Microsoft SQL Server 2019
Design & Develop

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DataToInsight.ir

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یکپارچگی اطلاعات

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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

- **Unique => Unique Key (UK)**
  - Search UK

- **Reference => Foreign Key (FK)**
  - Search PK, UK

Data Search

- Not Sorted Data

- Sorted Data

Data Search

Data Integrity

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

- Reference: FK
  - Search => Sort => Index
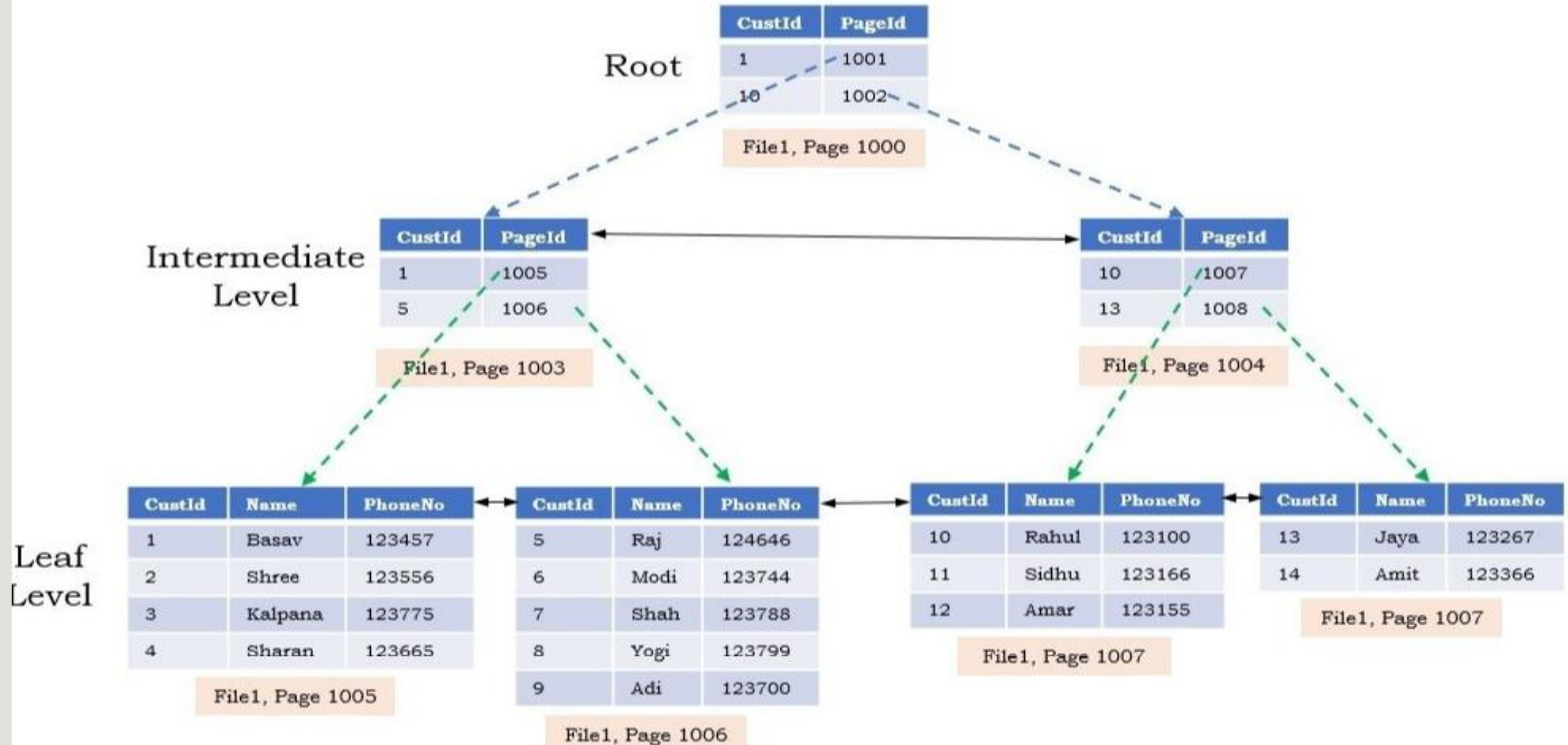
Index

- Clustered

- Non Clustered

- Column Store

Index - Clustered

Index - Clustered

B+ Tree Structure of a Clustered Index

Index - NonClustered

List of Appendices

Index - NonClustered

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

IDs	FirstName
3, 6	Ahmad
2, 4	Ali
1, 5	Hasan
7	Hosein

Data Integrity

- **Unique => Primary Key (PK)**
  - Search PK => Sort => **Index**

- **Unique => Unique Key (UK)**
  - Search UK => Sort => **Index**

- **Reference => Foreign Key (FK)**
  - Search PK, UK => Sort => **Index**

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

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- Use SCHEMA

- Naming Convention: 3 CAPITAL CHARAHTER
  - INV = Inventory
  - GNR = General
  - HRM = Human Resource Management

پیاده سازی

- **R & D:**

- تفاوت Unique Key و Unique Index؟

مطالعه بیشتر

- دانلود و نصب دیتابیس Adventure Works