

Microsoft Certified Azure Data Fundamentals (DP-900) Exam Guide

Preface:

The screenshot shows the 'Practice Resources' interface for the DP-900 exam. At the top, there's a dark header bar with the 'Practice Resources' logo, a bell icon, and a 'SHARE FEEDBACK' button. Below the header is a 'DASHBOARD' section featuring a book cover thumbnail for the 'Microsoft Certified Azure Data Fundamentals (DP-900) Exam Guide' by Steve Miles. The book cover includes the Microsoft Press logo and the text 'Microsoft Certified Azure Data Fundamentals (DP-900) Exam Guide' and 'Build a solid foundation in Azure cloud data services and pass the DP-900 exam on your first try'. Below the book cover are four expandable sections: 'Mock Exams', 'Chapter Review Questions', 'Flashcards', and 'Exam Tips', each with a corresponding icon.

DASHBOARD

Microsoft Certified Azure Data Fundamentals (DP-900) Exam Guide
Build a solid foundation in Azure cloud data services and pass the DP-900 exam on your first try

Mock Exams

Chapter Review Questions

Flashcards

Exam Tips

BACK TO THE BOOK

Microsoft Certified Azure Data Fundamentals (DP-900) Exam Guide
Steve Miles

Chapter 1: Describe Core Data Concepts

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Mock Exams Chapter Review Questions

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BACK TO THE BOOK

customer

	A	B	C	D
1	customer_id	first_name	last_name	order_id
2	1	steve	miles	5455
3				
4				

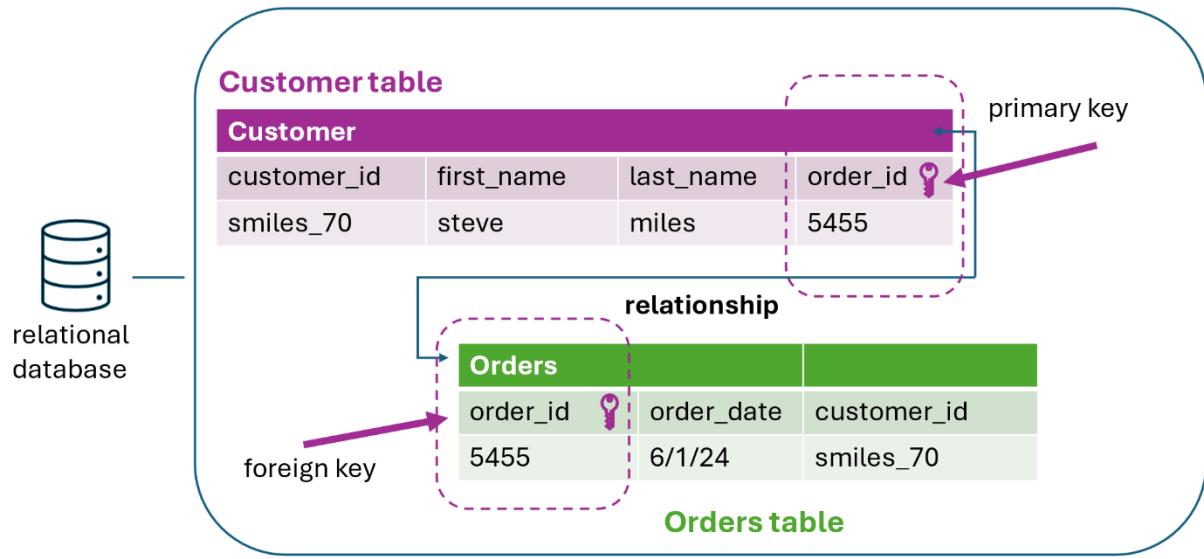
customer_id	first_name	last_name	order_id
1	steve	miles	5455

customer_id, first_name, last_name, order_id, 1, steve, miles, 5455,

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1 "customer_id": "1",
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6 }  
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5     <order_id>5455</order_id>  
6 </root>  
7  
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01101101 01100101 01110010 01011111 01101001 01100100 00111110 00110001  
00111100 00101111 01100011 01110101 01110011 01110100 01101111 01101101  
01100101 01110010 01011111 01101001 01100100 00111110 00001010 00100000  
00100000 00100000 00100000 00111100 01100110 01101001 01110010 01110011  
01110100 01011111 01101110 01100001 01101101 01100101 00111110 01110011  
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00111110 00001010 00100000 00100000 00100000 00111100 01101100  
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00111110 00110101 00110100 00110101 00110101 00111100 00101111 01101111  
01110010 01100100 01100101 01110010 01011111 01101001 01100100 00111110
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DASHBOARD > CHAPTER 1

Describe Core Data Concepts

Summary

This chapter included complete coverage of the DP-900 Azure Data Fundamentals exam skills measured area *Describe Core Data Concepts*.

In this chapter, you learned about core data concepts, how data can be represented, data storage options, common data workloads, and how to identify roles and responsibilities for data workloads.

The next chapter will cover relational concepts to follow the skills measured sequence in Microsoft's study guide for the DP-900 exam.

Chapter Review Questions

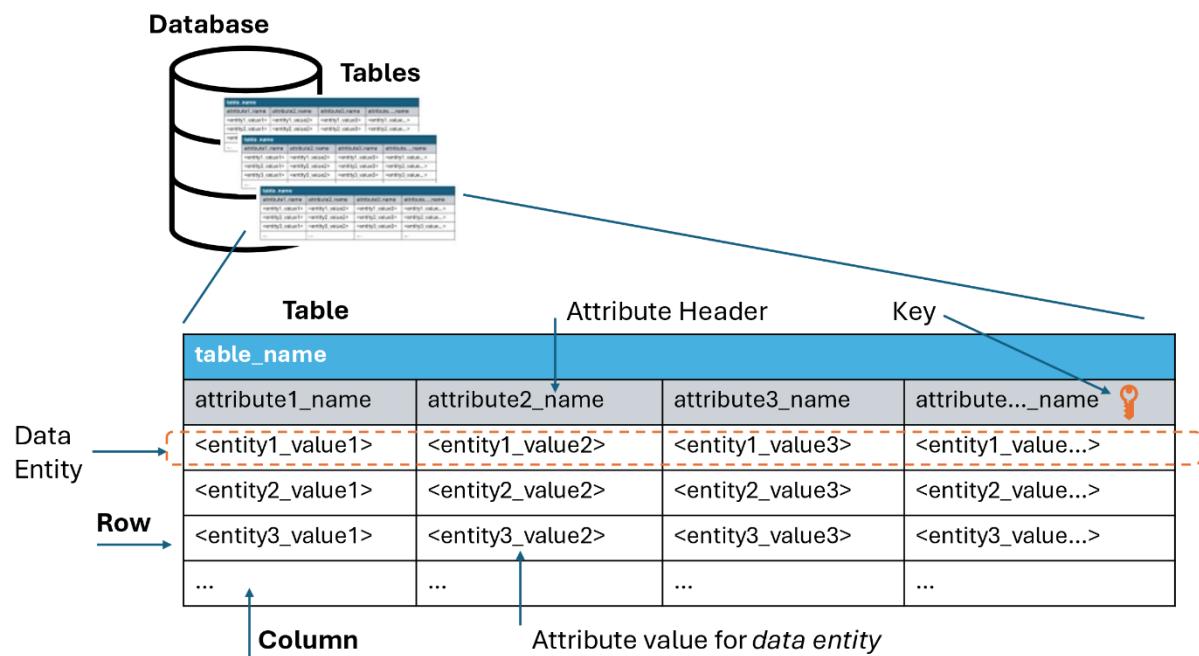
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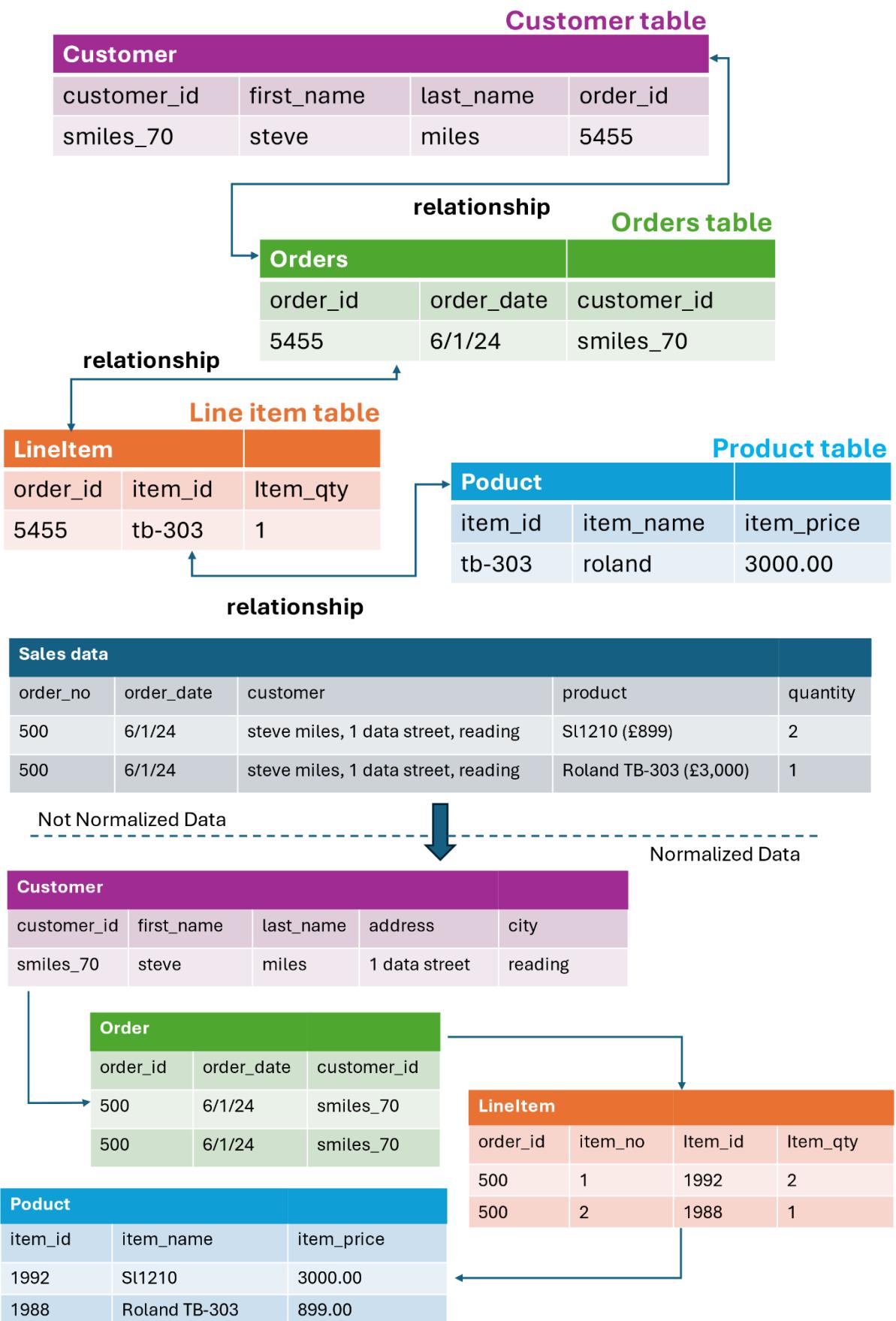
Select Quiz

