



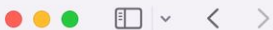
Replacing Looker with Cube and Superset

Igor Lukanin

Head of Developer Relations at Cube

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Developer Relations Engineer at Preset

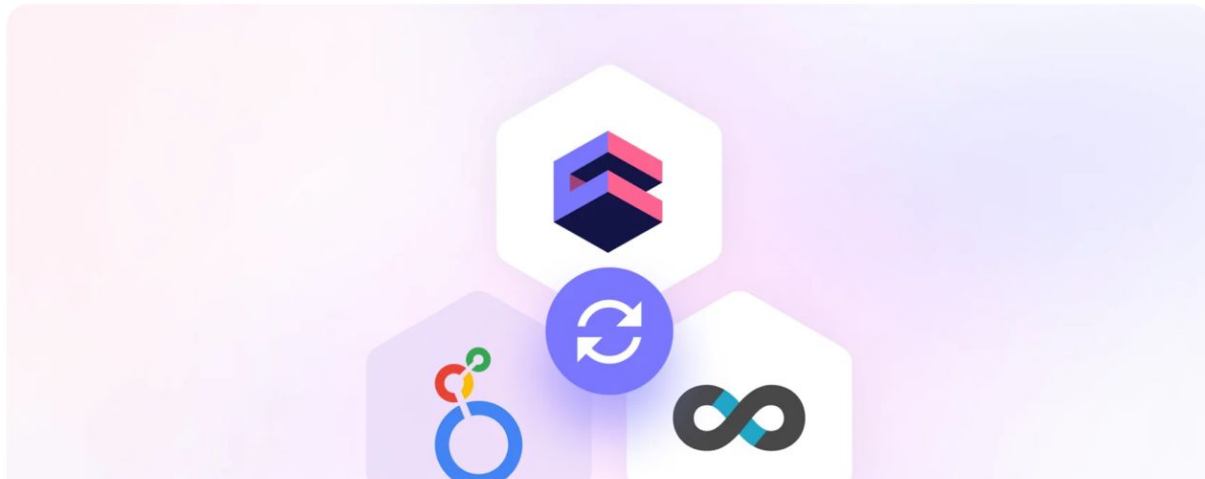


cube.dev



Open source Looker alternative with Cube and Apache Superset

Respectfully unbundling the elephant in the BI room.



September 28, 2022

[Looker](#)



Shreesham Mukherjee  

Developer Relations Engineer at
Preset



Looker

Looker, the good parts

- Founded in 2012, acquired by Google in 2019
- Popularized self-served BI over CDW
- Popularized LookML for data modeling

Looker, the *not so good* parts

- Closed-source and gated
- Proprietary and imposing a vendor lock-in
- Opposite of “low in coupling and high in cohesion”
- Went through customer support layoffs in March 2022



Why seek an alternative

- Low entry barrier (open-source, self-serve, freemium)
- Separation of concerns and less vendor lock-in
- Interoperability with other tools in the data stack
- Great communities and support

