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Appendix:

NoSQL databases are database management systems with a different data model than standard relational databases (such as MySQL and PostgreSQL). Instead of storing data in rows and columns, NoSQL databases use key-value pairs, document structures, or graph structures. This versatility enables more dynamic and scalable data processing.

MongoDB is a prevalent NoSQL database that employs a document-oriented approach. It stores data in collections (tables) and documents (rows). Each document has a JSON-like format with key-value pairs, allowing for flexible and hierarchical data representation.

MongoDB organises data into databases, collections, and documents. Databases serve as top-level containers for collections, akin to tables in a relational database. Documents, or individual records within collections, are organised in JSON format. MongoDB's aggregate structure enables sophisticated data analysis and transformation through a pipeline of phases akin to SQL operations like projection, filtering, grouping, and sorting. Users can also import data from various sources (including CSV and JSON) and export it for further analysis.

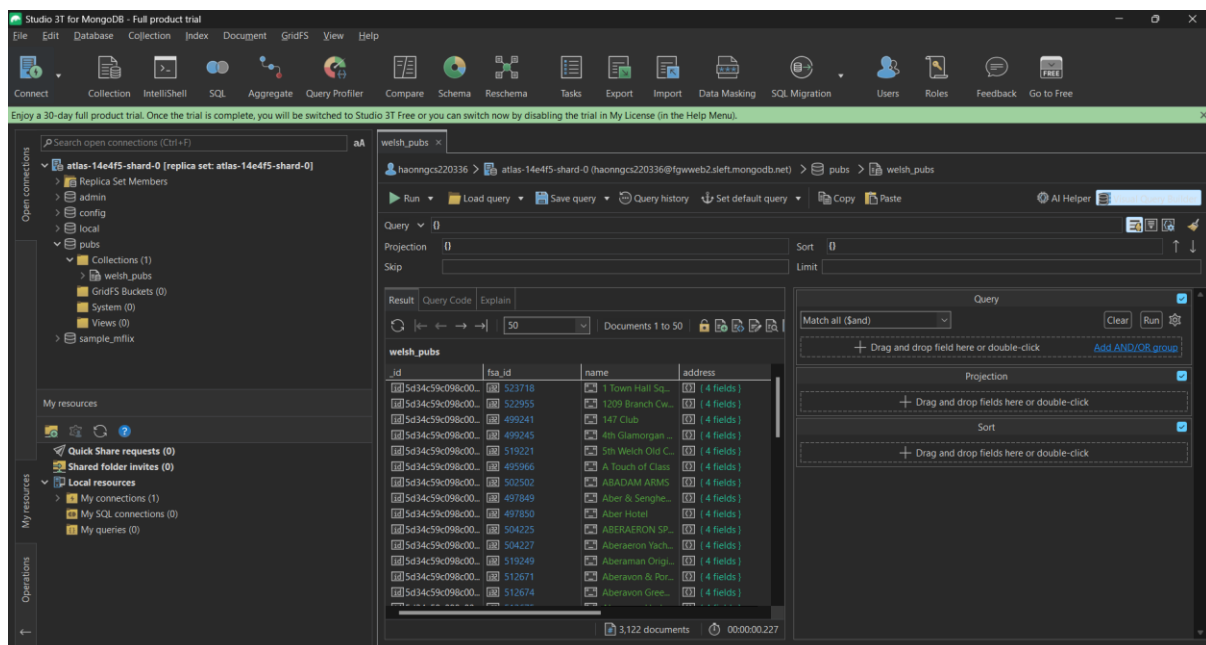


Fig. 1 Lesson 4 - task 1

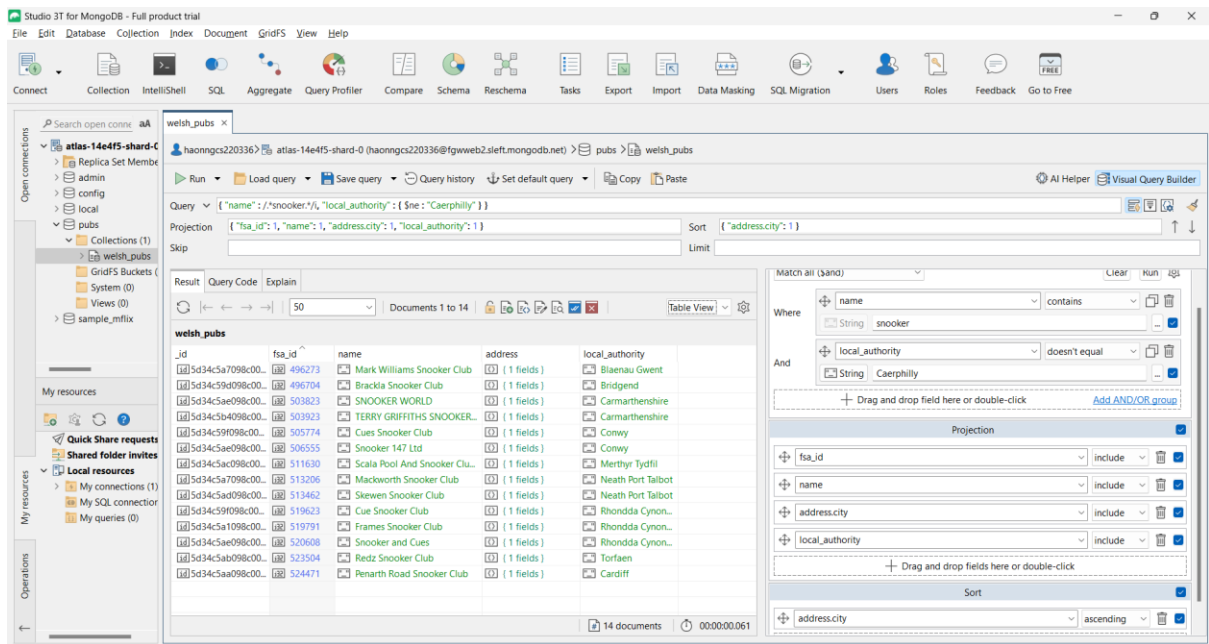


Fig. 2 Lesson 4 - task 3

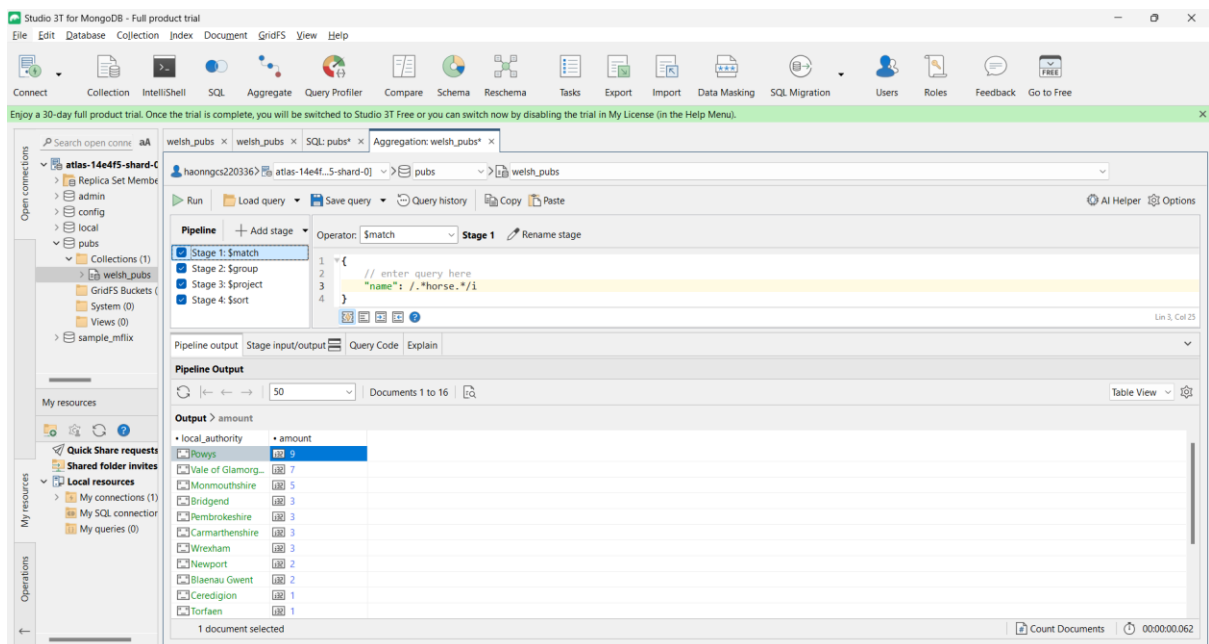


Fig. 3 Lesson 5 - task 3

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Fig. 4 Lesson 6 – task 2