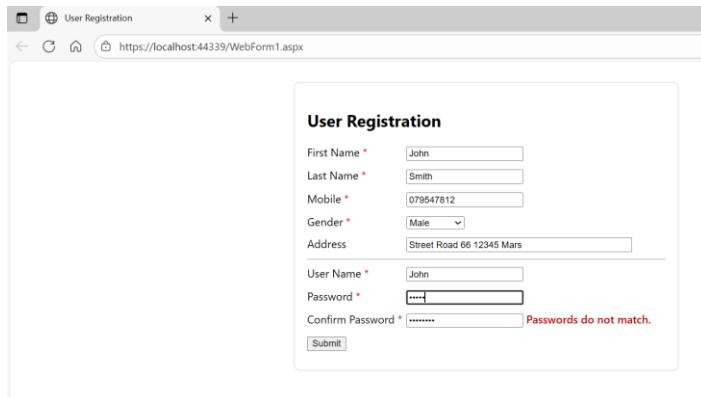


ASP.NET Assignment 6

QUESTION 1 : Creating a user registration web application
DESCRIPTION: Create a data table with columns First Name, Last Name, Mobile, Gender , Address, User Name and Password . Create a web application that has following fields as textboxes: First Name, Last Name, Mobile, Address, User Name, Password, and Confirm Password and a dropdown list Gender .on clicking submit button the data should be written in database.



User Registration

First Name * John

Last Name * Smith

Mobile * 079547812

Gender * Male

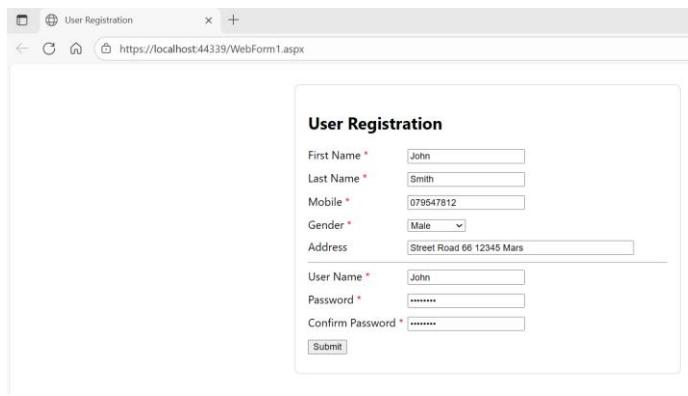
Address Street Road 66 12345 Mars

User Name * John

Password *

Confirm Password * Passwords do not match.

Submit



User Registration

First Name * John

Last Name * Smith

Mobile * 079547812

Gender * Male

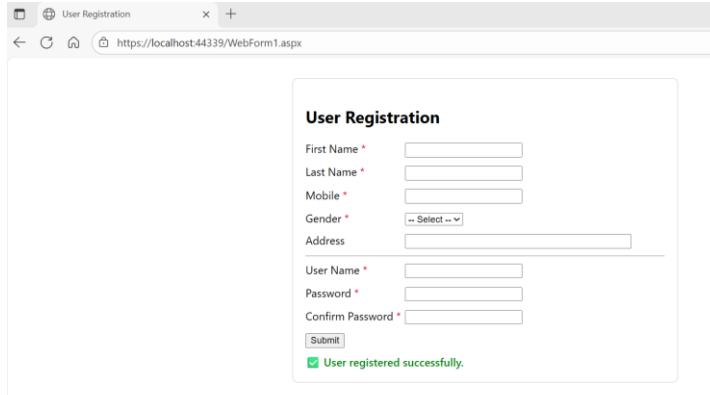
Address Street Road 66 12345 Mars

User Name * John

Password *

Confirm Password *

Submit



User Registration

First Name *

Last Name *

Mobile *

Gender * -- Selected --

Address

User Name *

Password *

Confirm Password *

Submit

User registered successfully.

