

# Minimal Web APIs for Data Access in .NET MAUI

Perform these labs on your own computer using Visual Studio 2022 or later to ensure you understand the lessons presented in the corresponding videos and lectures.

## Lab 1: Create Data Layer EF Class Library Project

Three new projects are now needed. One is a class library for Web projects, another class library is a Data Layer that uses the Entity Framework to connect to a SQL Server database instead of using mock data. The last project is a Web API project.

Add a new **Class Library** project to your solution and set the name to **AdventureWorks.DataLayer.EF**.

Delete the **Class1.cs** file.

### Add SQL Server Package

Right mouse-click on the **AdventureWorks.DataLayer.EF** project and select **Manage NuGet Packages...** menu item.

Add the **Microsoft.EntityFrameworkCore.SqlServer** package.

### Add Dependencies

Right mouse-click on the **Dependencies** folder and add project references to

- Common.Library
- AdventureWorks.EntityLayer

Right mouse-click on the project and add a new folder named **DbContextClasses**.

Right mouse-click on the DbContextClasses folder and add a new class named **AdventureWorksDbContext**. Replace the entire contents of this new file with the following code.

```
using AdventureWorks.EntityLayer;
using Microsoft.EntityFrameworkCore;

// TODO: Add the NuGet Package
'Microsoft.EntityFrameworkCore.SqlServer'

namespace AdventureWorks.DataLayer;

public partial class AdventureWorksDbContext : DbContext
{
    public
    AdventureWorksDbContext(DbContextOptions<AdventureWorksD
bContext> options) : base(options)
    {
    }

    // Add your DbSet Classes for Tables/Views here
    public virtual DbSet<PhoneType> PhoneTypes { get; set; }
}
    public virtual DbSet<User> Users { get; set; }
    public virtual DbSet<Product> Products { get; set; }

    protected override void OnModelCreating(ModelBuilder
modelBuilder)
    {
        // TODO: Add any additional code you need here

        base.OnModelCreating(modelBuilder);
    }
}
```

Right mouse-click on the project and add a new folder named **RepositoryClasses**.

Copy all **\*Repository.cs** files from the **\_SampleCode\RepositoryClasses-EF** folder into this new folder.

## Lab 2: Copy Entity & View Model Files

Copy the following sets of files into the appropriate projects.

## Copy Files into Entity Layer Project

Copy the files from the **\_SampleCode\EntityClasses-EF** folder into **AdventureWorks.EntityLayer\EntityClasses** folder, replacing any files with the same name.

## Copy Files into View Model Layer Project

Copy the files from the **\_SampleCode\ViewModelClasses** folder into **AdventureWorks.ViewModelLayer\ViewModelClasses** folder.

## Try It Out

Run the application and click on the **Users** and **Products** menus to ensure they still work.

# Lab 3: Create ASP.NET Core Class Library Project

Add a new **Class Library** project to your **solution** and set the name to **Common.Library.Web**.

Delete the **Class1.cs** file.

Double-click on the **Common.Library.Web** project to open the project file in the editor.

Add the following XML just before the closing `</Project>` element.

```
<ItemGroup>
  <PackageReference
    Include="Microsoft.Extensions.Logging" Version="8.0.0"
  />
  <FrameworkReference Include="Microsoft.AspNetCore.App"
  />
</ItemGroup>
```

## Save Files and Close Visual Studio

**Save** all files.

**Close** Visual Studio.

**Reopen** your **AdventureWorks.MAUI** Solution using Visual Studio to allow the **Common.Library.Web** project load its dependencies.

## Create Base Class for Routers

Right mouse-click on the **Common.Library.Web** project and add a new folder named **BaseClasses**.

