Starburst

dbt Cloud & Starburst Galaxy hands-on workshop

Starburst Academy
v1.0.0

Connection Before Content

Lester Martin - https://about.me/lestermartin

- Educational Engineer @ Starburst
  - Build the content
  - Teach the class
  - Repeat
- 30 years of technology experience
  - Started my journey on a TRS-80 Model III
  - Played most every role, but consider myself a programmer at my core
  - Half of career in transactional systems and the second half in analytical processing
  - A DECADE of “big data” experience to include
    - Trino/Starburst, Hadoop, Hive, Spark
    - NiFi, Kafka, Storm, Flink
    - HBase, MongoDB

Workshop objectives

- Introduce dbt Cloud and Starburst Galaxy
- Review the data lakehouse reference architecture
- Present a data pipeline scenario
- Help YOU build it out across several labs
    - Create Starburst Galaxy account and data catalogs
    - Discover & review the land zone datasets
    - Create dbt Cloud account and connect to Starburst Galaxy
    - Build the structure zone with dbt Cloud models
    - Materialize the consume zone with a joined & aggregated dbt Cloud model
    - Define a Starburst Galaxy data product
    - Commit changes and create a production environment

https://www.getdbt.com/

What is dbt?

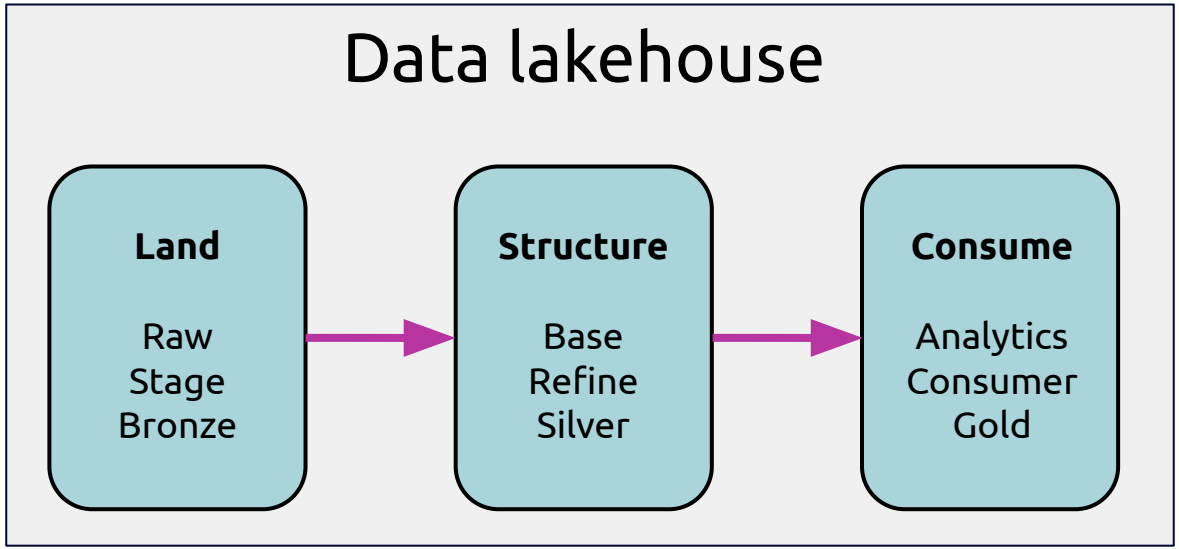
dbt™ is a SQL-first transformation workflow that lets teams quickly and collaboratively deploy analytics code following software engineering best practices like modularity, portability, CI/CD, and documentation. Now anyone on the data team can safely contribute to production-grade data pipelines.

Starburst Galaxy

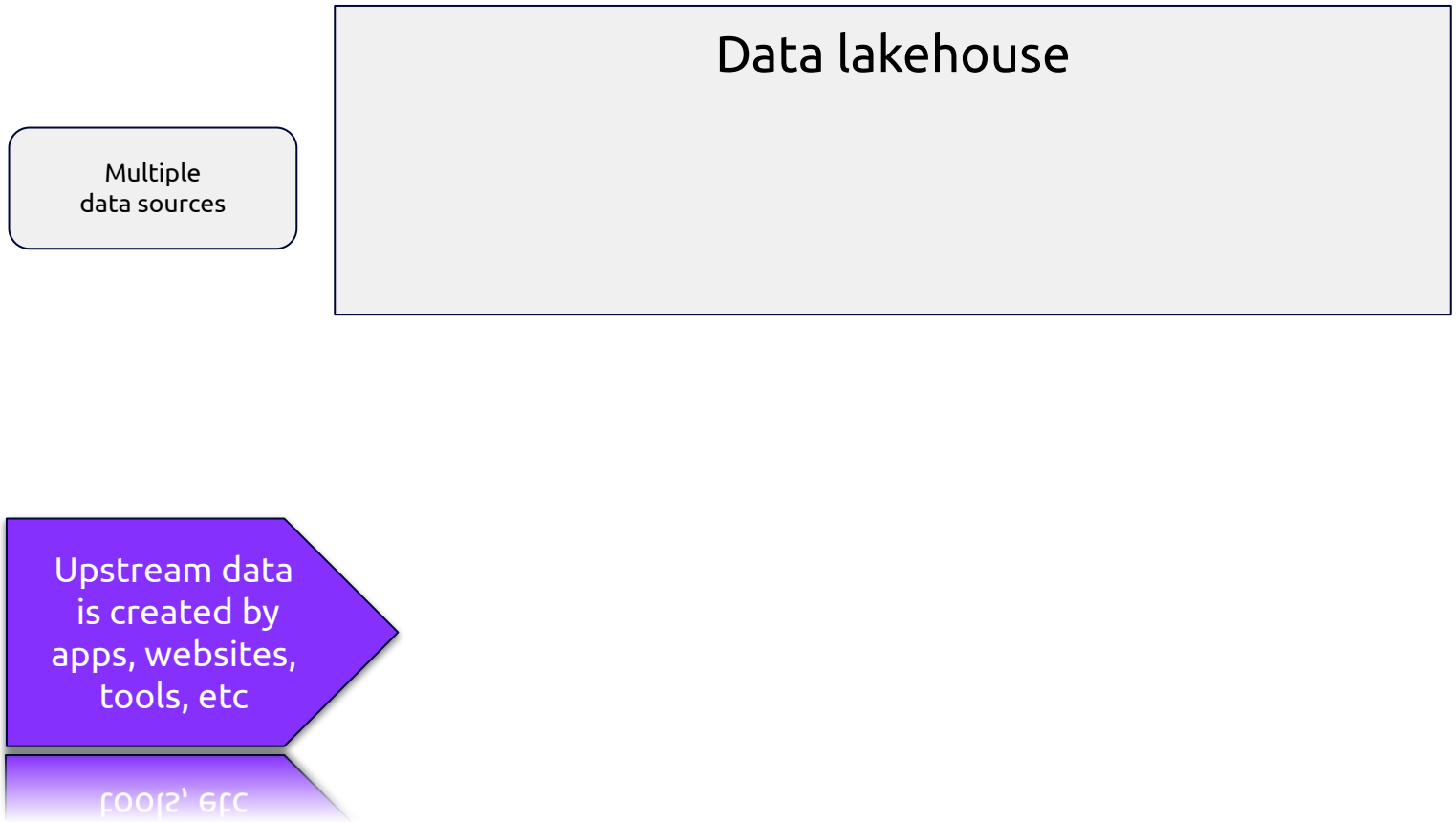
https://www.starburst.io/platform/starburst-galaxy/

