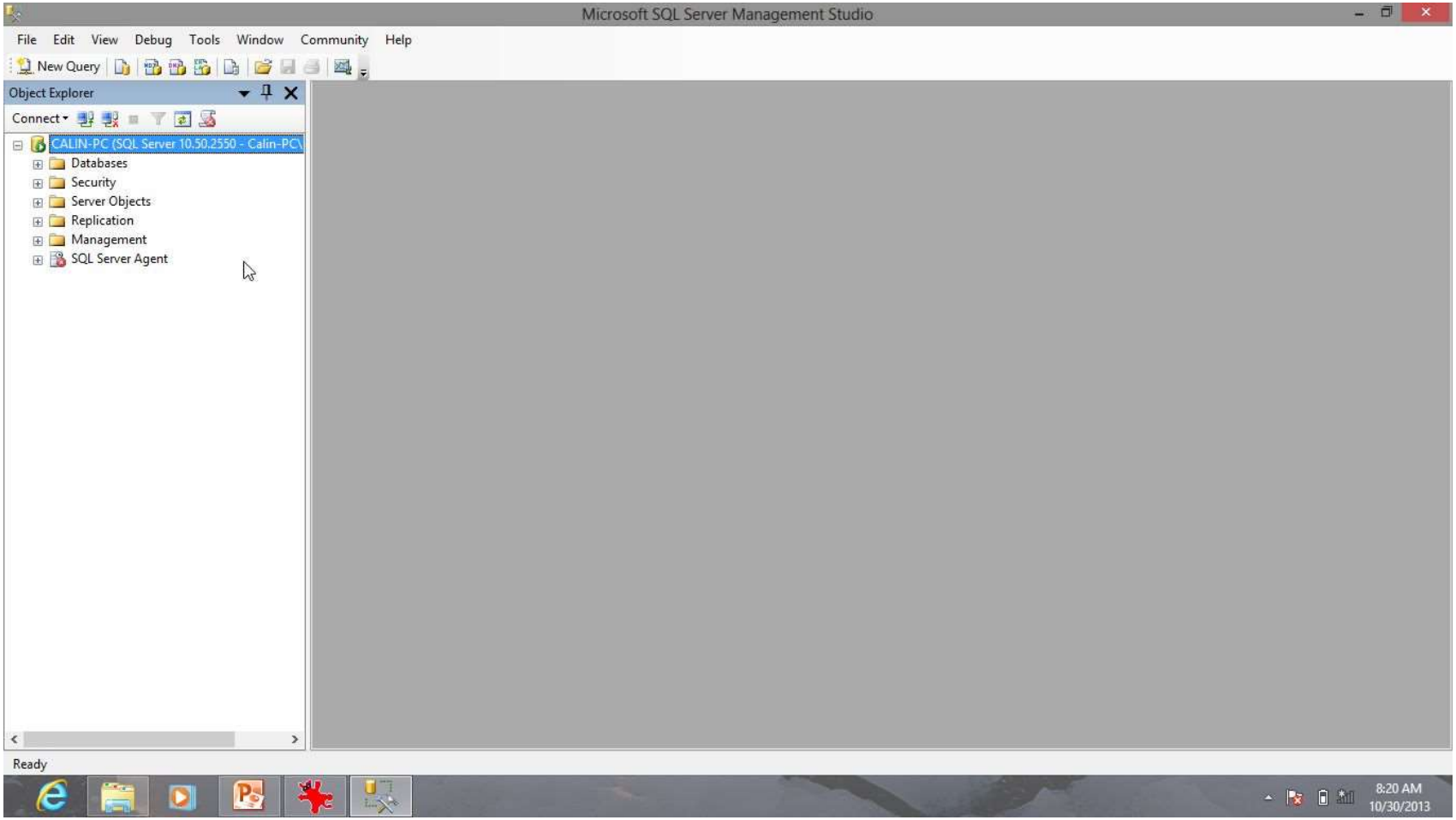
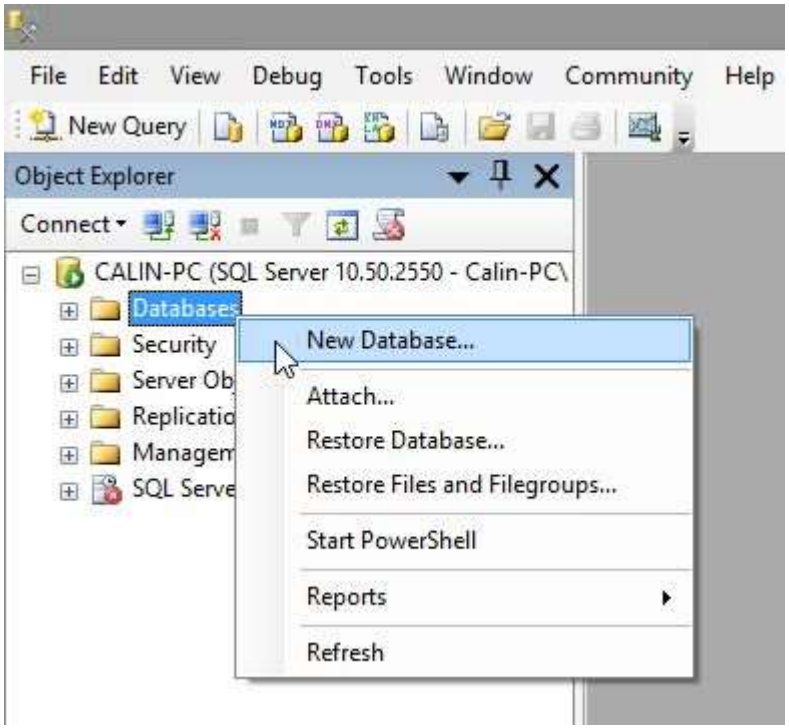
Database

- In order to install MicrosSoft SQL Server read slides:DBD Course07 DataBase Administration
- .pptx, …pag. 60:
  - Preferably mixed mode authentication
  - Remember password for System Administrator
  - Make at least current user administrator
  - Make another user administrator