Right mouse-click on the **BaseClasses** folder and add a new class named **RouterBase**. Replace the entire contents of this new file with the following code.

```
using Microsoft.AspNetCore.Builder;
using Microsoft.AspNetCore.Http;
using Microsoft.Extensions.Logging;
using System.Text.Json;

namespace Common.Library.Web;

public abstract class RouterBase
{
    public RouterBase(ILogger logger)
    {
        UrlFragment = string.Empty;
        TagName = string.Empty;
        InfoMessage = string.Empty;
        ErrorLogMessage = string.Empty;
        EntityAsJson = string.Empty;
        _Logger = logger;
    }

    public string UrlFragment;
    public string TagName;
    public string EntityAsJson { get; set; }
    public string InfoMessage { get; set; }
    public string ErrorLogMessage { get; set; }
    protected readonly ILogger _Logger;

    public abstract void AddRoutes(WebApplication app);

    /// <summary>
    /// Serialize an object into a JSON string
    /// </summary>
    /// <typeparam name="T">The type to
serialize</typeparam>
    /// <param name="entity">An instance of the
type</param>
    /// <returns>A JSON string</returns>
    protected string SerializeEntity<T>(T? entity)
    {
        EntityAsJson = "Nothing serialized";

        try {
            // Attempt to serialize entity
            EntityAsJson = JsonSerializer.Serialize(entity);
        }
        catch {
            // Ignore the error
        }
    }
}
```

```
        return EntityAsJson;
    }

    /// <summary>
    /// Call this method to return a '500 Internal Server
    Error' and log an exception.
    /// </summary>
    /// <param name="ex">An Exception object</param>
    /// <param name="infoMsg">The info message to display
    to the user</param>
    /// <param name="errorMsg">The error message to
    log</param>
    /// <returns>A Status Code of 500</returns>
    protected IActionResult HandleException(Exception ex, string
    infoMsg, string errorMsg)
    {
        // Set properties from parameters passed in
        InfoMessage = infoMsg;
        ErrorMessage = errorMsg;

        return HandleException(ex);
    }

    /// <summary>
    /// Call this method to return a '500 Internal Server
    Error' and log an exception.
    /// Prior to calling this method...
    ///     Fill in the InfoMessage property with the value
    to display to the caller.
    ///     Fill in the ErrorMessage property with the
    value to place into the log file.
    /// </summary>
    /// <param name="ex">An Exception object</param>
    /// <returns>A Status Code of 500</returns>
    protected IActionResult HandleException(Exception ex)
    {
        IActionResult ret;

        // Create status code with generic message
        ret = Results.Problem(InfoMessage);

        // Add Message, Source, and Stack Trace
        ErrorMessage += $"{Environment.NewLine}Message:
    {ex.Message}";
        ErrorMessage += $"{Environment.NewLine}Source:
    {ex.Source}";
    }
}
```

```
        ErrorLogMessage += $"{Environment.NewLine}Stack  
Trace: {ex.StackTrace}";  
  
        // Log the exception  
        _Logger.LogError(ex, "{ErrorLogMessage}",  
        ErrorLogMessage);  
  
        return ret;  
    }  
}
```

## Lab 4: Create ASP.NET Core Web API

Add a new **ASP.NET Core Web API** project to your **Solution** and set the name to **AdventureWorks.MinWebAPI**.

