



# How Atlassian and pganalyze are optimizing Postgres query performance

*"pganalyze is essential to making our Postgres databases run faster, and makes sure end-users have the best experience possible."*

**Robin Fernandes, Software Development Manager**

*Atlassian*



## About Atlassian.

**Atlassian is a software company that aims to unleash the potential of every team. The company currently serves more than 119,000 customers worldwide and has 15 products, which help teams organize, discuss, and complete shared work via project tracking, content creation and sharing, real-time communication, and service management.**

Atlassian is best known for Bitbucket, Confluence, Jira Software, Jira Service Desk, Hipchat, Statuspage, Stride, and Trello. Atlassian has been using Postgres since the early days of its Cloud products.

**3 Million SQL Queries**

per minute (Bitbucket Cloud)

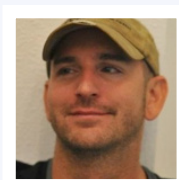
**8 TB of data**

in the Atlassian Media API database

## How Atlassian and pganalyze are optimizing Postgres query performance

**Since 2016, Atlassian has used pganalyze to uncover a number of benefits, including:**

- ▶ Comprehensive Postgres performance monitoring for products like Bitbucket Cloud and microservices such as the Media API, which provides file management functionality across many Atlassian products
- ▶ Identification of problematic queries within minutes, leading to faster development and incident resolution
- ▶ Query analysis and missing index checks for many different ORM frameworks, such as Django, SQLAlchemy and Sequelize, as well as for JDBC
- ▶ Easy access to Postgres performance statistics, without needing access to the production databas

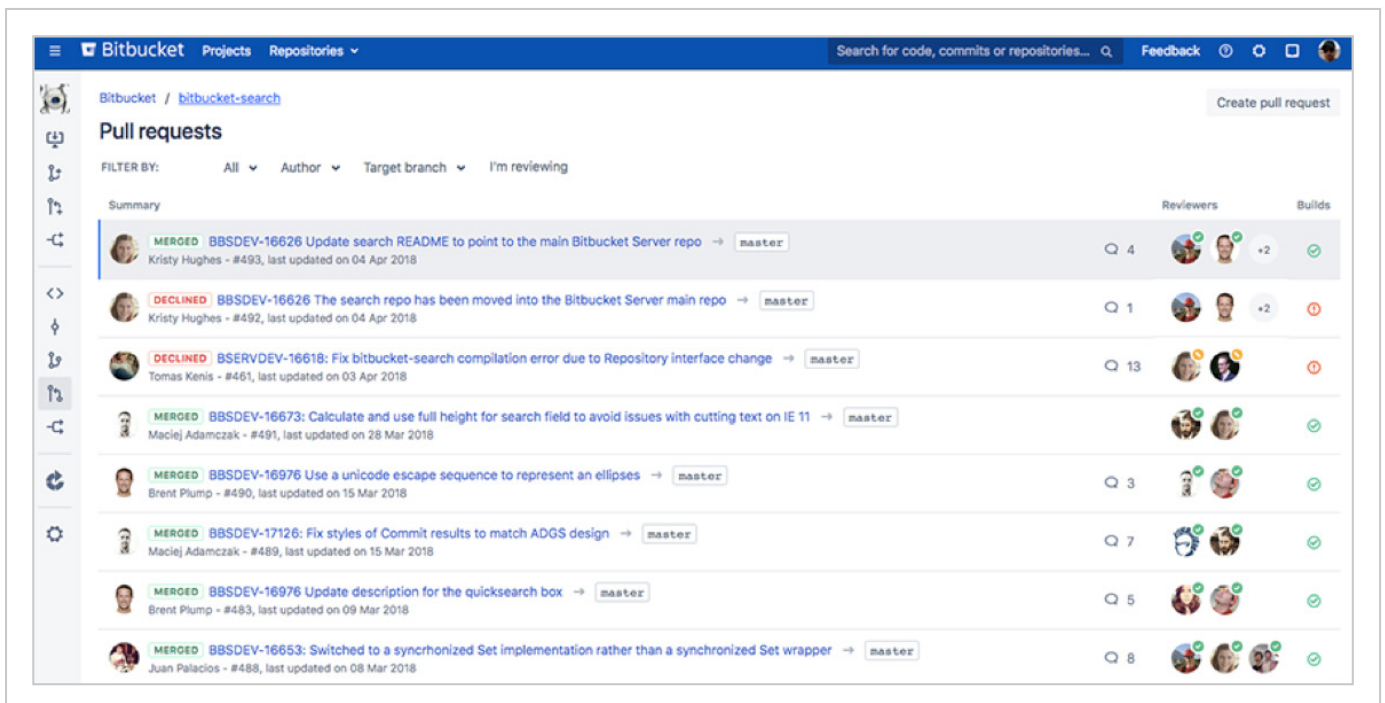


*"The scale and volume of data we handle meant that, prior to using pganalyze, I had no easy visibility into this information. pganalyze has saved me at least a day of forensic analysis when debugging database problems."*

