

# Bootcamp 134 | Python

Course 22 | Advanced DataBase



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# Content

- Expanding Table Operations
- Managing Tables
- Views and Table Virtualization
- Advanced SQL Topics

# Expanding Table Operations

- Joining Tables
- UNION and UNION ALL
- Creating, Updating, and Deleting Data

# Expanding Table Operations | Joining Tables

- Inner Join,
- Left Join,
- Right Join,
- Full Outer Join,
- and Cross Join.

# Expanding Table Operations | UNION and UNION ALL

- Combining query results with examples.
- Key differences and best practices.

# Expanding Table Operations | Creating, Updating, and Deleting Data

- **INSERT Statement:**
  - Adding rows to tables.
- **UPDATE Statement:**
  - Modifying existing rows.
- **DELETE Statement:**
  - Removing rows based on conditions.

# Managing Tables

- Creating Tables
  - Using NOT NULL and AUTO\_INCREMENT for constraints.
- Table Modifications
  - ALTER: Adding, modifying, or dropping columns.
  - DROP: Removing tables.
  - RENAME: Renaming tables and columns.

# Views and Table Virtualization

- Creating Views:
  - Abstracting queries for simplified access.
- Updating and dropping views.
- Performance implications of using views.



# Advanced SQL Topics | 1

- Logical Delete: Implementing soft deletes using flags.
- Self-Relations: Modeling hierarchical or recursive relationships (e.g., employees and managers).
- Database Indexes:
  - How indexes improve query performance.
  - Comparing results with and without indexes.
- Normalization:
  - Normal forms (1NF, 2NF, 3NF) for reducing redundancy.

# Advanced SQL Topics | 2

- Database Triggers and Functions:
  - Automating actions with triggers.
  - Writing and using functions for reusable logic.
- Database Procedures:
  - Implementing stored procedures to encapsulate logic.

# Any question?

# Next course

- HTTP Server in Python
- Software Testing in Python
- Introduction to Pytest
- Backend Development Practices