

开源云原生数仓 Databend

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PART 01

云数仓现状

Cloud WareHouse Status



云数仓现状



High Concurrency
Fast transaction
Low latency
Row oriented

OLTP

Resource isolation ?
Duplicate Data?
Row + Column oriented

HTAP

Complex Query
Query speed
Column oriented

OLAP

关系型数据库
Oracle
MySQL
SQL Server
PostgreSQL



NewSQL

TiDB etc.










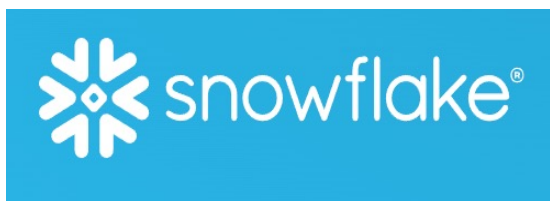
New OLAP

ClickHouse etc.

云数仓现状



1. No hardware to install, configure, or manage  Easy
2. No software to install, configure, or manage  Easy
3. No management, upgrades, and tuning  Nomal
4. Instant up- or down-scaling, elasticity  Hard
5. Pay only for used storage and compute resources  Harder
6. Make life easier   Harder



PART 02

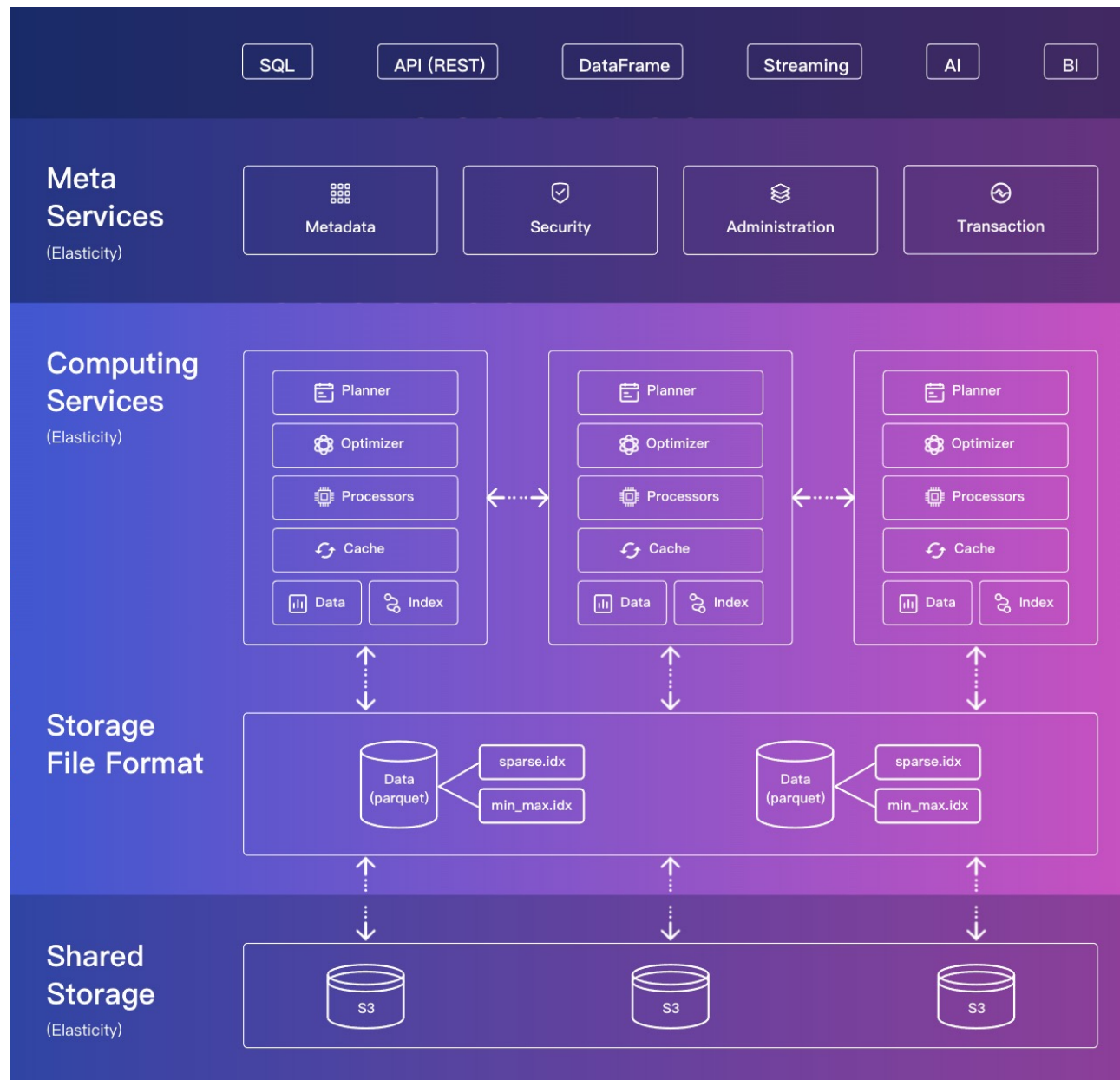
