

SQL~ASK Jainendra Verma

This blog is created only for SQL Server professional to share scenario based issue on AlwaysOn, Clustering, Mirroring, Replication, Log-shipping, Backup and recovery, performance Tuning and other important issues on SQL Server which SQL DBAs gets on their production environment. If you like this blog sqlask.blogspot.com please share it with others

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`command_type = 1
@b].[dbo].[KilledS
onitorDb] [dbo]@
using script in
SQL Server`

Please find the below SQL Script to get Head blocker with Tree structure in SQL Server:
If exists (select * from #Temp_Table) ...

Transaction Replication –
ERROR- Violation of
PRIMARY KEY constraint and
some other errors

The common data consistency errors that can occur are: 2601
Cannot insert duplicate key row in object '%.*ls' with
unique...

Important Commands and
Script of Replication in SQL
Server

-- Note- --It should be noted
that the data available in --
MSrepl_commands, --
MSrepl_transactions, --
sp_browsereplcmds --is p...

SQL Server - All
Database
Mirroring Errors,
Troubleshooting
and Resolution

Error: When you configure
mirroring you might receive the

Tuesday, 9 May 2017

Important Commands and Script of Replication in SQL Server

--Note-

--It should be noted that the data available in
--MSrepl_commands,
--MSrepl_transactions,
--sp_browsereplcmds
--is purged periodically based on the schedule of the distribution clean up job and the distribution retention period.

```
select rc.publisher_database_id, rc.xact_seqno, rc.command, rt.entry_time  
from MSrepl_commands rc, MSrepl_transactions rt  
where rc.xact_seqno = rt.xact_seqno
```

-- It will show the latency in Sec

```
Select object_name, counter_name, instance_name, round(cntr_value/1000,0) as latency_sec  
from sys.dm_os_performance_counters  
where object_name like '%Replica%' and counter_name like '%Logreader:%latency%'  
union  
Select object_name, counter_name, instance_name, round(cntr_value/1000,0) as latency_sec  
from sys.dm_os_performance_counters  
where object_name like '%Replica%' and counter_name like '%Dist%latency%'
```

-- To get Distribution Agent performance and history its status and time and latency and many important details

```
USE distribution  
go  
SELECT TOP 100 time,  
Cast(comments AS XML) AS comments,  
runstatus,  
duration,  
xact_seqno,  
delivered_commands,
```

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Jainendra Verma
India

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below error , One or more of the server network addresses lacks a fully qual...

Always-On Monitoring using Datadog

Always-On Monitoring The below three error code which need to monitor for Always-on Query: SELECT * FROM SYS .SYSPROCEDURE...

SQL Server: 6 very Important DMV scripts to troubleshoot the issue in SQL Server

Please find the below important DMV scripts to troubleshoot the issue in SQL Server. sys.dm_exec_requests sys.dm_exec_sql_text s...

```
average_commands,
current_delivery_rate,
delivered_transactions,
error_id,
delivery_latency
FROM msdistribution_history WITH (nolock)
ORDER BY time DESC
```

-- To get log reader agent history its status and time and latency and many important details

```
USE distribution
GO
```

```
SELECT time,
CAST(comments AS XML) AS comments,
runstatus,
duration,
xact_seqno,
delivered_transactions,
delivered_commands,
average_commands,
delivery_time,
delivery_rate,
delivery_latency / ( 1000 * 60 ) AS delivery_latency_Min
FROM mslogreader_history WITH (nolock)
WHERE time > '2014-10-28 16:00:00.130'
ORDER BY time DESC
```

-- It will give the info of table and it size in distribution database

--If you see high rowcount (like 1 or 2 million) this means there is some problem in replication.

Clean-up job (this is in distribution server) is not running
Its taking lot of time to deliver the commands to subscriber
There may be blocking in distribution server due to clean-up job

```
USE distribution
GO
SELECT Getdate() AS CaptureTime,
Object_name(t.object_id) AS TableName,
st.row_count,
s.NAME
FROM sys.dm_db_partition_stats st WITH (nolock)
INNER JOIN sys.tables t WITH (nolock)
ON st.object_id = t.object_id
INNER JOIN sys.schemas s WITH (nolock)
ON t.schema_id = s.schema_id
WHERE index_id < 2
AND Object_name(t.object_id)
IN ('MSsubscriptions', --contains one row for each published article in a subscription
'MSdistribution_history', --contains history rows for the Distribution Agents associated with the local Distributor
'MSrepl_commands', --contains rows of replicated commands
'MSrepl_transactions') --contains one row for each replicated transaction
ORDER BY st.row_count DESC
```

10+ years of extensive experience on production database and proficient in Microsoft SQL Server 2005/2008/2012/2014/2016/2017/2019 and Microsoft Azure and AWS Administration.

