**Which of the following is not a feature of Azure table storage?**

Azure Table Storage can store petabytes of semi-structured data and non-relational data.

Azure Table Storage can support different rows in the same table with different structures.

Azure Table Storage can offer a strong consistency model.

Azure Table Storage supports Golang and .NET client libraries

**Explanation**

The first three options are the features of Azure Table storage. Azure Storage provides rich client libraries for building apps with .NET, Java, Android, C++, Node.js, PHP, Ruby, and Python, but currently, the client library of Go Language is not available.

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Learn more: <https://azure.microsoft.com/en-in/services/storage/tables/#features>

**Your application is hosted in the cloud, and you are ready to begin work on an analytics strategy. Thinking about the balance of streaming and batch data you will be processing, you now must decide which approach for data processing best fits your model.**

**Choose the statement below that best highlights the difference between "Extract, Transform, and Load" (ETL) and "Extract, Load, Transform" (ELT).**

ETL is better for streaming data because raw data is being processed on the fly in a continuous pipeline. ELT is better for batch data because it allows the superior cloud processing power to handle large chunks of data at once.

ETL is best for handling large amounts of data. ELT is a better option for basic data cleaning tasks.

ELT is better for streaming data because raw data is being processed on the fly in a continuous pipeline. ETL is better for batch data because it allows you to take advantage of the superior cloud processing power to handle large chunks of data at once.

ETL and ELT are essentially the same, and all that changes is when the data gets transformed. The choice really depends on which tools you are using, and is not determined based on whether you are processing batch or streaming data.

**Explanation**

ETL is better for streaming data because raw data is being processed on the fly in a continuous pipeline. ELT is better for batch data because it allows the superior cloud processing power to handle large chunks of data at once. In ETL, because the data must be processed before it is loaded, this is better for smaller constant data sources. ELT gives the service time to process the data. It is scalable - allowing the amount of data that can be processed to be much higher.

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Learn more: <https://docs.microsoft.com/en-us/learn/modules/explore-concepts-of-data-analytics/2-describe-data-ingestion-process>

**Which of the following is used as Data Definition Language (DDL)?**

INSERT

MERGE

ALTER

UPDATE

**Explanation**

A DDL is a language used to define data structures and modify data. For example, DDL commands can be used to add, remove, or modify tables within a database. DDLs used in database applications are considered a subset of SQL, the Structured Query Language.

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Learn more: <https://techterms.com/definition/ddl#:~:text=Stands%20for%20%22Data%20Definition%20Language,SQL,%20the%20Structured%20Query%20Language>

**A social media application uses a URL shortener feature to make it easier for users to quickly share their content. The URLs are stored in a key-value store database. This type of storage is very simple, but it is also limited in functionality.**

**Which two write operations are allowed on key-value store data? (Choose 2 answers)**

insert

delete

update

select

**Explanation**

Insert and delete are the only write actions allowed on key-value store data. Update operations cannot be performed on key-value store data. Select and Count are not write actions.

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Learn more: <https://docs.microsoft.com/en-us/learn/modules/explore-concepts-of-non-relational-data/4-describe-types-nosql-databases>

**Your office is planning to use Power BI for its analytics reports but needs to know which of its existing Azure resources will not support Power BI paginated reports.**

**Which of the following Azure services does not support Power BI?**

SQL Server via Gateway

Teradata

Oracle databases

Azure Data Lake

**Explanation**

Azure Data Lake is not a supported data source of Power BI:

The following are the supported Data sources

* Azure SQL Database and Data Warehouse (via Basic and oAuth)
* Azure Analysis Services (via SSO)
* SQL Server via a gateway
* SQL Server Analysis Services via a gateway
* Power BI Datasets
* Oracle
* Teradata

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Learn more: <https://docs.microsoft.com/en-us/power-bi/paginated-reports/paginated-reports-report-builder-power-bi>

**Question**

INCORRECT

**Your company is searching for a data analytics service hosted on Microsoft Azure that supports the following:**

* **integration with Apache Spark for big data workloads**
* **integration with SQL technologies for data warehousing**
* **integration with Azure ML and Power BI**

**Which Azure service below meets this company's requirements?**

Azure Synapse Analytics

Azure Databricks

Azure Data Explorer

Azure HD Insights

**Explanation**

All the listed options are analytics services available from Azure, but all three requirements of the company can be managed only by Azure Synapse  Analytics.

Azure Synapse removes the traditional technology barriers between using SQL and Spark together. You can seamlessly mix and match based on your needs and expertise.

A shared Hive-compatible metadata system allows tables defined on files in the data lake to be seamlessly consumed by either Spark or Hive. SQL and Spark can directly explore and analyze Parquet, CSV, TSV, and JSON files stored in the data lake with fast, scalable load and unload for data going between SQL and Spark databases.

Azure Synapse removes the traditional technology barriers between using SQL and Spark together. You can seamlessly mix and match based on your needs and expertise.

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Learn more: <https://docs.microsoft.com/en-in/azure/synapse-analytics/overview-what-is>

**Question**

INCORRECT

**Which of the following statements about ETL and ELT is false?**

ELT is considered a schema on read.

Ultimately, if scale is a concern, ETL is the preferred strategy over ELT.

ETL is considered a schema on write.

ELT essentially replicates data to storage as-is.

**Explanation**

ETL is considered a schema on write because the data is first transformed into some standard format or schema before it's written to storage. The ELT process, or extract, load, and transform process, essentially replicates data to storage as-is. Only after the data is written to storage is it transformed into a usable format. This is referred to as schema on read. By breaking the process apart in ELT, it's possible to ingest lots more data than with ETL. You can essentially ingest data as fast as it's written. Ultimately, if scale is a concern, ELT is the preferred strategy over ETL.

