Adult

Write Code ML.NET

(SQL Database connection)

What's in this session?

1. Question and Data
2. Create project
3. Add NuGet packages
4. Add using name space
5. Create data set input/output scheme
6. Set data set path
7. Load data

8. Add algorithm
9. Train the model
10. Save model
11. Evaluate the model and show accuracy stats
12. Predict single item

Question and Data

Question: This message is normal or a spam?

Dataset:

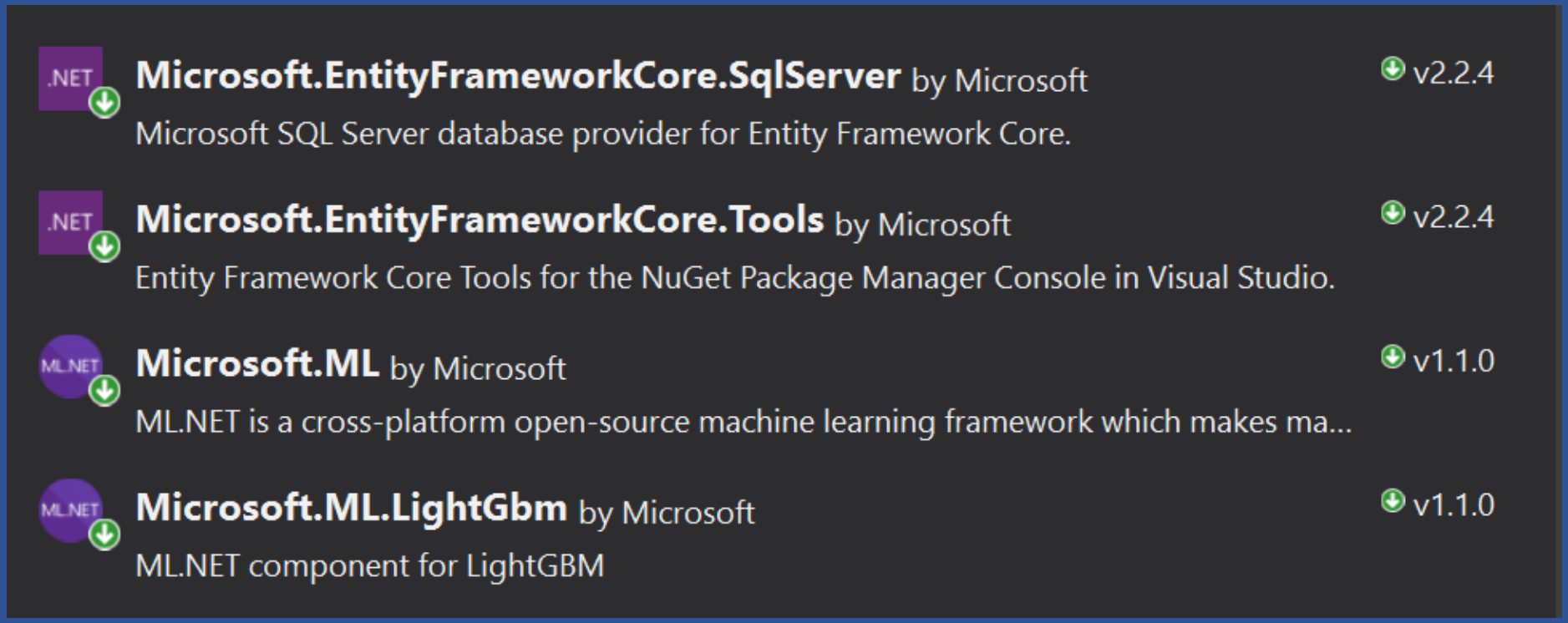
Data set is in SQL Server

- database name = mldb
- table = Adult

Create New Project

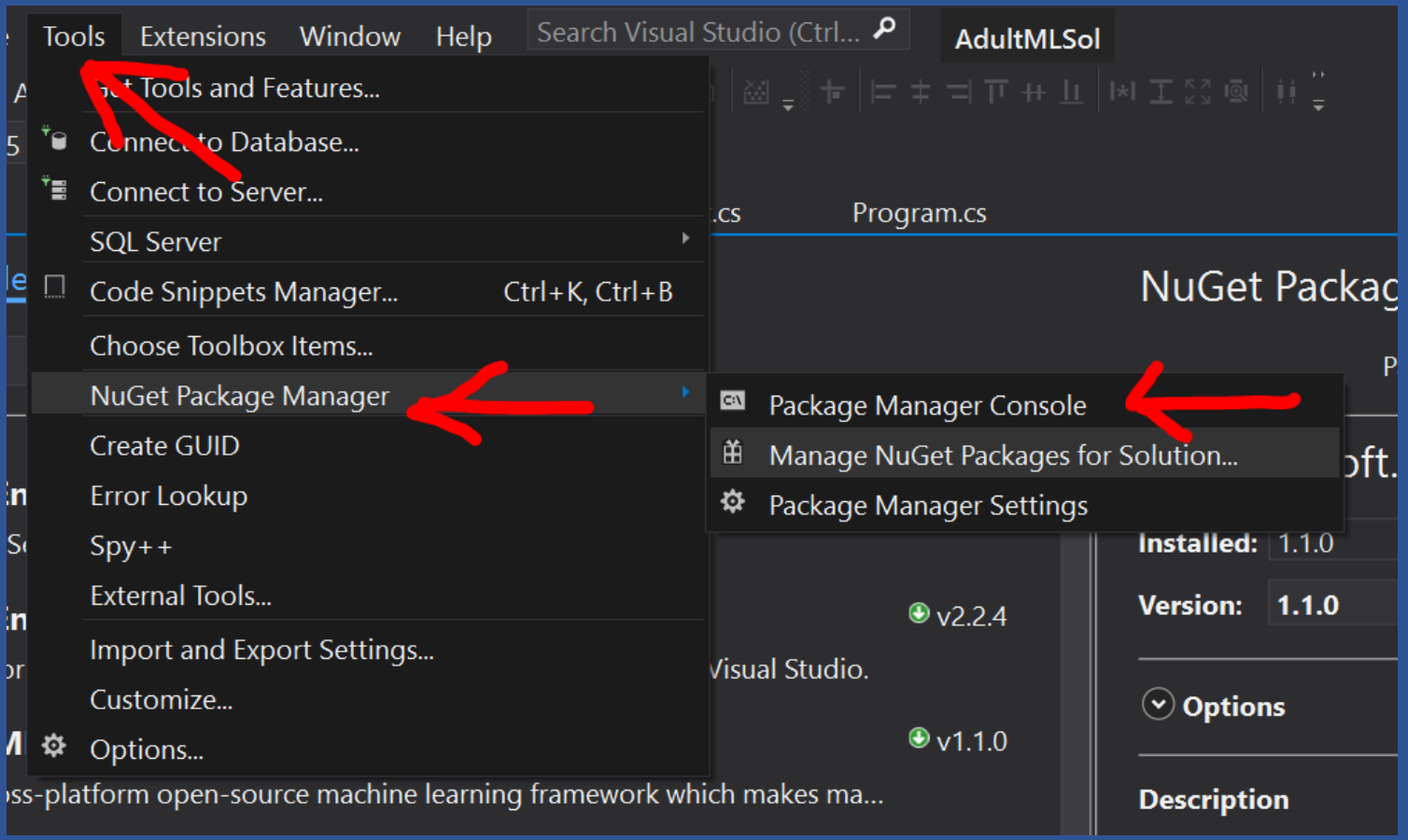
Create new .NET CORE console app project name = “Movie”