Databend 架构及特点

Databend architecture

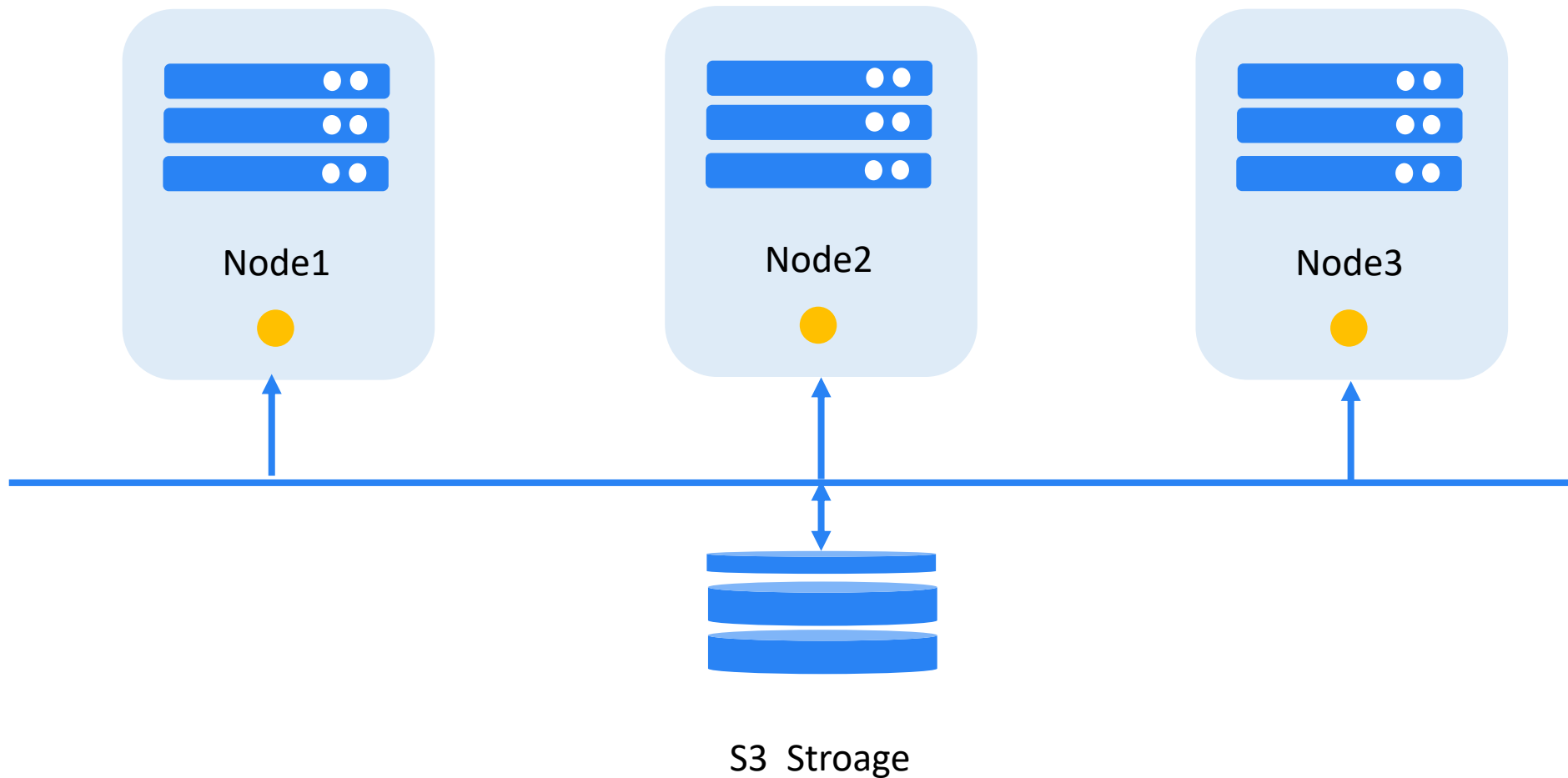


Databend 架构及特点

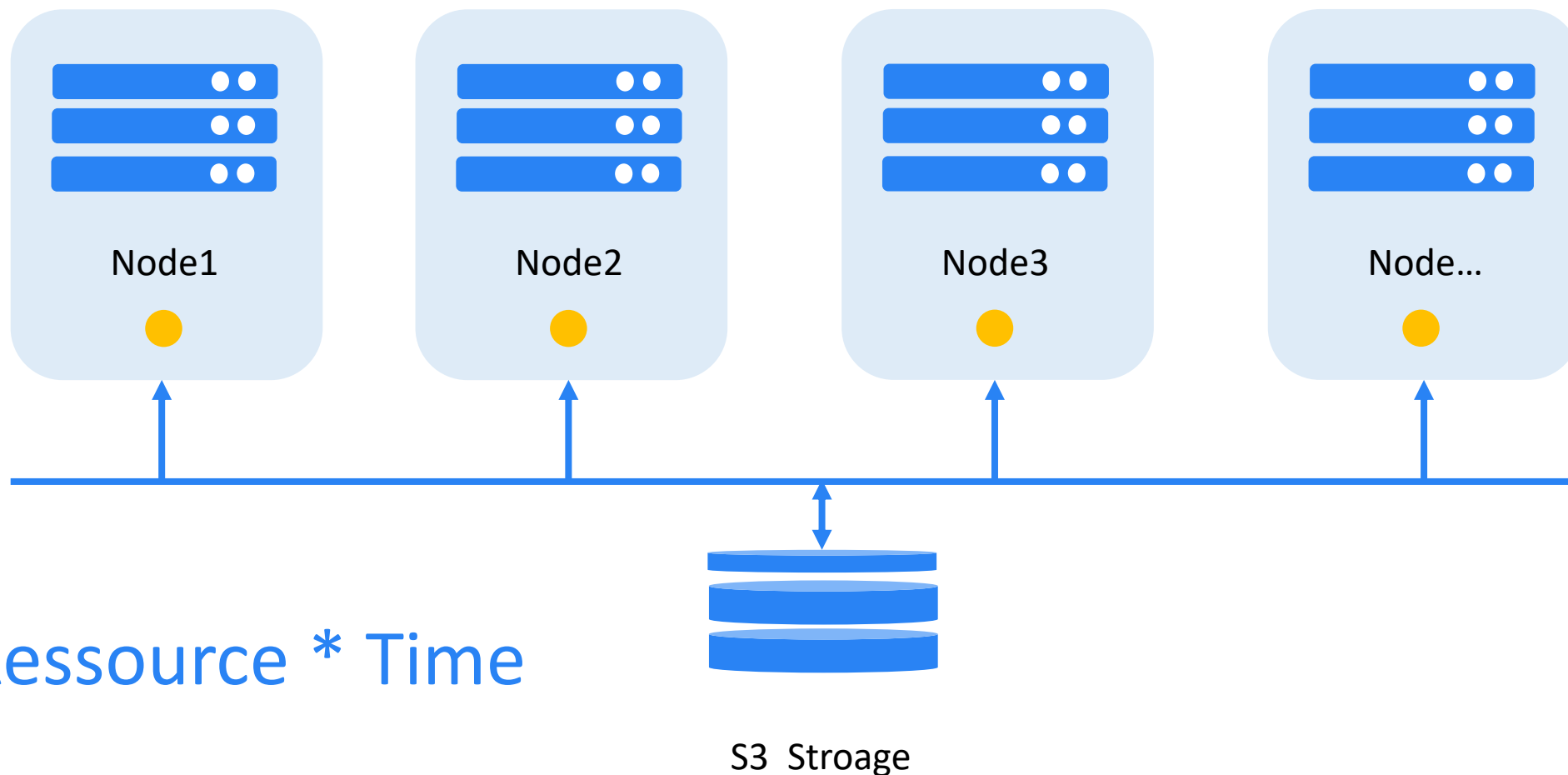
1. 利用云上的基础架构
2. 利用云上的资源弹性
3. 云上原生的多 IDC 架构
4. 为使用到资源付费
5. 分布式架构
6. 支持 SQL | Simple API方式的访问



Databend 架构及特点



Databend 架构及特点



$\text{Cost} = \text{Ressource} * \text{Time}$

I only pay for the resources I use . Databend want to try elastic, elastic , elastic ...

