

## Lab 5: Retrieving Data from the Database

### Code:

```
using System;

using System.Threading.Tasks;

using System.Linq;

using Microsoft.EntityFrameworkCore;

using lab2;

class Program
{
    static async Task Main(string[] args)
    {
        using var context = new AppDbContext();

        // Print which database is being used

        Console.WriteLine("Using Database: " +
            context.Database.GetDbConnection().Database);

        // Retrieve all products with their categories

        Console.WriteLine("\nAll Products:");

        var products = await context.Products
            .Include(p => p.Category)
            .ToListAsync();

        foreach (var p in products)
        {
            Console.WriteLine($"{p.Name} - {p.Category?.Name} - Rs.{p.Price}");
        }

        // Find product by ID = 1
    }
}
```

```

Console.WriteLine("\nFind by ID (Product with ID = 1):");

var product = await context.Products
    .Include(p => p.Category)
    .FirstOrDefaultAsync(p => p.Id == 1);

Console.WriteLine($"Found: {product?.Name ?? "No product found"}");

// First product with price > 50,000
Console.WriteLine("\nFirst Product with Price > Rs.50,000:");

var expensive = await context.Products
    .Include(p => p.Category)
    .FirstOrDefaultAsync(p => p.Price > 50000);

Console.WriteLine($"Expensive: {expensive?.Name ?? "No expensive product found"}");
}
}

<Project Sdk="Microsoft.NET.Sdk">

<PropertyGroup>
    <OutputType>Exe</OutputType>
    <TargetFramework>net8.0</TargetFramework>
    <ImplicitUsings>enable</ImplicitUsings>
    <Nullable>enable</Nullable>
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    <PackageReference Include="Microsoft.EntityFrameworkCore" Version="9.0.6" />

```

```
<PackageReference Include="Microsoft.EntityFrameworkCore.SqlServer"
Version="9.0.6" />

<PackageReference Include="Microsoft.EntityFrameworkCore.Tools"
Version="9.0.6">

  <PrivateAssets>all</PrivateAssets>

  <IncludeAssets>runtime; build; native; contentfiles; analyzers;
buildtransitive</IncludeAssets>

</PackageReference>

<PackageReference Include="Microsoft.Extensions.Configuration" Version="9.0.6" />

<PackageReference Include="Microsoft.Extensions.Configuration.Json"
Version="9.0.6" />

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<ItemGroup>

  <ProjectReference Include="..\lab2\lab2.csproj" />

  <ProjectReference Include="..\lab3\lab3.csproj" />

  <ProjectReference Include="..\lab4\lab4.csproj" />

</ItemGroup>


</Project>
```

### **Output:**

Using Database: RetailStoreDb

All Products:

Laptop - Electronics - Rs.75000.00

Rice Bag - Groceries - Rs.1200.00

Find by ID (Product with ID = 1):

Found: Laptop

First Product with Price > Rs.50,000:

Expensive: Laptop