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Why Service Principal Name (SPN) need to configure...

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How to restore the missing Windows Installer cache...

How to apply Windows patches or service pack cumul...

Transaction Replication – ERROR- Violation of PRIM...

Important Commands and Script of Replication in SQ...

Step by step Log Shipping configuration in SQL Ser...

-- Use the below query to identify what is going on currently in the distribution server. (You can use the same query in any server for the same purpose)

```
SELECT r.session_id,
s.program_name,
s.login_name,
r.start_time,
r.status,
r.command,
Object_name(sqltxt.objectid, sqltxt.dbid) AS ObjectName,
Substring(sqltxt.text, ( r.statement_start_offset / 2 ) + 1, ((CASE r.statement_end_offset
WHEN -1 THEN
datalength(sqltxt.text)
ELSE r.statement_end_offset
END
- r.statement_start_offset ) / 2 ) + 1) AS active_statement,
r.percent_complete,
Db_name(r.database_id) AS DatabaseName,
r.blocking_session_id,
r.wait_time,
r.wait_type,
r.wait_resource,
r.open_transaction_count,
r.cpu_time,-- in milli sec
r.reads,
r.writes,
r.logical_reads,
r.row_count,
r.prev_error,
r.granted_query_memory,
Cast(sqlplan.query_plan AS XML) AS QueryPlan,
CASE r.transaction_isolation_level
WHEN 0 THEN 'Unspecified'
WHEN 1 THEN 'ReadUncommitted'
WHEN 2 THEN 'ReadCommitted'
WHEN 3 THEN 'Repeatable'
WHEN 4 THEN 'Serializable'
WHEN 5 THEN 'Snapshot'
END AS Isolation_Level,
r.sql_handle,
r.plan_handle
FROM sys.dm_exec_requests r WITH (nolock)
INNER JOIN sys.dm_exec_sessions s WITH (nolock)
ON r.session_id = s.session_id
CROSS apply sys.Dm_exec_sql_text(r.sql_handle) sqltxt
CROSS apply
sys.Dm_exec_text_query_plan(r.plan_handle, r.statement_start_offset, r.statement_end_offset)
sqlplan
WHERE r.status <> 'background'
ORDER BY r.session_id
go
```

- ▶ August (1)
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-- To get Error details of Replication

```
Use Distribution  
go  
select * from dbo.MSrepl_errors where error_code in ('2601','2627','25098')
```

-- To get Articles details

```
select publisher_id,  
publisher_db,  
publication_id,  
article,  
article_id ,  
destination_object,  
source_owner ,  
source_object,  
description ,  
destination_owner from distribution.dbo.MSarticles
```

--Both query provides, Sequence number and command id and other replicated commands details

```
Select  
publisher_database_id,  
xact_seqno,  
type,  
article_id,  
originator_id,  
command_id,  
partial_command,  
command,  
hashkey,  
originator_lsn from distribution.dbo.MSrepl_commands
```

```
select publisher_database_id, xact_id, xact_seqno, entry_time from  
distribution.dbo.MSrepl_transactions
```

--To get undistributed commands (Pending count and estimated process time)

sp_replmonitorsubscriptionpendingcmds

```
@publisher ='INHYIZPC01014A\SQL_INSTANCE3',  
@publisher_db = 'Replication_DB',  
@publication ='Enter name of publication',  
@subscriber ='INHYIZPC01014A\SQL_INSTANCE2',  
@subscriber_db='Replication_DB',  
@subscription_type ='0' --0 for push and 1 for pull
```

-- using following SP you will get publication name --**EXEC sp_helppublication;**

*******START -- To find the the issue *******

-- Copy "Sequence Number" form the error and use in below query.

```
SELECT art.publisher_id ,
       art.publisher_db ,
       art.publication_id ,
       art.article ,
       art.article_id ,
       art.destination_object ,
       art.source_owner ,
       art.source_object
  FROM distribution.dbo.MSarticles AS art
  JOIN distribution.dbo.MSrepl_commands AS com
    ON art.Article_id = com.Article_id
 WHERE com.xact_seqno = 0x0000002400002F000040000000
```

--The above query will return **publisher_database_id** and **article_id**.which we will use in below query-

EXEC **distribution.dbo.sp_browsereplcmds**

```
@xact_seqno_start = '0x0000002400002F000040000000' ,
@xact_seqno_end = '0x0000002400002F000040000000' ,
@publisher_database_id = 1 ,
@article_id = 1 ,
@command_id = 1
```

--The above query will return Command value, this is the duplicate value query which has entered in the table of subscriber end.

