

Few Questions:

- ① Descriptive Analysis tells you what occurred in the past.
- ②
 - Normalization involves eliminating relationship b/w dB tables → NO
 - Normalization improves data integrity → YES.
 - Normalizing a dB reduces data redundancy → YES.
- ③ An ETL process requires a target data powerful enough to transform data.
- ④ In batch processing, latency is expected.
- ⑤ Transcribing Audio Files → Cognitive Analysis.
- ⑥
 - Diagnostic → Why did sales inc. lost month?
 - Prescriptive → How do I allocate my budget to buy diff. inventory items?
 - Descriptive → Which people are mentioned in a company's business documents
- ⑦ JSON document as:

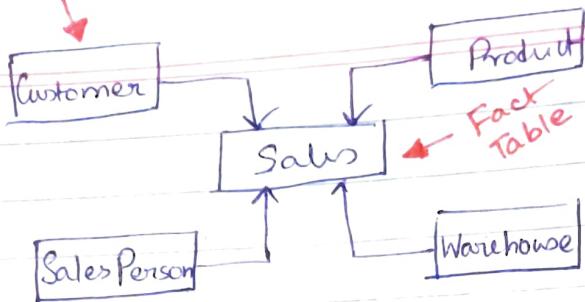

```

      "customer": {
        "f_name": "Ben",
        "l_name": "Smith",
        "address": {
          "line 1": "161 Az Ln.",
          "line 2": "Palo",
          "ZIP": "54312"
        },
        "social media": [
          "Facebook",
          "Twitter"
        ],
        "phone number": "123-4567-8900"
      }
    
```

 - Customer → Root Object
 - Address → Nested Object.
 - Social Media → Nested Array.

Dimension Table.

⑧



- Data Model → Star Schema.
- Customer is a dimension table.

- ⑨ The massively parallel processing (MPP) engine of Azure Synapse Analytics distributes processing across compute nodes.
- ⑩ A clustered index is an object associated with a table that sorts and stores the data rows in the table based on their key values.
- ⑪ A relational DB is appropriate for scenarios that involve a high volume of transactional writes.
- ⑫ Batch processing can output data to a file store → YES.
Batch processing can output data to a relational DB → NO.
Batch processing can output data to a NoSQL DB → NO.
- ⑬ Your comp. plans to load data from a CRM system to a data warehouse using Extract, Load, Transform (ELT) process.



EXTRACT : The CRM System.

LOAD : The data warehouse.

TRANSFORM : An in-memory data integration tool.
The data warehouse tool.

14) Visualization that shows a university's current student enrollment versus the max. capacity is an example of descriptive analytics.

15) Tree Map : A chart of coloured, nested rectangles that displays individual data points represented by the size & colour of a relative Δ.

Key Influencer : A chart that displays the major contributors of a selected result/value.

Scatter : A chart that shows relationship b/w 2 numerical values.

16) Data in the account must replicate outside the Azure region automatically.
Which 2 types of replication can you use for the storage account?

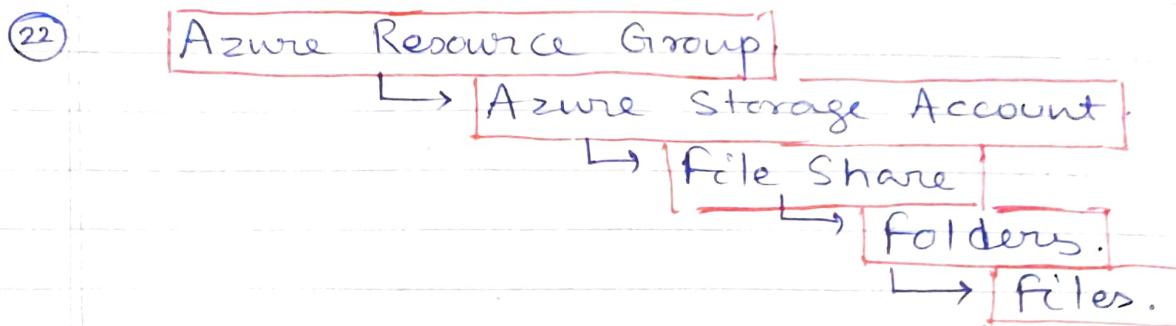
- • Read access Geo Redundant Storage (RA-GRS)
- Geo-Redundant Storage (GRS)

17) • PaaS database offerings in Azure require less setup and configuration effort than infrastructure as a service (IaaS) DB offerings → YES.

• PaaS in Azure offers admins with ability to control and update OS versions → YES

• All PaaS DB offerings in Azure can be paused to reduce costs → NO

- (18) Which statement is an example of DML?
→ INSERT
- (19) You have an SQL query that combines customer data and order data. The query includes calculated columns. You need to persist the SQL query so that other users can use the query. What should you create? → A View
- (20) A key/value data store is optimised for simple lookups.
- (21) Image files ⇒ Azure Blob Storage.
Key/Value pairs ⇒ Azure Cosmos DB Gremlin API.
Relationship b/w employees ⇒ Azure Table Storage.



