

 무료 전자 책

배우기

# Dapper.NET

Free unaffiliated eBook created from  
**Stack Overflow contributors.**

#dapper

.....	1
<b>1: Dapper.NET</b> .....	<b>2</b>
.....	2
Dapper ?.....	2
?.....	2
.....	2
.....	2
Examples.....	2
Nugget Dapper .....	2
C # Dapper .....	3
LINQPad Dapper .....	3
<b>2: DbGeography DbGeometry</b> .....	<b>5</b>
Examples.....	5
.....	5
.....	5
<b>3: Null</b> .....	<b>6</b>
Examples.....	6
null DBNull.....	6
<b>4:</b> .....	<b>7</b>
.....	7
.....	7
Examples.....	7
.....	7
.....	7
<b>5:</b> .....	<b>9</b>
Examples.....	9
.....	9
Dapper .....	9
.....	9
<b>6:</b> .....	<b>10</b>
.....	

.....	10
Examples.....	10
SQL.....	10
.....	11
.....	11
.....	11
.....	11
.....	12
(    ).....	12
<b>7:</b> .....	<b>14</b>
.....	14
.....	14
Examples.....	14
.....	14
.....	15
7 .....	17
.....	18
<b>8:</b> .....	<b>20</b>
Examples.....	20
.....	20
.....	20
.....	20
, .....	20
.....	20
<b>9:</b> .....	<b>22</b>
.....	22
Examples.....	22
.....	22
.....	22
<b>10:</b> .....	<b>24</b>
Examples.....	24

.....	24
.....	24
<b>11:</b> .....	<b>25</b>
.....	25
Examples.....	25
.....	25
.....	25
<b>12:</b> .....	<b>27</b>
.....	27
.....	27
Examples.....	27
.....	27
<b>13:</b> .....	<b>28</b>
.....	28
Examples.....	28
varchar IHtmlString .....	28
TypeHandler .....	28
<b>14:</b> .....	<b>29</b>
Examples.....	29
.....	29
.....	29
.....	<b>31</b>

---

You can share this PDF with anyone you feel could benefit from it, downloaded the latest version from: [dapper-net](#)

It is an unofficial and free Dapper.NET ebook created for educational purposes. All the content is extracted from [Stack Overflow Documentation](#), which is written by many hardworking individuals at Stack Overflow. It is neither affiliated with Stack Overflow nor official Dapper.NET.

The content is released under Creative Commons BY-SA, and the list of contributors to each chapter are provided in the credits section at the end of this book. Images may be copyright of their respective owners unless otherwise specified. All trademarks and registered trademarks are the property of their respective company owners.

Use the content presented in this book at your own risk; it is not guaranteed to be correct nor accurate, please send your feedback and corrections to [info@zzzprojects.com](mailto:info@zzzprojects.com)

---

# 1: Dapper.NET

## Dapper ?

Dapper IDbConnection , .Net ORM.

?

- github : <https://github.com/StackExchange/dapper-dot-net>
- NuGet : <https://www.nuget.org/packages/Dapper>

•  
•

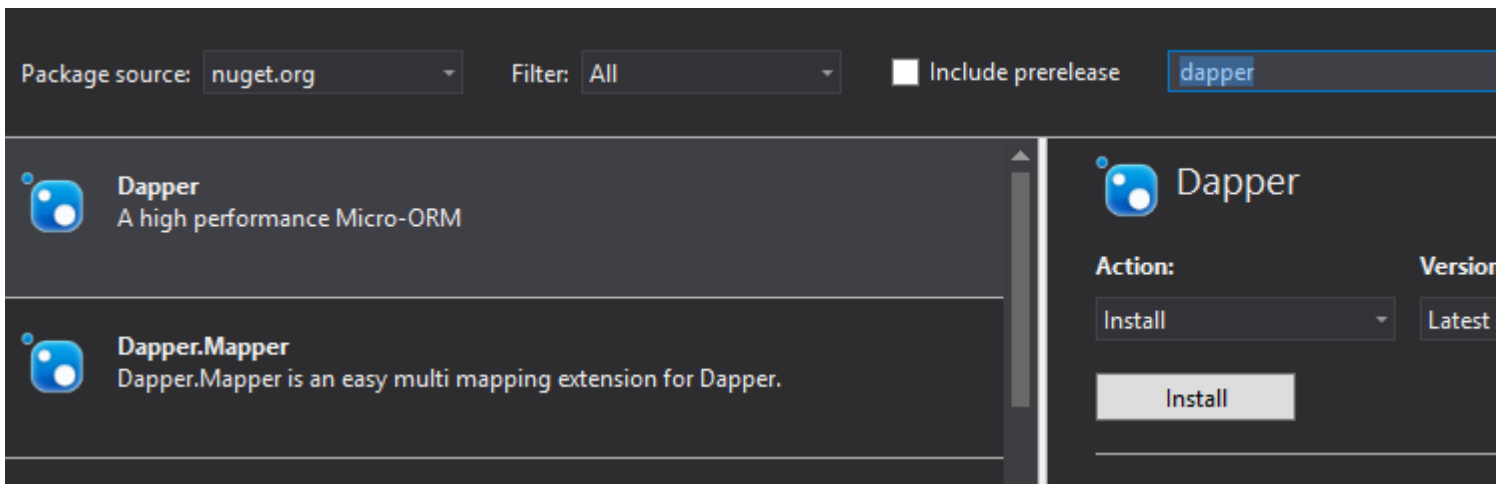
1.50.0	core-clr / asp.net 5.0 (RTM)	2016-06-29
1.42.0		2015-05-06
1.40.0		2015-04-03
1.30.0		2014-08-14
1.20.0		2014-05-08
1.10.0		2012-06-27
1.0.0		2011-04-14

