Code Academy

Lecturer

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ManyToMany relationship EF core

Data

Today you will learn
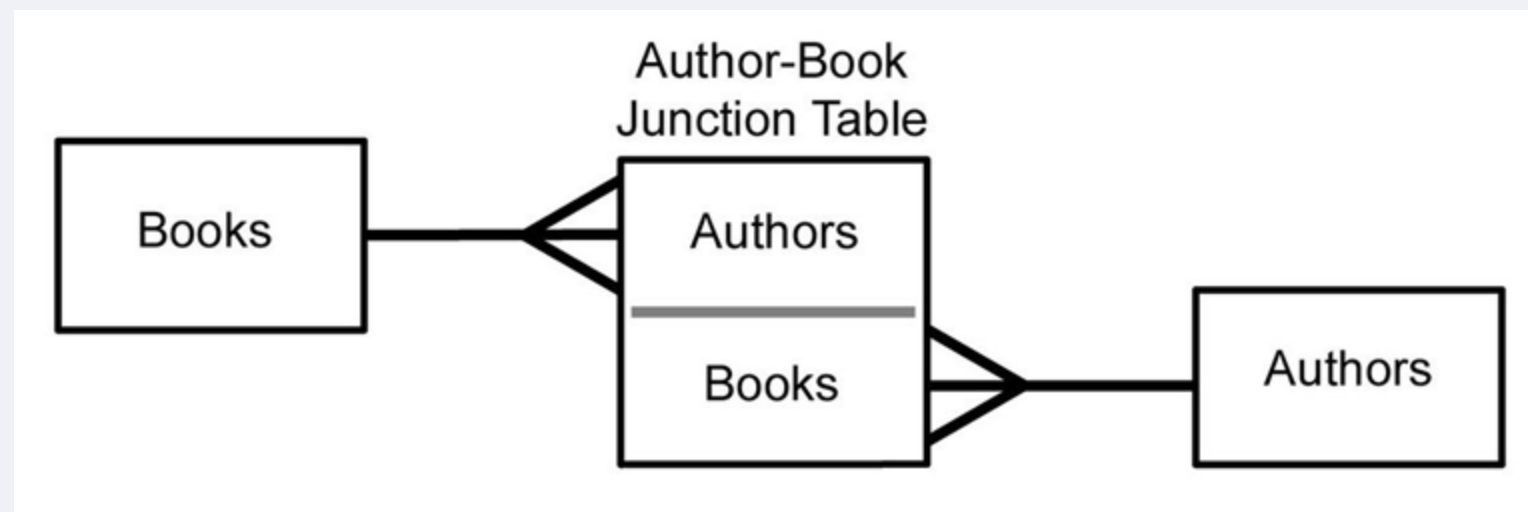
01 What is the Many to Many ratio?

02 How do I create a Many to Many relationship using a code-first approach?

What is the ManyToMany relationship?

- A ManyToMany relationship is when one table has many records in another table and that other table has many records in the first table.

- E.g. A book can have many authors, just as an author can have many books.

- This relationship requires a third table, combining the Ids of one table and the Ids of the other

Using ManyToMany in Entity framework core

- We create a category and assign a list of books to it.
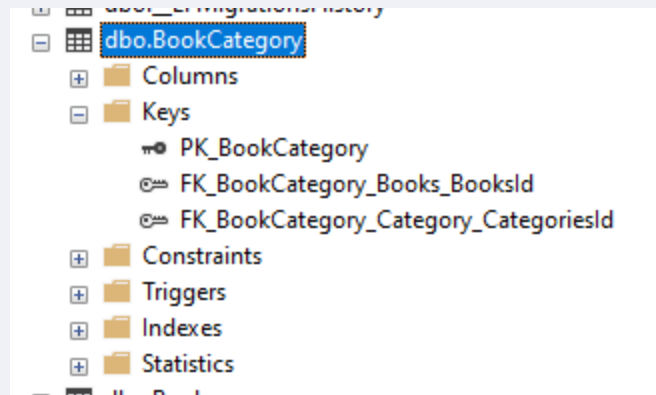- We also add a list of categories to the books.

```csharp
namespace EntityFrameworkCorePaskaita.Models
{
    public class Category
    {
        public Guid Id { get; set; }
        public string Name { get; set; }
        public List<Book> Books { get; set; }
    }
}
```

```csharp
public class Book
{
    public Guid Id { get; set; }
    public string Name { get; set; }
    public List<Page> Pages { get; set; }
    public List<Category> Categories { get; set; }
}
```

Using ManyToMany in Entity framework core

- Migrate and update the DB.

- The intermediate table is as follows.

