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Databases and SQL Fundamentals

Instructor

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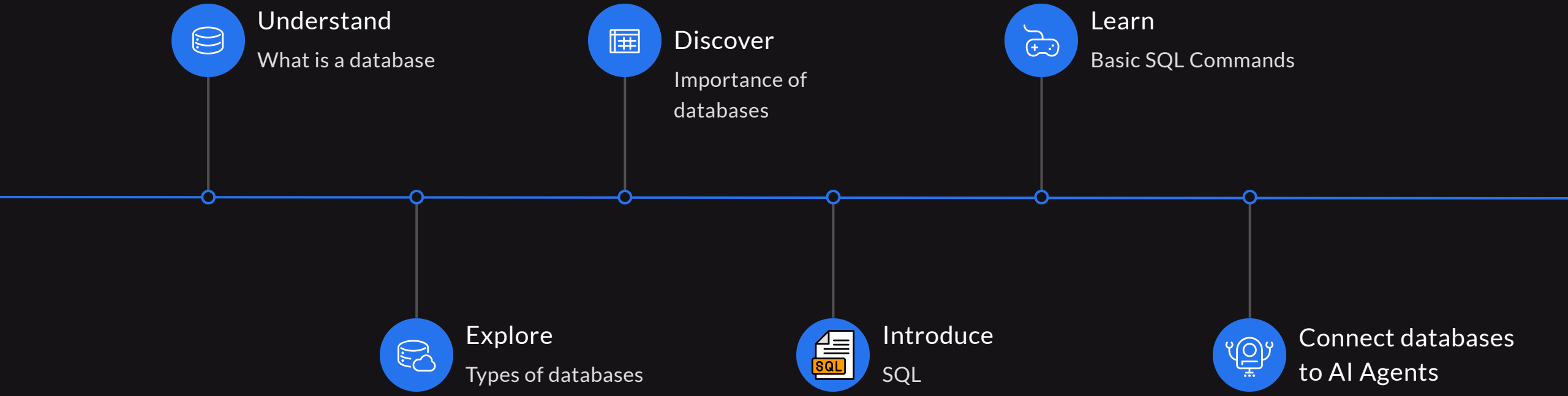
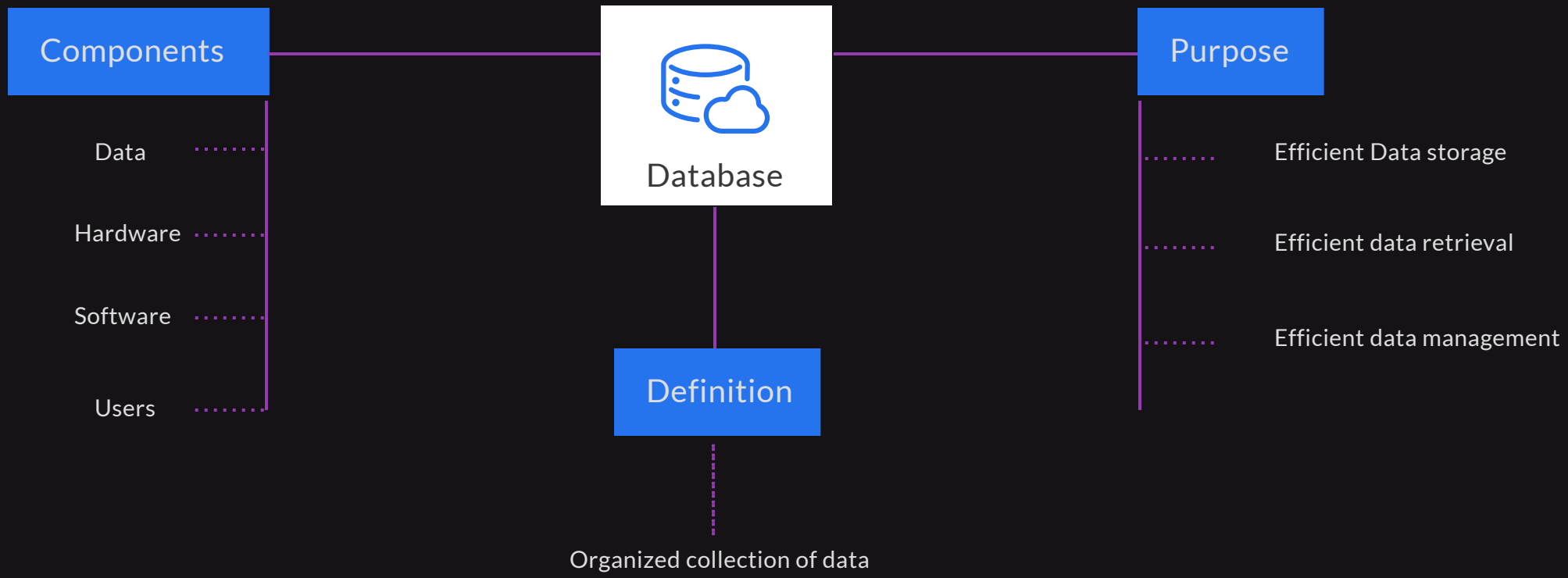
Manager (Data Science), Analytics Vidhya