## Examples

### Nuget Dapper

Visual Studio GUI .

> NuGet > ... (Visual Studio 2015)



## Nuget Power Shell

```
Install-Package Dapper
```

```
Install-Package Dapper -Version 1.42.0
```

## C # Dapper

```
using System.Data;
using System.Linq;
using Dapper;

class Program
{
    static void Main()
    {
        using (IDbConnection db = new
SqlConnection("Server=myServer;Trusted_Connection=true"))
        {
            db.Open();
            var result = db.Query<string>("SELECT 'Hello World'").Single();
            Console.WriteLine(result);
        }
    }
}
```

Using .

## LINQPad Dapper

[LINQPad](#) [NuGet](#) . LINQPad Dapper **F4** **Add NuGet** . dapper dot net **Add Add Query**  
. LINQPad **Dapper** .

**Dapper** **C #** **C #** .Dump () .

```
void Main()
{
    using (IDbConnection db = new SqlConnection("Server=myServer;Trusted_Connection=true")) {
        db.Open();
    }
}
```

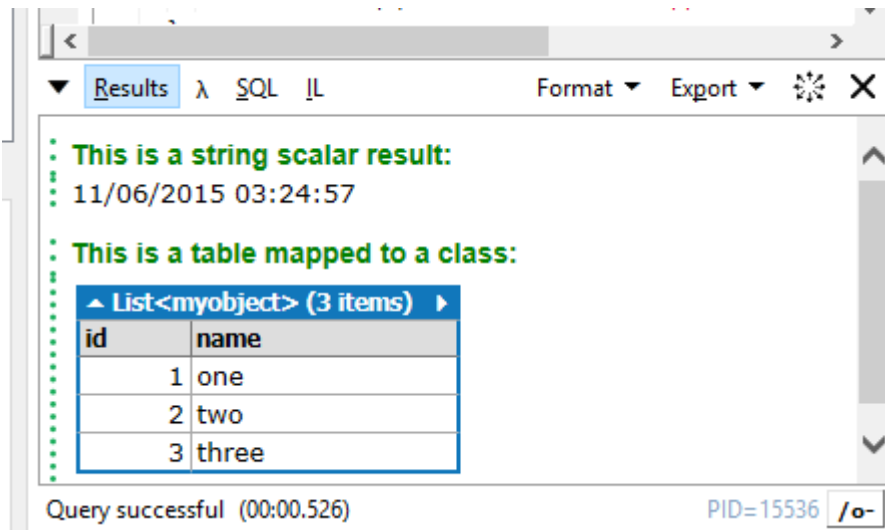
```

var scalar = db.Query<string>("SELECT GETDATE()").SingleOrDefault();
scalar.Dump("This is a string scalar result:");

var results = db.Query<myobject>(@"
SELECT * FROM (
VALUES (1,'one'),
      (2,'two'),
      (3,'three')
) AS mytable(id,name)");
results.Dump("This is a table mapped to a class:");
}

// Define other methods and classes here
class myobject {
    public int id { get; set; }
    public string name { get; set; }
}

```



Dapper.NET : <https://riptutorial.com/ko/dapper/topic/2/dapper-net->



## 2: DbGeography DbGeometry

### Examples

1. `Microsoft.SqlServer.Types` . "Microsoft® SQL Server® 2012 Microsoft® System CLR " Microsoft .x86 x64 .
2. `Dapper.EntityFramework` ( ) . IDE "Manage NuGet Packages ..."UI ( ) .

```
install-package Dapper.EntityFramework
```

3. . Microsoft v11 . Entity Framework v10 . <configuration> app.config web.config .

```
<runtime>
  <assemblyBinding xmlns="urn:schemas-microsoft-com:asm.v1">
    <dependentAssembly>
      <assemblyIdentity name="Microsoft.SqlServer.Types"
        publicKeyToken="89845dcd8080cc91" />
      <bindingRedirect oldVersion="10.0.0.0" newVersion="11.0.0.0" />
    </dependentAssembly>
  </assemblyBinding>
</runtime>
```

4. "dapper" ( ) .

```
Dapper.EntityFramework.Handlers.Register();
```

```
string redmond = "POINT (122.1215 47.6740)";
DbGeography point = DbGeography.PointFromText(redmond,
    DbGeography.DefaultCoordinateSystemId);
DbGeography orig = point.Buffer(20); // create a circle around a point

var fromDb = connection.QuerySingle<DbGeography>(
    "declare @geos table(geo geography); insert @geos(geo) values(@val); select * from @geos",
    new { val = orig });

Console.WriteLine($"Original area: {orig.Area}");
Console.WriteLine($"From DB area: {fromDb.Area}");
```

**DbGeography DbGeometry** : <https://riptutorial.com/ko/dapper/topic/3984/dbgeography--dbgeometry->

# 3: Null

## Examples

### null DBNull

ADO.NET null . ; .

