

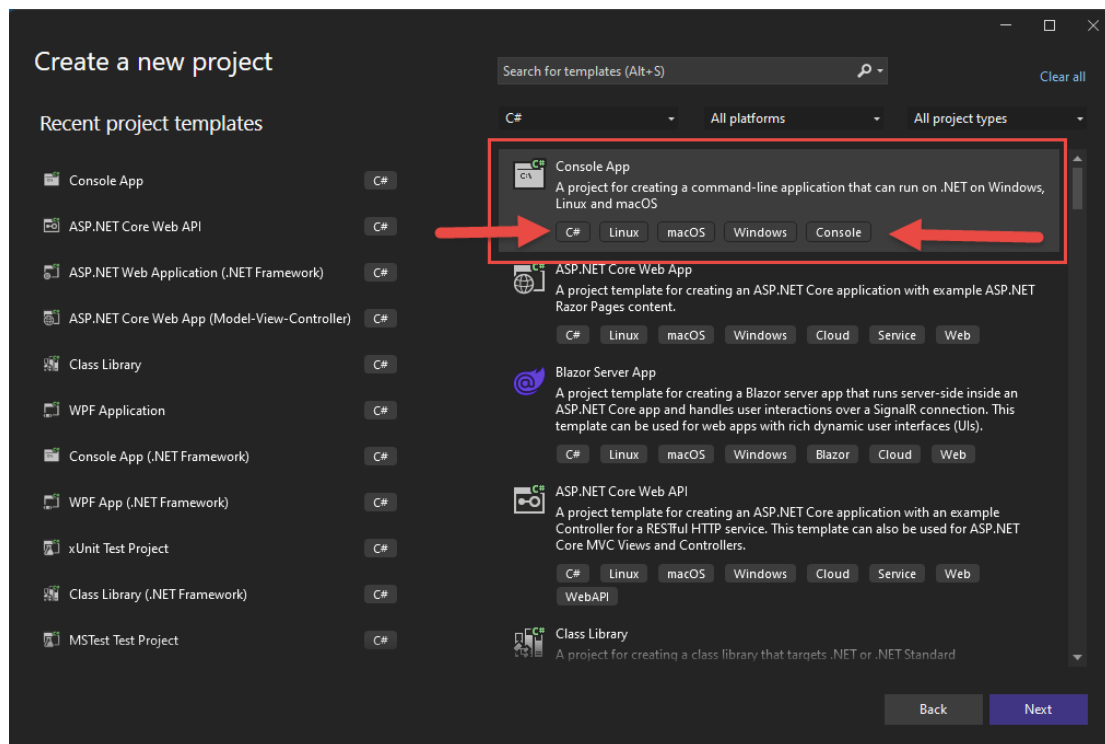
Select Lab

Lab 1: Select All Songs (Query Syntax)

Open Visual Studio 2022

Click on **Create a new project**

Choose the **Console App** for **.NET** on **Windows, Linux and macOS**, NOT the one for the .NET Framework.



