PostgreSQL - Overview

PostgreSQL is a powerful, open source, object-relational database management system (ORDBMS). It is used to store data securely; supporting best practices and allow retrieving them when request is processed.

PostgreSQL (also pronounced as Post-gress-Q-L) is developed by the PostgreSQL Global Development Group (a worldwide team of volunteers). It is not controlled by any corporation or other private entity. It is open source and its source code is available free of charge.

PostgreSQL is cross platform and runs on many operating systems such as Linux, FreeBSD, OS X, Solaris, and Microsoft Windows etc.

History of PostgreSQL:

PostgreSQL was created at UCB by a computer science professor named Michael Stonebraker. It was originally called Postgres. It was started in 1986 by professor stonebreaker as a follow-up project and a post Ingres project to overcome with the problems of contemporary database system. PostgreSQL is now the most advanced open-source database available anywhere.

PostgreSQL Features:

- PostgreSQL runs on all major operating systems i.e. Linux, UNIX (AIX, BSD, HP-UX, SGI IRIX, Mac OS X, Solaris, Tru64), and Windows etc.
- PostgreSQL supports text, images, sounds, and video, and includes programming interfaces for C / C++, Java, Perl, Python, Ruby, Tcl and Open Database Connectivity (ODBC).
- PostgreSQL supports a lot of features of SQL like Complex SQL queries, SQL Sub-selects, Foreign keys, Trigger, Views, Transactions, Multiversion concurrency control (MVCC), Streaming Replication (as of 9.0), Hot Standby (as of 9.0).
- In PostgreSQL, table can be set to inherit their characteristics from a "parent" table.
- You can install several extensions to add additional functionality to PostgreSQL.

PostgreSQL Tools

There are several open sources as well as Paid tools are available as front-end to PostgreSQL. Here are a few of them which are widely used :

psql:
It is a command line tool and the primary tool to manage PostgreSQL. pgAdmin

It is a free and open source graphical user interface administration tool for PostgreSQL.

phpPgAdmin:
It is a web-based administration tool for PostgreSQL written in PHP. It is based on phpMyAdmin tool to manage MySQL.OpenOffice.org Base

It can be used as a front end tool to PostgreSQL.

pgFouine:
It is a log analyzer which creates reports from PostgreSQL log files. Proprietary tools

Lightning Admin for PostgreSQL, Borland Kylix, DBOne, DBTools Manager PgManager, Rekall, Data Architect, SyBase Power Designer, Microsoft Access, eRWin, DeZign for Databases, PGExplorer, Case Studio 2, pgEdit, RazorSQL, MicroOLAP Database Designer, Aqua Data Studio, Tuples, EMS Database Management Tools for PostgreSQL, Navicat, SQL Maestro Group products for PostgreSQL, Datanamic DataDiff for PostgreSQL, Datanamic SchemaDiff for PostgreSQL, DB MultiRun PostgreSQL Edition, SQLPro, SQL Image Viewer, SQL Data Sets etc.

PostgreSQL Data Types:
A datatype specifies, what kind of data you want to store in the table field. While creating table, for each column, you have to use a datatype.

There are mainly three types of datatypes in PotgreSQL. Besides this, users can also create their own custom datatypes using CREATE TYPE SQL command.

Following are the mainly three types of datatypes in PostgreSQL:

1. Numeric datatype
2. String datatype
3. Date/time datatype