Quiz 1 [SHOW QUIZ DETAILS](#) [START](#)

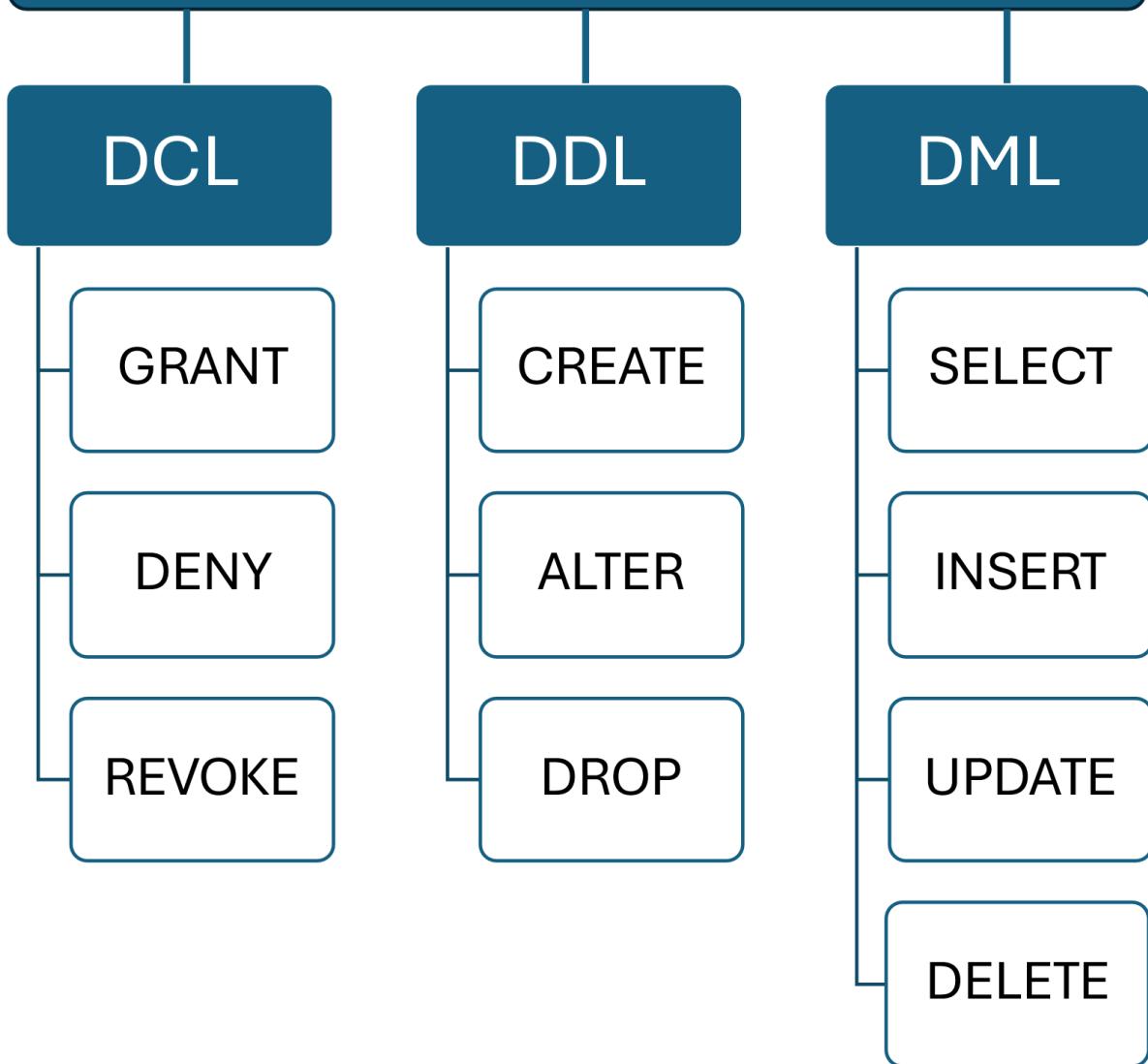
Chapter 2: Describe Relational Concepts

customer			
CustomerID	Title	Surname	Department
001	Mr	Miles	Engineering
002	Mr	Bloggs	Operations
003	Mrs	Miggins	Retail





SQL statement categories



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DASHBOARD > CHAPTER 2

Describing Relational Concepts

Summary

In this chapter, you learned how to describe relational concepts essential for working with Azure data services.

You explored how to define relational data, normalization, and objects such as tables, views, indexes, and stored procedures in relational databases. Then, you learned about the SQL language and how it is used to query and manipulate data in relational databases.

By mastering these concepts, you have gained a solid foundation for understanding and working with relational data in Azure and the skills you need to succeed in the Azure Data Fundamentals exam confidently. You are ready to move on to the next chapter, where you will learn about non-relational concepts and how they apply to Azure data services.

This chapter included complete coverage of the *DP-900 Azure Data Fundamentals* exam *Skills Measured* area, *Describing relational concepts*.

The next chapter will cover [relational Azure data services](#) to follow the *Skills Measured* sequence in Microsoft's study guide for the *DP-900* exam.

