Broadcast stage(end node id 33): store,10000FileScan->Filter->BroadcastExchange First stage (end_node_id 11): File Scan store_sales,15217.4FileScan->Filter->BroadcastHashJoin->Project->BroadcastHashJoin->Project->ExchangeHashpartitioning Broadcast stage(end node id 30): customer address,10000FileScan->Filter->BroadcastExchange NormalStage (end node id 2): length of beginNodesToChains is 2 Chain 0 is: Sort [ss customer sk#34 ASC NULLS FIRST], false, 0 Sort->SortMergeJoin->Project->BroadcastHashJoin->Project->BroadcastHashJoin->Project->HashAggregate->ExchangeHashpartitioning Chain 1 is: Sort [c customer sk#76 ASC NULLS FIRST], false, 0 Sort->SortMergeJoin->Project->BroadcastHashJoin->Project->BroadcastHashJoin->Project->HashAggregate->ExchangeHashpartitioning NormalStage (end_node_id 0): length of beginNodesToChains is 1 Chain 0 is: HashAggregate(keys=[i brand#62, i brand id#61, i manufact id#67, i manufact#68], functions=[sum(ss ext sales price#46)]) HashAggregate->TakeOrderedAndProject

Broadcast stage(end node id 16): date dim,10000FileScan->Filter->Project->BroadcastExchange

Broadcast stage(end_node_id 22): item,10000FileScan->Filter->Project->BroadcastExchange

First stage (end_node_id 27): File Scan customer,1475.0FileScan->Filter->ExchangeHashpartitioning