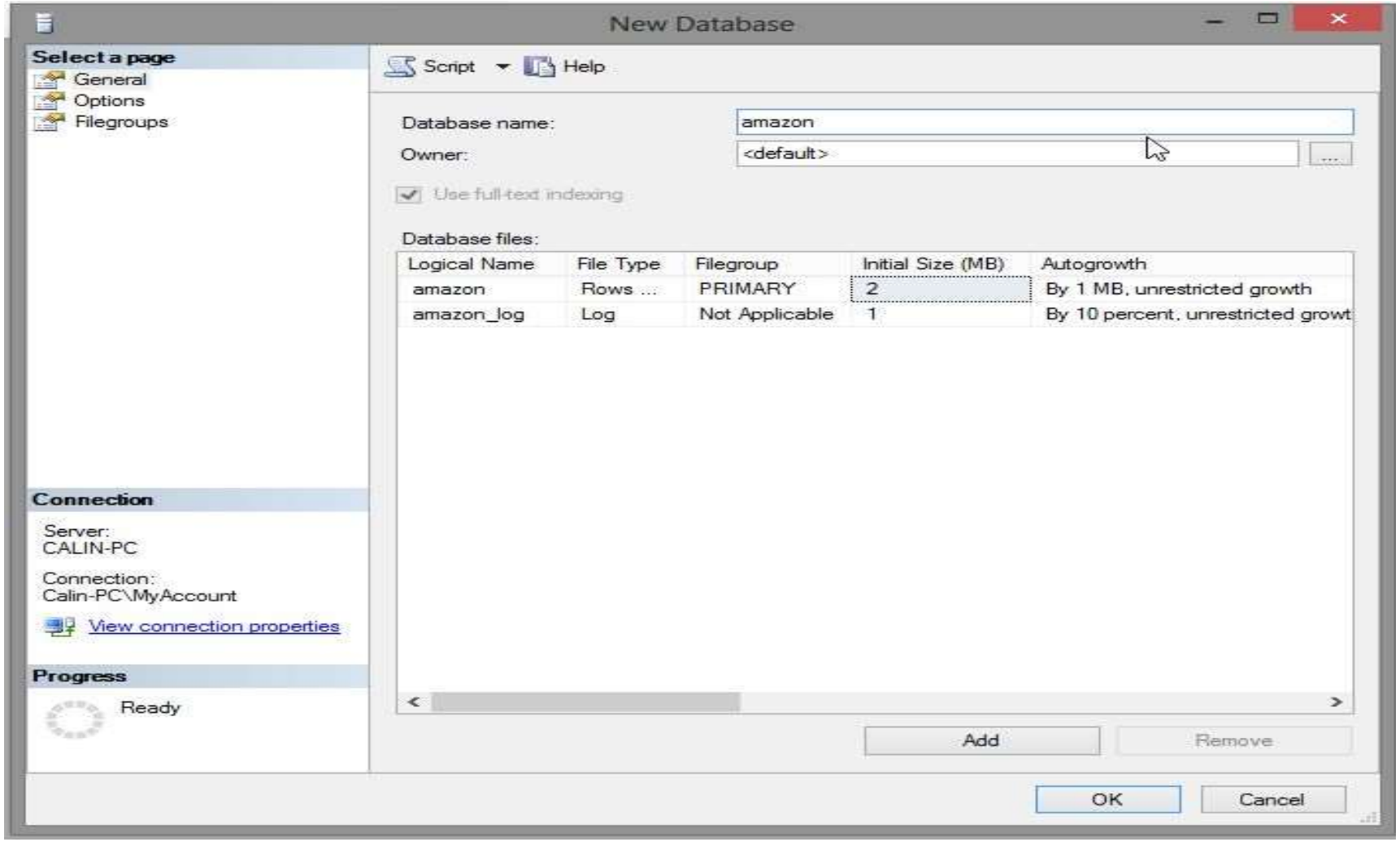
MS SQL Server Management Studio



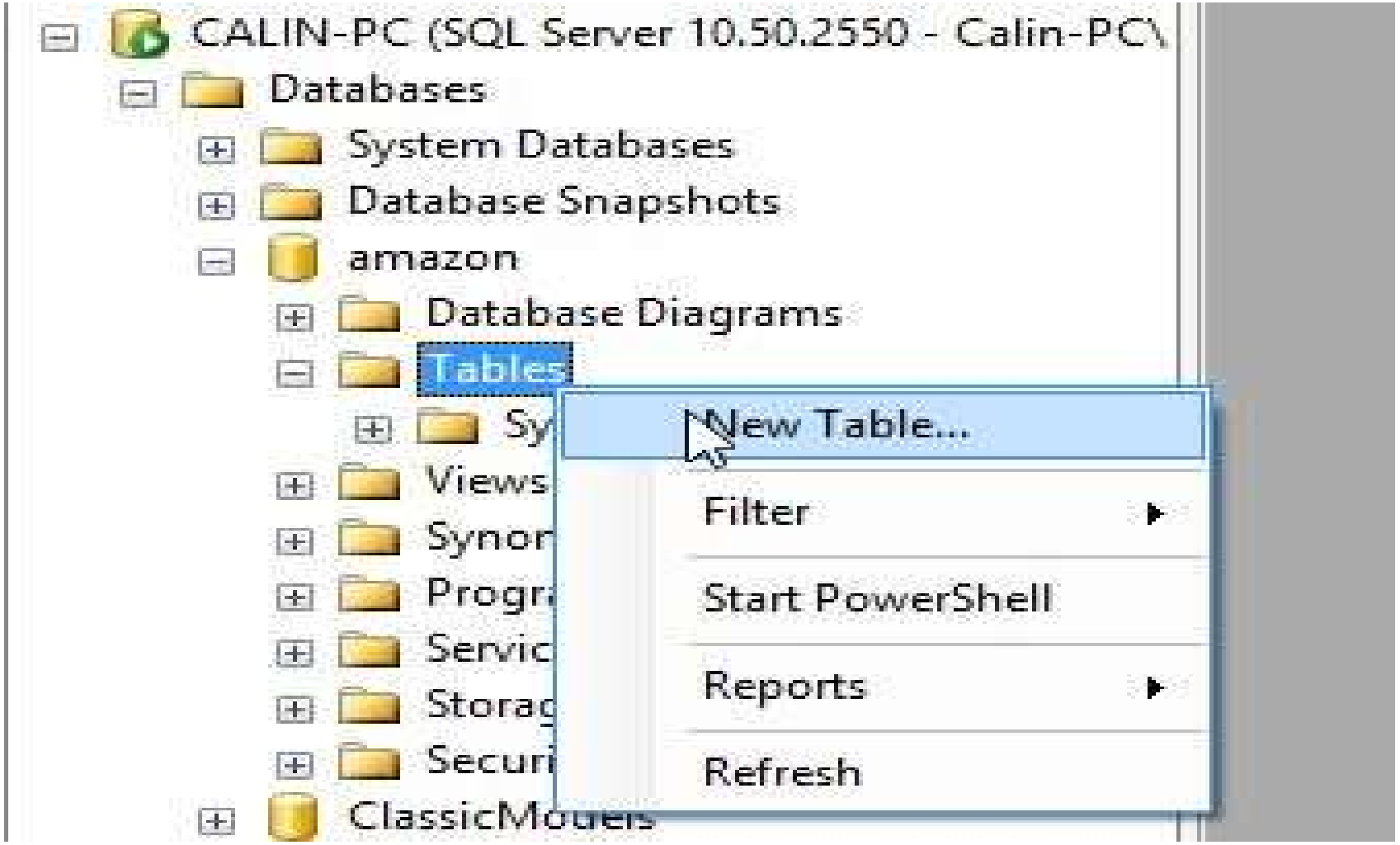
Right click to Create New Database



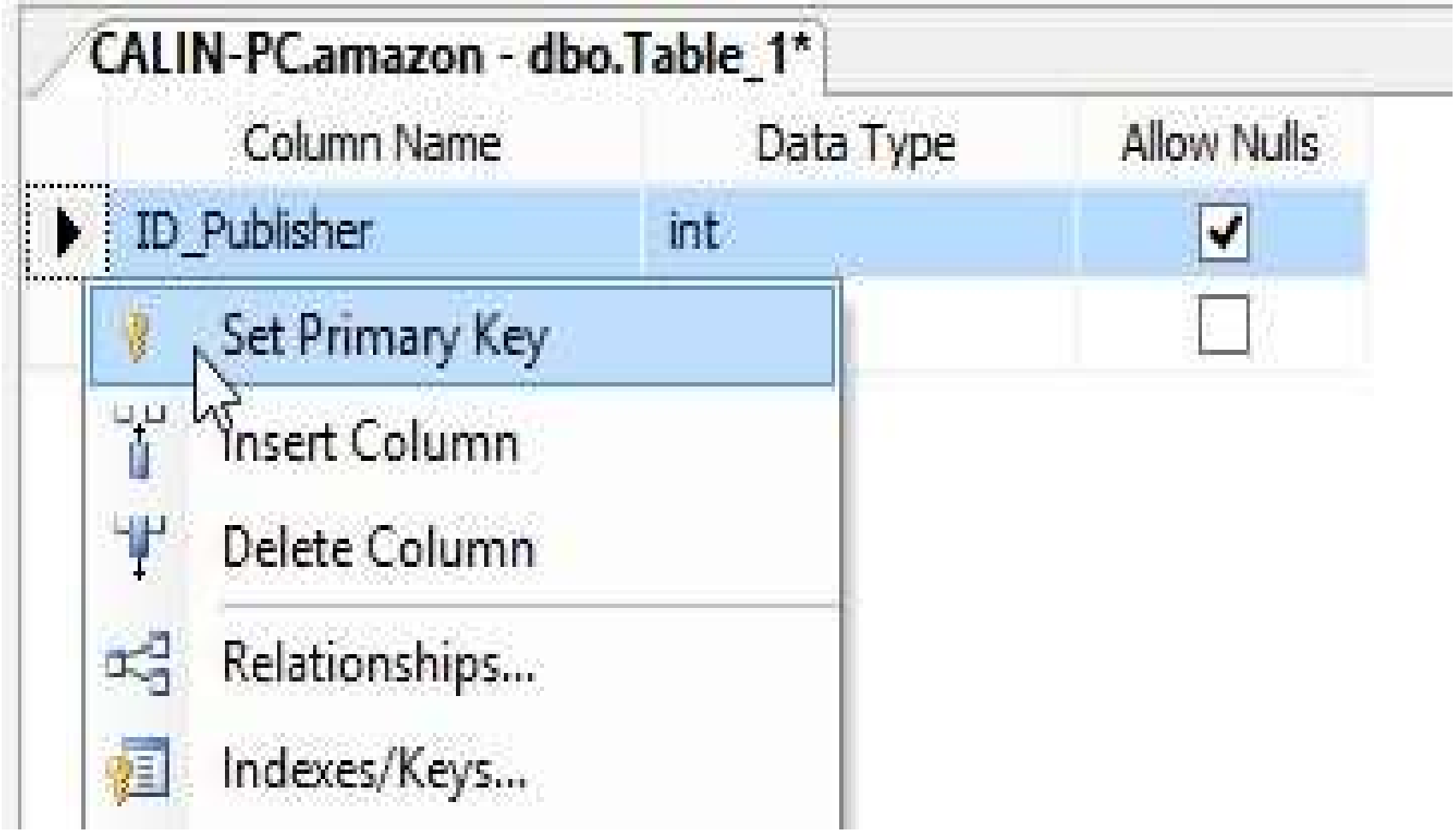
Create Database amazon



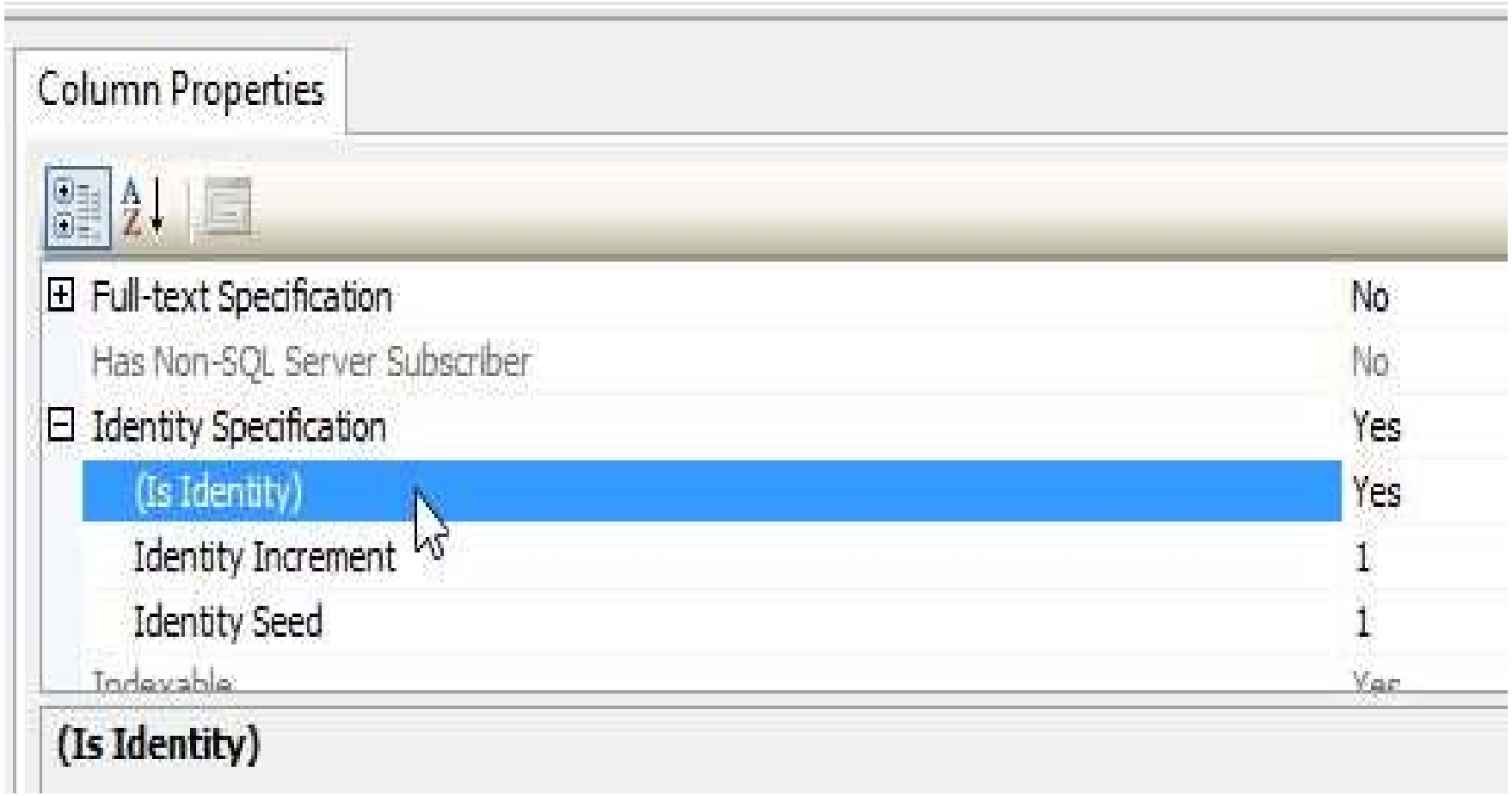
Database amazon
Create New Table



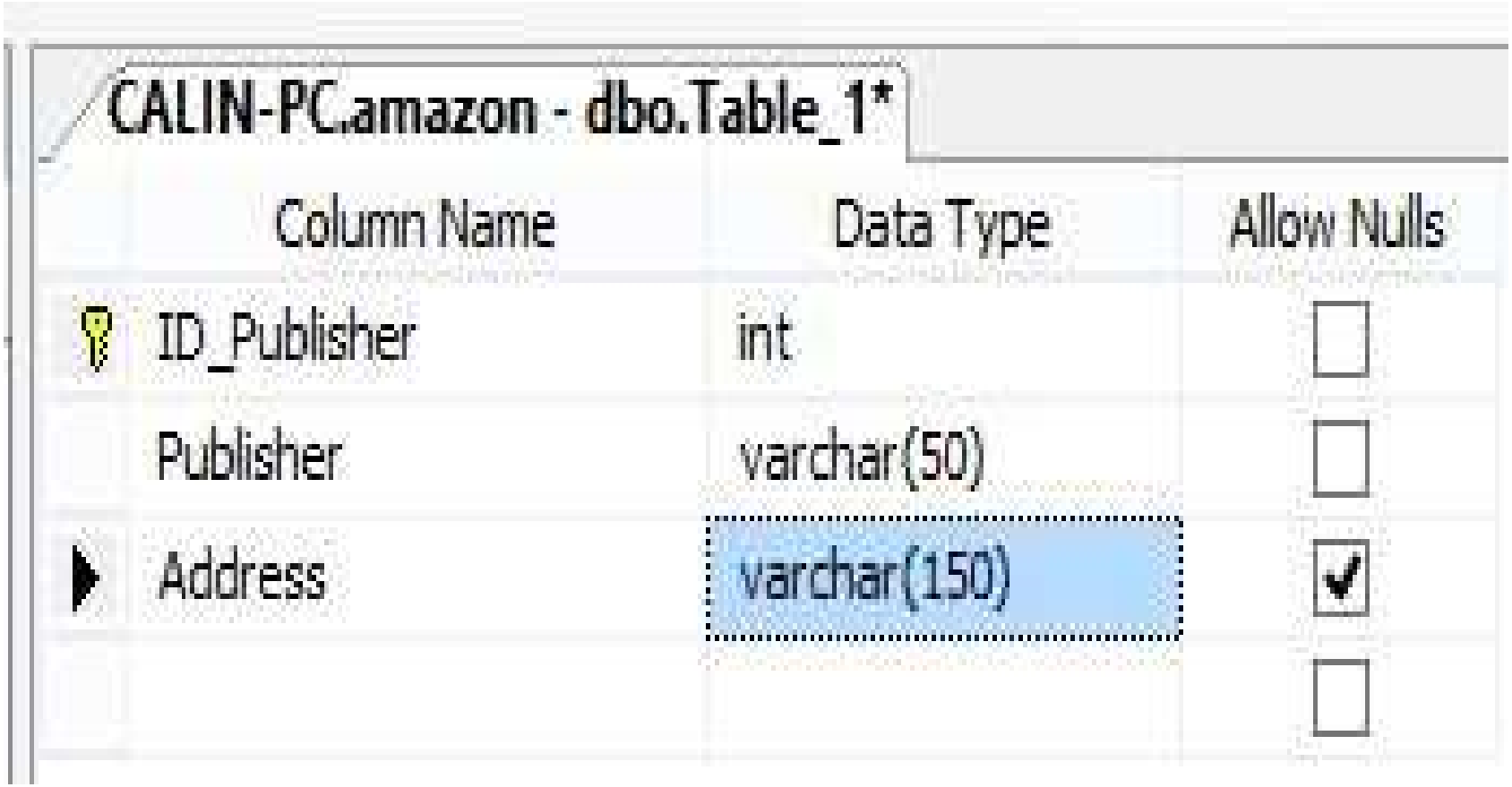
ID_Publisher – INTeger
right click – Set Primary Key



