

-- số sản phẩm bán và số tiền bán được của từng nhân viên

```
hive> select employee_key,de.first_name,de.last_name,count(quantity),sum(soldAmount)
> from fact_order fo join dim_employees de on fo.employee_key = de.id
> group by employee_key , de.first_name, de.last_name
> ;
WARNING: Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. spark, tez) or using Hive 1.X releases.
Query ID = haolee_2021010601111_69c7c0w-02aa-fc2b-bb67-656ad1bb006
Total jobs = 1
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/usr/local/apache-hive-2.1.0-bin/lib/log4j-slf4j-impl-2.4.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/usr/local/hadoop-2.9.0/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
2021-01-06 08:12:06 Starting to launch local task to process map join; maximum memory = 477626368
2021-01-06 08:12:13 Dump the side-table for tag: 1 with group count: 9 into file: file:/tmp/haolee/bf27ed1f-0968-4707-bb30-2d5e45a4c2f2/hive_2021-01-06_08-11-16_887_2252604919856875563-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile01--hashtable
2021-01-06 08:12:13 Uploaded 1 file to: file:/tmp/haolee/bf27ed1f-0968-4707-bb30-2d5e45a4c2f2/hive_2021-01-06_08-11-16_887_2252604919856875563-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile01--hashtable (569 bytes)
2021-01-06 08:12:13 End of local task; Time Taken: 8.887 sec.
Execution completed successfully
MapReduce local task succeeded
Launching Job 1 out of 1
Number of reduce tasks not specified. Estimated from input data size: 1
In order to change the average load for a reducer (in bytes):
  set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
  set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
  set mapreduce.job.reducers=<number>
Job running in-process (local Hadoop)
2021-01-06 08:12:18,755 Stage-2 map = 0%, reduce = 0%
2021-01-06 08:12:19,798 Stage-2 map = 100%, reduce = 100%
Ended Job = job_local159237195_0001
MapReduce Jobs Launched:
Stage-Stage-2: HDFS Read: 310180 HDFS Write: 0 SUCCESS
Total MapReduce CPU Time Spent: 0 msec
OK
1 Nancy Freehafer 34 44510.5
2 Andrew Cencini 12 5995.0
3 Jan Kotas 34 11575.0
4 Mariya Sergienko 20 12556.0
5 Michael Weipper 8 12756.0
6 Robert Jure 8 7573.0
7 Laura Giussani 2 1360.0
8 Anne Hellung-Larsen 20 39948.5
Time taken: 62.919 seconds, Fetched: 8 row(s)
```

--số lượng bán được của từng sản phẩm

```
hive> select dp.product_name ,count(fo.quantity)
> from fact_order fo join dim_products dp on fo.Product_key = dp.id
> group by dp.product_name
> ;
WARNING: Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. spark, tez) or using Hive 1.X releases.
Query ID = haolee_2021010601111_4da13cd-30b1-4d2d-80c1-df55fa69f953
Total jobs = 1
SLF4J: Class path contains multiple SLF4J bindings.
SLF4J: Found binding in [jar:file:/usr/local/apache-hive-2.1.0-bin/lib/log4j-slf4j-impl-2.4.1.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: Found binding in [jar:file:/usr/local/hadoop-2.9.0/share/hadoop/common/lib/slf4j-log4j12-1.7.25.jar!/org/slf4j/impl/StaticLoggerBinder.class]
SLF4J: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
SLF4J: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
2021-01-06 08:14:33 Starting to launch local task to process map join; maximum memory = 477626368
2021-01-06 08:14:41 Dump the side-table for tag: 1 with group count: 45 into file: file:/tmp/haolee/bf27ed1f-0968-4707-bb30-2d5e45a4c2f2/hive_2021-01-06_08-14-12_002_2802320652982397612-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile11--hashtable
2021-01-06 08:14:42 Uploaded 1 file to: file:/tmp/haolee/bf27ed1f-0968-4707-bb30-2d5e45a4c2f2/hive_2021-01-06_08-14-12_002_2802320652982397612-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile11--hashtable (2421 bytes)
2021-01-06 08:14:42 End of local task; Time Taken: 8.525 sec.