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Learn more: [/course/design-document-data-flows-azure/common-data-flow-scenarios/](https://cloudacademy.com/course/design-document-data-flows-azure/common-data-flow-scenarios/)

INCORRECT

**Which of the following SQL actions is an example of Data Manipulation Language (DML)?**

INSERT

DROP

ALTER

CREATE

**Explanation**

A data manipulation language (DML) is a computer programming language used for adding (inserting), deleting, and modifying (updating) data in a database. A DML is often a sublanguage of a broader database language such as SQL, with the DML comprising some of the operators in the language

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Learn more: <https://en.wikipedia.org/wiki/Data_manipulation_language>

INCORRECT

**Which of the following Azure Services can be managed/administered using SQL Server Management Studio (SSMS)? (Choose 3 answers)**

Azure SQL Database

Azure SQL Managed Instance

Azure Synapse Analytics

Azure Blob Storage

**Explanation**

SQL Server Management Studio (SSMS) is an integrated environment for managing any SQL infrastructure. Use SSMS to access, configure, manage, administer, and develop all components of SQL Server, Azure SQL Database, and Azure Synapse Analytics. SSMS provides a single comprehensive utility that combines a broad group of graphical tools with a number of rich script editors to provide access to SQL Server for developers and database administrators of all skill levels.

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Learn more: <https://docs.microsoft.com/en-us/sql/ssms/sql-server-management-studio-ssms?view=sql-server-ver15>

**You have to connect with a database server hosted in Azure SQL Database over the public internet; the server is hosted in a network for a new office location. You are unable to establish a connection until you make several network reconfigurations related to the Azure SQL database, assuming all modifications for all other network resources have been made.**

**Which of these methods will allow you to connect with the database over the public internet in the new office?**

Update the range of allowed IP addresses within your database-level IP firewall rules.

Set the 'Allow Azure Services' parameter for the specific SQL Database to ON.

Update the range of allowed IP addresses within your server-level IP firewall rules.

Set up a private endpoint to connect to the database via PrivateLink.

**Explanation**

The correct answer in this scenario is to update the range of allowed IP addresses within your database-level IP firewall rules. Assuming you have configured the rest of your network to allow a connection, making this change will allow you to connect over the public internet from the new office.

Updating the server-level IP firewall is the closest other choice, but there is one specific reason it is incorrect. When connecting to a database in Azure SQL Database from the internet, all requests are allowed or denied based on the database-level firewall rules, not the server-level firewall rules. At the server level, a user connecting would have access to all databases on the particular Azure SQL server. Since the connection is over the public internet, Azure automatically validates the request based on database-level firewall rules only. Then it grants access to a single database on the server, instead of all of the databases on the server.

Setting the 'Allow Azure Services' parameter for the specific SQL Database to 'On' would allow connections from other Azure resources, such as Azure App Services. It would not affect a connection over the public internet from an external IP.

Setting up a PrivateLink connection is one method to connect, but again it is a private connection rather than a public one over public internet, so it does not meet the requirements of this scenario.

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Learn more: <https://docs.microsoft.com/en-us/azure/azure-sql/database/firewall-configure>

INCORRECT

**You are using Azure Data Lake Storage to stage data for analysis that is coming in from Twitter and Facebook. Which of the following statements is true about how Azure Data Lake Storage organizes the data as it streams in?**

Azure Data Lake Storage organizes incoming unprocessed data files into directories and subdirectories to make the data easier to manipulate and analyze.

Azure Data Lake Storage is a managed analytics service based on Hadoop. Spark jobs are split into various subtasks that are run on a cluster.

Azure Data Lake Storage organizes incoming data into relational database tables with defined columns and rows.

Azure Data Lake Storage is a data integration service that retrieves data from various sources and converts it into usable formats.

**Explanation**

Azure Data Lake Storage organizes incoming unprocessed data files into directories and subdirectories to make the data easier to manipulate and analyze. It is a repository for large quantities of raw data. It is not a "data integration service" - that answer is describing Azure Data Factory. It is not a "managed analytics service" - that answer is referring to Azure HDInsight. It does not convert data into relational database tables.

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Learn more: <https://docs.microsoft.com/en-us/learn/modules/examine-components-of-modern-data-warehouse/>

**You are making the case to your supervisor that customer data should be stored in a NoSQL service like Azure Table storage instead of a relational database.**

**She wants you to explain how the services are different.**

**Which statement below best explains the differences between Azure Table storage and a relational database solution?**

Azure Table storage is a schemaless data storage solution made up of tables of entities. Entities are similar to relational database rows but without a set schema of columns. The number and variety of properties can vary by entity.

Azure Table storage stores data in the Avro format. Instead of using columns and rows like a relational database, data is stored as binary information. It is a great solution for compressing data and reducing bandwidth usage.

Azure Table storage is great for storing amorphous blobs of data. These "Binary Large Objects" might include data that does not usually contain fields, like audio or video data.

Azure Table storage places data that might conventionally be stored in relational database tables and stores it in JSON documents. Each field within the document has a name label, and fields may vary by entity.

**Explanation**

Azure Table storage is a schemaless data storage solution made up of tables of entities. Entities are similar to relational database rows, but without a set schema of columns. The number and variety of properties can vary by entity. The other forms of data storage described are not relevant to the question.

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Learn more: <https://docs.microsoft.com/en-us/azure/storage/tables/table-storage-overview>