- null DBNull.Value .
- null null ( ) ( ),

```
string name = null;
int id = 123;
connection.Execute("update Customer set Name=@name where Id=@id",
    new {id, name});
```

Null : <https://riptutorial.com/ko/dapper/topic/13/null->

## 4:

- public static IEnumerable <T> Query <T> ( IDbConnection cnn, sql, param = null, SqlTransaction = null, buffered = true)
- public static IEnumerable <dynamic> (this IDbConnection cnn, sql, param = null, SqlTransaction = null, bool buffered = true)

CNN	.
SQL	.
	.
	.
	. true. buffered true List<T> IEnumerable<T> . buffered false sql
	. false . sql .

## Examples

Query<T> .

```
public class Dog
{
    public int? Age { get; set; }
    public Guid Id { get; set; }
    public string Name { get; set; }
    public float? Weight { get; set; }

    public int IgnoredProperty { get { return 1; } }
}

//
IDbConnection db = /* ... */;

var @params = new { age = 3 };
var sql = "SELECT * FROM dbo.Dogs WHERE Age = @age";

IEnumerable<Dog> dogs = db.Query<Dog>(sql, @params);
```

```
IDbConnection db = /* ... */;
IEnumerable<dynamic> result = db.Query("SELECT 1 as A, 2 as B");

var first = result.First();
int a = (int)first.A; // 1
int b = (int)first.B; // 2
```

```
var color = "Black";
var age = 4;

var query = "Select * from Cats where Color = :Color and Age > :Age";
var dynamicParameters = new DynamicParameters();
dynamicParameters.Add("Color", color);
dynamicParameters.Add("Age", age);

using (var connection = new SqlConnection(/* Your Connection String Here */)
{
    IEnumerable<dynamic> results = connection.Query(query, dynamicParameters);
}
```

: <https://riptutorial.com/ko/dapper/topic/3/>-

# 5:

## Examples

/ [Dapper](#) param IDynamicParameters . AddParameters . DynamicParameters .

```
var p = new DynamicParameters(new { a = 1, b = 2 });
p.Add("c", DbType.Int32, direction: ParameterDirection.Output);
connection.Execute(@"set @c = @a + @b", p);
int updatedValue = p.Get<int>("@c");
```

:

- ()
- ()
- 
- .

RDBMS [Query](#) ([Query](#) [QueryMultiple](#)) ([: SQL Server](#) [TDS](#)).

## Dapper

```
connection.Execute(@"some Query with @a,@b,@c", new
{a=somevalueOfa,b=somevalueOfb,c=somevalueOfc});
```

```
public class SearchParameters {
    public string SearchString { get; set; }
    public int Page { get; set; }
}

var template= new SearchParameters {
    SearchString = "Dapper",
    Page = 1
};

var p = new DynamicParameters(template);
```

Dictionary .

: <https://riptutorial.com/ko/dapper/topic/12/-->

# 6:

this cnn	- this . . . .
<T> / Type	() . / Type API dynamic .dynamic IDictionary<string,object> IDictionary<string,object> .
sql	SQL
param	() .
transaction	()
buffered	() (), IEnumerable
commandTimeout	() . SqlMapper.Settings.CommandTimeout ().
commandType	. CommandText

RDBMS . SQL Server @foo ., ?foo :foo .

## Examples

### SQL

Dapper SQL .

dapper . RDBMS (@foo ?foo :foo) foo dapper . .

```
int id = 123;
string name = "abc";
connection.Execute("insert [KeyLookup](Id, Name) values(@id, @name)",
    new { id, name });
```

. Dapper .

```
KeyLookup lookup = ... // some existing instance
connection.Execute("insert [KeyLookup] (Id, Name) values (@Id, @Name)", lookup);
```

Dapper command-text . Description , IsActive , CreationDate . . .

```
// TODO - removed for now; include the @Description in the insert
```

, dapper . . . .

```
connection.Execute("KeyLookupInsert", new { id, name },
    commandType: CommandType.StoredProcedure);
```

( ) . . . enum . :

```
var orders = connection.Query<Order>(@"
select top (@count) * -- these brackets are an oddity of SQL Server
from Orders
where CustomerId = @customerId
and Status = @open", new { customerId, count = PageSize, open = OrderStatus.Open });
```

customerId . . RDBMS . Dapper @name - {=name} . SQL . . .

```
var orders = connection.Query<Order>(@"
select top {=count} *
from Orders
where CustomerId = @customerId
and Status = {=open}", new { customerId, count = PageSize, open = OrderStatus.Open });
```

Dapper SQL RDBMS .

```
select top 10 *
from Orders
where CustomerId = @customerId
and Status = 3
```

RDBMS . , , . . .

