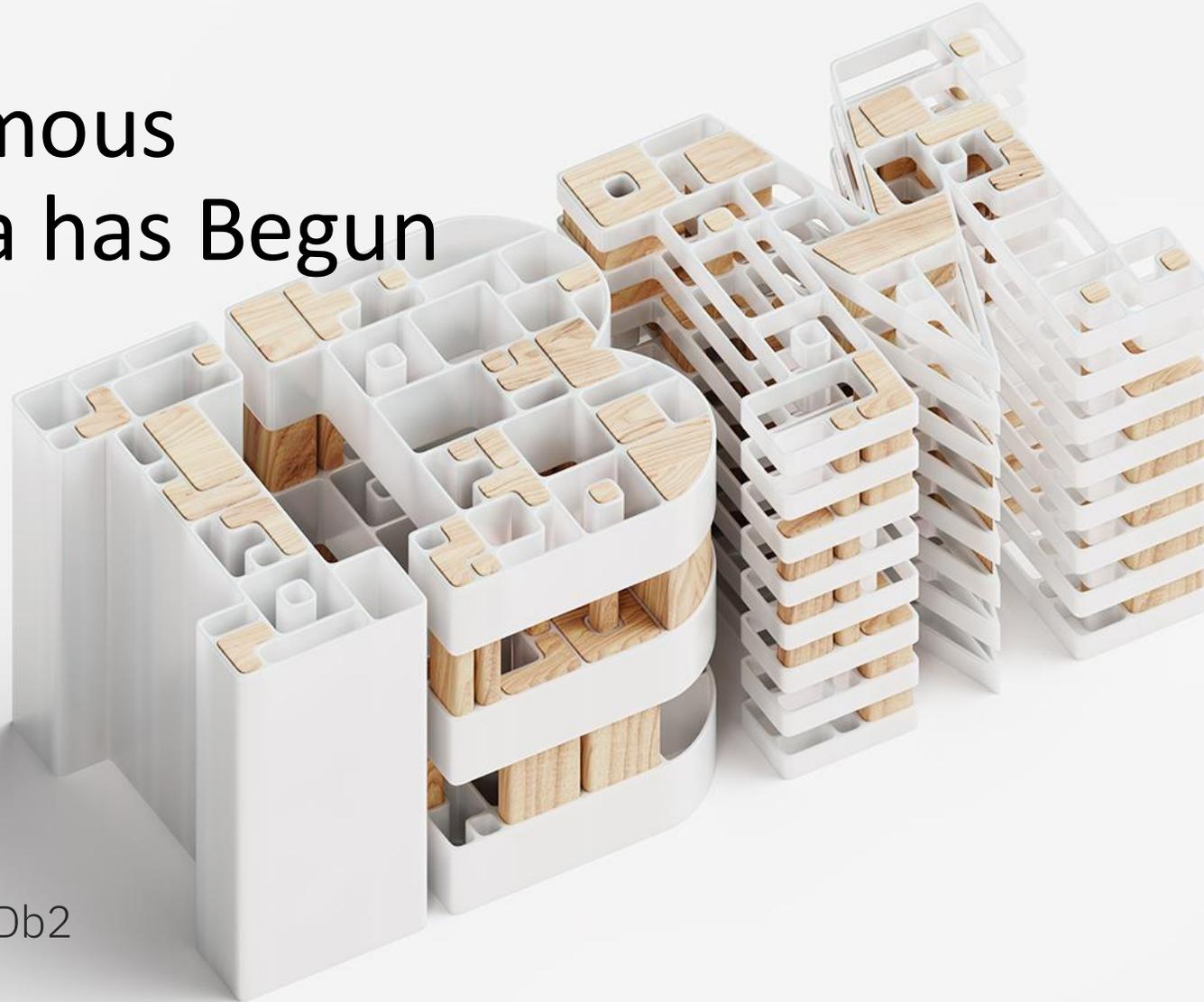


IBM Db2 AI Editions

The Autonomous
Database Era has Begun



Dave Kalmuk
Distinguished Engineer, Db2

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Go-To-Market Lead, Db2



The Daily Reality for DBAs: Too many tasks, too little time



Troubleshooting is complex

62%* say it is the #1 time consuming activity.

