# Swiss PG Day 2024

On Thursday, 27 June, and Friday, 28 June 2024, I had the amazing opportunity to attend <u>Swiss PGDay 2024</u> ⧉. The conference was held at the OST Eastern Switzerland University of Applied Sciences, Campus Rapperswil, which is beautifully situated on the banks of Lake Zurich in a nice, green environment. With approximately 110 attendees, the event had mainly a B2B focus, although not exclusively. Despite the conference being seemingly smaller in scale compared to PostgreSQL events in larger countries, it actually reflected perfectly the scope relevant for Switzerland.

During the conference, I presented my talk "<u>GIN, BTREE_GIN, GIST, BTREE_GIST, HASH & BTREE Indexes on JSONB Data</u> ⧉". The talk summarized the results of my long-term project at NetApp, including newer interesting findings compared to the presentation <u>I gave in Prague</u> at the beginning of June. As far as I could tell, my talk was well received by the audience, and I received very positive feedback.

At the very end on Friday, I also presented a lightning talk, "<u>Can PostgreSQL Have a More Prominent Role in the AI Boom?</u> ⧉" (my slides are at the end of the file). In this brief talk, I raised the question of whether it would be possible to implement AI functionality directly into PostgreSQL, including storing embedding models and trained neural networks within the database. Several people in the audience, involved with ML/AI, reacted positively on this proposal, acknowledging that PostgreSQL could indeed play a more significant role in ML and AI topics.

The conference featured two tracks of presentations, one in English and the other in German, allowing for a diverse range of topics and speakers. I would like to highlight some of them:

- Tomas Vondra presented "<u>The Past and the Future of the Postgres Community</u> ⧉", explaining how work on PostgreSQL changes and fixes is organized in Commitfests and discussing future development ideas within the community.
- Laurenz Albe's talk, "<u>Sicherheitsattacken auf PostgreSQL</u> ⧉", highlighted several potential attack vectors in PostgreSQL, capturing significant attention with surprising examples.
- Chris Engelbert's presentation, "<u>PostgreSQL on Kubernetes: Dos and Don'ts</u> ⧉", addressed the main issues related to running PostgreSQL on Kubernetes and discussed solutions, including pros and cons of existing PostgreSQL Kubernetes operators.
- Maurizio De Giorgi and Ismael Posada Trobo discussed "<u>Solving PostgreSQL Connection Scalability Issues: Insights from CERN's GitLab Service</u> ⧉", detailing the challenges and solutions for scalability in CERN's vast database environment.
- Dirk Krautschick's talk, "<u>Warum sich PostgreSQL-Fans auch für Kafka und Debezium interessieren sollten?</u> ⧉", showcased examples of using Debezium connectors and Kafka with PostgreSQL for various use cases, including data migrations.
- Patrick Stählin discussed "Wie wir einen Datenkorruptions-Bug mit der Hilfe der Community gefunden und gefixt haben," addressing issues with free space map files after migration to PostgreSQL 16.
- Marion Baumgartner's presentation, "Geodaten-Management mit PostGIS," provided interesting details about processing geo-data in PostgreSQL using the PostGIS extension.
- Prof. Stefan Keller, one of the main organizers and a professor of Data Engineering at Rapperswil OST University, presented "<u>PostgreSQL: A Reliable and Extensible Multi-Model SQL Database</u> ⧉", discussing the multi-model

structure of PostgreSQL amid declining interest in NoSQL solutions.

- Luigi Nardi from DBTune presented "[Lessons Learned from Autotuning PostgreSQL](#) ⬈", describing an AI-based performance tuning tool developed by his company.
- Kanhaiya Lal and Belma Canik delved into "Beyond Keywords: AI-powered Text Search with pgvector for PostgreSQL," exploring the use of the pgvector extension to enhance full-text search capabilities in PostgreSQL.
- Gabriele Bartolini, the creator of the PostgreSQL Kubernetes Operator "CloudNativePG," discussed the history and capabilities of this operator in his talk, "[Unleashing the Power of PostgreSQL in Kubernetes](#) ⬈".

At the end of the first day, all participants were invited to a social event for networking and personal exchange, which was very well organized. I would like to acknowledge the hard work and dedication of all the organizers and thank them for their efforts. Swiss PGDay 2024 was truly a memorable and valuable experience, offering great learning opportunities. I am grateful for the chance to participate and contribute to the conference, and I look forward to future editions of this event. I am also very thankful to NetApp-creativ for making my participation in the conference possible.

Photos by organizers, Gülçin Yıldırım Jelínek and author:

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