Meet Cube and Superset

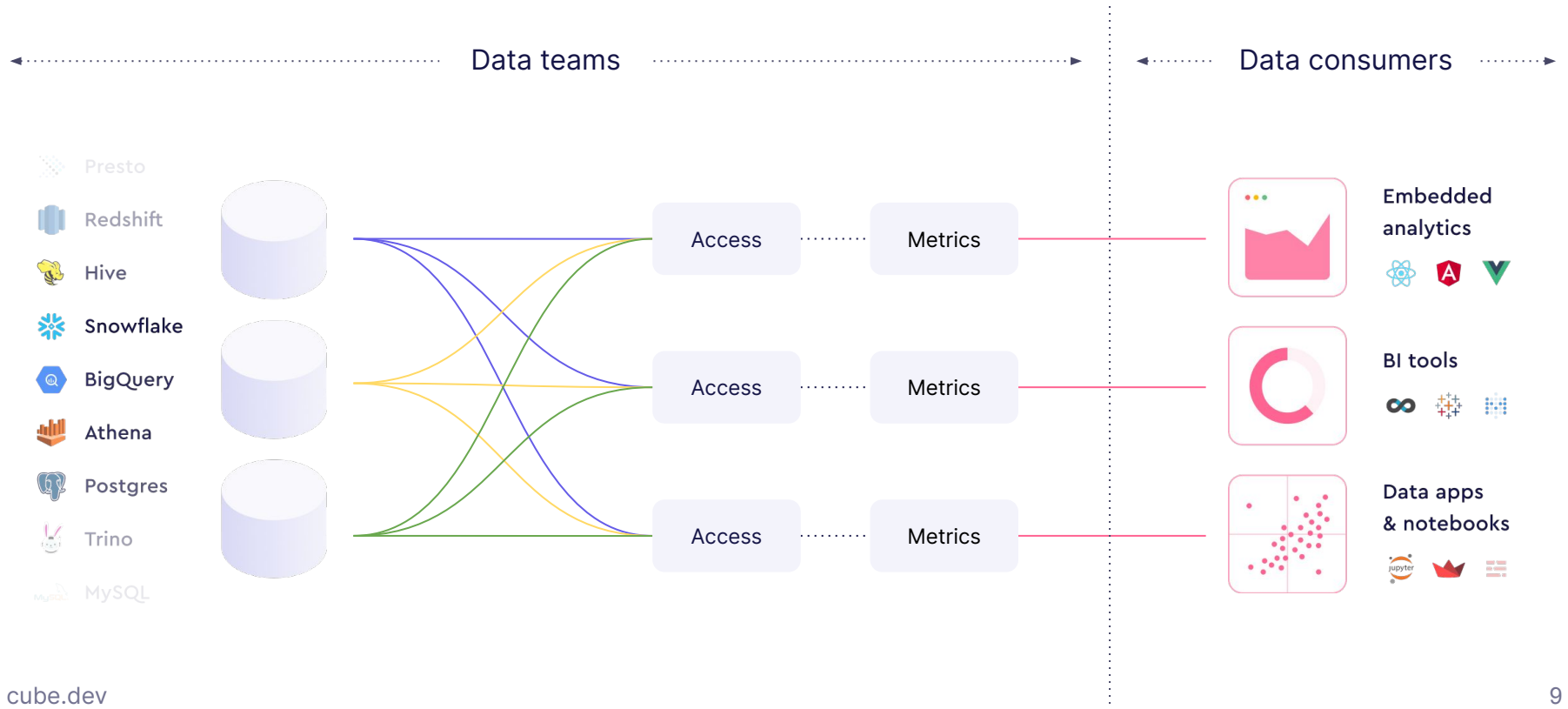
Cube — Headless Business Intelligence

Cube helps to...

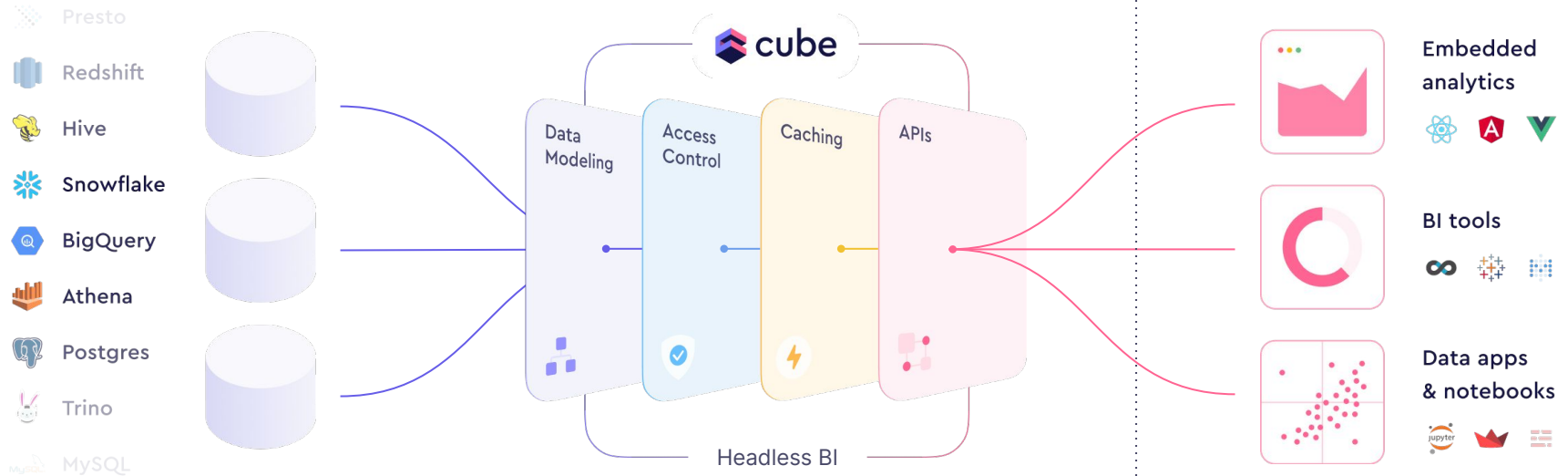
- consume data from modern data stores,
- organise it into consistent definitions, and
- deliver it to every application.

