

# Constraints in SQL server

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To NULL

Or

Not to NULL

Special marker

NULL – absent, unavailable, inapplicable

Three-value logic: true, false, and unknown

The constraint:

- NOT NULL
- NULL

# Primary Keys

Ensure uniqueness

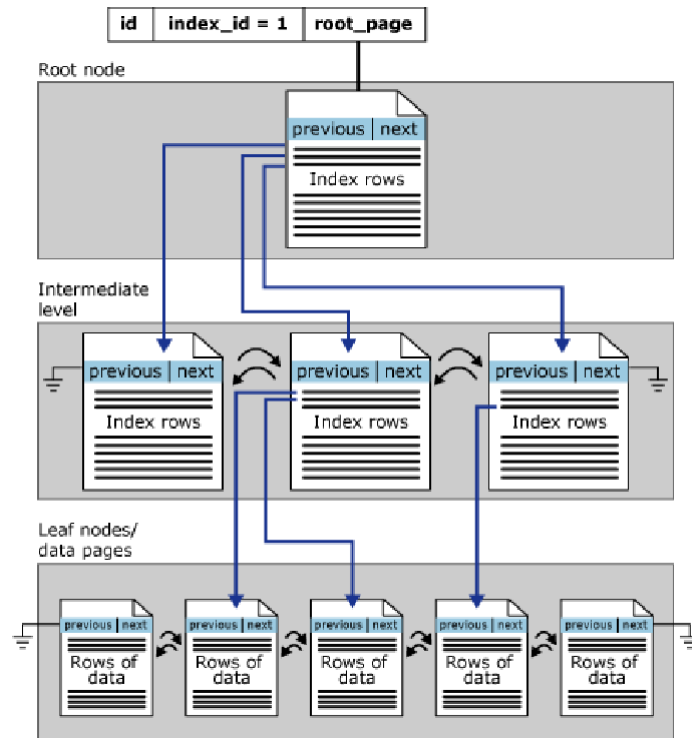
Backing index

Clustered or  
Nonclustered?

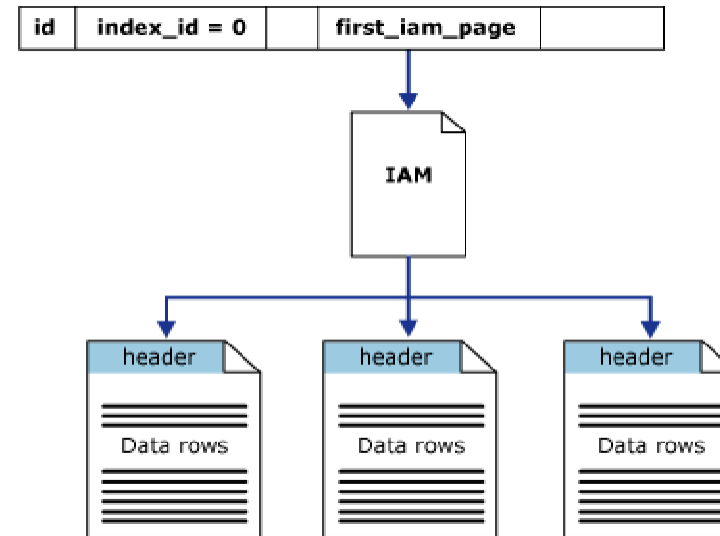
“Clustered indexes sort and store the data rows in the table ... based on their key values. These are the columns included in the index definition.”