Agenda

- **Understand**
  What is a database
- **Explore**
  Types of databases
- **Discover**
  Importance of databases
- **Introduce**
  SQL
- **Learn**
  Basic SQL Commands
- **Connect databases to AI Agents**

What is a Database



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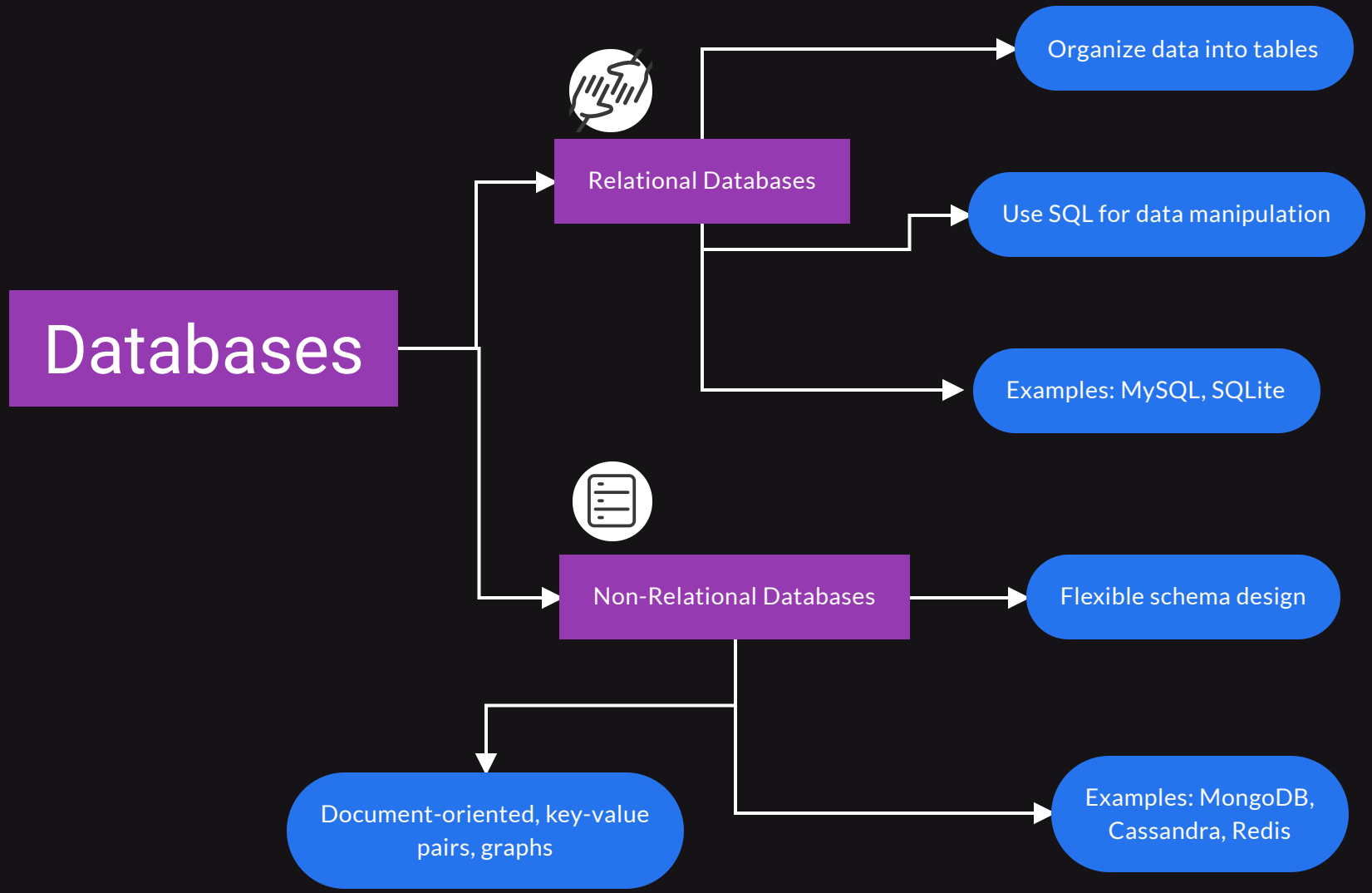
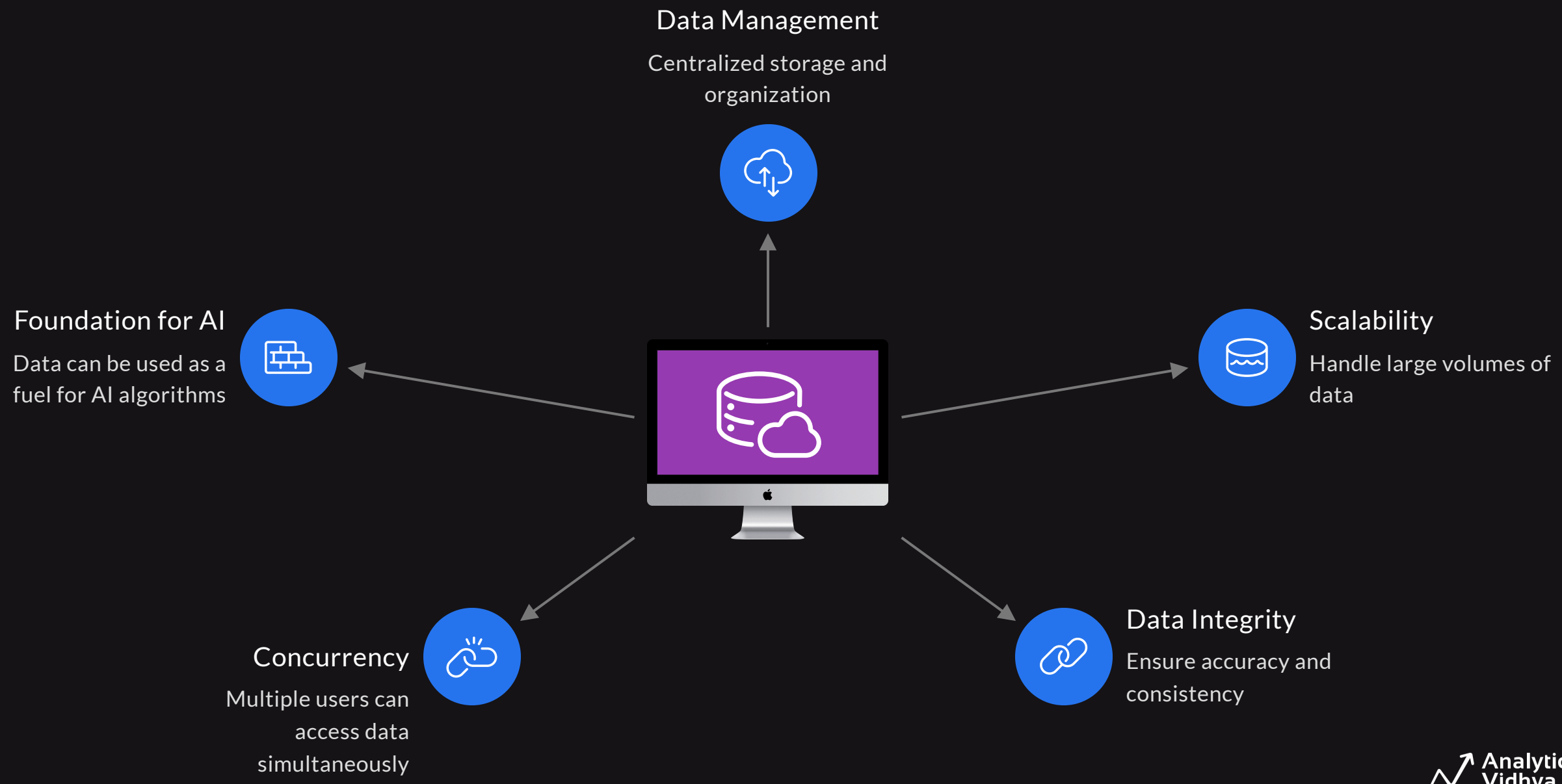
Types of Databases



