Broadcast stage(end node id 38): store, 10000FileScan->Filter->BroadcastExchange Broadcast stage(end_node_id 41): date_dim,10000FileScan->Filter->Project->BroadcastExchange Broadcast stage(end node id 15): date dim,10000FileScan->Filter->Project->BroadcastExchange First stage (end node id 22): File Scan store,0FileScan->Filter->ExchangeHashpartitioning First stage (end node id 30): File Scan store sales,9130.4FileScan->Filter->BroadcastHashJoin->Project->BroadcastHashJoin->Project->HashAggregate->ExchangeHashpartitioning First stage (end node id 6): File Scan store sales,9130.4FileScan->Filter->BroadcastHashJoin->Project->HashAggregate->ExchangeHashpartitioning NormalStage (end_node_id 4): length of beginNodesToChains is 1 [1,0,0,1,0,0,0,0]Chain 0 is : HashAggregate(keys=[s_state#193, s_county#194, spark_grouping_id#192L], functions=[sum(ss_net_profit#30)])

HashAggregate->ExchangeHashpartitioning NormalStage (end_node_id 0): length of beginNodesToChains is 1 [1,0,1,0,1,0,0,0]Chain 0 is: Sort [w1#207 ASC NULLS FIRST, w2#208 ASC NULLS FIRST, w3#209 DESC NULLS LAST], false, 0 Sort->Empty->Project->TakeOrderedAndProject