Cube's mission is making data consistent and accessible.

Data teams have a many-to-many problem



Cube solves for consistency and accessibility



Consistency

Cube provides a centralized place for...

- **metrics definitions** (so they're reused by all data apps)
- **access control rules** (so they apply to all data apps)
- **query cache** (so it's consistent across all data apps)

Consistency — Data modeling

Metrics are defined in a declarative, LookML-like model. Measures, dimensions, etc. are reused by all data apps.

- ✓ No duplicated effort.
- ✓ No inconsistency.



Schema

Files [🔗 Changes](#)



📁 /

📁 schema

📄 WorkspaceActivation.js

📄 cube.js

📄 package.json

WorkspaceActivation.js x cube.js x

```
1 cube(`WorkspaceActivation`, {
2   sql: `SELECT * FROM public.active_workspace_details`,
3
4   measures: {
5     count: {
6       type: `count`
7     },
8
9     n_workspaces: {
10      sql: `workspace_id`,
11      type: `countDistinct`,
12    },
13
14    n_active_workspaces: {
15      sql: `workspace_id`,
16      type: `countDistinct`,
17      filters: [ {
18        sql: `${is_active_workspace} IS TRUE`
19      } ],
20    },
21  }
```

Accessibility

Cube provides a set of APIs:

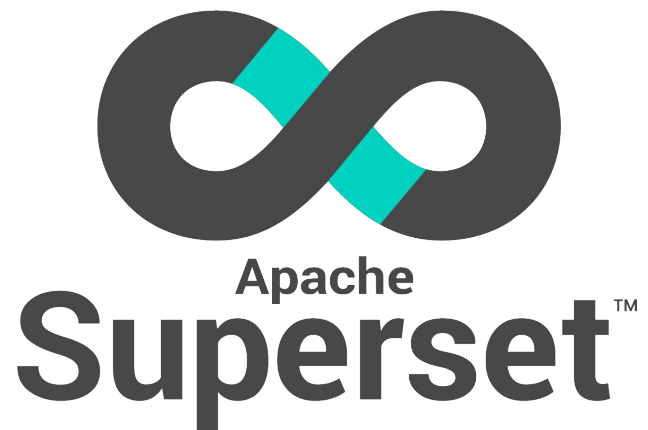
- **SQL API**
 - Implements PostgreSQL wire protocol
 - Works with all tools that connect to Postgres
- **REST API and GraphQL API**

Regardless of the API flavor, queries yield same results.

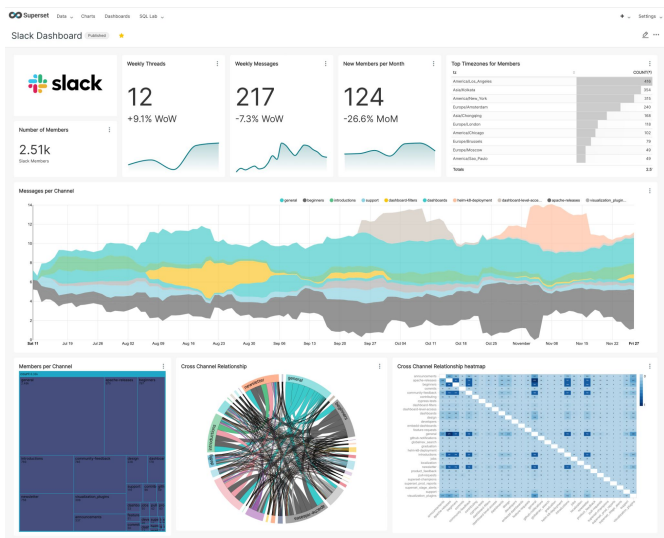
Accessibility — SQL API

```
SELECT
  DATE_TRUNC('WEEK', reporting_day) AS reporting_week,
  activation_rate
FROM WorkspaceActivation
ORDER BY 1 DESC;
```

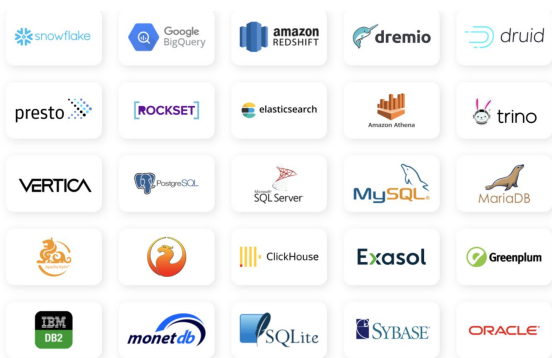
 Works great with Superset and other data tools.



