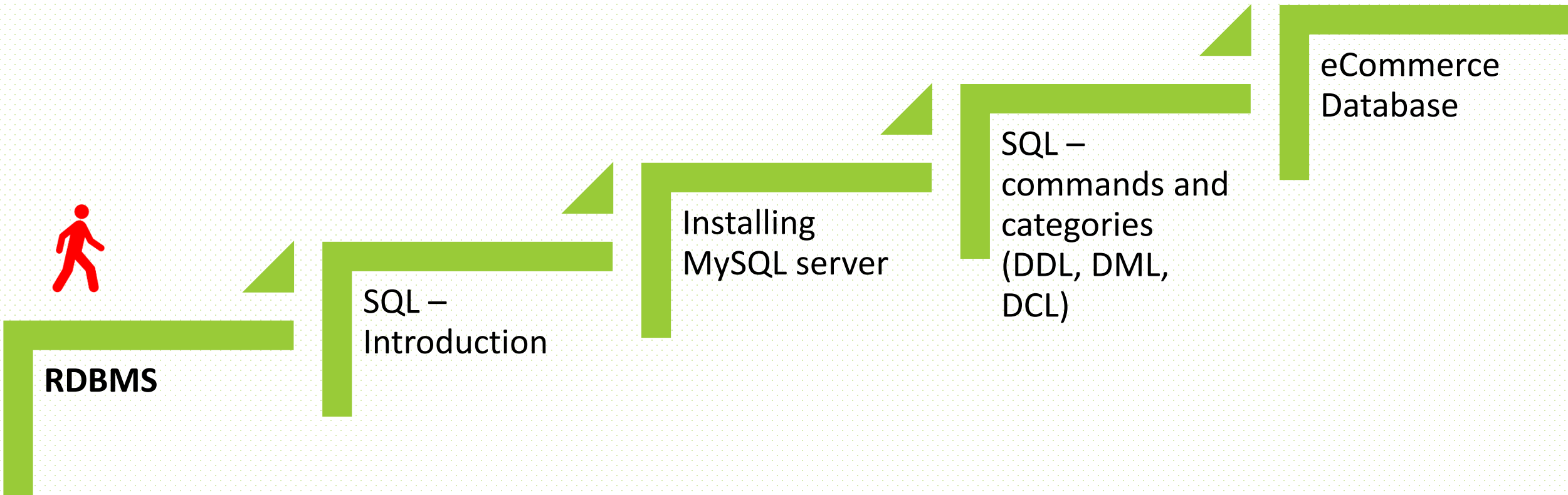


# SQL

## Session - 01

# Learning Objectives



# What is RDBMS?

- RDBMS stands for Relational Database Management System.
- 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.

ID	NAME	AGE	ADDRESS	SALARY
1	Ramesh	32	Almedabad	2000.00
2	Khilan	25	Delhi	1500.00
3	kaushik	23	Kota	2000.00
4	Chaitali	25	Mumbai	6500.00
5	Hardik	27	Bhopal	8500.00
6	Komal	22	MP	4500.00
7	Muffy	24	Indore	10000.00

Table (Customer)

Columns or Attributes

Rows or Records or Tuples

# Learning Objectives

RDBMS

SQL –  
Introduction



Installing  
MySQL server

SQL –  
commands and  
categories  
(DDL, DML,  
DCL)

eCommerce  
Database

# SQL - Introduction

- SQL is a standard language for accessing and manipulating databases.
- SQL stands for Structured Query Language
- 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

RDBMS

SQL –  
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**Installing  
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# 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

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# 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)

