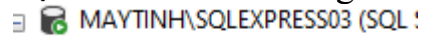
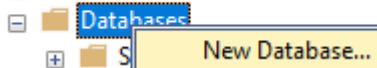


I. Kết nối csdl SQL

➔ Bước 1:

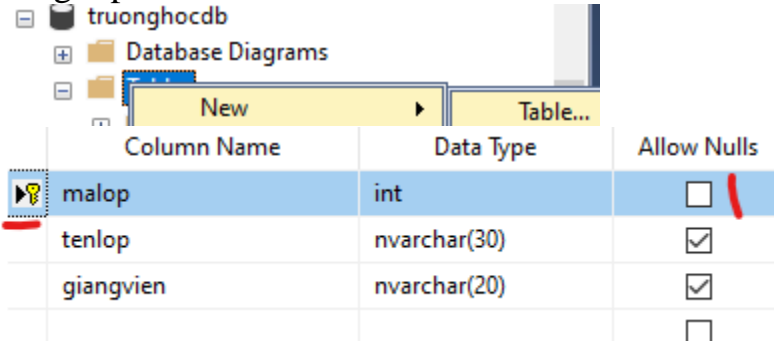
- Tạo csdl tên là “truonghocdb” (truonghocdb.sql)

 MAYTINH\SQLEXPRESS03 (SQL !

 Database Name: **truonghocdb**

- đặt tên là truonghocdb , sau đó “ok”
- Có 2 bảng lophoc và sinhvien:

- bảng lophoc:



Column Name	Data Type	Allow Nulls
malop	int	<input type="checkbox"/>
tenlop	nvarchar(30)	<input checked="" type="checkbox"/>
giangvien	nvarchar(20)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

Lưu file tên lophoc => dbo.lophoc

chuột phải dbo.lophoc => edit top 200 rows:

	malop	tenlop	giangvien
1		Khoa học máy tính	Hoàng Văn Long
2		Công nghệ thông tin	Phan Tuyết Nga
3		Kỹ thuật phần mềm	Nguyễn Thanh Tú
4		Hệ thống thông tin	Trần Thị Mai
*	NULL	NULL	NULL

- bảng sinhvien:

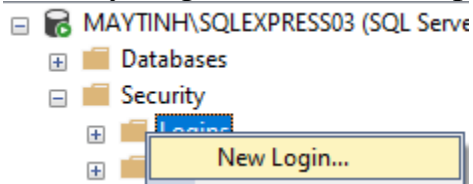
tương tự đc

Column Name	Data Type	Allow Nulls
masv	int	<input type="checkbox"/>
hoten	nvarchar(30)	<input checked="" type="checkbox"/>
diachi	nvarchar(30)	<input checked="" type="checkbox"/>
dienthoai	nvarchar(12)	<input checked="" type="checkbox"/>
malop	int	<input checked="" type="checkbox"/>
anh	nvarchar(255)	<input checked="" type="checkbox"/>
		<input type="checkbox"/>

	masv	hoten	diachi	dienthoai	malop	anh
	1	Duy Quang	Hà nội	09317565	2	a1.jpg
	2	Việt Phương	Thái Bình	05234854	1	a2.jpg
	3	Huyền Trang	Hải phòng	05687904	2	a3.jpg
	4	Đức Vinh	Quảng ninh	02387923	3	a4.jpg
	5	Mai Hoa	Hà nội	06795154	4	a5.jpg
▶	6	Văn Hoàng	Hà nội	06768935	4	a6.jpg
*	NULL	NULL	NULL	NULL	NULL	NULL

➔ Bước 2: Tạo tài khoản

- Security/Logins , click chuột phải



Login - New

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Script ? Help

Login name: abc

☐ Windows authentication

☒ SQL Server authentication

Password: ... 123

Confirm password: ...

☐ Specify old password

Old password:

☐ Enforce password policy

☐ Enforce password expiration

☐ User must change password at next login

Handwritten red numbers 1, 2, 3, and 4 are placed next to the Login name, SQL Server authentication radio button, Password field, and Enforce password policy checkbox respectively.