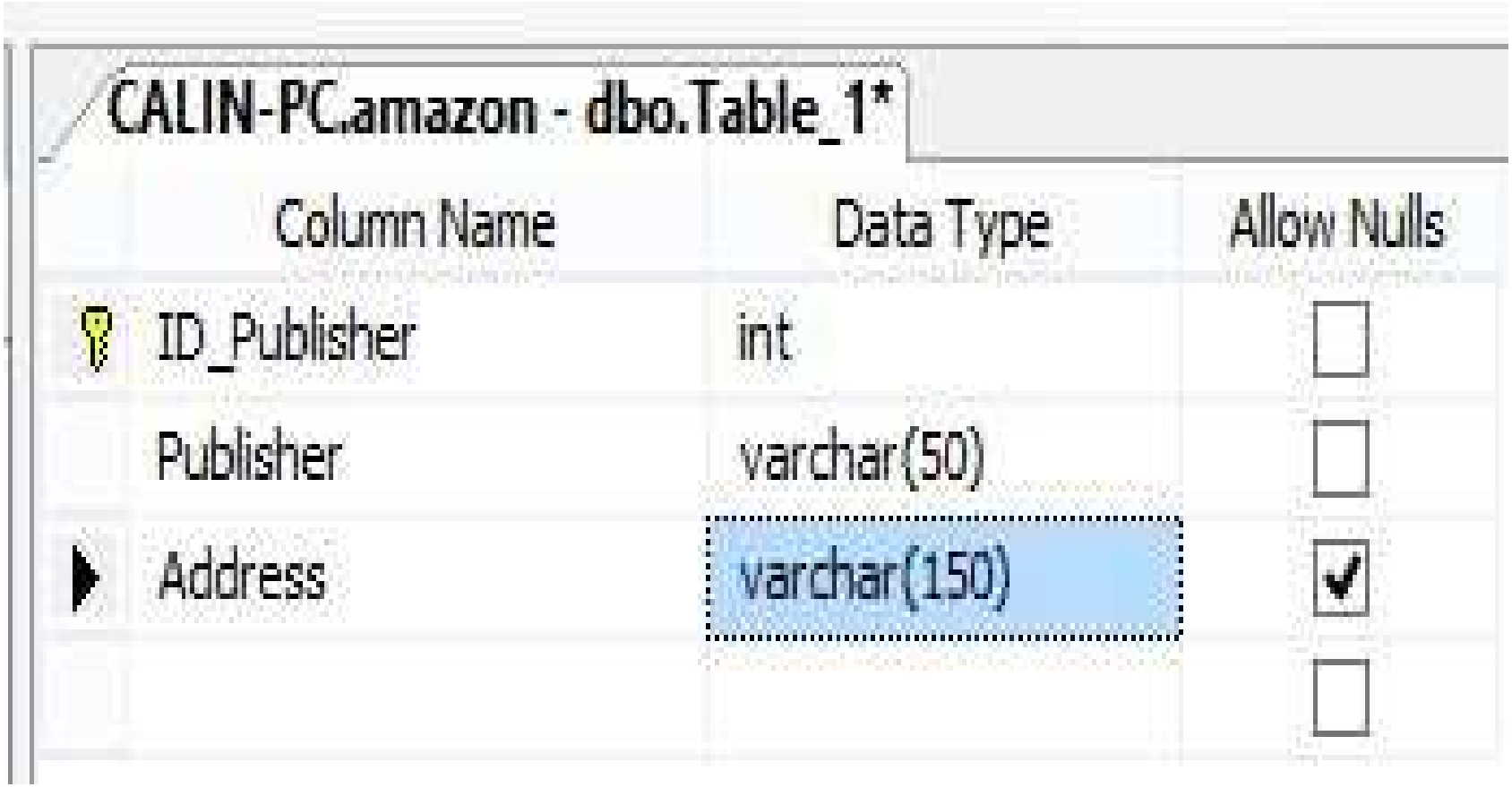
ID_Publisher – surrogate key Identity



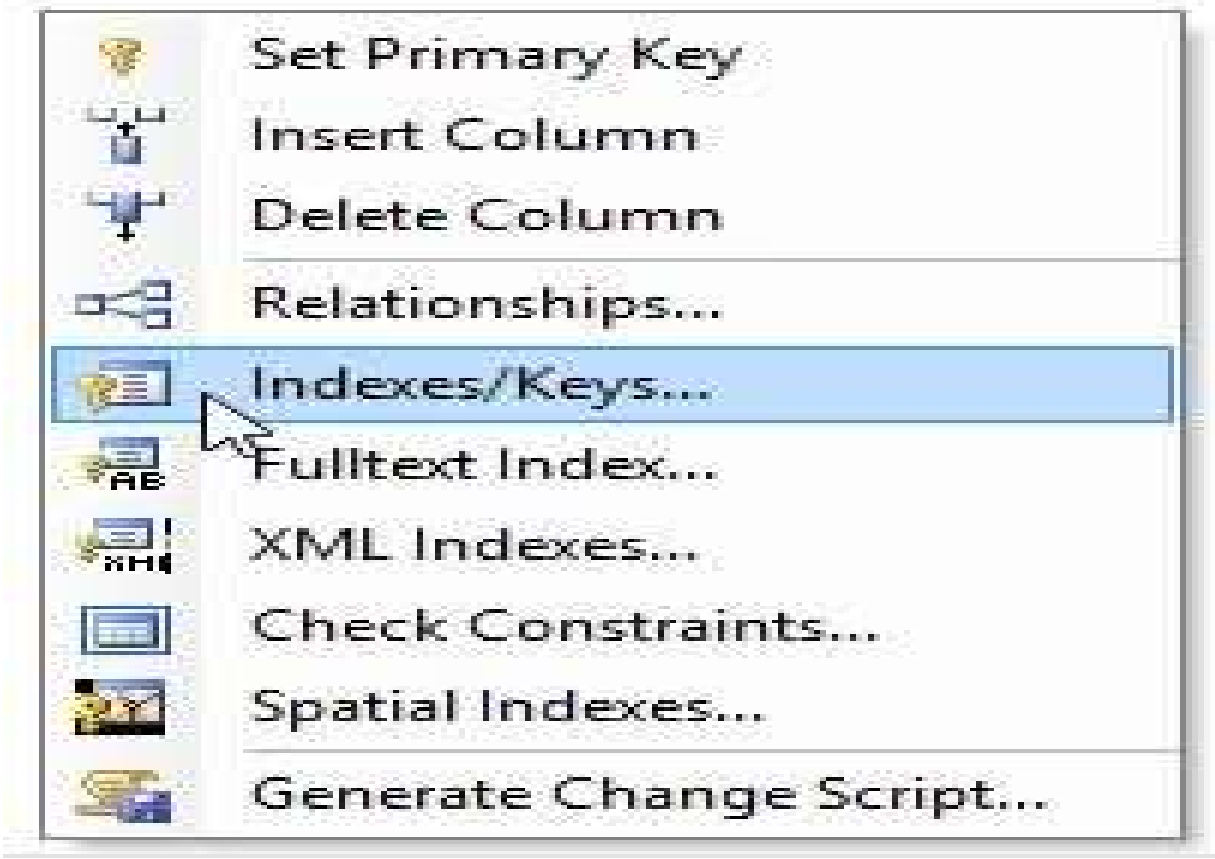
Publisher – VarChar(50) – Not NULL



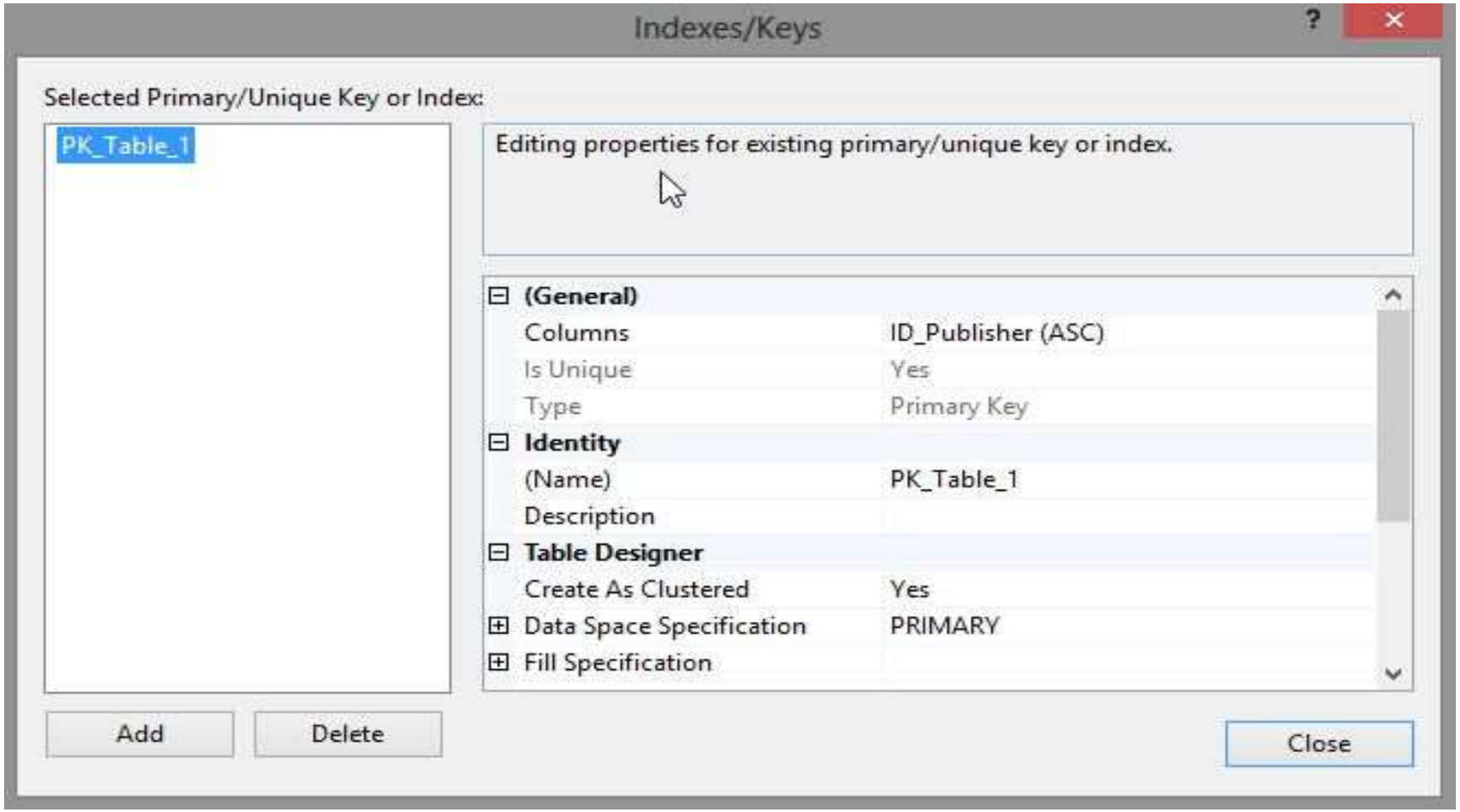
Address – VarChar(150) –NULL allow



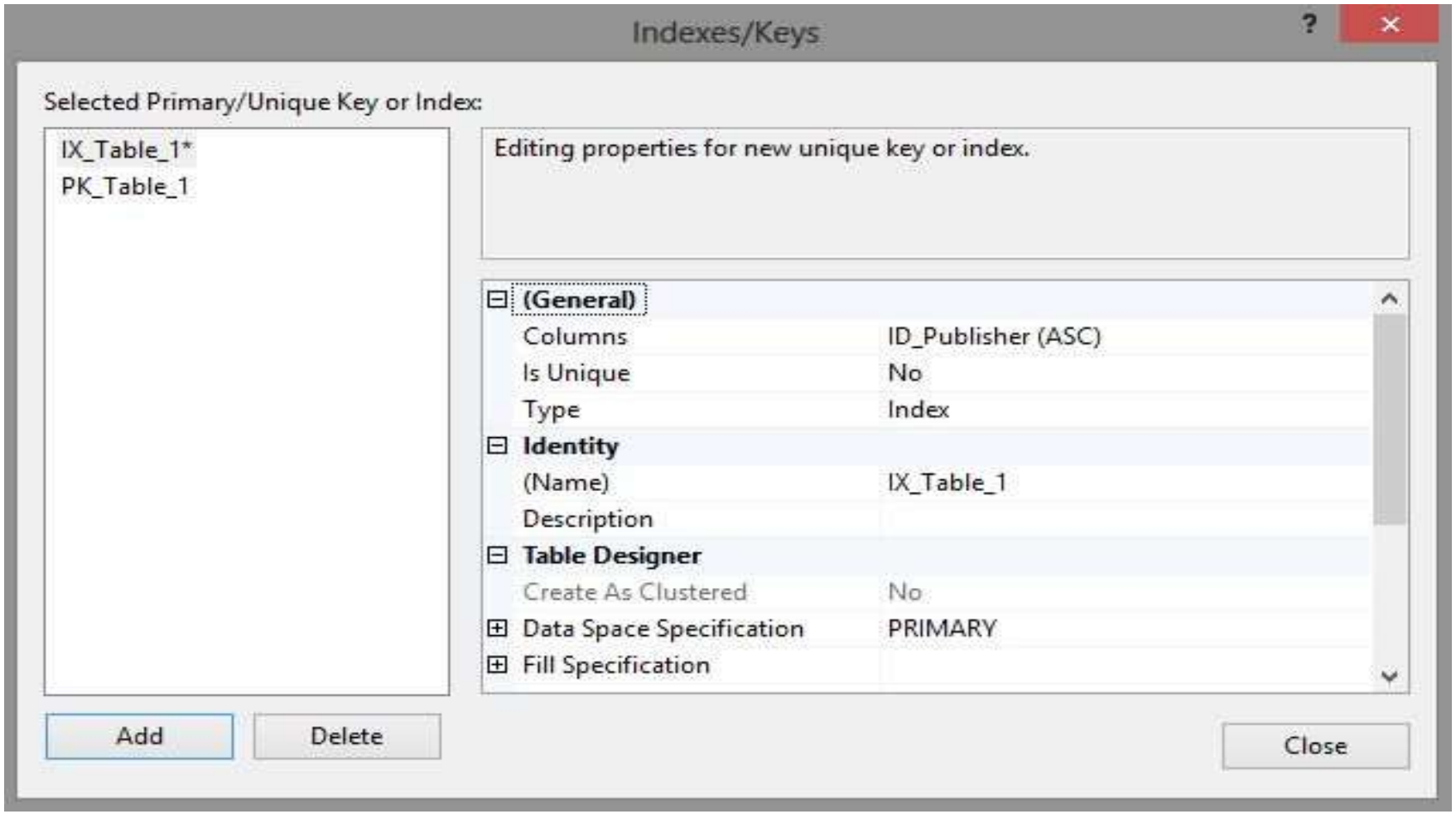
Create Index / Keys



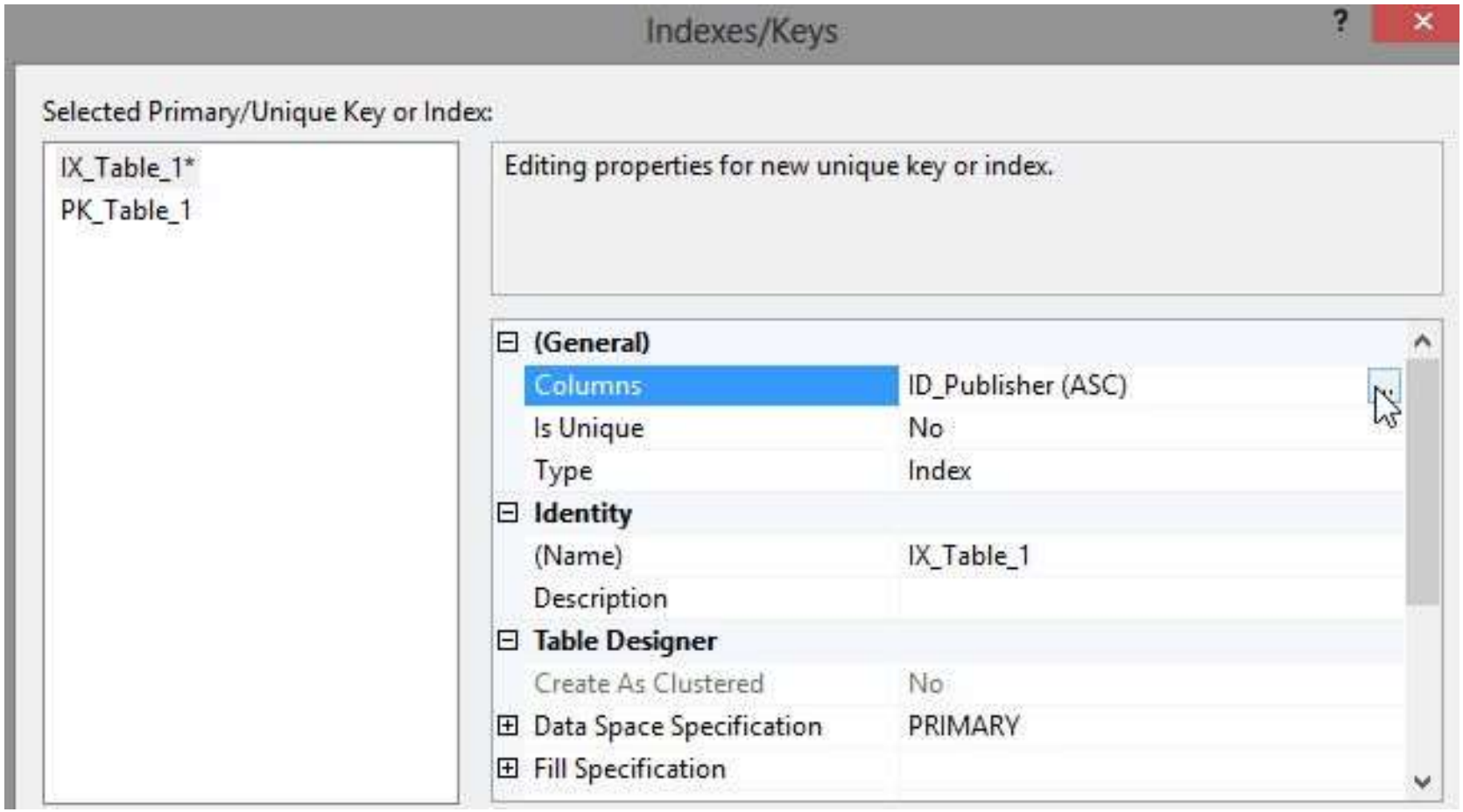
Index for PK already created



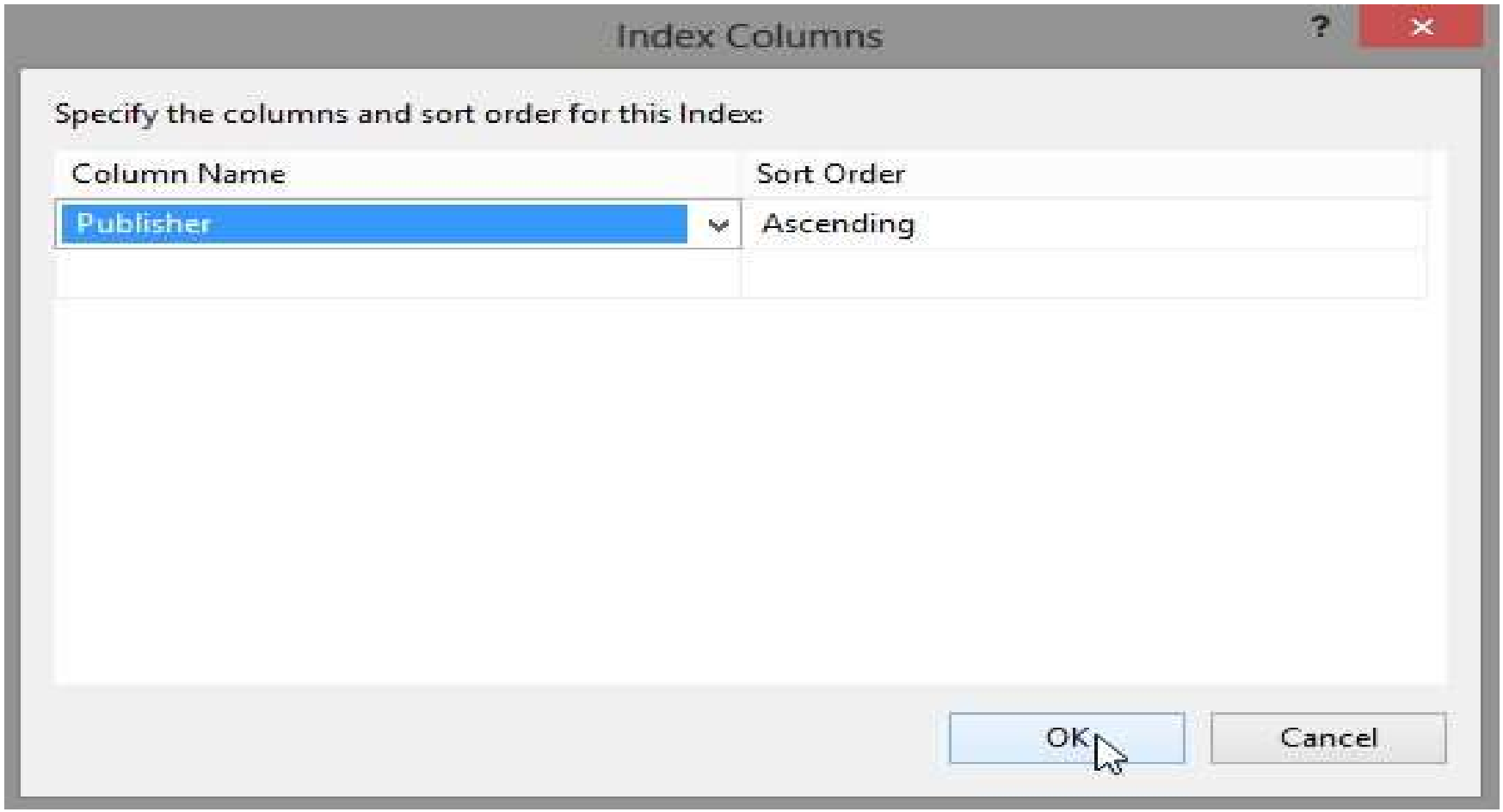
Add – New Index



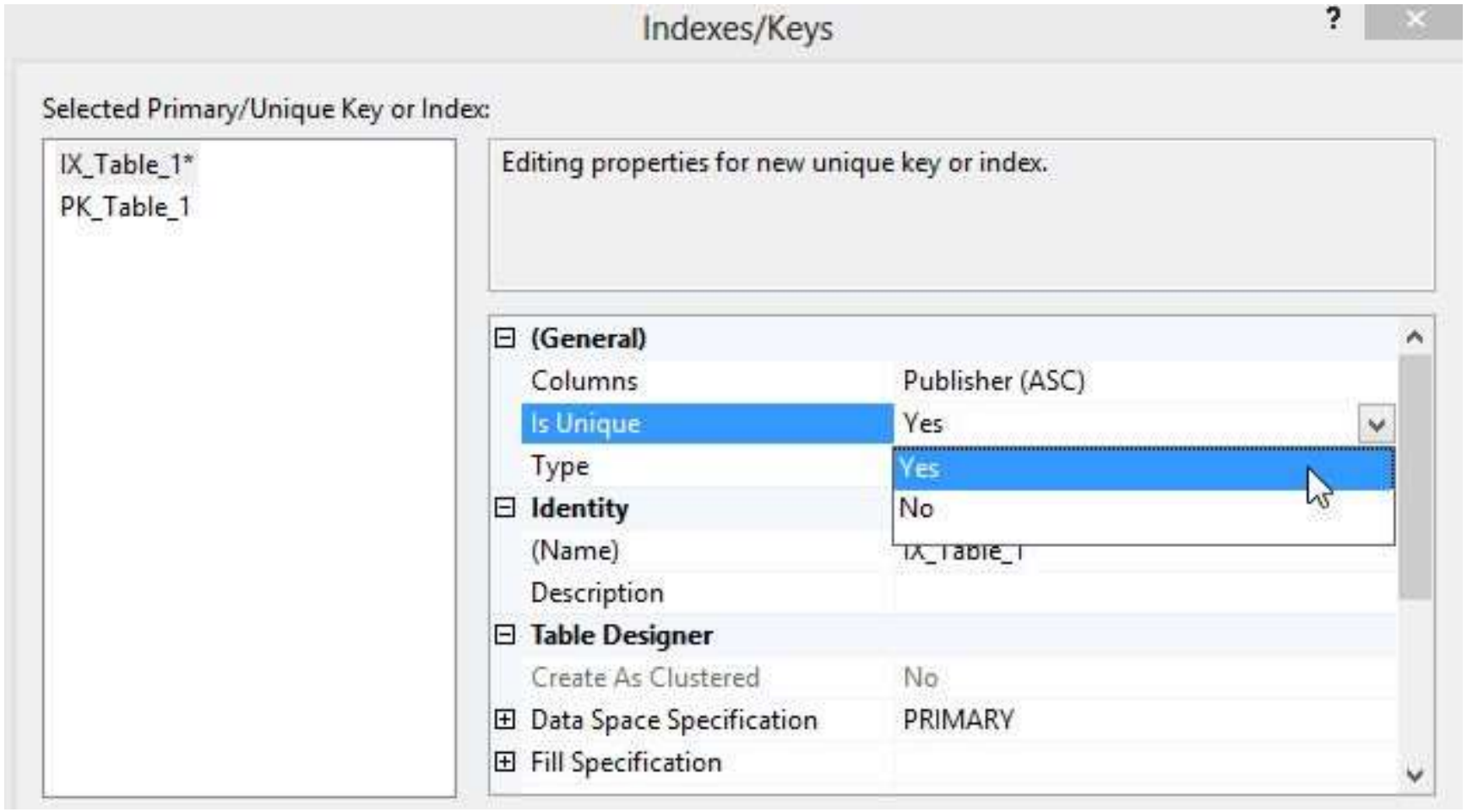
Choose Columns



Publisher


Index Columns
Specify the columns and sort order for this Index:
Column Name
Sort Order
Publisher
Ascending
OK
Cancel

Is Unique


Indexes/Keys
Selected Primary/Unique Key or Index:
IX_Table_1*
PK_Table_1
