MQ SMF – Running the Basic Queries

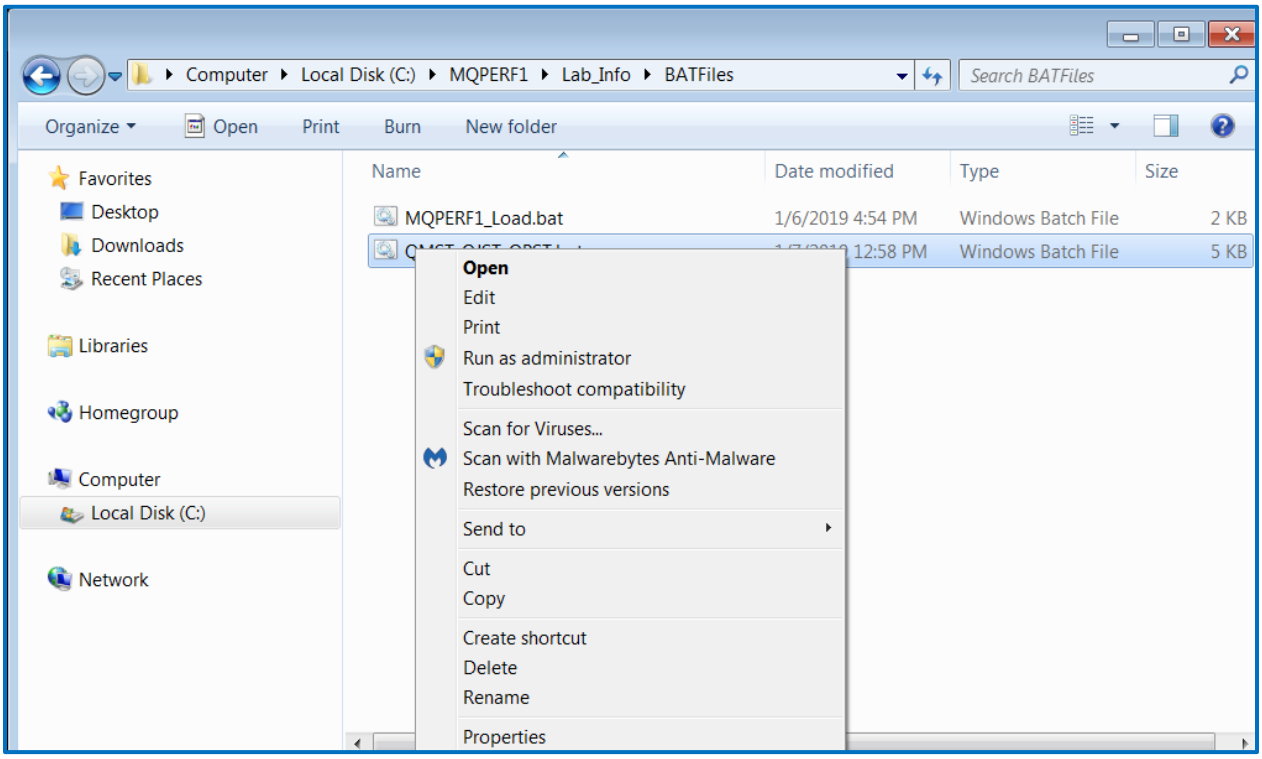
Lab Objective

This lab takes you thru the steps to run some of the primary queries, using both windows batch files.