**Jon Erdman, Senior Postgres DBA, Bitbucket Cloud**  
*Atlassian*

## The Challenge

Engineers at Atlassian work with Postgres databases every day. Postgres powers flagship products like Jira, Bitbucket and Confluence, and internal microservices like the Media API.

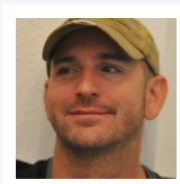


Before using pganalyze, Atlassian faced three main challenges in optimizing their Postgres Performance:

- ▶ Engineers spent considerable time finding problematic queries, and manually running Postgres statistics queries to debug problems
- ▶ Historic statistics data and details on specific slow queries were often not available

- ▶ Production database access was required to debug performance problems, but such access is restricted and sometimes unavailable due to the risk of accessing customer data containing PII

Debugging production problems was challenging for engineers. That's when Atlassian started looking for a better approach, and found pganalyze.



*"Even though Postgres' pg\_stat\_statements statistics view is useful and available, without a time series view, it's not that helpful. The only way for me to know which queries are the hottest at any given time is to reset it, let it run for a minute, then inspect it, and reset it again."*

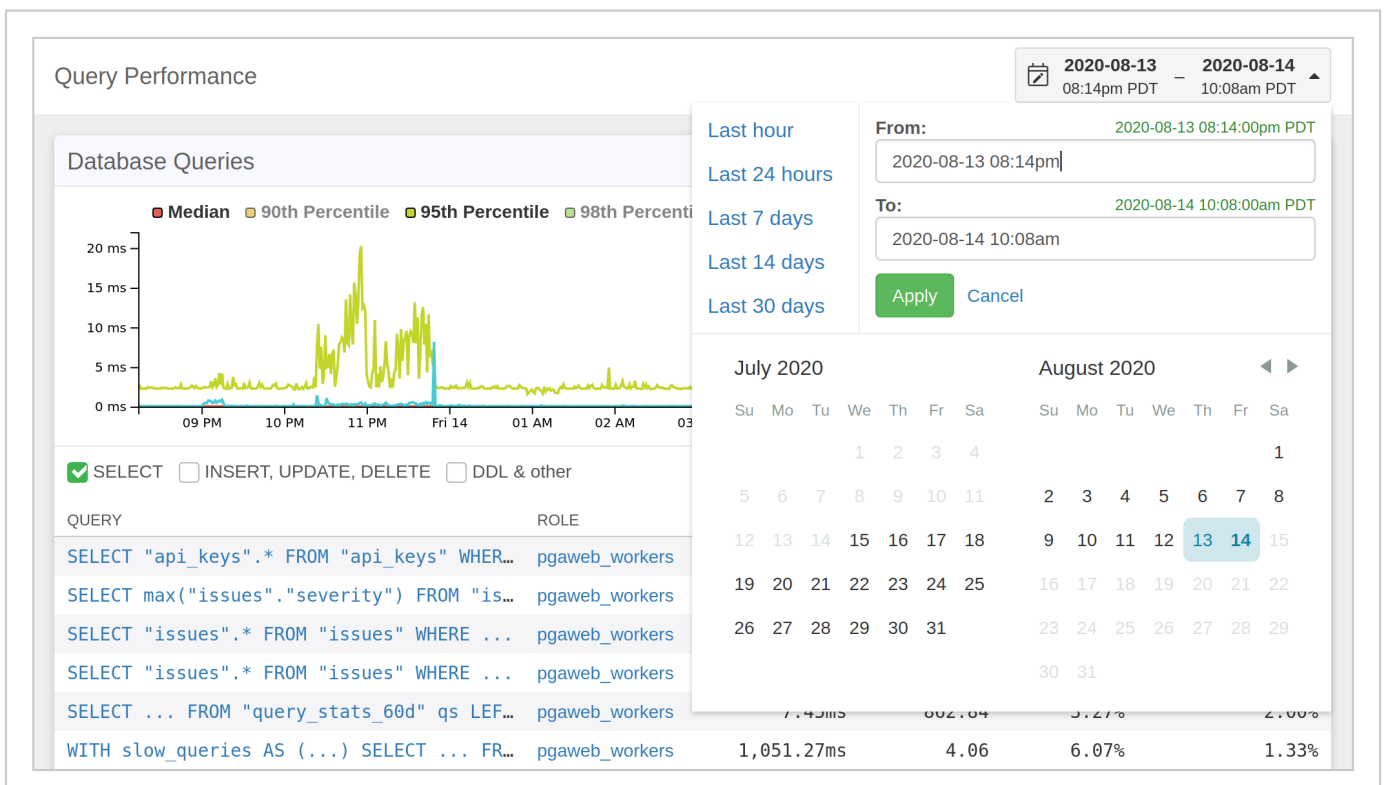
**Jon Erdman, Senior Postgres DBA, Bitbucket Cloud**  
*Atlassian*

