LINQ [Language Integrated Query Language]

LINQ has its own Query Processing Engine. The information returned by a LINQ query is a collection of in-memory object which may be enumerated.

With the help of LINQ we can write query for array, list, string, database etc where as SQL can only use for database or relational data base

There are various variety of LINQ

1. Linq to XML : it is use to write the query for extensible markup language
2. Linq to object : it is use to write the query for any collection like array , list
3. Linq to Database : it is use to write the query for any type of data bases
4. Linq to Sql : it is only design to access the data from SQL server only not any other data base
5. Linq to ADO.net
6. Linq to Entities Any other data base like oracle, sqlserver,

When we interacts the SQLServer by SQL it is called ADO.NET

While when we interact the SQL server by LINQ it is called Linq To SQL

So what exactly the different between these two

Ado.net

1. we write any SQL query to interact with the Sql server and if there is any error these error are verified by database engine not the C# compiler because we write the entire query within double inverted commas [“ ”] and the C# compiler does not check whatever we are writing in side double inverted commas strings are not compiled when these query pass to database, database engine verified these query. It increase the extra load on data base server and performance gets slow
2. It is not type safe means intellisense support is not there .
3. It is the combination of Object oriented and relational data base statement
4. Debugging is not possible

Linq to Sql

1. In which all syntax check by the C# compiler at the time of compilation process because LINQ is purely defined in .net technology and its is executed by LINQ query engine
2. It is type safe complete intellisense support is there
3. It is purely object oriented
4. Debugging is possible

The LINQ concept treats the data source as an Object, rather than a Database. So we may say, its an object that is queried. LINQ may query any type of data source,

1. Whenever we write the sql query it does not show any compile time error but linq show the compile time error if you use wrong syntax
2. Just like sql query linq is also use to fetch the data from data base and we can perform the CRUD operation like insertion , deletion and updation
3. It is included in the C# that is why it is called integrated query language
4. It was introduce in .NET 3.0 frame work
5. It is use to query the data from the various data sources like XML document, data set , web services, Collection Generics, SQL Database.

Linq and lamda expression in Entity Frame work in MVC

* If we are using entity frame work for LINQ then one field must be primary key in data base it is very necessary point using entity frame work.

Step

1. Add new item in the model LINQ to SQL classes it is the part of data
2. Then we will get two division one for tables and one for stored procedures
3. Create a connection in the server explorer
4. Then drag the table in the first division or portion then build the project
5. After this insert delete update function will be automatically created in the model
6. Model will be created purpose of model is providing the mapping of data base to mvc application
7. Now add the controller home controller with read write action
8. Now Add view chooses template as list and Model as tbl\_emp (donot use context model).
9. Go to the controller Add name space model because data base related information in model
10. Create the object of Employee data context EmployeeDataDataContext empobj = new EmployeeDataDataContext();
11. Now in the index get method

For Showing Details

var d = empobj.TBL\_EMPs;

return View(d);

**Individual detail Process using Linq And Lamda Expression**

**var x = empobj.TBL\_EMPs.Single(eid => eid.EMPID == id);**

**return View(x);**

**Add View choose template detail and model tbl\_model**

**Insertion Record in the data base table**

public ActionResult Create(TBL\_EMP collection)

{

try

{

// TODO: Add insert logic here

empobj.TBL\_EMPs.InsertOnSubmit(collection); Temporary on Ram or buffer

empobj.SubmitChanges(); Permanent

return RedirectToAction("Index");

}

**Add View choose template insert and model tbl\_model**

Practically if we are using LINQ so we have to convert the database table in the form of object USING ORM

Object relationship mapping

In which one important class called DBCONTEXT this class use to establish the connection between ASP.NET application and SQL server just like the connection class in ADO.NET provides the connection and DBCONTEXT takes the connection from the configuration file

Add item -> New item -> Data-> LINQ to SQL clas

s --🡪 we will get two panel left hand side we drag the tables and right hand side we drag the stored proceduces