

## Entity Framework Overview

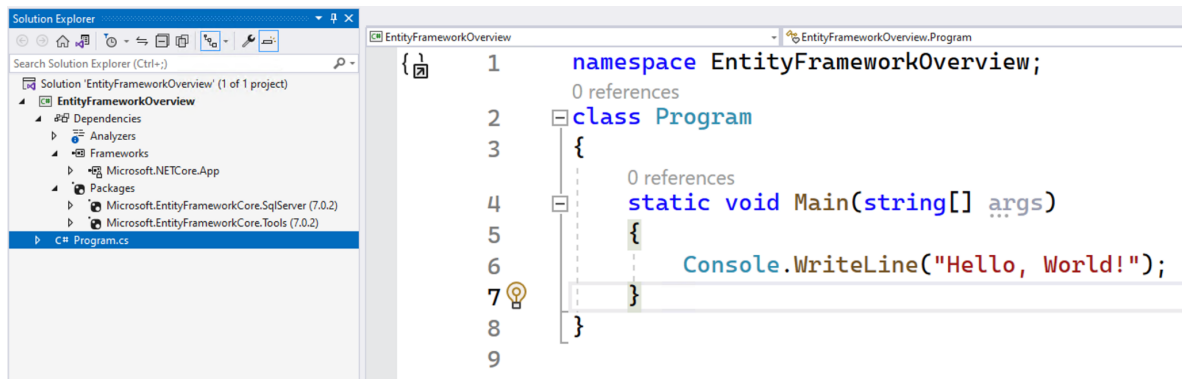
- Create a folder on the desktop named 'EntityFrameworkOverview' and navigate to that folder
- Open a powershell window - make sure you are in our new folder
- Create a new console app using the following command

```
dotnet new console --framework net6.0 --use-program-main
```

- Install Entity Framework using the following commands

```
dotnet add package Microsoft.EntityFrameworkCore.SqlServer
dotnet add package Microsoft.EntityFrameworkCore.Tools
```

- Open the new project using visual studio. Looking at the dependencies, we should have



- Next, create two classes that we'll use in the overview, place in a file named DomainClasses

```
public class Author
{
    public int AuthorId { get; set; }
    public string LastName { get; set; }
    public List<Book> Titles { get; set; } = new List<Book>();
}
```

```
public class Book
{
    public int BookId { get; set; }
    public string Title { get; set; }
    public Author Author { get; set; }
}
```

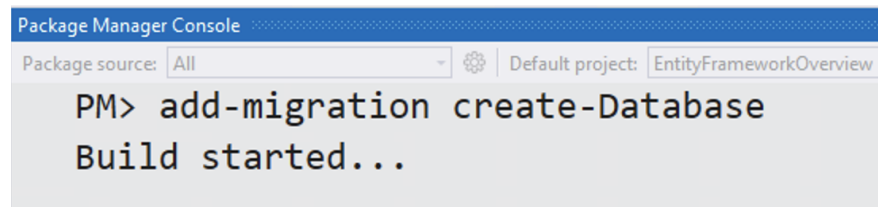
- Create a new class named DatabaseContext and add the following class

```
public class DatabaseContext : DbContext
{
    public DbSet<Author> Authors { get; set; }
    public DbSet<Book> Books { get; set; }

    protected override void OnConfiguring(DbContextOptionsBuilder optionsBuilder)
    {
        optionsBuilder.UseSqlServer(@"Server=(localdb)\MSSQLLocalDB;
        Database=MyDatabase;
        Trusted_Connection=True;
        MultipleActiveResultSets=true");
    }
}
```

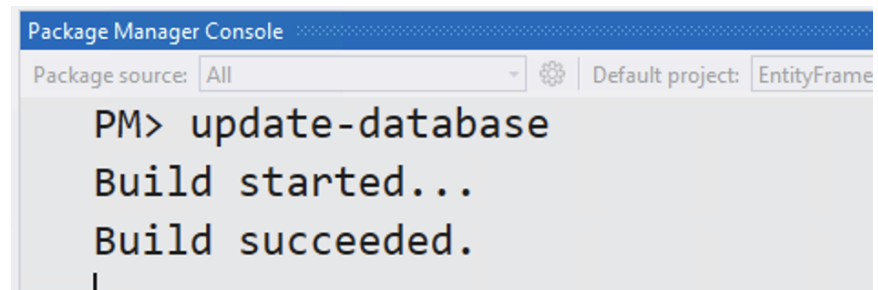
- Create a migration file and update the database

Run the following command to create a migration. Note: if you already have a Migrations folder - delete it first. Also, if the database file already exists - delete it. And, in some cases, exit and reload visual studio.



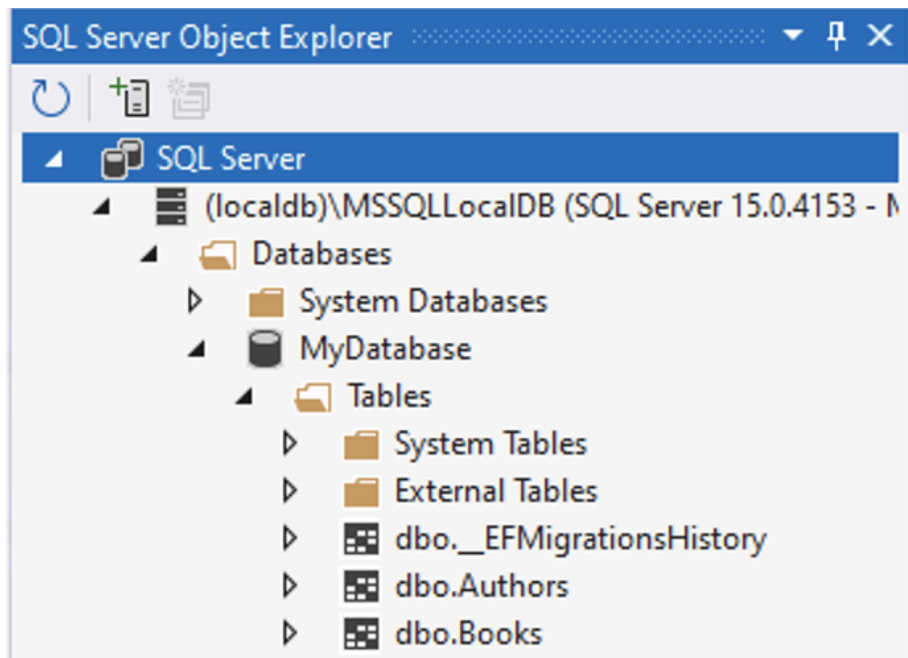
```
Package Manager Console
Package source: All | Default project: EntityFrameworkOverview
PM> add-migration create-Database
Build started...
```

Next, we need to run the following command which applies any migrations to the database



```
Package Manager Console
Package source: All | Default project: EntityFrame
PM> update-database
Build started...
Build succeeded.
|
```

- Once done, lets take a look at our new database



- In our program.cs file... let's do some database stuff

```
static DbContext db = new DbContext();
```

0 references

```
static void Main(string[] args)
{
    AddAuthor("Levsen");
}
```

1 reference

```
static void AddAuthor(string name)
{
    var author = new Author()
    {
        LastName = name,
    };

    db.Authors.Add(author);
    db.SaveChanges();
}
```

To list the authors in the database

1 reference

```
static void ListAuthors()
{
    var authors = db.Authors;

    foreach (var author in authors) {
        Console.WriteLine($"{author.AuthorId} {author.LastName}");
    }
}
```