## | The Solution

Once pganalyze was introduced at Atlassian, engineers could analyze and understand production problems as they were happening, using a unified database performance dashboard. pganalyze provides Atlassian with the following features:

- ▶ Top-down query performance view, with flexible sorting and filtering
- ▶ Detailed per-query pages that show historic query performance
- ▶ Breakdown of CPU vs I/O bound queries
- ▶ Automated missing index checks
- ▶ Email-based alerts for database issues
- ▶ Full integration with Amazon RDS, including CloudWatch and log file monitoring

Through pganalyze's detailed query performance statistics, Atlassian's engineering teams are able to pinpoint the root cause of an issue quickly, mitigate the problem, and verify that their deployed solution works as expected.

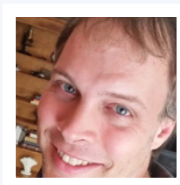


## The Results

Since adopting it in 2016, Atlassian has been using and seeing the benefits of pganalyze's advanced monitoring capabilities to support their extensive Postgres setup. Teams of all sizes across the company can now easily monitor their database and optimize performance from the comfort of the pganalyze web interface.

pganalyze has also increased collaboration and saved time. pganalyze is integrated with Atlassian's Active Directory for authentication, providing seamless access without managing new user accounts.

Engineers can work better with Postgres DBAs, and can easily share and discuss performance problems using the statistics data collected. In addition, thanks to the detailed query performance analytics, alerting, and database monitoring provided by pganalyze, Atlassian engineers are working more efficiently.



*"We wanted a good system to be able to figure out whether or not any specific query was really turning into a logjam. You want to make sure that your queries are running properly and within a low number of milliseconds."*

**Sam Dupont, Senior Developer**  
Atlassian

## Try pganalyze for free

pganalyze can save you and your development team many hours spent debugging database performance, and lets you spend that time on strategic efforts and application development instead.

Get started easily with a [free 14-day trial](#), or [learn more about our Enterprise product](#).

If you want, you can also [request a personal demo](#).



*"Our overall usage of Postgres is growing, as is the amount of data we're storing and the number of users that interact with our products. pganalyze is essential to making our Postgres databases run faster, and makes sure end-users have the best experience possible."*

**Robin Fernandes, Software Development Manager**  
*Atlassian*



# About pganalyze.

**DBAs and developers use pganalyze to identify the root cause of performance issues, optimize queries and to get alerts about critical issues. pganalyze surfaces opportunities to optimize Postgres performance and gives recommendations that help speed up queries. It comes with helpful security features like PII filtering and SSO integration.**

Founded in 2012, pganalyze provides deep, actionable insights into Postgres. Specializing in PostgreSQL database monitoring and optimization, pganalyze gives automatic insights into Postgres query plans, helps improve Postgres query performance with its Index Advisor, and lets you perform query drill-down analysis, observe per-query statistics and conduct trend analysis - all in one platform that integrates with **both self-managed Postgres servers as well as Database-as-a-service providers** like Amazon RDS.

Today, hundreds of customers with teams ranging from 5 to thousands of engineers are using pganalyze **in the cloud or on-premise.**

Get started easily with a [free 14-day trial](#), or [learn more about our Enterprise product](#).

If you want, you can also [request a personal demo](#).