Finding the right documentation, commands, and fixes takes too long.



Query tuning requires deep expertise

Performance optimization is an **ongoing activity**.

Indexing, query tuning, and workload balancing requires constant attention.



Tools are fragmented and manual

68%* use 3-4 management tools daily.

Disconnected tools make it harder to get a unified view of database health.



DBAs are reactive instead of proactive

\$14k/min is the average cost of unplanned downtime.

Reactive intervention is not just inconvenient, it's expensive.



Repetitive tasks consume bandwidth

Only **36%*** have sophisticated task automation.

Most teams rely on local scripts, manual handoffs, or outdated runbooks.



What if you had your very own **Genius** working for you?

It doesn't need to eat

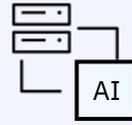
It doesn't need to sleep

And it's ensuring your databases are up and running **24x7x365**





Introducing the Db2 autonomous database, powered by the all new Db2 Genius Hub



Autonomous database that proactively monitors, detects, and reacts to issues, acting autonomously when appropriate, and engages human judgement only when necessary

95%

→ Reduction in
database
management costs
with agentic
maintenance

95%

→ Reduction in
manual
intervention
with agentic
healing

90%

→ Reduction in
time to problem
resolution
with agentic response

Genius runs on top of a network of AI agents that seamlessly **work together** to perform **activities** that power an **autonomous experience** for Db2 databases



Agentic Maintenance

95% reduction
in management costs

Automate critical tasks, such as tuning & patching. Each action is observable and reversible, ensuring operational autonomy without sacrificing control.

Activities

- Engine Installation & Updates **PREVIEW**
Deploy new or upgrade existing instances of Db2
- Database Performance Optimization
Stats refresh & reorgs to keep indexes and tables optimized
- Health Check
Proactive scans for common issues
- Backups & Recovery Preparation **COMING**
Automated, verified backups with audit trails
- Integrity Checks & Cleanup **COMING**
Validate constraints and maintain hygiene



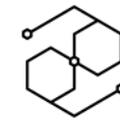
Agentic Healing

95% reduction
in manual intervention

Continuously monitor usage patterns, detecting anomalies early. This reduces the likelihood of SEV-1 incidents and ensures planned work takes priority over firefighting.

Activities

- Anomaly Detection & Resolution
Identify unusual spikes in CPU, memory, storage, or queries
- Locking Issue Resolution
Detect blocking chains, deadlocks, and timeouts
- Query Spilling Resolution
Highlight when memory overflows to disk, explain impact, and recommend fixes
- Workload Queueing Resolution
Detect queue buildup, surface contributing workloads, and propose rebalancing actions



Agentic Response

90% reduction
in time to resolution

When issues arise, explain what changed, why it matters, and how to address it — saving hours of root-cause analysis. Every recommendation is auditable, helping build trust.

Activities

- Performance Problem Determination
Analyze performance issues across multiple diagnostic paths
- What's Changed Analysis for Incident Management
Identify schema, index, or config changes tied to incidents
- Conversational Telemetry
Natural language access to monitoring data and trends
- Deep Research with Multi-Step Reasoning
Answers from documentation, support run books & more
- Incident Summary Report
Generate root-cause reports and draft support tickets
- Log Analysis for Advanced Problem Determination
Track Db2 logs to quickly identify errors and issues

Our competitive advantage reinforced by customers

Advantage



Institutional knowledge with AI
 Encoded the institutional knowledge of Db2 experts across IBM, offering curated, high value responses and recommendations

Outcome

High-fidelity precision
 Blind test with Db2 experts revealed 75% preference for responses generated by Db2 AI vs ChatGPT

Financial Services Customer

During a recent demo with a customer, an expert DBA asked IBM to leverage Db2 AI to solve a potentially severe problem.

