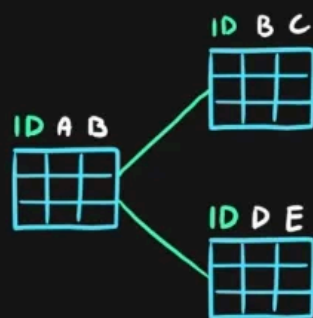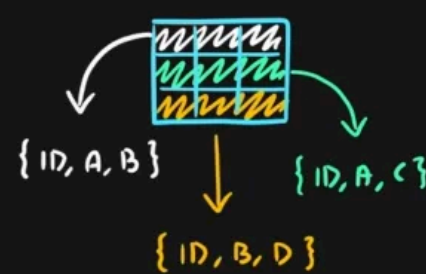# Database Services

Skills Learned

- Describe the benefits and usage of
    - Azure Cosmos DB,
    - Azure SQL Database,
    - Azure Database for MySQL,
    - Azure Database for PostgreSQL, and
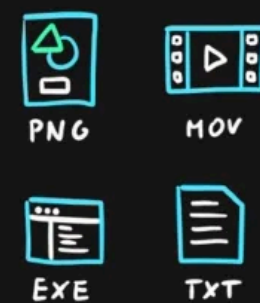   - Azure SQL Managed Instance

Types of data

STRUCTURED

SEMI-STRUCTURED

UNSTRUCTURED

ID A B
ID B C
ID D E

{ID, A, B} {ID, A, C}
{ID, B, D}

PNG   MOV
EXE   TXT

Azure Cosmos DB

SEMI-STRUCTURED

{ID, A, B} {ID, A, C}
{ID, B, D}

APPS

USERS

TABLE STORAGE

TABLE
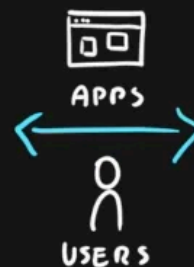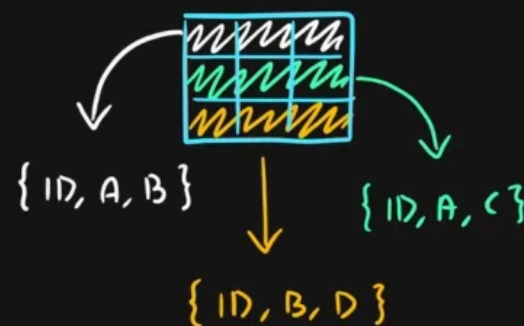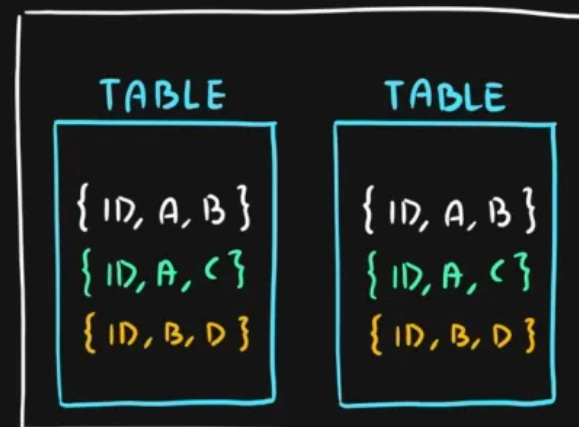{ID, A, B}
{ID, A, C}
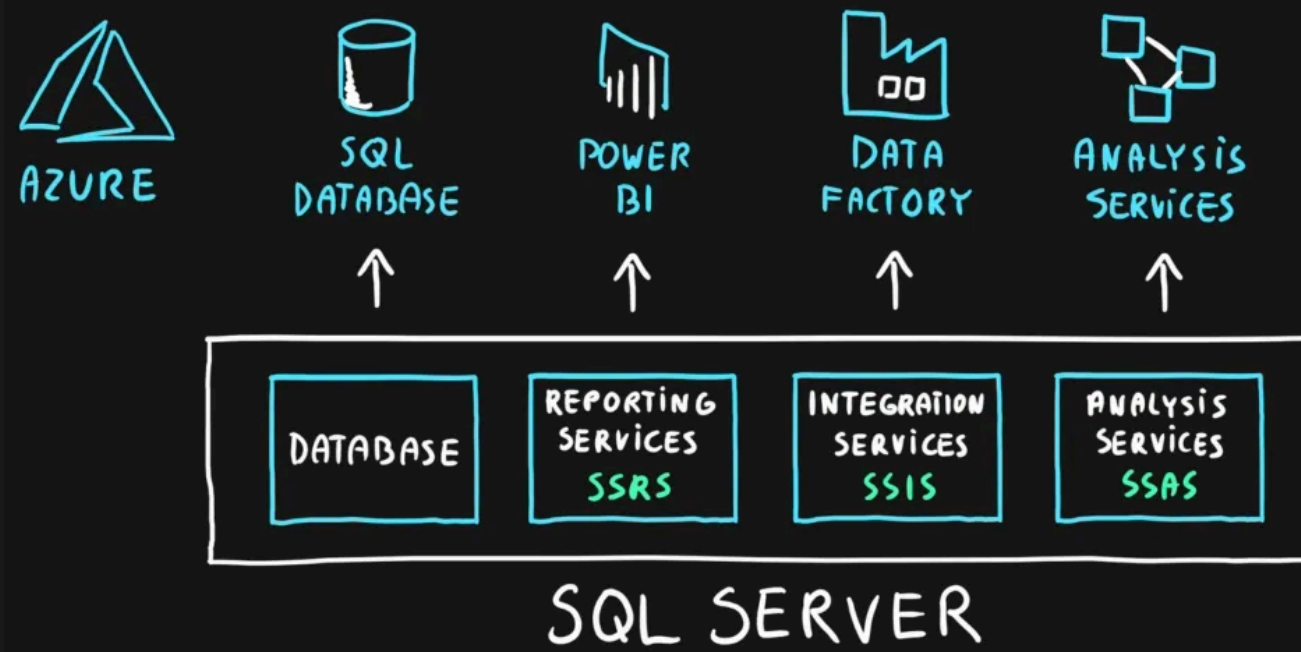{ID, B, D}

TABLE
{ID, A, B}
{ID, A, C}
{ID, B, D}

Key Characteristics

- Globally distributed NoSQL (semi-structured data) Database service
- Schema-less
- Multiple APIs (SQL, MongoDB, Cassandra, Gremlin, Table Storage)
- Designed for
    - Highly responsive (real time) applications with super low latency responses <10ms
    - Multi-regional applications

Azure SQL Database

Key Characteristics

- Relational database service in the cloud (PaaS) (DBaaS - Database as a Service)
- Structured data service defined using schema and relationships
- Rich Query Capabilities (SQL)
- High-performance, reliable, fully managed and secure database for building applications

Azure SQL Database

Azure SQL