**Uncheck** the **Configure for HTTPS** option.

**Uncheck** the **Enable Docker** option.

**Check** the **Enable OpenAPI support** option.

**Uncheck** the **Do not use top-level statements** option.

**Uncheck** the **Use Controllers** option.

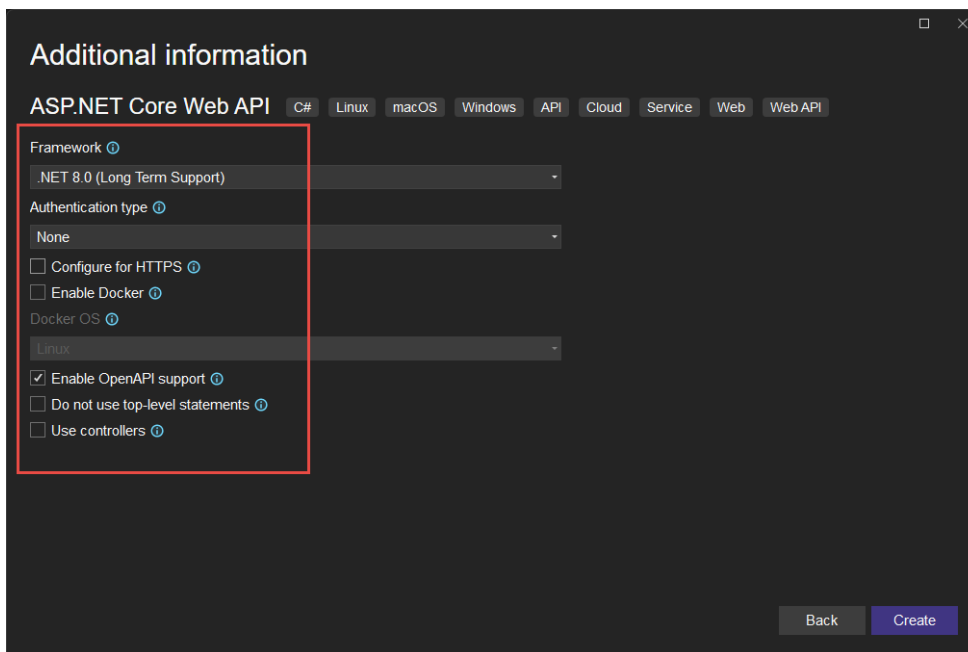


Figure 1: Create an ASP.NET Core Web API Project.

Delete the **AdventureWorks.MinWebAPI.http** file.

## Add SQL Server Package

Right mouse-click on the project and select **Manage NuGet Packages...** menu item.

Add the **Microsoft.EntityFrameworkCore.SqlServer** package.

## Set Dependencies

Right mouse-click on the **AdventureWorks.MinWebAPI\Dependencies** folder and add the following project references.

- AdventureWorks.DataLayer.EF
- AdventureWorks.EntityLayer
- AdventureWorks.ViewModelLayer
- Common.Library
- Common.Library.Web

## Set InvariantGlobalization to False

Double-click on the **AdventureWorks.MinWebAPI** project and bring up the project file in the editor.

**Locate or Add** the **<InvariantGlobalization>** element and change the value to **false** within the **<PropertyGroup>** element.

```
<InvariantGlobalization>false</InvariantGlobalization>
```

## Copy Files into Minimal Web API Project

Copy the folders and files from the **\_SampleCode\MinWebAPI** folder into the **AdventureWorks.MinWebAPI** project. When prompted to overwrite the existing files, go ahead and overwrite them.

# Lab 5: Connect Web API to SQL Server

Open the **appsettings.Development.json** file and change the connection string to point to the **AdventureWorksLT2019** database on your server.



## Set Startup Project

Right mouse-click on the AdventureWorks.MinWebAPI project and select the **Set as Startup Project** menu item.

## Lab 6: Add Tables to SQL Server

Bring up **SQL Server** and open a query window in the **AdventureWorksLT2019** database and run the following script.

```
USE [AdventureWorksLT2019]
GO

CREATE TABLE [dbo].[PhoneType] (
  [PhoneTypeId] [int] NOT NULL,
  [TypeDescription] [nvarchar](20) NOT NULL,
  CONSTRAINT [PK_PhoneType] PRIMARY KEY CLUSTERED
(
  [PhoneTypeId] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY =
OFF) ON [PRIMARY]
) ON [PRIMARY]
GO

INSERT [dbo].[PhoneType] ([PhoneTypeId],
[TypeDescription]) VALUES (1, N'Home')
GO
INSERT [dbo].[PhoneType] ([PhoneTypeId],
[TypeDescription]) VALUES (2, N'Mobile')
GO
INSERT [dbo].[PhoneType] ([PhoneTypeId],
[TypeDescription]) VALUES (3, N'Work')
GO
INSERT [dbo].[PhoneType] ([PhoneTypeId],
[TypeDescription]) VALUES (4, N'Other')
GO
```

