Week 5 - Winning Solution - Database Corruption Challenge

Find out more about the Week 5 Challenge on the overview blog post.

The winning solution, was submitted by Patrick Flynn, just 3 hours and 18 minutes after the challenge was posted. Patrick provided me with the following steps, and TSQL code to back up the steps:

> The process was
>
> (a) Restore two copies from backup (Old backup has 400 Customers and 1622 Orders)
>
> (b) Use the supplied MDF, LDF and NDF to hack attach to instance
>
> (c) Try using tail-log backup but log chain broken also as errors in Boot page (1:9) unable to use all files
>
> (d) Instead using original backup replace only log file and ndf file (containing user data)
>
> (e) After switching to emergency mode found errors in Orders table (1:175) but this does not contain new rows
>
> (f) Able to select the newest 181 rows and insert into original orders table
>
> Final Status was
>
> Orders = 12803 rows
>
> Customers = 400 rows
>
> No corruption remaining

Here is the exact TSQL code that supported that solution.

To start with he provided me with one of the things that was needed to win the solution, the exact version of SQL Server being used. Note everything below in the SQL code was written by Patrick, the commentary in between the code was written by me.

Step 1 Restore Backup as Copy, notice the "\Backup\" in the path to the files, and the "_Original" in

the name of the database. After doing the restore, Patrick checked the count of rows in the two tables, and noted them for future reference.

Then another restore of the same backup, this time to a different directory than the first with database name being [CorruptionChallenge5]. The file names are the same, just in a different directory.

Next steps 3, 4 and 5. This is what is typically referred to as a Hack Attach, a way to connect to a database that is corrupt by just switching the files out. The database needs to be offline to do this, otherwise you can't overwrite the files. Note here, only the ndf file and the log are being replaced. Since all of the user objects where in the CorruptionChallenge5_UserObjects.ndf file, we were able to get past the boot page error.

Now jump into Emergency Mode.

Run CheckDB to see whats going on. It appears that there are some problems.

Lets find out more about the difference between the last backup and the current.

New data added.

See what we can get out of the bad file.

Now check to be sure we got it all.

Find out what is missing.

Put the 181 missing rows back in.

We have the data back, so lets check the table.

And that is how Patrick solved it this week. Nice job Patrick. I will post my solution which was different from this one soon.

Related Links

- Current Scores
- Newsletter Sign up
- Database Corruption Challenge T-Shirt
- Week 1, Week 2, Week 3, Week 4, Week 5
- Database Corruption Worksheet

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FitBit Stats: I walked 7820 steps (4.58 miles) on my treadmill at my walking desk while writing this post.