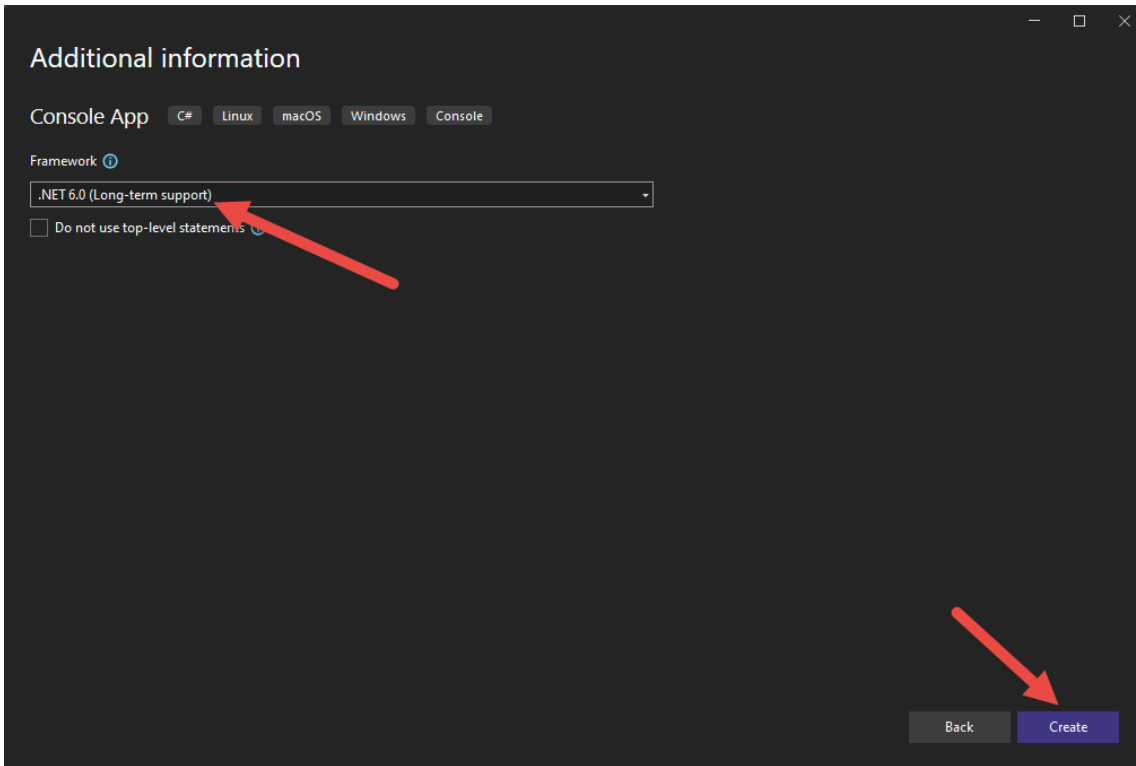
Click the Next button

Set the Project name to **LINQLab**

Click the Next button

Ensure the Framework is set to **.NET 6.0 (Long-term support)**

Click the Create button



Navigate to Github: <https://github.com/PaulDSheriff/VSLive-Trainings>

Download the **MusicClassesForLabs.zip** file.

Unzip the file on your hard drive.

Copy the **\EntityClasses** and the **\RepositoryClasses** folders into the console app project.

Open the **Program.cs** file and make it look like the following code:

```
using LINQLab.EntityClasses;
using LINQLab.RepositoryClasses;

// Declare variables and fill data
List<Song> songs = SongRepository.GetAll();
List<Song> list = new();

// TODO: Write Your Query Here

// Display Songs
foreach (Song song in list) {
    Console.Write(song);
}

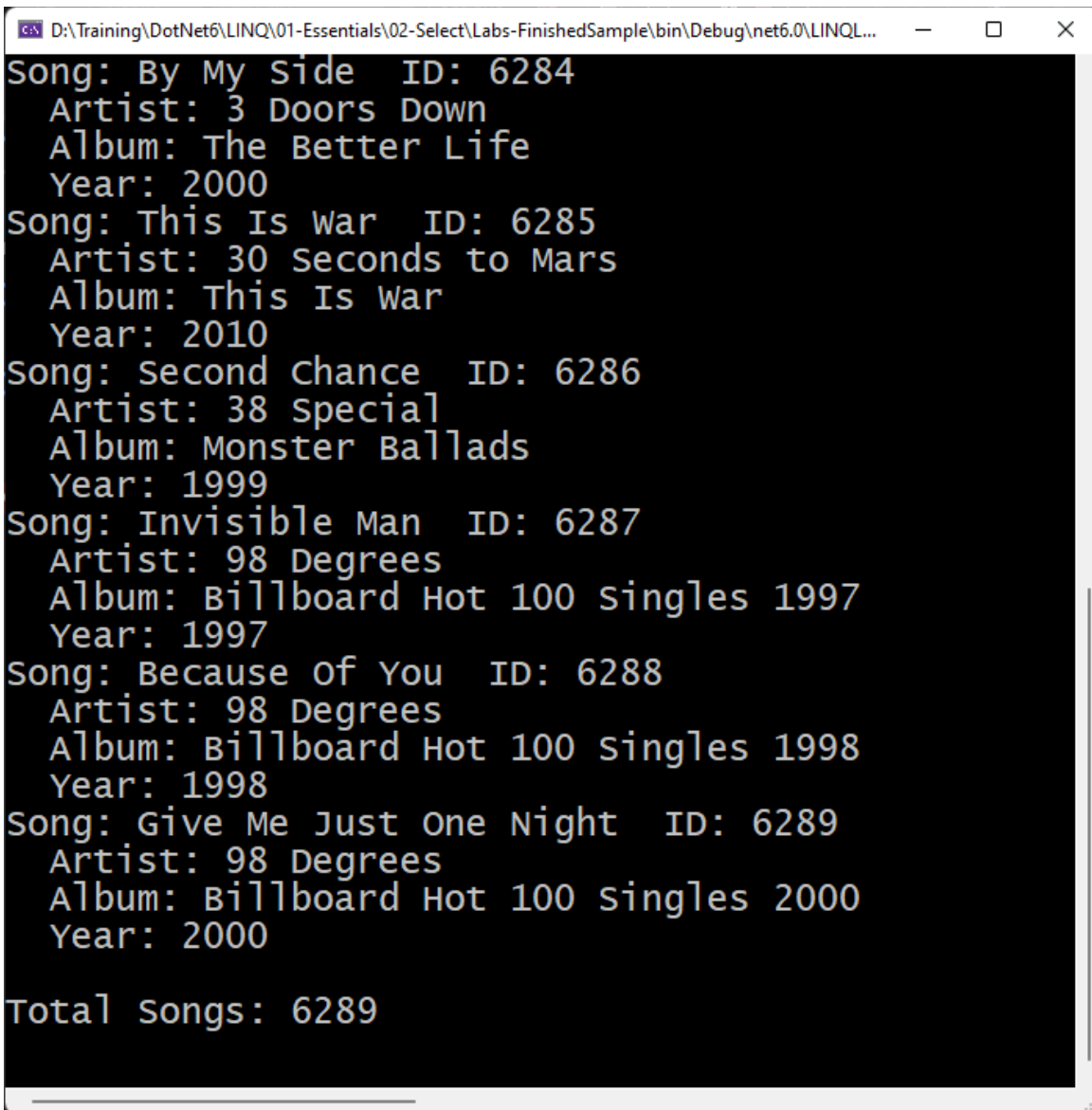
// Display Total Count
Console.WriteLine();
Console.WriteLine($"Total Songs: {list.Count}");

// Pause for Results
Console.ReadKey();
```