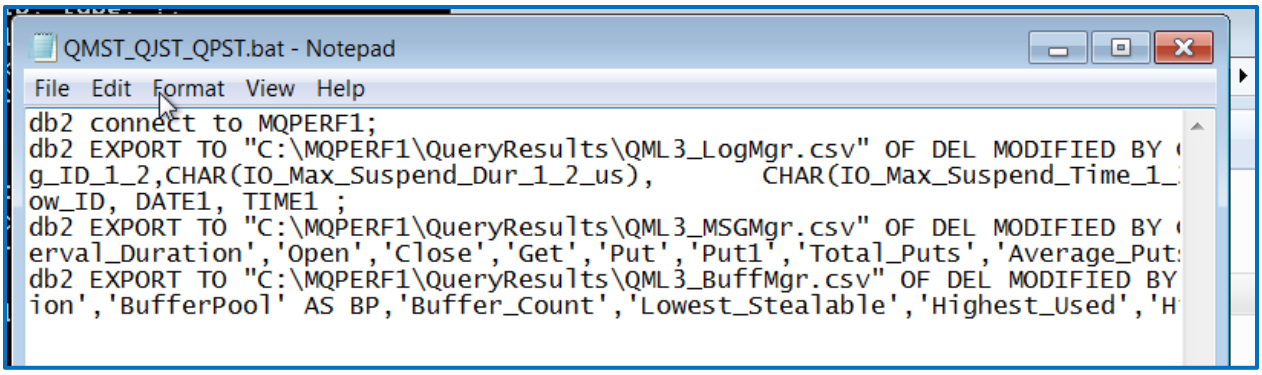
Lab Steps

1) There are standard report queries that I run to extract data from the message manager, the buffer manager and the log manager. The data from those managers is what I think of as the 'big three' – these contain information about where you might need to dive deeper into problem areas or think about adding resources. As this is run so frequently, I have created a bat file to run those reports.

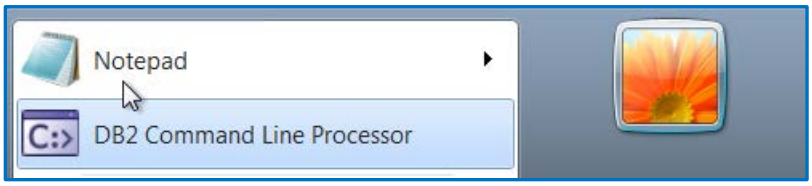
2) On Windows Explorer, navigate to C:\MQPERF1\Lab_Info\BATFiles, right click on the QMST_QJST_QPST.bat member and select 'EDIT'.



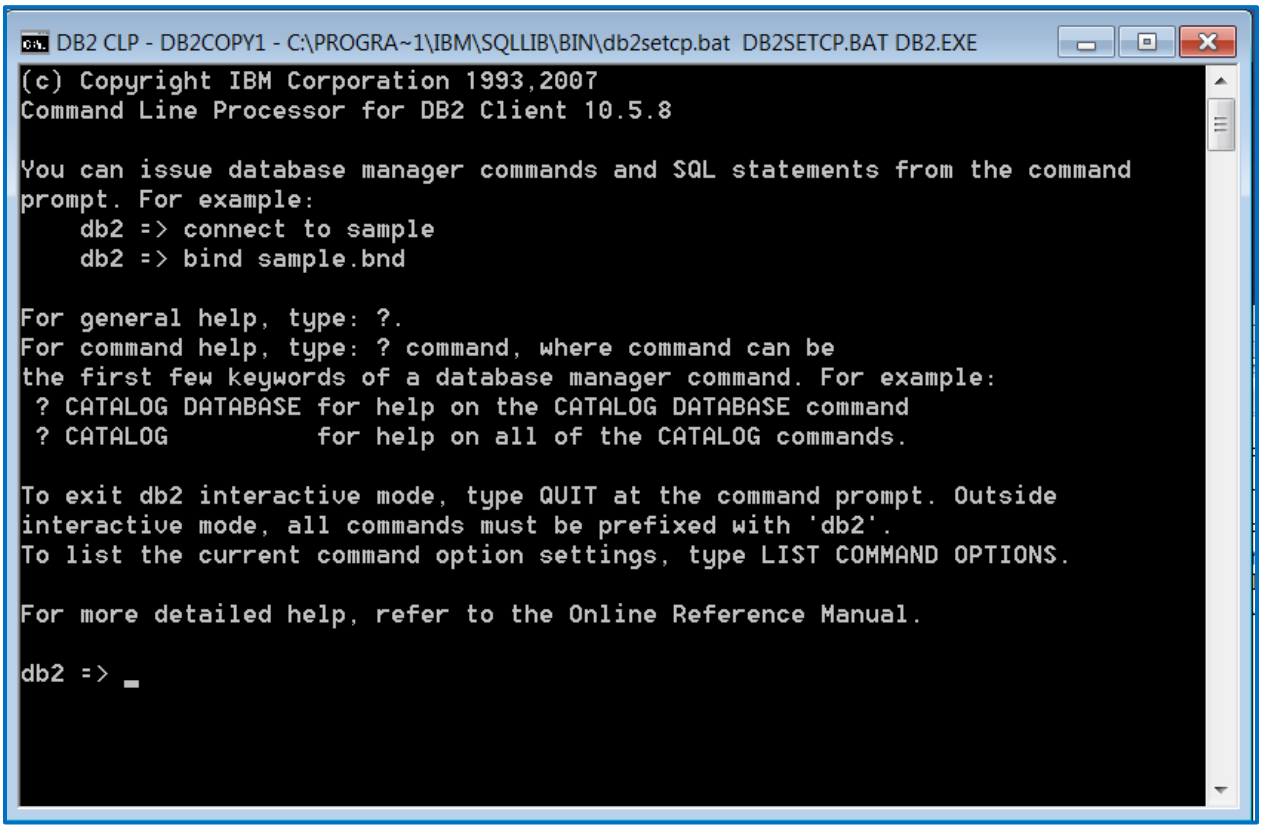
3) The file is not pretty, it looks as follows:



4) Unfortunately, there does not seem to be a way to make this any prettier.
5) From the Windows Start menu, select the DB2 command line processor:



6) The window should open up looking as follows:



7) Enter the connect command to the MQPERF1 database that was created and loaded in the previous labs.

```
db2 => connect to MQPERF1;
```

8) The connection should work, the response will be:

```
   Database Connection Information

 Database server        = DB2/NT64 10.5.8
 SQL authorization ID   = USER1
 Local database alias   = MQPERF1

db2 =>
```

9) Quit the session, BUT DO NOT CLOSE THE PANE!

```
db2 => connect to MQPERF1;

   Database Connection Information

 Database server        = DB2/NT64 10.5.8
 SQL authorization ID   = USER1
 Local database alias   = MQPERF1

db2 => quit
db2 (cont.) => ;
DB20000I  The QUIT command completed successfully.
C:\Program Files\IBM\SQLLIB\BIN>
```

10) Do a change directory to C:\MQPERF1\Lab_Info\BATFiles
11) Execute the QMST_QJST_QPST batch file. The command first connects to the MQPERF1 database. That portion of the of the response looks as follows:

```
C:\MQPERF1\Lab_Info\BATFiles>QMST_QJST_QPST

C:\MQPERF1\Lab_Info\BATFiles>db2 connect to MQPERF1;

   Database Connection Information

 Database server        = DB2/NT64 10.5.8
 SQL authorization ID   = USER1
 Local database alias   = MQPERF1
```