Editing properties for new unique key or index.
(General)
Columns
Publisher (ASC)
Is Unique
Yes
Type
Yes
No
Identity
(Name)
Description
Table Designer
Create As Clustered
No
Data Space Specification
PRIMARY
Fill Specification

Publisher

- ID_Publisher – INTeger – Identity – Primary Key (Not allow NULL)
- Publisher – VarChar(50) - Alternate Key (Is Unique, Not allow NULL)
- Address – VarChar(150) – allow NULL

Save Table

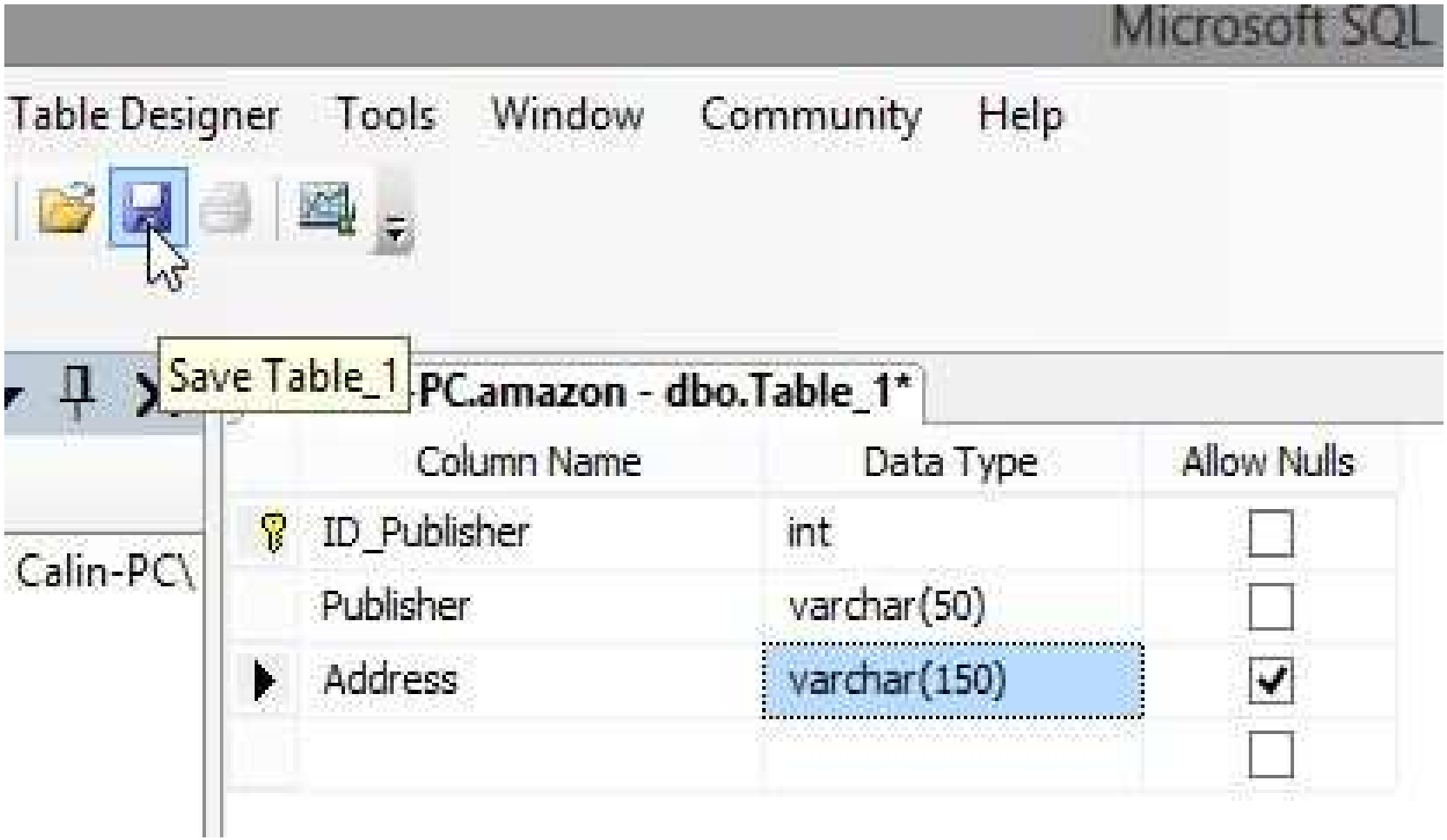
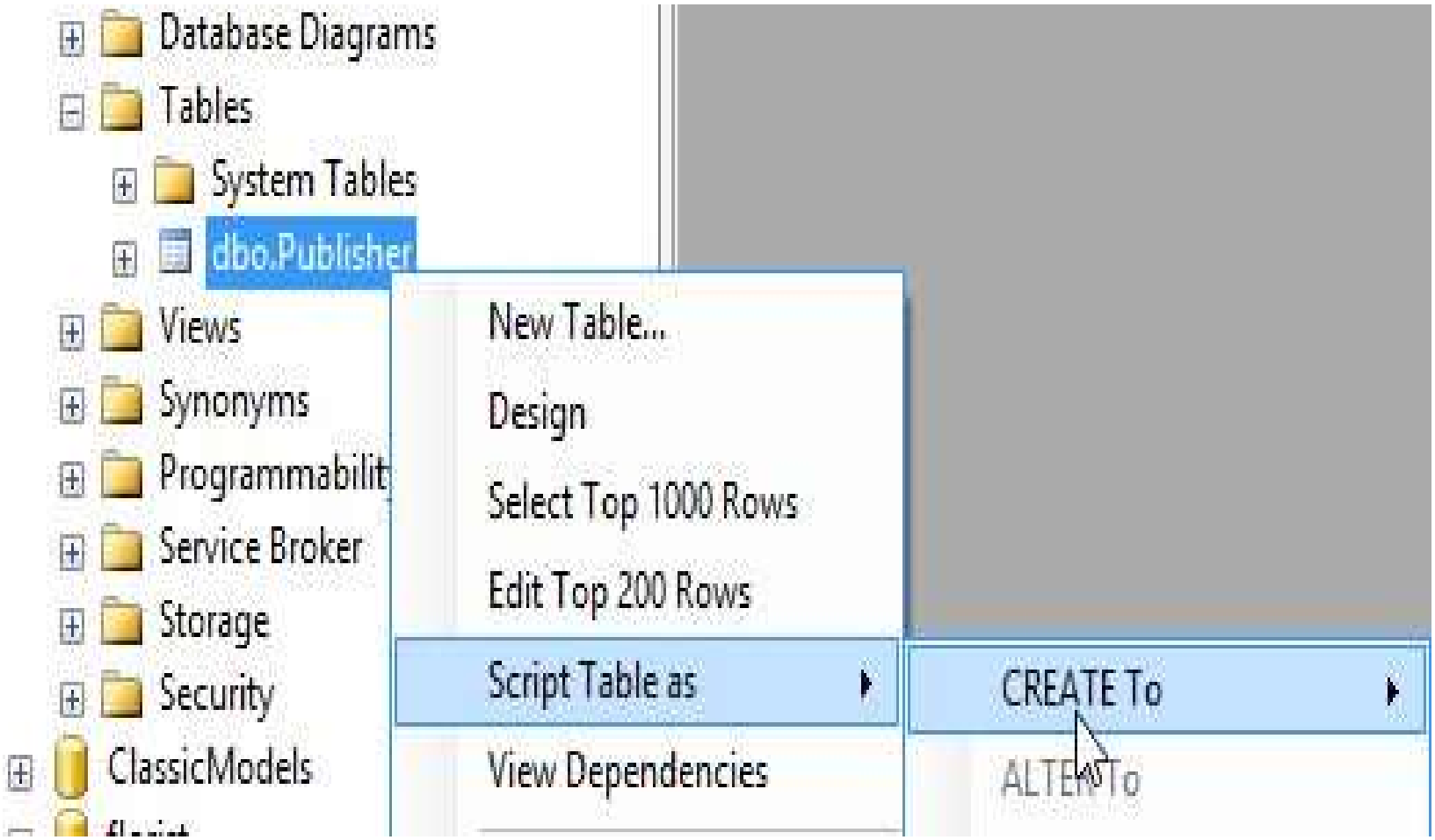

Microsoft SQL
Table Designer
Tools
Window
Community
Help
Save Table_1
PC.amazon - dbo.Table_1*
Calin-PC\
Column Name
Data Type
Allow Nulls
ID_Publisher
int
Publisher
varchar(50)
Address
varchar(150)