Add the appropriate query syntax to select all songs from the **songs** variable and put it into the **list** variable.

Try it Out

Run the application and you should see results that look like the following:



```
D:\Training\DotNet6\LINQ\01-Essentials\02-Select\Labs-FinishedSample\bin\Debug\net6.0\LINQL...  
Song: By My Side ID: 6284  
Artist: 3 Doors Down  
Album: The Better Life  
Year: 2000  
Song: This Is War ID: 6285  
Artist: 30 Seconds to Mars  
Album: This Is War  
Year: 2010  
Song: Second Chance ID: 6286  
Artist: 38 Special  
Album: Monster Ballads  
Year: 1999  
Song: Invisible Man ID: 6287  
Artist: 98 Degrees  
Album: Billboard Hot 100 singles 1997  
Year: 1997  
Song: Because Of You ID: 6288  
Artist: 98 Degrees  
Album: Billboard Hot 100 singles 1998  
Year: 1998  
Song: Give Me Just One Night ID: 6289  
Artist: 98 Degrees  
Album: Billboard Hot 100 singles 2000  
Year: 2000  
  
Total Songs: 6289
```

Lab 2: Select All Songs (Method Syntax)

Rewrite your query to use the method syntax to retrieve all rows from the **songs** variable and put them into the **list** variable.

Try it Out

Run the application and you should see the same results as for the query syntax.

Lab 3: Select Single Column (Query)

Modify the line of code that declares the *list* variable from this

```
List<Song> list;
```