12) The first query builds the log manager report.

```
C:\MQPERF1\Lab_Info\BATFiles>db2 EXPORT TO "C:\MQPERF1\QueryResults\QML3_LogMgr.
csv" OF DEL MODIFIED BY COLDEL, DECPT. Select CHAR(Date) AS DATE1, CHAR(Time) AS
 TIME1, LPAR, QMgr, MQ_Version, CHAR(Interval_Start_Date), Interval_Start_Time,
       CHAR(Interval_Duration),CHAR(Unavailable_Buffer_Count),        CHAR(Log_R
ead_Output_Buffer), CHAR(Log_Read_Active_Log),        CHAR(Log_Read_Archive_Log)
,       CHAR(INT(Log_Read_Output_Buffer + Log_Read_Active_Log + Log_Read_Archive
_Log)) AS TOTAL_LOG_READS,       CHAR(Tape_Contention_Delays), CHAR(Checkpoints)
,CHAR(Log_CI),       CHAR(DEC(ROUND((((Log_CI*4)/(1024.00))/(Interval_Duration))
,2),6,2)) AS MB_PerSecond,       CHAR(IO_Total_Time_1_1_us),       CHAR(IO_Total
_Suspend_Time_1_1_us),CHAR(IO_Max_Duration_1_1_us),IO_Max_Log_ID_1_1,       CHAR
(IO_Max_Suspend_Dur_1_1_us),       CHAR(IO_Max_Suspend_Time_1_1_Date),       IO_
Max_Suspend_Time_1_1_Time,IO_Max_Suspend_Log_ID_1_1,       CHAR(IO_Total_Time_1_
2_us),       CHAR(IO_Total_Suspend_Time_1_2_us),CHAR(IO_Max_Duration_1_2_us),
    IO_Max_Log_ID_1_2,CHAR(IO_Max_Suspend_Dur_1_2_us),       CHAR(IO_Max_Suspend
_Time_1_2_Date),IO_Max_Suspend_Time_1_2_Time,IO_Max_Suspend_Log_ID_2_1,       '2
' AS Row_ID FROM MQSMF.QJST    WHERE (QMgr = 'QML3')   UNION SELECT 'Date','Time
','LPAR', 'QMgr', 'MQ_Version',    'Interval_Start_Date','Interval_Start_Time','
Interval_Duration',    'Unavailable_Buffer_Count','Log_Read_Output_Buffer',    'Lo
g_Read_Active_Log','Log_Read_Archive_Log',    'Total_Log_Reads','Tape_Contention_
Delays','Checkpoints','Log_CI',    'MB_PerSecond', 'IO_Total_Time_1_1_us',    'IO_
Total_Suspend_Time_1_1_us','IO_Max_Duration_1_1_us',    'IO_Max_Log_ID_1_1',    'I
O_Max_Suspend_Dur_1_1_us','IO_Max_Suspend_Time_1_1_Date',    'IO_Max_Suspend_Time
_1_1_Time','IO_Max_Suspend_Log_ID_1_1',    'IO_Total_Time_1_2_us','IO_Total_Suspe
nd_Time_1_2_us',    'IO_Max_Duration_1_2_us','IO_Max_Log_ID_1_2',    'IO_Max_Suspe
nd_Dur_1_2_us','IO_Max_Suspend_Time_1_2_Date',    'IO_Max_Suspend_Time_1_2_Time',
'IO_Max_Suspend_Log_ID_2_1',    '1' AS Row_ID FROM SYSIBM.SYSDUMMY1 ORDER BY Row_
ID, DATE1, TIME1 ;
SQL3104N  The Export utility is beginning to export data to file
"C:\MQPERF1\QueryResults\QML3_LogMgr.csv".

SQL3105N  The Export utility has finished exporting "259" rows.


Number of rows exported: 259
```

