplifies maintenance

Example: Partitioning logs table by month within one PostgreSQL instance

### ◆ Sharding

- Distributes data across multiple database servers
- Each server (shard) holds a portion of the full dataset
- Enables horizontal scaling when one machine isn't enough

Example: Distributing user records across shards based on user ID

In most systems:

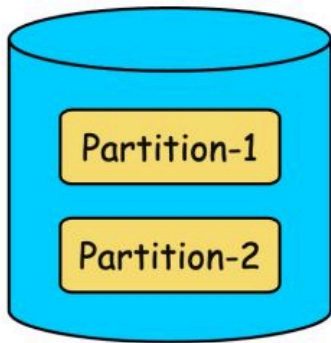
- You partition data to optimize performance inside a single machine
- You shard when a single machine is no longer enough and you need to scale horizontally

I wrote a detailed article on this with multiple real-world examples and SQL code. Read it

here: <https://lnkd.in/dk2276Ve>

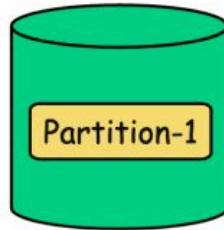
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## Partitioning

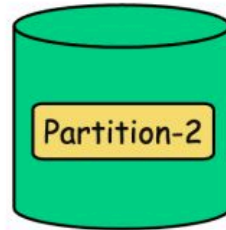


Database

## Sharding



Shard-1



Shard-2

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