	Subject:	Database Development 371/381
	Assessment	Project
	Total:	100

Introduction


E-commerce companies that include online retailers and digital marketplaces require flexible and scalable databases to handle large volumes of data related to products, customers, orders, transactions, and social media interactions such likes, posts and product reviews. NoSQL databases allow them to efficiently store and retrieve this data while accommodating rapid growth and frequent schema changes.

Outline

Research and analyze different NoSQL database technologies (e.g., MongoDB, Cassandra, Redis, etc.) Evaluate the suitability of the technologies for the E-commerce Marketplace (e.g., scalability, performance, data model etc.) and justify your selection of specific NoSQL database technology for the E-commerce Marketplace.

In this project, you are required to design and implement a NoSQL distributed database system for an e-commerce marketplace based on the following specific requirements:

- Define the project scope and requirements for the distributed database system in the context of the marketplace.
- Discuss the design considerations and architectural decisions specific to an e-commerce Marketplace
- Develop a detailed plan for the implementation and deployment of the NoSQL distributed database system
- Discuss how you would implement the chosen NoSQL database technology in a distributed environment for the e-commerce marketplace
- Show your Design and implementation of the schema or data model suitable for the business enterprise's data storage and retrieval needs
- Indicate how you would perform thorough testing to validate the functionality, scalability, and performance of the system in the context of the marketplace.
- Document the implementation process, challenges faced, and solutions adopted
- Evaluate the performance and scalability of the implemented NoSQL distributed database system in the context of the e-commerce marketplace
- Compare the database performance against benchmarks or other relevant e-commerce platforms
- Analyze the strengths, weaknesses, and trade-offs of the chosen NoSQL technology for the specific requirements of the e-commerce marketplace
- Summarize the key findings and outcomes of the project in the context of the chosen e-commerce marketplace
- Provide recommendations for optimizing and enhancing the NoSQL distributed database system for the business enterprise
- Discuss the potential future applications or research areas related to NoSQL distributed databases in the e-commerce domain

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- Prepare video presentation showcasing the project's objectives, methodology, and findings in the context of the e-commerce marketplace.
- You may be required to present your project in class on the date when it is due.
- Demonstrate the implemented NoSQL distributed database system if it exists, highlighting its features and functionality relevant to the e-commerce platform

Please Note:

- The project should focus on practical implementation and hands-on experience with a specific NoSQL distributed database technology in the context of an e-commerce marketplace.
- Each section of the project should be well-documented, clear, and comprehensive.
- The selection of the NoSQL database technology should be justified based on its suitability for the e-commerce marketplace, considering factors such as scalability, performance, and data model.
- The implementation and testing phase should include well-documented code snippets, testing procedures, and performance evaluations specific to the e-commerce platform.

Mark Allocation

Criteria	Weight
Design and Planning	20
Implementation and Testing	30
Evaluation and Analysis	20
Conclusion and Recommendations	10
Presentation and Demonstration	10
Plagiarism Penalty	10
Total	100

Instructions:

- This is a group project, but groups may not exceed 5 people.
- All work must be original. Copying or reproducing someone's work is considered academic misconduct. Disciplinary action may be taken in addition to other penalties.
- Submit your assignment electronically on BC Connect (Moodle) before the due date.
- Include a cover page and table of contents.
- All writing must be correctly referenced and cited.
- Belgium Campus makes use of software that can scan for plagiarism and a student caught doing this will get 0 for this assignment.
- No mark will be awarded if the assignment is not uploaded via BC Connect.
- Late assignments will not be accepted and missing the deadline is an automatic 0.