



Pig / PIG-4963

Add a Bloom join

Details

Type: + New Feature
Priority: Major
Affects Version/s: None
Component/s: None
Labels: None
Hadoop Flags: Reviewed

Status: CLOSED
Resolution: Fixed
Fix Version/s: 0.17.0

Description

In [PIG-4925](#), added option to pass BloomFilter as a scalar to bloom function. But found that actually using it for big data which required huge vector size was very inefficient and led to OOM.

I had initially calculated that it would take around 12MB bytearray for 100 million vectorsize $(100000000 + 7) / 8 = 12500000$ bytes) and that would be the scalar value broadcasted and would not take much space. But problem is 12MB was written out for every input record with BuildBloom\$Initial before the aggregation happens and we arrive at the final BloomFilter vector. And with POPartialAgg it runs into OOM issues.

If we added a bloom join implementation, which can be combined with hash or skewed join it would boost performance for a lot of jobs. Bloom filter of the smaller tables can be sent to the bigger tables as scalar and data filtered before hash or skewed join is used.