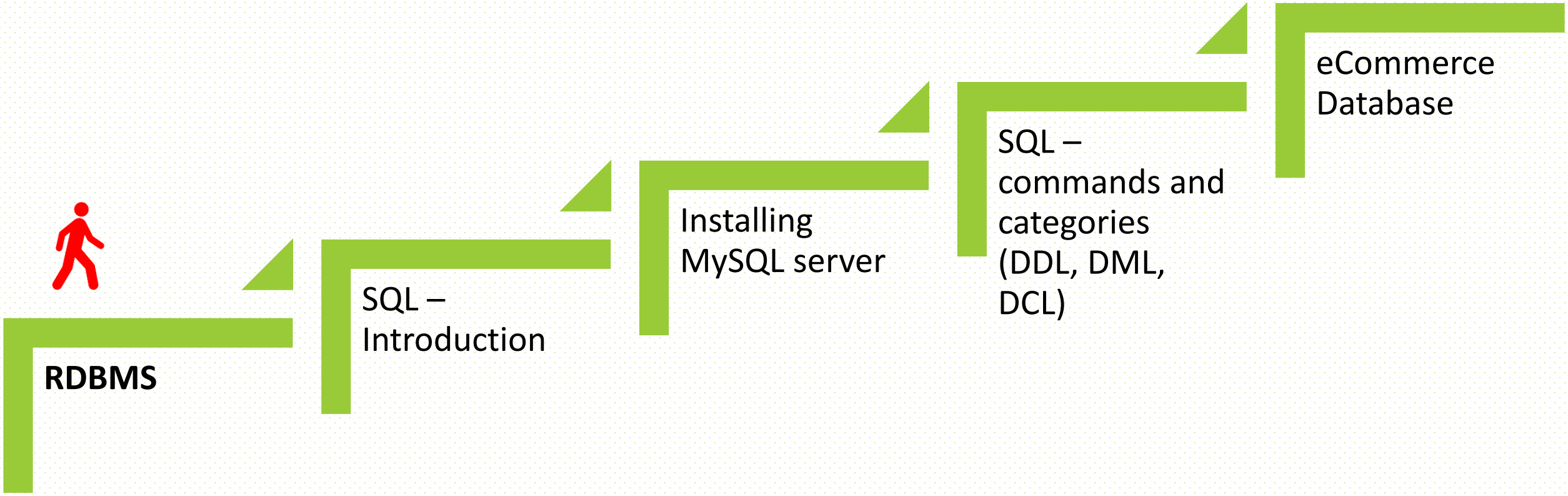
SQL
Session - 01

Learning Objectives

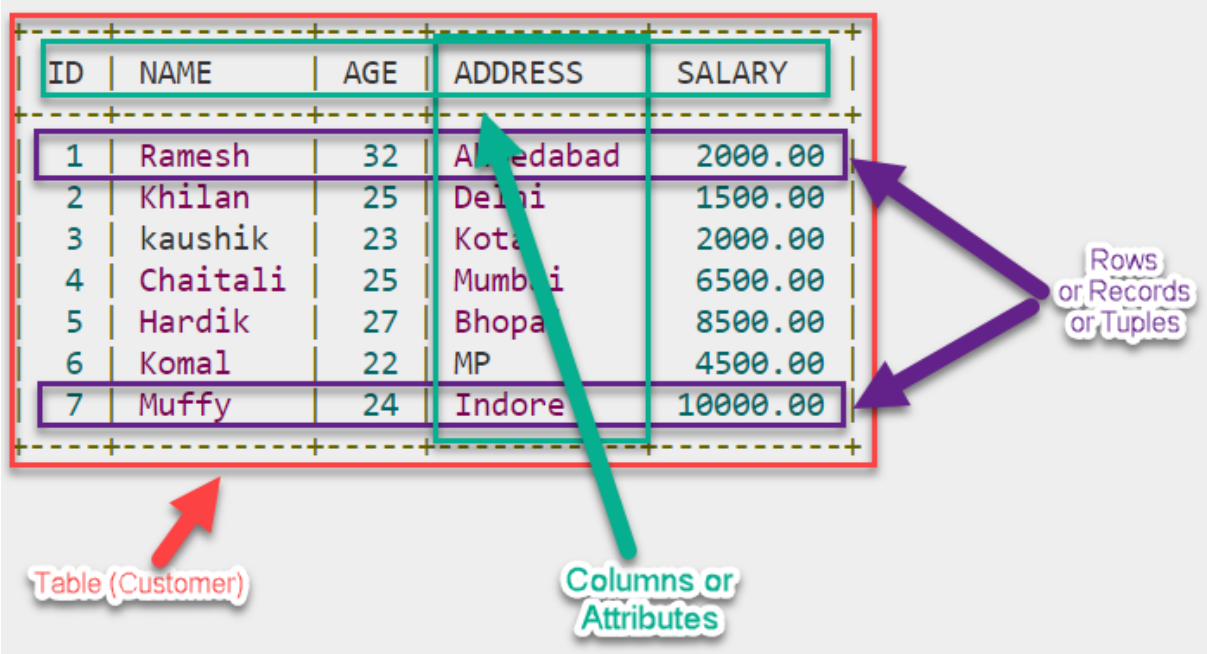


What is RDBMS?

- RDBMS stands for **R**elational **D**atabase **M**anagement **S**ystem.
- A Relational database management system (RDBMS) is a database management system (DBMS) that is based on the relational model as introduced by E. F. Codd.
- The data in an RDBMS is stored in database objects which are called as tables. This table is basically a collection of related data entries and it consists of numerous columns and rows.
- RDBMS is the basis for SQL, and for all modern database systems like MS SQL Server, IBM DB2, Oracle, MySQL, and Microsoft Access.

RDBMS - Elements

- Data is storage in a **table** in form of rows and columns.
- Every table is broken up into smaller entities called **fields**.
- A record is also called as a **row** of data is each individual entry that exists in a table. A record is a horizontal entity in a table. It is also called as a **Tuple.**
- A **column** is a vertical entity in a table that contains all information associated with a specific field in a table. It is called as the **Attribute** of table.