Chapter Review Questions

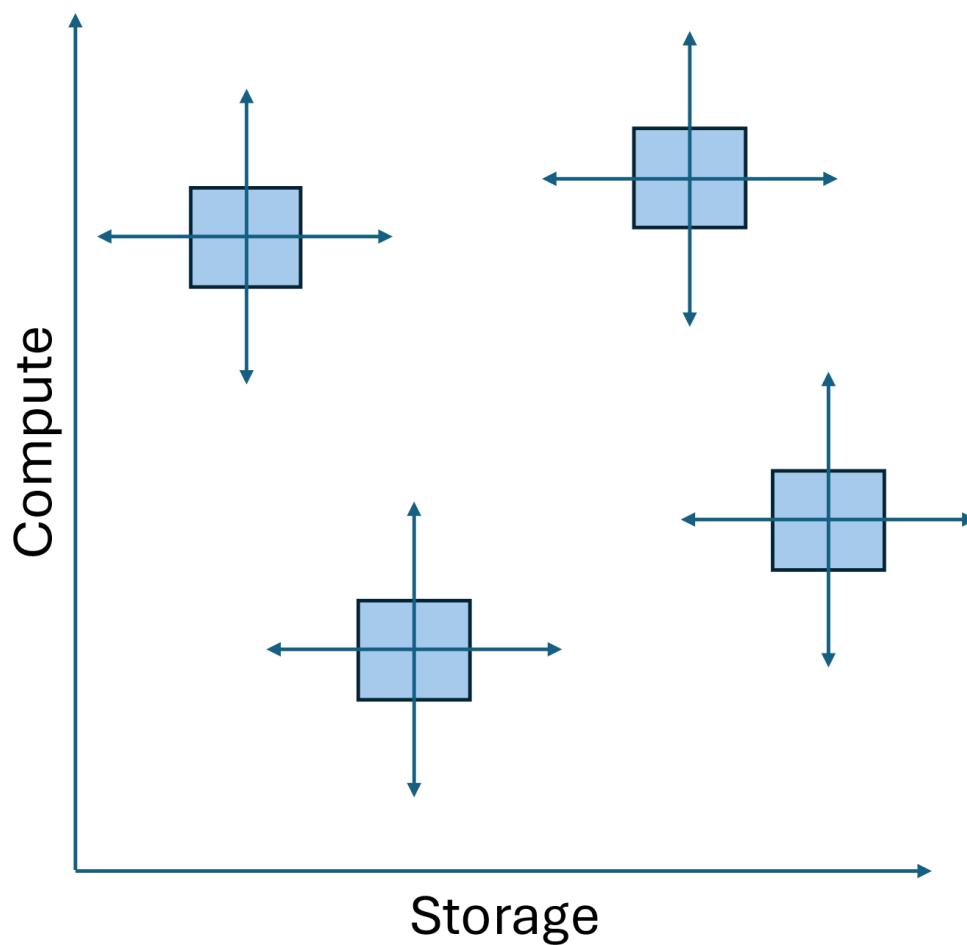
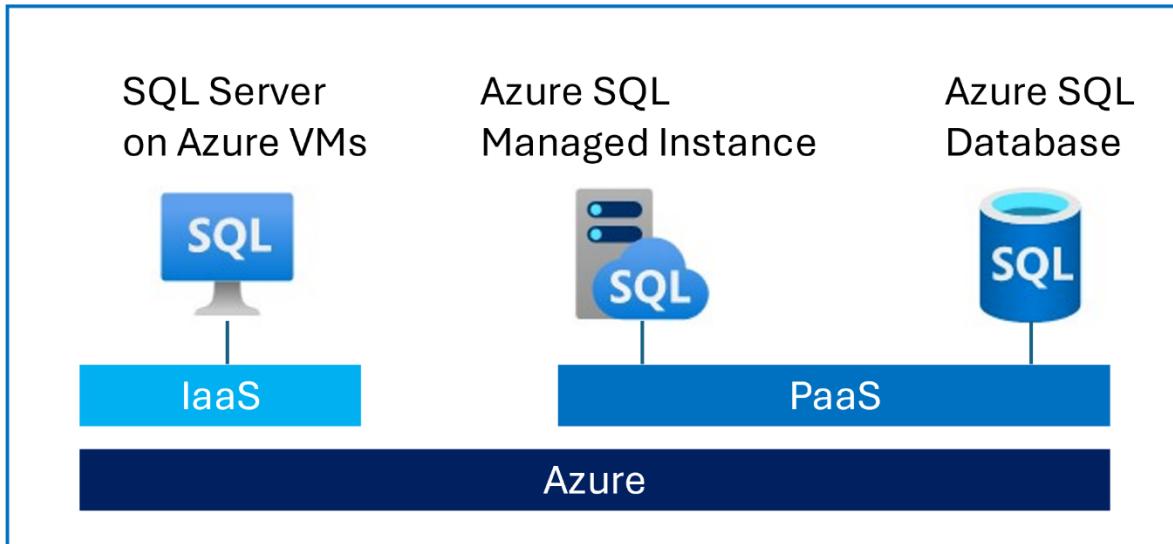
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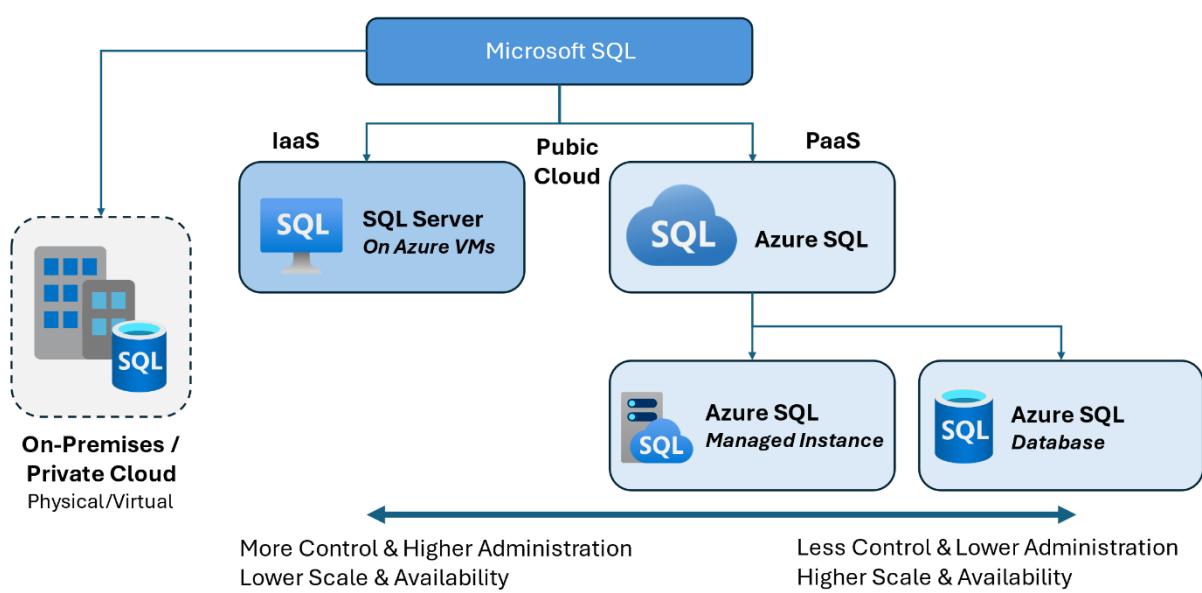
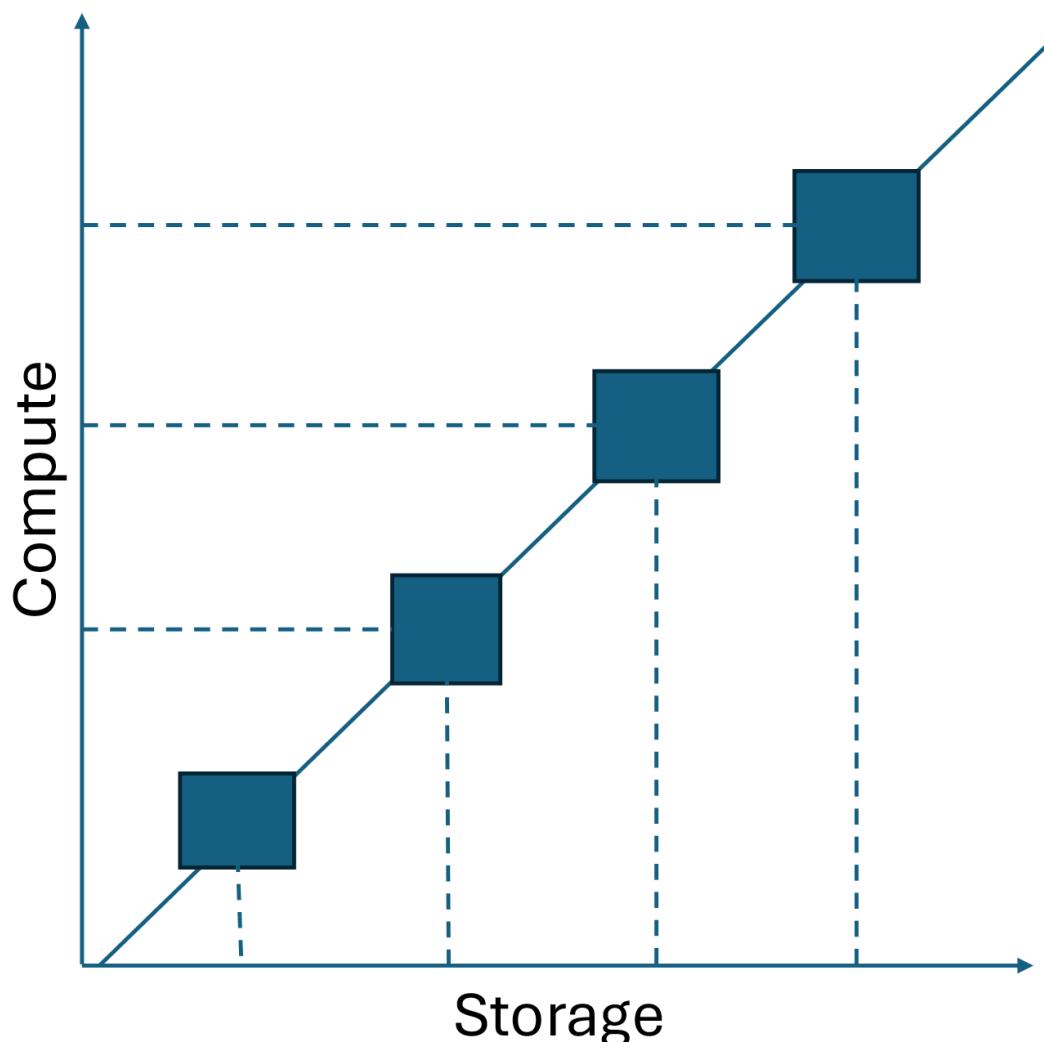
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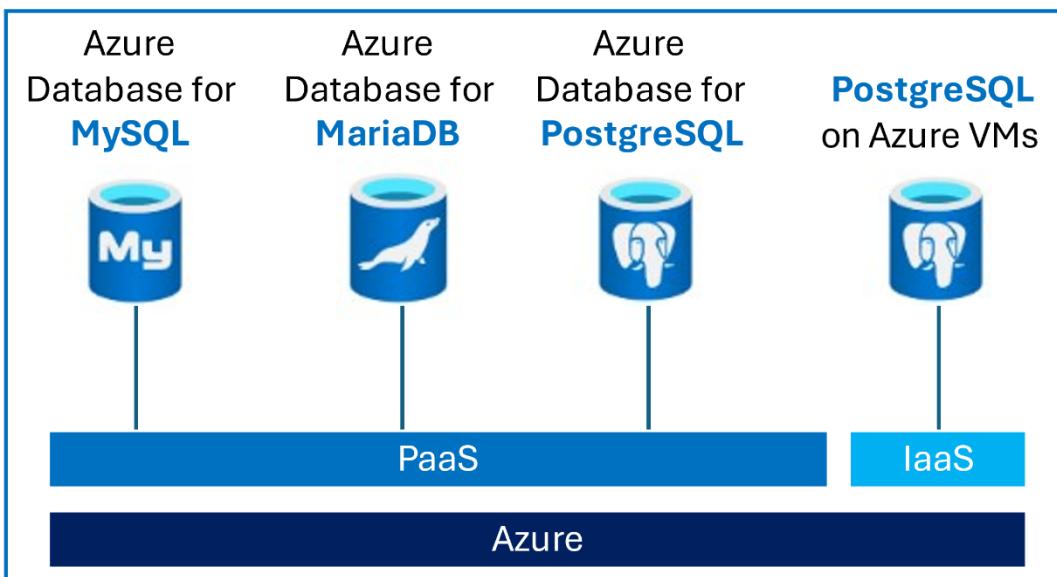
START