Why are Databases Important?



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Introduction to SQL

1. SQL: Structured Query Language
2. Purpose: Communicate with relational databases

SQL

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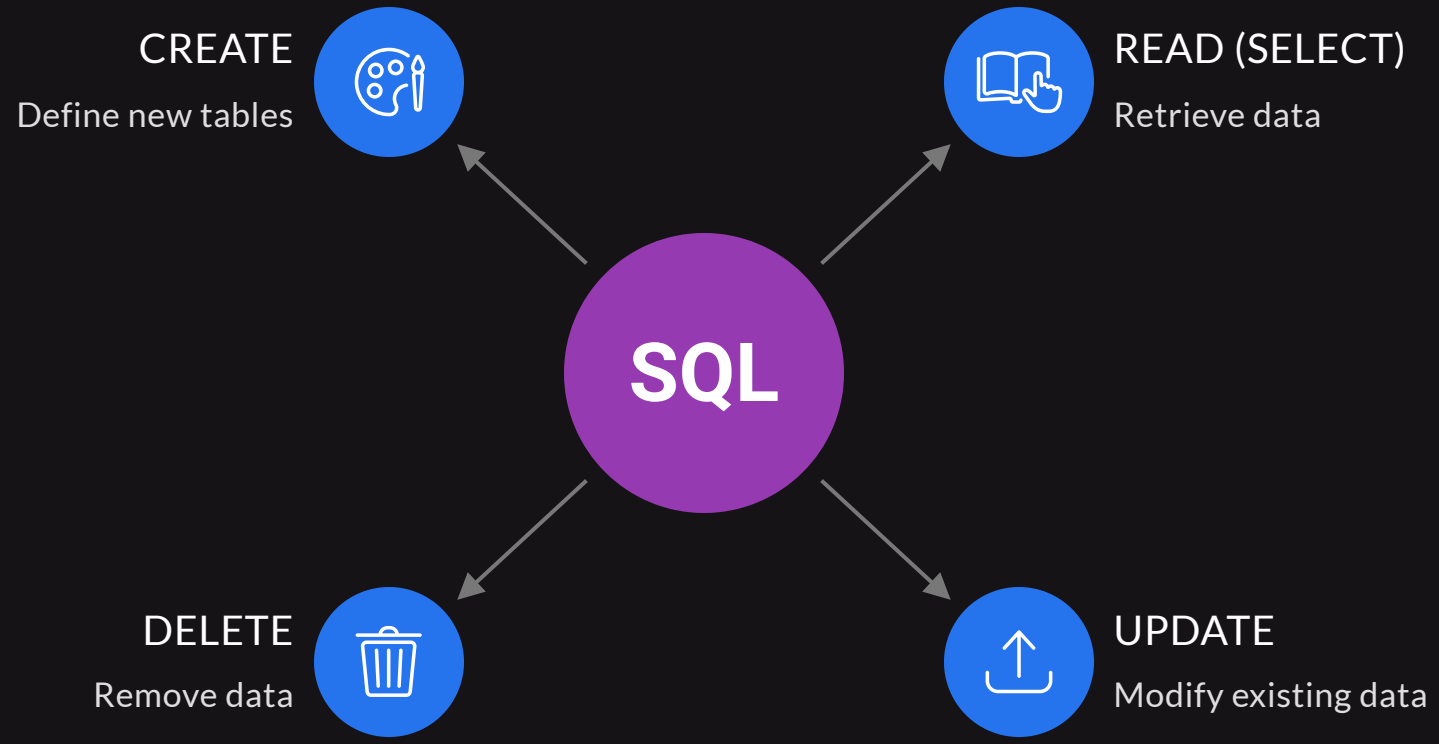
SQL: Key Operations