Reference architecture

The reference architecture centers around the data lakehouse and how we classify our data assets into distinct zones. Data pipelines populate the zones.



Activities across the architecture



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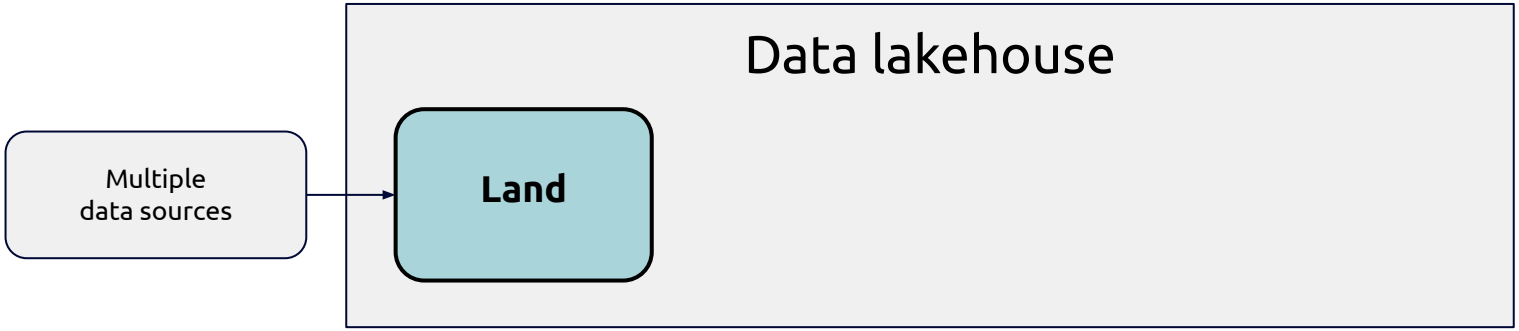

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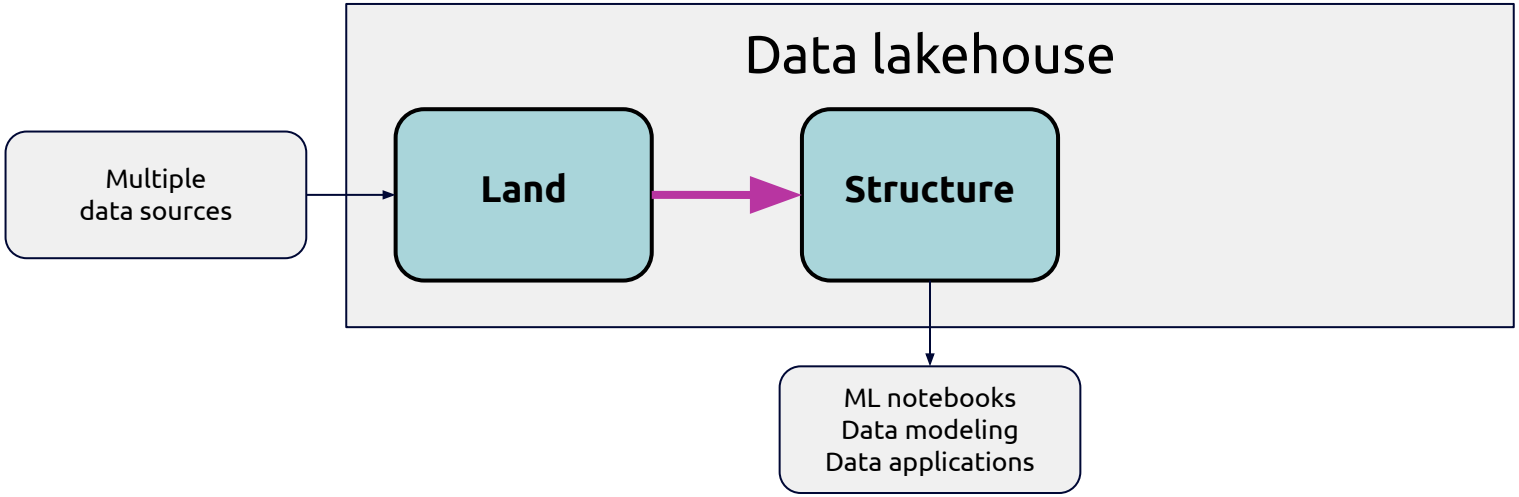

