Database 2

Precious Oziwo

My computer Specification

- HP Pavillion
- Intel(R)Core(TM)i7-1065G7 CPU @ 1.30GHz 1.50GHz
- 8.00GB RAM
- 64-bit OS

Software

- Visual Studio 2022
- Mongo DB compass
- SQL Server 18

Summary:

There are 2 database that was tested for CRUD Operation for rows of 1, 1,000, 100,000 and 1,000,000.

ADO.NET was the fastest in terms of Inserting and Reading data, however there was some issues with the server timing out when updating over 1,000 rows and deleting 1,000,000 rows.

MongoDb on the other hand was slower than ADO.NET when inserting and reading data but seems to have complete all crud execution even though it took more time, there was no server time issues.

CREATE

Number of Rows	NoSQL Speed	ADO.NET	
1	0.07 millisec	0.00459 millisec	
1,000	1 sec	2 sec	
100,000	59 sec	55 sec	
1,000,000	7:25 (8 min 25 sec)	5:40 (5 min 40 sec)	

Read

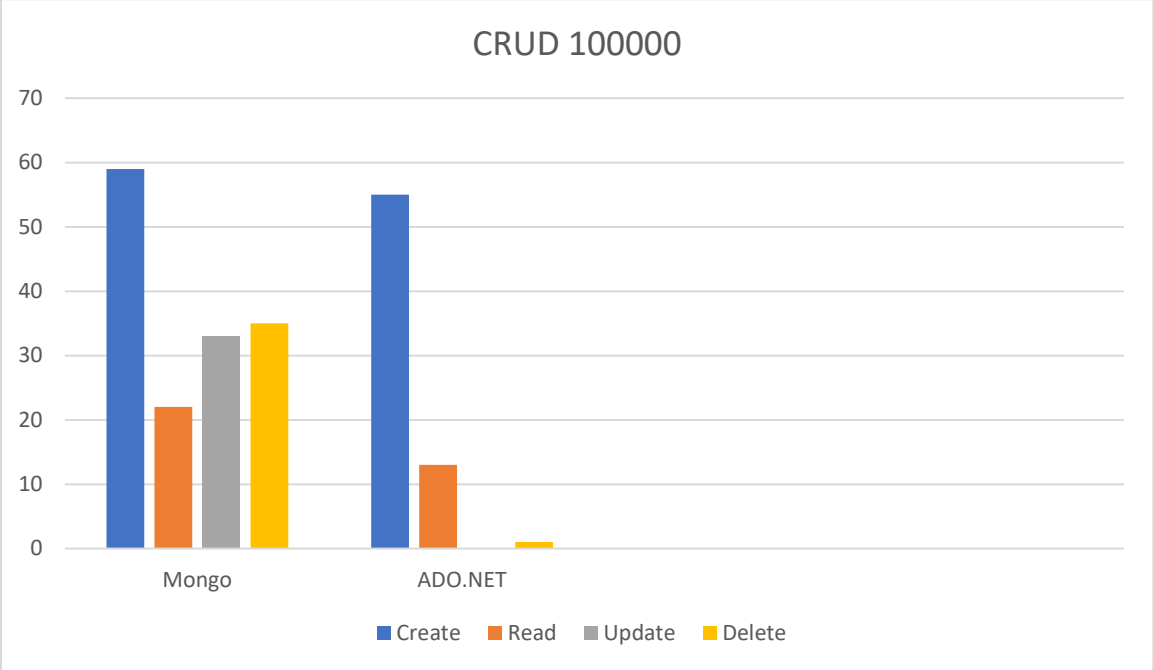
Number of Rows	NoSQL Speed	ADO.NET	
1	0.9 millisec	0.00643 millisec	
1,000	13 sec	1 sec	
100,000	22 sec	13 sec	
1,000,000	1:45 (1 min 45 sec)	1:39 (1 min 39 sec)	

Update

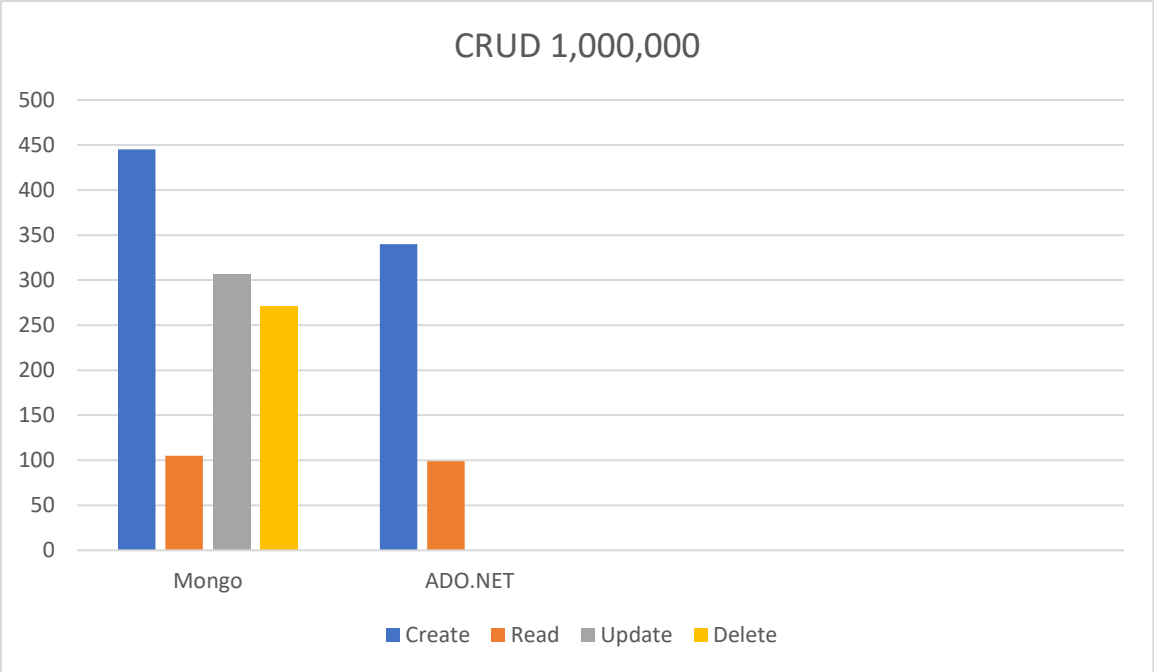
Number of Rows	NoSQL Speed	ADO.NET	
1	0.9 millisec	12 sec	
1,000	0.6 millisec		
100,000	33 sec		
1,000,000	5:06 (5 mins 6 sec)		

Delete

Number of Rows	NoSQL Speed	ADO.NET	
1	0.7 millisec	15 sec	
1,000	0.7 millisec	0.001924 millisec	
100,000	35 sec	1 sec	
1,000,000	4:31 (4 mins 31 sec)		



For creating 100,000 rows, ADO.NET was the fastest with execution time of 55 seconds while Mongo took around 59 seconds. For Reading data and delete data, ADO.NET was faster than Mongo with 13 and 1 seconds respectively. Mongo read and delete data took around 22 and 35 seconds. The ADO.NET Update timed out, however mongo Update took 33 seconds to excute.



For creating and Reading 1,000,000 rows, ADO.NET was took lesser time to finish execution compared to Mongo. ADO.NET could not complete the Update and Delete because of Server timed out. Mongo on the other hand was able to complete it execution for Update and Delete data around 306 seconds and 271 seconds respectively.