An obscure error in the logs made the customer deeply concerned that a critical banking app could become unavailable if Db2 failed, causing significant loss of business.

This analysis would typically take several hours of investigation by reading logs, technical docs/forums and consultations with other DBAs.

Instead, within seconds, our Genius determined that there is no cause for concern, and suggested options for additional resilience.

IBM also asked Gemini, which confidently provided a verifiably incorrect response. Had Visa taken Gemini's advice, their DBAs would have spent hours chasing problems that did not exist.



Context awareness w/real-time telemetry
 Db2 AI leverages the context & real-time telemetry data from database instance to provide the best possible experience

Curated recommendations
 Localized operational excellence that takes into account the full environmental context, no other AI can match



Secure deployment of full AI stack
 Up to 80% of highly regulated companies (financial services, defense) are prohibited from using public AI chatbots

Sovereign data experience
 Zero-maintenance, autonomous database experience for mission critical workloads behind the corporate firewall

Technology partners

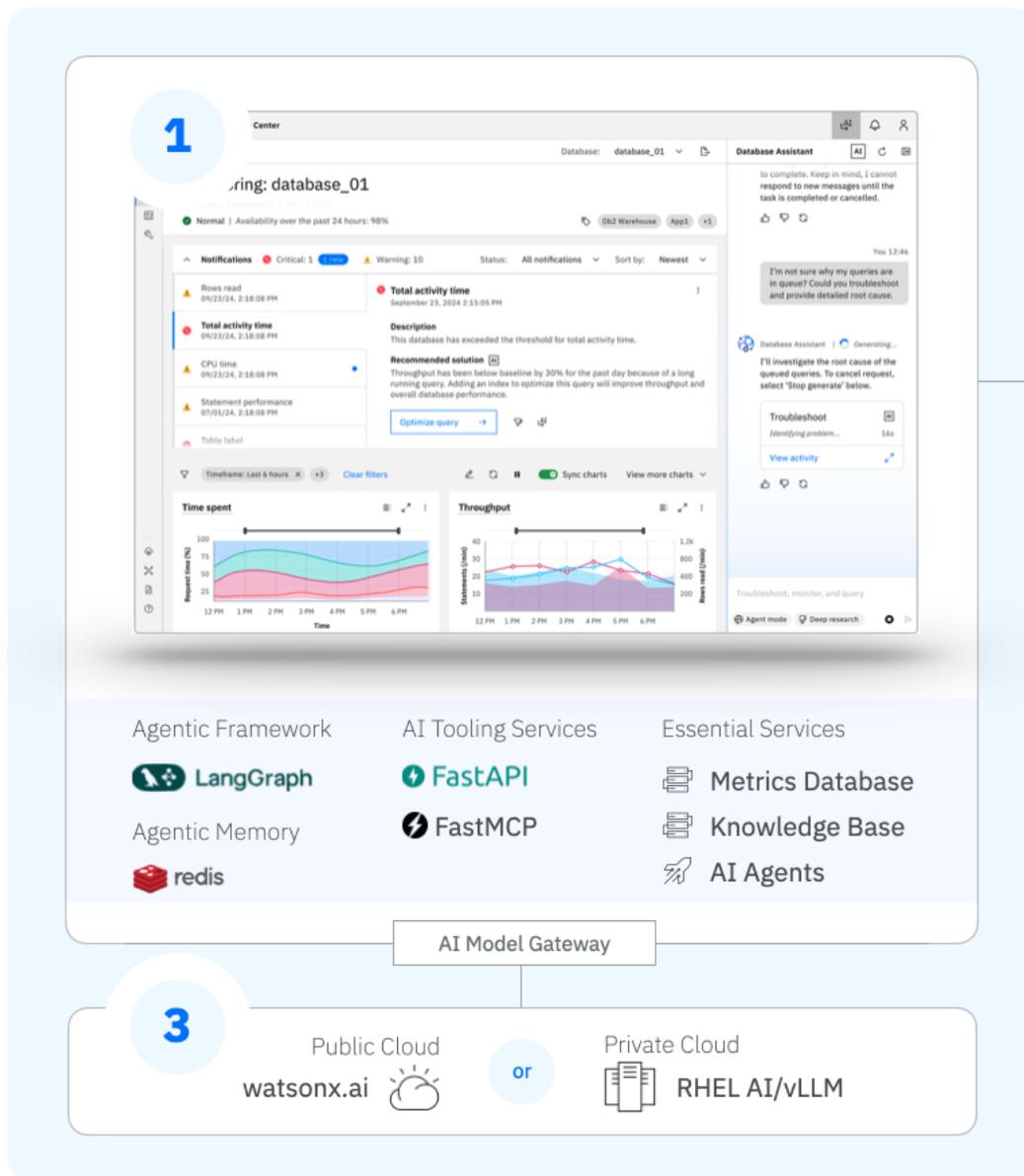


Taking our competitive advantage to the next level

- Localized expertise: Absorb and leverage customer's own run-books and database management processes to provide hyper-tailored experience