PART 03

Databend Ontime 功能展示

Databend Ontime



Databend Overtime 功能展示



基于 0.6 开发版测试

<https://github.com/datafuselabs/databend/issues/2525>

```
nightly: * - - * - - * - - * - - * - * - *
          |
beta:      * - - - - - - - *
          |
stable:      *
```

<https://databend.rs/development/release-channels/>

Stable checklist

- ☒ ☒ **ontime test suite insert and select with fuse table engine** #2561
- ☒ HTTP handler API works with all the queries which databend support(DONE)
- ☒ ☒ **[CLI] local machine profile** #1434

Experimental checklist

- ☒ ☒ **[Functions] Digest functions** #2162
- ☒ ☒ **Support copy command to load csv/parquet or s3 file into table** #2627
- ☒ ☒ **User grant privileges** #2679
- ☐ ☒ **Merge the partition files** #2526
- ☐ ☒ **Fine-grained user privilege on database & table** #2894
- ☐ ☒ **Add system.query_log table** #2868

Meta Service checklist

- ☒ ☒ **Multi nodes meta server and integration test** #2667
- ☐ ☒ **[metasrv] Support sled tree level transaction** #2422

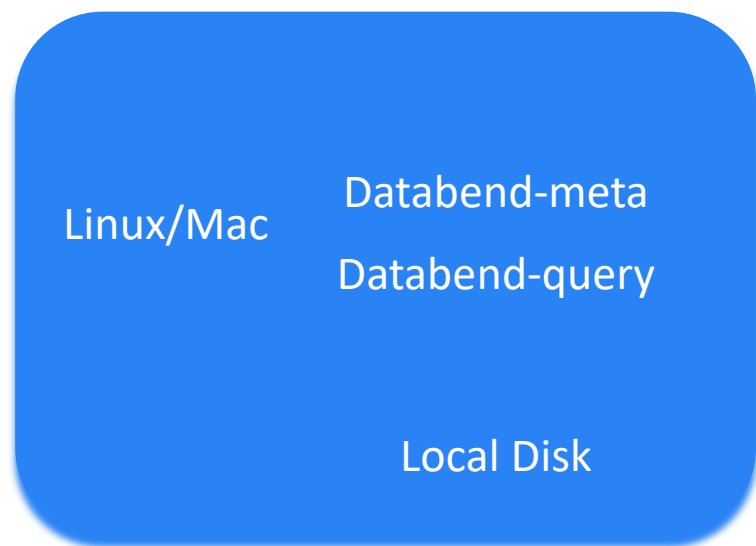
Testing checklist

- ☒ ☒ **New testing style in Rust crate** #1866

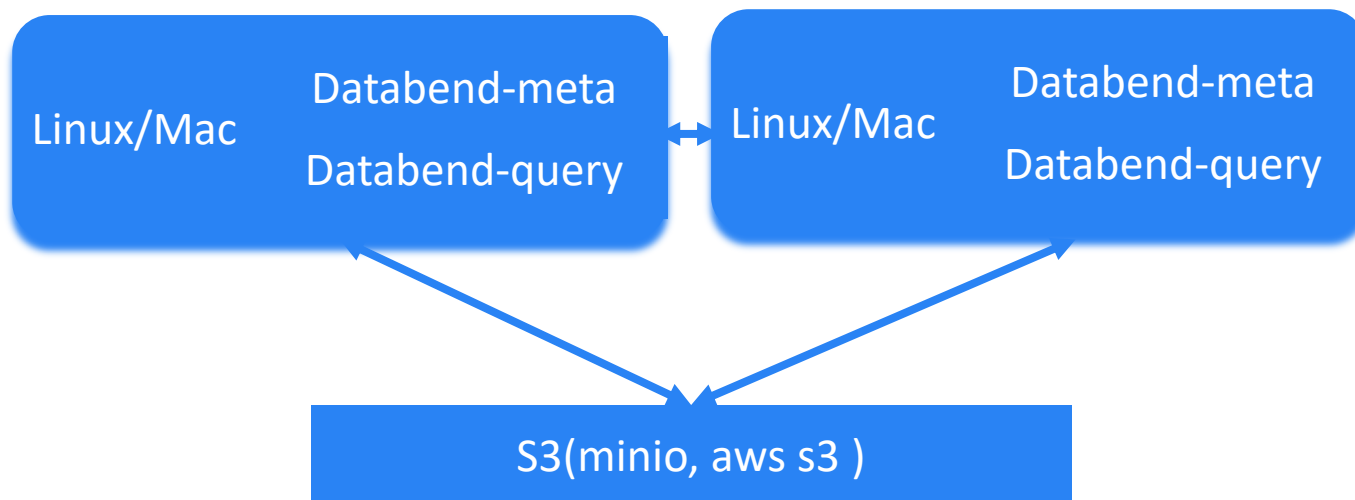
Databend Overtime 功能展示



Databend 0.6 两种部署结构



体验版本
推荐使用 bendctl



生产环境

Databend Overtime 功能展示



```
curl -fsS https://repo.databend.rs/databend/install-bendctl.sh | bash
```

```
ubuntu@ip-172-31-32-190:~/bohu$  
ubuntu@ip-172-31-32-190:~/bohu$ #AWS ARM64-server, 4vCPU, 16GiB Memory  
ubuntu@ip-172-31-32-190:~/bohu$ curl -fsS https://repo.databend.rs/databend/install-bendctl.sh | bash
```

Databend Overtime 功能展示



```
wget -P $HOME/dataset "https://repo.databend.rs/dataset/stateful/create_table.sql"
mysql -h 127.0.0.1 -P3307 -uroot < ~/dataset/create_table.sql
```

```
for s in `seq 2018 2021`
do
for m in `seq 1 12`
do
wget --no-check-certificate
https://transtats.bts.gov/PREZIP/On_Time_Reporting_Carrier_On_Time_Performance_1987_present_${s}_${m}.zip
done
done
```

```
ls *.zip |xargs -l{} bash -c "unzip {}"
ls *.csv|xargs -l{} echo curl -H \"insert_sql:insert into ontime format CSV\" -H \"csv_header:1\" -F
