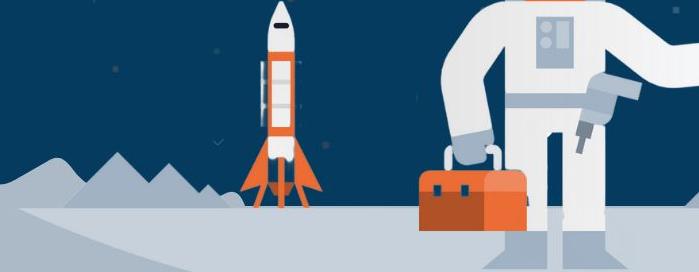


Developers

Intro to Event Streaming
and Change Data Capture



Streaming Developer Advocate



ddieruf



ddieruf



@dierufdavid



- Developer/Architect
- Specialize in cloud-native
- Kubernetes
- Application modernization
- CI/CD



David Dieruf

01



Today's workshop
Housekeeping

02

Getting to know Pulsar
Not just another broker

03

About Astra Streaming
A modern streaming system

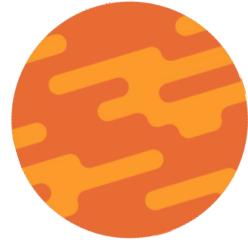
04

Meet Change Data Capture
Legacy apps doing modern things

05

What's next?
Homework & Goodbye





S



Cedrick
Lunven



David
Dieruf



Rags
Srinivas



Artem
Chebotko



Stefano
Lottini



Aleksandr
Volochnev



Aaron
Ploetz



S



Jack
Fryer



Kirsten
Hunter



Gary
Harvey



Mary
Grygleski



Ryan
Welford



David
Gilardi

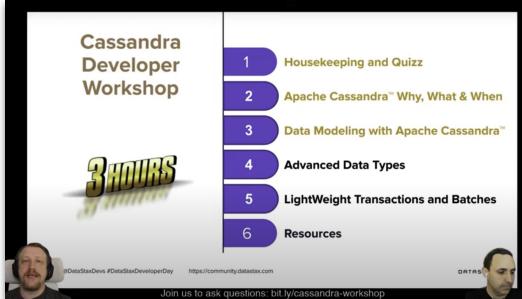


DataStax Developers Crew

Live and interactive

Get the most out of this workshop !

Stream: youtube.com/DataStaxDevs



[YouTube](#)

Questions: <https://dtsx.io/discord>



[Discord](#)



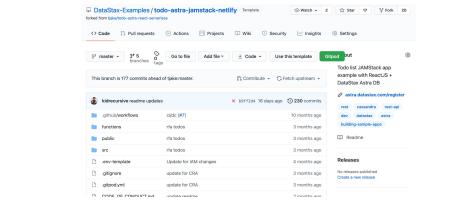
[YouTube](#)



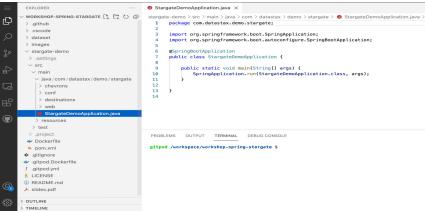
Attend the live session

Nothing to install !

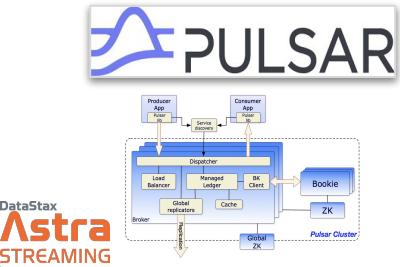
Source code + exercises + slides



IDE

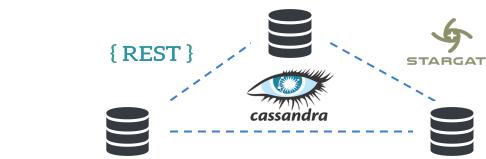


Event streaming system



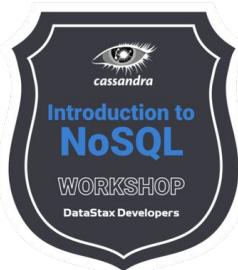
DataStax
Astra
STREAMING

Database + GraphQL + PlayGround



DataStax
Astra DB

Do the hands-on



Do the homework and get your badge!



Let's start !

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Event Streaming == Message Streaming

- Watch for events with “the system” or application
- Publish messages and receive events
- Make decisions on data in real time
- Ingest high frequency of messages with very low latency and consume at a different rate





Open source

Created by Yahoo

Contributed to the Apache Software Foundation 2016

Top-level project 2018

Cloud-native design

Cluster based

Multi-tenant

Simple client APIs (Java, C#, Python, Go, Node, ...)