UserId	FirstName	LastName	Mobile	Gender	Address	UserName	PasswordSalt	PasswordHash	CreatedUTC
1	John	Smith	079547812	Male	Street Road 66 12345 Mars	John	0x33C74D0AFFC0FDD7BDEA3594C7C040DB7	0xE5200C85098C6F3D3FA08C6C03F3CCD23FF742C1F16D1C...	2025-11-09 22:16:26

The screenshot shows the Microsoft SQL Server Management Studio interface. In the Object Explorer, a database named 'Assignment6' is selected. In the center pane, a script is being run to create a database and a table. The database creation part of the script is as follows:

```

/* 1) Create the database */
IF DB_ID('N'Assignment6') IS NULL
BEGIN
    CREATE DATABASE Assignment6;
END

```

The table creation part of the script is as follows:

```

/* 2) Create the table */
CREATE TABLE Users
(
    UserId      INT IDENTITY(1,1) PRIMARY KEY,
    FirstName   NVARCHAR(50) NOT NULL,
    LastName    NVARCHAR(50) NOT NULL,
    Mobile      NVARCHAR(20) NOT NULL,
    Gender      NVARCHAR(10) NOT NULL
        CHECK (Gender IN (N'Male', N'Female', N'Other')),
    [Address]   NVARCHAR(200) NULL,
    UserName    NVARCHAR(50) NOT NULL UNIQUE,
    PasswordSalt VARBINARY(16) NOT NULL,
    PasswordHash VARBINARY(32) NOT NULL, -- SHA2-256 = 32 bytes
    CreatedAtUtc DATETIME2(0) NOT NULL CONSTRAINT DF_Users_CreatedAtUtc DEFAULT SYSUTCDATETIME()
);

```

A 'Results' tab is open, showing a single row of data inserted into the 'Users' table:

Userid	FirstName	LastName	Mobile	Gender	Address	UserName	PasswordSalt	PasswordHash	CreatedAtUtc
1	John	Smith	079547812	Male	Street Road 66 12345 Mars	John	0x33C74D06FFC0FDD78DEA3594C7C40DB7	0xE5200C85098C63D3FA08C06C03F3CCD23FF742C1F16D1C...	2025-11-09 22:16:26

```

/* 1) Create the database */
IF DB_ID('N'Assignment6') IS NULL
BEGIN
    CREATE DATABASE Assignment6;
END

/* 2) Create the table */
CREATE TABLE Users
(
    UserId      INT IDENTITY(1,1) PRIMARY KEY,
    FirstName   NVARCHAR(50) NOT NULL,
    LastName    NVARCHAR(50) NOT NULL,
    Mobile      NVARCHAR(20) NOT NULL,
    Gender      NVARCHAR(10) NOT NULL
        CHECK (Gender IN (N'Male', N'Female', N'Other')),
    [Address]   NVARCHAR(200) NULL,
    UserName    NVARCHAR(50) NOT NULL UNIQUE,
    PasswordSalt VARBINARY(16) NOT NULL,
    PasswordHash VARBINARY(32) NOT NULL, -- SHA2-256 = 32 bytes
    CreatedAtUtc DATETIME2(0) NOT NULL CONSTRAINT DF_Users_CreatedAtUtc DEFAULT SYSUTCDATETIME()
);

select * from Users;

```

QUESTION 2 : OTP verification DESCRIPTION:

Create a Web application that uses API for sending one time password through text message on phone number and ask user to verify the same in web form

Install the NuGet package

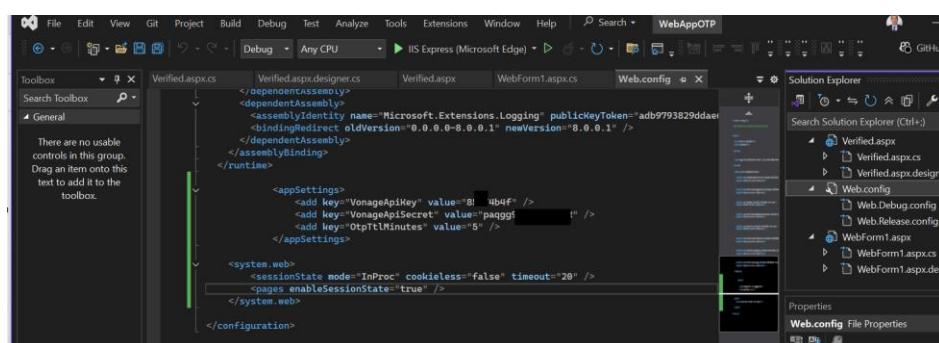
In Visual Studio's Package Manager Console, run:

Install-Package Vonage

```
PM> Install-Package Vonage

Attempting to gather dependency information for package 'Vonage.8.15.0' with respect to project 'WebAppOTP', targeting '.NETFramework,Version=v4.8'
Gathering dependency information took 4.74 sec
Attempting to resolve dependencies for package 'Vonage.8.15.0' with DependencyBehavior 'Lowest'
Resolving dependency information took 0 ms
Resolving actions to install package 'Vonage.8.15.0'
Resolved actions to install package 'Vonage.8.15.0'
  GET https://api.nuget.org/v3-flatcontainer/system.io.4.3.0/system.io.4.3.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/microsoft.extensions.primitives/8.0.0/microsoft.extensions.primitives.8.0.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/standardsocketshttpandler/2.2.0.8/standardsocketshttpandler.2.2.0.8.nupkg
  GET https://api.nuget.org/v3-flatcontainer/jose-jwt/5.2.0/jose-jwt.5.2.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/microsoft.extensions.fileproviders.physical/8.0.0/microsoft.extensions.fileproviders.physical.8.0.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/microsoft.extensions.fileproviders.abstractions/8.0.0/
microsoft.extensions.fileproviders.abstractions.8.0.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/microsoft.extensions.filesystemglobbing/8.0.0/microsoft.extensions.filesystemglobbing.8.0.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/system.security.cryptography.encoding/4.3.0/system.security.cryptography.encoding.4.3.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/system.runtime/4.3.0/system.runtime.4.3.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/system.security.cryptography.primitives/4.3.0/system.security.cryptography.primitives.4.3.0.nupkg
  GET https://api.nuget.org/v3-flatcontainer/system.security.cryptography.algorithms/4.3.1/system.security.cryptography.algorithms.4.3.1.nupkg
OK https://api.nuget.org/v3-flatcontainer/system.security.cryptography.encoding/4.3.0/system.security.cryptography.encoding.4.3.0.nupkg 7ms
OK https://api.nuget.org/v3-flatcontainer/system.runtime/4.3.0/system.runtime.4.3.0.nupkg 9ms
OK https://api.nuget.org/v3-flatcontainer/standardsocketshttpandler/2.2.0.8/standardsocketshttpandler.2.2.0.8.nupkg 61ms
OK https://api.nuget.org/v3-flatcontainer/microsoft.extensions.fileproviders.physical/8.0.0/microsoft.extensions.fileproviders.physical.8.0.0.nupkg
58ms
OK https://api.nuget.org/v3-flatcontainer/system.security.cryptography.primitives/4.3.0/system.security.cryptography.primitives.4.3.0.nupkg 64ms
58ms
OK https://api.nuget.org/v3-flatcontainer/system.security.cryptography.primitives/4.3.0/system.security.cryptography.primitives.4.3.0.nupkg 64ms
```

The screenshot shows the Vonage API dashboard. On the left, there's a sidebar with sections like Balance (€ 1.60), Account (Master (85f74b4f)), Control (Billing, API Settings), Monitor (Fraud Defender, Logs, Analytics, Delivery and Quality), and Build (Akram, Account holder). The main area is titled "Try the SMS API". It has a sub-section "Try it out with code" which includes tabs for cURL, Node, .Net, Java, PHP, Python, and Ruby. Below the tabs, there are sections for "Try it out" (From: Vonage APIs, Registered phone number: 41796201615, Message: Hello from Vonage SMS API, Send message button) and "Try it out with code" (Install the library: dotnet add package Vonage, Import Dependencies: using Vonage; using Vonage.Request;, Initialize the library: // if you want to manage your secret, please do so by visiting).



OTP Verification Web Page Demo

[Send OTP and verify in ASP.NET](#)

Enter Your Mobile No.

[Send OTP](#)

SessionID: djty3g4jcofuzzya0lx5uta | HasOTP: False | OTP present: False | Expiry present: False

Note: OTP is case sensitive.

OTP Verification Web Page Demo

[Send OTP and verify in ASP.NET](#)

Enter OTP

[Verify](#)

SessionID: djty3g4jcofuzzya0lx5uta OTP sent. Check your phone.

SessionID: djty3g4jcofuzzya0lx5uta | HasOTP: True | OTP present: True | Expiry present: True

Note: OTP is case sensitive.

OTP Verified

[https://localhost:44375/Verified.aspx](#)

OTP verified successfully.

You can now continue.