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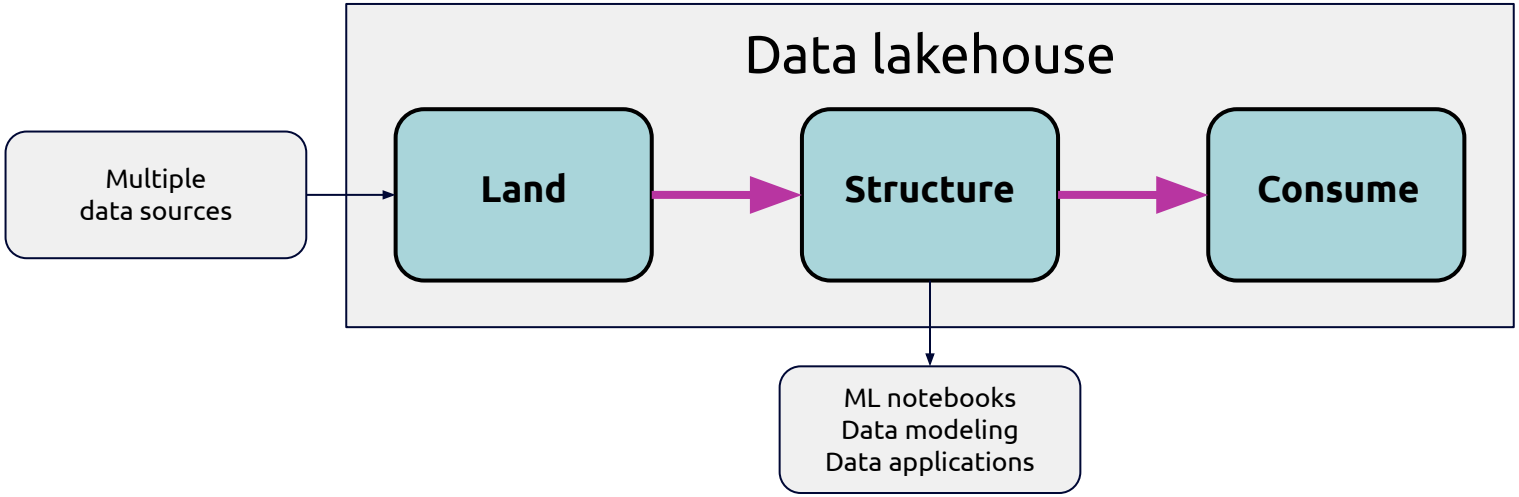

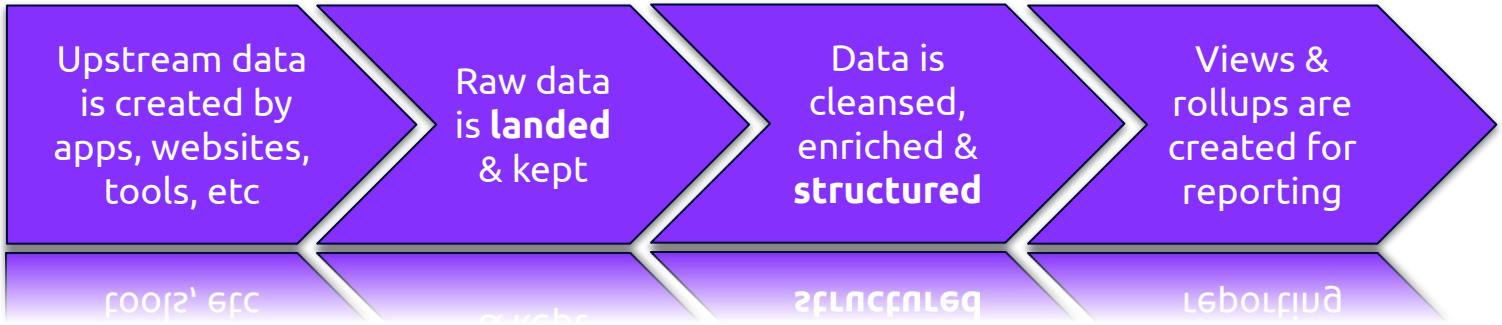

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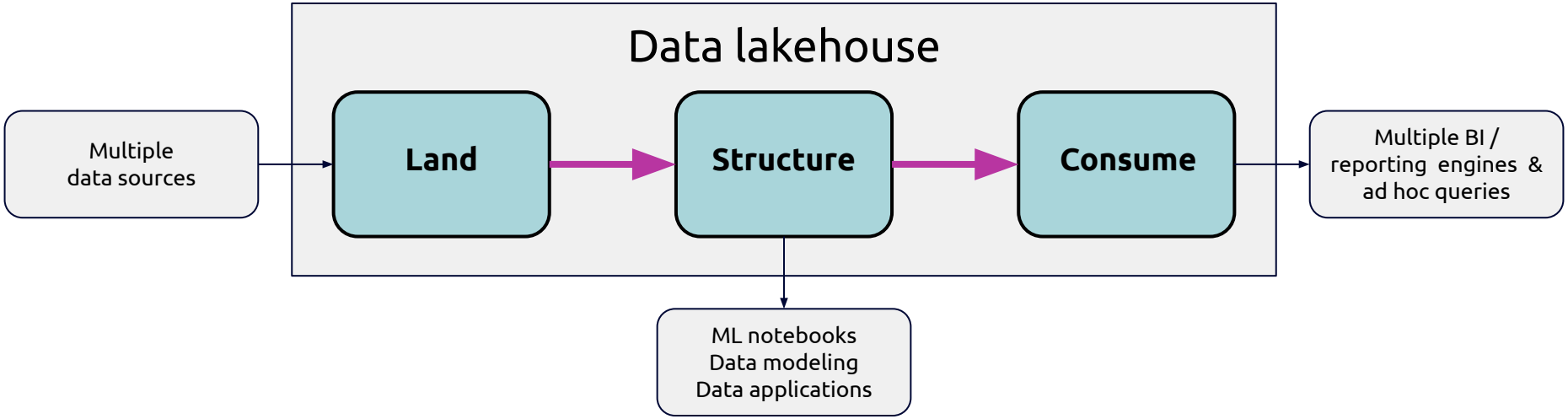

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Workshop tools & technologies