Separate compute and storage!

Guaranteed message delivery

If a message successfully reaches a Pulsar broker, it will be delivered to its intended target.

Light-weight serverless functions framework

Create complex processing logic within a Pulsar cluster (aka: data pipeline)

Tiered storage offloads

Offload data from hot/warm storage to cold/long-term storage when the data is aging out



Pulsar's cloud-native architecture

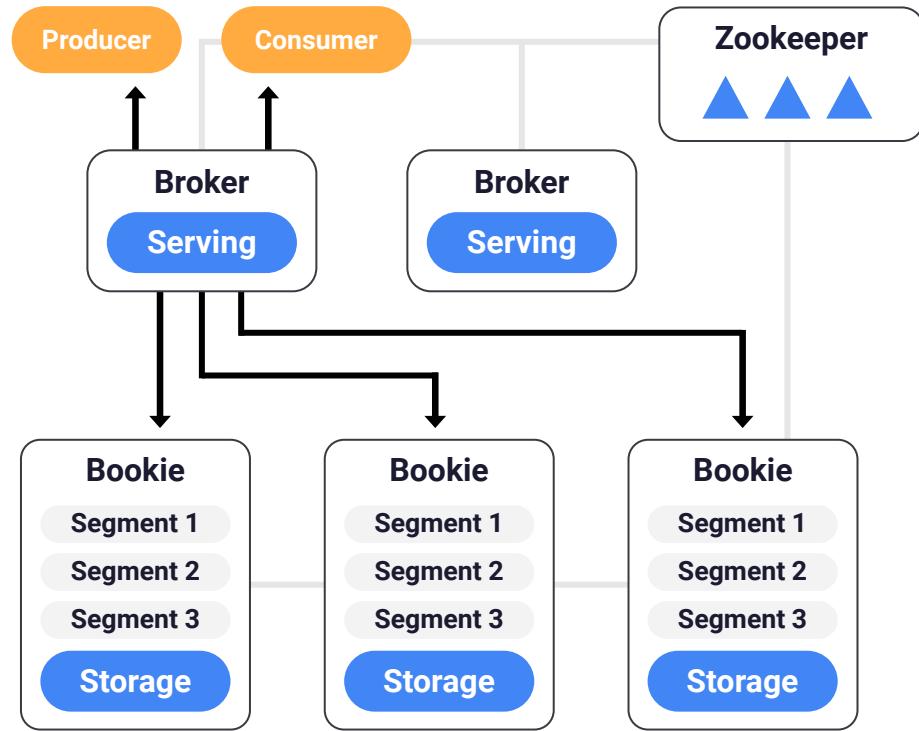
Distributed, tiered architecture

Separated compute from storage

Zookeeper holds metadata for the cluster

Stateless Broker handles producers and consumers

Storage is handled by Apache Bookkeeper

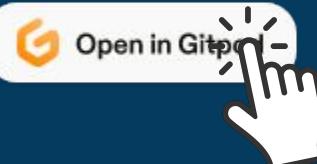




HANDS-ON:

Working with Pulsar

<https://github.com/datastaxdevs/workshop-intro-streaming-and-cdc>



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DataStax Astra: Streaming Made Easy in the Cloud



Pulsar-as-a-Service

Streaming-as-a-Service built on Apache Pulsar



No Operations

Eliminate the overhead to install, operate, and scale Pulsar



Powerful Tools and APIs

Leverage the same tools used to interact with Pulsar on prem



Cloud Native

Built to run on any cloud



Zero Lock-in

Leverage Pulsar's built in integration with existing developer tools



Start for Free

Free monthly credits to help you get started quickly



DataStax Developers



A Unified Astra Experience

Interface is integrated with Astra DB providing a single user experience

Simplified dashboard allows users to understand their price plan and usage at a glance

The screenshot shows the DataStax Astra dashboard. On the left, a sidebar menu includes 'Dashboard', 'Databases' (with 'pulsar-demo' listed), 'Streaming' (with 'my-tenant' listed), 'Create Database', 'Create Streaming', and 'Sample App Gallery'. The main area displays 'Active Database (1)' and 'Streaming' sections. The 'Active Database (1)' section lists 'pulsar-demo' with metrics: Reads 241, Writes 78.0k, Storage 151.63 KB, Data Transfer 58.29 MB, Status Standby, and Connect button. The 'Streaming' section shows 'Usage For Current Billing Period' with values 0.00 for Storage, Write Bandwidth, Read Bandwidth, and Partitions 0. The 'Streaming' section also has a 'Create Streaming Tenant' button. The bottom section shows 'Active Tenant (1)' with 'my-tenant' and 'Streaming Usage Totals' metrics. The entire dashboard is framed by a blue border.