Table Publisher

Script Table



CREATE TABLE [dbo].[Publisher](

- CREATE TABLE [dbo].[Publisher](
- [ID_Publisher] [int] IDENTITY(1,1) NOT NULL,
- [Publisher] [varchar](50) NOT NULL,
- [Address] [varchar](150) NULL,
- CONSTRAINT [PK_Publisher] PRIMARY KEY CLUSTERED
- (
- [ID_Publisher] ASC
-)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF, IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON, ALLOW_PAGE_LOCKS = ON) ON [PRIMARY]
-) ON [PRIMARY]

CREATE TABLE Publisher

- CREATE TABLE [dbo].[Publisher](
- ID_Publisher int IDENTITY(1,1) NOT NULL,
- Publisher varchar (50) NOT NULL,
- Address varchar (150) NULL,
- CONSTRAINT [PK_Publisher] PRIMARY KEY (
- [ID_Publisher] ASC
-))

CREATE TABLE Author

- CREATE TABLE [dbo].[Author](
- [ID_Author] [int] IDENTITY(1,1) NOT NULL,
- [Author] [nvarchar](50) NOT NULL,
- CONSTRAINT [PK_Author] PRIMARY KEY CLUSTERED
- (
- [ID_Author] ASC
-))

CREATE TABLE Genre

- CREATE TABLE [dbo].[Genre](
- [ID_Genre] [int] IDENTITY(1,1) NOT NULL,
- [Genre] [varchar](50) NOT NULL,
- CONSTRAINT [PK_Genre] PRIMARY KEY CLUSTERED
- (
- [ID_Genre] ASC
-))

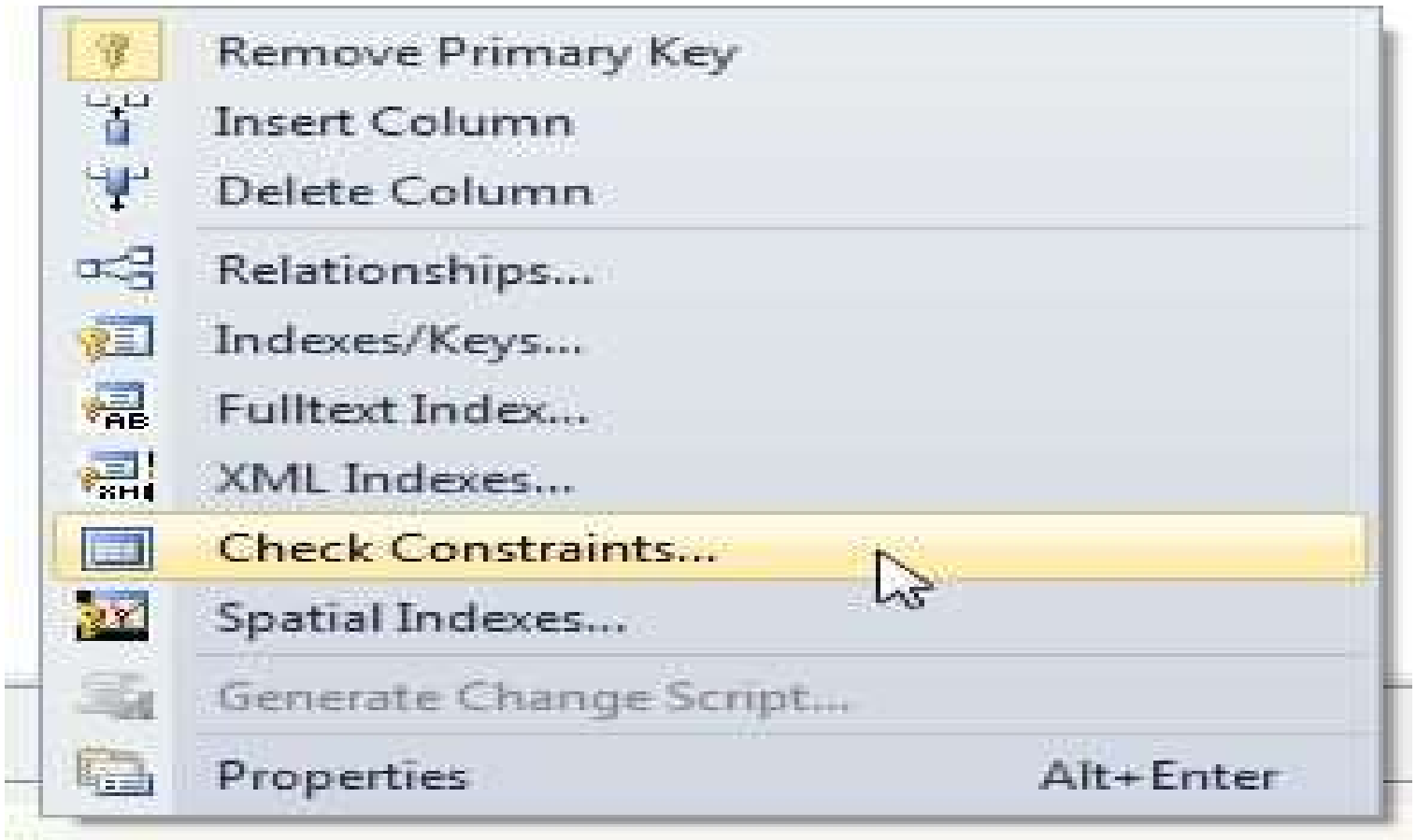
CREATE TABLE Books

- CREATE TABLE [dbo].[Book](
- [ISBN] [char](13) NOT NULL,
- [Title] [varchar](50) NOT NULL,
- [Publisher_ID] [int] NOT NULL,
- [Author_ID] [int] NULL,
- [Price] [money] NOT NULL,
- [Pages] [int] NULL,
- [PubDate] [date] NULL,
- [Description] [varchar](max) NULL,
- CONSTRAINT [PK_Book] PRIMARY KEY CLUSTERED
- ([ISBN] ASC))

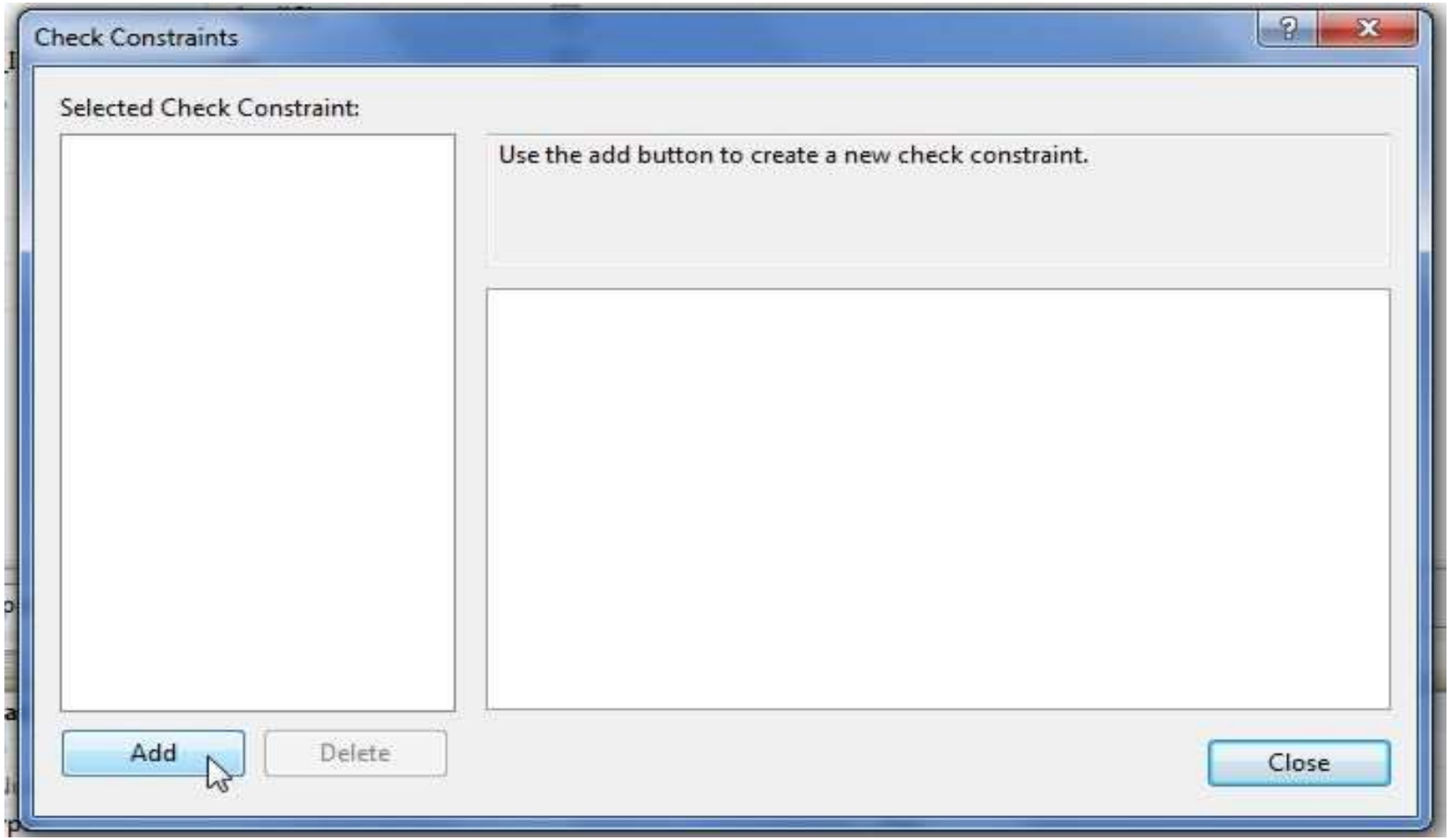
Varchar(MAX)

- Description is VarChar(MAX) to replace deprecated TEXT, TLOB (Text Large OBject)
- VarBinary(MAX) replace deprecated IMAGE, BLOB (Binary Large OBject)

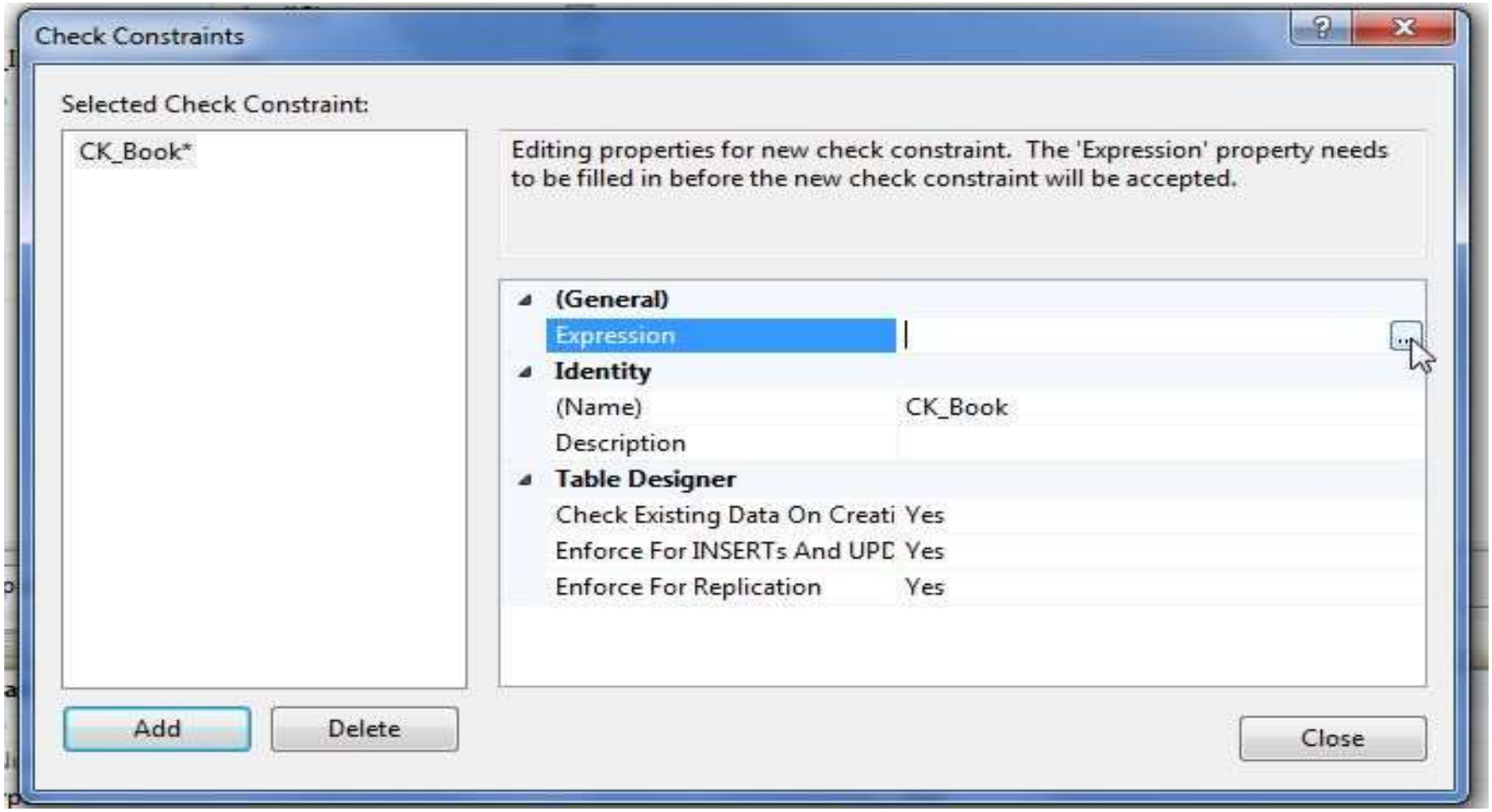
Check Constraint



Add Check Constraint



Expression


Check Constraints
Selected Check Constraint:
CK_Book*
Editing properties for new check constraint. The 'Expression' property needs to be filled in before the new check constraint will be accepted.
(General)
Expression
Identity
(Name)
CK_Book
Description
Table Designer
Check Existing Data On Creati
Yes
Enforce For INSERTs And UPD
Yes
Enforce For Replication
Yes
Add
Delete
Close

