Backup History for automated database backups

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Issue

This TSG helps with answering questions like:

- When was the last full backup of the database created?
- How often are differential backups and transaction log backups occurring? What is their actual schedule?
- How long does each of the backups take?
- Is the backup that had been taken on day X still in retention?
- Has the full backup somehow interfered with my production workload at a specific time? Is it related to a performance issue on the database?

Mitigation

DMV

The following DMV query gives you an overview of the backup history on the server you are connected to. Filter on database name and backup type as needed.

```
SELECT
    db.name,
    backup_start_date,
    backup_finish_date,
    DATEDIFF(second, backup_start_date, backup_finish_date) AS backup_duration,
    CASE backup_type
        WHEN 'D' THEN 'Full' -- D = database backup
        WHEN 'I' THEN 'Differential' -- I = incremental backup
        WHEN 'L' THEN 'Log'  -- transaction log
    END AS backup_type_desc,
    CASE in_retention
        WHEN 1 THEN 'In Retention'
        WHEN 0 THEN 'Out of Retention'
    END AS is_available
FROM
    sys.dm_database_backups AS bck
    INNER MERGE JOIN sys.databases AS db ON bck.physical_database_name = db.physical_database_name
WHERE
    db.name = 'databasename'
    AND backup_type in ('D', 'I', 'L')
ORDER BY
    backup_start_date DESC;
```

Note the `INNER MERGE JOIN` syntax - the Merge join hint is for improving the performance, to avoid a costly Nested Loop Join between the backup history DMV and sys.databases.

Kusto

```
MonBackup
| where TIMESTAMP >= datetime(2022-12-06 00:00:00Z)
| where TIMESTAMP <= datetime(2022-12-07 23:00:00Z)
| where LogicalServerName =~ "servername"
| where logical_database_name in~ ("databasename")
//| where backup_type in~ ("Full")
//| where backup_type in~ ("Full", "Diff")
| where event_type in~ ("BACKUP_START", "BACKUP_END", "BACKUP_METADATA_DETAILS")
| where event_type in~ ("BACKUP_METADATA_DETAILS")
| extend backup_duration = todatetime(backup_end_date) - todatetime(backup_start_date)
| project TIMESTAMP, LogicalServerName, logical_database_name, AppName, server_name, event, event_type, detail
| order by TIMESTAMP asc
| limit 1000
```

Public Doc Reference

- sys.dm_database_backups
- Blog: Monitoring Backup History for Azure SQL Database & Azure SQL Managed Instance

How good have you found this content?