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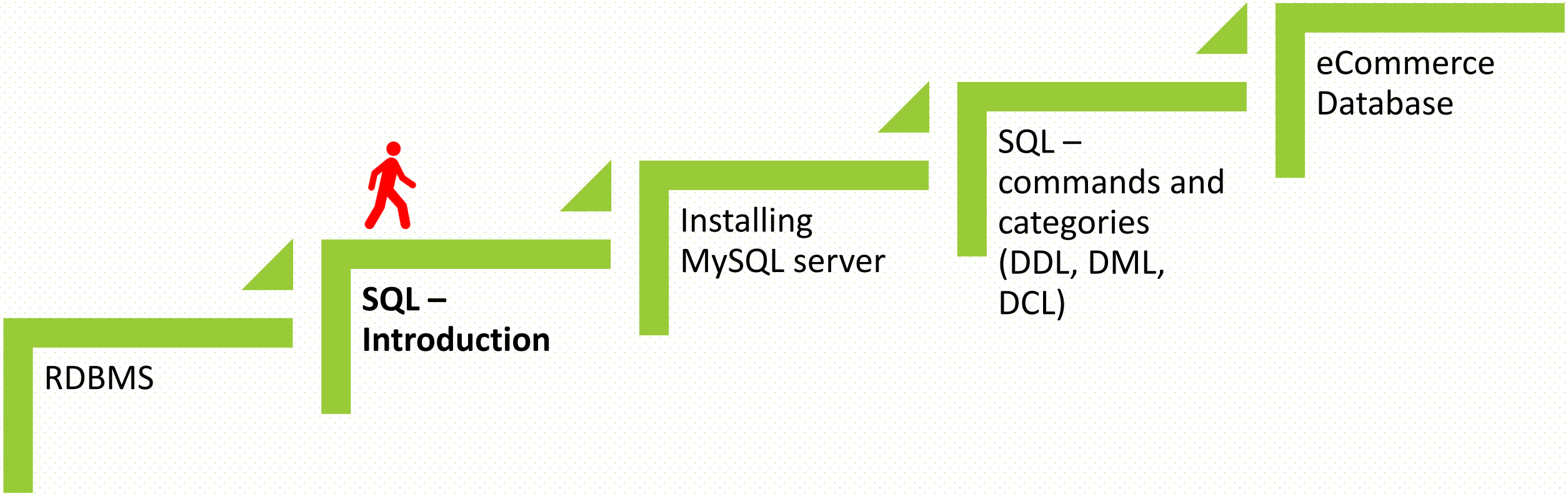
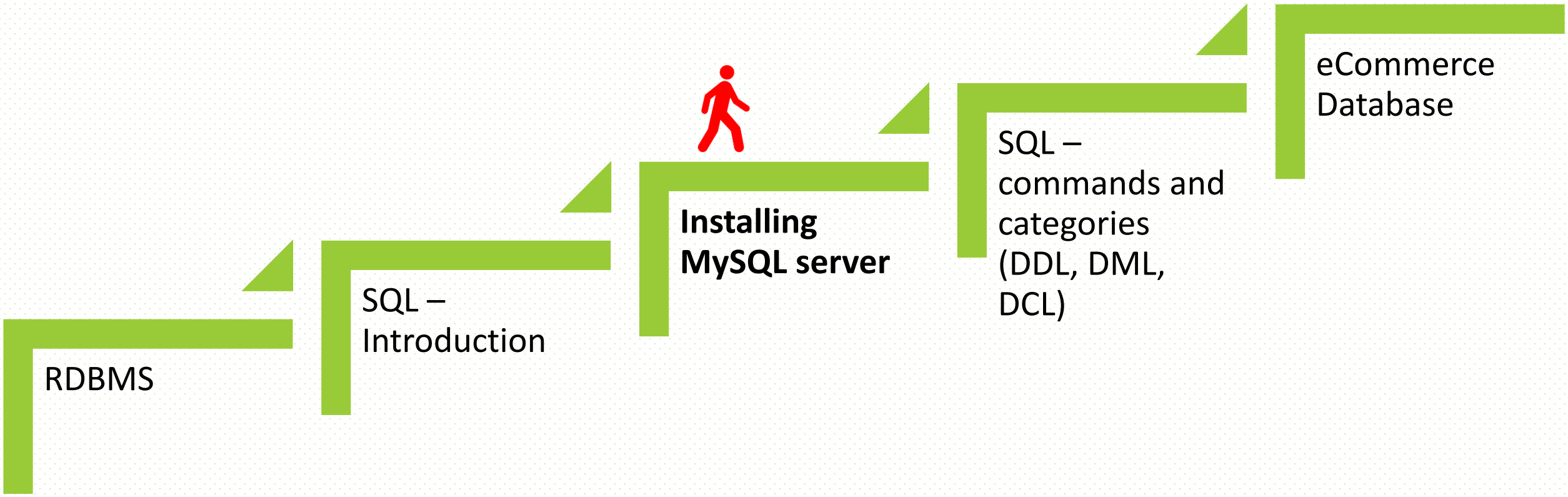


SQL - Introduction

- SQL is a standard language for accessing and manipulating databases.
- SQL stands for **S**tructured **Q**uery **L**anguage
- SQL lets you access and manipulate databases
- SQL became a standard of the American National Standards Institute (ANSI) in 1986, and of the International Organization for Standardization (ISO) in 1987