[Back to start](#)



QUESTION 3 : Captcha Verification

DESCRIPTION: Create a windows application that has Name, Email, Contact no. Textboxes and add a captcha assembly which creates captcha and verifies it every time. after successful captcha verification a message should be displayed which reads "You have registered Successfully". If captcha entered by user is wrong it should display "enter the correct captcha".

Captcha Verification Demo

Name: John

Email Address: John.Smith@hotmail.com

Contact No.: 0892345675

Type Image Text Here: TBOVM

Register

Captcha Verification Demo

Name:

Email Address:

Contact No.:

Type Image Text Here: 54SJJA

You Have Registered Successfully - Thanks For Registration - We will Contact You Soon.

Register

Captcha Verification Demo

Name:

Email Address:

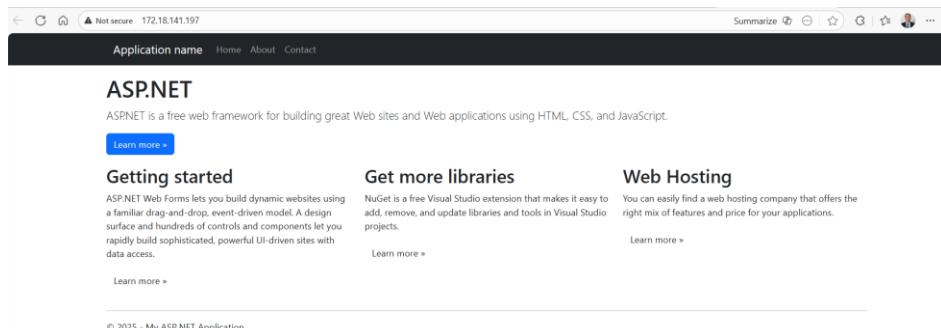
Contact No.:

Type Image Text Here: 23412234

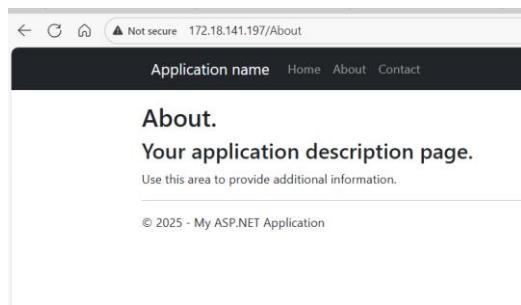
Enter Correct Captcha Text

Register

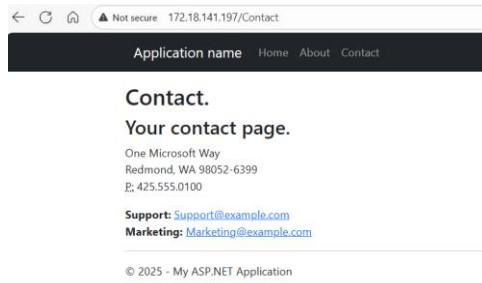
QUESTION 4 : Master page DESCRIPTION: Create a Windows application with one master page and two child pages/ Content pages.



The screenshot shows the ASP.NET home page. At the top, there's a navigation bar with links for 'Application name', 'Home', 'About', and 'Contact'. Below the header, the word 'ASP.NET' is prominently displayed in large, bold letters. A sub-header below it reads 'ASP.NET is a free web framework for building great Web sites and Web applications using HTML, CSS, and JavaScript.' There are three main sections: 'Getting started', 'Get more libraries', and 'Web Hosting'. Each section has a brief description and a 'Learn more' link. At the bottom of the page, a copyright notice reads '© 2025 - My ASP.NET Application'.



The screenshot shows the 'About' page. The top navigation bar includes 'Application name', 'Home', 'About', and 'Contact'. The main content area features the heading 'About.' and the sub-heading 'Your application description page.'. Below this, a note says 'Use this area to provide additional information.' At the bottom, a copyright notice reads '© 2025 - My ASP.NET Application'.



The screenshot shows the 'Contact' page. The top navigation bar includes 'Application name', 'Home', 'About', and 'Contact'. The main content area features the heading 'Contact.' and the sub-heading 'Your contact page.'. Below this, there is contact information: 'One Microsoft Way', 'Redmond, WA 98052-6399', and a phone number 'P: 425.555.0100'. It also lists email addresses for 'Support: Support@example.com' and 'Marketing: Marketing@example.com'. At the bottom, a copyright notice reads '© 2025 - My ASP.NET Application'.