Chapter 3: Describe Relational Azure Data Services





SQL Server on-premises	SQL Server on Azure VMs	Azure SQL Managed Instance	Azure SQL Database
Data	Data	Data	Data
Database	Database	Database	Database
SQL instance-level features	SQL instance-level features	SQL instance-level features	SQL instance-level features
HA/DR/security	HA/DR/security	HA/DR/security	HA/DR/security
SQL provisioning	SQL provisioning	SQL provisioning	SQL provisioning
Operating system	Operating system	Operating system	Operating system
Virtualization	Virtualization	Virtualization	Virtualization
Hardware	Hardware	Hardware	Hardware
Data center	Data center	Data center	Data center
Managed by customer		Managed by Microsoft	





Describe Relational Azure Data

Summary

In this chapter, you learned how to describe the relational data services available for Azure environments, which provided essential skills needed to succeed confidently in the *Azure Data Fundamentals* exam.

This chapter included complete coverage of the *DP-900 Azure Data Fundamentals* exam's *Skills Measured* area, *Describe Relational Azure Data Services*.

The content emphasized themes such as understanding when to use each deployment option based on specific business needs and application requirements. It also showed that it is crucial to recognize the differences in management responsibilities between IaaS and PaaS services and how they impact operational overhead and resource allocation.

You are ready to move on to the next chapter, where you will learn about the topic of *Describe the Capabilities of Azure Storage* to follow the *Skills Measured* sequence in Microsoft's study guide for the *DP-900* exam.

Chapter Review Questions

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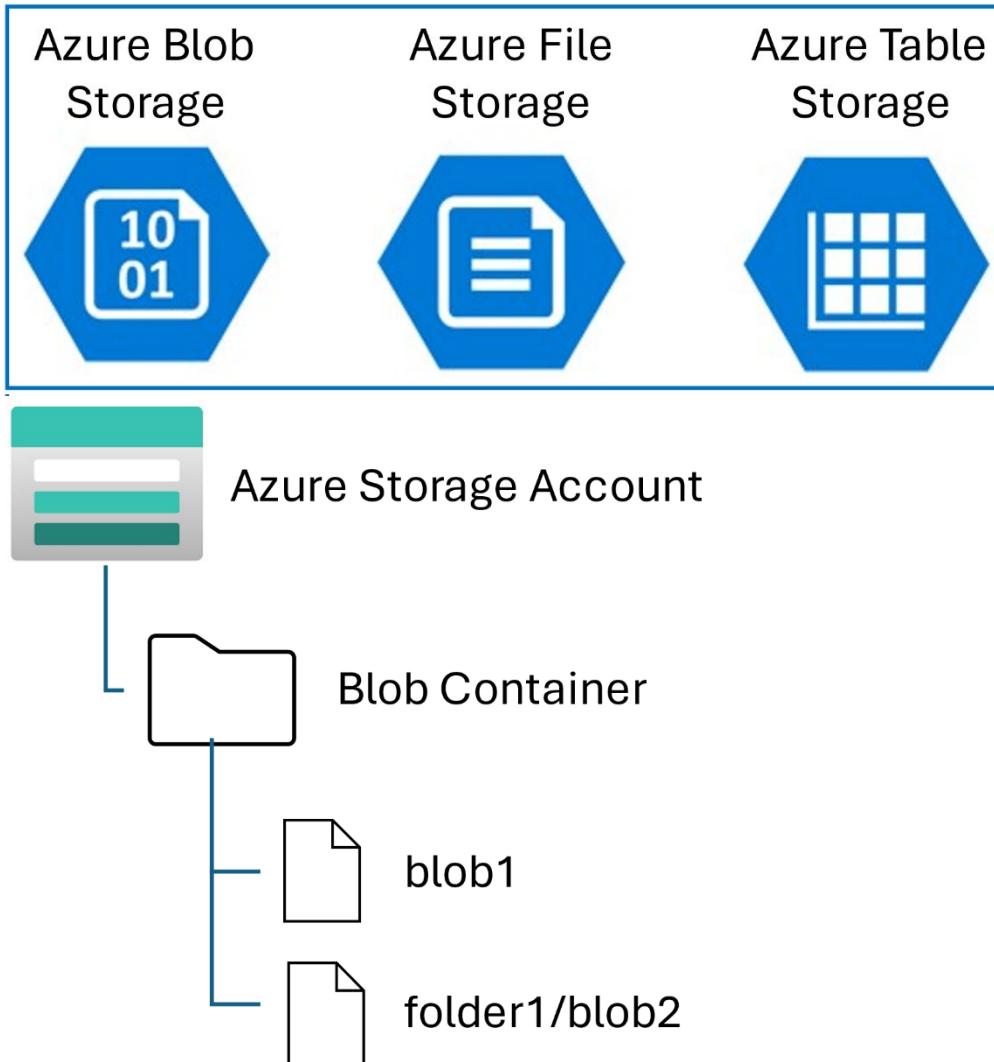
Select Quiz