IN (...). IN (...) . RDBMS RDBMS . dapper . IEnumerable . @foo  
(@foo0,@foo1,@foo2,@foo3) (4 ) . IN .

```
int[] orderIds = ...
var orders = connection.Query<Order>(@"
select *
from Orders
where Id in @orderIds", new { orderIds });
```

SQL .

```
select *
from Orders
where Id in (@orderIds0, @orderIds1, @orderIds2, @orderIds3)
```

@orderIds0 array . SQL . SQL Server OPTIMIZE FOR / UNKNOWN . :

```
option (optimize for
        (@orderIds unknown))
```

```
option (optimize for
        (@orderIds0 unknown, @orderIds1 unknown, @orderIds2 unknown, @orderIds3 unknown))
```

. Dapper ( ) IEnumerable Execute . :

```
Order[] orders = ...
// update the totals
connection.Execute("update Orders set Total=@Total where Id=@Id", orders);
```

, dapper .

```
Order[] orders = ...
// update the totals
foreach(Order order in orders) {
    connection.Execute("update Orders set Total=@Total where Id=@Id", order);
}
```

" " async API . dapper . .

```
await connection.ExecuteAsync(
    new CommandDefinition(
        "update Orders set Total=@Total where Id=@Id",
        orders, flags: CommandFlags.Pipelined))
```

( )

ADO.NET (: OleDb) . ? . Dapper dapper ?foo? ; dapper SQL @foo :foo ?

```
string region = "North";
int[] users = ...
var docs = conn.Query<Document>(@"
    select * from Documents
    where Region = ?region?
    and OwnerId in ?users?", new { region, users }).AsList();
```



```
.region .users , SQL(3, ):
```

```
select * from Documents
where Region = ?
and OwnerId in (?, ?, ?)
```

```
dapper . ( ) . .
```

```
declare @id int = ?id?; // now we can use @id multiple times in the SQL
```

```
. .
```

```
int id = 42;
connection.Execute("... where ParentId = $id0$ ... SomethingElse = $id1$ ...",
    new { id0 = id, id1 = id });
```

: <https://riptutorial.com/ko/dapper/topic/10/--->

# 7:

- `public static IEnumerable<TReturn> Query<TFirst, TSecond, TReturn>( this IDbConnection cnn, string sql, Func<TFirst, TSecond, TReturn> map, object param = null, IDbTransaction transaction = null, bool buffered = true, string splitOn = "Id", int? commandTimeout = null, CommandType? commandType = null)`
- `public static IEnumerable<TReturn> Query<TFirst, TSecond, TThird, TFourth, TFifth, TSixth, TSeventh, TReturn>(this IDbConnection cnn, string sql, Func<TFirst, TSecond, TThird, TFourth, TFifth, TSixth, TSeventh, TReturn> map, object param = null, IDbTransaction transaction = null, bool buffered = true, string splitOn = "Id", int? commandTimeout = null, CommandType? commandType = null)`
- `public static IEnumerable<TReturn> Query<TReturn>(this IDbConnection cnn, string sql, Type[] types, Func<object[], TReturn> map, object param = null, IDbTransaction transaction = null, bool buffered = true, string splitOn = "Id", int? commandTimeout = null, CommandType? commandType = null)`

CNN	.
SQL	.
	.
	Func<>
	.
	.
	. buffered true List<T> IEnumerable<T> . buffered false sql
	. false . sql .
splitOn	( : id).
commandTimeout	().
commandType	?

## Examples

Person .

1942
1967
1941

```
public class Person
{
```

```

public string Name { get; set; }
public int Born { get; set; }
public Country Residence { get; set; }
}

public class Country
{
    public string Residence { get; set; }
}

```

Func<> Query<> Person Residence Country .Func<> 7 .

```

var sql = @"SELECT 'Daniel Dennett' AS Name, 1942 AS Born, 'United States of America' AS Residence
UNION ALL SELECT 'Sam Harris' AS Name, 1967 AS Born, 'United States of America' AS Residence
UNION ALL SELECT 'Richard Dawkins' AS Name, 1941 AS Born, 'United Kingdom' AS Residence";

var result = connection.Query<Person, Country, Person>(sql, (person, country) => {
    if(country == null)
    {
        country = new Country { Residence = "" };
    }
    person.Residence = country;
    return person;
},
splitOn: "Residence");

```

splitOn: "Residence" splitOn: "Residence" ( Country ). Dapper ID . splitOn  
System.ArgumentException . splitOn splitOn .

. . .  
.