Learning Objectives

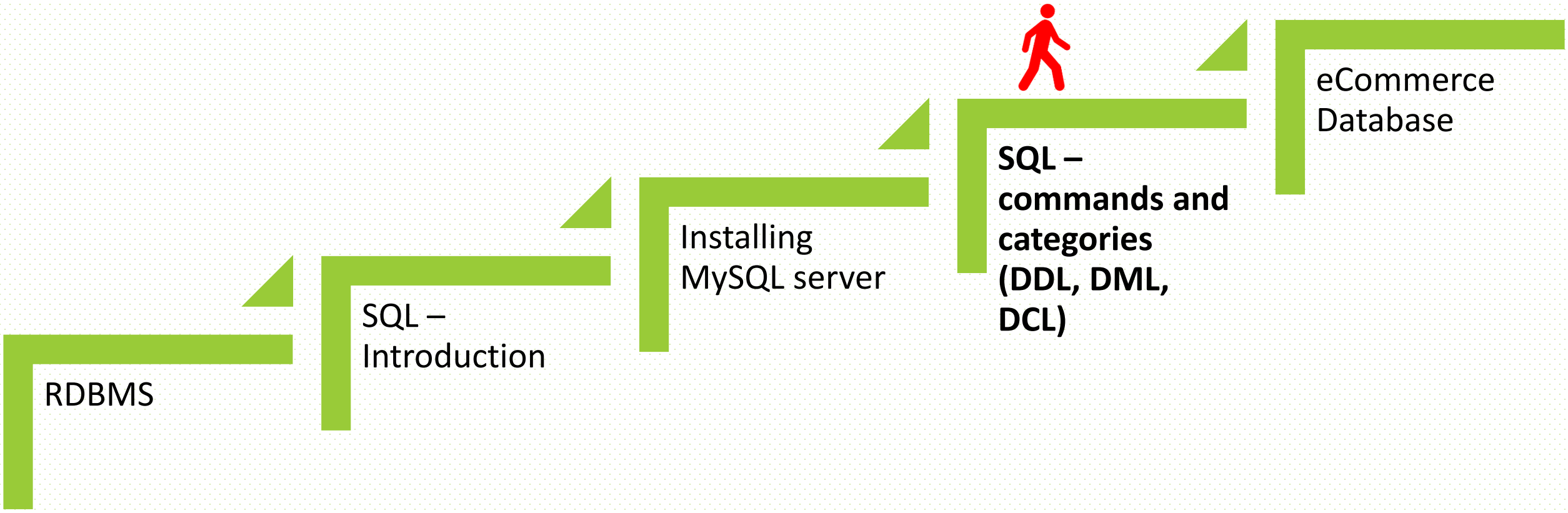


SQL - Installation

- Download MySQL Installer from https://dev.mysql.com/downloads/mysql/
- Download MySQL connectors from https://dev.mysql.com/downloads/connector/
- Download MySQL workbench from (optional) https://dev.mysql.com/downloads/workbench/

Note: Latest MySQL version – 8.0.11.

Learning Objectives



SQL – Commands (DDL, DML, DCL, TCL)

- SQL used to perform certain operations on the existing database and also to create a database. SQL uses certain commands like Create, Drop, Insert, Select, Insert etc. to carry out the required tasks.
- SQL commands are mainly categorized into four categories:

1. **Data Definition Language (DDL)** : consists of the SQL commands used to define the database schema; deals with the database schema and is used to create and modify the structure of database objects in database. (E.g. CREATE, DROP, ALTER, TRUNCATE, RENAME).
2. **Data Manipulation Language(DML)** : deals with the manipulation of data present in database. (E.g. SELECT, INSERT, UPDATE, DELETE).
3. **Data Control Language (DCL)** : includes commands such as GRANT and REVOKE which mainly deals with the rights, permissions and other controls of the database system.
4. Transaction Control Language (TCL) : deals with the transaction within the database. (E.g. COMMIT, ROLLBACK, SAVEPOINT, SET TRANSACTION)