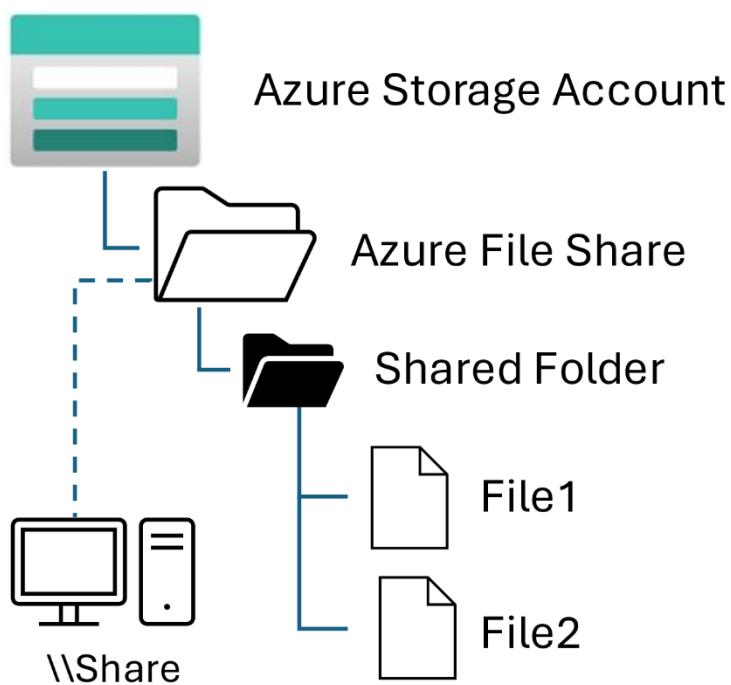
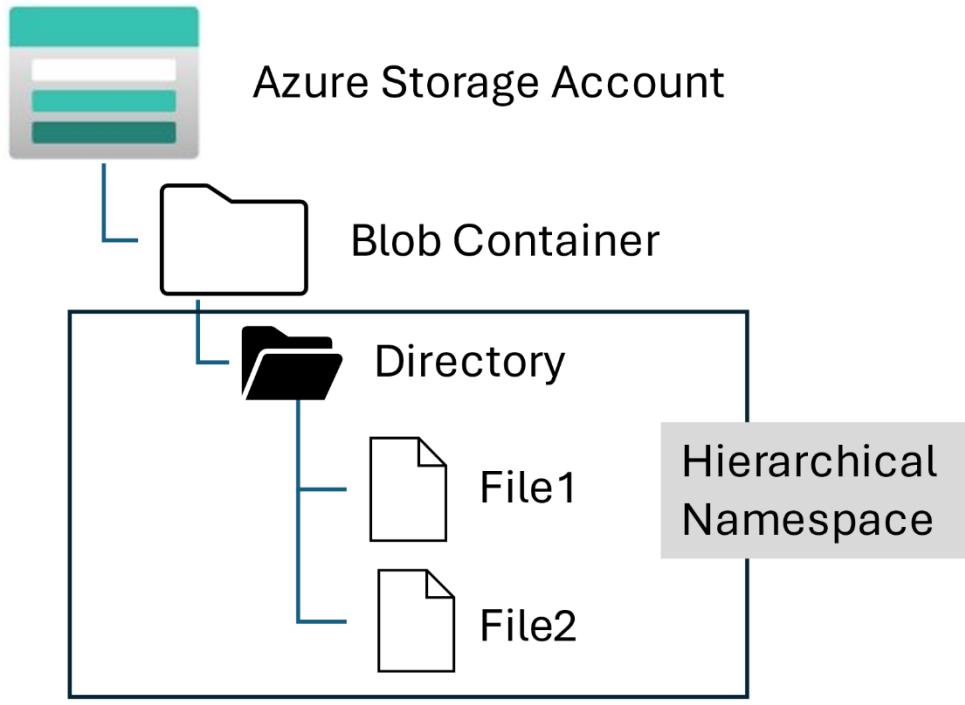
Quiz 1

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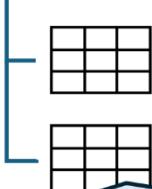
Chapter 4: Describe the Capabilities of Azure Storage







Azure Storage Account



Tables

PartitionKey	RowKey	Timestamp	Property1	Property2
1	123	2024-07-01	Value1	ValueX
1	124	2024-07-01	Value2	ValueY
2	125	2024-07-01	Value ...	Value...

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DASHBOARD > CHAPTER 4

Describe the Capabilities of Azure Storage

Summary

The chapter outlined the Azure Storage services, which are key to understanding cloud storage options and preparing for the DP-900 Azure Data Fundamentals exam.

You looked at storage accounts, which are pivotal for data storage in Azure, supporting various storage types in one account. They feature multiple redundancy choices, detailed access control with hierarchical namespaces, and smooth compatibility with Azure's other services.

You also learned about Azure Blob storage, which is designed for unstructured data such as pictures, video content, and backups. It provides different blob types tailored to specific requirements and storage levels (hot, cool, and archive) that help balance cost against performance. Capabilities such as automated tiering, data versioning, and setting retention policies refine data governance.

Then you looked at Azure Files, which delivers managed file shares that can be accessed using SMB and NFS, simplifying file sharing among virtual machines and apps. It includes features such as identity-based access with Entra ID, incremental snapshots for backups, and Azure File Sync.

Azure Table storage, a NoSQL key-attribute store, is optimized for scalability and versatility. The absence of schema enables adaptability, while partitions enhance how data is handled.

This chapter provided the requisite knowledge for the DP-900 certification, the practical understanding for applying these principles in real-world scenarios of selecting the appropriate storage solutions, and considerations for handling non-relational data on Azure.

The next chapter will cover the *Capabilities and Features of Azure Cosmos DB* to follow the skills measured sequence in Microsoft's *Study Guide for the DP-900 exam*.

Chapter Review Questions

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Quiz 1
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Chapter 5: Describe the Capabilities and Features of Azure Cosmos DB

The screenshot shows a dark-themed user interface for 'Practice Resources'. At the top, there's a navigation bar with a bell icon and a 'SHARE FEEDBACK' button. Below the navigation, a breadcrumb trail reads 'DASHBOARD > CHAPTER 5'. The main content area has two main sections: 'Summary' and 'Chapter Review Questions'.

Summary:

In this chapter, you learned about the capabilities and features of Azure Cosmos DB, a flexible, scalable, and multi-model database solution designed for modern enterprises undergoing rapid digital transformation.

This chapter included complete coverage of the DP-900 Azure Data Fundamentals exam Skills Measured area: *Describe considerations for working with non-relational data on Azure*.

You learned that Azure Cosmos DB supports various scenarios, including real-time analytics, IoT applications, e-commerce platforms, and social networks. Understanding these use cases helps organizations leverage Azure Cosmos DB's strengths for optimal performance and efficiency.

Next, you learned that Azure Cosmos DB offers various APIs to cater to different application requirements and developer preferences. These include the SQL API, MongoDB API, Cassandra API, Azure Table API, and Gremlin API. Each API supports specific data interaction paradigms, such as key-value, documents, columns, or graphs.

At the end of this chapter, you have gained a comprehensive understanding of Azure Cosmos DB's capabilities, ideal use cases, and the APIs that enable developers to build scalable and high-performance applications in a rapidly evolving technological landscape.

The next chapter will include coverage of the topic of the *Describe Common Elements of Large-scale Analytics* area in Microsoft's study guide for the DP-900 exam.

