PostgreSQL

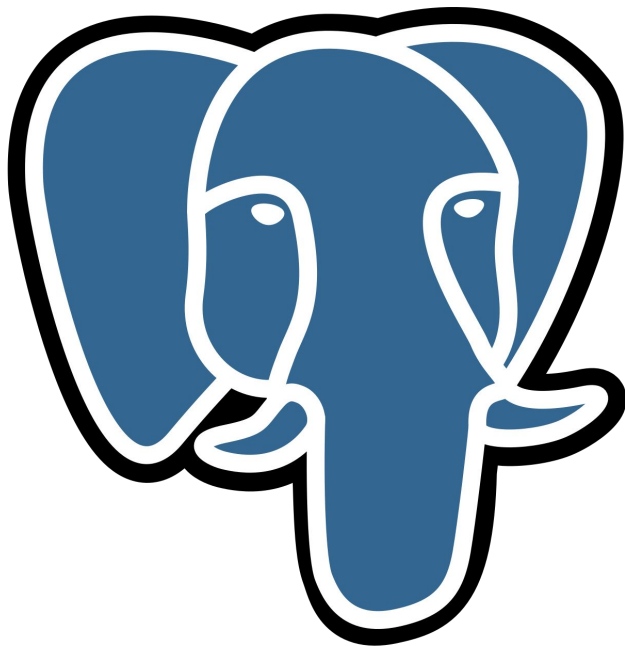**DataBase**
Management
System

Postgres

PostgreSQL is a powerful, open source object-relational database system with over 30 years of active development that has earned it a strong reputation for reliability, feature robustness, and performance.

ACID compatible

- Atomicity
- Consistency
- Isolation
- Durability

Oracle compatible

Easy to port
Because of its <u>ACID</u>
support end
relational structure

Pros

- **Data Types**

  Primitives: Integer, Numeric. String, Boolean

  Structured: Date/Time, Array, Range / Multirange, UUID

  Document: JSON/JSONB, XML, Key-value (Hstore)

  Geometry: Point, Line, Circle, Polygon

  Customizations: Composite, Custom Types

Pros

- **Data Integrity**

  UNIQUE, NOT NULL

  Primary Keys

  Foreign Keys

  Exclusion Constraints

  Explicit Locks, Advisory Locks

Pros

- **Extensibility**

  Stored functions and procedures

  Procedural Languages: PL/PGSQL, Perl, Python (and many more)

  SQL/JSON path expressions

  Foreign data wrappers: connect to other databases or streams with a standard SQL interface

  Customizable storage interface for tables

  Many extensions that provide additional functionality, including PostGIS

Cons

- **Opensource**

  Postgres is not owned by one organization. So, it has had trouble getting its name out there despite being fully featured and comparable to other DBMS systems

  Changes made for speed improvement requires more work than MySQL as PostgreSQL focuses on compatibility

  Many open source apps support MySQL, but may not support PostgreSQL

  On performance metrics, it is slower than MySQL.

Applications of PostgreSQL

PostgreSQL is an ideal DBMS system for the financial industry.

Helps to run administrative tasks.

Manufacturing:

Industrial manufacturers also use postgres to speed up their overall business process.

Web technology and NoSQL

If your website requires to deal with hundreds or even thousands request per second at that time, scalability is a surely big issue.
Here, Postgre provides the best solution.

PostgreSQL works fine with all modern web frameworks like Django, Node.js, Hibernate, PHP, etc.

END :)