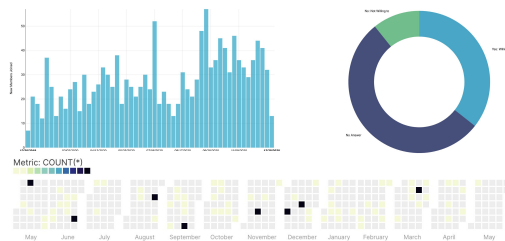
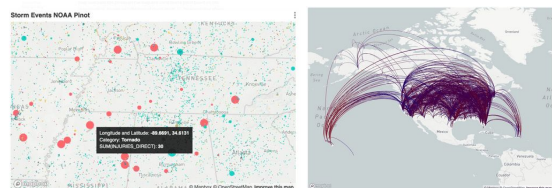
What is Apache Superset?



Modern open source BI platform



Works with nearly any SQL speaking data engine



Large diversity of charts

Two Main Workflows


Explore

- No code chart builder
- Superset backend generates SQL queries on user's behalf
 - *enabled by SQLAlchemy*

 *Personas*: Explorer & Consumer

SQL Lab

- SQL IDE
- Superset user generates SQL query, mostly untouched by backend

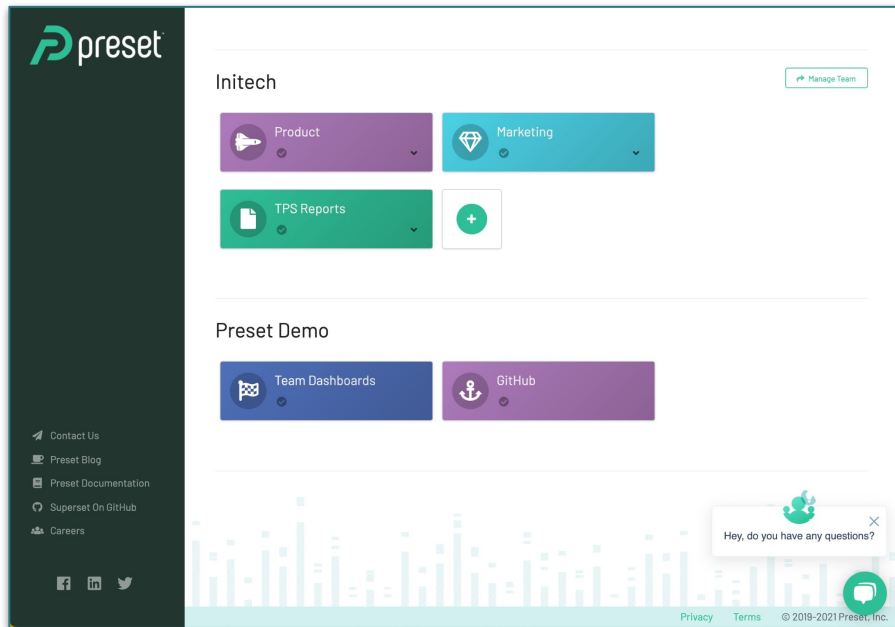
 *Personas*: Data Engineer, Data Scientist, Explorer

What is Preset?

Preset Cloud is a multi-workspace, cloud-hosted Apache Superset (with all the batteries, bells, & whistles included)

We also layer on:

- SOC2 Compliance
- End-user documentation at docs.preset.io
- RBAC and SSO
- World class support
- Embedded SDK (beta)



Preset Managed Private Cloud

Preset's modern BI platform now available in your AWS private cloud

Key Advantage

Build and share dashboards securely. We take care of the rest.

All the benefits of Preset SaaS now available inside of your private cloud



Deploy & Upgrades



Platform Management



Elastic Scalability



Expert Support



Fully managed Apache Superset in your cloud.