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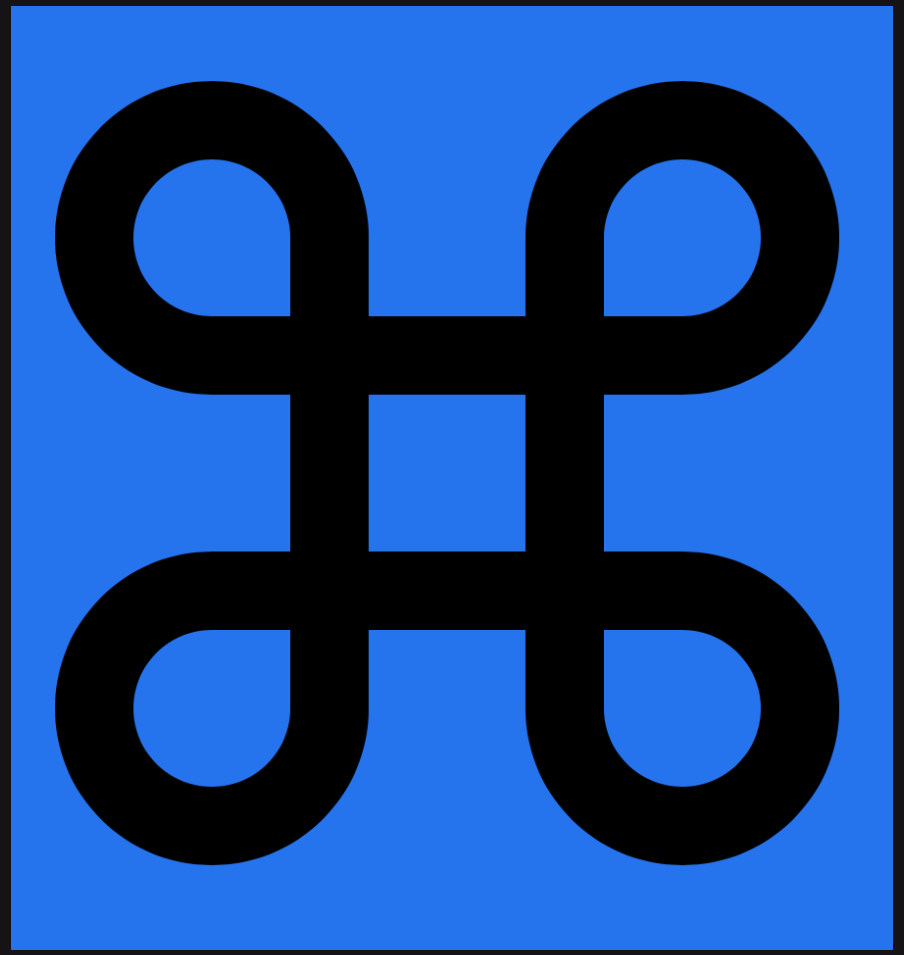
Basic SQL Commands



