Session Settings

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What This Module Covers

Session settings and performance-related features

Session settings that affect results

Special considerations: QUOTED_IDENTIFIER

Special considerations: ANSI_NULLS

Session settings and stored procedures

Best practices

Session Settings and Performance-related Features

- SET options can affect a stored procedure's performance
- If appropriate SET options are NOT set then certain performance-related features of SQL Server may not be accessible to your code:
  - Indexed views
  - Indexes on computed columns
  - Filtered indexes
  - OTHER: query notifications / spatial index operations / XML data type methods
- Data that's accessed and/or persisted with these objects must be able to be generated in exactly the same way upon every execution

Session Settings That Affect Results (1)

- Session settings that must be on:
  - ANSI_NULLS* *Special considerations*
  - ANSI_PADDING
  - ANSI_WARNINGS
  - ARITHABORT
  - CONCAT_NULL_YIELDS_NULL
  - QUOTED_IDENTIFIER* *Special considerations*
- Session setting that must be off:
  - NUMERIC_ROUNDABORT
- More information in Books Online topic: *SET Options that Affect Results*

> Msg 1934, Level 16, State 1, Line 1
> INSERT failed because the following SET options have incorrect settings: 'ANSI_NULLS, QUOTED_IDENTIFIER'. Verify that SET options are correct for use with indexed views and/or indexes on computed columns and/or filtered indexes and/or query notifications and/or XML data type methods and/or spatial index operations.

Special Considerations: QUOTED_IDENTIFIER

Session setting for QUOTED_IDENTIFIER is saved with the base object

In order for these performance-related features to be used, this session setting must have been on at the **time the base objects were created**

QUOTED_IDENTIFIER is always ON in the metadata for tables, irrespective of the session setting

Special Considerations: QUOTED_IDENTIFIER

If you're accessing objects within stored procedures that use these features, these sessions settings must have been on when the base objects were created AND at the time the procedure was created

Article: "QUOTED_IDENTIFIER" causes Unexpected Query Plan for Persisted Computed Column query (http://bit.ly/1PBOkgG)
NOTE: This bug only occurs when QUOTED_IDENTIFIER is OFF

Verify using this code:

```
SELECT OBJECTPROPERTY(OBJECT_ID('name'),
                      'IsQuotedIdentOn')
```

Special Considerations: ANSI_NULLS

Session setting for ANSI_NULLS is saved with the base object

In order for these performance-related features to be used, this session setting must have been on at the time the base objects were created

If you're creating objects within stored procedures that use these features, these sessions settings must have been on when the base objects were created AND at the time the procedure was created

Verify using this code:

```
SELECT OBJECTPROPERTY(OBJECT_ID('name'),
                      'IsANSINullsOn')
```

In a future version of SQL Server, ANSI_NULLS will always be ON and any applications that explicitly set the option to OFF will produce an error. Avoid using this SET option in new development work, and plan to modify applications that currently use this option.

— SQL Server Books Online

Session Settings That Affect Results (2)

- Some features require these session settings to be set at many points
- For example – for indexed views:
  - Session settings must be ON when the base objects and view are created
  - Session settings must be ON in order to create or use the index on the view
    - SELECTs against the table(s) or view that are performed without the correct session settings will still execute but without the benefit of the index
    - INSERTs, UPDATEs, and DELETEs will FAIL if the correct session settings are not set
  - Stored procedures must be created with the correct session settings set AND executed under the correct settings
    - NOTE: Some are defined solely by when the stored procedure was CREATED
- CONSISTENCY across your environment is the only way to make this work

Session Settings and Stored Procedures

- ANSI_NULLS and QUOTED_IDENTIFIER runtime settings are irrelevant, but if they were not on when the procedure was created, the statement **will fail** at runtime
- For compatibility level 90 or higher: ARITHABORT does not impact the feature's use as long as ANSI_WARNINGS is ON
- ANSI_WARNINGS, ANSI_PADDING, CONCAT_NULL_YIELDS_NULL, and NUMERIC_ROUNDABORT must be correctly set at the time a statement is executed (either by setting them in the session or setting them within the stored procedure) otherwise the statement **will fail**

Session Settings and Stored Procedures

- If any of session settings are not set correctly in the session (but are set within the procedure or at the time the procedure was created [for QUOTED_IDENTIFIER and ANSI_NULLS), then the performance-related feature can be leveraged but the procedure **will be recompiled** with those session settings
- Do NOT use / introduce these performance-related features if your client application connectivity is not controlled and consistent
- You must do thorough testing of your stored procedures (especially those that leverage these features) so that you know they'll work across **all** application environments