Ease of Use

- ✓ Configuration
- ✓ Compute and resizing for load
- ✓ Identity, User Management for Data Viz
- ✓ Install and manage patches/drivers
- ✓ Scaling for Load

Deploy

- ✓ Control the routing in your network
- ✓ Manage cloud permissions granularly

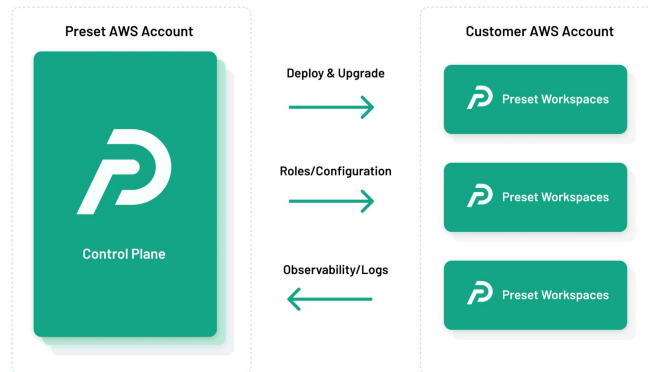
Troubleshooting and Support

- ✓ Enterprise Support

Monitor

- ✓ Content permission/Roles and Access
- ✓ Access and audit logs
- ✓ Backups and Uptime for Preset Metadata DB
- ✓ Performance SLAs
- ✓ Disaster Recovery (same SLAs as Preset)

How it works



Security and Compliance

How Preset Handles data security and compliance

- Preset Cloud is certified as SOC2 Type2, PCI-DSS compliant
- Role-Based Access Controls (RBAC) for fine-grained permissions
- Multi-Factor Authentication (MFA)
- Encryption for data in transit with TLS 1.3+
- Encryption for data at rest with AES 256 encrypted storage
- Secure Software Development Lifecycle (SDLC) process

How Cube and Superset address the issues

- Low entry barrier (open-source, self-serve, freemium)
- Separation of concerns and less vendor lock-in
- Interoperability with other tools in the data stack
- Great communities and support