- (23) What are the two characteristics of Realtime Data Processing?

- • Low Latency is expected.
- Data is processed as it's created.

- (24) Dataset \Rightarrow A representation of data structures within datastores.
- Linked Service \Rightarrow The info. used to connect to external sources.
- Pipeline \Rightarrow A logical grouping of activities that performs a unit of work & can be scheduled.
- (25) Batch \Rightarrow • Data for a product catalog will be loaded every 12 hrs. to a data warehouse.
• Updates to inventory data will be loaded to data warehouse / 1000 txn.
- Streaming. \Rightarrow Data for online purchase will be added to the data warehouse / 1000 txns everytime a purchase occurs.
- (26) Transparent Data Encryption (TDE) encrypts, the database to protect the data at rest.
- (27) Azure AD authentication assures Multi-factor Authentication while connecting to your DB.
- (28) What is the benefit of hosting a DB on Azure SQL managed instance as compared to an SQL DB ? \rightarrow Native support for cross-database queries & transactions.

- ⑨ By default, each Azure SQL is protected by a
→ Server-level firewall.
- ⑩ You need to design and model a DB by using
a graphical tool that supports project oriented
offline database development
→ Microsoft SQL Server Data Tools (SSDT)
- ⑪ Firewall ⇒ Prevents access to an Azure SQL DB
from another network.
- Authentication ⇒ Supports Azure AD sign-in that
supports MFA.
- Encryption ⇒ Ensures that sensitive data never
appears as plain text in Azure SQL.
- ⑫ You have a transactional application that stores
data in an Azure SQL managed instance.
When should you implement a read-only DB
replica?
→ You need to generate reports without
affecting the transactional workloads.
- ⑬ A relational DB is required when strong consistency
of data is guaranteed are required.
- ⑭ Relational data uses keys to enforce relationship
b/w tables.
- ⑮ A view is a virtual table that contains content
defined by a query.

Important:

I)

Transparent Data
Encryption

Used to encrypt data at rest, including database, logs, backups without requiring changes to app ^{n.}.

Always Encrypted

⇒ Used to protect sensitive data by limiting access to data at rest, in movement and in use to client app ^{n.} that have appropriate access to keys.

Transport Layer Security

⇒ Used to encrypt data in motion b/w the DB server and clients using certificate-based encryption.

Dynamic - data masking

⇒ Used to limit exposure of sensitive data to non-privileged users by designating how much of sensitive data can be revealed.

II)

Azure Cosmos DB Table API supports multiple read replicas and multiple write regions.

III)

Azure Synapse Analytics is used to perform complex queries and aggregations.

IV)

Activities performed by Microsoft Power BI Service?

- report & dashboard creation.
- report sharing & distribution.

V)

Unstructured Data → Log files, Blob Storage.

IV) Azure DB ~~will~~ will be considered as IaaS?
 → SQL Server in a VM.

VII) Which settings can you configure at a container level when you have an Azure Cosmos DB account that uses Core (SQL) API?
 ✓ The throughput.
 ✓ The partition key.

VIII) Shared folder on Windows Server ⇒ Use Azure File Storage.

IX) Storing data for years, save cost → Archive objects.

X) Services in Azure that can ingest the data?
 - Event Hub.
 - IoT Hub

XI) Azure SQLDB:

- Includes a fully managed backup service.
- has a built-in ~~or~~ high availability.
- uses Azure Advanced Threat Protection.

** XII) A Microsoft Power BI paginated reports enables users to create highly formatted, fixed layout documents, optimised for printing & archiving.

** XIII) Control → Until.

Data Movement → Copy.

Data Transformation → Mapping the data flow.

XIV) An Excel file, contains user data saved in a Blob storage account is an example of what type of data? → Batch Data.

XV) You have ~~an~~ data stored in ADLS in text format. You need to load data in Azure Synapse Analytics in a table in one of the databases.

- External format.
- External source.

XVI) Cosmos - DB, ~~an~~ column based data API
⇒ Cassandra

XVII) An ETL process requires, data that is fully processed before being loaded to the target datastore.

XIX) Azure Service used to Provision Apache spark Cluster.

- Azure Databricks.
- Azure HDInsight.

20) Blob Storage is the absolute cheapest way to store data in azure. (2 cents / GB)

21) Which setting can be configured during creation of an Azure Cosmos DB account? → API.

22) Services in Azure to Process Data.
- Stream Analytics Job.
- Synapse Analytics.

Ingest Data.

IoT Hub

Event Hub.

Process Data.

Stream Analytics Job

Synapse Analytics.

having 3
input, output

(23) In Azure Synapse Analytics, we can Pause the pool when the resources are not used.

(24) Command line tool used to query Azure SQL DB?

- sqlcmd.