Select a page

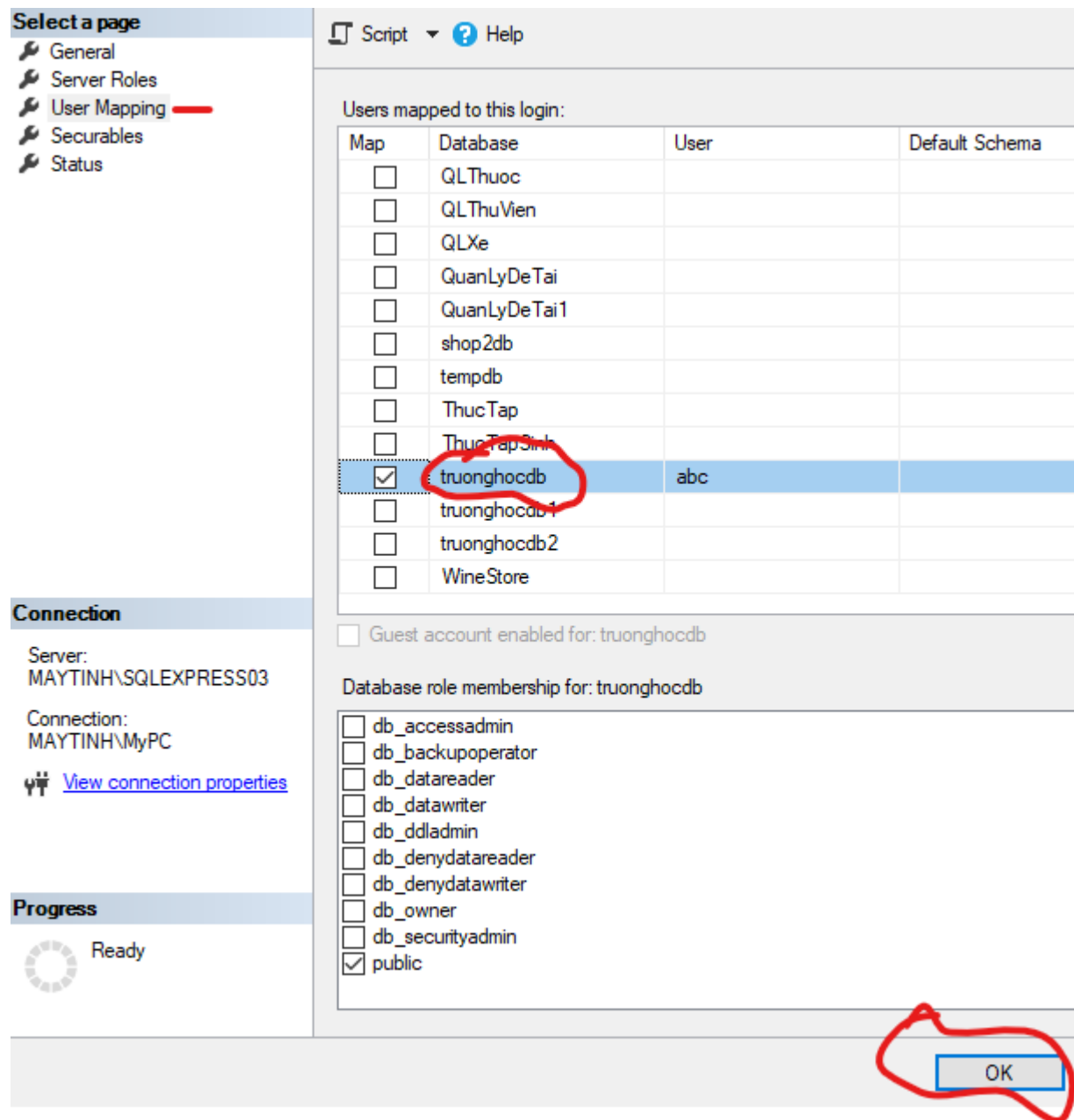
- General
- Server Roles
- User Mapping
- Securables
- Status