Cube and Superset — Open source



github.com/cube-js/cube.js

14,000 stars

Since 2019

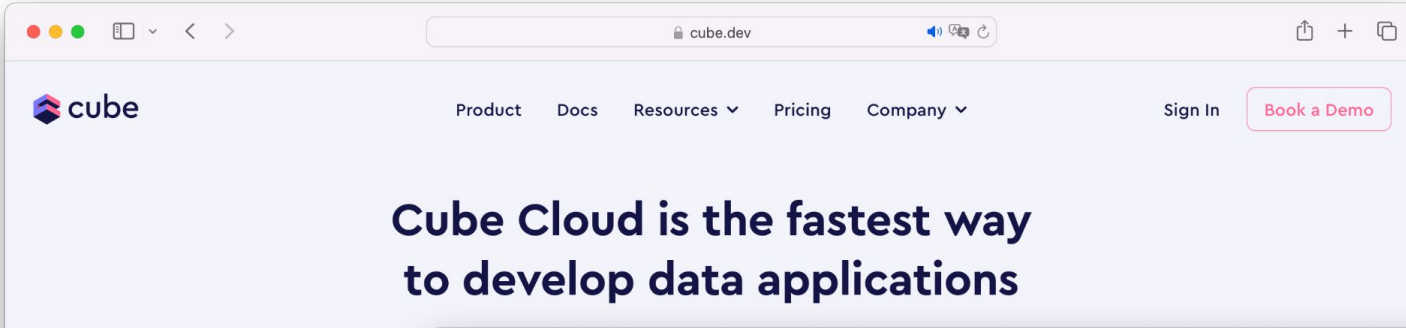


github.com/apache/superset

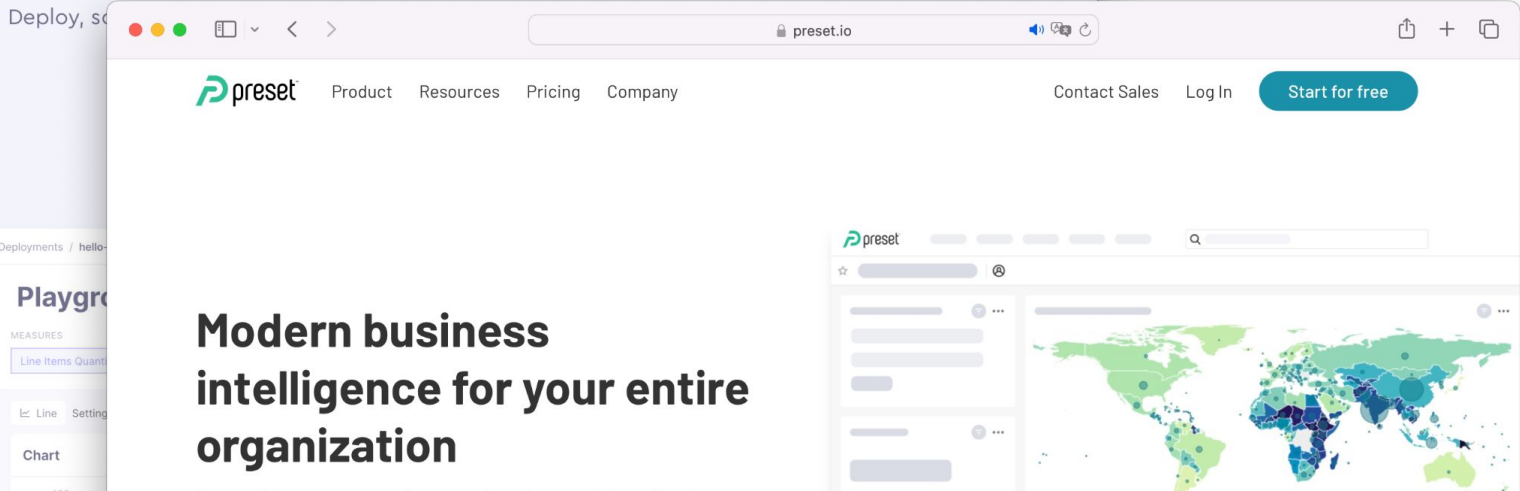
48,000 stars

Since 2015

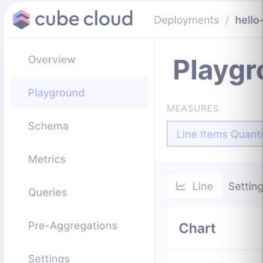
Cube and Superset — Self-serve and freemium



A screenshot of the Cube Cloud website. The browser address bar shows 'cube.dev'. The navigation menu includes 'Product', 'Docs', 'Resources', 'Pricing', and 'Company'. There are 'Sign In' and 'Book a Demo' buttons. The main headline reads: 'Cube Cloud is the fastest way to develop data applications'.



A screenshot of the Preset website. The browser address bar shows 'preset.io'. The navigation menu includes 'Product', 'Resources', 'Pricing', and 'Company'. There are 'Contact Sales', 'Log In', and 'Start for free' buttons. The main headline reads: 'Modern business intelligence for your entire organization'. The background features a world map with data points.



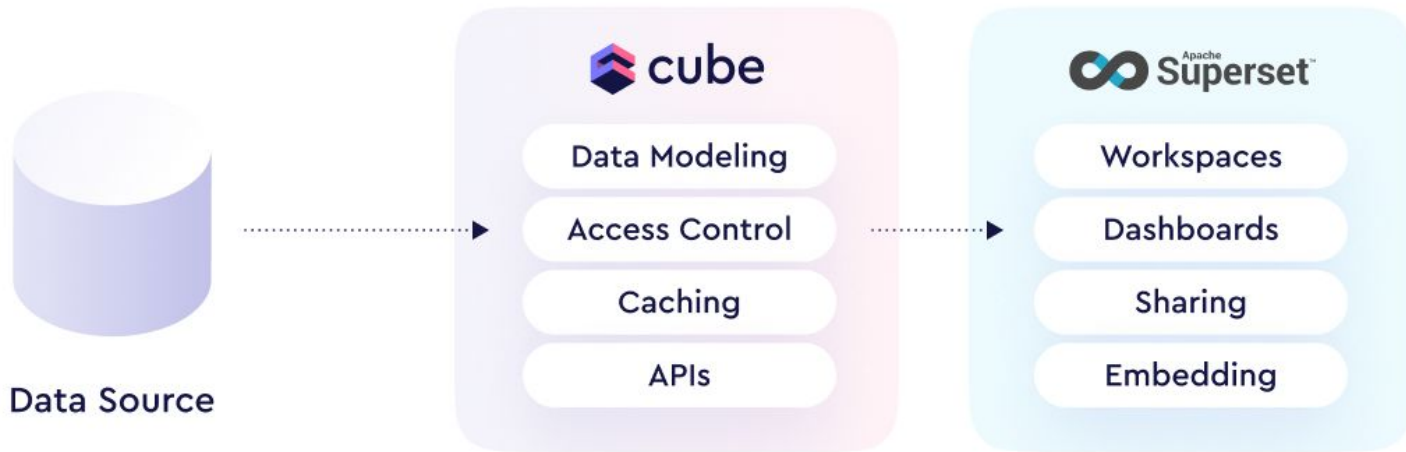
A screenshot of the Cube Cloud Playground interface. The left sidebar shows a navigation menu with 'Overview', 'Playground', 'Schema', 'Metrics', 'Queries', 'Pre-Aggregations', and 'Settings'. The main area displays 'MEASURES' with 'Line Items Quant' and a 'Chart' section.



