

Microsoft SQL Server 2019

Design & Develop



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۱. یکتایی

- کلید اصلی / فرعی (Primary\Candidate Key)

۲. اشاره صحیح = آدرس دهی درست

- جامعیت ارجاعی (Referential Integrity)
- کلید خارجی (Foreign Key)

۳. نوع داده (Data Type)

۴. NULL ability

- مقادیر گم شده (Missing Values)

Data Integrity



-
- Unique => Primary Key (PK)
 - Search PK
 - Reference => Foreign Key (FK)
 - Search PK

Data Search



-
- Not Sorted Data
 - Sorted Data

Data Search



Data Integrity



-
- Unique: PK, UK
 - Search => Sort => Index
 - Reference: FK
 - Search => Sort => Index

Index



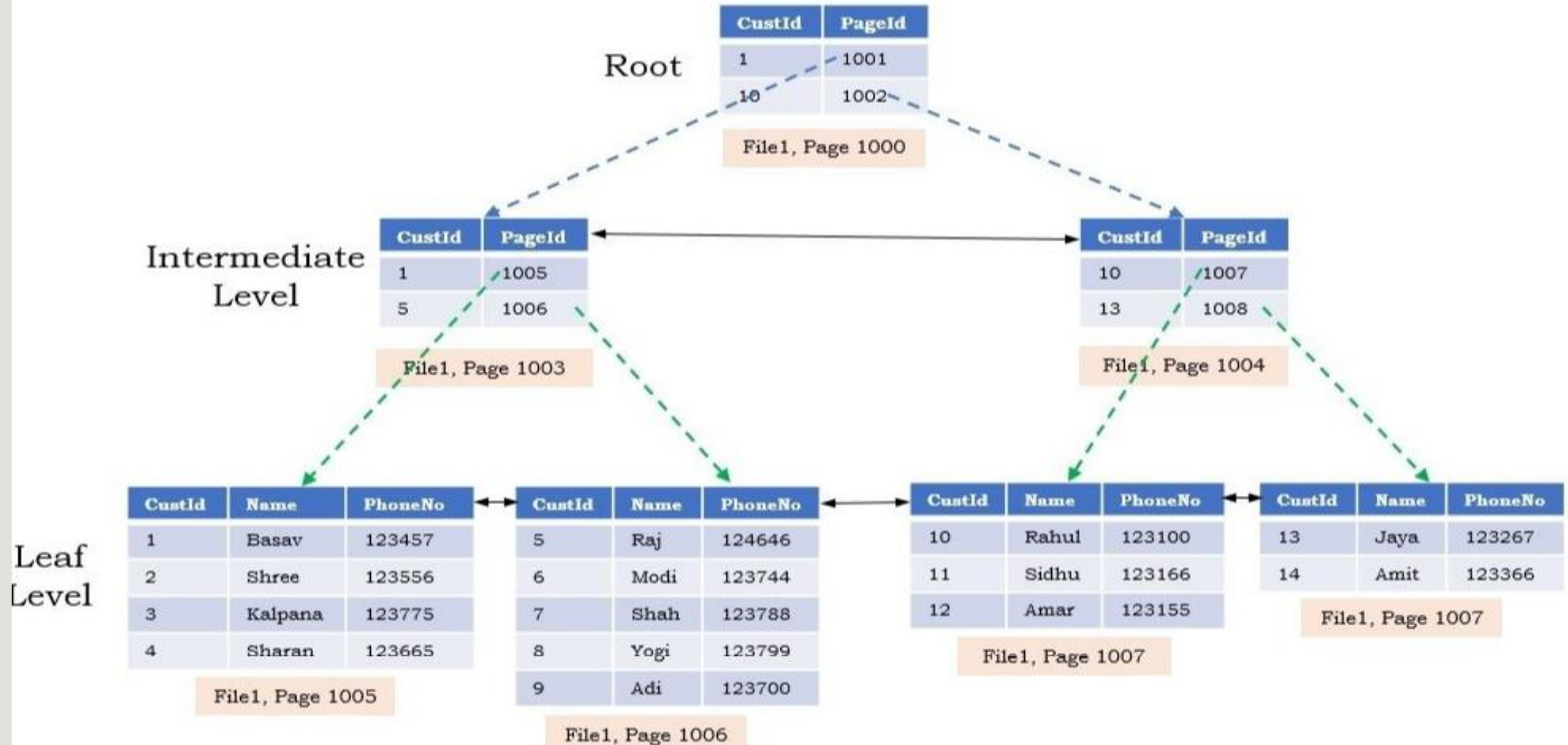
-
- Clustered
 - Non Clustered
 - Column Store

Index - Clustered



Index - Clustered

B+ Tree Structure of a Clustered Index



Index - NonClustered



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Index - NonClustered



ID	FirstName	LastName	DOB	Location	Sex	..	IDs	FirstName
1	Hasan						3, 6	Ahmad
2	Ali						2, 4	Ali
3	Ahmad						1, 5	Hasan
4	Ali						7	Hosein
5	Hasan							
6	Ahmad							
7	Hosein							

Data Integrity



-
- Unique
 - Search => Index
 - Reference
 - Search => Index
 - KEY
 - Unique => Index
 - Referential Integrity
 - Foreign Key → Key

Database Best Practices



- PRIMARY KEY
 - INTEGER
 - Auto Number = IDENTITY(1,1)
 - Clustered Index
 - Simple, No Composite
 - **Naming Convention**
 - Name: ID

Database Best Practices



- UNIQUE KEY = Candidate Key = Surrogate Key
 - Don't Create
- Create UNIQUE INDEX

تفاوت Unique Key و Unique Index؟

Database Best Practices



- FOREIGN KEY
 - References Only PK (NOT UK)
 - **Naming Convention**
 - Name: Referenced Table + ID

Database Best Practices



-
- Use SCHEMA
 - Naming Convention: 3 CAPITAL CHARACTER
 - INV = Inventory
 - GNR = General
 - HRM = Human Resource Management

پیاده سازی