CREATE TABLE	Define a new table and its columns
INSERT INTO	Add new data to a table
UPDATE	Modify existing data within a table
DELETE	Remove data from a table
SELECT	Retrieve data from one or more tables

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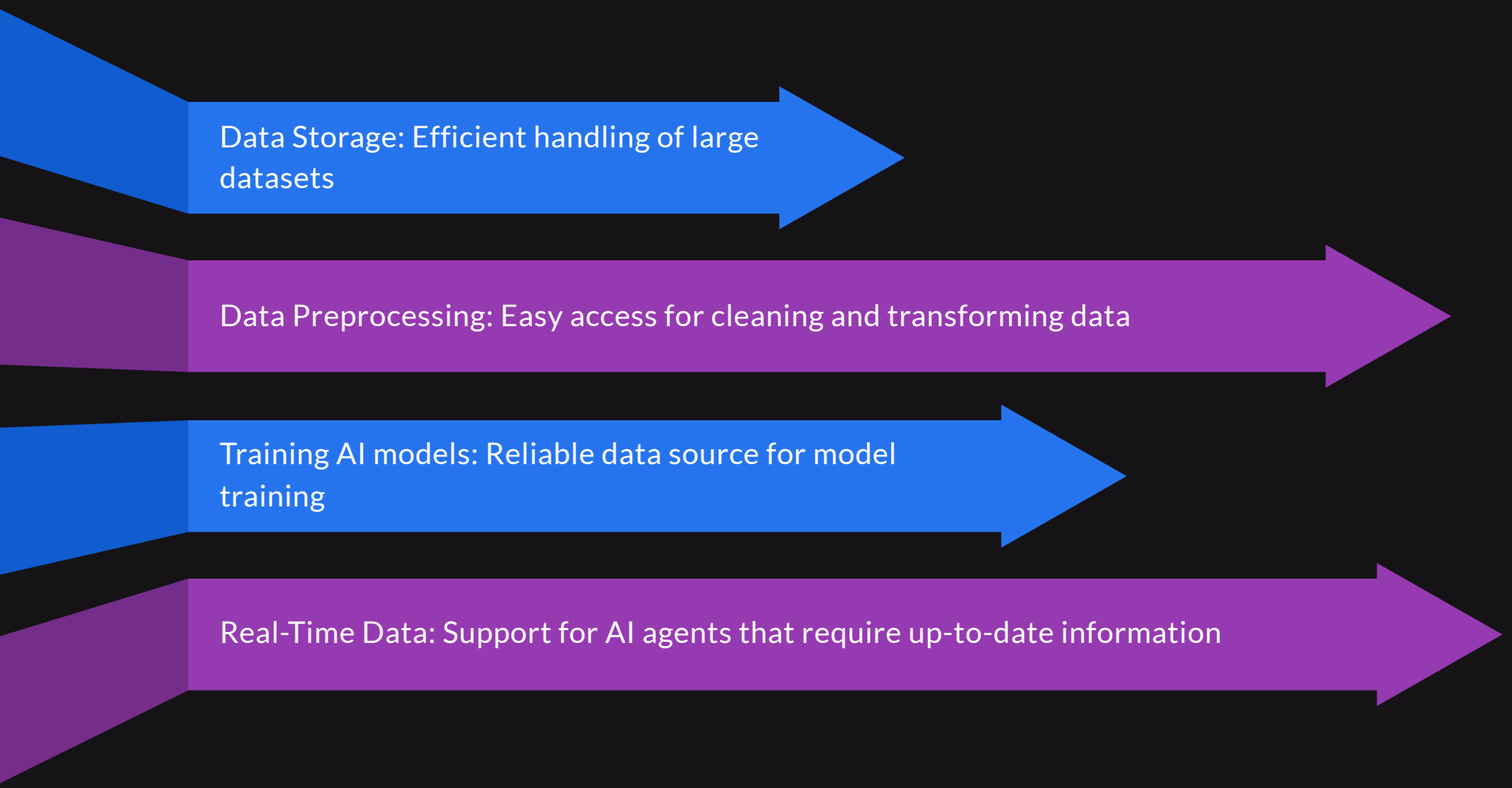
Importance of Databases in AI

Databases are vitals in the field of AI for several reasons.