Add NuGet Packages

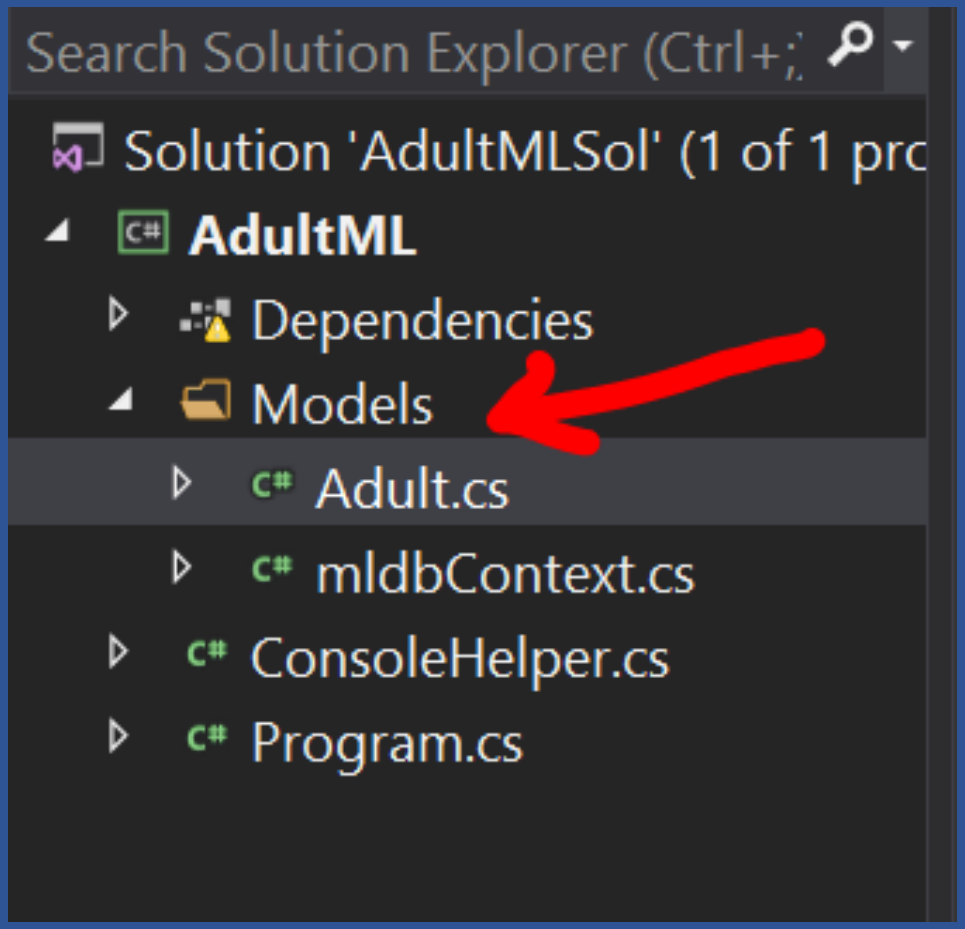


Create data scheme

Scaffold-DbContext "Server=.\SQLExpress;Database=mldb;Trusted_Connection=True;" Microsoft.EntityFrameworkCore.SqlServer -OutputDir Models



View generated code



Download ConsoleHelper.cs

https://github.com/laploy/ML.NET/blob/master/Adult/ConsoleHelper.cs

Add to the project

Enter main code

```
1   using System;
2   using System.Linq;
3   using System.Collections.Generic;
4   using Microsoft.EntityFrameworkCore;
5   using Microsoft.ML;
6   using Microsoft.ML.Transforms;
7   using AdultML.Models;
8
9   namespace AdultML
10  {
11      class Program
12      {
13          private static IEnumerable<Adult> QueryData()...
23
24          static void Main(string[] args)...
52      }
53  }
54
```

The program output result

```
Training model...
Predicting...
*************************************************************
*       Metrics for Database Example binary classification model
*------------------------------------------------------------
*       Accuracy: 82.14%
*       Area Under Curve:      85.78%
*       Area under Precision recall Curve:  60.60%
*       F1Score:  57.85%
*       LogLoss:  .55
*       LogLossReduction:  .29
*       PositivePrecision:  .63
*       PositiveRecall:  .54
*       NegativePrecision:  .87
*       NegativeRecall:  90.57%
*************************************************************
```

What's next?