Always Encrypted Supported Operations and Limitations

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ENCLAVE-ENABLED COLUMNS

In-place encryption includes support for the following operations inside the enclave:

- Initial encryption of data stored in an existing column.
- Re-encrypting existing data in a column, for example:
- Rotating the column encryption key (re-encrypting the column with a new key).
- Changing the encryption type.
- Decrypting data stored in an encrypted column (converting the column into a plaintext column).

For in-place encryption to be possible, the column encryption key (or keys), involved in the cryptographic operations, must be enclave-enabled:

- Initial encryption: the column encryption key for the column being encrypted must be enclave-enable
- Re-encryption: both the current and the target column encryption key (if different than the current key) must be enclave-enabled.
- Decryption: the current column encryption key of the column must be enclave-enabled.

Support Operations

The following table summarizes the functionality available for encrypted columns, depending on whether the columns use enclave-enabled column encryption keys and an encryption type.

Operation	Column is NOT enclave-enabled	Column is NOT enclave-enabled	Column is enclave-enabled	Column is enclave-enabled
Randomized encryption	Randomized encryption	Deterministic encryption	Randomized encryption	Deterministic encryption
In-place encryption	Not Supported	Not Supported	Supported	Supported
Equality comparison	Not Supported	Supported outside of the enclave	Supported (inside the enclave)	Supported outside of the enclave
Comparison operators beyond equality	Not Supported	Not Supported	Supported	Not Supported
LIKE	Not Supported	Not Supported	Supported	Not Supported

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