Data lakehouse

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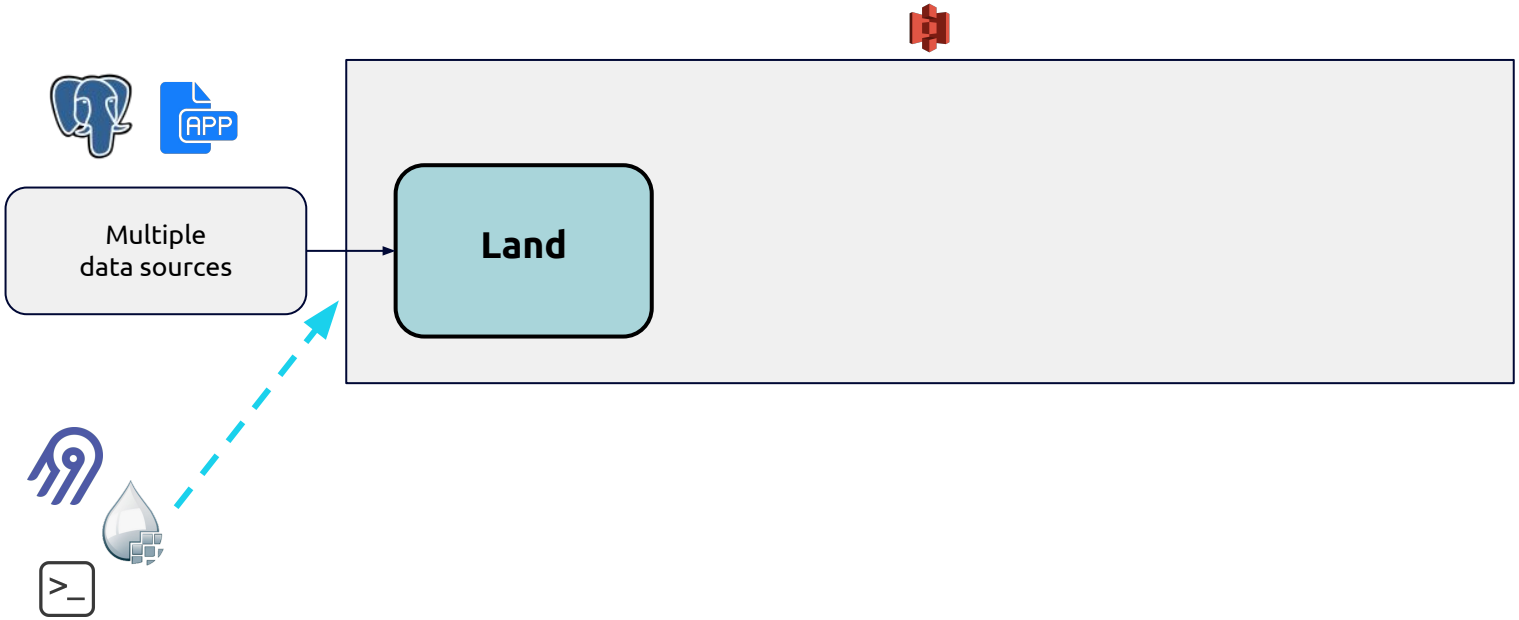
Workshop tools & technologies

Multiple
data sources

Workshop tools & technologies



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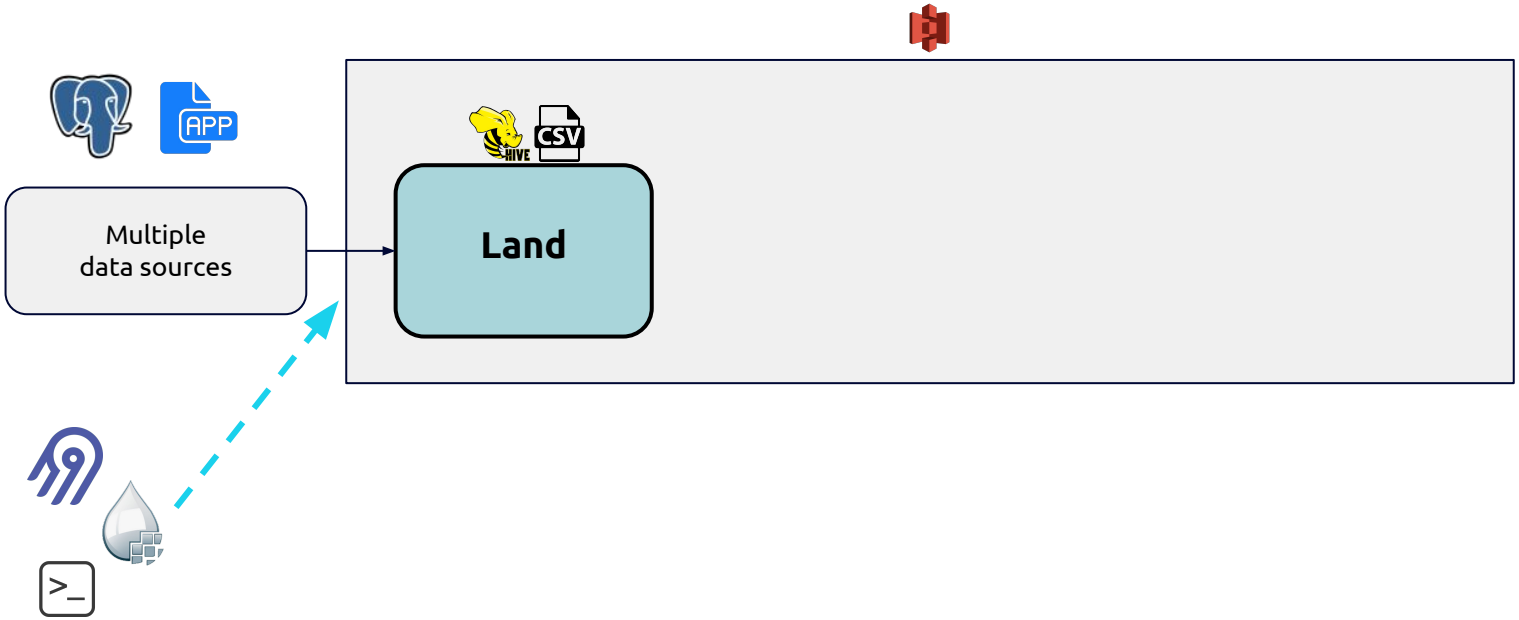