Script Help

Server role is used to grant server-

Server roles:

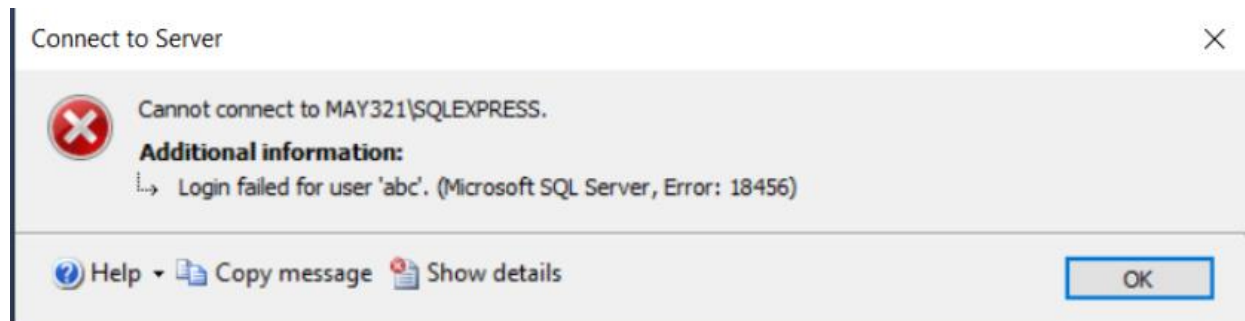
- ☐ bulkadmin
- ☐ dbcreator
- ☐ diskadmin
- ☐ processadmin
- ☒ public
- ☐ securityadmin
- ☐ serveradmin
- ☐ setupadmin
- ☒ sysadmin



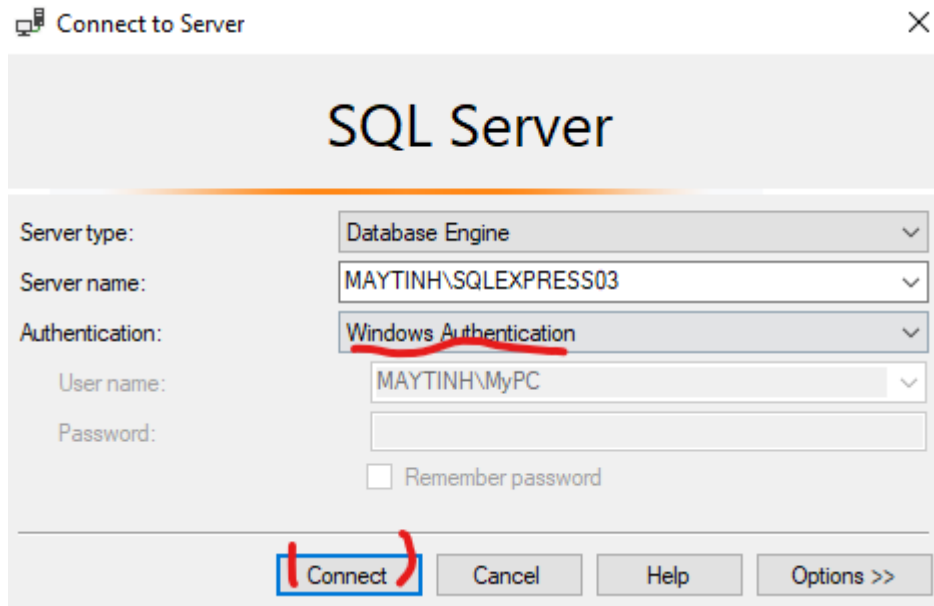
- Disconnect xong sau đó Connect lại rồi đăng nhập tài khoản



