

Collation setting Change

It would be a challenging situation to be in for a SQL DBA when there is a mismatch of collation setting in SQL Instance or SQL Database. There would be couple of scenarios for both the case.

A- Collation setting change of SQL Instance

- 1- Collation change of SQL Instance without User Database
- 2- Collation change of SQL Instance with User Database

Scenario 1 (Without User DB)

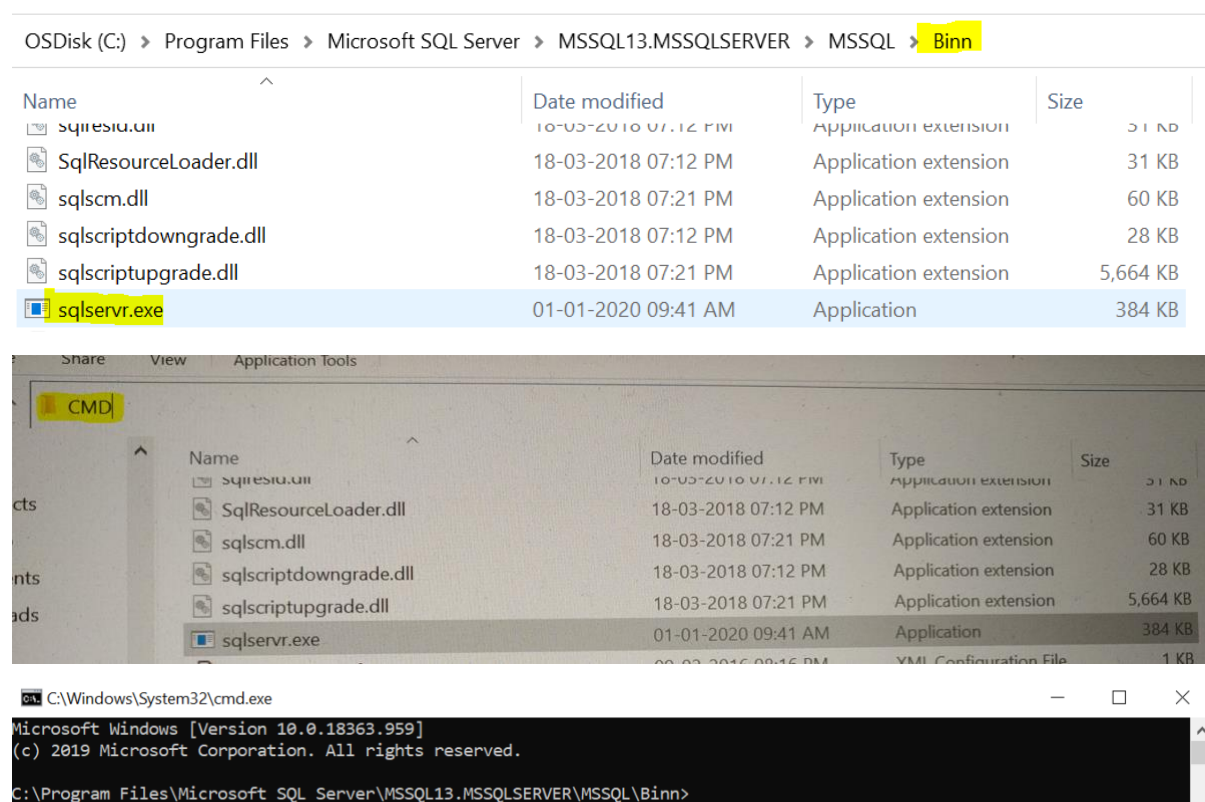
Requirement of a fresh installation for SQL Side by Side upgrade / Migration and found collation mismatch during Post installation validation check.

Step 1- Stop all the SQL services related to Default Instance (MSSQLSERVER) or Named Instance (eg: NEW2019)



Step 2- Open a CMD prompt & Navigate to the SQL Server Binn directory

This can be done easily by First Navigating to the Binn folder and then type **CMD** in the folder Path section and Enter. It will open Command prompt as



Step 3- Apply new Server Collation

Execute the Below mention script

```
sqlservr -m -T4022 -T3659 -s "MSSQLSERVER" -q "Hungarian_CI_AS"
```

Change the MSSQLSERVER with Named Instance as required.

e.g: sqlservr -m -T4022 -T3659 -s"NEW2019" -q"Hungarian_CI_AS"

where NEW2019 is the Named Instance Name & Hungarian_CI_AS is the New collation.

```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 10.0.18363.959]
(c) 2019 Microsoft Corporation. All rights reserved.

C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Binn>sqlservr -m -T4022 -T3659 -s"MSSQLSERVER" -q"Hungarian_CI_AS"

C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Binn>sqlservr -m -T4022 -T3659 -s"MSSQLSERVER" -q"Hungarian_CI_AS"
2020-08-11 23:52:47.53 Server          Microsoft SQL Server 2016 (SP2-GDR) (KB4532097) - 13.0.5102.14 (X64)
Dec 31 2019 22:39:35
Copyright (c) Microsoft Corporation
Developer Edition (64-bit) on Windows 10 Enterprise 10.0 <X64> (Build 18363: ) (Hypervisor)

2020-08-11 23:52:47.53 Server          UTC adjustment: 5:30
2020-08-11 23:52:47.54 Server          (c) Microsoft Corporation.
2020-08-11 23:52:47.54 Server          All rights reserved.
2020-08-11 23:52:47.54 Server          Server process ID is 33876.
```