Execution completed successfully
MapReduce local task succeeded
Launching Job 1 out of 1
Number of reduce tasks not specified. Estimated from input data size: 1
In order to change the average load for a reducer (in bytes):
  set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
  set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
  set mapreduce.job.reducers=<number>
Job running in-process (local Hadoop)
2021-01-06 08:14:45,299 Stage-2 map = 0%, reduce = 0%
2021-01-06 08:14:47,389 Stage-2 map = 100%, reduce = 100%
Ended Job = job_local15627719_0002
MapReduce Jobs Launched:
Stage-Stage-2: HDFS Read: 325186 HDFS Write: 0 SUCCESS
Total MapReduce CPU Time Spent: 0 msec
OK
Northind Traders Almonds 2
Northind Traders Beer 6
Northind Traders Boysenberry Spread 4
Northind Traders Cajun Seasoning 4
Northind Traders Chai 4
Northind Traders Chocolate 10
Northind Traders Chocolate Biscuits Mix 8
Northind Traders Clam Chowder 8
Northind Traders Coffee 10
Northind Traders Crab Meat 6
Northind Traders Curry Sauce 8
Northind Traders Dried Apples 4
Northind Traders Dried Pears 4
Northind Traders Dried Plums 8
Northind Traders Fruit Cocktail 2
Northind Traders Snoschni 4
```

-- khách hàng mua nhiều sản phẩm nhất

```

hive>
hive select customer_key,de.first_name,de.last_name,count(quantity)
> from fact_order fo join dim_customers c on fo.customer_key = c.de_id
> group by customer_key , de.first_name, de.last name;
WARNING: Hive-on-MR is deprecated in Hive 2 and may not be available in the future versions. Consider using a different execution engine (i.e. spark, tez) or using Hive 1.X releases.
Query ID = ha0ee_20210106011542_2ba95e07-1f31-4876-a028-f0c873f9deca
Total Spent = 1
slf4j: Class path contains multiple SLF4J bindings.
slf4j: Found binding in [jar:file:/usr/local/hadoop/apache-hive-2.1.0-bin/lib/log4j-slf4j-impl-2.4.1-jar1/org/slf4j/impl/StaticLoggerBinder.class]
slf4j: Found binding in [jar:file:/usr/local/hadoop-2.9.0/share/hadoop/common/lib/slf4j-log4j12-1.7.25-jar1/org/slf4j/impl/StaticLoggerBinder.class]
slf4j: See http://www.slf4j.org/codes.html#multiple_bindings for an explanation.
slf4j: Actual binding is of type [org.apache.logging.slf4j.Log4jLoggerFactory]
2021-01-06 08:15:54 Starting to launch local task to process map join; maximum memory = 47626368
2021-01-06 08:15:58 Dump the side-table for tag: 0 with group count: 15 into file: file:/ha0ee/bf27eddf-0968-4b07-bb30-2d5e45ac2f2f/hive_2021-01-06_08-15-42_307_2741740236549695173-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile1
020--hashtable
2021-01-06 08:15:58 Uploaded 1 file to: file:/tmp/ha0ee/bf27eddf-0968-4b07-bb30-2d5e45ac2f2f/hive_2021-01-06_08-15-42_307_2741740236549695173-1/-local-10005/HashTable-Stage-2/MapJoin-mapfile20--.hashtable (1185 bytes)
2021-01-06 08:15:58 End of local task; Time taken: 4.004 sec.
