



## Accessing databases using Python



- ✓ **Video:** How to Access Databases Using Python  
6 min
- ✓ **Video:** Writing code using DB-API  
5 min
- ✓ **Video:** Connecting to a database using ibm\_db API  
2 min
- ✓ **Lab:** Create Database Credentials  
15 min
- ✓ **Ungraded External Tool:** Hands-on Lab: Connecting to a database instance  
20 min
- ✓ **Video:** Creating tables, loading data and querying data  
3 min
- ✓ **Ungraded External Tool:** Hands-on Lab: Creating tables, inserting and querying Data  
30 min
- ✓ **Introducing SQL Magic**  
10 min
- ✓ **Ungraded External Tool:** Hands-on Tutorial: Accessing Databases with SQL magic  
20 min
- ✓ **Video:** Analyzing data with Python  
9 min
- ✓ **Ungraded External Tool:** Hands-on Lab: Analyzing a

# Summary & Highlights

Congratulations! You have completed this lesson. At this point in the course, you know:

- You can access a database from a language like Python by using the appropriate API. Examples include `ibm_db` API for IBM DB2, `psycopg2` for PostgreSQL, and `dblib` API for SQL Server.
- DB-API is Python's standard API for accessing relational databases. It allows you to write a single program that works with multiple kinds of relational databases instead of writing a separate program for each one.
- The `DB_API connect` constructor creates a connection to the database and returns a Connection Object, which is then used by the various connection methods.
- The connection methods are:
  - The `cursor()` method, which returns a new cursor object using the connection.
  - The `commit()` method, which is used to commit any pending transaction to the database.
  - The `rollback()` method, which causes the database to roll-back to the start of any pending transaction.
  - The `close()` method, which is used to close a database connection.
- You can use **SQL Magic** commands to execute queries more easily from Jupyter Notebooks. Magic commands have the general format **%sql select \* from tablename.**  
**Cell magics** start with a double `%%` (percent) sign and apply to the entire cell.  
**Line magics** start with a single `%` (percent) sign and apply to a particular line in a cell.