Next create the User table in another query window.

```
USE [AdventureWorksLT2019]
GO

CREATE TABLE [dbo].[User](
    [UserId] [int] IDENTITY(2,1) NOT NULL,
    [LoginId] [nvarchar](50) NOT NULL,
    [FirstName] [dbo].[Name] NOT NULL,
    [LastName] [dbo].[Name] NOT NULL,
    [Email] [nvarchar](256) NOT NULL,
    [Password] [nvarchar](50) NOT NULL,
    [Phone] [dbo].[Phone] NOT NULL,
    [PhoneType] [nvarchar](10) NULL,
    [IsFullTime] [bit] NULL,
    [IsEnrolledIn401k] [bit] NULL,
    [IsEnrolledInHealthCare] [bit] NULL,
    [IsEnrolledInHSA] [bit] NULL,
    [IsEnrolledInFlexTime] [bit] NULL,
    [IsActive] [bit] NULL,
    [BirthDate] [date] NULL,
    [StartTime] [time](7) NULL,
    CONSTRAINT [PK_User] PRIMARY KEY CLUSTERED
(
    [UserId] ASC
)WITH (PAD_INDEX = OFF, STATISTICS_NORECOMPUTE = OFF,
IGNORE_DUP_KEY = OFF, ALLOW_ROW_LOCKS = ON,
ALLOW_PAGE_LOCKS = ON, OPTIMIZE_FOR_SEQUENTIAL_KEY =
OFF) ON [PRIMARY]
) ON [PRIMARY]
GO
SET IDENTITY_INSERT [dbo].[User] ON
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (1, N'MichaelThomason', N'Michael',
N'Thomason', N'MichaelThomason@advworks.com',
N'MThomason@Word123', N'615.555.3333', N'Mobile', 1, 1,
1, 0, 0, 1, CAST(N'1985-03-15' AS Date), NULL)
GO
```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (2, N'SheilaCleverly', N'Sheila',
N'Cleverly', N'SheilaCleverly@advworks.com',
N'Re!asdf#992', N'615.123.3456', N'Work', 1, 0, 1, 0, 0,
1, CAST(N'1981-06-09' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (3, N'CatherineAbel', N'Catherine',
N'Abel', N'CatherineAbel@advworks.com', N'Tx*99_pass',
N'615.998.3332', N'Mobile', 1, 1, 1, 1, 1, 1,
CAST(N'1979-04-05' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (4, N'KimAbercrombie', N'Kim',
N'Abercrombie', N'KimAbercrombie@advworks.com',
N'PwdKim#Abercrombie123', N'615.555.3333', N'Work', 1,
0, 0, 1, 0, 1, CAST(N'1995-03-08' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (7, N'JimWalker', N'Jim', N'Walker',
N'JimWalker@advworks.com', N'azembolrous!123',
N'615.369.9372', N'Mobile', 1, 1, 1, 0, 1, 1,
CAST(N'1999-07-29' AS Date), NULL)
GO
```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (8, N'SamAbolrous', N'Sam',
N'Abolrous', N'SamAbolrous@advworks.com',
N'Abolrous#PwdSam*987', N'615.555.3333', N'Work', 0, 0,
0, 0, 1, 1, CAST(N'2000-12-03' AS Date),
CAST(N'07:00:00' AS Time))
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (9, N'RichardDudely', N'Richard',
N'Dudely', N'RichardDudely@advworks.com',
N'Avacodo#567', N'615.987.3782', N'Mobile', 1, 1, 0, 0,
1, 1, CAST(N'1997-08-23' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (10, N'ScottBerton', N'Scott',
N'Berton', N'ScottBerton@advworks.com',
N'gustavo#chong%87', N'615.555.3333', N'Work', 0, 0, 0,
1, 0, 1, CAST(N'2001-02-12' AS Date), CAST(N'08:00:00'
AS Time))
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (11, N'PaulShaefer', N'Paul
', N'Shaefer', N'Pauls@netinc.com', N'P@ssw0Rd', N'(714)
399-9212', N'Work', 1, 1, 1, 0, 0, 1, CAST(N'1963-02-05'
AS Date), NULL)
GO
```

```

INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (12, N'MichaelKawoski', N'Michael
', N'Kawoski', N'Michaelk@netinc.com', N'P@ssw0Rd',
N'(714) 939-0002', N'Mobile', 1, 1, 1, 1, 0, 1,
CAST(N'1953-07-05' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (13, N'SaraWinchell', N'Sara
', N'Winchell', N'Saraw@netinc.com', N'P@ssw0Rd',
N'(714) 738-9382', N'Work', 1, 1, 1, 0, 0, 0,
CAST(N'1978-08-02' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (14, N'JohnKroon', N'John
', N'Kroon', N'Johnk@netinc.com', N'P@ssw0Rd', N'(949)
667-7347', N'Work', 1, 1, 1, 0, 1, 1, CAST(N'1970-03-23'
AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (15, N'TimNicker', N'Tim
', N'Nicker', N'Timn@netinc.com', N'P@ssw0Rd', N'(714)
767-3747', N'Work', 1, 1, 1, 0, 1, 1, CAST(N'1975-04-05'
AS Date), NULL)
GO