		CountryId		
1	1942	1		1
1	1942	1		2
2	1967	1		
2	1967	1		4 :
	1941	2		5 : ?
	1941	2		6 :

```

public class Person
{
    public int Id { get; set; }
    public string Name { get; set; }
    public int Born { get; set; }
    public Country Residence { get; set; }
}

```

```

    public ICollection<Book> Books { get; set; }
}

public class Country
{
    public int CountryId { get; set; }
    public string CountryName { get; set; }
}

public class Book
{
    public int BookId { get; set; }
    public string BookName { get; set; }
}

```

remainingHorsemen . **lambda** .

```

    var sql = @"SELECT 1 AS Id, 'Daniel Dennett' AS Name, 1942 AS Born, 1 AS
CountryId, 'United States of America' AS CountryName, 1 AS BookId, 'Brainstorms' AS BookName
UNION ALL SELECT 1 AS Id, 'Daniel Dennett' AS Name, 1942 AS Born, 1 AS CountryId, 'United
States of America' AS CountryName, 2 AS BookId, 'Elbow Room' AS BookName
UNION ALL SELECT 2 AS Id, 'Sam Harris' AS Name, 1967 AS Born, 1 AS CountryId, 'United States
of America' AS CountryName, 3 AS BookId, 'The Moral Landscape' AS BookName
UNION ALL SELECT 2 AS Id, 'Sam Harris' AS Name, 1967 AS Born, 1 AS CountryId, 'United States
of America' AS CountryName, 4 AS BookId, 'Waking Up: A Guide to Spirituality Without Religion'
AS BookName
UNION ALL SELECT 3 AS Id, 'Richard Dawkins' AS Name, 1941 AS Born, 2 AS CountryId, 'United
Kingdom' AS CountryName, 5 AS BookId, 'The Magic of Reality: How We Know What`s Really True'
AS BookName
UNION ALL SELECT 3 AS Id, 'Richard Dawkins' AS Name, 1941 AS Born, 2 AS CountryId, 'United
Kingdom' AS CountryName, 6 AS BookId, 'An Appetite for Wonder: The Making of a Scientist' AS
BookName";

var remainingHorsemen = new Dictionary<int, Person>();
connection.Query<Person, Country, Book, Person>(sql, (person, country, book) => {
    //person
    Person personEntity;
    //trip
    if (!remainingHorsemen.TryGetValue(person.Id, out personEntity))
    {
        remainingHorsemen.Add(person.Id, personEntity = person);
    }

    //country
    if(personEntity.Residence == null)
    {
        if (country == null)
        {
            country = new Country { CountryName = "" };
        }
        personEntity.Residence = country;
    }

    //books
    if(personEntity.Books == null)
    {
        personEntity.Books = new List<Book>();
    }

    if (book != null)

```

```

    {
        if (!personEntity.Books.Any(x => x.BookId == book.BookId))
        {
            personEntity.Books.Add(book);
        }
    }

    return personEntity;
},
splitOn: "CountryId,BookId");

```

splitOn            splitOn .

## 7

### Func <> 7 .

Query<>            .            .

```

        var sql = @"SELECT 1 AS Id, 'Daniel Dennett' AS Name, 1942 AS Born, 1 AS
CountryId, 'United States of America' AS CountryName, 1 AS BookId, 'Brainstorms' AS BookName
UNION ALL SELECT 1 AS Id, 'Daniel Dennett' AS Name, 1942 AS Born, 1 AS CountryId, 'United
States of America' AS CountryName, 2 AS BookId, 'Elbow Room' AS BookName
UNION ALL SELECT 2 AS Id, 'Sam Harris' AS Name, 1967 AS Born, 1 AS CountryId, 'United States
of America' AS CountryName, 3 AS BookId, 'The Moral Landscape' AS BookName
UNION ALL SELECT 2 AS Id, 'Sam Harris' AS Name, 1967 AS Born, 1 AS CountryId, 'United States
of America' AS CountryName, 4 AS BookId, 'Waking Up: A Guide to Spirituality Without Religion'
AS BookName
UNION ALL SELECT 3 AS Id, 'Richard Dawkins' AS Name, 1941 AS Born, 2 AS CountryId, 'United
Kingdom' AS CountryName, 5 AS BookId, 'The Magic of Reality: How We Know What`s Really True'
AS BookName
UNION ALL SELECT 3 AS Id, 'Richard Dawkins' AS Name, 1941 AS Born, 2 AS CountryId, 'United
Kingdom' AS CountryName, 6 AS BookId, 'An Appetite for Wonder: The Making of a Scientist' AS
BookName";

var remainingHorsemen = new Dictionary<int, Person>();
connection.Query<Person>(sql,
    new[]
    {
        typeof(Person),
        typeof(Country),
        typeof(Book)
    }
    , obj => {

        Person person = obj[0] as Person;
        Country country = obj[1] as Country;
        Book book = obj[2] as Book;

        //person
        Person personEntity;
        //trip
        if (!remainingHorsemen.TryGetValue(person.Id, out personEntity))
        {
            remainingHorsemen.Add(person.Id, personEntity = person);
        }

        //country