(25) DML : INSERT, SELECT, UPDATE, DELETE.

DDL : CREATE, ALTER, TRUNCATE, DROP.

* * (26) Azure Table storage support multiple read replicas.

* * (27) To configure an Azure Storage account to support both security at folder level and atomic directory manipulation, you need to enable hierarchical namespace.

* * (28) Clustered Index : is an object associated with a table that sorts the data rows in the table on their key values.

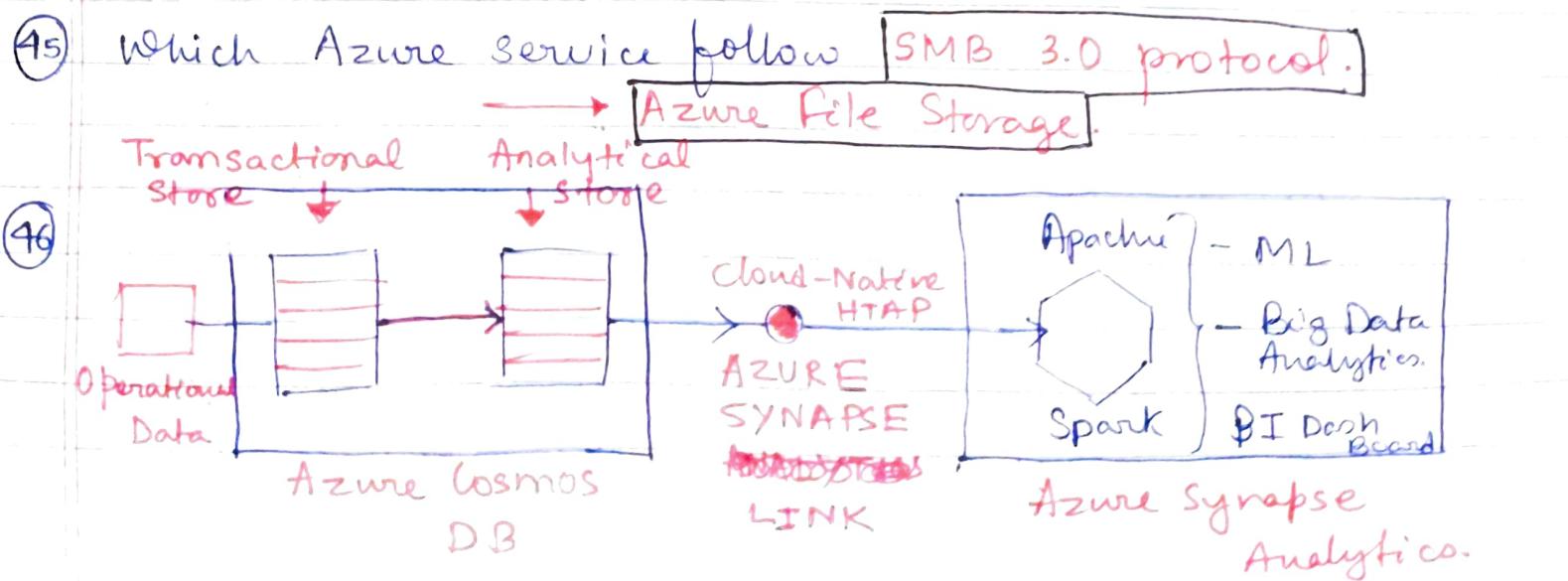
* (29) Azure DB for PostgreSQL → PaaS.

(30) Your company has a reporting soln. that has paginated reports. The reports query a dimensional model in a data warehouse. Which type of processing does the reporting solution use?

→ Online Analytical Processing (OLAP)

- ③1 Azure DB service that guarantees 100% compatibility with SQL Server running in own env.
→ SQL Server in a VM.
- * * ③2 Power BI desktop : Create reports from a wide range of data sources.
- Power BI Mobile : Used to consume reports on a mobile device.
- * * ③3 Polybase is used to query data from external data sources from Azure Synapse Analytics.
- ③4 Get live real-time telemetry data from mobile app \Rightarrow streaming data.
- ③5 Objects can be added to a Microsoft Power BI dashboard.
- text, an image, a report page, a visualisation from a report.
- ③6 Cosmos DB, Multi-region application
 \Rightarrow High Availability.
- In
③7 Azure SQL DB Managed Instance, backups are automatically handled.
- ③8 Cosmos DB is an Azure DB product, designed to handle non-relational DB such as JSON.

- (39) Azure DF supports a trigger that is scheduled at predetermined time but can pretend it's running at another time.
 → Tumbling Window Trigger.
 (Can run a job data specific for a period of time, not before/after that).
- (40) Azure SQL DB → Most DB maintenance jobs are automated.
- (41) In Batch Processing, latency is expected.
- (42) ETL Process has very high load times.
- (43) When ingesting data from ADLS across Azure Regions you will incur cost of bandwidth.
- (44) You can implement Azure DLS by creating an Azure Storage Account.
 • You can use blob, table, queue, file storage in the same Azure Storage Account.