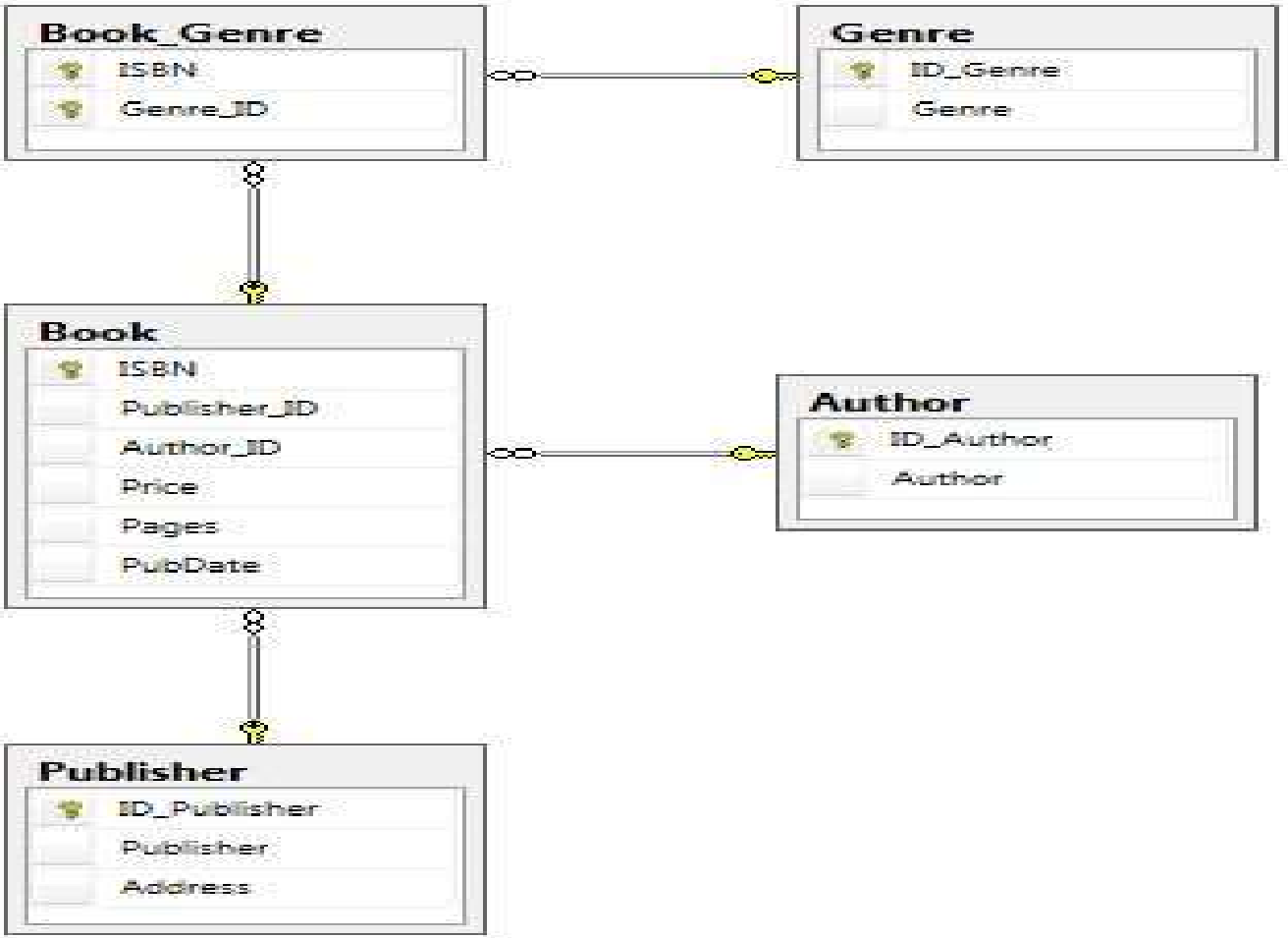
Constraints

- Price > 0
- Pages > 0 OR Pages IS NULL
- ISBN LIKE '[0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9][0-9]'

CREATE TABLE Book_Genre

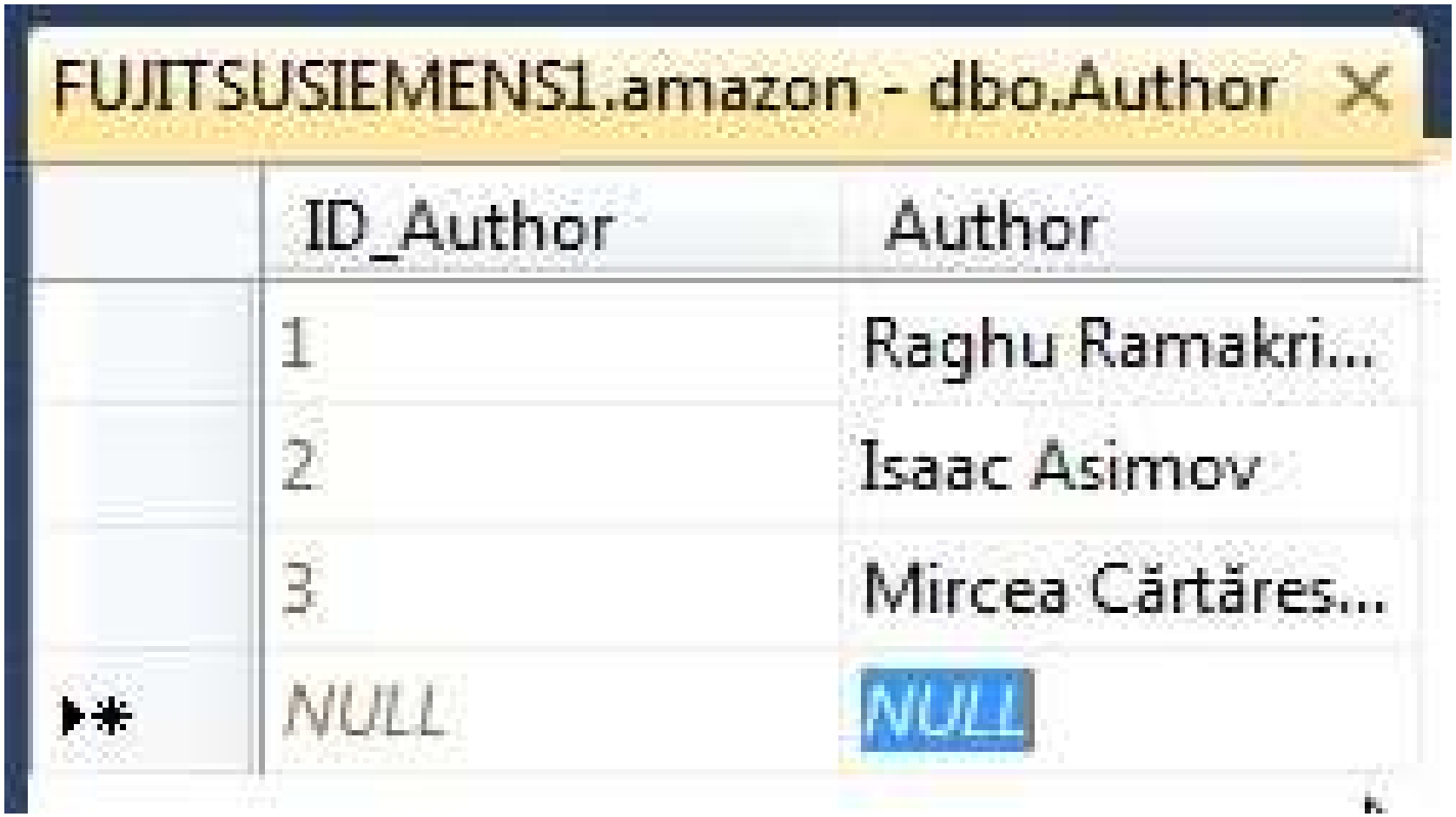
- CREATE TABLE [dbo].[Book_Genre](
- [ISBN] [char](13) NOT NULL,
- [Genre_ID] [int] NOT NULL,
- CONSTRAINT [PK_Book_Genre] PRIMARY KEY CLUSTERED
- (
- [ISBN] ASC,
- [Genre_ID] ASC
-))

DataBase Diagram



- Design is over …
- Let’s try to fill some data

NVarChar …



FUJITSUSIEMENS1.amazon - dbo.Author

	ID_Author	Author
	1	Raghu Ramakri...
	2	Isaac Asimov
	3	Mircea Cărtăres...
▶*	NULL	NULL

View VBookGenre

- SELECT dbo.Book.ISBN, dbo.Book.Title, dbo.Genre.Genre
- FROM dbo.Book INNER JOIN
- dbo.Book_Genre ON Book.ISBN = Book_Genre.ISBN INNER JOIN
- Genre ON Book_Genre.Genre_ID = dbo.Genre.ID_Genre

View VBook

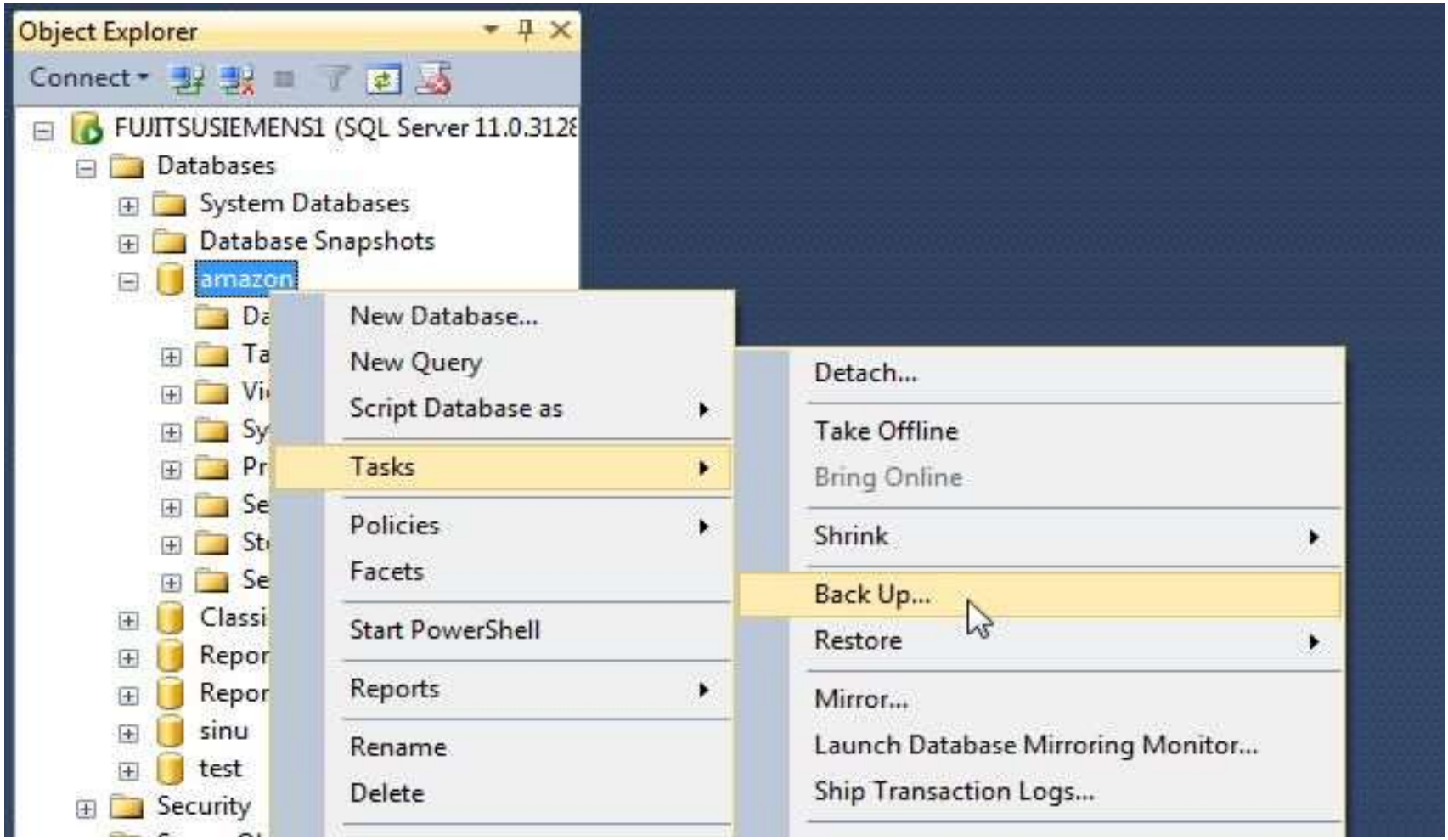
- SELECT dbo.Book.ISBN, dbo.Book.Title, dbo.Author.Author, dbo.Publisher.Publisher, dbo.Book.Price, dbo.Book.Pages, dbo.Book.PubDate, dbo.Book.Description
- FROM dbo.Author INNER JOIN
- dbo.Book ON dbo.Author.ID_Author = dbo.Book.Author_ID INNER JOIN
- dbo.Publisher ON dbo.Book.Publisher_ID = dbo.Publisher.ID_Publisher

