Steve Stedman
Freelance SQL Server Consultant
https://stevestedman.com

Multiple CTE’s in a single Query

Common Table Expressions are a great way to simplify complex derived table queries. If it makes sense to break out one derived table or subquery into a CTE, it can make sense to do multiple. To use multiple CTE's in a single query you just need to finish the first CTE, add a comma, declare the name and optional columns for the next CTE, open the CTE query with a comma, write the query, and access it from a CTE query later in the same query or from the final query outside the CTEs.

Another way that this could be done using SQL Server 2008 or newer is with the row constructor instead of the UNIONs inside of each CTE.

This type of row constructor syntax is often used in INSERT statements, but it can also be used in a CTE as shown here:

Which produces the following output.

Editor | Results | Messages

	FirstName	initial	LastName
1	John	A	Anderson
2	John	B	Anderson
3	John	C	Anderson
4	Mary	A	Anderson
5	Mary	B	Anderson
6	Mary	C	Anderson
7	Bill	A	Anderson
8	Bill	B	Anderson
9	Bill	C	Anderson
10	John	A	Hanson
11	John	B	Hanson
12	John	C	Hanson
13	Mary	A	Hanson
14	Mary	B	Hanson
15	Mary	C	Hanson
16	Bill	A	Hanson
17	Bill	B	Hanson
18	Bill	C	Hanson
19	John	A	Jones
20	John	B	Jones
21	John	C	Jones
22	Mary	A	Jones
23	Mary	B	Jones
24	Mary	C	Jones
			Jones
26	Bill	B	Jones
27	Bill	C	Jones

Click to select the whole row