```

```

        if(personEntity.Residence == null)
        {
            if (country == null)
            {
                country = new Country { CountryName = "" };
            }
            personEntity.Residence = country;
        }

        //books
        if(personEntity.Books == null)
        {
            personEntity.Books = new List<Book>();
        }

        if (book != null)
        {
            if (!personEntity.Books.Any(x => x.BookId == book.BookId))
            {
                personEntity.Books.Add(book);
            }
        }

        return personEntity;
    },
    splitOn: "CountryId,BookId");

```

System.Data.Linq.Mapping.ColumnAttribute

```

public class Person
{
    public int Id { get; set; }
    public string Name { get; set; }
    public int Born { get; set; }
    public Country Residence { get; set; }
    public ICollection<Book> Books { get; set; }
}

public class Country
{
    [System.Data.Linq.Mapping.Column(Name = "CountryId")]
    public int Id { get; set; }

    [System.Data.Linq.Mapping.Column(Name = "CountryName")]
    public string Name { get; set; }
}

public class Book
{
    public int Id { get; set; }

    public string Name { get; set; }
}

```

Book ColumnAttribute ColumnAttribute if if.

```

Dapper.SqlMapper.SetTypeMap(
    typeof(Country),
    new CustomPropertyTypeMap(
        typeof(Country),
        (type, columnName) =>
            type.GetProperties().FirstOrDefault(prop =>
                prop.GetCustomAttributes(false)
                    .OfType<System.Data.Linq.Mapping.ColumnAttribute>()
                    .Any(attr => attr.Name == columnName)))
    );

var bookMap = new CustomPropertyTypeMap(
    typeof(Book),
    (type, columnName) =>
    {
        if(columnName == "BookId")
        {
            return type.GetProperty("Id");
        }

        if (columnName == "BookName")
        {
            return type.GetProperty("Name");
        }

        throw new InvalidOperationException($"No matching mapping for {columnName}");
    }
    );
Dapper.SqlMapper.SetTypeMap(typeof(Book), bookMap);

```

Query<> .

: <https://riptutorial.com/ko/dapper/topic/351/>

# 8:

## Examples

```
IDBConnection db = /* ... */
var id = /* ... */

db.Execute(@"update dbo.Dogs set Name = 'Beowoof' where Id = @id",
    new { id });
```

### Dapper procs .

```
var user = conn.Query<User>("spGetUser", new { Id = 1 },
    commandType: CommandType.StoredProcedure)
    .SingleOrDefault();
```

```
var p = new DynamicParameters();
p.Add("@a", 11);
p.Add("@b",
    dbType: DbType.Int32,
    direction: ParameterDirection.Output);
p.Add("@c",
    dbType: DbType.Int32,
    direction: ParameterDirection.ReturnValue);

conn.Execute("spMagicProc", p,
    commandType: CommandType.StoredProcedure);

var b = p.Get<int>("@b");
var c = p.Get<int>("@c");
```

### SQL Server DataTable .

```
CREATE TYPE [dbo].[myUDTT] AS TABLE([i1] [int] NOT NULL);
GO
CREATE PROCEDURE myProc(@data dbo.myUDTT readonly) AS
SELECT i1 FROM @data;
GO
/*
-- optionally grant permissions as needed, depending on the user you execute this with.
-- Especially the GRANT EXECUTE ON TYPE is often overlooked and can cause problems if omitted.
GRANT EXECUTE ON TYPE::[dbo].[myUDTT] TO [user];
GRANT EXECUTE ON dbo.myProc TO [user];
GO
*/
```



## C# .

```
// Build a DataTable with one int column
DataTable data = new DataTable();
data.Columns.Add("i1", typeof(int));
// Add two rows
data.Rows.Add(1);
data.Rows.Add(2);

var q = conn.Query("myProc", new {data}, commandType: CommandType.StoredProcedure);
```

: <https://riptutorial.com/ko/dapper/topic/5/>

# 9:

[WriteToServer](#) [WriteToServerAsync](#) [IDataReader](#) ( ), [DataTable](#) [DataRow](#) ( [DataRow\[\]](#) ) .

## Examples

[ToDataReader](#) [SqlBulkCopy](#) [DataReader](#) .

```
public class Widget
{
    public int WidgetId {get;set;}
    public string Name {get;set;}
    public int Quantity {get;set;}
}

public async Task AddWidgets(IEnumerable<Widget> widgets)
{
    using(var conn = new SqlConnection("{connection string}")) {
        await conn.OpenAsync();

        using(var bulkCopy = new SqlBulkCopy(conn)) {
            bulkCopy.BulkCopyTimeout = SqlTimeoutSeconds;
            bulkCopy.BatchSize = 500;
            bulkCopy.DestinationTableName = "Widgets";
            bulkCopy.EnableStreaming = true;

            using(var dataReader = widgets.ToDataReader())
            {
                await bulkCopy.WriteToServerAsync(dataReader);
            }
        }
    }
}
```