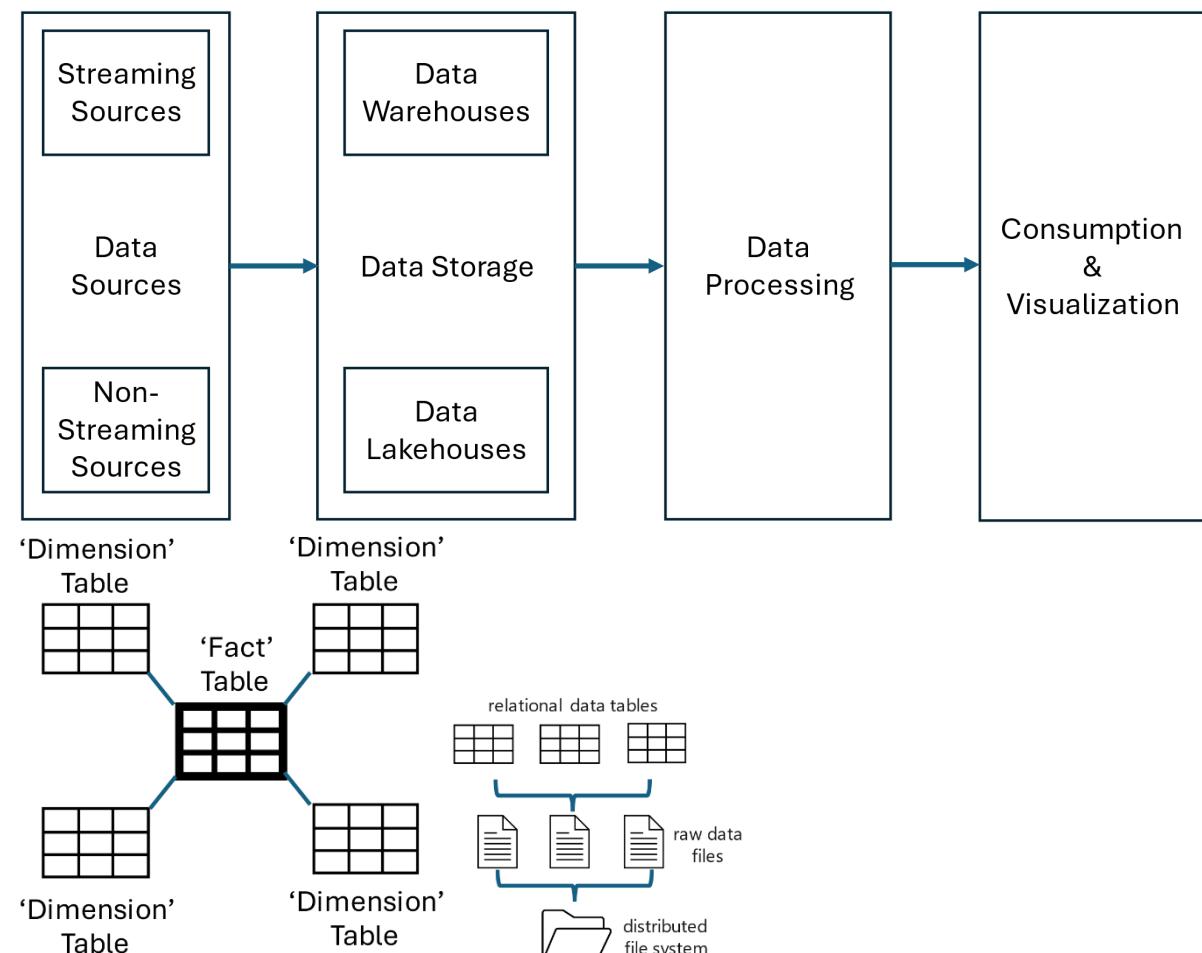
Chapter Review Questions:

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Select Quiz

Quiz 1 [SHOW QUIZ DETAILS](#) [START](#)

Chapter 6: Describe the Common Elements of Large-Scale Analytics



PaaS Data Analytics Services



Azure
Synapse
Analytics



Azure
Databricks



Azure
HDInsight

SaaS Data Analytics Services



Microsoft
Fabric

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[DASHBOARD](#) > [CHAPTER 6](#)

Describe the Common Elements of Large-Scale Analytics

Summary

This chapter included complete coverage of the DP-900 Azure Data Fundamentals exam's Skills Measured area – *Describe the Common Elements of Large-scale Analytics*.

You started this chapter by exploring considerations for data ingestion and processing, and understanding how to select appropriate technologies based on data variety, volume, and processing needs. This foundational knowledge is crucial, as effective data ingestion ensures that the right data is captured and made available for analysis promptly.

Then, the chapter delved into options for analytical data stores, discussing different architectures such as data warehouses, data lakes, and data lakehouses. Learning about these options is essential for understanding how to store and manage data in a way that supports diverse analytical workloads and enables actionable insights.

Finally, you explored the various Azure services for data warehousing, including Azure Synapse Analytics, Azure Databricks, Microsoft Fabric, Azure HDInsight, and Azure Data Factory. Each service offers unique features and capabilities that can be leveraged to build scalable and efficient analytics solutions in the cloud. Understanding these services and their applications is vital for organizations seeking to harness the power of data to drive business decisions, enhance operational efficiency, and foster innovation.

The next chapter will describe the consideration of real-time data analytics to follow the skills measured in Microsoft's study guide for the DP-900 exam.

Chapter Review Questions

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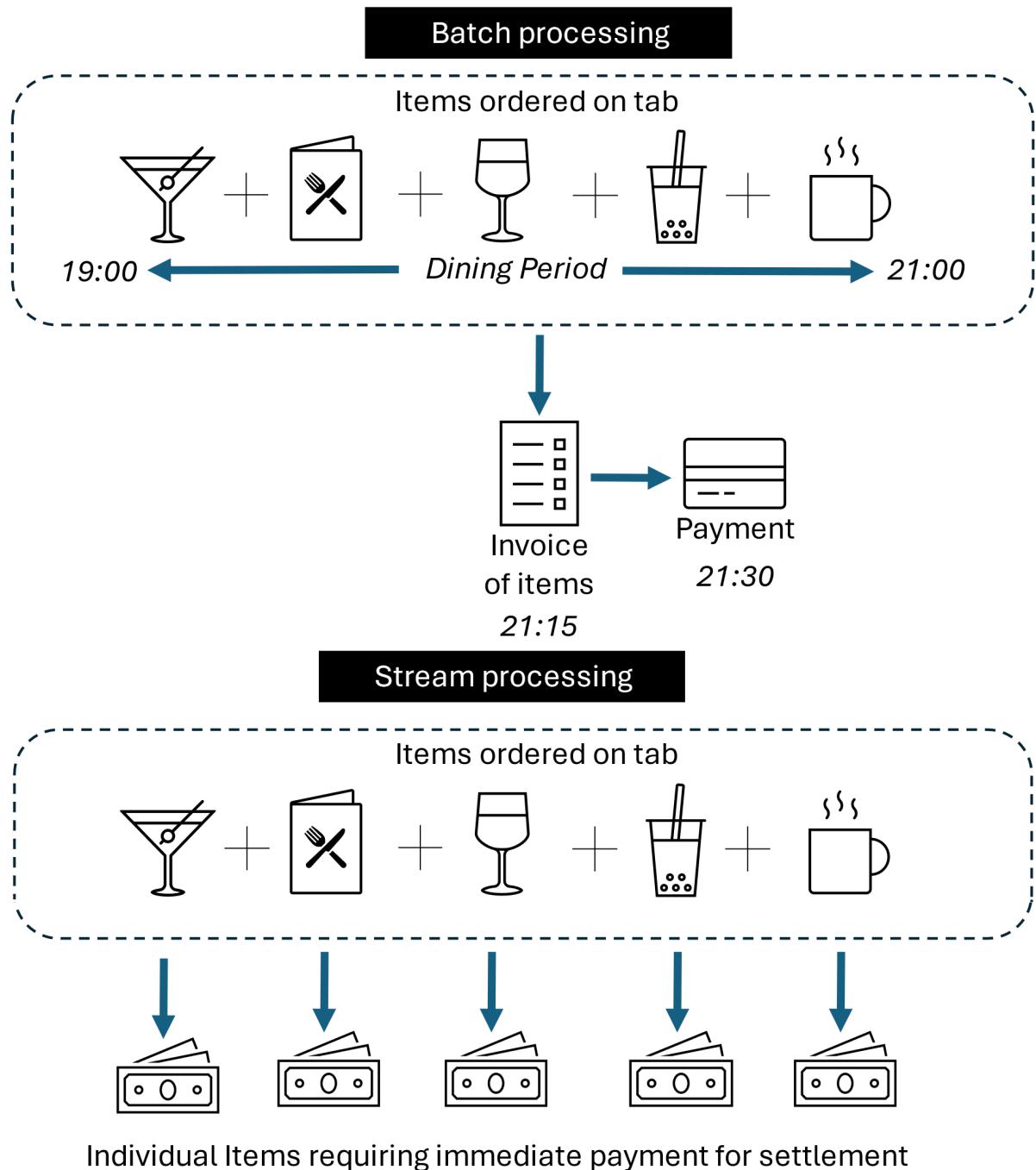
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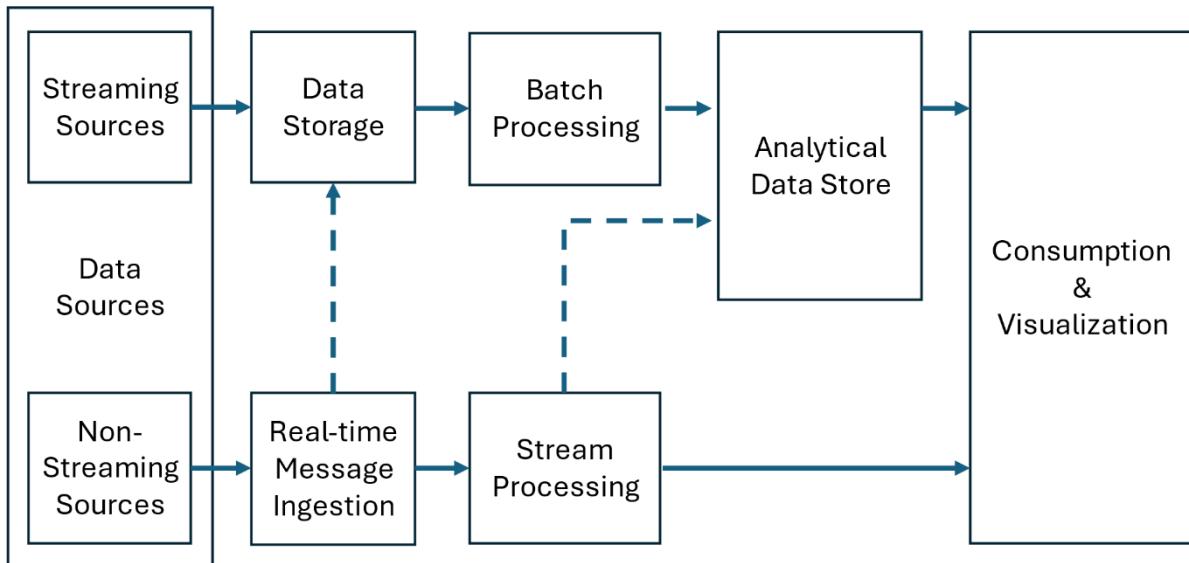
Quiz 1