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Connecting Databases to Agents

1

Data Extraction

Use SQL queries to retrieve data

2

Integration

Connect databases to programming languages (e.g., Python)

3

Libraries and Tools

Python's sqlite3, pymysql, psycopg2

ORM framework like SQLAlchemy

4

Applications

Feed data into AI algorithms for processing and decision-making

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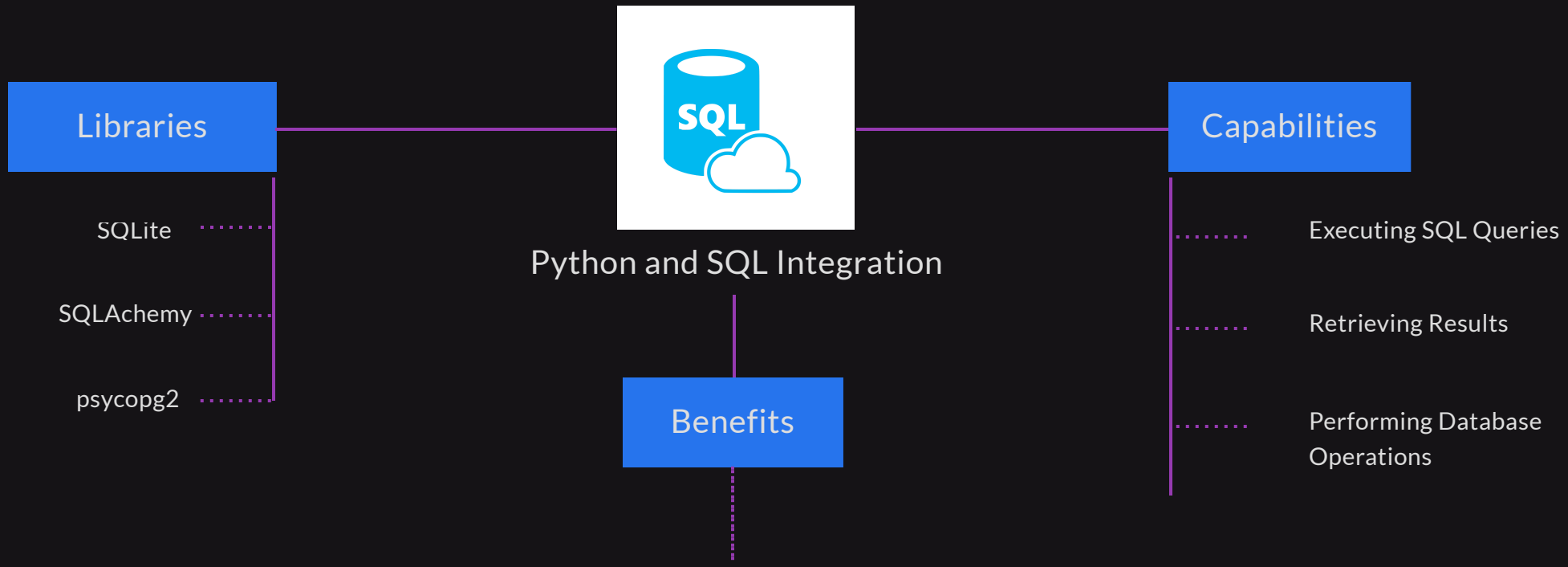
Connecting Python to SQL Databases



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Thank You

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