A screenshot of the Preset dashboard. It features a search bar, a navigation menu, and a world map visualization with data points.

Cube and Superset — Separation of concerns

Cube provides data modeling. Superset's intentionally thin semantic layer enables last-mile data transformation.

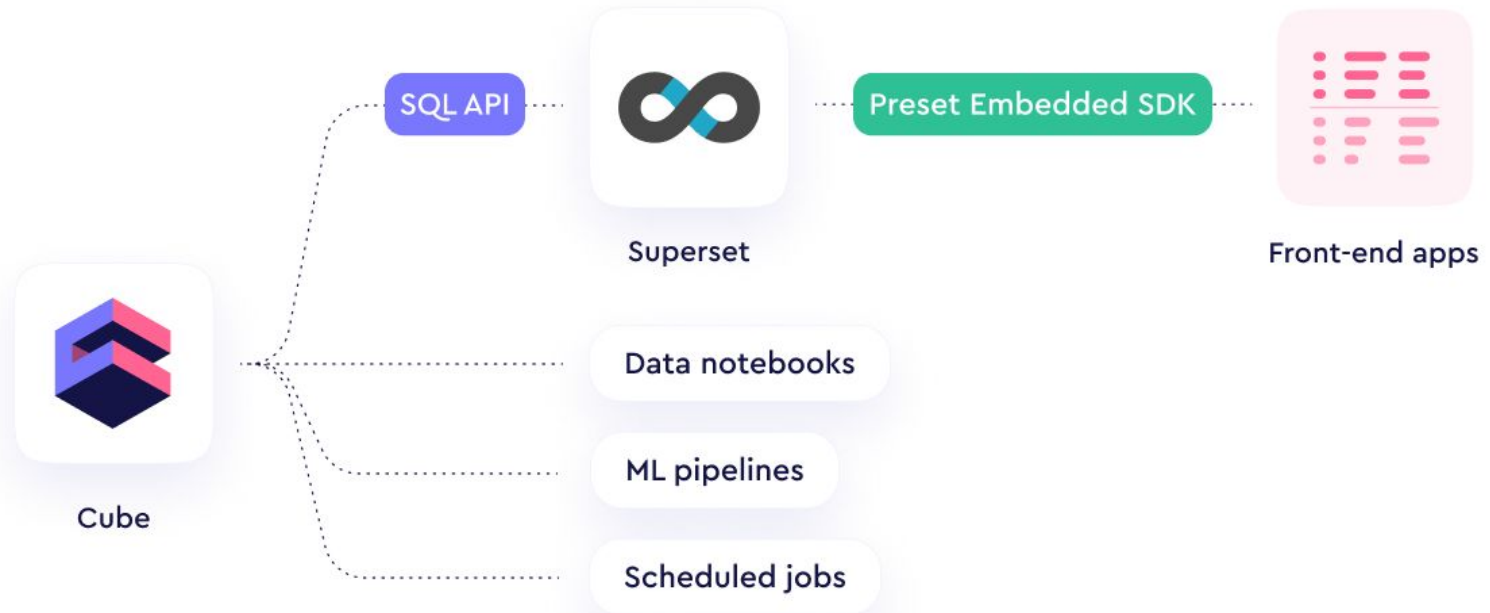


Cube and Superset — No vendor lock-in

If needed...

- Cube's data model may be replaced with Superset's [virtual datasets](#)
- Superset may be replaced or put alongside [another BI tool](#), data notebook, etc.

Cube and Superset – Interoperability



Cube and Superset – Great communities

The image shows two overlapping Slack window screenshots. The background window is the '# introductions' channel for Cube.js, with 6,485 members. The foreground window is the '# introductions' channel for Apache Superset, with 6,289 members. Both channels have a 'Please introduce yourself!' or 'Welcome to the community!' header. The Cube.js channel shows messages from Sylvain Gutierrez, ailing, Mark Sta Ana, Saurav Aggarwal, and Vitaliy Fedorchenko. The Superset channel shows messages from Kulanjith Amarasuriya, Praveen Kumar Buravilli, and François AUTAA.