Execution completed successfully
MapReduce task succeeded
Launching job 3 out of 1
Number of reduce tasks not specified. Estimated from input data size: 1
In order to change the average load for a reducer (in bytes):
set hive.exec.reducers.bytes.per.reducer=<number>
In order to limit the maximum number of reducers:
set hive.exec.reducers.max=<number>
In order to set a constant number of reducers:
set mapreduce.job.reducers=<number>
Job running in-process (local Hadoop)
2021-01-06 08:16:02,377 Stage-2 Map = 100%, reduce = 100%
Ended Job = job_local1261520801_0003
MapReduce jobs Launched:
Stage-Stage-2: HDFS Read: 341322 HDFS Write: 0 SUCCESS
Total MapReduce CPU Time Spent: 0 msec
1 Anna Bedecs 16
2 Thomas Axen 28
3 Christina Lee 28
4 Francisco PáDrez-Glaeta 24
5 Ming Yang Xie 24
6 Elizabeth Andersen 24
7 Sven Mortensen 12
8 Roland Hacker 24
9 Peter Krschne 12
10 John Edwards 8
11 John Rodman 8
12 Run Liu 16
13 Karen Toh 8
14 Amritansh Raghav 16
15 Soo Jang Lee 12
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111
112
113
114
115
116
117
118
119
120
121
122
123
124
125
126
127
128
129
130
131
132
133
134
135
136
137
138
139
140
141
142
143
144
145
146
147
148
149
150
151
152
153
154
155
156
157
158
159
160
161
162
163
164
165
166
167
168
169
170
171
172
173
174
175
176
177
178
179
180
181
182
183
184
185
186
187
188
189
190
191
192
193
194
195
196
197
198
199
200
201
202
203
204
205
206
207
208
209
210
211
212
213
214
215
216
217
218
219
220
221
222
223
224
225
226
227
228
229
230
231
232
233
234
235
236
237
238
239
240
241
242
243
244
245
246
247
248
249
250
251
252
253
254
255
256
257
258
259
260
261
262
263
264
265
266
267
268
269
270
271
272
273
274
275
276
277
278
279
280
281
282
283
284
285
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
312
313
314
315
316
317
318
319
320
321
322
323
324
325
326
327
328
329
330
331
332
333
334
335
336
337
338
339
340
341
342
343
344
345
346
347
348
349
350
351
352
353
354
355
356
357
358
359
360
361
362
363
364
365
366
367
368
369
370
371
372
373
374
375
376
377
378
379
380
381
382
383
384
385
386
387
388
389
390
391
392
393
394
395
396
397
398
399
400
401
402
403
404
405
406
407
408
409
410
411
412
413
414
415
416
417
418
419
420
421
422
423
424
425
426
427
428
429
430
431
432
433
434
435
436
437
438
439
440
441
442
443
444
445
446
447
448
449
450
451
452
453
454
455
456
457
458
459
460
461
462
463
464
465
466
467
468
469
470
471
472
473
474
475
476
477
478
479
480
481
482
483
484
485
486
487
488
489
490
491
492
493
494
495
496
497
498
499
500
501
502
503
504
505
506
507
508
509
510
511
512
513
514
515
516
517
518
519
520
521
522
523
524
525
526
527
528
529
530
531
532
533
534
535
536
537
538
539
540
541
542
543
544
545
546
547
548
549
550
551
552
553
554
555
556
557
558
559
560
561
562
563
564
565
566
567
568
569
570
571
572
573
574
575
576
577
578
579
580
581
582
583
584
585
586
587
588
589
590
591
592
593
594
595
596
597
598
599
600
601
602
603
604
605
606
607
608
609
610
611
612
613
614
615
616
617
618
619
620
621
622
623
624
625
626
627
628
629
630
631
632
633
634
635
636
637
638
639
640
641
642
643
644
645
646
647
648
649
650
651
652
653
654
655
656
657
658
659
660
661
662
663
664
665
666
667
668
669
670
671
672
673
674
675
676
677
678
679
680
681
682
683
684
685
686
687
688
689
690
691
692
693
694
695
696
697
698
699
700
701
702
703
704
705
706
707
708
709
710
711
712
713
714
715
716
717
718
719
720
721
722
723
724
725
726
727
728
729
730
731
732
733
734
735
736
737
738
739
740
741
742
743
744
745
746
747
748
749
750
751
752
753
754
755
756
757
758
759
760
761
762
763
764
765
766
767
768
769
770
771
772
773
774
775
776
777
778
779
780
781
782
783
784
785
786
787
788

```