```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (16, N'RussMartlog', N'Russ
', N'Martlog', N'Russm@netinc.com', N'P@ssw0Rd', N'(714)
334-5643', N'Work', 1, 1, 1, 1, 0, 1, CAST(N'1969-05-05'
AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (17, N'JohnBoron', N'John
', N'Boron', N'Johnb@netinc.com', N'P@ssw0Rd', N'(714)
939-9993', N'Mobile', 1, 0, 0, 0, 0, 0, CAST(N'1965-03-
02' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (18, N'JamesBirdy', N'James
', N'Birdy', N'Jamesb@netinc.com', N'P@ssw0Rd', N'(310)
939-9932', N'Work', 1, 0, 0, 0, 0, 1, CAST(N'1966-06-23'
AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (19, N'TreyChen', N'Trey
', N'Chen', N'Treyc@netinc.com', N'P@ssw0Rd', N'(562)
991-0009', N'Work', 1, 1, 0, 0, 0, 1, CAST(N'1961-07-11'
AS Date), NULL)
GO
```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (20, N'JimJones', N'Jim
', N'Jones', N'Jimj@netinc.com', N'P@ssw0Rd', N'(714)
223-0029', N'Mobile', 1, 0, 1, 0, 0, 1, CAST(N'1970-01-
20' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (21, N'JohnPittsburgh', N'John
', N'Pittsburgh', N'Johnp@netinc.com', N'P@ssw0Rd',
N'(714) 554-0493', N'Work', 1, 0, 1, 0, 0, 1,
CAST(N'1978-08-06' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (22, N'JeanneRussell', N'Jeanne
', N'Russell', N'Jeanner@netinc.com', N'P@ssw0Rd',
N'(949) 339-0000', N'Mobile', 1, 1, 0, 1, 0, 1,
CAST(N'1966-08-15' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (23, N'DavidLafeet', N'David
', N'Lafeet', N'Davidl@netinc.com', N'P@ssw0Rd', N'(949)
399-9232', N'Work', 1, 1, 0, 1, 0, 1, CAST(N'1973-10-14'
AS Date), NULL)
GO
```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (24, N'KhanhVoon', N'Khanh
', N'Voon', N'Khanhv@netinc.com', N'P@ssw0Rd', N'(714)
342-3232', N'Work', 1, 1, 0, 1, 1, 1, CAST(N'1962-11-20'
AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (25, N'JimRussell', N'Jim
', N'Russell', N'Jimr@netinc.com', N'P@ssw0Rd', N'(714)
123-2343', N'Work', 1, 1, 0, 0, 1, 1, CAST(N'1960-12-10'
AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (26, N'DavidTarkas', N'David
', N'Tarkas', N'Davidt@netinc.com', N'P@ssw0Rd', N'(714)
893-7361', N'Mobile', 1, 1, 0, 0, 1, 1, CAST(N'1967-03-
15' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (27, N'CraigShowman', N'Craig
', N'Showman', N'Craigs@netinc.com', N'P@ssw0Rd',
N'(949) 938-1234', N'Mobile', 1, 1, 0, 1, 0, 1,
CAST(N'1974-04-06' AS Date), NULL)
GO
```