\"upload=@{}\" -XPUT http://localhost:8000/v1/streaming\_load|bash
```

Databend Ontime 功能展示



Q0 基于子查询求平均数

```
$mysql -h 127.0.0.1 -P3307 -uroot
```

```
mysql> SELECT avg(c1)
-> FROM
-> (
->     SELECT Year, Month, count(*) AS c1
->     FROM ontime
->     GROUP BY Year, Month
-> );
+-----+
| avg(c1) |
+-----+
| 502585.7419354839 |
+-----+
1 row in set (0.18 sec)
Read 15580158 rows, 46.74 MB in 0.153 sec., 101.51 million rows/sec., 304.54 MB/sec.
```

```
mysql> select avg(c1) from (select Year, Month, count(*) as c1 from
+-----+
| avg(c1) |
+-----+
| 512952.6 |
+-----+
1 row in set (0.29 sec)
Read 28212393 rows, 84.64 MB in 0.244 sec., 115.44 million rows/sec.,
```


Databend Overtime 功能展示



Q1 The number of flights per day from the year 2020 to 2021

```
mysql> select DayOfWeek, count(*) AS c from ontime where Year >=2020 AND Year<2021 GROUP By DayOfWeek ORDER BY c DESC;
+-----+-----+
| DayOfWeek | c      |
+-----+-----+
|          4 | 705391 |
|          5 | 700663 |
|          1 | 700325 |
|          7 | 690912 |
|          3 | 654608 |
|          2 | 625388 |
|          6 | 611067 |
+-----+-----+
7 rows in set (0.08 sec)
Read 4688354 rows, 14.07 MB in 0.046 sec., 101.11 million rows/sec., 303.32 MB/sec.
```

```
mysql> select count(*) from ontime;
+-----+
| count(0) |
+-----+
| 28212393 |
+-----+
1 row in set (0.16 sec)
Read 28212393 rows, 28.21 MB in 0.120 sec., 235.26 million rows/sec., 235.26 MB/sec.
```

Databend Overtime 功能展示



Q2 The number flights delayed by more than 10 minutes, grouped by the day of the week, for 2020 to 2021

```
mysql> SELECT DayOfWeek, count(*) AS c
-> FROM ontime
-> WHERE DepDelay>10 AND Year>=2020 AND Year<=2021
-> GROUP BY DayOfWeek
-> ORDER BY c DESC;
```

```
+-----+-----+
| DayOfWeek | c      |
+-----+-----+
|          5 | 234892 |
|          4 | 234415 |
|          7 | 230379 |
|          1 | 226556 |
|          6 | 208071 |
|          3 | 194970 |
|          2 | 187333 |
+-----+-----+
```

7 rows in set (0.15 sec)

Read 7902289 rows, 56.3 MB in 0.110 sec., 71.99 million rows/sec., 512.95 MB/sec.