- DataBase Design – checked
- Data – checked
- External level – Views – checked

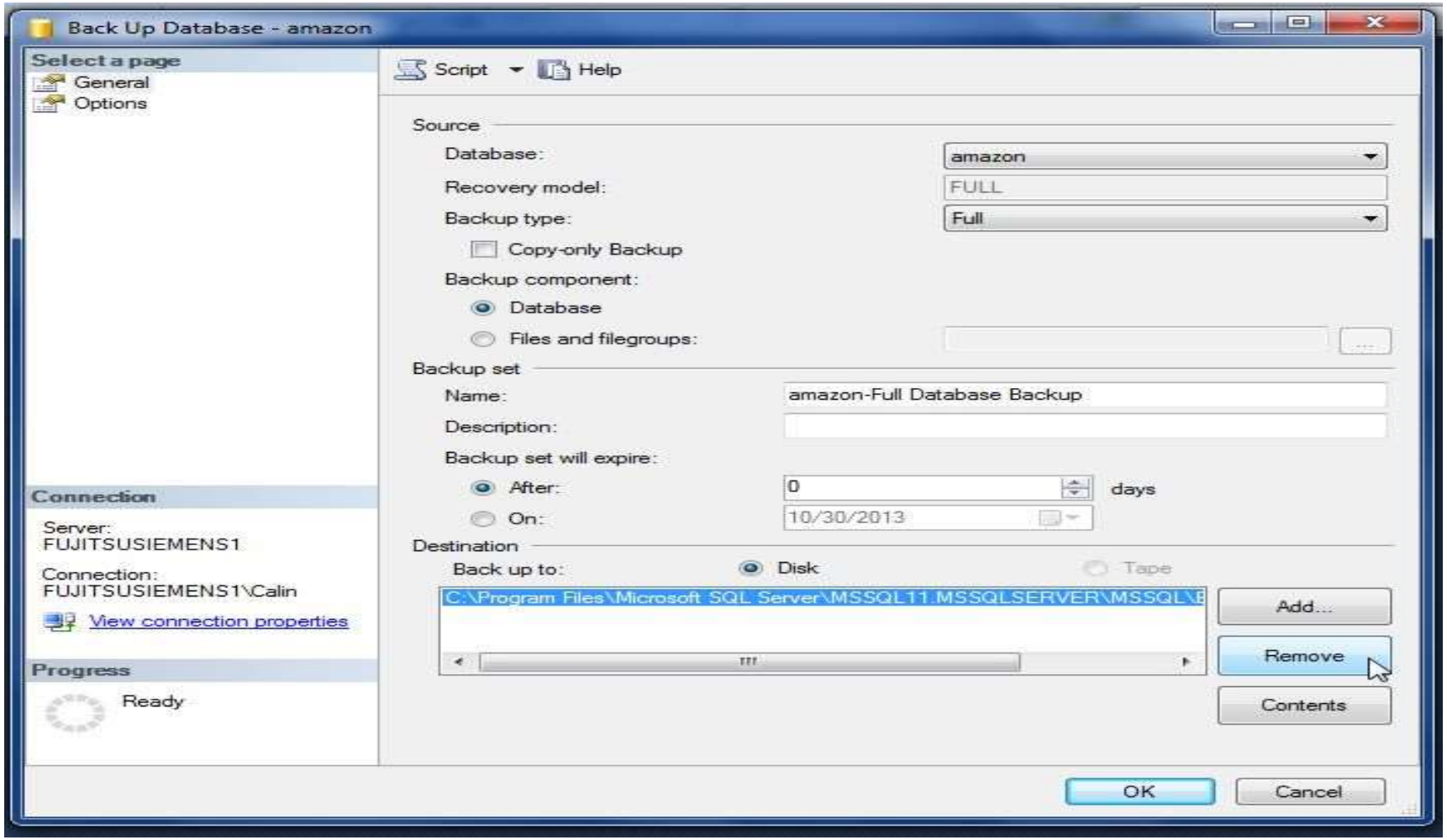
- Spread the … database

BackUp & ReStore

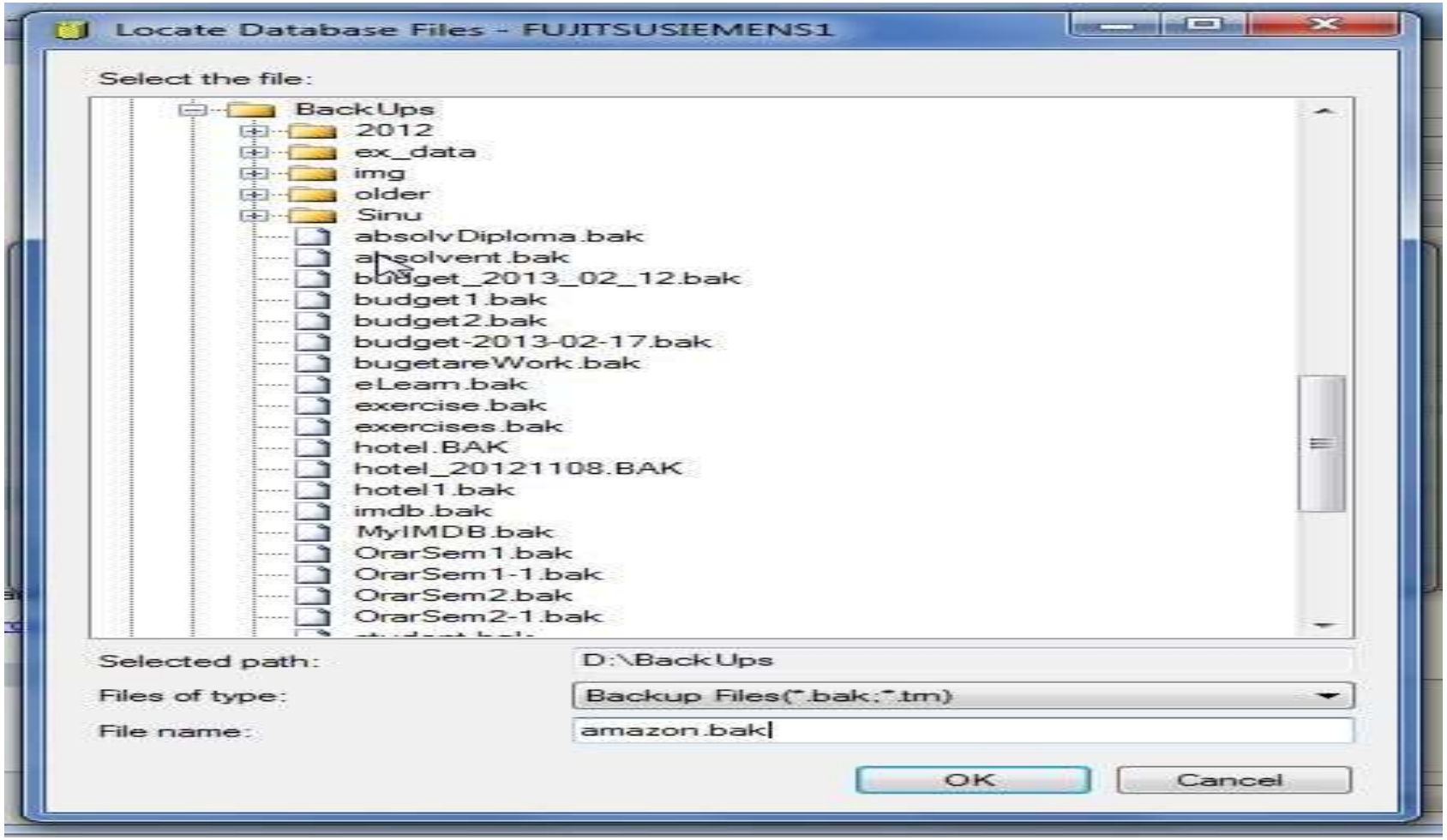
- Correct way
  - Backup & restore
  - 2008 backup could be restored in 2012
  - 2012 backup could not be restored in 2018
- Script database way
  - Works for small database
  - Works both ways between different versions
- Barbaric way
  - Attach, Detach


Object Explorer
Connect
FUJITSUSIEMENS1 (SQL Server 11.0.312
Databases
System Databases
Database Snapshots
amazon
Classi
Repor
Repor
sinu
test
Security
New Database...
New Query
Script Database as
Tasks
Policies
Facets
Start PowerShell
Reports
Rename
Delete
Detach...
Take Offline
Bring Online
Shrink
Back Up...
Restore
Mirror...
Launch Database Mirroring Monitor...
Ship Transaction Logs...

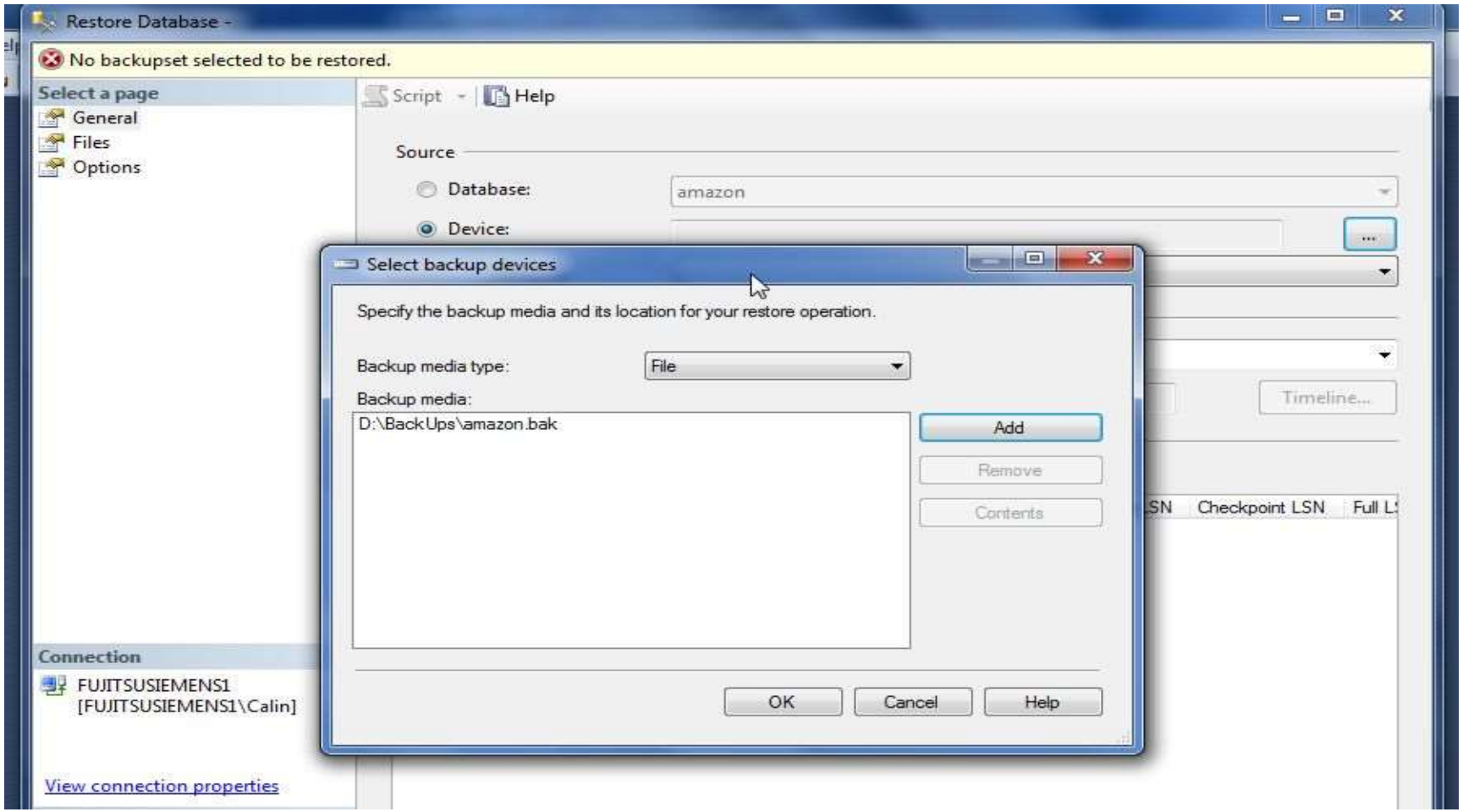
Never forget to Remove



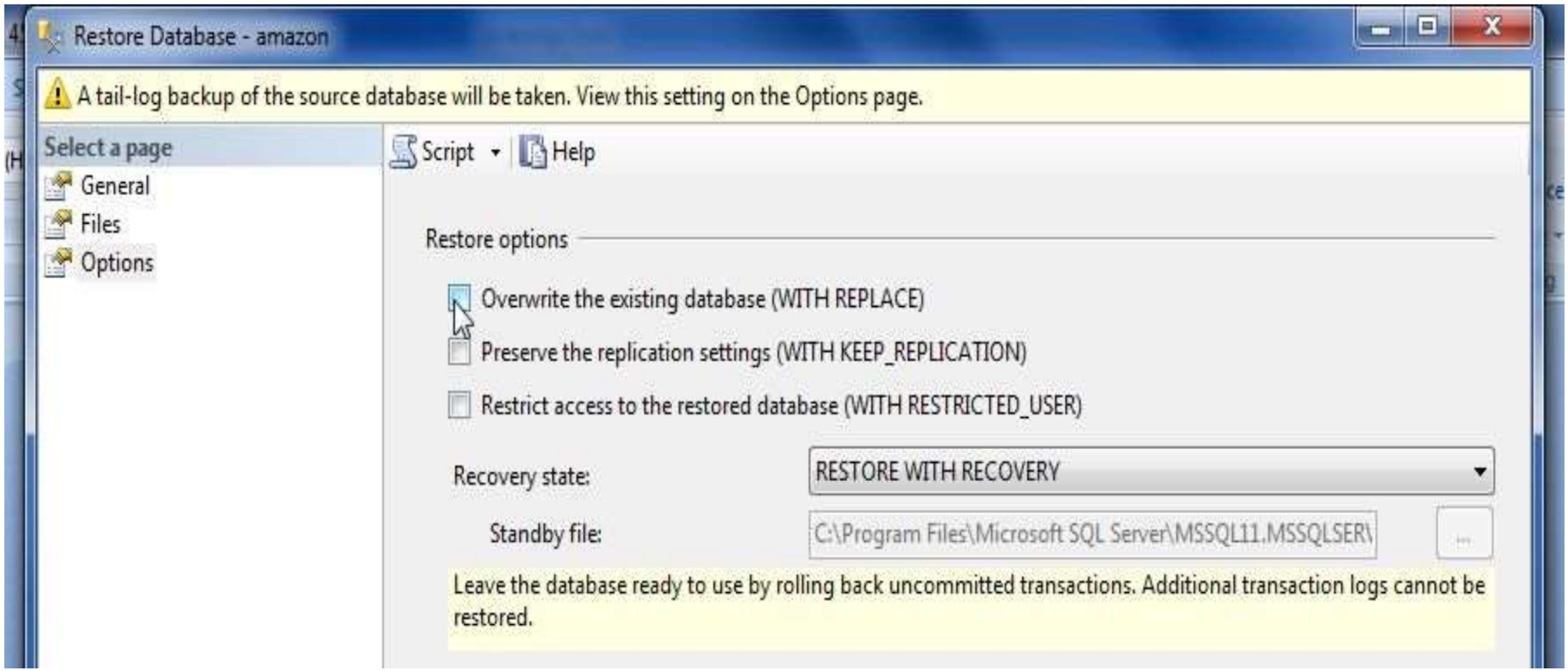
Add


Locate Database Files - FUJITSUSIEMENS1
Select the file:
BackUps
2012
ex_data
img
older
Sinu
absolvDiploma.bak
absolvent.bak
budget_2013_02_12.bak
budget1.bak
budget2.bak
budget-2013-02-17.bak
bugetareWork.bak
eLearn.bak
exercise.bak
exercises.bak
hotel.BAK
hotel_20121108.BAK
hotel1.bak
imdb.bak
MyIMDB.bak
OrarSem1.bak
OrarSem1-1.bak
OrarSem2.bak
OrarSem2-1.bak
Selected path:
D:\BackUps
Files of type:
Backup Files(*.bak;*.tm)
File name:
amazon.bak
OK
Cancel

