Cascading
+
Hive

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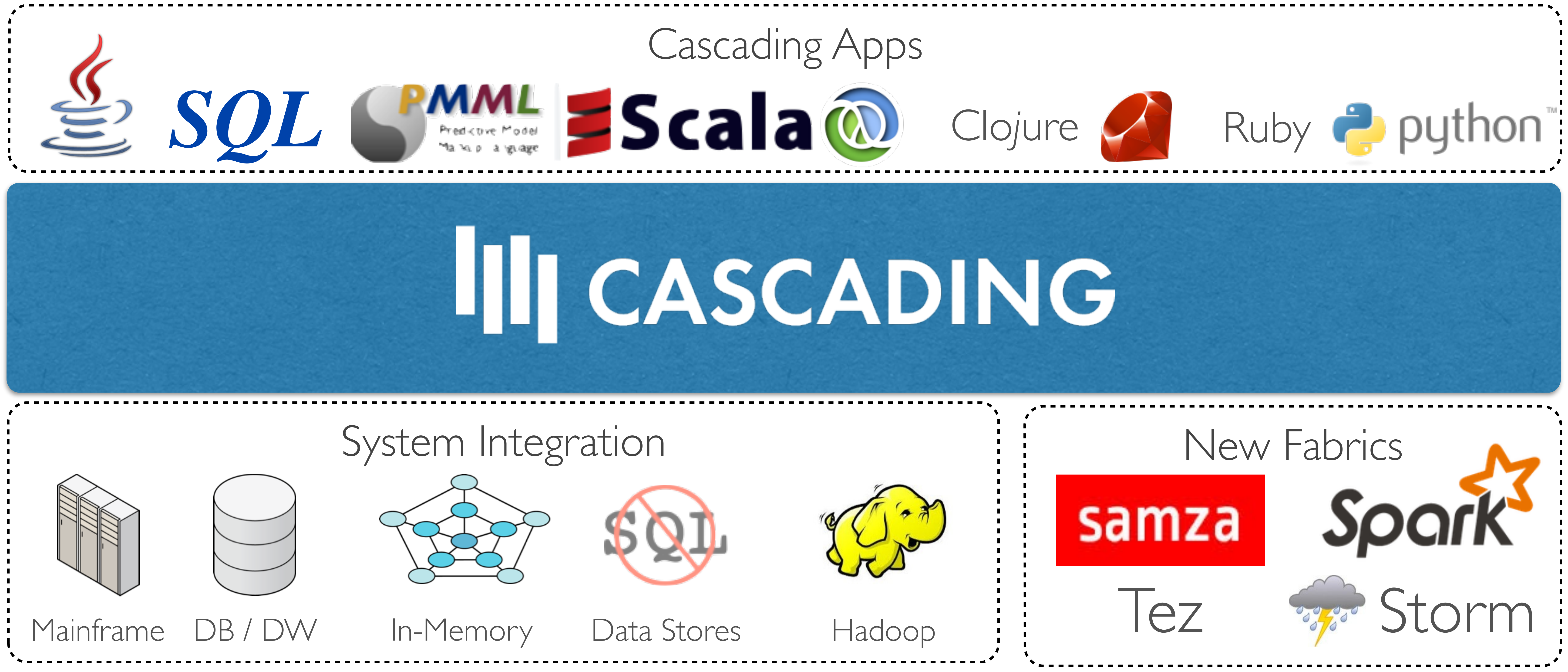
CASCADING - DE-FACTO FOR DATA APPS



- Standard for enterprise data app development
- Your programming language of choice
- Cascading applications that run on MapReduce will also run on Apache Spark, Storm, and …

CASCADING-HIVE

- Cascading-Hive provides integration between Cascading and Apache Hive.

- This project bridges the gap by making it possible to read, write and create Hive tables from within Cascading flows and allow Hive queries to participate in a Cascade.