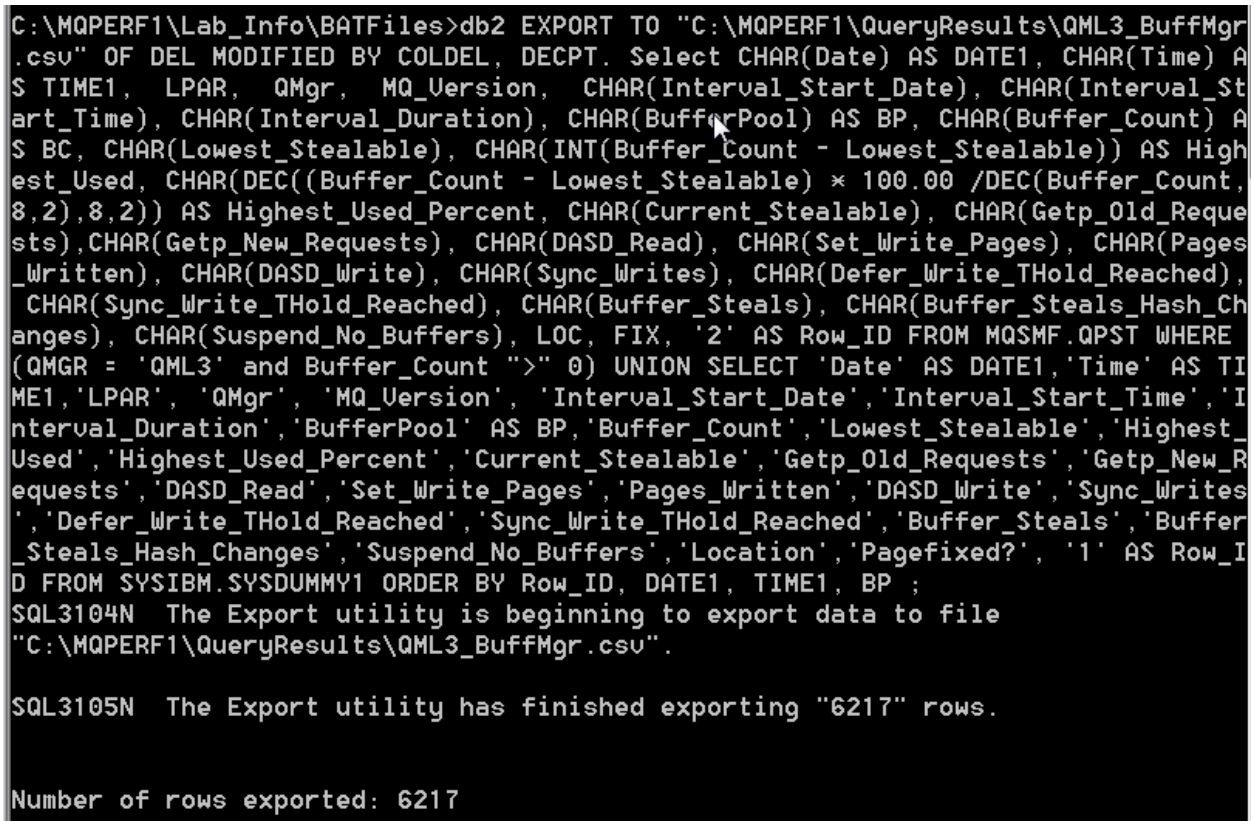
13) The second query creates the message manager report:

```
C:\MQPERF1\Lab_Info\BATFiles>db2 EXPORT TO "C:\MQPERF1\QueryResults\QML3_MSGMgr.
csv" OF DEL MODIFIED BY COLDEL, DECPT.  Select CHAR(Date) AS DATE1, CHAR(Time) A
S TIME1, LPAR, QMgr, MQ_Version, CHAR(Interval_Start_Date),CHAR(Interval_Start_T
ime), CHAR(Interval_Duration), CHAR(Open),CHAR(Close),CHAR(Get),CHAR(Put) ,CHAR(
Put1),CHAR(INT(Put + Put1)) AS Total_Puts,CHAR(DEC((Put + Put1)/(Interval_Durati
on *1.00),8,2)) AS Avg_Puts,CHAR(Inq),CHAR(Inq1),CHAR(Set),CHAR(Endw),CHAR(Close
_Handles),CHAR(Sub),CHAR(SubReq),CHAR(CB),CHAR(CTL),CHAR(Status),CHAR(Pubs),CHAR
(INT(Open + Close + Get + Put + Put1 + Inq + Inq1 + Set + Endw + Close_Handles +
 Sub + SubReq + CB + CTL + Status + Pubs)) AS Total_API_Requests,CHAR(DEC((Open
+ Close + Get + Put + Put1 + Inq + Inq1 + Set + Endw + Close_Handles + Sub + Sub
Req + CB + CTL + Status + Pubs)/(Interval_Duration*1.00),8,2)) AS Avg_APIS, '2'
AS Row_ID FROM MQSMF.QMST WHERE (QMGR = 'QML3') UNION SELECT 'Date' AS DATE1, 'T
ime' AS TIME1, 'LPAR', 'QMgr', 'MQ_Version', 'Interval_Start_Date','Interval_Sta
rt_Time','Interval_Duration','Open','Close','Get','Put','Put1','Total_Puts','Ave
rage_Puts_Per_Sec','Inq','Inq1', 'Set', 'Endw', 'Close_Handles', 'Sub','SubReq',
'CB','CTL','Status','Pubs','Total_API_Requests','Average_APIs_Per_Sec','1' AS Ro
w_ID FROM SYSIBM.SYSDUMMY1 ORDER BY Row_ID, DATE1, TIME1 ;
SQL3104N  The Export utility is beginning to export data to file
"C:\MQPERF1\QueryResults\QML3_MSGMgr.csv".

SQL3105N  The Export utility has finished exporting "259" rows.


Number of rows exported: 259
```