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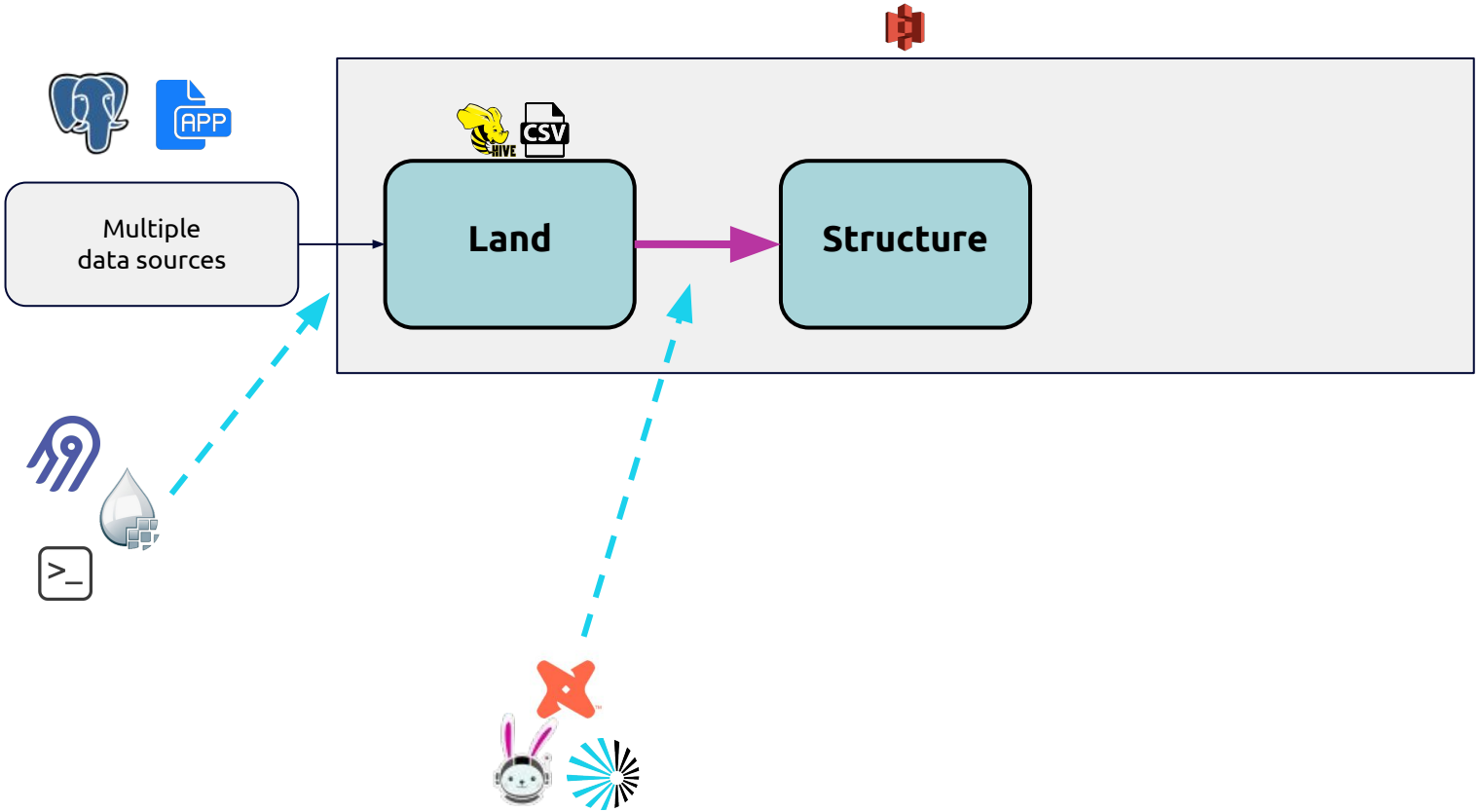

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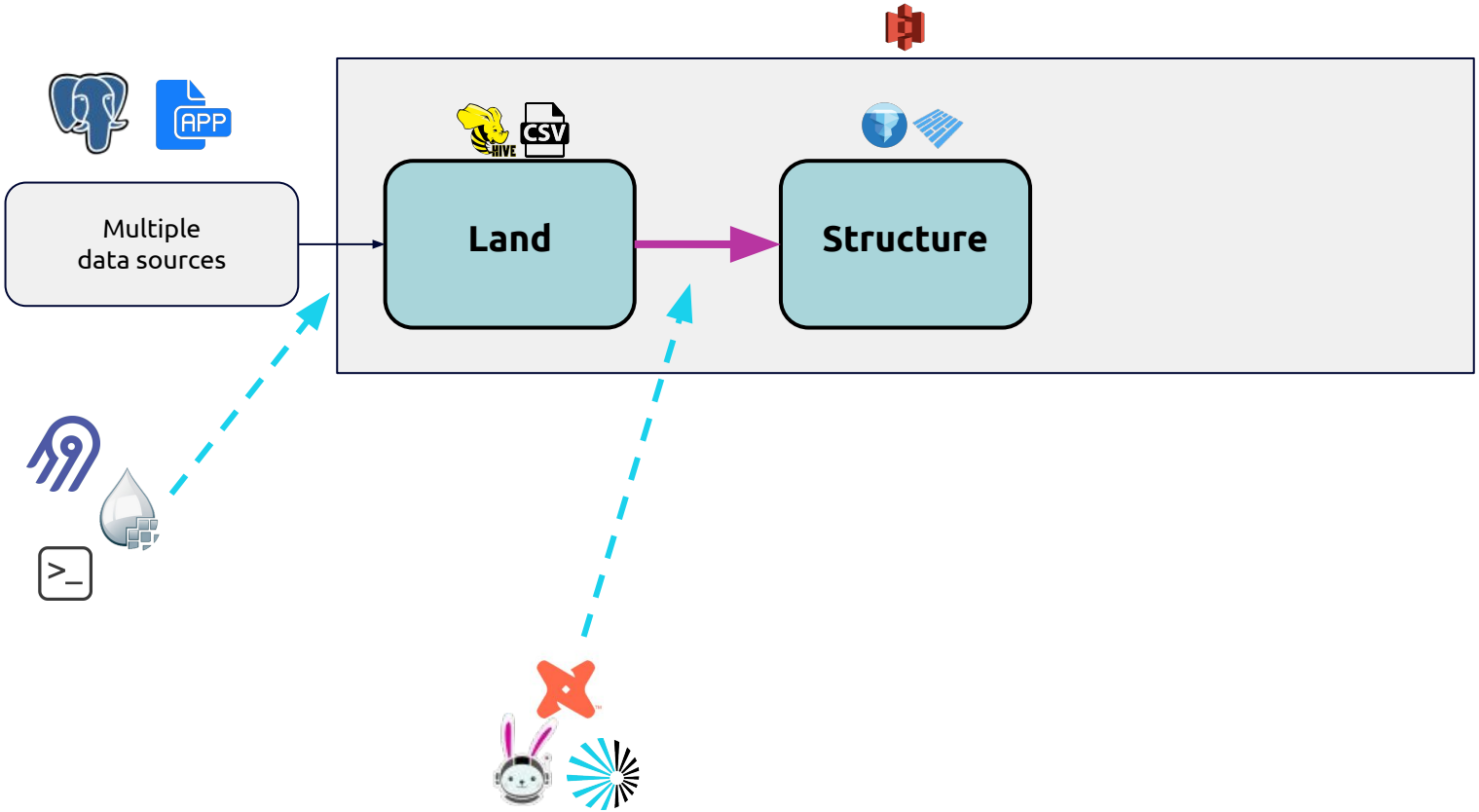