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CASCADING-HIVE

Key Functionality:

- Run Hive queries within a Cascade
- Read from Hive tables within a Cascading Flow
- Write/create Hive tables from a Cascading Flow
- Write/create partitioned Hive tables from a Cascading Flow
- Deconstruct a Hive view into Taps
- Hive Metastore support

CASCADING-HIVE

Key Components:

https://github.com/Cascading/cascading-hive

- HiveTableDescriptor

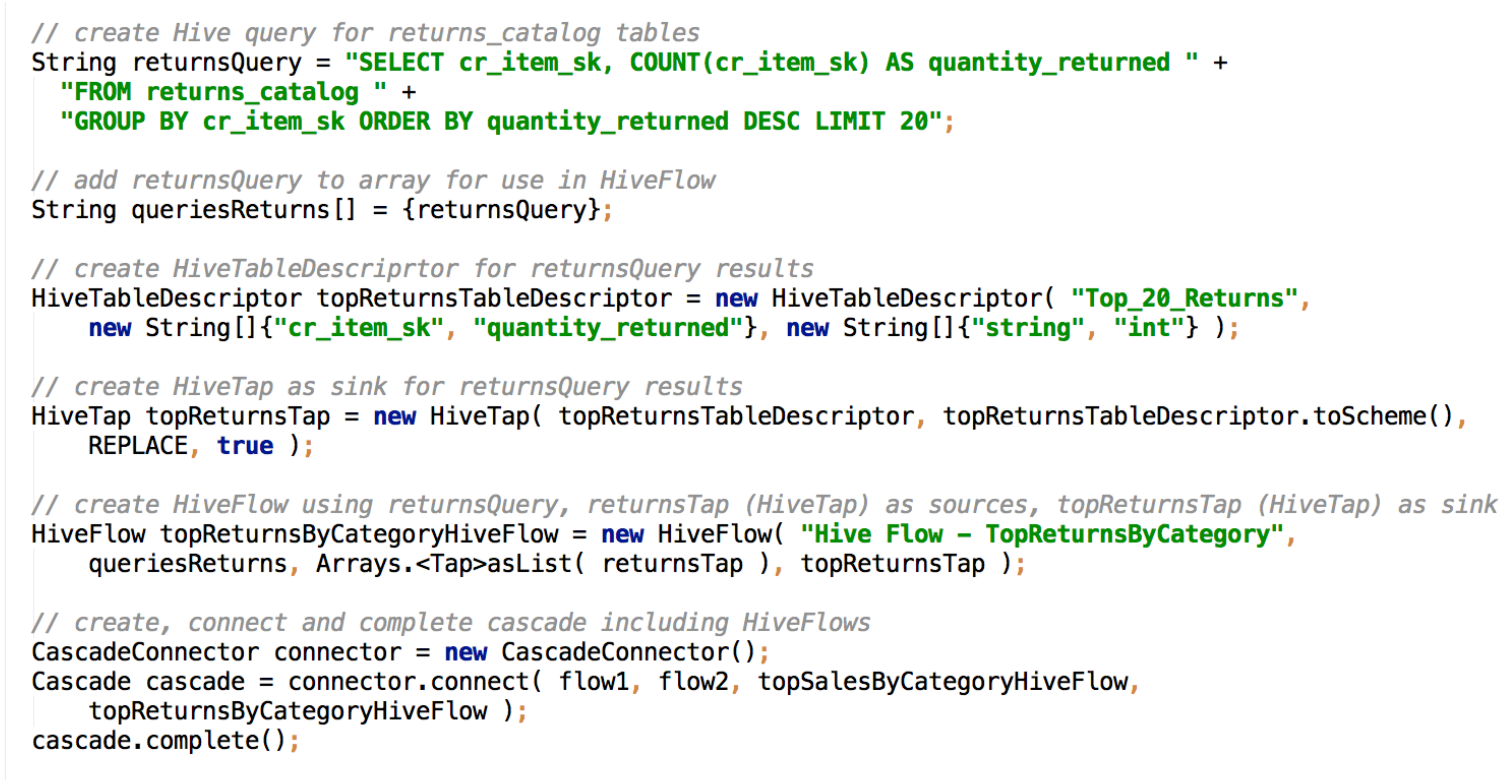
  https://github.com/Cascading/cascading-hive/blob/wip-1.1/src/main/java/cascading/tap/hive/HiveTableDescriptor.java
- HiveTap

  https://github.com/Cascading/cascading-hive/blob/wip-1.1/src/main/java/cascading/tap/hive/HiveTap.java
- HivePartitionTap

  https://github.com/Cascading/cascading-hive/blob/wip-1.1/src/main/java/cascading/tap/hive/HivePartitionTap.java
- HiveFlow

  https://github.com/Cascading/cascading-hive/blob/wip-1.1/src/main/java/cascading/flow/hive/HiveFlow.java

