ClickHouse

What is ClickHouse?

Open source

- Developed since 2009
- OSS 2016
- 29k+ Github stars
- 1k+ contributors
- 300+ releases

column-oriented

- Best for aggregations
- Files per column
- Sorting and indexing
- Background merges

distributed

- Replication
- Sharding
- Multi-master
- Cross-region

OLAP database

- Analytics use cases
- Aggregations
- Visualizations
- Mostly immutable data

The ClickHouse Difference

1 **Very fast OLAP queries**

Analytical queries - aggregations over large sets of data

2 **Highly resource efficient**

Disruptive data compression - 10-100x storage efficiency over alternatives

3 **Easy to use**

Analyst-friendly SQL syntax, easy to get started, large ecosystem of integrations

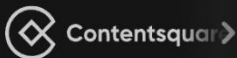| System & Machine	Relative time (lower is better)
ClickHouse (c6a.metal, 500gb gp2):	×1.07
ClickHouse (c6a.4xlarge, 500gb gp2):	×2.46
ClickHouse (c5.4xlarge, 500gb gp2):	×2.61
Pinot (c6a.4xlarge, 500gb gp2)[†]:	×19.42
Greenplum (c6a.4xlarge, 500gb gp2):	×22.68
QuestDB (c6a.4xlarge, 500gb gp2):	×29.20
Elasticsearch (c6a.4xlarge, 1500gb gp2):	×49.81
Druid (c6a.4xlarge, 500gb gp2)[†]:	×101.47
MySQL (c6a.4xlarge, 500gb gp2):	×1739.49
MongoDB (c6a.4xlarge, 500gb gp2):	×2303.61

benchmark.clickhouse.com

What are our common use cases?

Real-time Dashboards

Power interactive applications that analyze and aggregate large amounts of data on the fly. Often, these are customer-facing or business-critical and used by internal stakeholders.
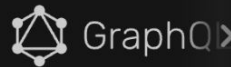
Trusted at scale, with massive deployments managing hundreds of petabytes of compressed data.

CLOUDFLARE   Microsoft   Contentsquare

Real-time Analytics

Managing continuous streams of events where real-time analysis is key. Often, directly driving business decisions and outcomes.

Relied on by companies all over the world to process tens of billions of new events per day.

Disney+   GraphQL

What are our common use cases?

Business Intelligence

Interactively slice and dice your data for analysis, reporting, and building internal applications.

Leveraged to better understand business usage, user behaviors, ad and media performance, market dynamics, and more.

Deutsche Bank △TrillaBit HiFi

Data Warehouse Speed Layer

Performance boost to your existing data stack. Offload analytical workloads from your Data Warehouse to maximize resource efficiency and optimize for blazing speed.

The efficient data store for applications and businesses large and small.

ROKT QuickCheck nano CORP.
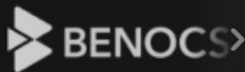
What are our common use cases?

📄 Logging & Metrics

Monitor with confidence your vast logs, metrics, and traces. Detect anomalies, fraud, network or infrastructure issues, and more.

Used at scale to ingest millions of records per second as the trusted SQL-based observability store.

ebay   Uber   BENOCS

ML & Data Science

Leverage powerful aggregations and functions to train models over massive data sets. Supports fast and efficient vector queries.

A central data store that meets your ML infrastructure needs.

nic   *ADMIXER   DeepL

Join the **100k+** developers using ClickHouse today

32k+
PRs

1.2k+
Contributors

29.1k+
Stars

It's Fast...Very Fast

```
SELECT formatReadableQuantity(count())
FROM github_events

Query id: a3a99921-3f4e-4c7b-a33a-2fcbe2bc1053

┌─formatReadableQuantity(count())─┐
│ 5.06 billion                    │
└─────────────────────────────────┘

1 row in set. Elapsed: 0.002 sec.
```

It's Fast...Very, Very Fast

```sql
SELECT
    year,
    count() AS stars
FROM github_events
WHERE (event_type = 'WatchEvent')
AND (repo_name = 'ClickHouse/ClickHouse')
GROUP BY toYear(created_at) AS year
ORDER BY stars DESC
```

No, I mean it...Very, Very Fast

```
┌─year─┬─stars─┐
│ 2021 │  7781 │
│ 2020 │  5144 │
│ 2022 │  4390 │
│ 2019 │   949 │
└──────┴───────┘
```

4 rows in set. Elapsed: 0.014 sec. Processed 114.10 thousand rows, 3.32 MB (7.87 million rows/s., 228.93 MB/s.)

Getting Started Is Simple

```
numbersix at thevillage in ~/ClickHouse
$ curl https://clickhouse.com | sh

  % Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
                                 Dload  Upload   Total   Spent    Left  Speed
100 60.0M  100 60.0M    0     0  31.3M      0  0:00:01  0:00:01 --:--:-- 31.4M

Successfully downloaded the ClickHouse binary, you can run it as:
    ./clickhouse
```

Serverless. Simple. ClickHouse Cloud.

Get the performance you love from open source ClickHouse in a serverless offering that takes care of the details so you can spend more time getting insight out of the fastest database on earth.

Start free trial

aws

Beta

Soon

|||• ClickHouse   AB

SQL console

Analytics service

- 🖥 SQL console
- 🔗 Data sources
- 🗺 Monitoring
- 🔄 Backups
- ⚙ Settings
- ❓ Help

📡 Connect

🔙 Tables   Querie

🗄 default

🔍 Search tables

⌄ cell_towers

radio
mcc   U
net   U
area   U
cell   U
unit
lon   Fl
lat   Fl
range   U
samples   U
changeable
created   Dat
updated   Dat
averageSignal