Databend Overtime 功能展示



Q3 The percentage of delays by carrier for 2020

```
SELECT Carrier, c, c2, c*100/c2 as c3
FROM
(
  SELECT
  IATA_CODE_Reporting_Airline AS Carrier,
  count(*) AS c
  FROM ontime
  WHERE DepDelay>10
  AND Year=2020
  GROUP BY Carrier
) q
JOIN
(
  SELECT
  IATA_CODE_Reporting_Airline AS Carrier,
  count(*) AS c2
  FROM ontime
  WHERE Year=2020
  GROUP BY Carrier
) qq USING Carrier
ORDER BY c3 DESC;
```

Optimize
Query



```
SELECT IATA_CODE_Reporting_Airline AS
Carrier, avg(cast(DepDelay>10, Int))*100
AS c3
FROM ontime
WHERE Year=2020
GROUP BY Carrier
ORDER BY c3 DESC
```

Databend Overtime 功能展示



Q3 The percentage of delays by carrier for 2020

```
mysql> SELECT IATA_CODE_Reporting_Airline AS Carrier, avg(cast(DepDelay>10, Int))*100 AS c3 FROM ontime WHERE Year=2020 GROUP BY Carrier ORDER BY c3 DESC;
```

Carrier	c3
G4	43.66449743492305
B6	37.939565683409924
AS	37.32648821173707
F9	31.266326082433714
EV	25.29727257608515
OH	24.014244599482627
YV	21.539002382719424
MQ	21.00535550137884
UA	20.81621080486968
NK	19.2327772103053
OO	18.573225924825696
AA	17.721074719596157
YX	16.82139836683597
HA	15.959975964678527
9E	13.420741189933588
DL	12.99548146968095
WN	10.050080071526791

17 rows in set (0.15 sec)
Read 4688354 rows, 75.6 MB in 0.111 sec., 42.25 million rows/sec., 681.34 MB/sec.

[Release Boolean discussion & Issue](#)

<https://github.com/datafuselabs/databend/discussions/3267>

<https://github.com/datafuselabs/databend/issues/3383>

PART 04

Databend 0.7 规划

Databend Plan About 0.7 version



Databend 0.7 规划



Checklist proposal: Nightly v0.7 #3428

Open

3 of 17 tasks

BohuTANG opened this issue 2 days ago · 2 comments



BohuTANG commented 2 days ago · edited

Summary

Release name: v0.7-nightly, get in the train now 🙌

Checklist

Stable checklist

- ☐ [Fine-grained user privilege on database & table](#) #3429
- ☐ [\[functions\] more functions working with string](#) #3004
- ☒ [Support create table as/like query](#) #2457
- ☐ [DateTime64 DataType support](#) #3338
- ☐ [Implicit cast from Boolean to UInt8](#) #3291

Experimental checklist

- ☐ [Fine-grained user privilege on database & table](#) #2894
- ☐ [Database sharing](#) #3430
- ☐ [query server: async-await mysql-srv](#) #3437
- ☐ [dal: Add more underlying storage support](#) #3434
- ☐ [dal: Add integration tests target on production services](#) #3435
- ☐ [dal: Refactor to make it easier for contributors to add new storage type](#) #3436

Website checklist

- ☐ [Tracking issue of use docusaurus to build our website](#) #3209

Testing checklist

- ☐ [Continuous Benchmarking](#) #3084
- ☐ [\[Test/Integration\] implement generic test framework for integration test](#) #2647
- ☐ [Re-organise our building systems](#) #3419

Databend 0.7 规划



<https://github.com/datafuselabs/databend/discussions/3426>

2021 Databend Sweatshirt is coming #3426

wubx started this conversation in **General**



wubx 2 days ago

Maintainer

edited ▾ ⋮

Our contributor gift has been updated. 🎉

Before today, we will send you a T-shirt. Starting from Databend 0.7, we plan to send you: Sweatshirt

Sweatshirt Show



FAQ 环节