★ ★ ★

④ Diff types of visualization charts in Power BI.

- Waterfall Chart : Shows a running total as values are added / subtracted. It is useful for understanding how an initial value is affected by a series of (+ve / -ve changes).
- Ribbon Chart : Shows which data category has highest rank. Effective for showing rank changes ; with the highest value always displayed at top.
- Bar Chart :
- Decomposition Tree : Lets you visualize data across multiple dimensions. It automatically aggregates data and enables drilling down into your dimensions in any order.

⑤ Azure SQL Database Serverless supports automatic database scaling and pausing when not needed.

⑥ Azure SQL DB is not fully compatible with Microsoft SQL Server.

⑦ Data Ingestion - ADF

Preprocess & Model - Azure Synapse Analytics.

⑧ Azure Analysis Service is a fully managed PaaS which provides enterprise level datamodel on cloud. For transactional workload we, Azure SQL DB.

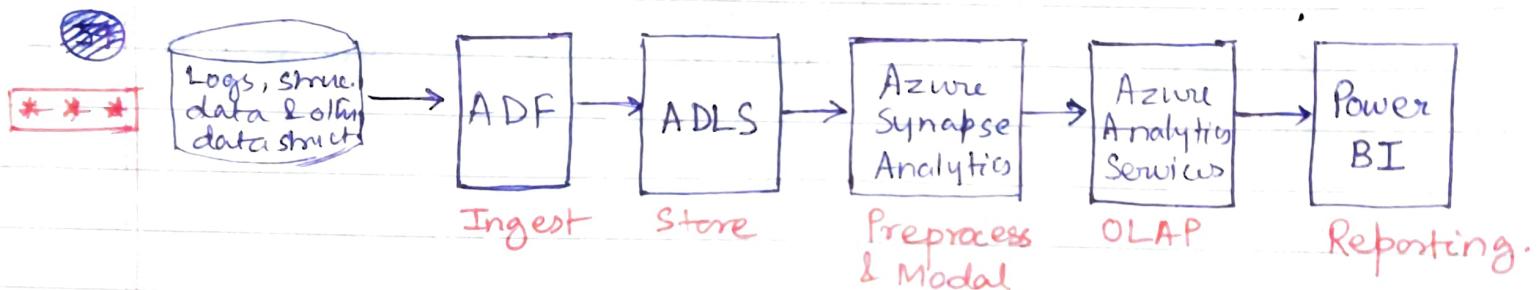
* We can use MySQL Workbench.

53) Azure Cosmos DB API. should you use to work with data in which entities and relationships to one another are represented in a graph using vertices & edges? → Gremlin API.

(can be used for tracing covid-19 patient)

MongoDB API stores data in binary JSON format.

Core (SQL) API stores and query JSON documents.



54) When Should you implement a read-only DB replica in an Azure SQL Managed Instance?

→ You need to generate reports without affecting the transactional workload.

55) Microsoft Power BI:

- A Power BI dashboard is associated with a single workspace.
- Can display visualizations from the Microsoft Excel workbook.

56) You have a large amount of data held in ADLS. You want to retrieve the data in these files & use it to populate tables held in Azure Synapse Analytics.

→ Using an SQL Synapse pool.

⑤7) The MPP engine of Azure Synapse Analytics distributes processing across multiple nodes.

⑤8) **POLYBASE** is the fastest way to load data into an Azure Synapse SQL Pool. It ~~also~~ helps in bidirectional transfer of data ~~by~~ between SQL Synapse Pool and external sources (Azure Blob, Hadoop, ADLS) using T-SQL.

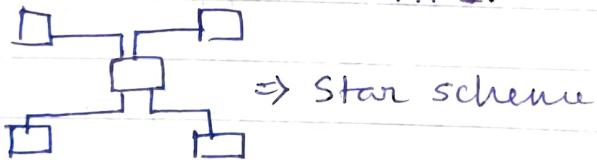
Cosmos (SQL) API store and query JSON documents. (^{enables use} of SELECT)

***] Gremlin API implements graph DB interface in Cosmos DB.

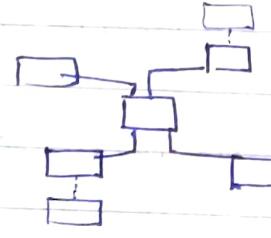
Mongo DB well known document DB.
(also API)

Cassandra DB column family management system.
Table API allows to use Azure Table Storage API.

⑤9)



⇒ Star scheme



⇒ Snowflake scheme.

⑥0)

Paginated Report → An invoice.

⑥1)

When SQL DB networking is set to public endpoint, who can connect to the DB? → No users.

***] ⑥2)

At what level can you set the throughput for an Azure Cosmos DB account?
→ container level.
• database level.

⑥3)

For non-relational DB → use Cosmos DB.