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[START](#)

Chapter 7: Describe the Considerations for Real-Time Data Analytics





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DASHBOARD > CHAPTER 7

Describe Consideration for Real-Time Data Analytics

Summary

This chapter included complete coverage of the DP-900 Azure Data Fundamentals exam's *Describe Consideration for Real-Time Data Analytics* skills measured area.

In this chapter, you gained a comprehensive understanding of real-time data analytics, focusing on the fundamental differences between batch and streaming data processing and the key Azure services that support real-time analytics.

You began by identifying the difference between batch and streaming data processing. Batch processing involves collecting and processing large volumes of data at scheduled intervals, making it ideal for tasks where immediate processing is unnecessary, such as end-of-day financial reporting. In contrast, streaming data processing handles data in real time, processing it as it arrives. It is crucial for applications that require immediate insights, such as monitoring network traffic or analyzing social media feeds.

The chapter also introduced you to the various Microsoft Azure data platform services that enable real-time analytics, including Azure Stream Analytics, Apache Spark on Azure, Azure Data Explorer, and Microsoft Fabric.

Additionally, we discussed how these Azure data platform services integrate with other tools and services, offering flexibility and scalability to meet different data processing needs. A knowledge of these tools allows you to choose the right service for specific real-time analytics tasks, whether for IoT data ingestion, anomaly detection, or real-time dashboarding.

By understanding the differences between batch and stream processing and familiarizing yourself with Azure's real-time analytics services, you are now better equipped to implement effective data analytics solutions. These skills are crucial for passing the DP-900 certification exam and addressing real-world business challenges, where timely and accurate data insights can drive strategic decision-making.

The next chapter, *Describe Data Visualization in Microsoft Power BI*, will follow the skills measured sequence in Microsoft's study guide for the DP-900 exam.

Chapter Review Questions

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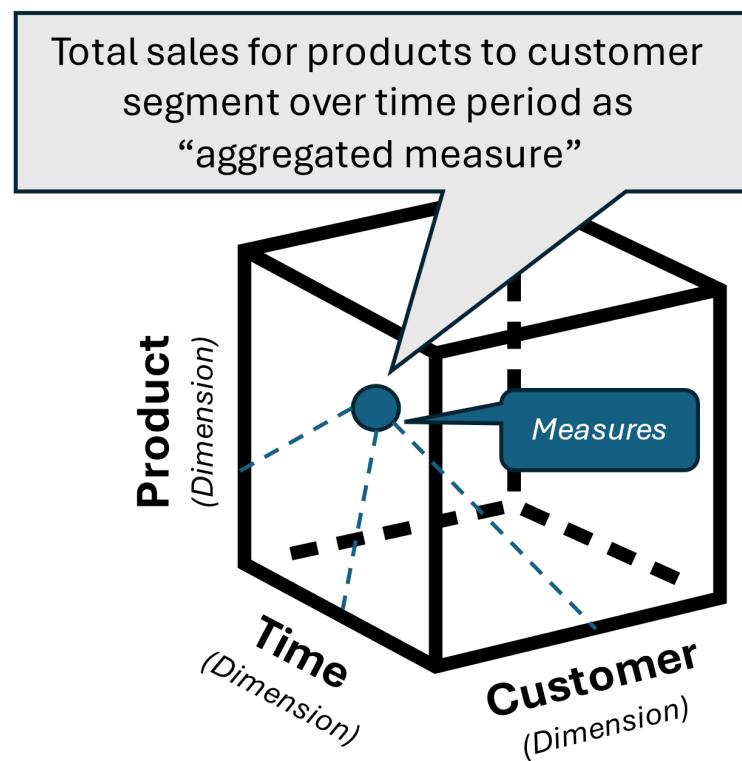
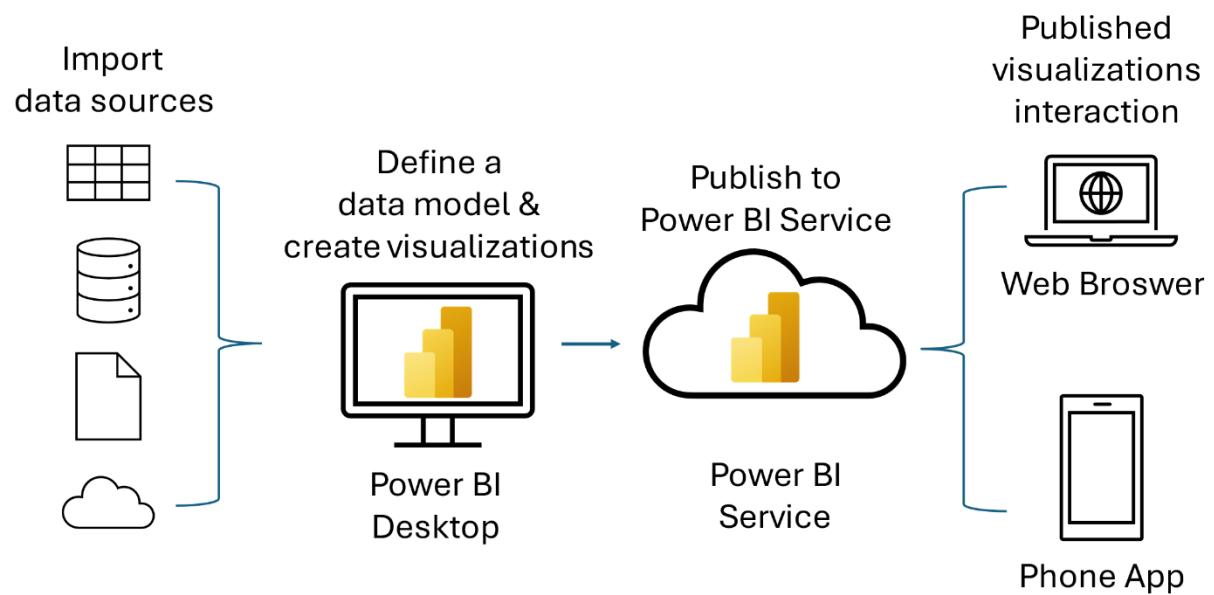
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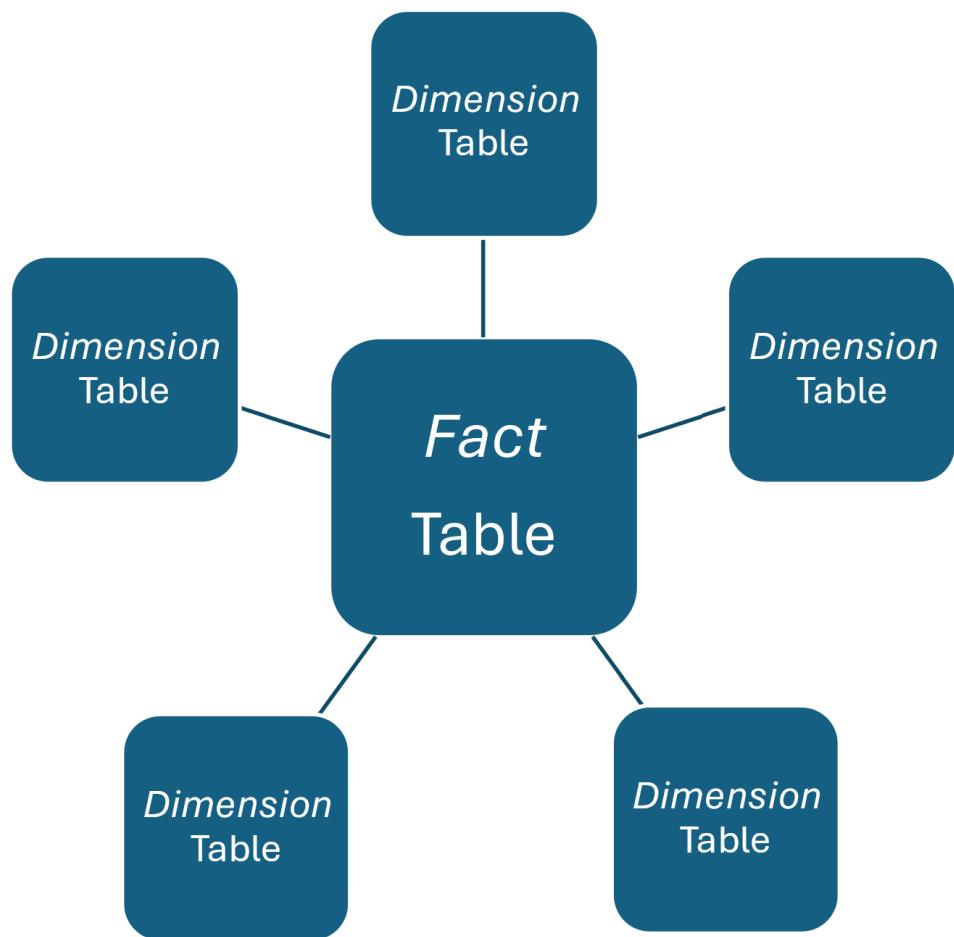
Quiz 1