- Learn from past experience: Leverage prior interactions and incident resolution to provide faster response time

Db2 Genius Architecture

Database
Console



AI Stack

Management & Deployment Experience

- Database Console**
DBAs deploy the Db2 AI Edition, which provides autonomous capabilities across the fleet
- Connect to Fleet**
DBAs connect to fleet of Db2 databases deployed across public and private cloud
- AI Stack**
AI stack supports the agentic capabilities, deployed on either public or private cloud, leveraging lightweight, cost-effective Granite 4.0 model

Server Inferencing Options

Option 1: IBM Managed Cloud Inferencing

Default option,
minimal setup

- AWS Bedrock
 - IBM owns the inferencing server, its operations, and the endpoint

Option 2: Customer Managed Cloud Inferencing

Bring your own AI stack

- AWS Bedrock - Sonnet-4.5
 - Customer owns the inferencing server, its operations, and provide IBM the endpoint
- IBM watsonx.ai - Granite-4.0-h-small
 - Customer owns the inferencing server, its operations, and provide IBM the endpoint

Option 3: Customer Managed Air- gapped Inferencing

Bring your own AI stack
(Nvidia, Intel, AMD)

- RHEL AI (vLLM) - Granite-4.0-h-small
 - If customer has the supported GPUs then we prescribe to run the RH vLLM and load the Granite-4.0 LLM.
 - Customer owns the inferencing server its operations, and IBM uses the endpoint.

What else can Db2 Genius Hub do?