```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (28, N'BrooksAnderson', N'Brooks
', N'Anderson', N'Brooksa@netinc.com', N'P@ssw0Rd',
N'(949) 777-3929', N'Mobile', 1, 1, 1, 0, 0, 1,
CAST(N'1959-08-30' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (29, N'MarkParks', N'Mark
', N'Parks', N'Markp@netinc.com', N'P@ssw0Rd', N'(425)
377-7333', N'Mobile', 0, 1, 0, 0, 1, 1, CAST(N'1968-10-
19' AS Date), CAST(N'06:00:00' AS Time))
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (30, N'KeithNashville', N'Keith
', N'Nashville', N'Keithn@netinc.com', N'P@ssw0Rd',
N'(702) 773-0093', N'Mobile', 1, 0, 0, 1, 1, 0,
CAST(N'1972-01-31' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (31, N'JaneJoan', N'Jane
', N'Joan', N'Janej@netinc.com', N'P@ssw0Rd', N'(408)
939-9993', N'Work', 1, 0, 0, 0, 0, 1, CAST(N'1962-12-07'
AS Date), NULL)
GO
```

```
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (33, N'BrianGossling', N'Brian',
N'Gossling', N'BrianGossling@advworks.com', N'P@ssw0Rd',
N'916.234.8372', N'Work', 1, 0, 1, 1, 0, 1, CAST(N'1993-
05-16' AS Date), NULL)
GO
INSERT [dbo].[User] ([UserId], [LoginId], [FirstName],
[LastName], [Email], [Password], [Phone], [PhoneType],
[IsFullTime], [IsEnrolledIn401k],
[IsEnrolledInHealthCare], [IsEnrolledInHSA],
[IsEnrolledInFlexTime], [IsActive], [BirthDate],
[StartTime]) VALUES (34, N'BenQueen', N'Ben', N'Queen',
N'BenQueen@advworks.com', N'P@ssw0Rd', N'615.339.9032',
N'Mobile', 1, 1, 1, 1, 1, 1, CAST(N'1996-11-01' AS
Date), NULL)
GO
SET IDENTITY_INSERT [dbo].[User] OFF
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsFullTime] DEFAULT ((0)) FOR [IsFullTime]
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsEnrolledIn401k] DEFAULT ((0)) FOR
[IsEnrolledIn401k]
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsEnrolledInHealthCare] DEFAULT ((0)) FOR
[IsEnrolledInHealthCare]
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsEnrolledInHSA] DEFAULT ((0)) FOR
[IsEnrolledInHSA]
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsEnrolledInFlexTime] DEFAULT ((0)) FOR
[IsEnrolledInFlexTime]
GO
ALTER TABLE [dbo].[User] ADD CONSTRAINT
[DF_User_IsActive] DEFAULT ((1)) FOR [IsActive]
GO
```

## Try It Out

Run the application.

Click on the **GET /api/PhoneType** button, then click on the **Try it out** button.

Click the **Execute** button and you should see **phone types** data from the SQL Server appear.

Click on the **GET /api/Product** button, then click on the **Try it out** button.

Click the **Execute** button and you should see **product** data from the SQL Server appear.

Click on the **GET /api/User** button, then click on the **Try it out** button.

Click the **Execute** button and you should see **user** data from the SQL Server appear.