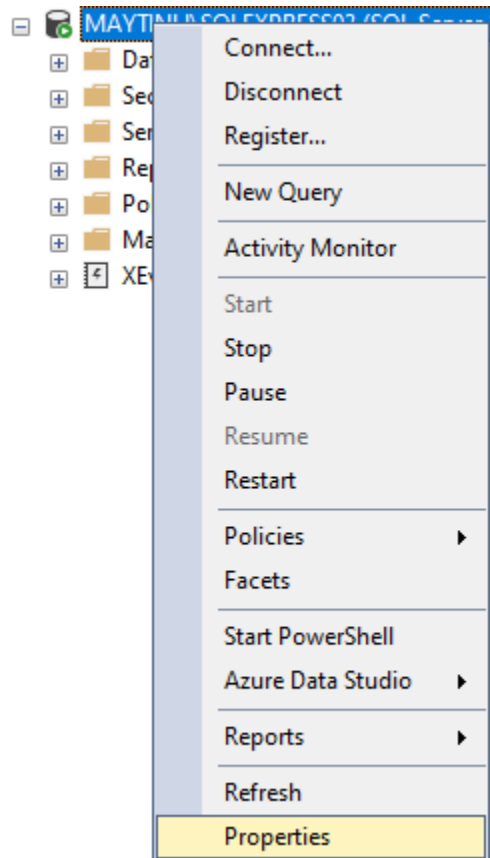
- Nếu sau khi đăng nhập tài khoản mà báo lỗi như sau:



- Đăng nhập lại như sau



- Chọn properties



Select a page

- General
- Memory
- Processors
- Security**
- Connections
- Database Settings
- Advanced
- Permissions

Connection

Server: MAYTINH\SQLEXPRESS03

Connection: MAYTINH\MyPC

[View connection properties](#)

Progress

Ready

Script Help

Server authentication

☐ Windows Authentication mode

☒ SQL Server and Windows Authentication mode

Login auditing

☐ None

☒ Failed logins only

☐ Successful logins only

☐ Both failed and successful logins

Server proxy account

☐ Enable server proxy account

Proxy account:

Password:

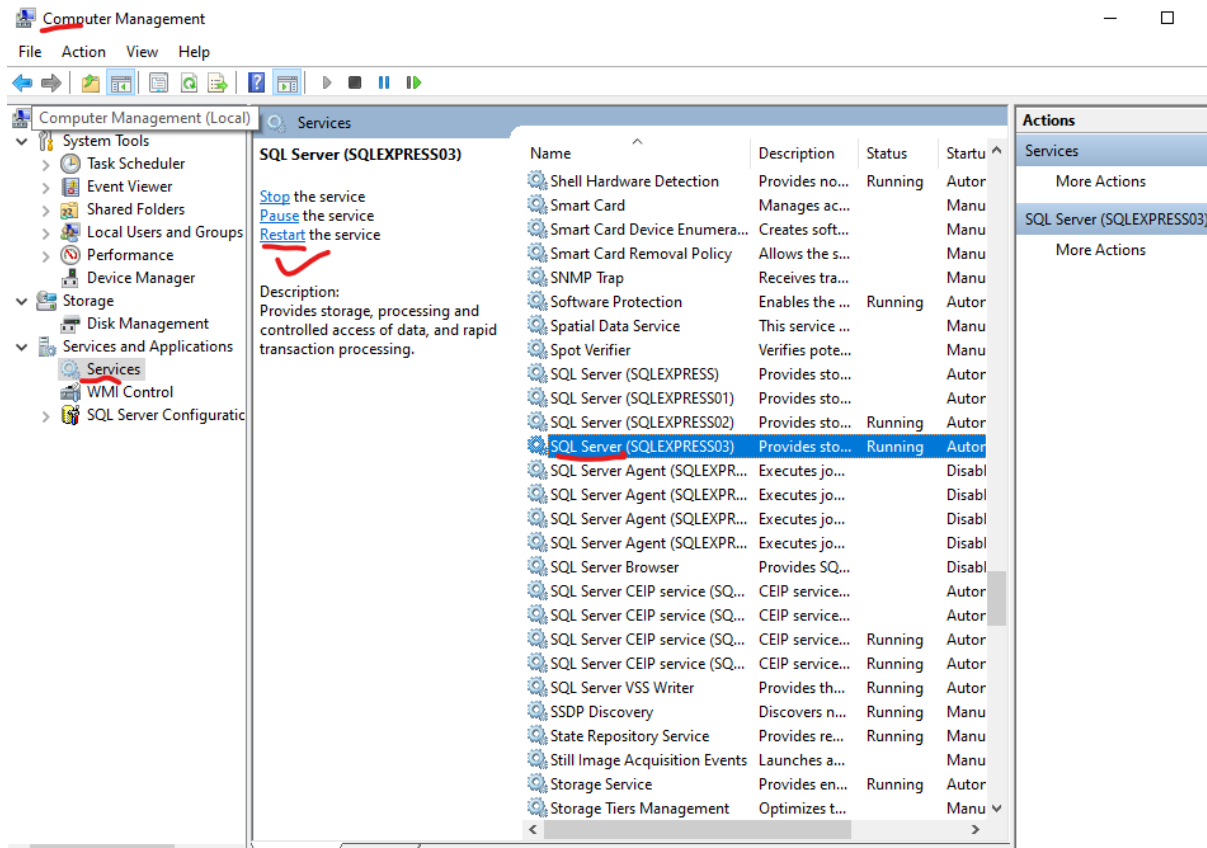
Options

☒ Enable C2 audit tracing

☐ Cross database ownership chaining

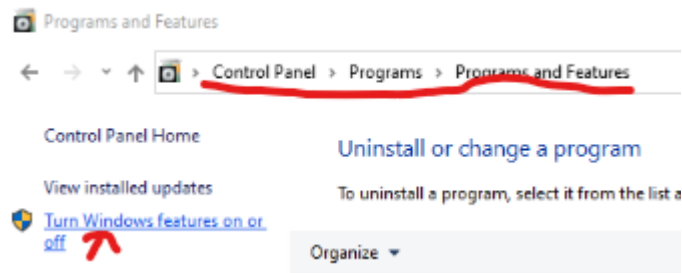
OK

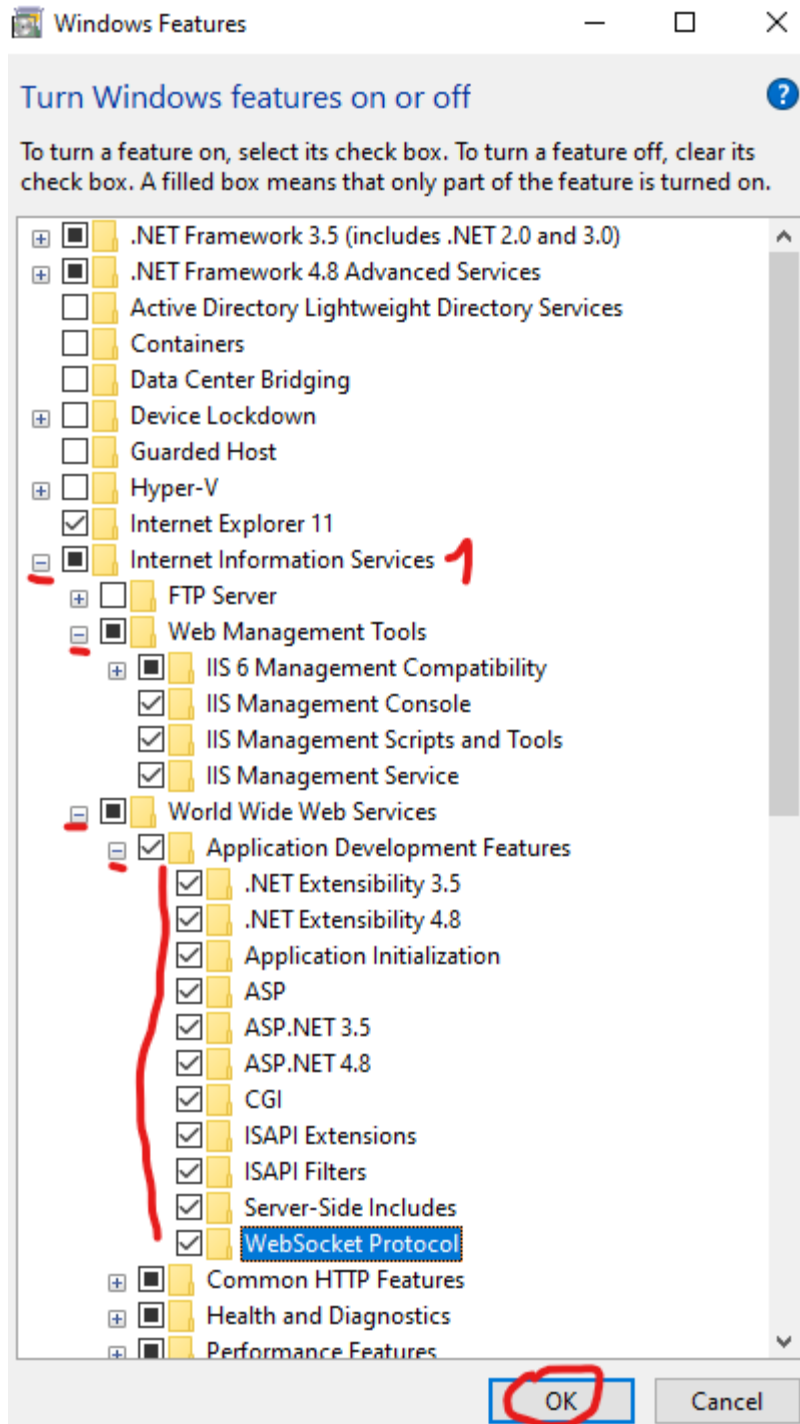
- Tìm và restart/yes, sau đó disconnect và connect lại đăng nhập tài khoản