[ToDataReader](#) [SqlBulkCopy](#) [DataReader](#) .

```
public class Widget
{
    public int WidgetId {get;set;}
    public string Name {get;set;}
    public int Quantity {get;set;}
}

public void AddWidgets(IEnumerable<Widget> widgets)
{
    using(var conn = new SqlConnection("{connection string}")) {
        conn.Open();

        using(var bulkCopy = new SqlBulkCopy(conn)) {
            bulkCopy.BulkCopyTimeout = SqlTimeoutSeconds;
```

```
bulkCopy.BatchSize = 500;
bulkCopy.DestinationTableName = "Widgets";
bulkCopy.EnableStreaming = true;

using(var dataReader = widgets.ToDataReader())
{
    bulkCopy.WriteToServer(dataReader);
}
}
```

: [https://riptutorial.com/ko/dapper/topic/6279/-](https://riptutorial.com/ko/dapper/topic/6279/)

# 10:

## Examples

```
public async Task<Product> GetProductAsync(string productId)
{
    using (_db)
    {
        return await _db.QueryFirstOrDefaultAsync<Product>("usp_GetProduct", new { id =
productId },
            commandType: CommandType.StoredProcedure);
    }
}
```

```
public async Task SetProductInactiveAsync(int productId)
{
    using (IDbConnection con = new SqlConnection("myConnectionString"))
    {
        await con.ExecuteNonQuery("SetProductInactive", new { id = productId },
            commandType: CommandType.StoredProcedure);
    }
}
```

: <https://riptutorial.com/ko/dapper/topic/1353/>

# 11:

- `conn.Execute (sql, transaction : tran); // .`
- `conn.Execute (sql, parameters, tran);`
- `conn.Query (sql, transaction : tran);`
- `conn.Query (sql, parameters, tran);`
- `conn.ExecuteAsync (sql, transaction : tran); //`
- `conn.ExecuteAsync (sql, parameters, tran);`
- `conn.QueryAsync (sql, transaction : tran); .`
- `conn.QueryAsync (sql, parameters, tran); .`

## Examples

`SqlConnection IDbConnection .`

`IDbTransaction IDbConnection .`

```
public void UpdateWidgetQuantity(int widgetId, int quantity)
{
    using(var conn = new SqlConnection("{connection string}")) {
        conn.Open();

        // create the transaction
        // You could use `var` instead of `SqlTransaction`
        using(SqlTransaction tran = conn.BeginTransaction()) {
            try
            {
                var sql = "update Widget set Quantity = @quantity where WidgetId = @id";
                var parameters = new { id = widgetId, quantity };

                // pass the transaction along to the Query, Execute, or the related Async
                conn.Execute(sql, parameters, tran);

                // if it was successful, commit the transaction
                tran.Commit();
            }
            catch(Exception ex)
            {
                // roll the transaction back
                tran.Rollback();

                // handle the error however you need to.
                throw;
            }
        }
    }
}
```

[StackOverflow /](#) .

```
// Widget has WidgetId, Name, and Quantity properties
public void InsertWidgets(IEnumerable<Widget> widgets)
{
    using(var conn = new SqlConnection("{connection string}")) {
        conn.Open();

        using(var tran = conn.BeginTransaction()) {
            try
            {
                var sql = "insert Widget (WidgetId,Name,Quantity) Values(@WidgetId, @Name,
@Quantity)";
                conn.Execute(sql, widgets, tran);
                tran.Commit();
            }
            catch(Exception ex)
            {
                tran.Rollback();
                // handle the error however you need to.
                throw;
            }
        }
    }
}
```

: <https://riptutorial.com/ko/dapper/topic/6601/>

## 12:

- `public static IMapper.GridReader QueryMultiple ( IDbConnection cnn, sql, param = null, IDbTransaction = null, int? commandTimeout = null, CommandType? commandType = null)`
- `public static IMapper.GridReader QueryMultiple ( IDbConnection cnn, CommandDefinition )`

CNN	.
SQL	SQL . .
SqlMapper.GridReader	Dapper .

## Examples

`QueryMultiple . GridReader .`

```
var sql = @"select * from Customers where CustomerId = @id
            select * from Orders where CustomerId = @id
            select * from Returns where CustomerId = @id";

using (var multi = connection.QueryMultiple(sql, new {id=selectedId}))
{
    var customer = multi.Read<Customer>().Single();
    var orders = multi.Read<Order>().ToList();
    var returns = multi.Read<Return>().ToList();
}
```

: <https://riptutorial.com/ko/dapper/topic/8/>

# 13:

.Net .