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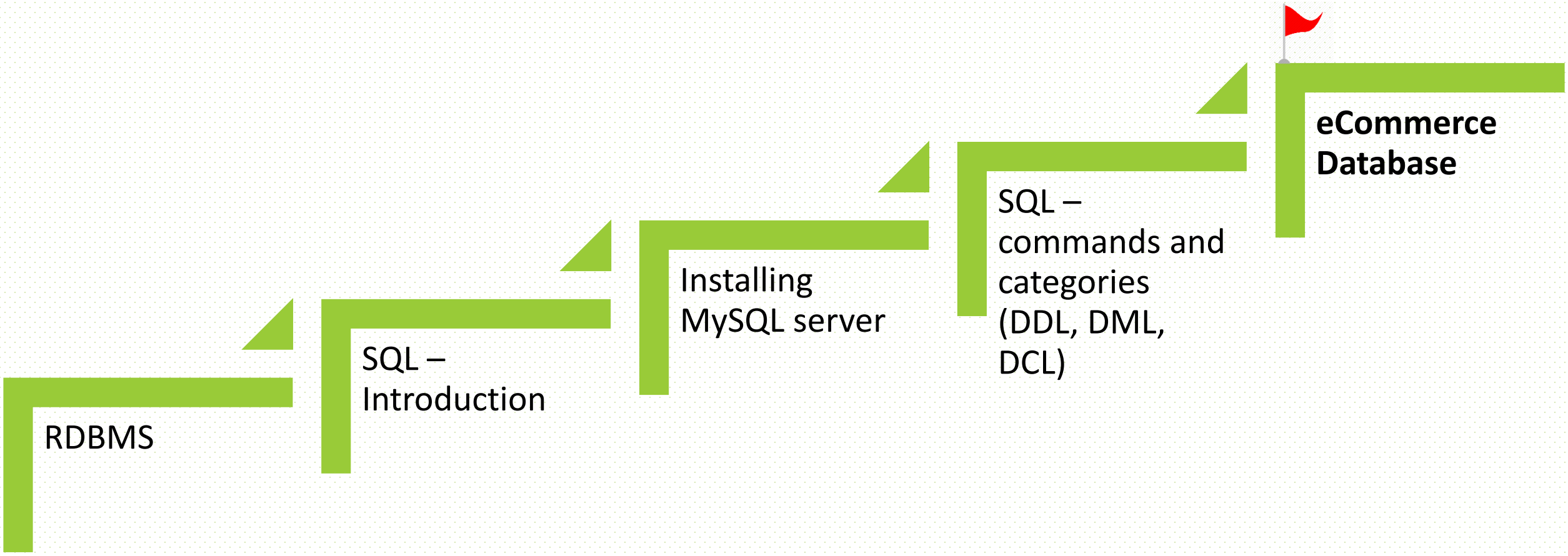
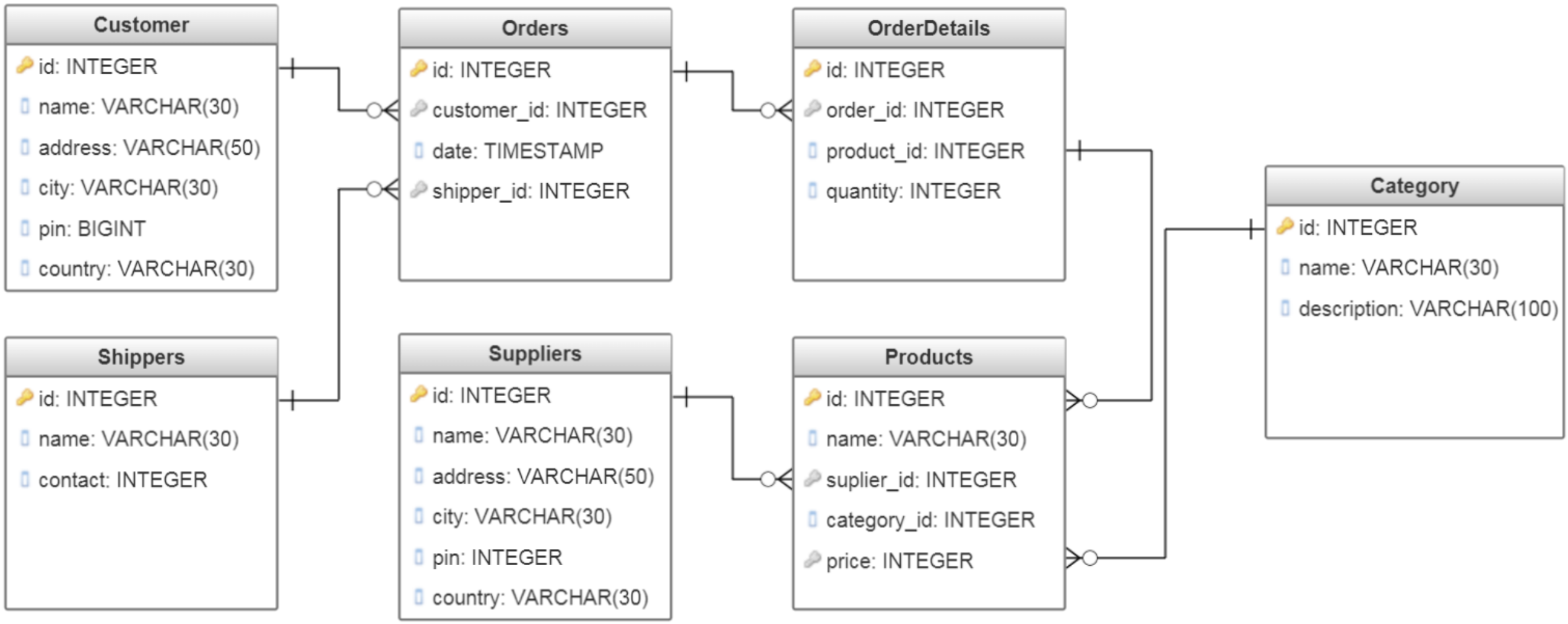