* we can use MySQL Workbench.

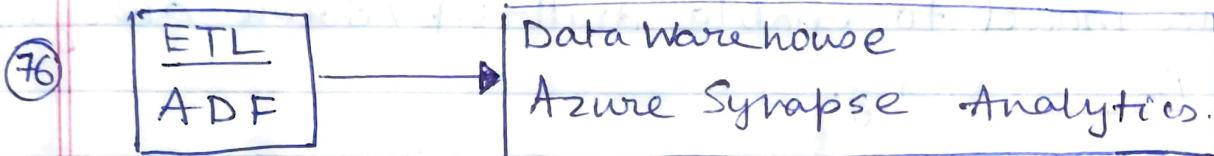
- ④ How much data can be stored in a Single Table Storage?
→ 500 TB.
- ⑤ Gremlin API of cosmos DB is used to work with a data that has many different entities that share a relationship. (Natively supports the analysis of relationships b/w entities).
- ⑥ Which is the best way to transfer the data in a PostgreSQL database running on-prem into a DB running Azure DB for PostgreSQL service?
→ Use the Azure Database Migration Services.
- ⑦ Event Hub is used to get messages from twitter clients to Azure.
- ⑧ Azure File storage is used to enable users at diff sites to share files.
- ⑨ ~~Read & write data, transactions~~ ⇒ OLTP.
- ⑩ Columnar datastore provides the lowest latency to retrieve the data.
- ⑪ Azure Services using SQL server DB engine?
- SQL Server in a VM.
- SQL Managed Instance.
- ⑫ ETL process has:
• very high load times.
• require target system to transform the data being loaded.
- ⑬ ~~ADLS~~ provide native support for Posix-compliant access control list.

74 Characteristics of OLTP workload:-

- heavy writes and moderate reads.
- schema on write.
- normalised data.

75 What should we do to an existing Azure Storage Account in order to support a data lake for Azure Synapse Analytics? (ADLS \leftrightarrow hierarchical namespace)

→ Upgrade the account to enable hierarchical namespace & create a blob container.



77 SQL notebooks are present in Azure Data Studio.

78 Block Blob → discrete object that change infrequently.

Page Blob → that require random read and write access.

Append Blob

79 Azure DB service 100% compatible with SQL server running on-prem? SQL Managed Instance.

80 • Synapse Spark of Azure Synapse Analytics allow you to train AI models using Azure ML.

81 • We can use SSMS to query Azure Synapse Analytics Data Warehouse.

• We can use Azure Data Studio to query Microsoft SQL Server Big Data cluster.

• We can use MySQL WorkBench to query Azure DB

Deployment options for PostgreSQL.

- Single Server.
- Flexible Server.
- Hyperscale (Citus).

for Maria DB.

(82) Data Ingestion is capturing Raw data from various sources and storing it.

(83) Different deployment options available for Azure Database for MySQL?

- Azure DB for MySQL Flexible Server.
- Azure DB for MySQL Single Server.

(84) Data model to enable drill-up/down analysis
→ A hierarchy.

(85) PostgreSQL in a VM → IaaS

Azure database for PostgreSQL → PaaS.

(86) Azure Cosmos DB Core (SQL) API enables the use of SELECT statements to retrieve documents from Azure Cosmos DB.

(87) Line Chart is ideal to view values over time.
Scatter Plot is used to compare the correlation between two numeric values.

(88) Image Files: Azure Blob

Relationship between employees: Cosmos DB Gremlin API.

Key/value pairs: Azure Table Storage.

⑧⁹) Datastore meeting following requirements:
- Native SQL API access.
- Configurable indexes.
⇒ Azure Cosmos DB.

⑨⁰) Specify the API at account level while provisioning an Azure Cosmos DB.

⑨¹) Azure VM can connect to Azure SQL DB without exposing the DB to internet.
⇒ AZURE PRIVATE LINK.

⑨²) Normalization : separate each entity into its own table.
• uniquely identify each row as a primary key.
• use foreign key to link related entities.
• separate each discrete attribute into its own column.

⑨³) Relationships ⇒ Graph.

⑨⁴) Chart of coloured rectangles ⇒ Treemap.

⑨⁵) Azure Event Hub : Used to queue the processed data for further downstream processing.

ADLS or Azure Blob Storage : used to persist the processed result as a file.

Azure SQL DB, Azure Synapse Analytics, Azure Databricks : Used to persist the processed results in a DB table for querying & analysis.

Power BI : Data visualisation.

96 AZURE SYNAPSE ANALYTICS

→ implement data pipeline, SQL analytics, Spark Analytics.

97 Azure SQL DB → Persist a tabular rep. of data that is stored in Parquet format

ADLS → Stores data that is in Parquet format.

Azure Synapse Analytics → Output in Parquet format

98 Application Running on Windows and requires access to a mapped drive. → Azure Files.

** How can you enable globally distributed users to work with their own local replica of a Cosmos DB?

⇒ Enable multiregion writes and add regions where users have users.

