Ajay Patel

EF Core

EFCore hidden feature

dbContext.SaveChangesAsync(false)

```
(acceptAllChangesOnSuccess: false);
```

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Save as Regular way

This is how we usually save an entity.

await dbContext.SaveChangesAsync();

```
app.MapPost("api/books", async (AppDbContext dbContext, Book book) =>
{
    dbContext.Books.Add(book);

    var before = dbContext.ChangeTracker.DebugView.LongView;

    await dbContext.SaveChangesAsync();

    var after = dbContext.ChangeTracker.DebugView.LongView;
});
```

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Let see, how ChangeTracker works?

Add the Book entity

```
dbContext.Books.Add(book);

var before = dbContext.ChangeTracker.DebugView.LongView;
```

Text Visualizer

Expression: dbContext.ChangeTracker.DebugView.LongView

String manipulation: None

Value:

```
Book {BookId: -2147482647} Added
    BookId: -2147482647 PK Temporary
    AuthorId: 1 FK
    Description: 'Book 2 Description'
    PublishedDate: '1/1/0001'
    Title: 'Book 2'
```

- ChangeTracker tracked the entity.
- Marked the status: Added
- No PrimaryKey added yet.

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Save to database

```
await dbContext.SaveChangesAsync();

var after = dbContext.ChangeTracker.DebugView.LongView;
```

Text Visualizer

Expression: dbContext.ChangeTracker.DebugView.LongView

String manipulation: None

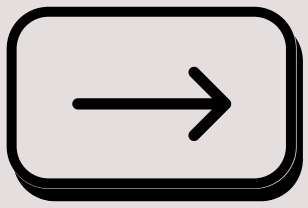
Value:

```
Book {BookId: 6} Unchanged
    BookId: 6 PK
    AuthorId: 1 FK
    Description: 'Book 2 Description'
    PublishedDate: '1/1/0001'
    Title: 'Book 2'
```

```
Context dbContext

nclude(a=> a.Book
```

- ChangeTracker accepted the BookId as a result of the SaveChanges execution.
- Marked the status: Unchanged
- This means that there are no changes left to send to the database.



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Save in an unusual way

(acceptAllChangesOnSuccess: false)

```
app.MapPost("api/books", async (AppDbContext dbContext, Book book) =>
{
    dbContext.Books.Add(book);

    await dbContext.SaveChangesAsync(acceptAllChangesOnSuccess:false);

    var before = dbContext.ChangeTracker.DebugView.LongView;

    dbContext.ChangeTracker.AcceptAllChanges();

    var after = dbContext.ChangeTracker.DebugView.LongView;
});
```

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Let’s see, how ChangeTracker works now

Add the Book entity

```
dbContext.Books.Add(book);

var before = dbContext.ChangeTracker.DebugView.LongView;
```

Text Visualizer

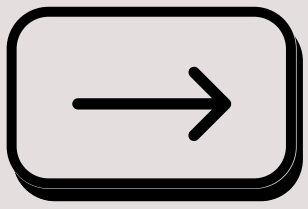
Expression: dbContext.ChangeTracker.DebugView.LongView

String manipulation: None

Value:

```
Book {BookId: -2147482647} Added
    BookId: -2147482647 PK Temporary
    AuthorId: 1 FK
    Description: 'Book 2 Description'
    PublishedDate: '1/1/0001'
    Title: 'Book 2'
```

- ChangeTracker tracked the entity.
- Marked the status: Added
- No PrimaryKey added yet.



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Save to database

```
dbContext.Books.Add(book);

await dbContext.SaveChangesAsync(acceptAllChangesOnSuccess:false);

var before = dbContext.ChangeTracker.DebugView.LongView;   ≤ 272ms ela
```

Text Visualizer

Expression: dbContext.ChangeTracker.DebugView.LongView

String manipulation: None

Value:

```
Book {BookId: 5} Added
    BookId: 5 PK
    AuthorId: 1 FK
    Description: 'Book 2 Description'
    PublishedDate: '1/1/0001'
    Title: 'Book 2'
```

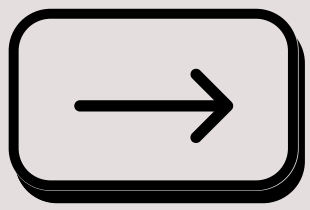
```
es();

bugView.LongView;

Context dbContext,int id) =>

nclude(a=> a.Books).AsSplitQu
```

- ChangeTracker did not reset the status of the entity.
- Status is still Added
- This means you can still retry SaveChanges if needed.