14) The third query creates the bufferpool report:

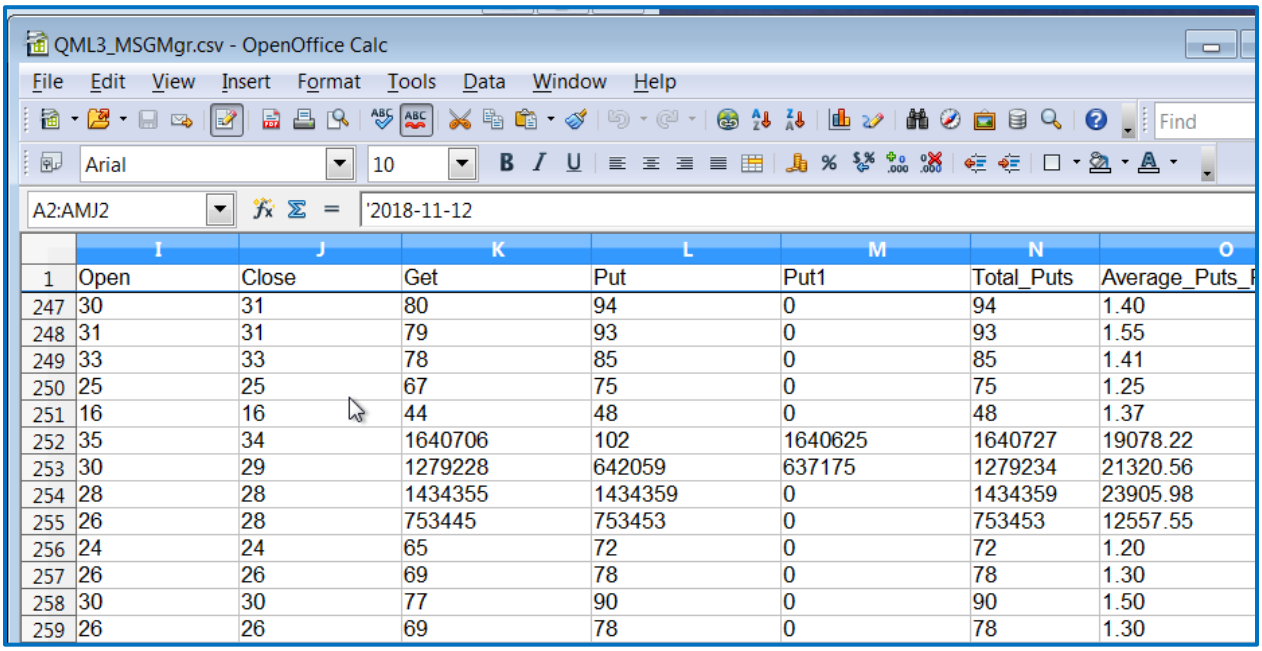


```
C:\MQPERF1\Lab_Info\BATFiles>db2 EXPORT TO "C:\MQPERF1\QueryResults\QML3_BuffMgr
.csv" OF DEL MODIFIED BY COLDEL, DECPT. Select CHAR(Date) AS DATE1, CHAR(Time) A
S TIME1,  LPAR,  QMgr,  MQ_Version,  CHAR(Interval_Start_Date), CHAR(Interval_St
art_Time), CHAR(Interval_Duration), CHAR(BufferPool) AS BP, CHAR(Buffer_Count) A
S BC, CHAR(Lowest_Stealable), CHAR(INT(Buffer_Count - Lowest_Stealable)) AS High
est_Used, CHAR(DEC((Buffer_Count - Lowest_Stealable) * 100.00 /DEC(Buffer_Count,
8,2),8,2)) AS Highest_Used_Percent, CHAR(Current_Stealable), CHAR(Getp_Old_Reque
sts),CHAR(Getp_New_Requests), CHAR(DASD_Read), CHAR(Set_Write_Pages), CHAR(Pages
_Written), CHAR(DASD_Write), CHAR(Sync_Writes), CHAR(Defer_Write_THold_Reached),
 CHAR(Sync_Write_THold_Reached), CHAR(Buffer_Steals), CHAR(Buffer_Steals_Hash_Ch
anges), CHAR(Suspend_No_Buffers), LOC, FIX, '2' AS Row_ID FROM MQSMF.QPST WHERE
(QMGR = 'QML3' and Buffer_Count ">" 0) UNION SELECT 'Date' AS DATE1,'Time' AS TI
ME1,'LPAR', 'QMgr', 'MQ_Version', 'Interval_Start_Date','Interval_Start_Time','I
nterval_Duration','BufferPool' AS BP,'Buffer_Count','Lowest_Stealable','Highest_
Used','Highest_Used_Percent','Current_Stealable','Getp_Old_Requests','Getp_New_R
equests','DASD_Read','Set_Write_Pages','Pages_Written','DASD_Write','Sync_Writes
','Defer_Write_THold_Reached','Sync_Write_THold_Reached','Buffer_Steals','Buffer
_Steals_Hash_Changes','Suspend_No_Buffers','Location','Pagefixed?', '1' AS Row_I
D FROM SYSIBM.SYSDUMMY1 ORDER BY Row_ID, DATE1, TIME1, BP ;
SQL3104N  The Export utility is beginning to export data to file
"C:\MQPERF1\QueryResults\QML3_BuffMgr.csv".

SQL3105N  The Export utility has finished exporting "6217" rows.


Number of rows exported: 6217
```

