

03. DbContext Expand



Entity DB

ORM .

src : http://git.webnori.com/projects/OPPJ/repos/accountapi/browse/accountapi_test/AccountControlerTest.cs

- - Entity
 - TestCode
 - - SQL
- Lazy Loading
- Json Reference Loop Ignore

DB , Lock/UnLock .

- (Locking):
- T X Read(X) or Write(X) lock(X)
- T lock(X) unlock(x)
- T lock X lock(X) .
- T X lock , unlock(X) .

: <http://mangkyu.tistory.com/30>

Lock/UnLock , DB

.net core entity .

Entity

```
[Table("test_blog")]
public class Blog
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
    public int BlogId { get; set; }

    public string Url { get; set; }

    [Timestamp]
    public byte[] Timestamp { get; set; }
}

[Table("test_person")]
public class Person
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
    public int PersonId { get; set; }

    // ENG TIP - LastName: FirstName:
    [ConcurrencyCheck]
    public string LastName { get; set; }

    public string FirstName { get; set; }
}
```

- Timestamp : Update , TimeStamp , .
- ConcurrencyCheck : .

TestCode .

TestCode

```
[Fact]
public void ConcurrencyTest()
{
    ResetTestDB();
    Person person1 = new Person();
    person1.LastName = "PS";
    person1.FirstName = "MON";
    _testContext.Persons.Add(person1);
    _testContext.SaveChanges(); //Context Save DB .

    Person edit1 = _testContext2.Persons.FirstOrDefault(e => e.FirstName == "MON");
    Assert.Equal("PS", edit1.LastName);

    for(int i = 0; i < 10; i++)
    {
        String editName = "PS" + i;
        String editName2 = "XS" + i;
        person1.LastName = editName; // Save SQL Update .
        edit1.LastName = editName2;
        _testContext.SaveChangesAsync(); //
        _testContext2.SaveChanges(); //
    }
}
```

DBContext 2 .

LastName() ...,

LastName . Loop /

.

, Entity(Table) Update .

ORM . SQL

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accountapi(테스트 7개) 1 실패	
accountapi_test (7)	6초
accountapi_test (7)	6초
AccountControllerTest (6)	4초
Actor_CRUDTest	
ConcurrencyTest	1초
LocalStoage	1초
TestUserActive	23ms
TestUserCntChk	1초
TokenTest1	262ms

error

Message: Microsoft.EntityFrameworkCore.DbUpdateConcurrencyException : Database operation expected to affect 1 row(s) but actually affected 0 row(s). Data may have been modified or deleted since entities were loaded. See <http://go.microsoft.com/fwlink/?LinkId=527962> for information on understanding and handling optimistic concurrency exceptions.

Update , Update Lock/UnLock .

.., Update . Lock

.

DB , ConcurrencyException

.

? .

Entity , SQL .

SQL

```
-Update 1
UPDATE person
  SET firstname = 'MON',
      lastname = 'XS1'
  WHERE personid=1 and lastname="PS"

-Update 2
UPDATE person
  SET firstname = 'MON',
      lastname = 'XS2'
  WHERE personid=1 and lastname="PS"
```

lastname Update1 .

.., personid 1 lastname 'PS' .

.

ORM .

SQL SQL ORM .

Lazy Loading

SQL-Mapper .

join , .

join sql join .

10 10 .

Base 10 .

ORM Lazy Loading .

Lazy Loading Load .

Entity

- TokenHistorie :
- User :

```
User myinfo= _context.TokenHistories.Include( p=>p.User) // Join Include .  
.First(p => p.AuthToken.Equals(accessToken))  
.User;
```

.

join , ORM Include

Join . .

- .
- .

,

.

```
using (var context = new BloggingContext())  
{  
    var blogs = context.Blogs  
        .Include(blog => blog.Posts)  
        .ThenInclude(post => post.Author)  
        .ToList();  
}
```

: <https://docs.microsoft.com/ko-kr/ef/core/querying/related-data>

Json Reference Loop Ignore



1 VS N Entity Json

[JSON.NET Error Self referencing loop detected for type](#)

Entity Sample : 1 VS N

```
[Table("user")]
public class User
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
    public int UserId { get; set; }

    public Profile Profile { get; set; }

    public List<SocialInfo> SocialInfos { get; set; }
}
```

```
[Table("socialinfo")]

public class SocialInfo
{
    [Key]
    [DatabaseGenerated(DatabaseGeneratedOption.Identity)]
    public int SocialId { get; set; }

    [ForeignKey("UserForeignKey")]
    public User User { get; set; }

    public String SocialProviderName { get; set; }

    public String SocialUserNo { get; set; }

    public String NickName { get; set; }
}
```

Entity , , Json .

```
User user = _context.SocialInfos.Include( p=>p.User).First(p => p.UserID.Equals("1234")); //ORM Include SQL
Join .
return user;
```

, . Tree Json

Loop , JAVA ORM .

- , Entity .
- Entity Json .

Json .

Entity Json . ()

1 VS N Json , Json

. DB Entity OOP .

, ORM Entity Json .

```
public void ConfigureServices( IServiceCollection services )
{
    services.AddMvc()
        .AddJsonOptions(
            options => options.SerializerSettings.ReferenceLoopHandling = Newtonsoft.Json.ReferenceLoopHandling.
Ignore
        );
}
```