



Percona Training For PostgreSQL



Why Take PostgreSQL Training?

Postgres is the most loved AND most wanted database*, but it can be hard to keep up with its new features. Knowing when to use those features is also a struggle—one that prevents you from elevating your databases to the highest standard.

Percona has you covered. In our Postgres training, we offer an in-depth look at the features and caveats of the latest version of PostgreSQL and show you current industry best practices. Our modules contain exercises to reinforce each topic, so you can leave the course prepared to apply those practices that work best for your workplace.

Take your professional growth to the next level—deepen your understanding and practical knowledge of PostgreSQL.

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*According to Stack Overflow Annual Developer Survey 2022

PostgreSQL Training for Database Operations Specialists

DURATION: Three days

WHAT YOU GET: The Database Operations Specialist is responsible for standing up new PostgreSQL instances and for performing backups, recovery, monitoring, and troubleshooting. This course fully equips you for the Database Operations Specialist role by providing the following modules:

- ✓ **About PostgreSQL**
 - History of PostgreSQL
 - Features
 - Advanced features (security, High Availability, additional features)
- ✓ **PostgreSQL internals and architecture**
 - PostgreSQL server
 - Background utility processes
 - Process components
 - Utility processes
 - Memory components
 - Disk components
 - Configuration files
 - View and modify parameters
 - Base directory and datafiles on disk
 - Write ahead logs
 - About WAL log archiving
- ✓ **Administration**
 - Installation, configuration
 - MVCC
 - ROLES, and access control
 - pgadmin IV (features, tools; installation, configuration, administration)
- ✓ **Troubleshooting**
 - Command line utilities (Operating system, PostgreSQL)
 - Mitigation
- ✓ **Tools and monitoring**
 - System catalogs
 - Statistics monitoring of relations
 - Replication
 - Postgres logging
 - Postgres extensions
- ✓ **HA PostgreSQL**
 - WAL log shipping
 - Streaming replication, logical replication
 - Connection pooling, pgbouncer
- ✓ **Backups, redundancy, and availability**
 - pg_dumpall, pg_dump, pg_restore, pg_basebackup, psql
 - Point in time replication (PITR)
- ✓ **Automation, patroni**
 - About, installation
 - Configuration, administration

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PostgreSQL Training for Developers

DURATION: Three days

WHAT YOU GET: This course prepares you for designing and building applications using PostgreSQL. Taught by professionals with extensive Postgres expertise, it helps you build confidence in your APIs and query optimization. This course covers the following:

- ✓ **About PostgreSQL**
 - History of PostgreSQL
 - Features
 - Advanced features (security, High Availability, additional features)
- ✓ **Application architecture**
 - Databases: Locales and collations
 - Schemas
 - Tables:
 - » Columns, datatypes
 - » Triggers (functions, procedures)
 - Indexes
 - Sequences
 - Views, materialized views
 - Partitions
- ✓ **PostgreSQL connectivity**
 - Clients (psql, pgadmin4)
 - libpq
 - PGPASS file
- ✓ **Procedural languages**
 - plpgsql
 - Decision making
 - Loops, cursors, functions and procedures
- ✓ **Querying, optimization and security**
 - PostgreSQL default roles
 - Query Optimization
 - » When to address query performance
 - » Loads and monitoring (metrics, CPU, IOWait & using PMM)
 - Monitoring database usage (statistics views,
 - pg_stat_statement, pgbadger)
 - Understanding EXPLAIN tables:
 - Constraints, data types
 - Fill factor, autovacuum
 - Indexes
 - Overview, single vs multi-column
 - Create index INCLUDE...
 - Session runtime parameters
- ✓ **Security**
 - SQL injection mitigation
 - SSL
 - » Encrypted sessions
 - » Certificate authentication
- ✓ **Partitioning**
 - About partitioning
 - Declaration
 - Types
 - » RANGE
 - » LIST
 - » HASH
 - » KEY
 - Ranges
 - » Datatypes
 - » Bounds
 - » Indexes (btree, hash, GiST, SP-GiST)
 - » Constraints
- ✓ **Administration**
 - Adding, removing multiple parents
 - Adding, removing children

Start mastering PostgreSQL

Contact Percona to arrange your training.