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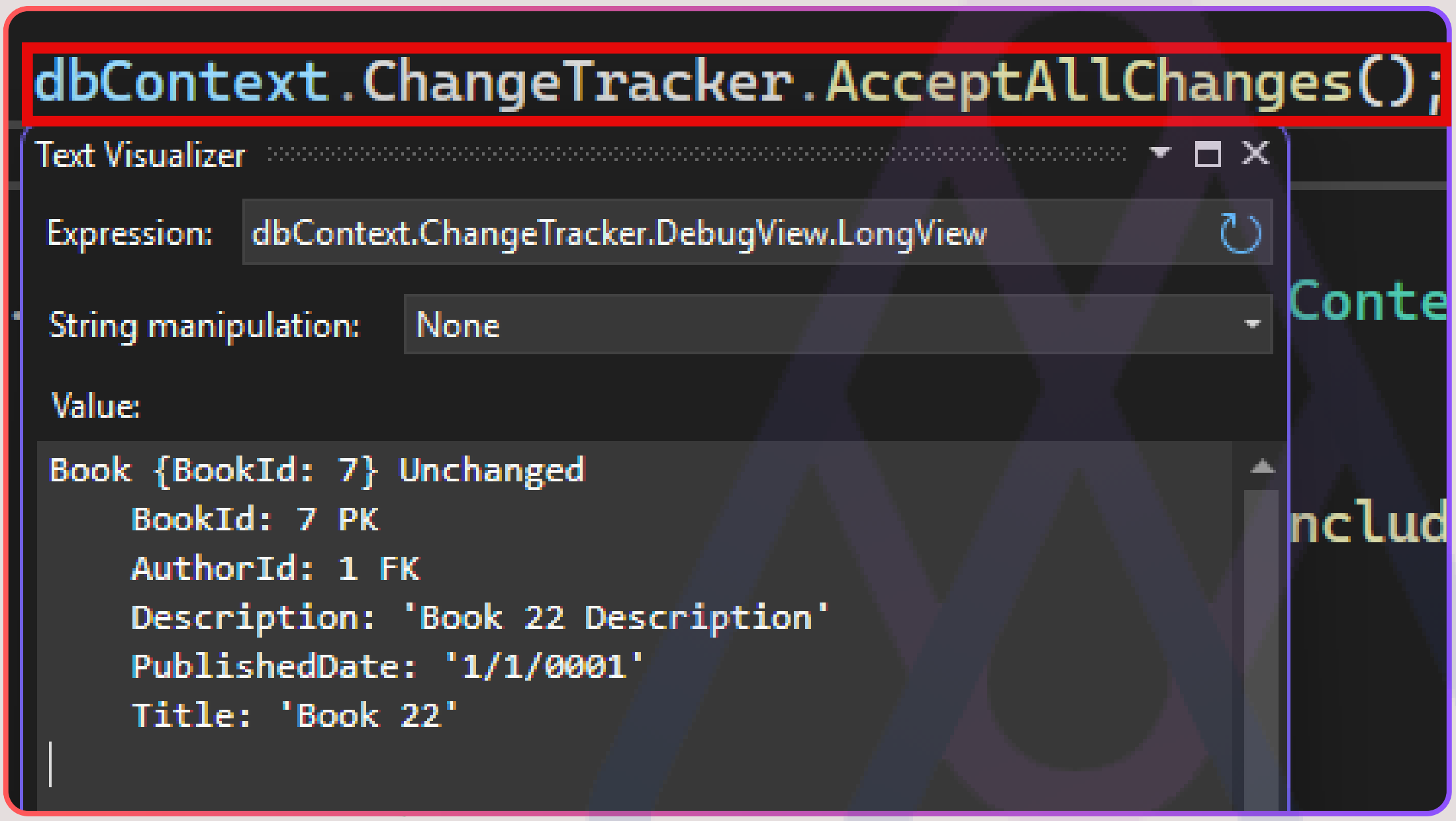
Manually AcceptAllChanges:



- ChangeTracker has reset the entity status
- Marked status as Unchanged

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Read this carefully to fully understand it

If you call **SaveChangesAsync()**, EF Core simply assumes everything is okay. As a result, **it will discard the changes** it has been tracking **(Status: Unchanged)** and wait for new changes.

Unfortunately, if **something goes wrong** elsewhere in the transaction, EF Core will have already discarded the changes it was tracking, meaning **we can't recover them**.

This is where **SaveChangesAsync(false)** and **AcceptAllChanges()** come in.

SaveChanges(false) tells the EFCore to execute the necessary database commands, but **hold on to the changes**, so they can be replayed if necessary.

Now, if the broader **transaction fails you can retry** the EFCore specific bits, with another call to SaveChanges(false).

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When to use acceptAllChanges?

- When implementing custom retry logic for database operations
- When you need fine-grained control over entity state tracking
- When building multi-step transaction workflows where changes should not be marked as final immediately

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Knowledge is contagious, let's spread it!

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