Microsoft: Clustered and Nonclustered Indexes

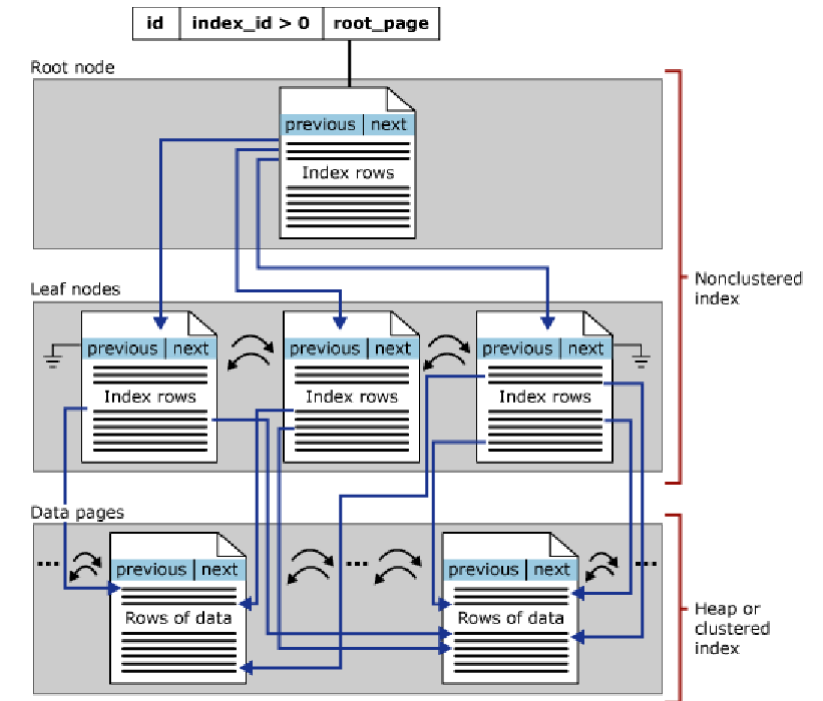
# Clustered, Heaps, and Nonclustered



Clustered

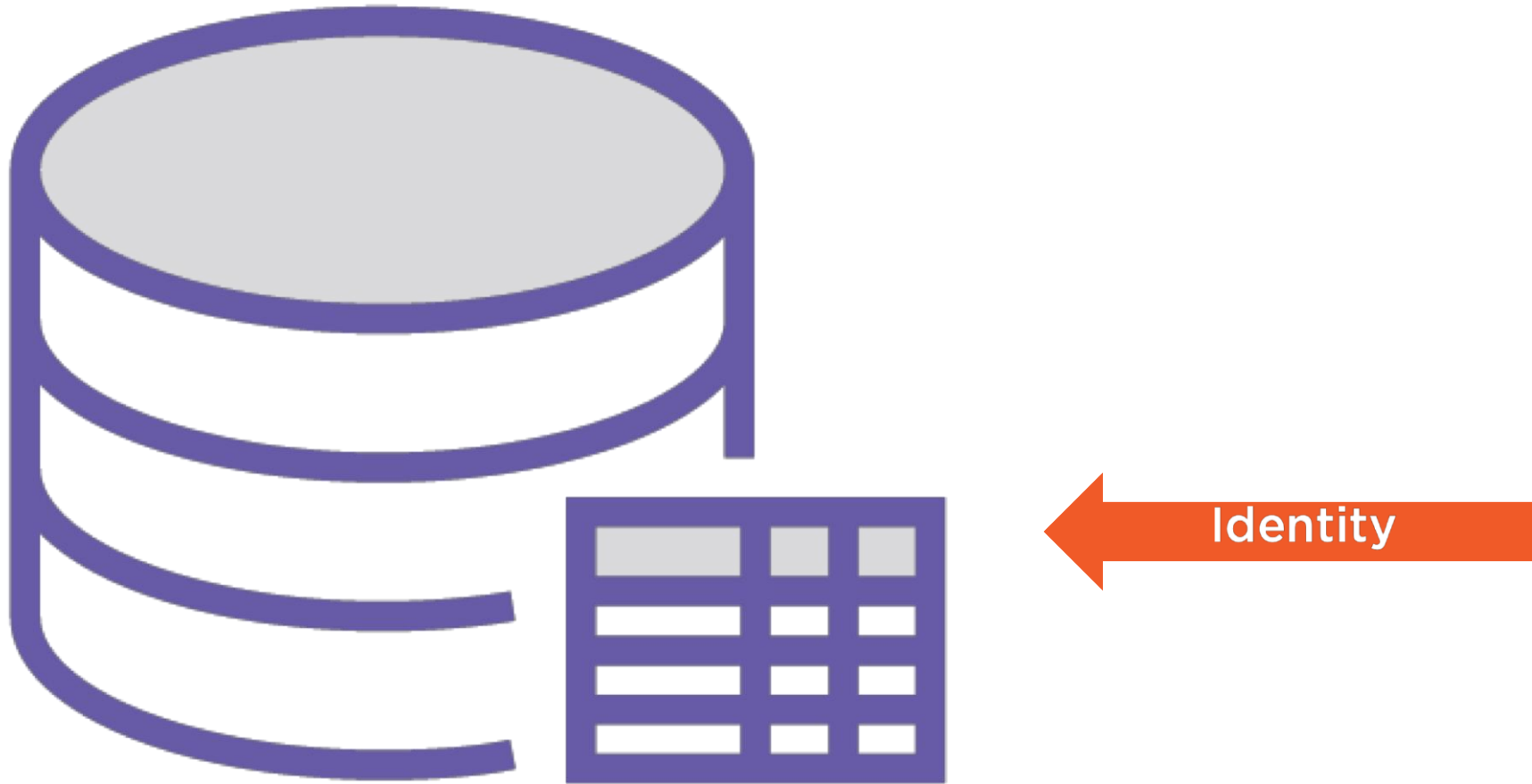


Heap



Nonclustered

# Primary Key on an Identity Column



“A nonclustered index contains the nonclustered index key values and each key value entry has a pointer to the data row that contains the key value.”

Microsoft: Clustered and Nonclustered Indexes

# Unique Constraints

Ensures no duplicate values

Columns not in primary key

Allow NULL

Can be referenced by a foreign key

Clustered or nonclustered?

# Foreign Keys



Build and enforce a link between two tables



Referencing table has a foreign key to a base table



Preserve referential integrity



Cascading referential integrity



# CHECK Constraints

Motivation  
(Declarative)

Column and Table levels

Name and Condition

Boolean expression  
(No queries)

