

PostgreSQL 16 Administration Basic Course



New features in DBA1-13 → DBA1-16 course materials

The DBA1-16 course update includes some changes and additions covering new features in PostgreSQL 14–16. They are presented in the table below and organized by topic. Corresponding links to the documentation and other reference resources are also provided.

Lesson	Feature description	Version	Documentation	Reference resources
Fundamentals				
01. Server Installation and Management	Add meson build system (Andres Freund, Nazir Bilal Yavuz, Peter Eisentraut).	16	Building and Installation with Meson	PostgreSQL 16: part 3 or CommitFest 2022-11. meson: a new source code build system
03. Server Configuration	Add \dconfig command to report server variables (Mark Dilger, Tom Lane).	15	psql: \dconfig	PostgreSQL 15: part 5 or CommitFest 2022-03. Access rights to configuration parameters (in Russian)
Data Organization				
09. System Catalog	Add primary keys and unique constraints to system catalogs (Peter Eisentraut).	14	System Catalogs	PostgreSQL 14: part 4 or "January breakthrough" (CommitFest 2021-01) (in Russian)
10. Tablespaces	Allow REINDEX to change the tablespace of the new index (Alexey Kondratov, Michael Paquier, Justin Pryzby). This is done by specifying a TABLESPACE clause. A --tablespace option was also added to reindexdb to control this.	14	REINDEX reindexdb	PostgreSQL 14: part 5 or "Spring freeze" CommitFest 2021-03 (in Russian)

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11. Low Level	<p>Add ability to use LZ4 compression on TOAST data (Dilip Kumar).</p> <p>This can be set at the column level, or set as a default via server parameter <code>default_toast_compression</code>. The server must be compiled with <code>--with-lz4</code> to support this feature. The default setting is still <code>pglz</code>.</p>	14	CREATE TABLE	PostgreSQL 14: part 5 or "Spring freeze" CommitFest 2021-03 (in Russian)
Administrative Tasks				
12. Monitoring	<p>Store cumulative statistics system data in shared memory (Kyotaro Horiguchi, Andres Freund, Melanie Plageman).</p> <p>Previously this data was sent to a statistics collector process via UDP packets, and could only be read by sessions after transferring it via the file system. There is no longer a separate statistics collector process.</p>	15	Cumulative Statistics System	PostgreSQL 15: part 5 or CommitFest 2022-03. Cumulative Statistics are stored in Shared Memory (in Russian)
	Add system view <code>pg_stat_io</code> view to track I/O statistics (Melanie Plageman).	16	pg_stat_io	PostgreSQL 16: Part 5 or CommitFest 2023-03. pg_stat_io: input/output statistics
	Add system view <code>pg_stat_progress_copy</code> to report COPY progress (Josef Šimánek, Matthias van de Meent).	14	COPY Progress Reporting	PostgreSQL 14: part 4 or "January breakthrough" (CommitFest 2021-01). COPY Progress Reporting (in Russian)

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	Add jsonlog log_destination for JSON server logs (Sehrope Sarkuni, Michael Paquier). This patch adds log_destination = jsonlog.	15	Using JSON-Format Log Output	PostgreSQL 15: part 4 or CommitFest 2022-01 (in Russian)
Access Control				
13. Overview	Add predefined role pg_database_owner that contains only the current database's owner (Noah Misch). This is especially useful in template databases.	14	Predefined Roles	PostgreSQL 14: part 5 or "Spring freeze" CommitFest 2021-03 (in Russian)
	Remove PUBLIC creation permission on the public schema. Change the owner of the public schema to be the new pg_database_owner role (Noah Misch).	15	Schemas and Privileges	PostgreSQL 15: part 2 or CommitFest 2021-09 (in Russian)
Replication				
16. Overview of Logical Replication	Allow publication content to be filtered using a WHERE clause (Hou Zhijie, Euler Taveira, Peter Smith, Ajin Cherian, Tomas Vondra, Amit Kapila). Rows not satisfying the WHERE clause are not published.	15	CREATE PUBLICATION	PostgreSQL 15: part 5 or CommitFest 2022-03: Row filters for publications (in Russian)
	Allow publication content to be restricted to specific columns (Tomas Vondra, Álvaro Herrera, Rahila Syed).	15	CREATE PUBLICATION Column Lists	PostgreSQL 15: part 5 or CommitFest 2022-03: Column lists for publications (in Russian)

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	<p>Allow logical replication subscribers to process only changes that have no origin (Vignesh C, Amit Kapila)</p> <p>This can be used to avoid replication loops. This is controlled by the new CREATE SUBSCRIPTION ... ORIGIN option.</p>	16	CREATE SUBSCRIPTION: origin	PostgreSQL 16: part 2 or CommitFest 2022-09: Bidirectional logical replication
	<p>Allow logical decoding on standbys (Bertrand Drouvot, Andres Freund, Amit Khandekar)</p> <p>Snapshot WAL records are required for logical slot creation but cannot be created on standbys. To avoid delays, the new function pg_log_standby_snapshot() allows creation of such records.</p>	16	pg_log_standby_snapshot	PostgreSQL 16: part 5 or CommitFest 2023-03: Logical replication from a physical replica