Add a column if it doesn't exist to all tables?

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I'm using SQL Server 2005/2008. I need to add a column to a table if it does not yet exist. This will apply to all tables in a given database. I hoped I was close, but I'm having issues with this solution.

How can this be done?

Here's what I have:

```
EXEC sp_MSforeachtable '
    declare @tblname varchar(255);
    SET @tblname =  PARSENAME("?",1);

    if not exists (select column_name from INFORMATION_SCHEMA.columns
                where table_name = @tblname and column_name = ''CreatedOn'')
    begin
        ALTER TABLE @tblname ADD CreatedOn datetime NOT NULL DEFAULT getdate();
    end
'
```

But I get errors:

> Error 102: Incorrect syntax near '@tblname'. Incorrect syntax near 'CreatedOn'. Incorrect syntax near '@tblname'. Incorrect syntax near 'CreatedOn'. ... and so on, for each table.

sql	🍄 sql-server	tsql	sql-server-2008	alter-table

edited May 25 '16 at 11:01
pedram
5,208   6   43   68

asked Feb 28 '11 at 18:35
Scott Stafford
31.4k   19   105   151

possible duplicate of stackoverflow.com/questions/1779743/... – JAiro Feb 28 '11 at 18:38

@JAiro: That is definitely a relevant link, but the "if not exists" rule is important and makes it a little more complex. – Scott Stafford Feb 28 '11 at 18:41

ok so you could complete the information with this : stackoverflow.com/questions/133031/... – JAiro Feb 28 '11 at 18:44 ✎

Your root cause of the problem is relying on the INFORMATION_SCHEMA view and having to split the name into schema and object. Just use

`object_id(''?'')` and you'll be fine. An even faster check is `if COLUMNPROPERTY(object_id(''?''), ''CreatedOn'', ''ColumnId'') is null` . –
Remus Rusanu Feb 28 '11 at 18:56

3 Answers

You cannot use variables, like @tableName, in DDL. Besides, splinting the name into part and ignoring the schema can only result in
bugs. You should just use the "?" replacement in the SQL batch parameter and rely on the `MSforeachtable` replacement:

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```
EXEC sp_MSforeachtable '
if not exists (select * from sys.columns
              where object_id = object_id(''?'')
              and name = ''CreatedOn'')
begin
    ALTER TABLE ? ADD CreatedOn datetime NOT NULL DEFAULT getdate();
end';
```

answered Feb 28 '11 at 18:50

Remus Rusanu
251k   32   365   494

Keep in mind that sp_msforeachtable is an unsupported stored procedure, so it should not be used for production code. Although it adds a few lines of
code, if you use a **cursor** defined as a select from sys.schemas and sys.tables, you are using a documented part of T-SQL, you have the option of
affecting all or some of the tables by merely changing a WHERE expression, and the performance is the same. Also, you have fewer name qualifiers to
deal with if you use the **quotename** function. Lastly, you have more flexibility in using the schema/table names however you wish (i.e. for a log). –
Phil Helmer Mar 1 '11 at 7:01

1   @PhilHelmer This along with an example would've made a great answer. – xr280xr Jul 28 '17 at 14:33

Maybe like this:

-1

```
EXEC sp_MSforeachtable '
    declare @tblname varchar(255);
    SET @tblname =  PARSENAME("?",1);

    if not exists (select column_name from INFORMATION_SCHEMA.columns
                  where table_name = @tblname and column_name = ''CreatedOn'')
    begin
```

```
        ALTER TABLE [?] ADD CreatedOn datetime NOT NULL DEFAULT getdate();
    end
'
```

?

Or even like this:

```
EXEC sp_MSforeachtable '
    if not exists (select column_name from INFORMATION_SCHEMA.columns
                    where table_name = ''?'' and column_name = ''CreatedOn'')
    begin
        ALTER TABLE [?] ADD CreatedOn datetime NOT NULL DEFAULT getdate();
    end
'
```

answered Feb 28 '11 at 18:45

Andriy M
65.1k   13   80   134

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2   -1 obviously haven't tested this before posting. `[?]` adds bracket around around an already bracketed name, resulting in `[[schemaname].`
`[tablename]]` which is incorrect. – Remus Rusanu Feb 28 '11 at 18:52

@Remus Rusanu: I tested this: `sp_MSforeachtable 'EXEC sp_help ?; EXEC sp_columns ?'` . That gave a syntax error. I then changed it to
`sp_MSforeachtable 'EXEC sp_help [?]; EXEC sp_columns [?]'` , and it worked (SQL Server 2008 R2). – Andriy M Feb 28 '11 at 19:32

...yet you did not test the OP `ALTER TABLE [?]` . Both `sp_help` and `sp_columns` are stored procedures, and the `?` replacement is not going to work
because `sp_help [foo].[bar]` is invalid syntax. But `sp_help [[foo]].[bar]]]` is correct syntax and due to how parameters are handled, it actually
ends up working. `ALTER TABLE [[foo]].[bar]]]` though does not work. Too keep a long story short: the code you posted does not pass basic syntax
checks, and this can be verified by anybody. – Remus Rusanu Feb 28 '11 at 20:05

@Remus Rusanu: And I'm not arguing. I posted my test example for two reasons: to provide the cause of my delusion and to possibly have someone
explain me why I was deluded (beside the obvious reason of my being ignorant). So, in the end, thanks. :) – Andriy M Feb 28 '11 at 20:16 ✏

Oh, sry, then I misinterpreted your comments. The fact that `sp_help [?]` works the way it is at least mystifying for me as well. – Remus Rusanu Feb
28 '11 at 20:59

You'll need to mix in a bit of dynamic SQL. This should work:

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```
EXEC sp_MSforeachtable '
    declare @tblname varchar(255);
    SET @tblname =  PARSENAME("?",1);
    declare @sql nvarchar(1000);

    if not exists (select column_name from INFORMATION_SCHEMA.columns
                    where table_name = @tblname and column_name = ''CreatedOn'')
    begin
        set @sql = N''ALTER TABLE '' +  @tblname + N'' ADD CreatedOn datetime NOT NULL
DEFAULT getdate();''
        exec sp_executesql @sql
    end
'
```

answered Feb 28 '11 at 18:44

Joe Stefanelli
114k　14　200　213

How about two tables with same name in different schemas? `foo.t` and `bar.t` ... – Remus Rusanu Feb 28 '11 at 18:53 ✏

@Remus: Yes, if OP is using schemas, then this becomes an issue. +1 to your answer. – Joe Stefanelli Feb 28 '11 at 18:56 ✏