Add a column to a table, if it does not already exist

Asked 7 years, 8 months ago   Active 4 months ago   Viewed 202k times

I want to write a query for MS SQL Server that adds a column into a table. But I don't want any error display, when I run/execute the following query.

157

I am using this sort of query to add a table ...

13

```
IF EXISTS (
      SELECT *
      FROM   sys.objects
      WHERE  OBJECT_ID = OBJECT_ID(N'[dbo].[Person]')
             AND TYPE IN (N'U')
   )
```

But I don't know how to write this query for a column.

🔫 sql-server	add	not-exists

	edited Sep 16 '17 at 0:38	asked Jan 15 '12 at 15:20
	Hasan Baig	Tavousi
	370 5 15	**5,232** 14 40 61

1   possible duplicate of <u>How to check if column exists in SQL Server table</u> – Martin Smith Jan 15 '12 at 15:23

You should use `sys.tables` instead of the "generic" `sys.objects` - then you don't have to specify the type explicitly (it's obvious from the `sys.tables` already....) – marc_s Jan 15 '12 at 15:44

COL_LENGTH Alternative only works from SQL-Server 2008, but it works. – Paul-Henri Dec 13 '16 at 9:20

6 Answers

You can use a similar construct by using the `sys.columns` table io `sys.objects`.

192

✔

```
IF NOT EXISTS (
    SELECT *
    FROM    sys.columns
    WHERE   object_id = OBJECT_ID(N'[dbo].[Person]')
            AND name = 'ColumnName'
)
```

edited May 2 '18 at 9:22	answered Jan 15 '12 at 15:24
Jitendra Pancholi	Lieven Keersmaekers
4,968 5 33 62	**49k** 11 92 129

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42   Note that in this instance you want to use IF NOT EXISTS in your actual code. – Nat Apr 4 '13 at 2:27

1   would this work in MS SQL 2005 ? – guiomie Jul 15 '13 at 21:26

2   For optimized query you can use top 1 with select statement – Banketeshvar Narayan Apr 1 '14 at 16:53

8   @BanketeshvarNarayan this is incorrect. The execution plans for subqueries in an `EXISTS` clause are identical. Things like `SELECT 1` or `SELECT TOP 1` are unnecessary. The `EXISTS` clause itself tells the query optimizer to only perform the minimum reads necessary to evaluate the `EXISTS` ... at least in SQL Server. Other DB engines may have a more or less efficient query optimizer. – Kenneth Cochran Jul 21 '15 at 16:56

5   @BanketeshvarNarayan If you are optimizing your `ADD Column` queries... you must be running them too often! – Fenton Apr 27 '16 at 12:47

71

```
IF COL_LENGTH('table_name', 'column_name') IS NULL
BEGIN
    ALTER TABLE table_name
    ADD [column_name] INT
END
```

edited May 25 '16 at 10:59	answered Jun 21 '13 at 12:04
pedram	SPL
5,269 6 43 69	**711** 5 2

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1   I tried doing this one but it returns an error which states that COL_LENGTH function does not exist. – ThEpRoGrAmMiNgNoOb Nov 9 '15 at 5:35

4   Small addition - one shouldn't use square brackets in the column name, since `COL_LENGTH( 'table_name', '[column_name]' )` always return null in
     SQL Server 2016 (`COL_LENGTH('[table_name]', 'column_name')` works as expected). – stop-cran Sep 27 '17 at 11:05

Another alternative. I prefer this approach because it is less writing but the two accomplish the same thing.

31
```
IF COLUMNPROPERTY(OBJECT_ID('dbo.Person'), 'ColumnName', 'ColumnId') IS NULL
BEGIN
    ALTER TABLE Person
    ADD ColumnName VARCHAR(MAX) NOT NULL
END
```

I also noticed yours is looking for where table does exist that is obviously just this

```
if COLUMNPROPERTY( OBJECT_ID('dbo.Person'),'ColumnName','ColumnId') is not null
```

edited May 25 '16 at 11:00   answered Jan 15 '12 at 15:40
pedram   JStead
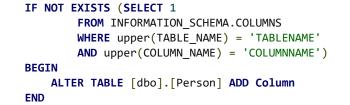**5,269** 6   43   69   **1,543** 10   12

11   Or for even less typing – Martin Smith Jan 15 '12 at 15:41

2   I like it. I think the best part about posting here is finding gems like this. – JStead Jan 15 '12 at 15:44

Here's another variation that worked for me.

2
```
IF NOT EXISTS (SELECT 1
        FROM INFORMATION_SCHEMA.COLUMNS
        WHERE upper(TABLE_NAME) = 'TABLENAME'
        AND upper(COLUMN_NAME) = 'COLUMNNAME')
BEGIN
    ALTER TABLE [dbo].[Person] ADD Column
END
GO
```

```
IF NOT EXISTS (SELECT 1
        FROM SYS.COLUMNS....
```

edited Oct 17 '18 at 14:33   answered Oct 3 '18 at 12:49

Adil H. Raza

646   6   20

```
IF NOT EXISTS (SELECT * FROM syscolumns
  WHERE ID=OBJECT_ID('[db].[Employee]') AND NAME='EmpName')
  ALTER TABLE [db].[Employee]
  ADD [EmpName] VARCHAR(10)
GO
```

-1

I Hope this would help. More info

answered May 2 at 7:14

ShaileshDev

639   6   14

```
IF NOT EXISTS (SELECT 1  FROM SYS.COLUMNS WHERE
OBJECT_ID = OBJECT_ID(N'[dbo].[Person]') AND name = 'DateOfBirth')
BEGIN
ALTER TABLE [dbo].[Person] ADD DateOfBirth DATETIME
END
```

-2

answered Dec 1 '16 at 16:29

Code First

247   3   3

requires 10 reputation on this site (the association bonus does not count).

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