*******END-- to find the the issue *******

--To show subscriber status for transactional publications:

sp_replmonitorhelpsubscription @publisher = NULL, @publication_type = 0

--To show subscriber status for snapshot publications:

sp_replmonitorhelpsubscription @publisher = NULL, @publication_type = 1

--To show subscriber status for merge publications:

sp_replmonitorhelpsubscription @publisher = NULL, @publication_type = 2

******* Execute at the Distributor in the master database *******

```
USE master;
go
```

```
exec sp_helparticle @publication=<publication name>
```

--Is the current server a Distributor?
--Is the distribution database installed?
--Are there other Publishers using this Distributor?

```
EXEC sp_get_distributor
```

--Is the current server a Distributor?

```
SELECT is_distributor FROM sys.servers WHERE name='repl_distributor' AND  
data_source=@@servername;
```

--Which databases on the Distributor are distribution databases?

```
SELECT name FROM sys.databases WHERE is_distributor = 1
```

--What are the Distributor and distribution database properties?

```
EXEC sp_helpdistributor;  
EXEC sp_helpdistributiondb;  
EXEC sp_helpdistpublisher;
```

******* Execute at the Publisher in the master database *******

--Which databases are published for replication and what type of replication?

```
EXEC sp_helpreplicationdboption;
```

--Which databases are published using snapshot replication or transactional replication?

```
SELECT name as tran_published_db FROM sys.databases WHERE is_published = 1;
```

--Which databases are published using merge replication?

```
SELECT name as merge_published_db FROM sys.databases WHERE is_merge_published = 1;
```

--What are the properties for Subscribers that subscribe to publications at this Publisher?

```
EXEC sp_helpsubscriberinfo;
```

******* Execute at the Publisher in the publication database *******

--What are the snapshot and transactional publications in this database?

```
EXEC sp_helppublication;
```

--What are the articles in snapshot and transactional publications in this database?

--REMOVE COMMENTS FROM NEXT LINE AND REPLACE <PublicationName> with the name
of a publication
--EXEC sp_helparticle @publication='<PublicationName>';

--What are the merge publications in this database?

```
EXEC sp_helpmergepublication;
```

--What are the articles in merge publications in this database?

```
EXEC sp_helpmergearticle;
```

-- to return information on articles for a single publication, specify
@publication=<PublicationName>

--Which objects in the database are published?

```
SELECT name AS published_object, schema_id, is_published AS is_tran_published,  
is_merge_published, is_schema_published  
FROM sys.tables WHERE is_published = 1 or is_merge_published = 1 or is_schema_published = 1  
UNION  
SELECT name AS published_object, schema_id, 0, 0, is_schema_published  
FROM sys.procedures WHERE is_schema_published = 1  
UNION  
SELECT name AS published_object, schema_id, 0, 0, is_schema_published  
FROM sys.views WHERE is_schema_published = 1;
```

--Which columns are published in snapshot or transactional publications in this database?

```
SELECT object_name(object_id) AS tran_published_table, name AS published_column FROM  
sys.columns WHERE is_replicated = 1;
```

--Which columns are published in merge publications in this database?

```
SELECT object_name(object_id) AS merge_published_table, name AS published_column FROM  
sys.columns WHERE is_merge_published = 1;
```

--If we done changes on Agent profile option (Replication Monitor --> right click Agent profile -
--> for Distribution agent)

--To STOP the Distribution Agent:

```
sp_MSstopdistribution_agent @publisher, @publisher_db, @publication, @subscriber,  
@subscriber_db
```

--To START the Distribution Agent:

```
sp_MSstartdistribution_agent @publisher, @publisher_db, @publication, @subscriber,  
@subscriber_db
```

Posted by Jainendra Verma at 06:25



Labels: Replication



Jainendra Verma

10+ years of extensive experience on production database and proficient in Microsoft SQL Server
2005/2008/2012/2014/2016/2017/2019 and Microsoft Azure and AWS Administration.

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