Between the keys we can see the relationships with the Category table and the Books table

Using ManyToMany in Entity framework core

- Please find attached the categories you have created and the films assigned to them

```
static void Main(string[] args)
{
    using var dbContext = new BookContext();
    var book1 = new Book { Name = "Harry Potter" };
    var book2 = new Book { Name = "Lord of the rings" };

    dbContext.AddRange
    (
        new Category { Name = "Adventure", Books = new List<Book> { book1 } },
        new Category { Name = "Fantasy", Books = new List<Book> { book1, book2 }}
    );

    dbContext.SaveChanges();
}
```

ManyToMany relationship EF core

Results

```
SELECT TOP (1000) [Id]
      ,[Name]
  FROM [EntityFrameworkCore].[dbo].[Books]
```

100 %

Results   Messages

	Id	Name
1	387A4CC2-56AB-44E6-1742-08DA0FF77D9F	Harry Potter
2	88DE04B3-88C9-4958-1743-08DA0FF77D9F	Lord of the rings

```
SELECT TOP (1000) [Id]
      ,[Name]
  FROM [EntityFrameworkCore].[dbo].[Category]
```

100 %

Results   Messages

	Id	Name
1	30A0B23C-D3EB-4AD3-C6BF-08DA0FF77D97	Adventure
2	260861DD-1DA9-4E12-C6C0-08DA0FF77D97	Fantasy

```
SELECT TOP (1000) [BooksId]
      ,[CategoriesId]
  FROM [EntityFrameworkCore].[dbo].[BookCategory]
```

100 %

Results   Messages

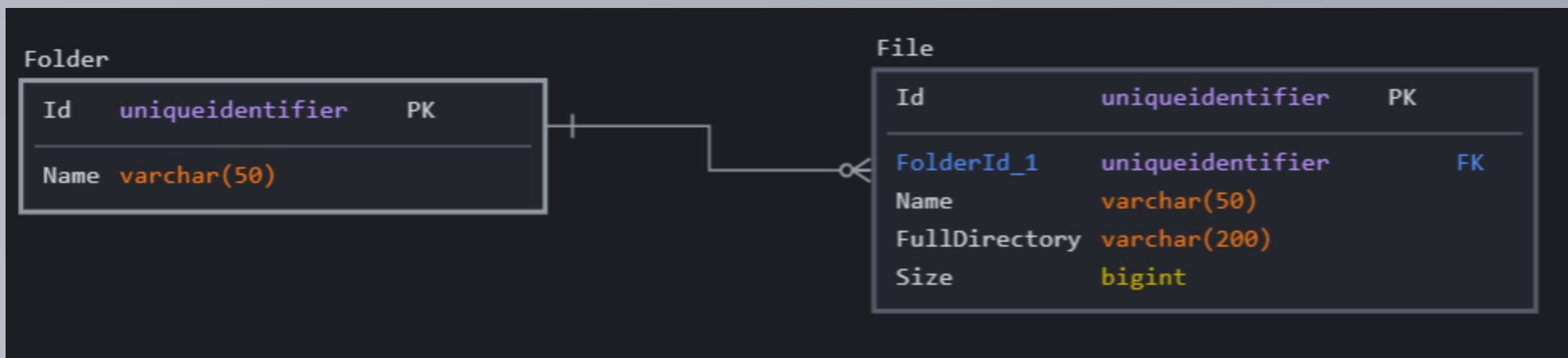|	BooksId	CategoriesId
1	387A4CC2-56AB-44E6-1742-08DA0FF77D9F	30A0B23C-D3EB-4AD3-C6BF-08DA0FF77D97
2	387A4CC2-56AB-44E6-1742-08DA0FF77D9F	260861DD-1DA9-4E12-C6C0-08DA0FF77D97
3	88DE04B3-88C9-4958-1743-08DA0FF77D9F	260861DD-1DA9-4E12-C6C0-08DA0FF77D97

Task 1

- Create a program that takes as input the directory path on your computer

- After picking up the path, it will scan all files except folders.

- Gathers information about files - Id, name, size, full path.

- This data will be put into a database (One table with the above columns: Id, name, size, full path).

Task 2

- Enhance the application so that it now also scans folders.
- When it finds a folder, it will go inside it to continue scanning the files (when it finds another folder, it will go inside it).
- Every time a folder is found, it will save its name and the Id created.
- Each file found must have a folder ID to which it belongs.

Example of links:

Task 2

- Enhance the application to support tagging files with multiple tags and associating tags with

  multiple files, requiring a many-to-many relationship between files and tags in the database.

      Image

      Text File

      ...

Headline   www.youtube.com

Useful
information