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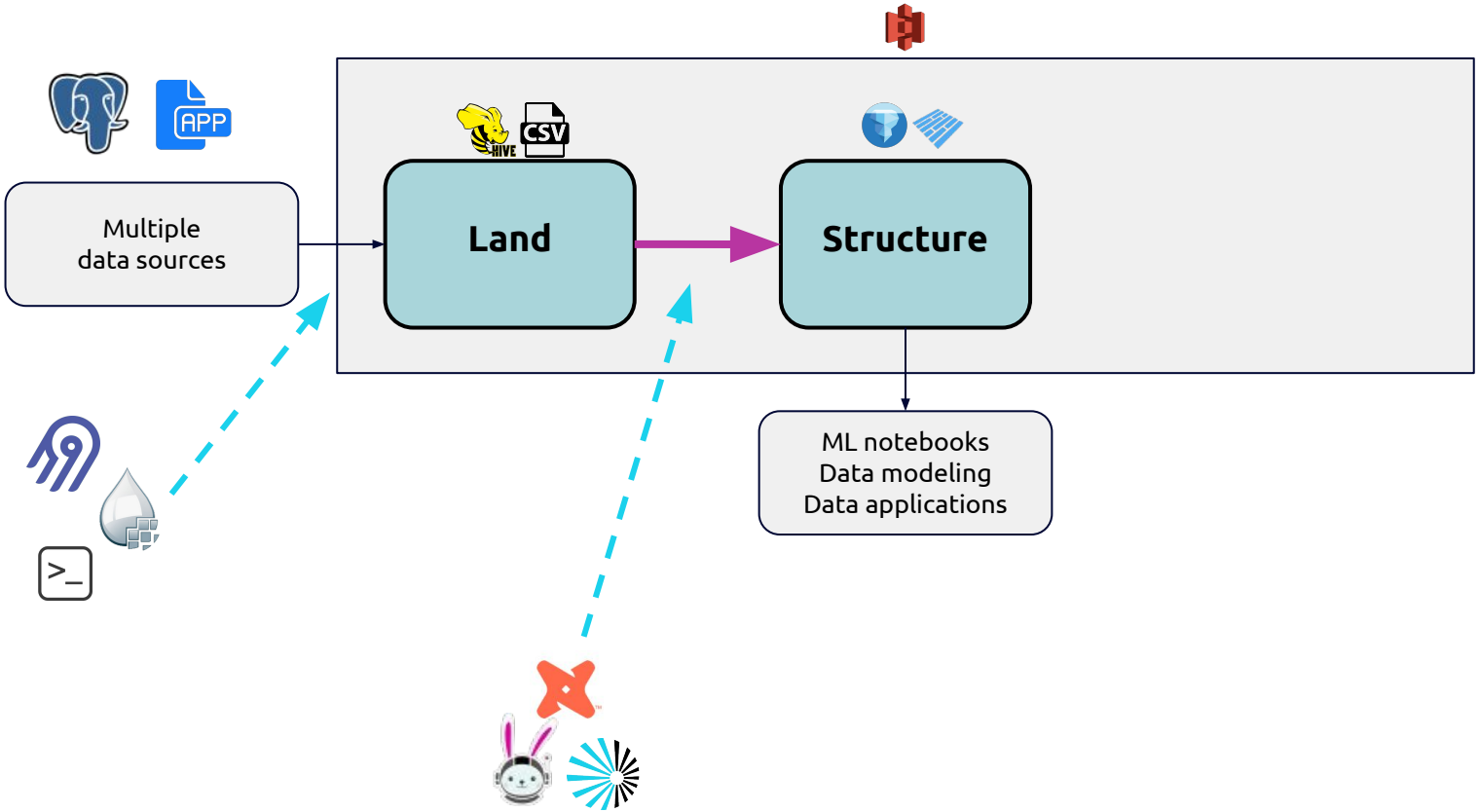

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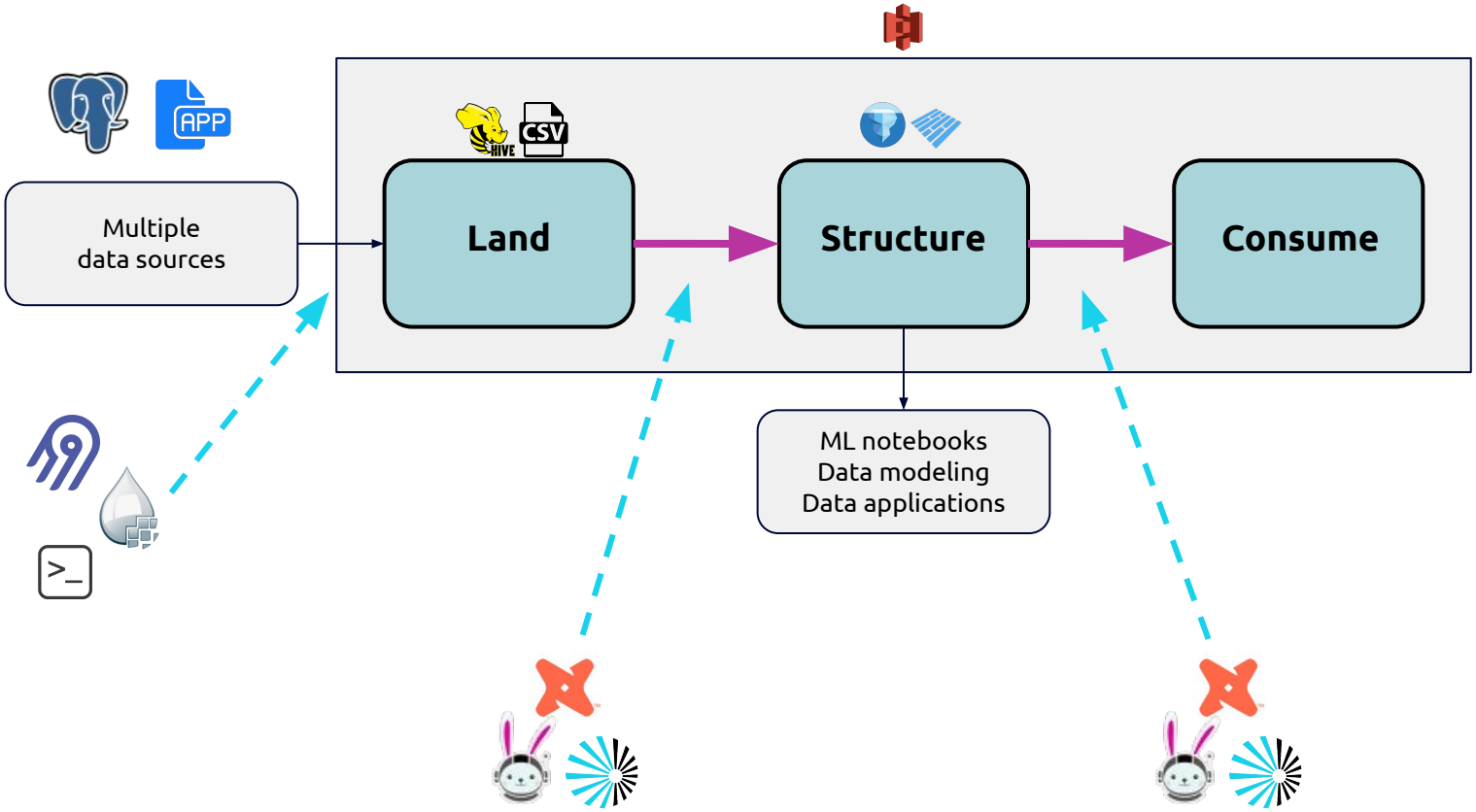