15) Using OpenOffice Calc open the QML3 message manager report. Remember that you will import the CSV file, and the delimiter should be a comma (and a comma only). Note that unlike the MP1B report there are calculations made on the total number of MQPUT and MQPUT1 requests. Note that this snippet is from towards the bottom of the spreadsheet, with the column header row frozen.



	I	J	K	L	M	N	O
1	Open	Close	Get	Put	Put1	Total_Puts	Average_Puts_I
247	30	31	80	94	0	94	1.40
248	31	31	79	93	0	93	1.55
249	33	33	78	85	0	85	1.41
250	25	25	67	75	0	75	1.25
251	16	16	44	48	0	48	1.37
252	35	34	1640706	102	1640625	1640727	19078.22
253	30	29	1279228	642059	637175	1279234	21320.56
254	28	28	1434355	1434359	0	1434359	23905.98
255	26	28	753445	753453	0	753453	12557.55
256	24	24	65	72	0	72	1.20
257	26	26	69	78	0	78	1.30
258	30	30	77	90	0	90	1.50
259	26	26	69	78	0	78	1.30

16) Next open the log manager report. As there was almost no persistent message traffic, this spreadsheet is mostly empty.

17) Open the buffer manager csv file.
Are there any incidents of Short on Storage?
Are there any reports synchronous writes?

18) This data is fairly dull, no huge problems.