100 Read data from Azure Blob Storage?

⇒ Create a linked service to the Blob Storage.

101 Azure SQL Managed Instance: A ~~fully managed, highly scalable~~ PaaS option that provides near ~100% compatibility with on-prem SQL Server instance.

Azure SQL Database - A fully managed, highly scalable PaaS database service that is designed for cloud.

Azure SQL Edge - Optimised for IoT Scenarios that needs to work with streaming data.

102

Azure Event Hub - Data ingestion service that you can use to manage queues of event data, ensuring each even is processed in order.

Azure IoT Hub - Data ingestion service similar to Event Hub, but for IoT.

ADLS - Highly Scalable storage service.

103

Azure Cosmos DB - Enables use of SQL queries against data stored in JSON documents.

Azure Files - Enables users to access data by using SMB 3.0 protocol.

104

Types of Blob supported in Azure:

⇒ Append Blobs, Block blobs, Page blobs.

105

To configure an Azure Storage Acc. to support access control list that have object level permission, enable the hierarchical namespace.

106

Archive Tier takes hours to retrieve data.

107

ATOMIUTY: Each transaction, single unit.

CONSISTENCY: Transaction can only take the data in DB from one valid state to another.

ISOLATION: Concurrent txns. cannot interfere with one another.

DURABILITY: Committed txns. remain committed.

108 Azure SQL DB can :

- include managed backup service.
- built-in high availability.
- can use Azure Defender.

109 Data Analysts - explore and analyse data to create visualisation & charts that enable organisation to make informed decision.

Database admins - manages DB, assigning permission to users, storing backup copies of data & restore data.

110 Azure Cosmos DB: account that uses Table API supports multiple concurrent reads in diff. Azure regions. and writers.

Azure Table Storage: Single Azure Storage account supports multiple concurrent reads in different Azure region.

111 You are deploying a SaaS application that requires a relational DB for OLTP. Which Azure service should you use to support the application?
 ⇒ Azure SQL DB.



112 A DB level firewall: Let's you decide which IP address is allowed to be accessed by the Azure DB. Each IP needs separate permission.

113 Benefit of PaaS relational DB offering in Azure such as Azure SQL DB?

- reduced admin effort for managing the server infrastructure.
- access to latest feature.



114 ETL

Extract
Transform
Load :

ETL

The CRM System
The data warehouse
An in-memory data ingestion tool.

ELT

The CRM System
The data warehouse
The data warehouse.

115 Azure Cosmos DB:

- ① Partition Keys are used to optimize queries.
- ② Items contained in same Cosmos DB logical partition can have diff. partition keys.

116 Data Visualisation.

- Represent trends and pattern overtime.
- Communicate the significance of data.

117 Azure Data Studio:

- ① Can be used to restore DB.
- ② can be used to query an Azure SQL DB from a device that runs of MacOS.



- 118
- ① We can use SSMS to query an Azure Synapse Analytics data warehouse.
 - ② We can use Azure Data Studio to query a Microsoft SQL server Big Data cluster.
 - ③ We can use MySQL workbench to query Azure DB for MariaDB.

(119) A relational DB is appropriate for scenarios that involve a high volume of transactional writes.

Azure Synapse Analytics:

- can be paused to reduce costs.
- scales storage & compute independently.

(121) Database Service which is the simplest option to migrate a LAMP application to Azure → Azure DB for MySQL

↓
Linux
Apache
MySQL
PHP.

Language

(122) Query used to query real-time log data in Azure Synapse Data Explorer?
- KQL (Kusto Query Lang).

(123) Solution providing an interactive graphical interface, depict various key performance indicators and support data exploration by using drill down. Which should you use in Microsoft Power BI? → A report.

Batch Processing can :

- output data to file storage.
- output data to a RDBMS.
- output data to NoSQL DB.

125) Which DB style is ideal for data that heavily relies upon relationships, such as b/w People, Places, Things?
→ Graph Data.

126) Data Store for internet connected temperature sensors, the data collected to be used for analysing temp. trends. → Time series.

127) Data store capturing network traffic in one area to another are, connected data
→ Graph.

128) Sending telemetry data from edge devices. is an example of a streaming workload.

129) What happens when you add a new property in a JSON document when storing in Cosmos DB?
- You can dynamically insert a new property and insert will succeed. Previous document will not be updated.

130) A key/value store is suitable for simple lookups.

131) When you create an Azure SQL DB, which account will always connect to DB?
- server admin login account of the logical Server.