Easy Management of Pulsar

The screenshot shows the DataStax Astra dashboard for the tenant 'my-tenant'. The 'Connect' tab is selected in the navigation bar. A blue box highlights the 'Connect' section on the left, which lists various connection methods: Java, Python, Golang, Node.js, WebSocket, and JMS. An orange box highlights the 'Connect' button in the top right corner of the main content area. The main content area displays 'Tenant Details' for 'my-tenant' with the following information:

Name	my-tenant
Plan	free
Cloud Provider	gcp
Cloud Provider Region	useast4
Broker Service URL	pulsar+ssl://pulsar-gcp-useast4.streaming.datastax.com:6651
Web Service URL	https://pulsar-gcp-useast4.api.streaming.datastax.com
WebSocket URL	wss://pulsar-gcp-useast4.streaming.datastax.com:8001/ws/v2
Token	Token Manager

Easy management of Pulsar features along with sample code, and getting started guides.

See connection examples from common developer tools



DEMO: Astra Streaming

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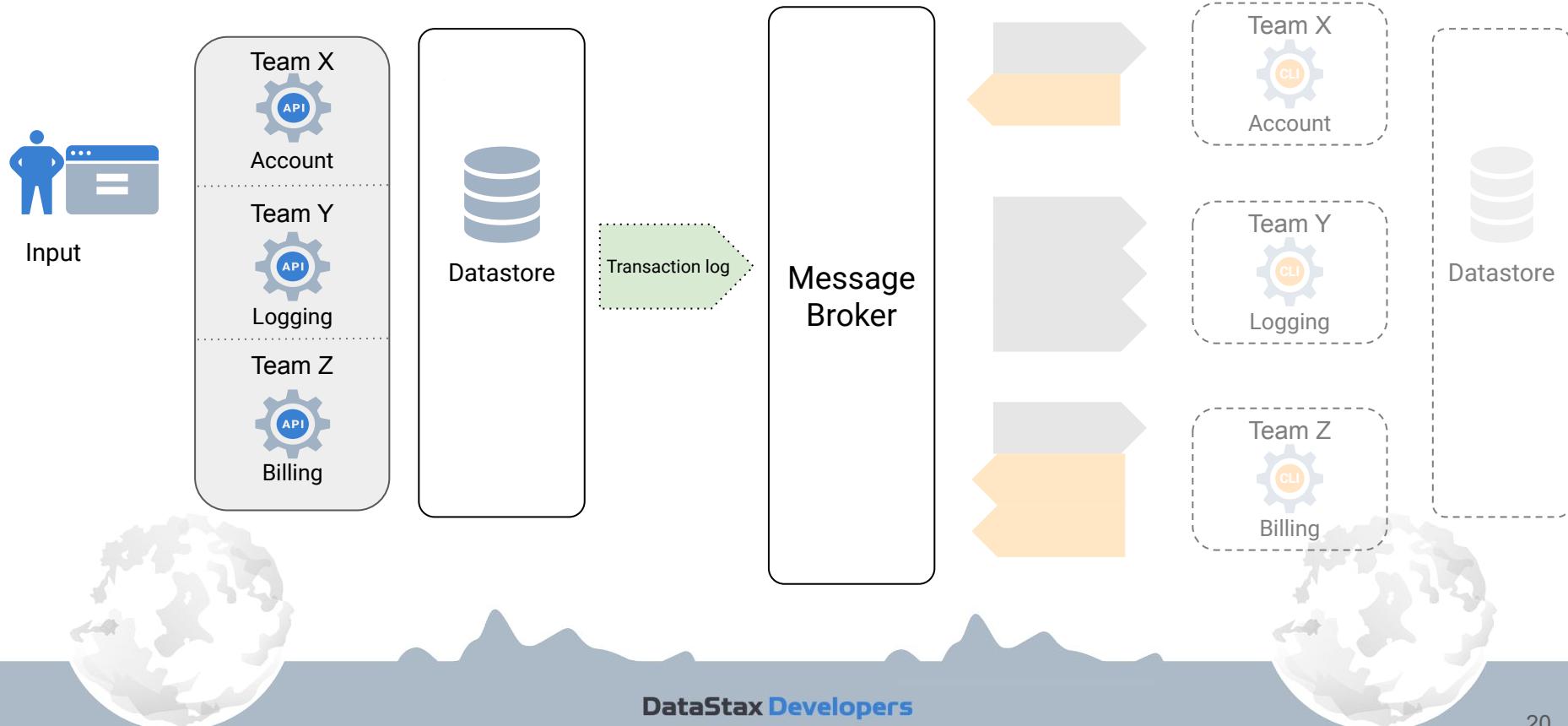
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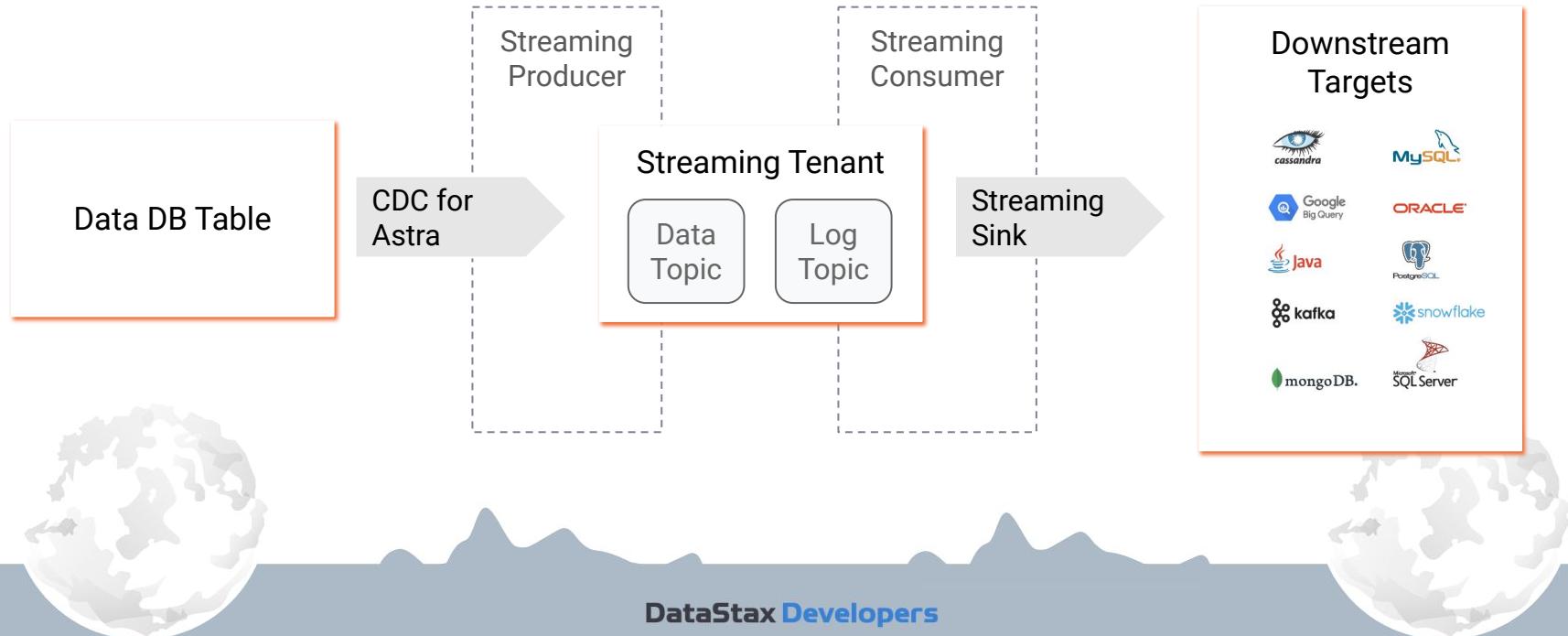
What's next?
Homework & Goodbye



Change data capture (CDC)



Change Data Capture (CDC) for **Astra**





DEMO: CDC for Astra

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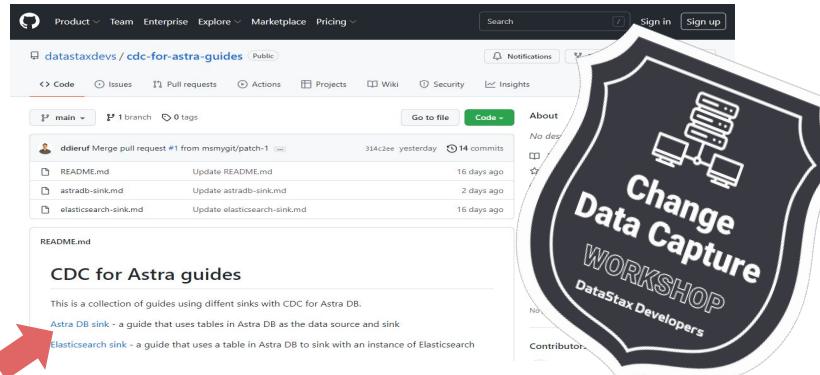
What's next?
Homework & Goodbye



Homework

<https://dtsx.iostreams-intro>

1. Complete the guide: CDC for Astra - Astra DB Sink



2. Answer the questions
3. Submit a screenshot of the completed guide

Earn the CDC Badge !