CASCADING-HIVE SOURCE



```java
// create Hive query for returns_catalog tables
String returnsQuery = "SELECT cr_item_sk, COUNT(cr_item_sk) AS quantity_returned " +
 "FROM returns_catalog " +
 "GROUP BY cr_item_sk ORDER BY quantity_returned DESC LIMIT 20";

// add returnsQuery to array for use in HiveFlow
String queriesReturns[] = {returnsQuery};

// create HiveTableDescriprtor for returnsQuery results
HiveTableDescriptor topReturnsTableDescriptor = new HiveTableDescriptor( "Top_20_Returns",
  new String[]{"cr_item_sk", "quantity_returned"}, new String[]{"string", "int"} );

// create HiveTap as sink for returnsQuery results
HiveTap topReturnsTap = new HiveTap( topReturnsTableDescriptor, topReturnsTableDescriptor.toScheme(),
  REPLACE, true );

// create HiveFlow using returnsQuery, returnsTap (HiveTap) as sources, topReturnsTap (HiveTap) as sink
HiveFlow topReturnsByCategoryHiveFlow = new HiveFlow( "Hive Flow - TopReturnsByCategory",
  queriesReturns, Arrays.<Tap>asList( returnsTap ), topReturnsTap );

// create, connect and complete cascade including HiveFlows
CascadeConnector connector = new CascadeConnector();
Cascade cascade = connector.connect( flow1, flow2, topSalesByCategoryHiveFlow,
  topReturnsByCategoryHiveFlow );
cascade.complete();
```

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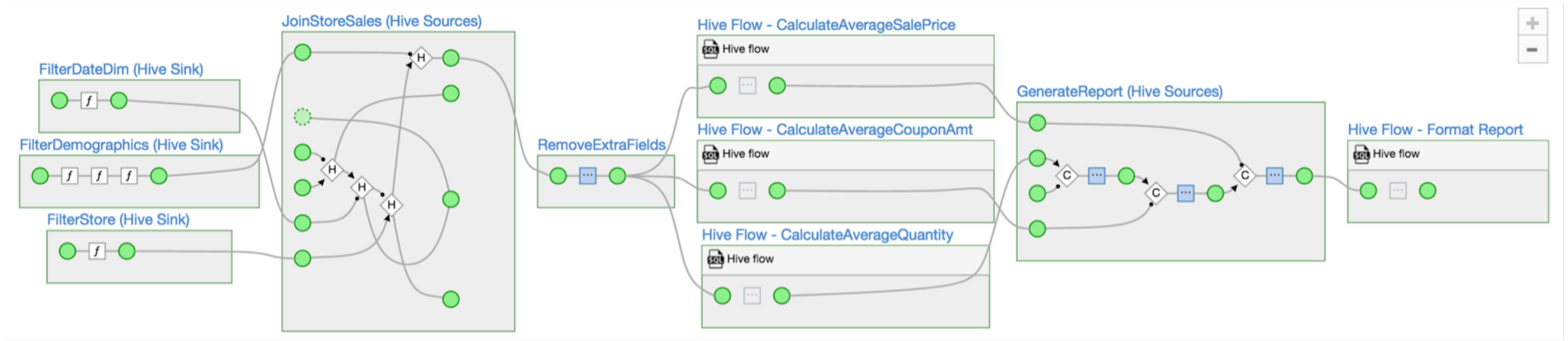
DRIVEN FOR HIVE: OPERATIONAL VISIBILITY FOR YOUR HIVE APPS


FilterDateDim (Hive Sink)
FilterDemographics (Hive Sink)
FilterStore (Hive Sink)
JoinStoreSales (Hive Sources)
RemoveExtraFields
Hive Flow - CalculateAverageSalePrice
Hive flow
Hive Flow - CalculateAverageCouponAmt
Hive flow
Hive Flow - CalculateAverageQuantity
Hive flow
GenerateReport (Hive Sources)
Hive Flow - Format Report
Hive flow

- Understand the anatomy of your Hive app
- Track execution of queries as single business process
- Identify outlier behavior by comparison with historical runs
- Analyze rich operational meta-data
- Correlate Hive app behavior with other events on cluster

Thank You

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