Monitoring and log analysis

Investigate and resolve issues with precision



Query optimization with impact analysis

Tune queries faster with AI-powered recommendations



Q Replication monitoring

Create and monitor data pipelines with Q Replication

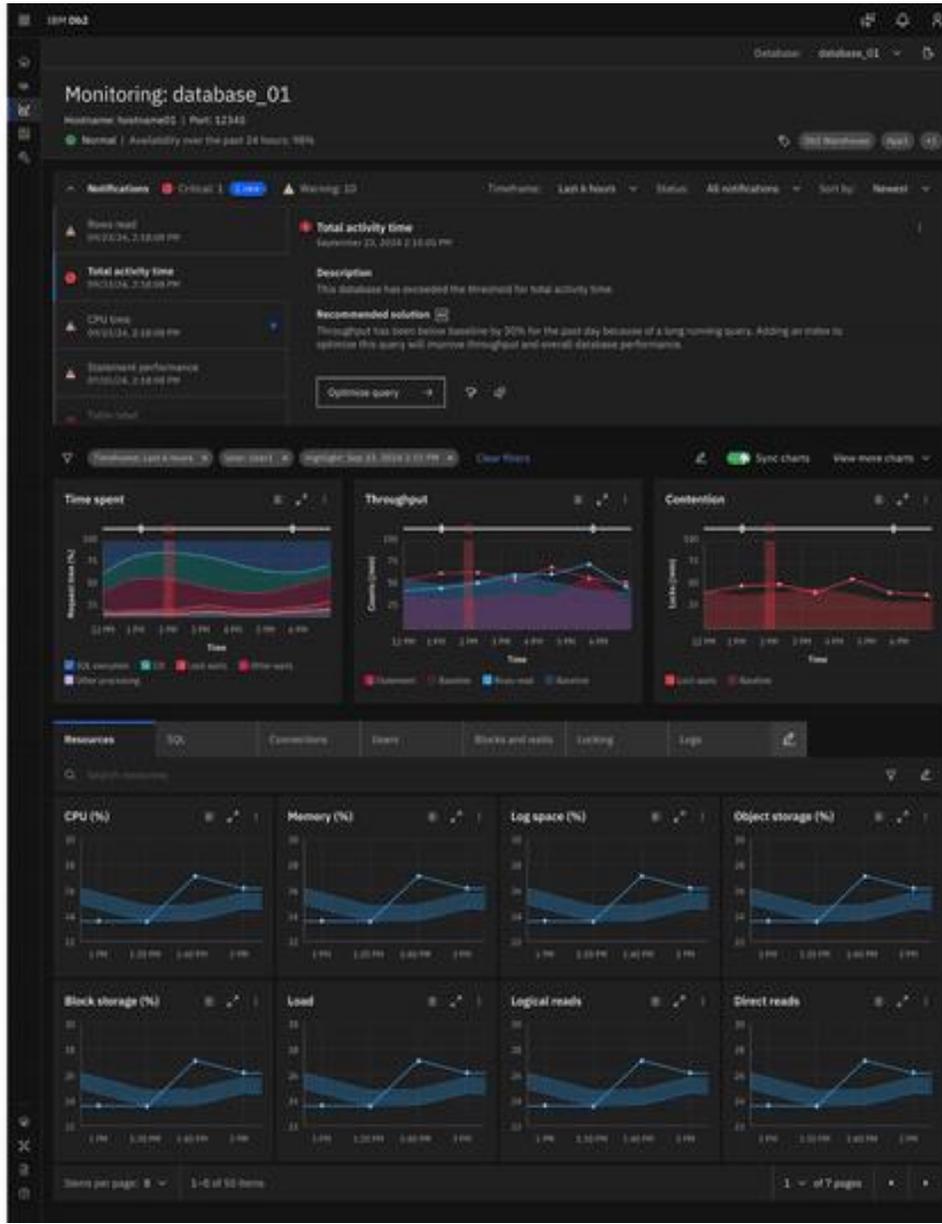


Advanced automation

Automate scripts, schedules, and run books to save time



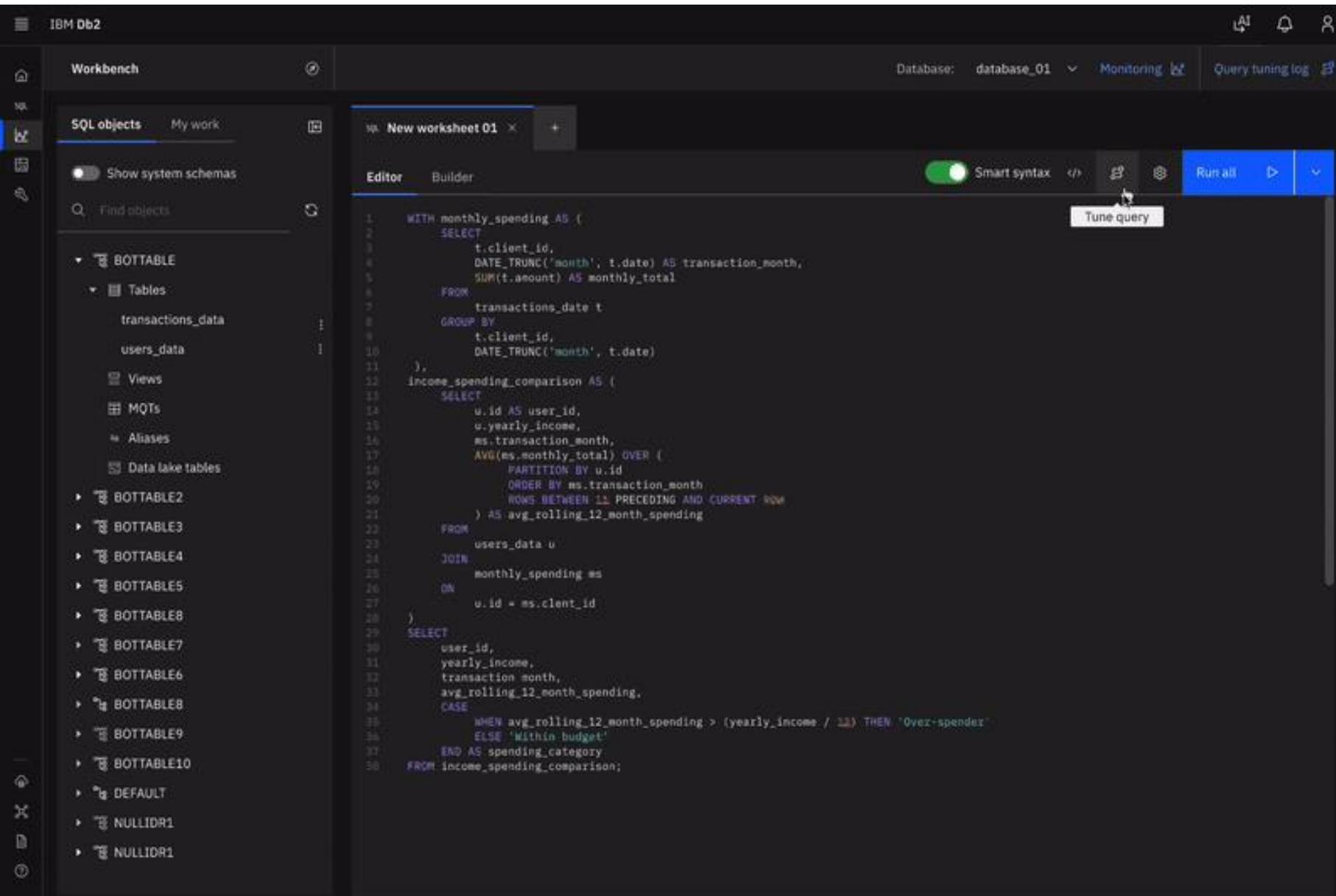
Monitoring and log analysis



Quickly detect and resolve database issues with unified monitoring, anomaly detection, and log intelligence.

- **Detect anomalies early:** Continuous monitoring analyzes metrics to identify abnormal patterns and alert teams before issues escalate.
- **Find problems faster:** Drill into performance metrics to pinpoint the root cause quickly.
- **Understand what changed:** Historical trends, configuration changes, and log analysis reveal errors and workload shifts quickly