Discord interface showing a workshop chat session:

- Left sidebar:** DataStax Developers channel structure.
 - Événements**
 - # moderator-only**
 - . WELCOME**
 - start-here**
 - code-of-conduct**
 - # introductions**
 - upcoming-events**
 - useful-resources**
 - # memes**
 - # your-ideas💡**
 - @the-stage**
 - WORKSHOPS**
 - # workshop-chat**
 - # workshop-feedback**
 - workshop-materials**
 - upcoming-workshops**
 - ASTRADB**
 - # getting-started**
 - # astra-apis**
 - # astra-development**
 - # sample-applications**
 - APACHE CASSANDRA**
 - Cedrick Lun...**
 - ...**
 - ...**
- Middle pane:** # workshop-chat channel.
 - A screenshot of a presentation slide titled "DataStax DSE 5.1.20" showing a network diagram with nodes labeled: Tagimbyba, Tegimbera, Nodobius, Argyreobius, and Drusobius.
 - RIGGITYREKT** (Hier à 21:14): I have a 5 node datacenter, 4 nodes are on dse version 5.1.20, one is on dse5.0.15. I am doing some mixed version testing for a class and the one node that is 5.0.15 is coming up as an analytics workload. I dont have /etc/default/dse, instead I am using /etc/init.d/dse-cassandra. how do i make that node start in cassandra workload, not in analytics?
@here
 - RIGGITYREKT** (Hier à 23:39): Okay I found out my issue, when i started DSE 5.0.15 it had endpointsnitch set to DseSimpleSnitch, the rest of my cluster is using PropertyFileSnitch, when i change it to PropertyFileSnitch, it still uses the simple snitch config. looking at the docs i see there is a way to go to GossipingPropertyFileSnitch, but i need the property file one. I can wipe this dbs, do anything with this node to get this done. how do i fix this?
@here
 - Erick Ramirez** (Aujourd'hui à 02:19): Okay I found out my issue, when i started DSE 5.0.15 it had endpointsnitch set to DseSimpleSnitch, the rest...
mixed versions isn't supported and you're guaranteed to run into weird issues that will cause further problems down the track
 - Cedrick Lunen** (Aujourd'hui à 09:01): When you start a node you have parameters -k for analytics, -g for graph and -s for search. To remove analytics check and remove -k
- Right sidebar:** User list and activity.
 - PRESENTER — 1**: David Jones-Gilardi
 - HELPER — 7**: 012345, AaronP, B1nary, Chelsea Navo, Jeremy Hanna, John Sanda, Patrick_McFadin
 - EN LIGNE — 560**: -samu-, 6304-42JB, Aahlya, Abdurahim, abhi3pathi, Abhiis.s, Abhineet, Abirsh

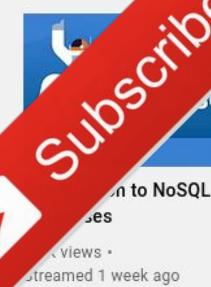
dtsx.io/discord



Datastax Developers Discord (18k+)



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177 views • 2 weeks ago

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496 views • Streamed 2 weeks ago

Build your own TikTok clone!
1.9K views • Streamed 3 weeks ago

Build your own TikTok Clone!
4K views • Streamed 3 weeks ago

How to use the Connect Driver in Astra DB
113 views • 4 weeks ago

How to use the CQL Console in Astra DB
39 views • 4 weeks ago



How to create an Authentication Token in...
37 views • 4 weeks ago

How to use the Data Loader in Astra DB
62 views • 4 weeks ago

Astra DB Sample App Gallery
36 views • 4 weeks ago

How to use Secure Connect in Astra DB
42 views • 4 weeks ago

Cassandra Day India: CL Room (Workshops)
2.4K views • Streamed 4 weeks ago

Cassandra Day India: RF Room (Talks)
1.3K views • Streamed 1 month ago

Thank You!