eCommerce Schema

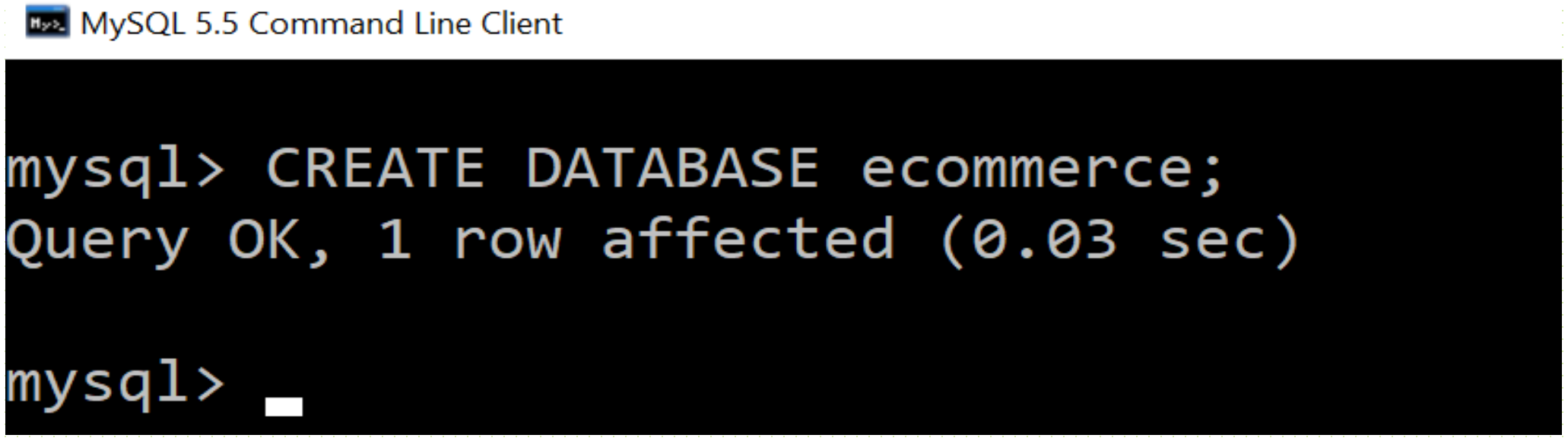


SQL - CREATE DATABASE

Syntax

CREATE DATABASE <*database-name*>;