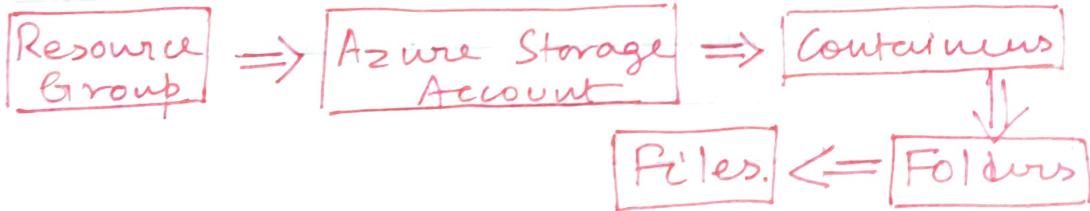
132 Data store recommended for storing and retrieving text files, video/audio. The data must store data, some metadata, and an unique ID. → An object.

133 You have an SQL query that combines customer data & order data. The query includes calculated columns. You need to persist query so that others can view/use the query. You create a view.

134 Charac. to realtime data processing:

- data is processed as created.
- Low latency is expected.

135 IN ADLS,



136 • ADF pipelines can execute other pipelines.
• A processing step within an ADF is an activity

137 Provisioning ~~an~~ Cosmos DB account which feature provides redundancy within a region → A-Zones

138 Key Influencer → chart displaying major contributors.
Scatter → chart showing relation b/w 2 numeric values.

Treemap → nested rectangles displaying individual data points.

139 ADF Azure Data bricks can consume data from Azure Event Hub, ^{Azure} SQL DB, Cosmos DB.

1. Database Core Concepts.

A. Batch Data: CSV, JSON, XML, BLOB FILES.
Cache for offline viewing.

B. Streaming Data: Data Received in EventHub
or IoT Hub, Apache Kafka.

2. Data Visualisation: Pie Chart, Power BI.

3. Analytics Tech: i) Descriptive: What happened?

(Report of the data that is already present) ^{what occurred in the past.}

ii) Diagnostic: Why it happened?

iii) Predictive: What will happen in future?

iv) Prescriptive: What should you do?

v) Cognitive: Analytics of data to come up with a model based on real world. Self-learning.
(Transcribing Audio files).

3. DDL: CREATE, ALTER, DROP, TRUNCATE

DML: SELECT, INSERT, DELETE.

~~DDL~~ DCL: Data Control Lang. (GRANT, REVOKE)

4. Data Visualisation: POWER BI.

A. Type of Reports:

Paginated Reports.

- designed to be printed/shared.
(Invoice, Sales details)
Profit/Loss statement

Interactive Reports.

→ reports to be viewed on screen, in a meeting

↓
Dashboards.

→ Typically a mix of chart types such as bar chart and information as well.

5.

DATA
TRANSFORMATION

POWER BI

A Power BI paginated report enables users to create highly formatted, fixed layout documents, optimised for printing & viewing.

POWER BI

Desktop

- Create reports from a wide range of data source.

BI Mobile

- Used to consume reports on a mobile device.

* Dif types of visualisation charts in BI.

- a) Waterfall: shows a running total values, added/subtracted.
- b) Ribbon: shows which data has highest rank.
Always shows highest.
- c) Bar Chart.
- d) Decomposition chart: automatically aggregates data and enables drilling down into your dimension in any order.

- * A Power BI dashboard is associated with a single workspace.
- * Can display visualizations from Microsoft Excel work book.

- ### ⑤ NORMALIZATION:
- improves data integrity.
 - reduces data redundancy.
 - involves creating relationships b/w DB tables.
 - separate each entity into its own table.
 - uniquely identify each row as a primary key.
 - use foreign key to link related entities.
 - separate each discrete attribute into its own column.

- ### ⑥ Azure Cosmos DB : Multi-region Application ⇒ High Availability.

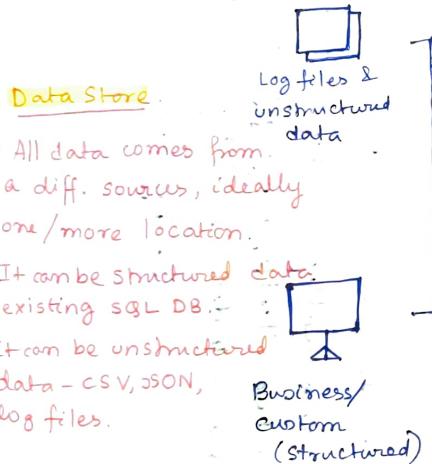
- ↳ Acc. That uses Table API supports multiple concurrent reads and writes in diff. Azure Region.

- ⑦ Partition keys are used to optimize queries.
- Items contained in same Cosmos DB logical partition can have diff. partition key.