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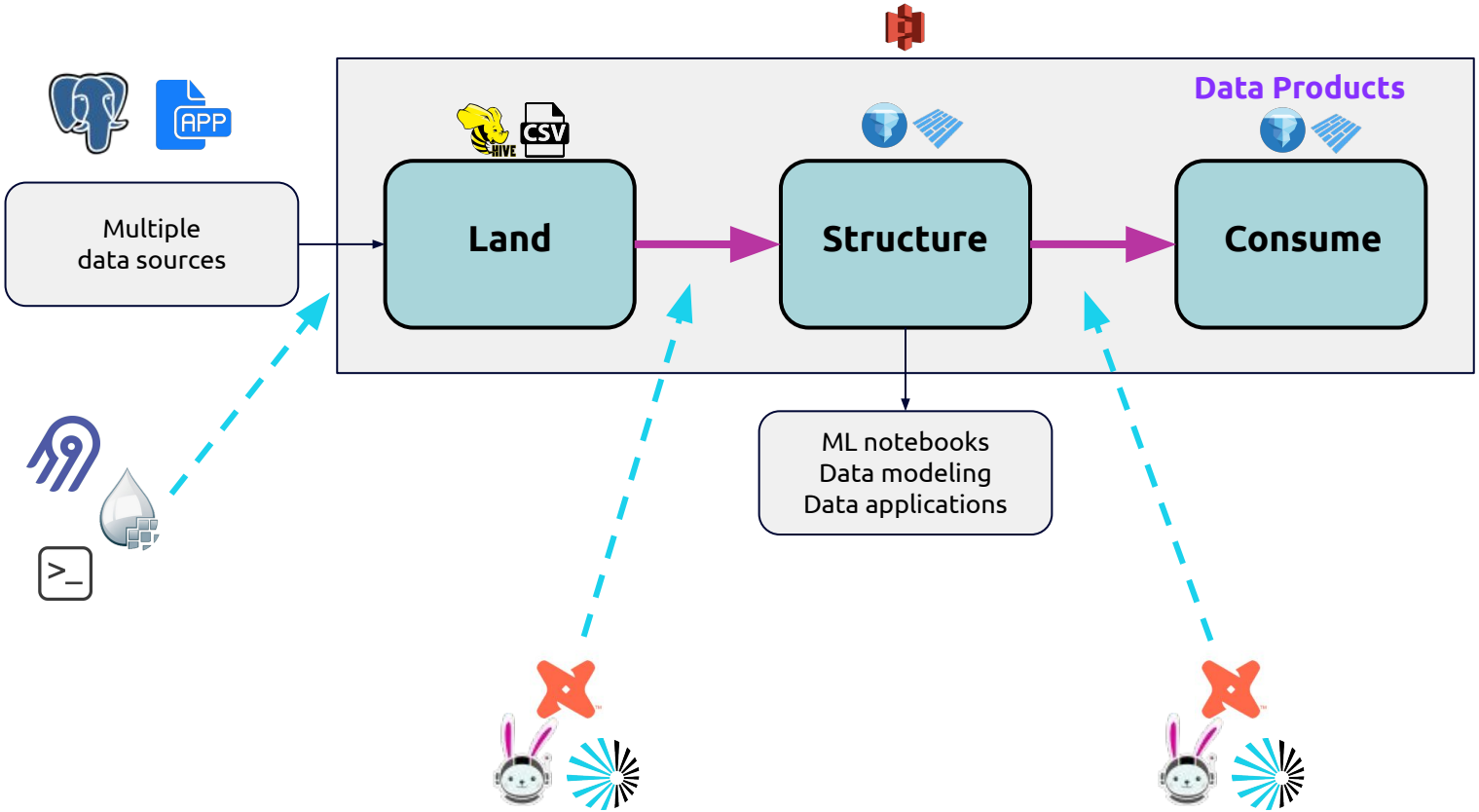

