DBCC CheckConstraints

Being day three of the DBCC Command month at SteveStedman.com, today's featured DBCC Command is DBCC CHECKCONSTRAINTS.

Description:

DBCC CHECKCONSTRAINTS is used to check the integrity of one constraint, all constraints for a table, or all constraints for a database.

DBCC CHECKCONSTRAINTS Syntax:

Example:

To check constraints for an a single table:

For instance to check the constraints on the Production.Product table in the Adventureworks database you would run the following T-SQL.

To check a single constraint on a table you would run the following:

To check constraints for an entire database use:

Finding problems

If all of your constraints are enforced and trusted, you really shouldn't run into any problems that would be detected by DBCC CHECKCONSTRAINTS. The problem arises when someone modifies a constraing or foreign key to use the WITH NOCHECK option, which effectively means create the constraint but don't use it. You can also run into problems if someone disables a constraint with the intent of re-enabling it later and they forget to do that.

To simulate a problem that would be detected, I updated the [FK_Address_StateProvince_StateProvinceID] constraint in on the [Person].[Address] table in the AdventureWorks database. I then ran an update statement to change one of the StateProvinceID's to be invalid, then checked the contents of the [Person].[Address] table as shown here:

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	AddressID	AddressLine1	AddressLin...	City	StateProvince...	PostalCode	rowguid
1	1	1970 Napa Ct.	NULL	Bothell	3939393	98011	9AADCB0D-36CF-483F-8
2	2	9833 Mt. Dias Blv.	NULL	Bothell	79	98011	32A54B9E-E034-4BFB-B
3	3	7484 Roundtree Drive	NULL	Bothell	79	98011	4C506923-6D1B-452C-A
4	4	9539 Glenside Dr	NULL	Bothell	79	98011	E5946C78-4BCC-477F-9
5	5	1226 Shoe St.	NULL	Bothell	79	98011	FBAFF937-4A97-4AF0-81
6	6	1399 Firestone Drive	NULL	Bothell	79	98011	FEBF8191-9804-44C8-87
7	7	5672 Hale Dr.	NULL	Bothell	79	98011	0175A174-6C34-4D41-B
8	8	6387 Scenic Avenue	NULL	Bothell	79	98011	3715E813-4DCA-49E0-8
9	9	8713 Yosemite Ct.	NULL	Bothell	79	98011	268AF621-76D7-4C78-94
10	10	250 Race Court	NULL	Bothell	79	98011	0B6B739D-8FB6-4378-8

Next when DBCC CHECKCONSTRAINTS is run, it produces results showing exactly where the problem is.

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	Table	Constraint	Where
1	[Person].[Address]	[FK_Address_StateProvince_StateProvinceID]	[StateProvinceID] = '3939393'

Here we can see that the [Person].[Address] table is the problem where [StateProvinceID] = '3939393'. The next step would be to go and update that row to the right value, then add the WITH CHECK option to the constraint, and the constraint will be perfectly valid again.

Notes:

For more information see TSQL Wiki DBCC checkconstraints.

DBCC Command month at SteveStedman.com is almost as much fun as violating the integrity of a constraint.