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Indexes

SQL Server 2014 | Other Versions

The following table lists the types of indexes available in SQL Server and provides links to additional information.

Index type Hash **Description** With a hash index, data is accessed through an in-memory hash table. Hash indexes consume a fixed amount of memory, which is a function of the bucket count. **Additional information** Guidelines for Using Indexes on Memory-Optimized Tables
Index type memory-optimized nonclustered indexes **Description** For memory-optimized nonclustered indexes, memory consumption is a function of the row count and the size of the index key columns **Additional information** Guidelines for Using Indexes on Memory-Optimized Tables
Index type Clustered **Description** A clustered index sorts and stores the data rows of the table or view in order based on the clustered index key. The clustered index is implemented as a B-tree index structure that supports fast retrieval of the rows, based on their clustered index key values. **Additional information** Clustered and Nonclustered Indexes Described Create Clustered Indexes
Index type Nonclustered **Description** A nonclustered index can be defined on a table or view with a clustered index or on a heap. Each index row in the nonclustered

index contains the nonclustered key value and a row locator. This locator points to the data row in the clustered index or heap having the key value. The rows in the index are stored in the order of the index key values, but the data rows are not guaranteed to be in any particular order unless a clustered index is created on the table.

Additional information
Clustered and Nonclustered Indexes Described

Create Nonclustered Indexes

Index type
Unique

Description
A unique index ensures that the index key contains no duplicate values and therefore every row in the table or view is in some way unique.

Uniqueness can be a property of both clustered and nonclustered indexes.

Additional information
Create Unique Indexes

Index type
Columnstore

Description
An in-memory columnstore index stores and manages data by using column-based data storage and column-based query processing.

Columnstore indexes work well for data warehousing workloads that primarily perform bulk loads and read-only queries. Use the columnstore index to achieve up to **10x query performance** gains over traditional row-oriented storage, and up to **7x data compression** over the uncompressed data size.

Additional information
Columnstore Indexes Described

Using Nonclustered Columnstore Indexes

Using Clustered Columnstore Indexes

Index type
Index with included columns

Description
A nonclustered index that is extended to include nonkey columns in addition to the key columns.

Additional information
Create Indexes with Included Columns

Index type
Index on computed columns

Description
An index on a column that is derived from the value of one or more other columns, or certain deterministic inputs.

Additional information
Indexes on Computed Columns

Index type
Filtered

Description An optimized nonclustered index, especially suited to cover queries that select from a well-defined subset of data. It uses a filter predicate to index a portion of rows in the table. A well-designed filtered index can improve query performance, reduce index maintenance costs, and reduce index storage costs compared with full-table indexes. **Additional information** Create Filtered Indexes
Index type Spatial **Description** A spatial index provides the ability to perform certain operations more efficiently on spatial objects (*spatial data*) in a column of the **geometry** data type. The spatial index reduces the number of objects on which relatively costly spatial operations need to be applied. **Additional information** Spatial Indexes Overview
Index type XML **Description** A shredded, and persisted, representation of the XML binary large objects (BLOBs) in the `xml` data type column. **Additional information** XML Indexes (SQL Server)
Index type Full-text **Description** A special type of token-based functional index that is built and maintained by the Microsoft Full-Text Engine for SQL Server. It provides efficient support for sophisticated word searches in character string data. **Additional information** Populate Full-Text Indexes

Related Tasks

Related Content

SORT_IN_TEMPDB Option For Indexes

Disable Indexes and Constraints

Enable Indexes and Constraints

Rename Indexes

Set Index Options

Disk Space Requirements for Index DDL Operations

Reorganize and Rebuild Indexes

Reorganize and Rebuild Indexes

Specify Fill Factor for an Index

See Also

Clustered and Nonclustered Indexes Described

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