to the following:

```
List<string> list;
```

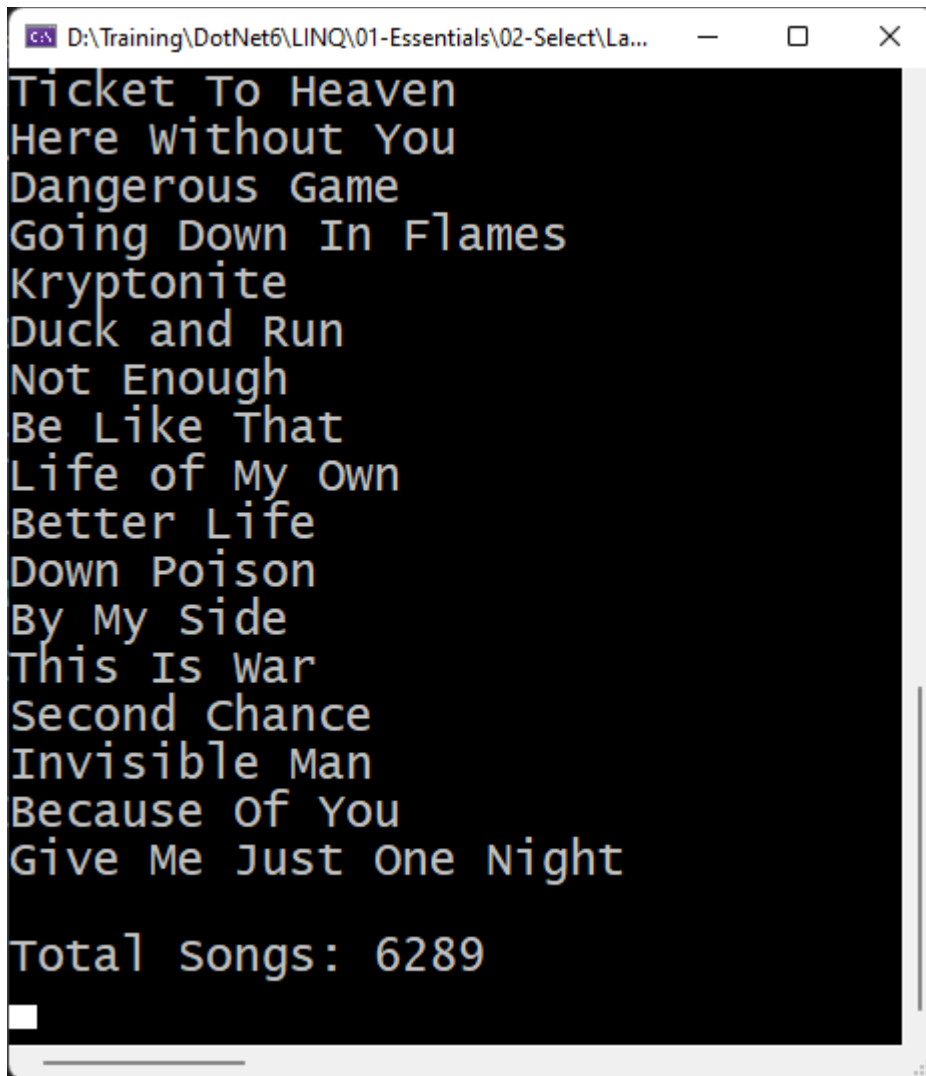
Modify the loop that displays the results to use a **string** instead of a **Song**.

```
// Display Songs
foreach (string name in list) {
    Console.WriteLine(name);
}
```

Write a query to select just the **SongName** property from the **songs** collection and put the results into the *list* variable.

Try it Out

Run the application to see the following results



```
D:\Training\DotNet6\LINQ\01-Essentials\02-Select\La...
Ticket To Heaven
Here Without You
Dangerous Game
Going Down In Flames
Kryptonite
Duck and Run
Not Enough
Be Like That
Life of My Own
Better Life
Down Poison
By My Side
This Is War
Second Chance
Invisible Man
Because Of You
Give Me Just One Night

Total songs: 6289
```

Lab 4: Select Single Column (Method)

Rewrite your query to use the method syntax to retrieve just the ***SongName*** property from the ***songs*** variable and put the results into the ***list*** variable.

Try it Out

Run the application and you should see the same results as the previous lab.

Lab 5: Select Specific Columns (Query)

Modify the line of code that declares the *list* variable from this

```
List<string> list;
```

to the following:

```
List<Song> list;
```

Modify the loop that displays the results to use a **string** instead of a **Song**.

```
// Display Songs
foreach (Song song in list) {
    Console.WriteLine(song);
}
```

Write the query syntax to retrieve the following properties only from the **songs** collection and put the results into the *list* variable.

- SongId
- SongName
- Artist
- Album
- Year

Try it Out

Set a breakpoint on the Console.WriteLine() line

Run the application

Look at the values in the **song** variable using the debugger, you'll see only the properties listed above are filled in. The rest are set to null or a default value.

Lab 6: Select Specific Columns (Method)

Replace the query syntax from the previous lab with the corresponding method syntax to retrieve the specific columns specified above.

Try it Out

Set a breakpoint on the `Console.WriteLine()` line

Run the application

Look at the values in the ***song*** variable using the debugger, you'll see only the properties listed above are filled in. The rest are set to null or a default value.