

Security Features:

3)Basic Query Integrity Protection

- **Implementation:** Query integrity is ensured in the `query_integrity.py` file. It uses SHA-256 hashing to create hashes for data items.
- **How it Works:** The system creates a hash for each data item and verifies it when the data is queried. This ensures that the data has not been tampered with and maintains its integrity.
- **Testing:** The `test_query_integrity.py` file contains tests that verify the integrity of the data items and the completeness of query result



4)Basic Data Confidentiality Protection

- **Implementation:** Data confidentiality is handled in the `data_confidentiality.py` file. It uses Fernet symmetric encryption for encrypting sensitive fields.
- **How it Works:** Sensitive fields like 'age' and 'gender' are encrypted before storing and decrypted when queried. This ensures that even if someone gains unauthorized access to the database, they cannot understand the sensitive data.
- **Testing:** The `test_data_confidentiality.py` file contains tests that verify the encryption and decryption mechanisms for sensitive data fields.