# Learning Objectives

RDBMS

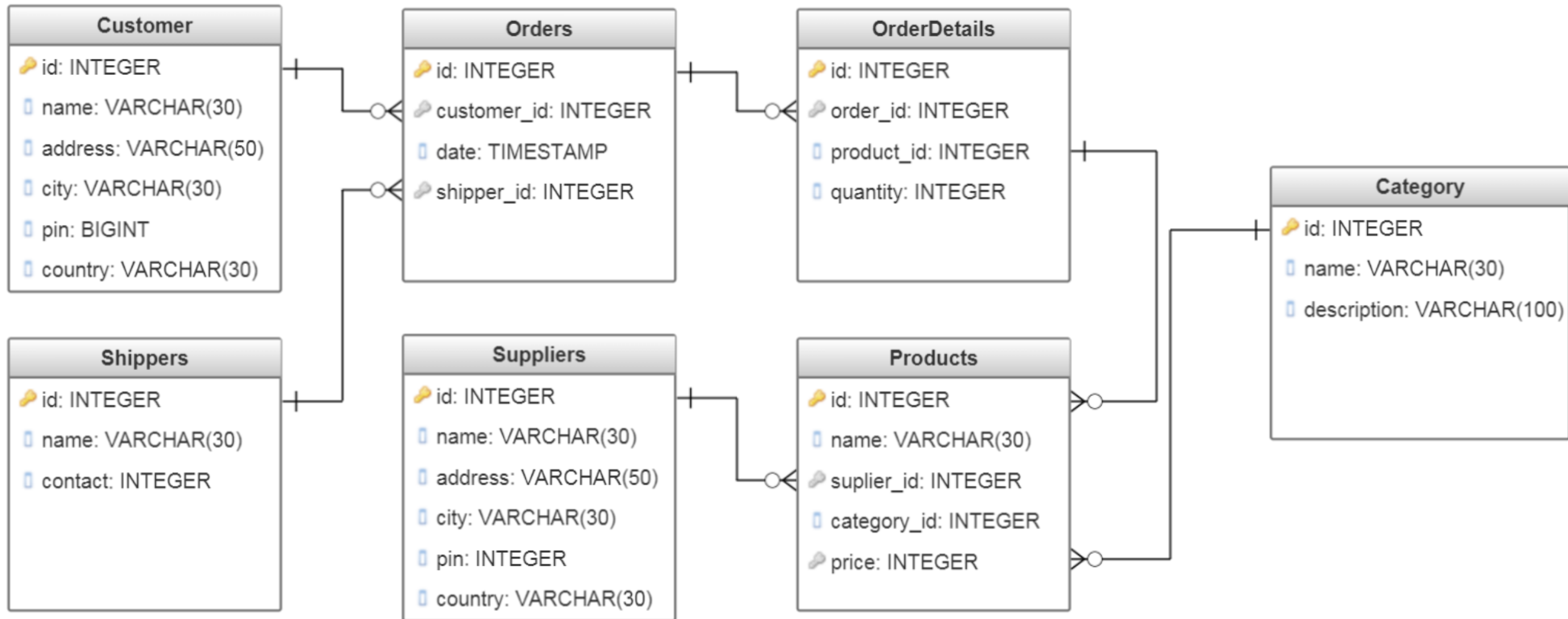
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# eCommerce Schema



# SQL - CREATE DATABASE

## Syntax

```
CREATE DATABASE <database-name>;
```

## Example



MySQL 5.5 Command Line Client

```
mysql> CREATE DATABASE ecommerce;  
Query OK, 1 row affected (0.03 sec)
```

```
mysql> _
```

# SQL - SHOW DATABASE

## Syntax

```
SHOW DATABASES;
```

## Example

MySQL 5.5 Command Line Client

```
mysql> SHOW DATABASES;
+-----+
| Database |
+-----+
| information_schema |
| ecommerce   |
| ecommerce   |
| example     |
| mydb        |
| mysql       |
| performance_schema |
| test        |
+-----+
8 rows in set (0.22 sec)

mysql> _
```

# SQL - USE DATABASE

## Syntax

```
USE <database-name>;
```

## Example

 MySQL 5.5 Command Line Client


```
mysql> USE ecommerce;  
Database changed  
mysql> _
```

# SQL - DROP DATABASE

## Syntax

```
DROP DATABASE <database-name>;
```

## Example

 MySQL 5.5 Command Line Client

```
mysql> DROP DATABASE ecommerce;  
Query OK, 0 rows affected (0.44 sec)  
  
mysql>
```