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SQL Undercover

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7 more ways to Query Always on Availability groups

Post Updated: Replaced Query 3 with transactions/sec query.

When we first published 7 ways to Query Always On Availability Groups using SQL we had no idea it would so popular! So here is a quick post with 7 more ways to query Always on availability groups using TSQL, its always handy to have a few little snippets like these stashed away for when you need them!

Check which replicas have read only config in place to allow them to be readable when set within an AG/s:

```
SELECT
PrimaryServer.replica_server_name AS PrimaryServer,
Groups.name AS AGname,
ReadOnlyReplica.replica_server_name AS ReadOnlyReplica,
ReadOnlyReplica.read_only_routing_url AS RoutingURL,
RoutingList.routing_priority AS RoutingPriority
FROM sys.availability_read_only_routing_lists RoutingList
INNER JOIN sys.availability_replicas PrimaryServer ON RoutingList.repli
INNER JOIN sys.availability_replicas ReadOnlyReplica ON RoutingList.rea
INNER JOIN sys.availability_groups Groups ON Groups.group_id = PrimaryS
WHERE PrimaryServer.replica_server_name != ReadOnlyReplica.replica_serv
ORDER BY
PrimaryServer ASC,
AGname ASC
```

Is this server a primary server for any availability group?

Tessell Exhibit 1107
Tessell v. Nutanix

```
SELECT [Groups].[name]
FROM sys.dm_hadr_availability_group_states States
INNER JOIN sys.availability_groups Groups ON States.group_id = Groups.gr
WHERE primary_replica = @@Servername
```

Total Transactions/sec and Write transactions/sec per Availability group in a 15 second snapshot.

```
SET NOCOUNT ON;

IF OBJECT_ID('tempdb.dbo.#performance_counters') IS NOT NULL
DROP TABLE #performance_counters;

CREATE TABLE #performance_counters (
DatetimeChecked DATETIME,
instance_name NVARCHAR(128),
counter_name NVARCHAR(128),
cntr_value BIGINT
);

INSERT INTO #performance_counters (DatetimeChecked,instance_name,counte
SELECT
GETDATE() AS DatetimeChecked,
instance_name,
counter_name,
cntr_value
FROM sys.dm_os_performance_counters
WHERE counter_name IN ('Write Transactions/sec','Transactions/sec')
AND instance_name != '_Total'

--Wait for 15 seconds then get the deltas
WAITFOR DELAY '00:00:15';

SELECT
Groups.name AS AGname,
PerSecondDeltas.counter_name,
SUM(cntr_delta_per_second) AS Total_per_second
FROM
(
SELECT
PerfmonNow.instance_name,
PerfmonNow.counter_name,
PerfmonNow.cntr_value
,CAST((PerfmonNow.cntr_value - PerfmonSnapShot.cntr_value) * 1.0 / DATE
FROM sys.dm_os_performance_counters PerfmonNow
INNER JOIN #performance_counters PerfmonSnapShot ON PerfmonNow.instance
AND PerfmonNow.counter_name = PerfmonSnapShot.counter_name
WHERE PerfmonNow.counter_name IN ('Write Transactions/sec','Transactior
AND PerfmonNow.instance_name != '_Total'
) PerSecondDeltas
INNER JOIN sys.availability_databases_cluster AGDatabases ON PerSecondD
INNER JOIN sys.availability_groups Groups ON AGDatabases.group_id = Grc
GROUP BY Groups.name,counter_name
ORDER BY
Groups.name ASC,
counter_name ASC
```

How many databases are there in each availability group on this server?

```
SELECT
Groups.name,
COUNT([AGDatabases].[database_name]) AS DatabasesInAG
FROM master.sys.availability_groups Groups
INNER JOIN Sys.availability_databases_cluster AGDatabases ON Groups.grou
GROUP BY Groups.name
ORDER BY Groups.name ASC
```

Total Database size in each availability group on this server?

```
SELECT
Groups.name,
SUM(CAST((CAST([master_files].[size] AS BIGINT )*8) AS MONEY)/1024/1024)
FROM master.sys.availability_groups Groups
INNER JOIN Sys.availability_databases_cluster AGDatabases ON Groups.grou
INNER JOIN sys.databases ON AGDatabases.database_name = databases.name
INNER JOIN sys.master_files ON databases.database_id = master_files.data
GROUP BY Groups.name
ORDER BY Groups.name ASC
```

Check Availability group health and whether a database is suspended.

```
SELECT DISTINCT
Groups.name AS AGname,
Replicas.replica_server_name,
States.role_desc,
States.synchronization_health_desc,
ISNULL(ReplicaStates.suspend_reason_desc,'N/A') AS suspend_reason_desc
FROM sys.availability_groups Groups
INNER JOIN sys.dm_hadr_availability_replica_states as States ON States.
INNER JOIN sys.availability_replicas as Replicas ON States.replica_id =
INNER JOIN sys.dm_hadr_database_replica_states as ReplicaStates ON Repl
```

Set Availability group backup preference.

```
USE [master];

--Set Backup preference to Primary replica only
ALTER AVAILABILITY GROUP [AG name here] SET(AUTOMATED_BACKUP_PREFERENCE

--Set Backup preference to Secondary only
ALTER AVAILABILITY GROUP [AG name here] SET(AUTOMATED_BACKUP_PREFERENCE

--Set Backup preference to Prefer secondary
ALTER AVAILABILITY GROUP [AG name here] SET(AUTOMATED_BACKUP_PREFERENCE

--Set Backup preference to Any replica (no preference)
ALTER AVAILABILITY GROUP [AG name here] SET(AUTOMATED_BACKUP_PREFERENCE

--Backup preference via TSQL can be found here
SELECT
name AS AGname,
automated_backup_preference_desc
FROM sys.availability_groups;
```

Thanks for reading.



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Uncategorized

Always On, Database Administration, Query Always on, SQL Query is this primary, TSQL AG backup preference

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