

# Relational Database Fundamentals

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## *Course Overview*

Most organizations maintain and manage large amounts of information. One of the most efficient and powerful ways of managing data is by using relational databases. In this course, you will examine the basic database concepts and learn the differences in how data is stored and manipulated in common tools such as MS Excel versus true relational database tools such as MS SQL Server or MS Access.

This course is designed for students who not only need to learn the basics of the SQL language but to also understand how true databases function and understand the benefits of using these specialized tools. It is also recommended for students who need to learn MS Excel Power Pivots which is also based on relational concepts. It also provides the fundamental knowledge and techniques needed to advance to more complex data analysis scenarios.

### **1. Relational Databases Comparison**

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Flat File Database  
Relational Database

### **2. Planning a Layout**

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Data Normalization  
Building Tables  
Creating Fields

### **3. Identifying Relationships**

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Keys and Indexes  
Referential Integrity

### **4. Retrieving Data**

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Basic Queries  
Introduction to SQL