Cube.js # introductions (6,485 members)

Please introduce yourself!

+ Add a bookmark

Sylvain Gutierrez 11:11 AM
Hi everyone, I'm an intern in... have some things I can't figu...
👍 2 🗨️

ailing 11:50 AM
joined #introductions along...

Mark Sta Ana 12:18 PM
Hello! I'm just an infra guy tr...
👍👍 3 🗨️

Saurav Aggarwal 4:28 PM
joined #introductions along...

Vitaliy Fedorchenko 12:57 P...
Hi all! I'm the founder of See...
Recently I've checked Cube...
to use Cube.js-backed cubes...

Apache Superset # introductions (6,289 members)

Welcome to the community! This channel is focused on Introductions :]

+ Add a bookmark

Wednesday, September 28th

Thursday, September 29th

Kulanjith Amarasuriya 12:19 PM
Hi Everyone, I'm working as a Data Analyst at Appspotr Sri Lanka, Excited to be here! and interested in getting to know the Superset platform, the community and if it is a good fit for us 😊
👍 2 🗨️

Yesterday

Praveen Kumar Buravilli 10:10 AM
Hi Everyone, I'm working as Principal Devops Engineer in Reshamandi, Bangalore. Excited to be in this channel, We have started exploring Apache Superset and having few issues with enabling SSL and integrating with google authentication. (edited)
👍 1 🗨️

François AUTAA 11:30 AM
Hi. Data engineer pushing openource solution 😊 Already user of superset since 2 years. Joining here to follow the progression of the software. Great job and progression!! 🙌

Cube demo — Data modeling

Superset Demo

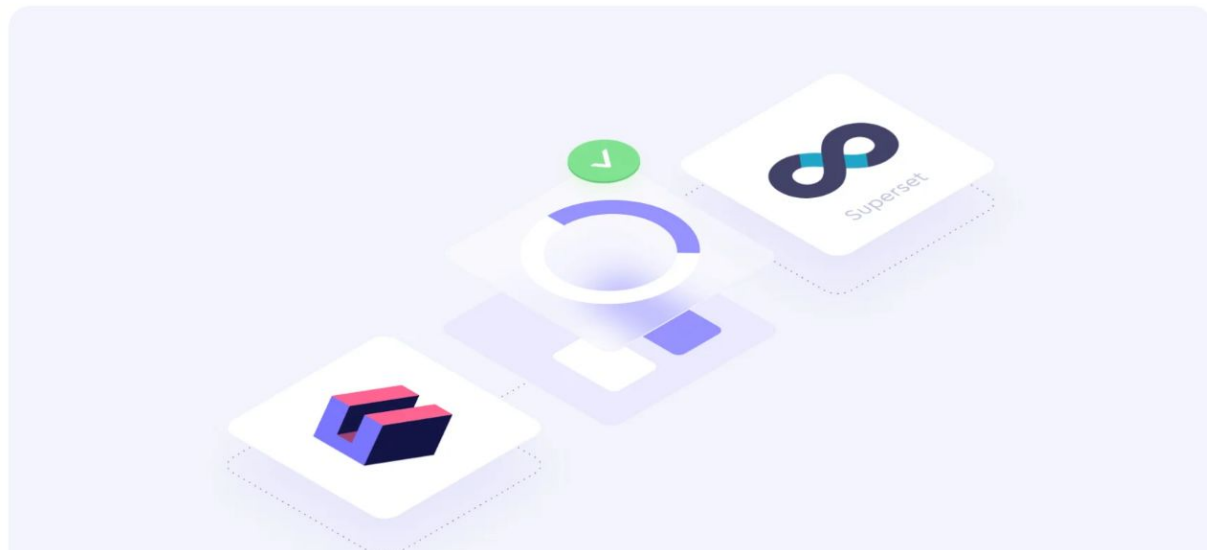
- **Connecting to your Cube Dev environment**
- **Simple dataset + chart creation**

Cube demo — Caching

Thanks! Questions?

- Check Cube and Superset 🙏
- Try [Cube Cloud](#) and [Preset Cloud](#)
- Join Slack communities and share your feedback!

Building dashboards over a semantic layer with Superset and Cube



April 14, 2022

[Apache Superset](#)



[Igor Lukanin](#)   

Head of Developer Relations at Cube