Query Optimization w/ impact analysis

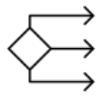


The screenshot displays the IBM Db2 Workbench interface. On the left, a sidebar shows a tree view of SQL objects, including tables like 'transactions_data' and 'users_data'. The main area is a code editor with a dark theme, showing a complex SQL query. The query includes a CTE named 'monthly_spending' and another CTE named 'income_spending_comparison'. The 'income_spending_comparison' CTE uses a window function 'AVG' with 'PARTITION BY' and 'ORDER BY' clauses. The final query selects user information and the calculated 'spending_category' based on a comparison between the average monthly spending and the user's yearly income. A 'Tune query' button is visible above the query text, and a 'Run all' button is in the top right of the editor area.

```
1 WITH monthly_spending AS (  
2     SELECT  
3         t.client_id,  
4         DATE_TRUNC('month', t.date) AS transaction_month,  
5         SUM(t.amount) AS monthly_total  
6     FROM  
7         transactions_data t  
8     GROUP BY  
9         t.client_id,  
10        DATE_TRUNC('month', t.date)  
11 ),  
12 income_spending_comparison AS (  
13     SELECT  
14         u.id AS user_id,  
15         u.yearly_income,  
16         ms.transaction_month,  
17         AVG(ms.monthly_total) OVER (  
18             PARTITION BY u.id  
19             ORDER BY ms.transaction_month  
20             ROWS BETWEEN 11 PRECEDING AND CURRENT ROW  
21         ) AS avg_rolling_12_month_spending  
22     FROM  
23         users_data u  
24     JOIN  
25         monthly_spending ms  
26     ON  
27         u.id = ms.client_id  
28 )  
29 SELECT  
30     user_id,  
31     yearly_income,  
32     transaction_month,  
33     avg_rolling_12_month_spending,  
34     CASE  
35         WHEN avg_rolling_12_month_spending > (yearly_income / 12) THEN 'Over-spender'  
36         ELSE 'Within budget'  
37     END AS spending_category  
38 FROM income_spending_comparison;
```

Boost performance with AI-driven query tuning and workload-aware optimization.

- **Identify optimization opportunities:** Quickly detect inefficient queries and performance bottlenecks.
- **Understand execution behavior:** Analyze execution plans and operators to pinpoint exactly where queries are slowing down.
- **Validate changes before deployment:** Use Index Impact Analysis to simulate indexing decisions before changes reach production.



Advanced Task Automation

Administration / Jobs

Jobs

Create on-demand or scheduled jobs with SQL, DPL, or Shell script to manage your databases.

Jobs | Job chains | History | Custom alerts

Find job

Create job +

Job	Type	Script type	Tags	Created by	Schedule	Last ran	Next run	Status
ta	On-demand	SQL script		admin	N/A	--	--	
newTest	On-demand	SQL script		admin	N/A	--	--	
testg	On-demand	SQL script		admin	N/A	--	--	
test	On-demand	SQL script		admin	N/A	--	--	

Streamline operations with powerful scripting, scheduling, and task automation to save time and reduce manual effort

- **Advanced Scripting** – Automate repetitive queries, maintenance workflows, and data exports
- **Task Scheduling** – Run automated jobs for report generation, data movement, and performance monitoring
- **Custom Workflows** – Define and execute multi-step automation for complex database tasks
- **Reduce Human Effort** – Minimize manual interventions for routine administrative tasks



Q-replication Management

IBM Db2 Intelligence Center

Administration / Replication sets

Replication sets

Manage and monitor your replications with different source and target connections.

Search replication set

Create replication set +

Set name	Source	Target	Total table	Table status	Consistenc...	Throughput	Latency	Replicatio...
<input type="checkbox"/> RSETP11	source-sa	BLUDB@api. dmc-sa- dev13.cp.fyr e.ibm.com	2	<div style="width: 100%; height: 10px; background-color: green;"></div>	05/02/2025 01:42 AM	0 rows/s	00:00:00	✔ Active
<input type="checkbox"/> RSETP12	dr-de-10- tgt- dsadm-30 526	BLUDB@api. dmc-sa- dev13.cp.fyr e.ibm.com	4	<div style="width: 100%; height: 10px; background-color: green; background-image: linear-gradient(to right, blue 40%, red 40%);"></div>	05/02/2025 01:42 AM	0 rows/s	00:00:00	✘ Inactive
<input type="checkbox"/> RSETP13	source-ca	BLUDB@api. dmc-sa- dev13.cp.fyr e.ibm.com	1	<div style="width: 100%; height: 10px; background-color: green;"></div>	05/02/2025 01:42 AM	0 rows/s	00:00:00	✔ Active

- Edit
- Monitor
- Stop
- Delete

Manage and monitor Q-replication sets for Db2 containers to ensure smooth data replication

- **Support for Db2 Containerized:** Manage Q-replication for Db2 container versions
- **Manage Replication Sets –** Build custom replication sets with schema and table level selections
- **Monitoring Groups–** Create monitoring groups for replication and track key replication metrics

Recent features...