No User action required till you see the Successful message.

```
2020-08-11 23:53:36.30 spid5s          The default collation was successfully changed.
2020-08-11 23:53:37.06 spid5s          Recovery is complete. This is an informational message only. No user action is required.
Do you wish to shutdown SQL Server? (Y/N)? y
2020-08-11 23:53:58.24 spid5s          SQL Server shutdown due to Ctrl-C or Ctrl-Break signal. This is an informational message only. No user action is required.
2020-08-11 23:53:58.24 spid5s          SQL Server shutdown has been initiated
2020-08-11 23:53:58.24 spid5s          SQL Trace was stopped due to server shutdown. Trace ID = '1'. This is an informational message only; no user action is required.

C:\Program Files\Microsoft SQL Server\MSSQL13.MSSQLSERVER\MSSQL\Binn>
```

Step 4- Restart the SQL Instance related services.

Step 5- Verify SQL server Collation.

Connections	Product	Microsoft SQL Server Developer (64-bit)
Database Settings	Operating System	Microsoft Windows NT 6.3 (18363)
Advanced	Platform	NT x64
Permissions	Version	13.0.5102.14
	Language	English (United States)
	Memory	6077 MB
	Processors	8
	Root Directory	C:\Program Files\Microsoft SQL Server\MSSQL13.M
	Server Collation	Hungarian_CI_AS
	Is Clustered	False
	Is XTP Supported	True
	Is HADR Enabled	False

Scenario 2 (With User DB)

Requirement of an installation for SQL Side by Side upgrade / Migration and found collation mismatch post the user databases are migration. Issue got highlighted only once application user have started facing issues as Databases & SQL Server are in different Collation. Databases are in correct collation as those are migrated from old server.

Step 1- Stop all Application services

Step 2- Take Backup of All Databases for rollback just in case it requires

Step 3- Detach all the User databases

Step 4- Follow (step 1 to Step 5) from Scenario 1

Step 5- Re attach all the user databases

B- Collation setting change of SQL Database

- 1- Collation change of Database Without Data
- 2- Collation change of Database with Data

Scenario 1 (Without Data)

Just created a new database with wrong collation setting and with no data

Execute the below t SQL script, Replace the [DatabaseName] with the actual database name

Step 1- Change the Collation of Database

```
USE master;
```

```
GO
```

```
-- Set to single-user mode
```

```
ALTER DATABASE [DatabaseName]
```

```
SET SINGLE_USER WITH ROLLBACK IMMEDIATE
```

```
GO
```

```
-- change collation
```

```
ALTER DATABASE [DatabaseName]
```

```
COLLATE Hungarian_CI_AS;
```

```
GO
```

```
-- Set to multi-user mode
```

```
ALTER DATABASE [DatabaseName]
```

```
SET MULTI_USER WITH ROLLBACK IMMEDIATE;
```

```
GO
```

```
--Verify the collation setting.
```

```
SELECT name, collation_name
```

```
FROM sys.databases
```

```
WHERE name = N'[DatabaseName]';
```

```
GO
```

Step 2- Change the collation of table Column

After Step 1, May be few table columns with different collation (columns of types char, varchar, text, nchar, nvarchar, and ntext) .It is advisable before making any changes collations, check whether the changes will generate any problems to the applications or not .

To list all table columns with their current collations, use the t SQL query mentioned below.

```
SELECT
    t.name,
    c.name,
    c.collation_name
FROM sys.columns c INNER JOIN sys.tables t
    ON t.object_id = c.object_id
WHERE c.object_id
    IN (SELECT object_id
        FROM sys.objects
        WHERE type = 'U')
    AND c.collation_name != 'NULL'
ORDER BY t.name, c.name
```

To alter a column collation to a new one, you may run the following query:

```
ALTER TABLE [<Table>] ALTER COLUMN [<Column>] <ColumnType>
    COLLATE <NewCollation>
```

In case of an error, make sure that the referencing constraints and indexes are dropped and recreate those after the collation has been changed.

Scenario 2 (Without Data)

Step 1-Export Data

Export Data Using bulk copy program utility (bcp) using the following command: for all the tables.

```
bcp [DatabaseName].dbo.[TableName] out TableName.txt -c -T
```

where -c performs the operation using a character data type and -T specifies that the bcp utility connects to SQL Server with a trusted connection using integrated security.

Step 2- Change Database Collation

```
-- Alter database collation
```

```
ALTER DATABASE [DatabaseName] COLLATE Hungarian_CI_AS;
```

Step 3- Drop and Recreate the tables

Step 4- Import previously exported data to all tables newly created

```
bcp [DatabaseName].dbo.[TableName] in Tablename.txt -c -T
```

NOTE: Please TEST the steps in Lower Environment before Implementing on production