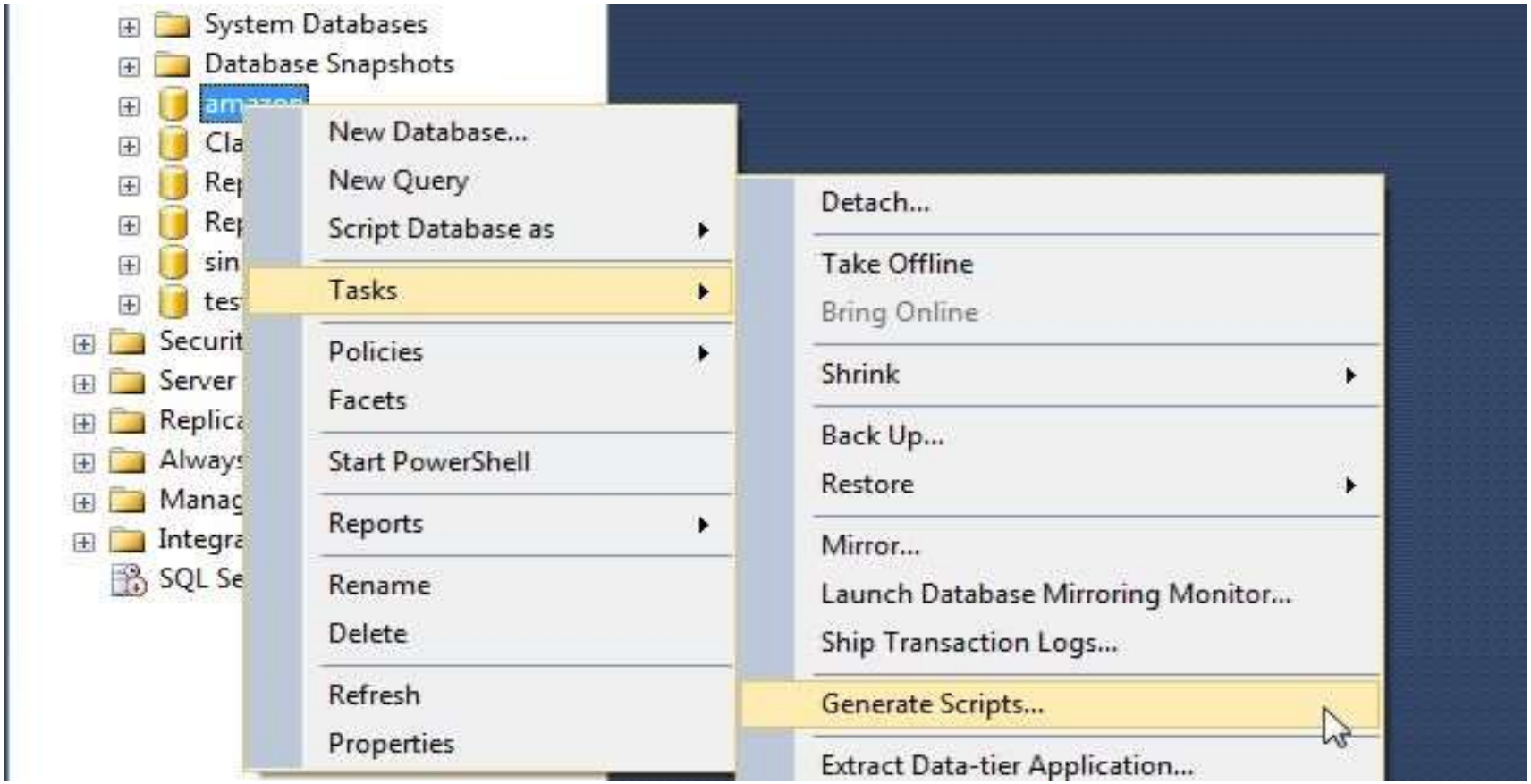
Restore - device

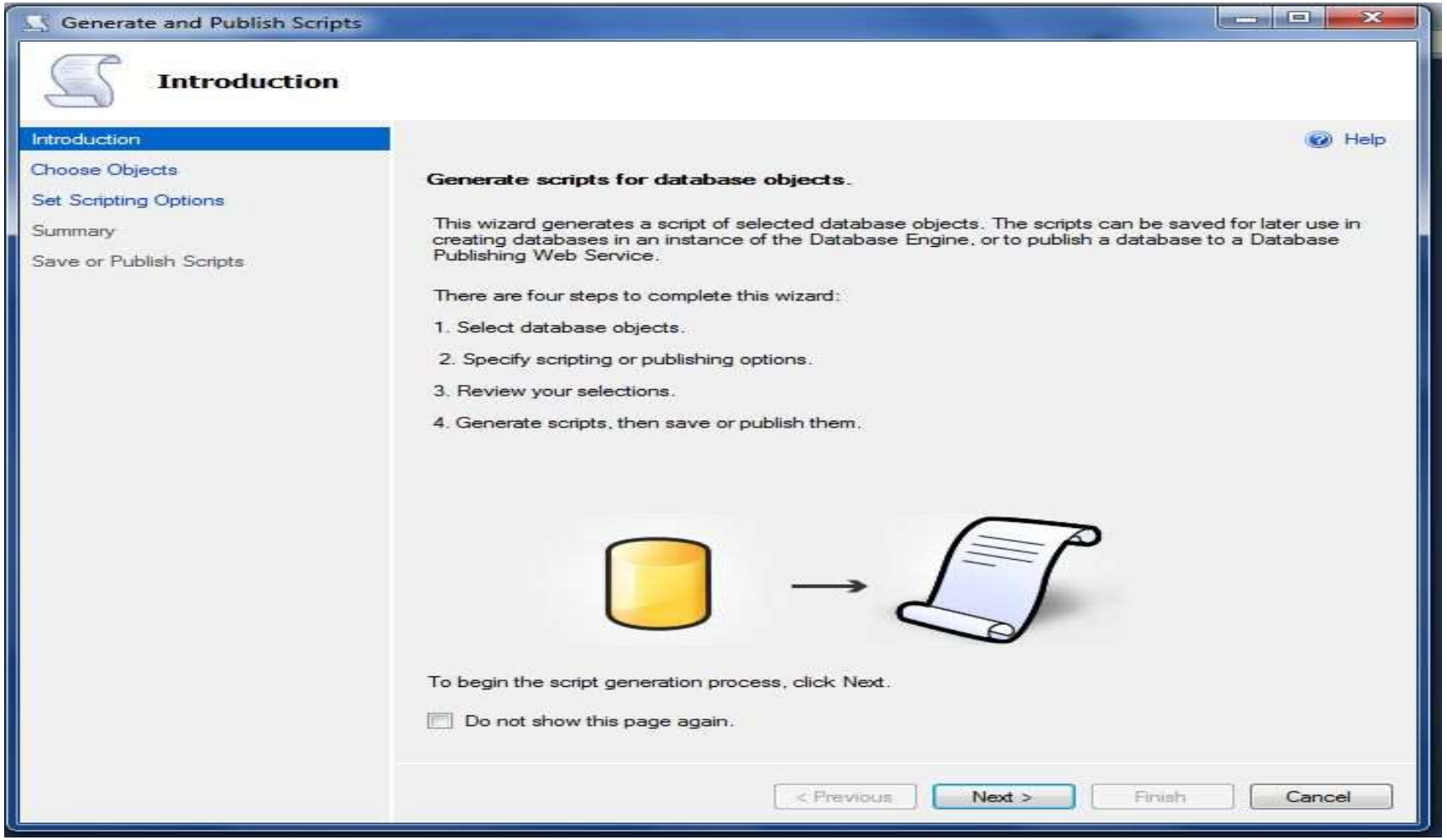


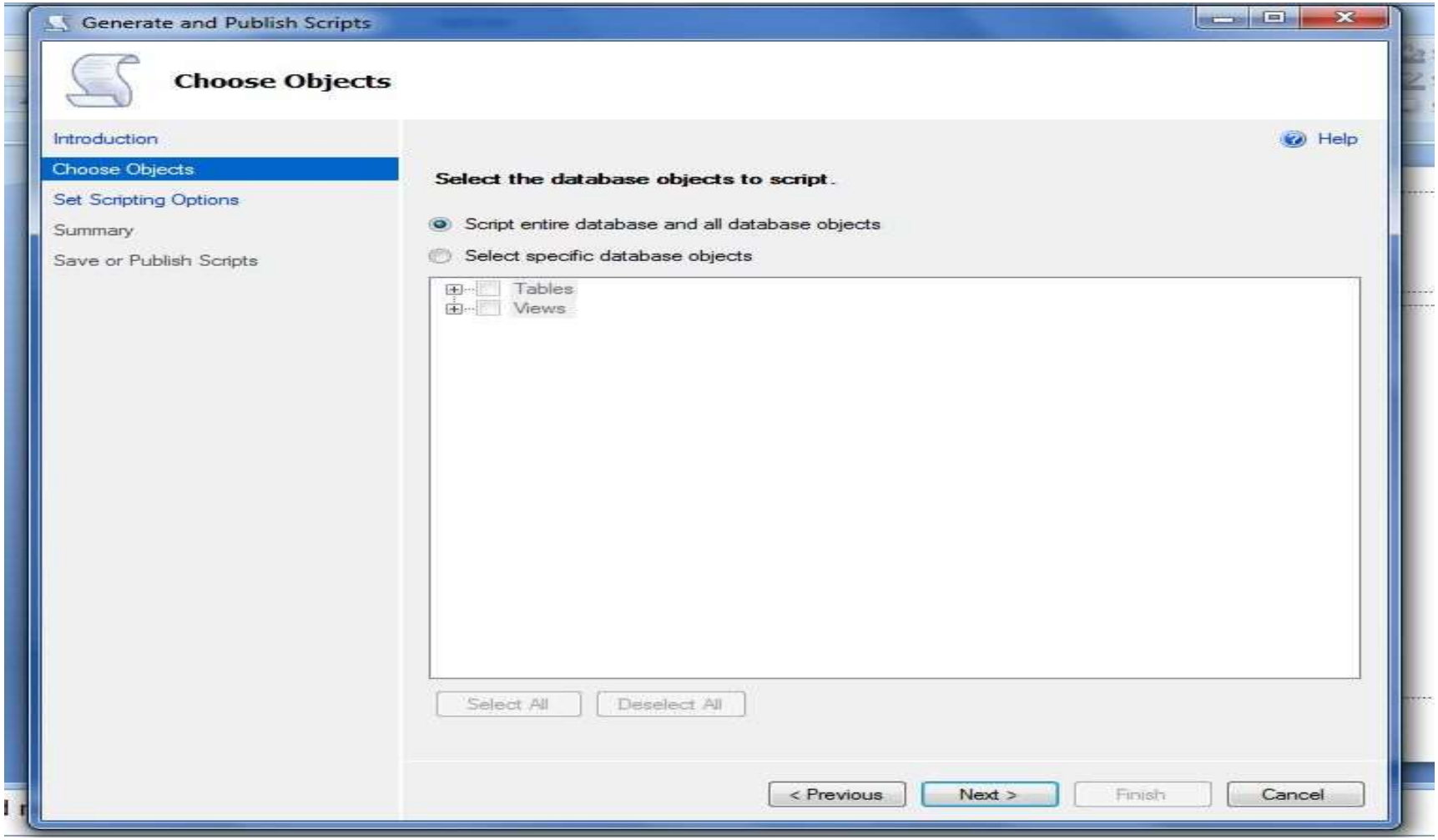
OverWrite the existing database

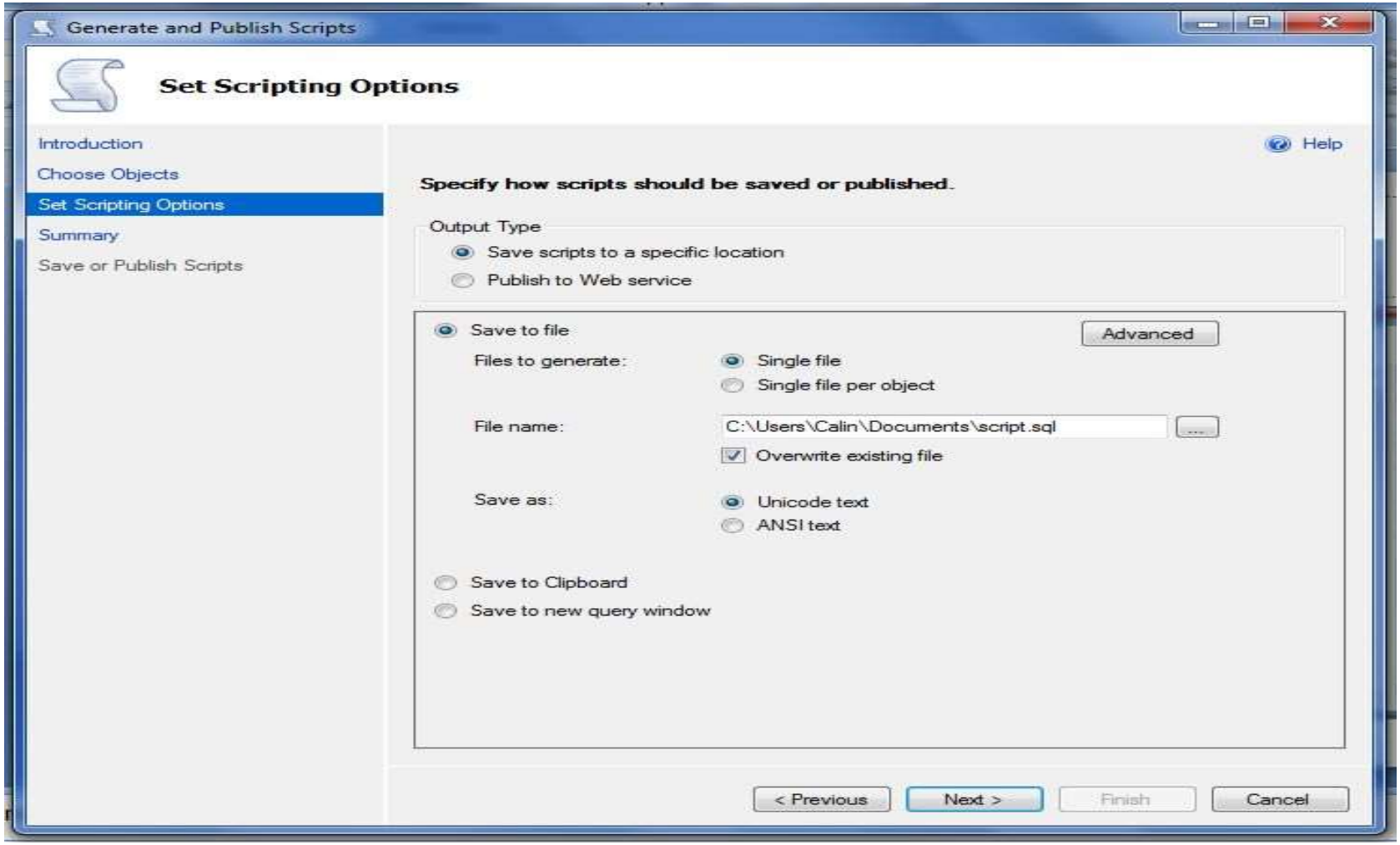


Generate Scripts




Generate and Publish Scripts
Introduction
Introduction
Choose Objects
Set Scripting Options
Summary
Save or Publish Scripts
Help
Generate scripts for database objects.
This wizard generates a script of selected database objects. The scripts can be saved for later use in creating databases in an instance of the Database Engine, or to publish a database to a Database Publishing Web Service.
There are four steps to complete this wizard:
1. Select database objects.
2. Specify scripting or publishing options.
3. Review your selections.
4. Generate scripts, then save or publish them.
To begin the script generation process, click Next.
Do not show this page again.
< Previous
Next >
Finish
Cancel


Generate and Publish Scripts
Choose Objects
Introduction
Choose Objects
Set Scripting Options
Summary
Save or Publish Scripts
Help
Select the database objects to script.
Script entire database and all database objects
Select specific database objects
Tables
Views
Select All
Deselect All
< Previous
Next >
Finish
Cancel


Generate and Publish Scripts
Set Scripting Options
Introduction
Choose Objects
Set Scripting Options
Summary
Save or Publish Scripts
Help
Specify how scripts should be saved or published.
Output Type
Save scripts to a specific location
Publish to Web service
Save to file
Advanced
Files to generate:
Single file
Single file per object
File name:
C:\Users\Calin\Documents\script.sql
...
Overwrite existing file
Save as:
Unicode text
ANSI text
Save to Clipboard
Save to new query window
< Previous
Next >
Finish
Cancel

Script entire database and all database objects