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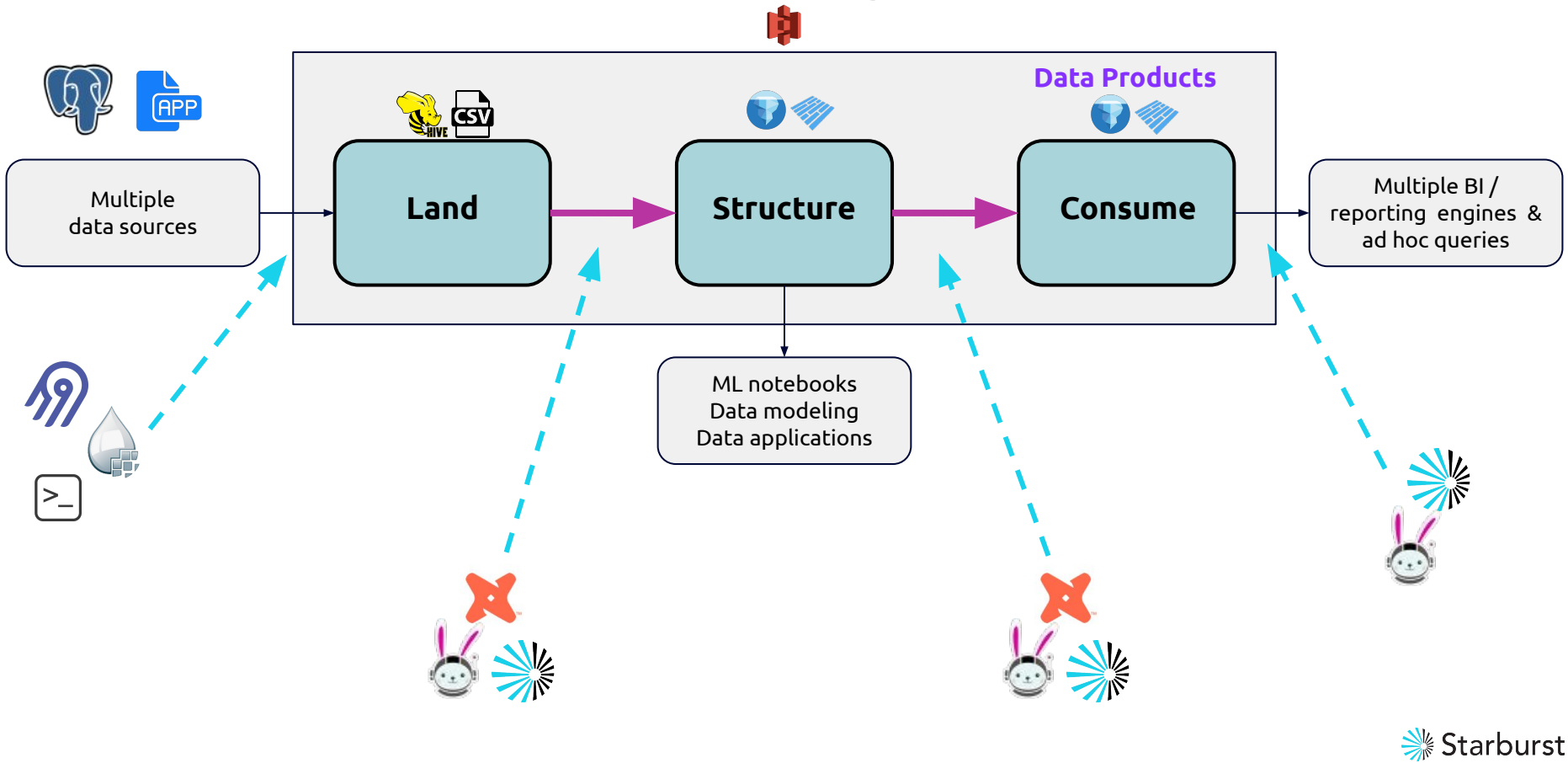

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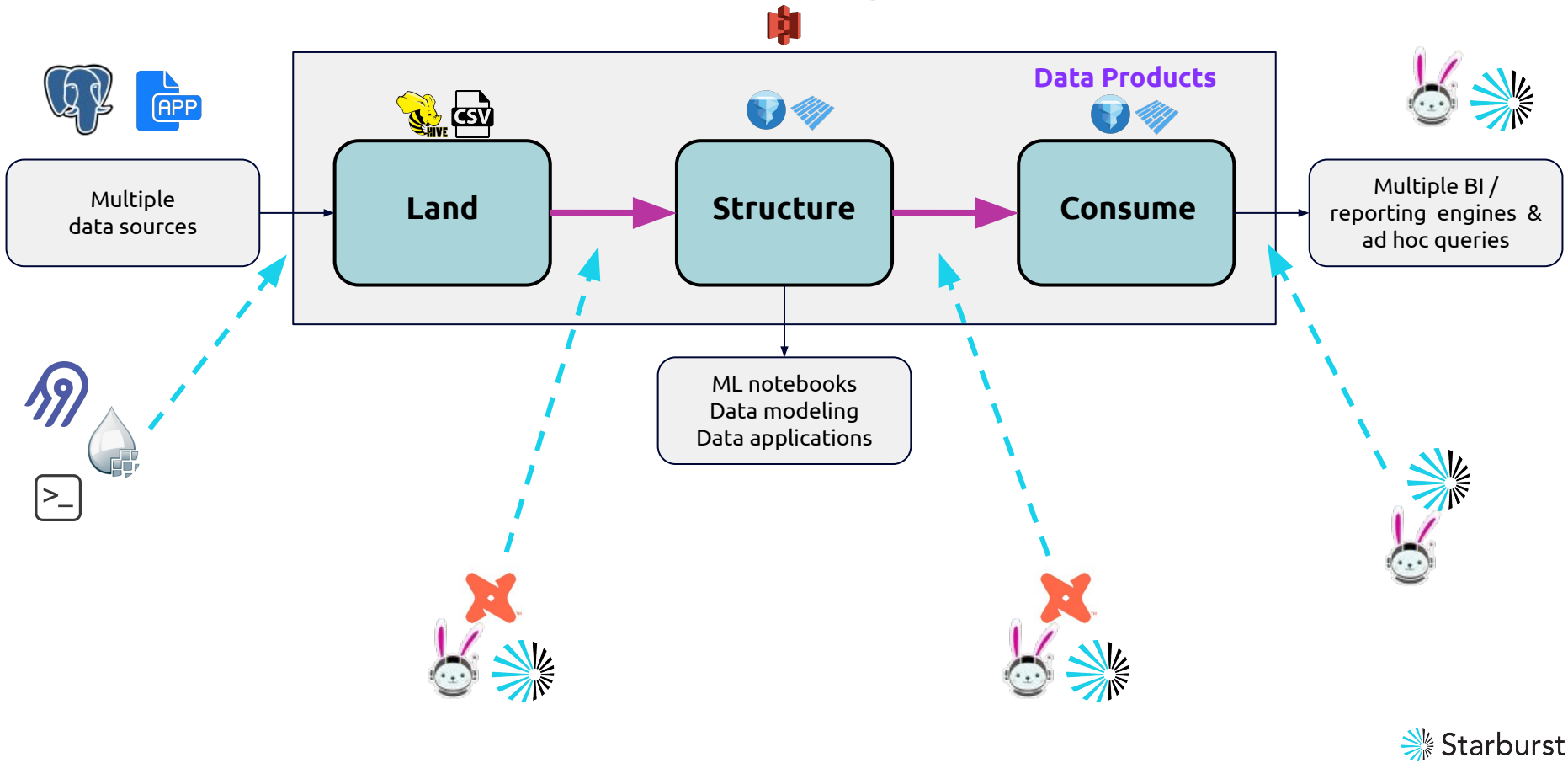

Pipeline scenario (dbt's Jaffle Shop)

- Leverage land zone datasets
  - Customers (PostgreSQL)
  - Orders (PostgreSQL)
  - Payments (Amazon S3)
- Validate, standardize & build structure zone datasets (Apache Iceberg)
- Define a consume zone model using joined/aggregated structure zone datasets *(View)*
- Verify correct land > structure > consume zone data lineage *(dbt Cloud & Starburst Galaxy)*
- Expose curated datasets as data products *(Starburst Galaxy)*

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HANDS-ON LABS!!

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