## Examples

### varchar IHtmlString

```
public class IHtmlStringTypeHandler : SqlMapper.TypeHandler<IHtmlString>
{
    public override void SetValue(
        IDbDataParameter parameter,
        IHtmlString value)
    {
        parameter.DbType = DbType.String;
        parameter.Value = value?.ToHtmlString();
    }

    public override IHtmlString Parse(object value)
    {
        return MvcHtmlString.Create(value?.ToString());
    }
}
```

### TypeHandler

SqlMapper USING AddTypeHandler .

```
SqlMapper.AddTypeHandler<IHtmlString>(new IHtmlStringTypeHandler());
```

generic :

```
SqlMapper.AddTypeHandler(new IHtmlStringTypeHandler());
```

Type .

```
SqlMapper.AddTypeHandler(typeof(IHtmlString), new IHtmlStringTypeHandler());
```

: <https://riptutorial.com/ko/dapper/topic/6/>



# 14:

## Examples

```
// Widget has WidgetId, Name, and Quantity properties
public async Task PurchaseWidgets(IEnumerable<Widget> widgets)
{
    using(var conn = new SqlConnection("{connection string}")) {
        await conn.OpenAsync();

        await conn.ExecuteNonQuery("CREATE TABLE #tmpWidget(WidgetId int, Quantity int)");

        // populate the temp table
        using(var bulkCopy = new SqlBulkCopy(conn)) {
            bulkCopy.BulkCopyTimeout = SqlTimeoutSeconds;
            bulkCopy.BatchSize = 500;
            bulkCopy.DestinationTableName = "#tmpWidget";
            bulkCopy.EnableStreaming = true;

            using(var dataReader = widgets.ToDataReader())
            {
                await bulkCopy.WriteToServerAsync(dataReader);
            }
        }

        await conn.ExecuteNonQuery(@"
            update w
            set Quantity = w.Quantity - tw.Quantity
            from Widgets w
            join #tmpWidget tw on w.WidgetId = tw.WidgetId");
    }
}
```

. Dapper . . , Dapper .

```
private async Task<IEnumerable<int>> SelectWidgetsError()
{
    using (var conn = new SqlConnection(connectionString))
    {
        await conn.ExecuteNonQuery(@"CREATE TABLE #tmpWidget(widgetId int);");

        // this will throw an error because the #tmpWidget table no longer exists
        await conn.ExecuteNonQuery(@"insert into #tmpWidget(WidgetId) VALUES (1);");

        return await conn.QueryAsync<int>(@"SELECT * FROM #tmpWidget;");
    }
}
```

, :

```

private async Task<IEnumerable<int>> SelectWidgets()
{
    using (var conn = new SqlConnection(connectionString))
    {
        // Here, everything is done in one statement, therefore the temp table
        // always stays within the scope of the connection
        return await conn.QueryAsync<int>(
            @"CREATE TABLE #tmpWidget(widgetId int);
            insert into #tmpWidget(WidgetId) VALUES (1);
            SELECT * FROM #tmpWidget;");
    }
}

private async Task<IEnumerable<int>> SelectWidgetsII()
{
    using (var conn = new SqlConnection(connectionString))
    {
        // Here, everything is done in separate statements. To not loose the
        // connection scope, we have to explicitly open it
        await conn.OpenAsync();

        await conn.ExecuteAsync(@"CREATE TABLE #tmpWidget(widgetId int);");
        await conn.ExecuteAsync(@"insert into #tmpWidget(WidgetId) VALUES (1);");
        return await conn.QueryAsync<int>(@"SELECT * FROM #tmpWidget;");
    }
}

```

: <https://riptutorial.com/ko/dapper/topic/6594/>

S. No		Contributors
1	Dapper.NET	<a href="#">Adam Lear</a> , <a href="#">balpha</a> , <a href="#">Community</a> , <a href="#">Eliza</a> , <a href="#">Greg Bray</a> , <a href="#">Jarrod Dixon</a> , <a href="#">Kevin Montrose</a> , <a href="#">Matt McCabe</a> , <a href="#">Nick</a> , <a href="#">Rob</a> , <a href="#">Shog9</a>
2	DbGeography DbGeometry	<a href="#">Marc Gravell</a>
3	Null	<a href="#">Marc Gravell</a>
4		<a href="#">Adam Lear</a> , <a href="#">Chris Marisic</a> , <a href="#">Cigano Morrison Mendez</a> , <a href="#">Community</a> , <a href="#">cubrr</a> , <a href="#">Jarrod Dixon</a> , <a href="#">jrummell</a> , <a href="#">Kevin Montrose</a> , <a href="#">Matt McCabe</a>
5		<a href="#">Marc Gravell</a> , <a href="#">Matt McCabe</a> , <a href="#">Meer</a>
6		<a href="#">4444</a> , <a href="#">Marc Gravell</a> , <a href="#">Nick Craver</a>
7		<a href="#">Devon Burriss</a>
8		<a href="#">Adam Lear</a> , <a href="#">Jarrod Dixon</a> , <a href="#">Skivvz</a> , <a href="#">takrl</a>
9		<a href="#">jhamm</a>
10		<a href="#">Dean Ward</a> , <a href="#">Matt McCabe</a> , <a href="#">Nick</a> , <a href="#">Woodchipper</a>
11		<a href="#">jhamm</a>
12		<a href="#">Marc Gravell</a> , <a href="#">Yaakov Ellis</a>
13		<a href="#">Benjamin Hodgson</a> , <a href="#">Community</a> , <a href="#">Marc Gravell</a>
14		<a href="#">jhamm</a> , <a href="#">Rob</a> , <a href="#">takrl</a>