Example

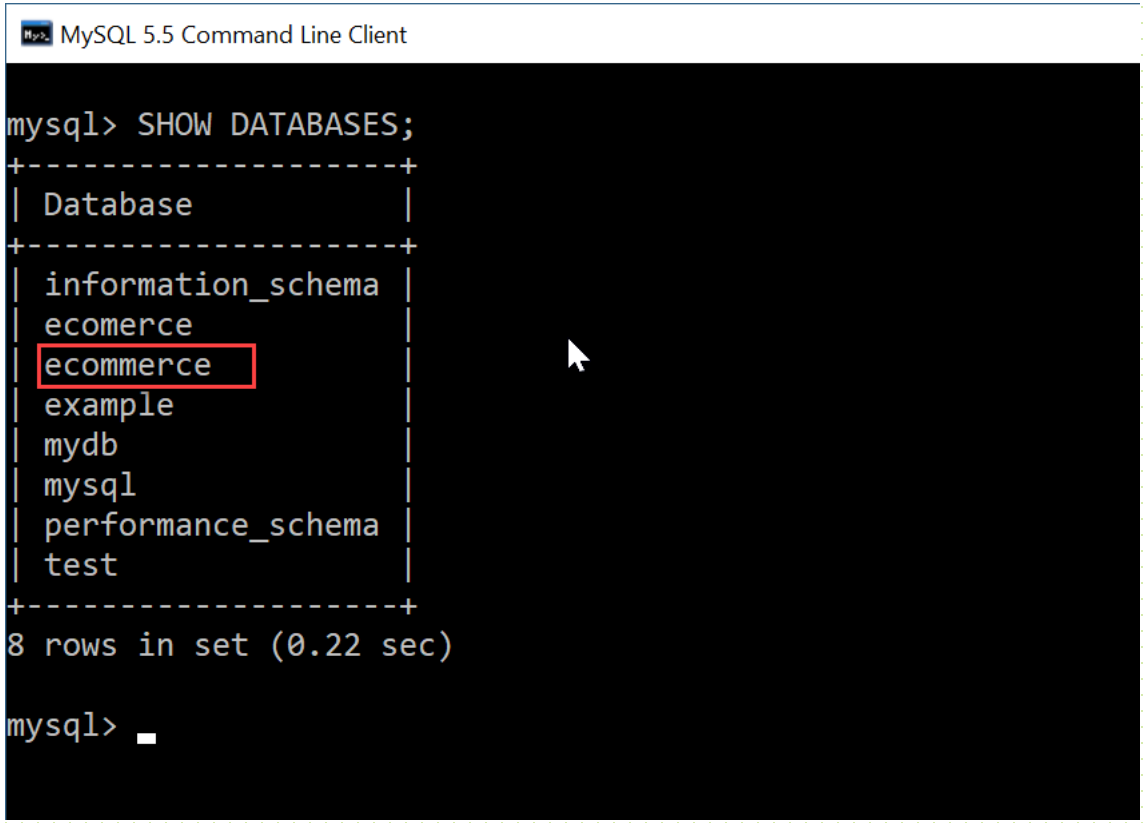


SQL - SHOW DATABASE

Syntax

```
SHOW DATABASES;
```

Example

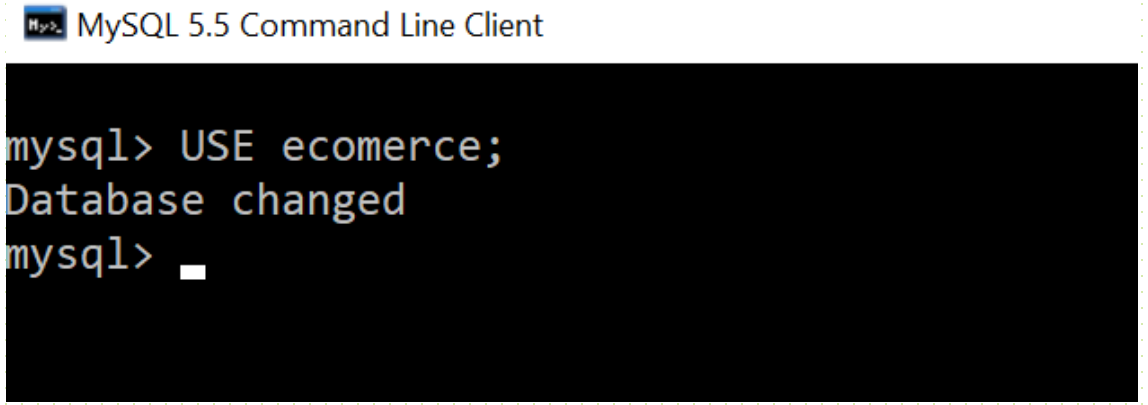


SQL - USE DATABASE

Syntax

USE <*database-name*>;

Example



SQL - DROP DATABASE

Syntax

DROP DATABASE <*database-name*>;

Example