

Course Chapter Map

1. INTRODUCTION

2. MySQL CLIENT/SERVER MODEL

3. DATABASE BASICS



4. DATABASE DESIGN

5. DATABASE CREATION

6. BASIC QUERIES

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9. FUNCTIONS

10. JOINING TABLES

11. EXPORTING AND IMPORTING DATA

12. SUBQUERIES

13. SUPPLEMENTAL INFORMATION

14. CONCLUSION

Learning Objectives

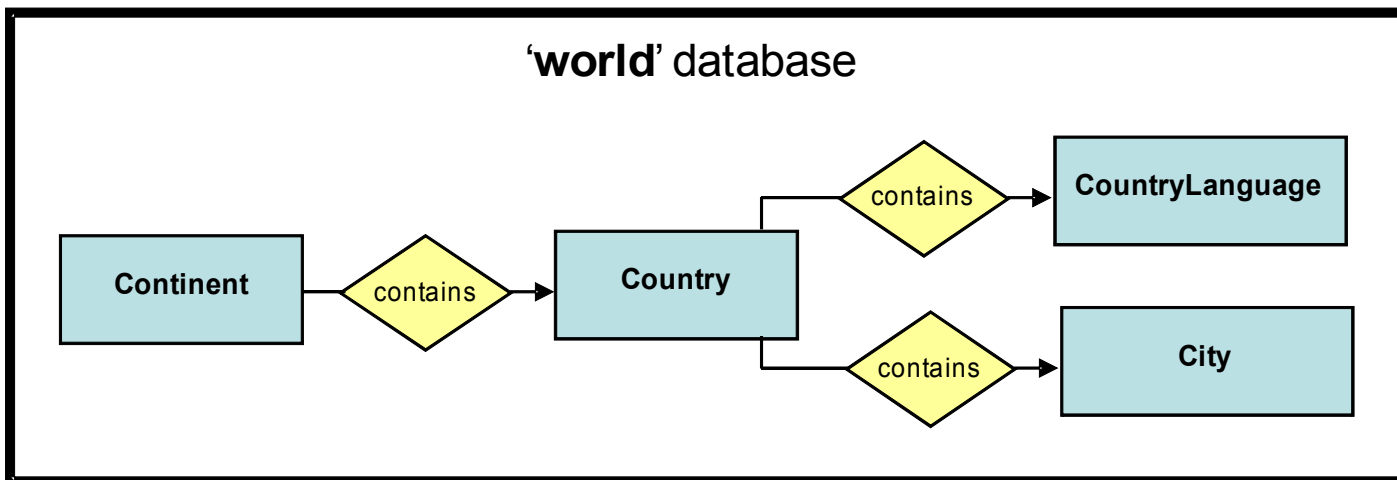
- Explain database modeling
- Describe using keys
- Define and use normalization
- List MySQL accepted data types and their uses
- How to view a database structure
- How to evaluate the database design

Database Modeling

- Prior to building a database some database structure modeling should occur
- Process specifies the structure of the tables based upon specific use of data
- Entity-relational model (ERM) is the most common model for RDBMSs

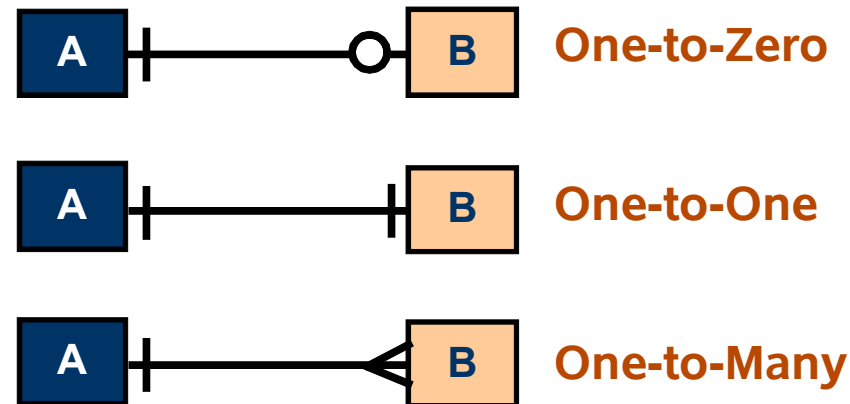
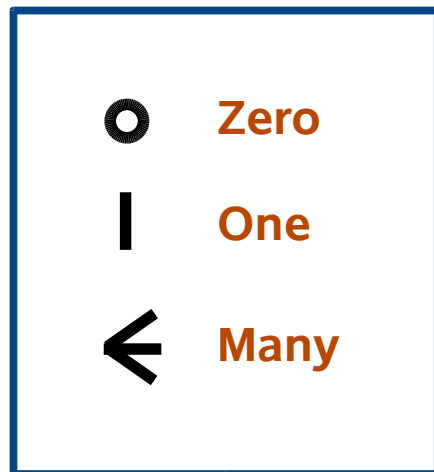
Structure Diagram (ERD)

- Used to better visualize the content and hierarchy of a database
 - Organize data into logical groups
- Example of a high-level diagram of the **world** database



Cardinality Diagram (ERD)

- Indicates relationships between tables
- Uses lines and specific symbols:



Keys

- Row identification
- Candidate key
 - Column(s) that uniquely identify a row
- Primary key
 - A candidate key that best defines exactly one unique row
 - Ensures that duplicate values do not occur
 - Cannot contain NULL
 - Can decrease lookup time for large databases
- Foreign key
 - References a primary key in another table

Key Example

- 'world' database