Questions

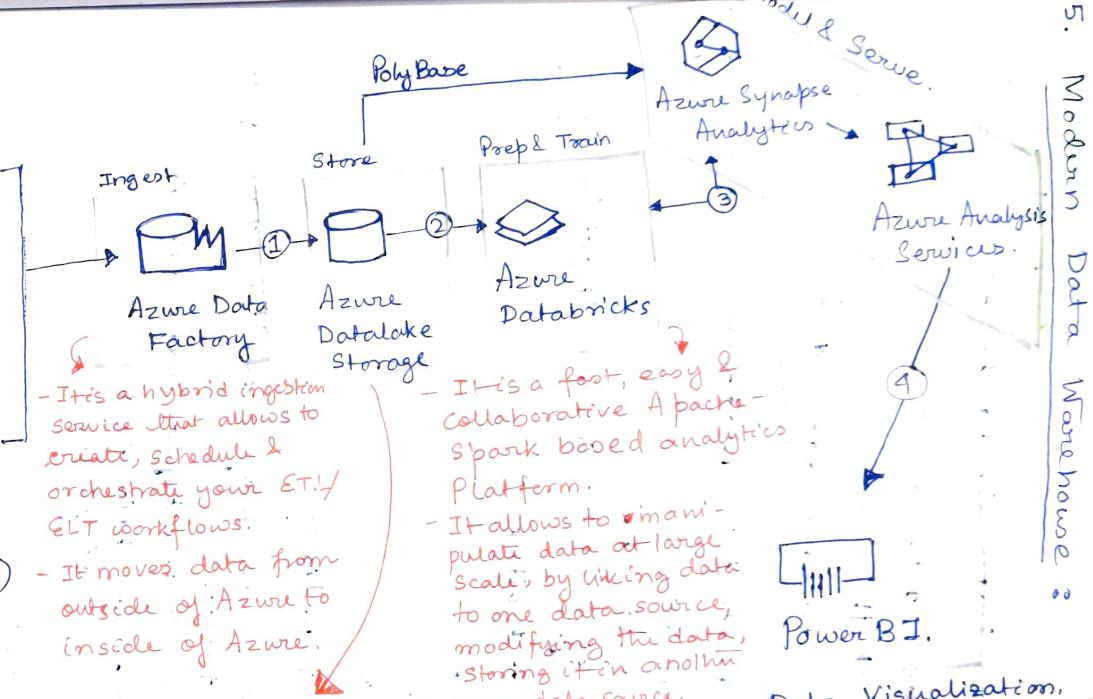
1. Unstructured data : - Log Files, csv files, Blob storage
2. What happens when you add a new property to a JSON document, that doesn't exist in any other document, when storing in COSMOS DB?
 - You can dynamically insert a new property and insert will succeed. Previous doc. will not be updated.
3. How does a RDBMS enforce data integrity?
 - • Prevents data insertion/deletion, if other records rely on them.
 - Prevents null values on column which do not allow null values.
 - Ensures every column/row follows schema definition.
4. Graph Data → Heavily relies on relationship bet. People, places, Things.
5. Azure Services using SQL Server DB Engine?
 - • SQL Server in a VM.
 - Azure SQL DB.
 - SQL Managed Instance.
6. SQL used by SQL Server? → T-SQL.
7. Azure Database which is considered as "Infrastructure as a Service"? → SQL Server in a VM.
8. Which type of database workload is the type of deep analytics used by SQL Server Analytics Services (SSAS), Azure Analysis Services and other similar apps? → OLAP.
9. Azure DB service having 100% compatibility with SQL server running in own environment?
 - SQL Managed Instance.

10. If your SQL DB networking is set to "public endpoint", without other actions, which type of user can connect to the DB? → No users.
- ④ Even with a public endpoint, SQL DB needs to have its firewall configured to allow anyone in. By default, all access attempts are denied unless explicitly added to the firewall access list.
11. If you setup SQL DB access with "no access", which type of user can connect to DB? → No users.
12. Characteristics of Data Warehouse?
→ ° Supports massive amount data.
° DB optimized for reading by being denormalized.
13. Benefit of normalization?
→ ° Reduce date duplication.
° Reduce common typos and errors on inputs.
14. Why would someone ~~not~~ choose to migrate to Azure DB for MySQL?
→ Applications that already use MySQL can be migrated without modification.
15. Elastic pool DBs, you pay as per pool. So, adding any additional resources will not inc. cost. Can run 100+DBs for the same price.
16. SQL DB supports 2 purchasing models.
→ • DTUs (Database Transaction Unit).
• vCore (lets you select CPU & storage separately for each db)



Azure Synapse Analytics is the fast, flexible and trusted cloud data warehouse that lets you scale, compute and store elastically & independently with a massively parallel processing architecture. Data is optimised for read only queries.

Azure Analysis Services is an enterprise grade analysis as a service that lets you govern, deploy, test & deliver your BI solution with confidence. Data is optimised for complex queries with ~~large~~.



Azure Blob Storage
It's a massively scalable object storage for any type of unstructured data - images, video, audio, doc, etc.

Azure DataLake
It's a blob storage that is designed to handle even large amount of data (unprocessed data stored here).

Data Visualization, Power BI:
(Azure Synapse Analytics / SQL DW)
It's suite of business intelligence tools that make it easier for users to look at data, analyse it & create reports. They can then publish them to the organization to consume on the web / mobile devices.