24/12/2023

SQLSchemaCompare

General

SQLSchemaCompare is a tool designed to compare SQL Server databases schema between a source server and multiple target servers and find schema differences if exist.

SQLSchemaCompare is a .NET 4.8 console application that can be scheduled to run automatically.

The application supports comparing schema between a single source server and an unlimited number of target servers while each task is carried out in a dedicated thread for optimal performance.

The applications support all current SQL Server versions that exists (version 2022 and backwards).

Features

- Detect schema differences and log to database table for Monitoring puposes
- Generate a deployment script
- Deploy schema changes at target server(s)
- Deploy data changes at target server(s)

Monitoring

Having the differences between source and target servers logged to a table allows us to query the table and send a notification email if a change was logged since the last verification was done.

Such a query can be executed from a monitoring tool or from an SQL Server Agent job.

Configuration

Servers.config

- Here is where you define all the servers related information
- There are 5 main configurations:
  - SourceServerSettings
    - Defines the settings for the source server
  - PackageOptions
    - Defines the source package properties
    - For the complete list of available properties see this link:

      http://msdn.microsoft.com/en-us/library/microsoft.sqlserver.dac.dacextractoptions.aspx

  - DeployOptions
    - Defines properties related to the 3 Actions that the program supports:
      - Report
      - Script
      - Deploy
    - For the complete list of available properties see this link:

      http://msdn.microsoft.com/en-us/library/microsoft.sqlserver.dac.dacdeployoptions.aspx

    - List of objects at the target that can be excluded from comparison

      https://learn.microsoft.com/en-us/dotnet/api/microsoft.sqlserver.dac.objecttype?view=sql-dacfx-162

  - ServerSettings

- Defines the settings for the target servers.
- Each xml node represents a target server

- ReportServer
  - Defines connection string properties for the server holding the Report Table