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Explicit Loading in Entity Framework

Here you will learn how to load related entities in an entity graph explicitly. Explicit loading is valid in EF 6 and EF Core both.

Even with lazy loading disabled (in EF 6), it is still possible to lazily load related entities, but it must be done with an explicit call. Use the `Load()` method to load related entities explicitly. Consider the following example.

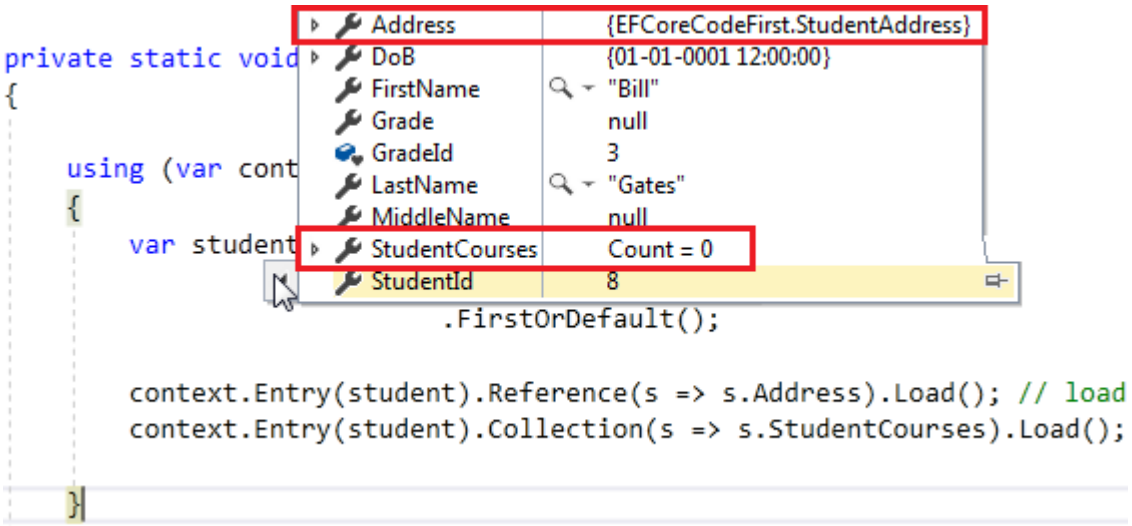
```
using (var context = new SchoolContext())
{
    var student = context.Students
                         .Where(s => s.FirstName == "Bill")
                         .FirstOrDefault<Student>();

    context.Entry(student).Reference(s => s.StudentAddress).Load(); // loads StudentAddress
    context.Entry(student).Collection(s => s.StudentCourses).Load(); // loads Courses collection
}
```

In the above example, `context.Entry(student).Reference(s => s.StudentAddress).Load()` loads the `StudentAddress` entity. The `Reference()` method is used to get an object of the specified reference navigation property and the `Load()` method loads it explicitly.

In the same way, `context.Entry(student).Collection(s => s.Courses).Load()` loads the collection navigation property `Courses` of the `Student` entity. The `Collection()` method gets an object that represents the collection navigation property.

The `Load()` method executes the SQL query in the database to get the data and fill up the specified reference or collection property in the memory, as shown below.



Query()

You can also write LINQ-to-Entities queries to filter the related data before loading. The `Query()` method enables us to write further LINQ queries for the related entities to filter out related data.

```
using (var context = new SchoolContext())
{
    var student = context.Students
                         .Where(s => s.FirstName == "Bill")
                         .FirstOrDefault<Student>();

    context.Entry(student)
           .Collection(s => s.StudentCourses)
           .Query()
               .Where(sc => sc.CourseName == "Maths")
               .FirstOrDefault();
}
```

In the above example, `.Collection(s => s.StudentCourses).Query()` allows us to write further queries for the `StudentCourses` entity.

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