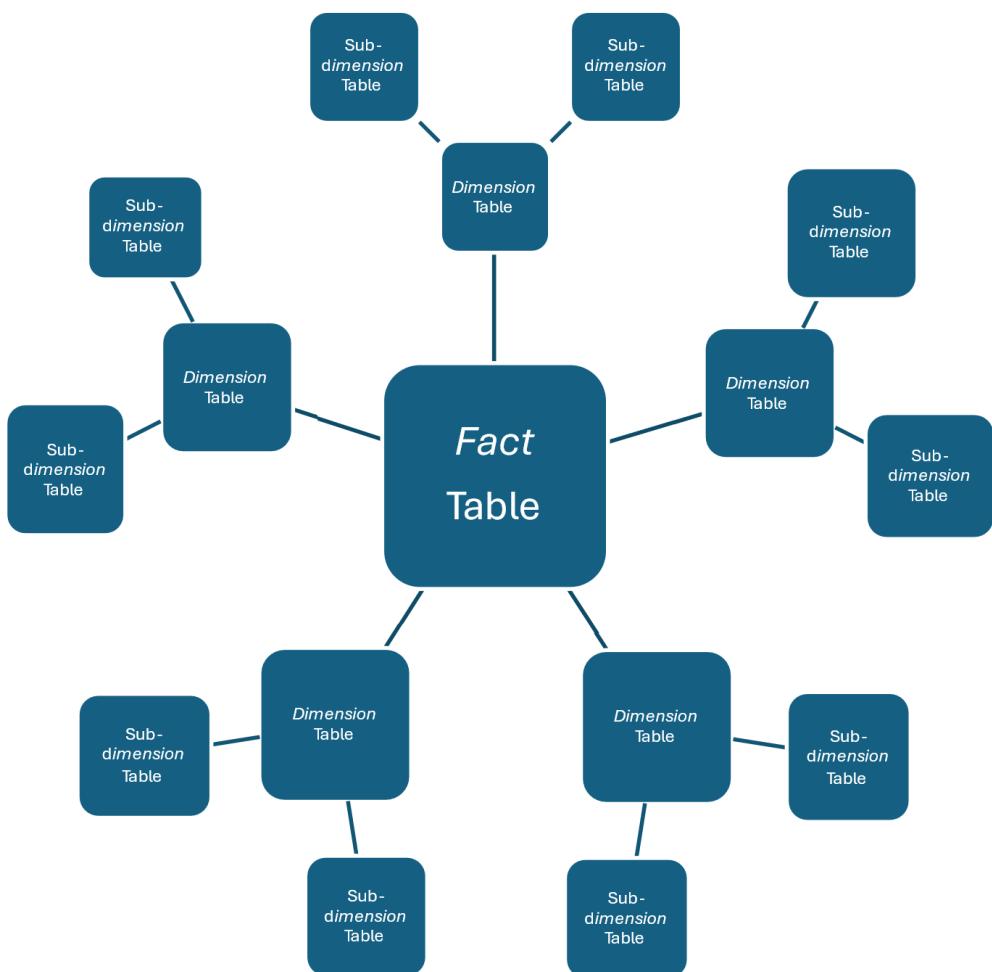
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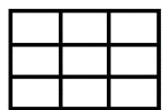
Chapter 8: Describe Data Visualization in Microsoft Power BI



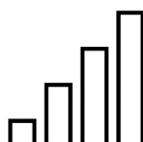




Tables



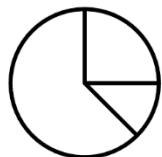
Bar/Column



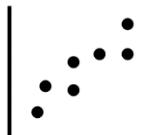
Line



Pie



Scatter



Map





Describe Data Visualization in Microsoft BI

Summary

In this chapter, you learned about the capabilities of Power BI, the features of data models in Power BI, and appropriate visualizations for data. This chapter included complete coverage of the DP-900 Azure Data Fundamentals exam's Skills Measured area – *Describe data visualization in Microsoft Power BI*.

The chapter highlighted the importance of data visualization in enhancing the comprehension and communication of complex information. By transforming raw data into visual formats such as charts, graphs, and dashboards, Power BI helps decision-makers quickly identify patterns, trends, and actionable insights, making data more accessible and meaningful.

The chapter examined Power BI's features in detail, focusing on its core components – Power BI Desktop and the Power BI service. These tools work together to create a comprehensive business intelligence solution. The capabilities of Power BI were discussed, including its ability to connect with various data sources, model data effectively, and facilitate real-time collaboration through interactive reports and dashboards. This discussion emphasized how Power BI enables users to analyze data and share insights across an organization, making it a versatile tool for any data-driven enterprise.

You were also taught an understanding of fundamental data modeling concepts, such as analytical models, star schemas, and snowflake schemas. These concepts are essential for structuring data to optimize query performance and enhance the ease of understanding. The chapter illustrated how these models form the backbone of data organization within Power BI, enabling efficient and effective data analysis.

The chapter also explored the appropriate use of different data visualizations, guiding you through selecting visual formats that best represent various kinds of data. This knowledge is crucial for creating visualizations that look appealing and effectively communicate the underlying data's significance.

One of the major takeaways from this chapter is the critical role data visualization plays in decision-making. Effective visualization is more than aesthetics; it's also about making data understandable and actionable. Well-designed visualizations can significantly influence business decisions by presenting critical information clearly and concisely.

Chapter Review Questions

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Chapter 9: Accessing the Online Practice Resources

 Practice Resources

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Steve Miles • Sep 2024 • 505 pages

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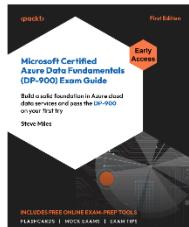
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