Index
Impact
Analysis

Monitoring | Impact analysis report | Query tuning report | shesh-bludb

Impact analysis report / IA2088

84.43% **Timeron improvement**
Weighted by execution count

84.75% **CPU improvement**
Weighted by execution count

87.41% **IO improvement**
Weighted by execution count

Impacted Queries (502): Improved (377) Regressed (6) Unchanged (119)

Created indexes: IDX2508181726250, IDX2508181728420, IDX2508181728570 ...
Dropped indexes: None
Originated from: Query2188

Query types: Select, Insert, Delete, Update
Time range: August 27, 2025 5:13 PM - 11:13 PM

Statement ID	SQL statement	Impact	Execution count	Timeron change (%)	CPU change (%)	IO change (%)
8177908262622166124	DELETE FROM sales WHERE item_id IN (SELECT it...	Improved	66	↓ 91.41%	↓ 94.56%	↓ 96.55%
-7826709321048966486	DELETE FROM db2inst1.sales WHERE item_id IN (...)	Improved	57	↓ 91.41%	↓ 94.56%	↓ 96.55%

IBM Db2 Intelligence Center

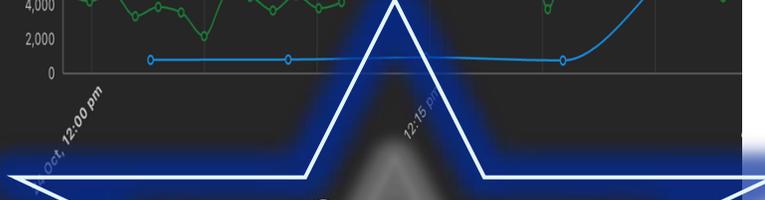
Custom dashboard

Create your custom dashboard by choosing the time range, chart types and databases for comparison.

Real time | 9 X Chart type | 3 X Database

Database Legend: pureScale_DTW_0 shesh-bludb mondb1

Applications / Connections / CPU time (ms/min)



Custom
Monitoring

Individual executions statement | Blocking and waiting connections Locking | Locked objects with waiting connections Locking | Connections Applications | **Configs event monitor** Applications | Connection summary Throughput | Partition summary Throughput | Storage Storage | Table p Storage

Search configs type, object schema

Config name	Config Previous Value	Config Current Value	Event ID	Event Time	Coord membe	Application ID	Session auth	Client pid
SELF_TUNING_MEM	ON (Active)	ON	73,715	Oct 24, 2025 8:40:13 AM	0	9.30.255.146.58320.2510240310	DB2INST1	0
WLM_DISP_CONCUR	16	-1	73,714	Oct 24, 2025 8:40:13 AM	0	9.30.255.146.58320.2510240310	DB2INST1	0
DATABASE_MEMORY	1211662	1311573	62,894	Oct 23, 2025 7:59:35 PM	0	*LOCAL.DB2.2.251020135450	DB2INST1	33794
DATABASE_MEMORY	1542826	1370346	62,435	Oct 23, 2025 6:58:11 PM	0	*LOCAL.DB2.2.251020135450	DB2INST1	33794



DB
Config
change

Applications / Connections / Estimated sort heap top

The **Genius Hub** is packaged in brand new Db2 AI Standard & AI Advanced Editions

Free Tier

- ✓ Up to 3-month trial
- ✓ AI token usage at no cost. Reasonable use for evaluation and prototyping will not be restricted.
- ✓ AI inferencing stack on public cloud
- ✓ Customers have option to upgrade to Paid Tier after Trial period ends
- ✓ Essential features included for life while premium features require upgrade to Paid Tier after trial ends

Paid Tier

- ✓ Unlimited AI tokens for first 12 months
- ✓ Multiple AI inferencing options across public or private cloud
- ✓ Essential & premium features included
- ✓ Free for Db2 Platinum Support customers while enrolled in the program

New customers will buy the new AI editions of Db2

Existing customers will upgrade to latest edition