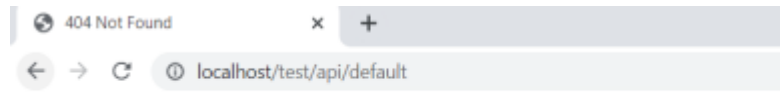
➔ Bước 3: Cài IIS và khắc phục lỗi

- Control Panel





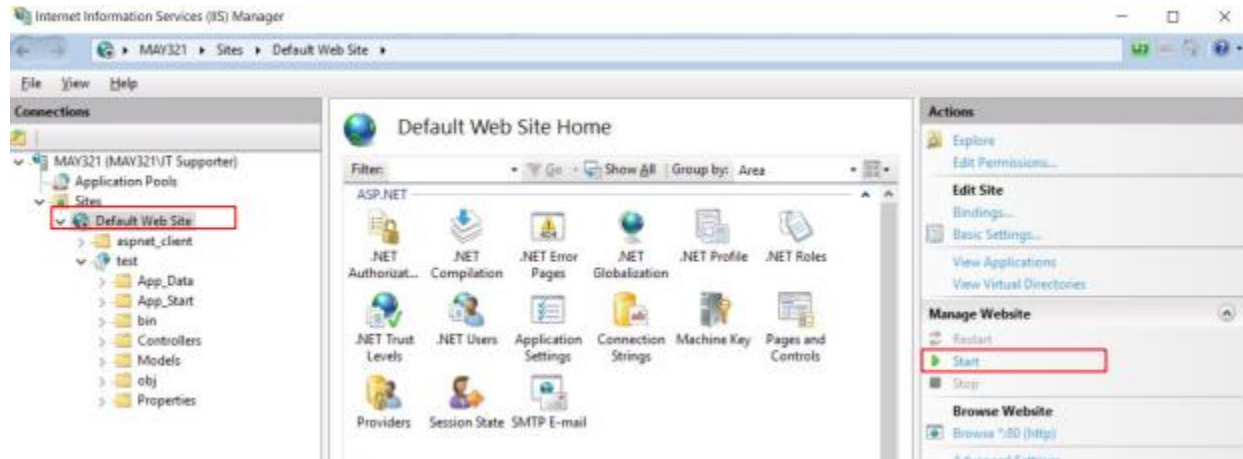
- Nếu lỗi mới làm theo



Not Found

The requested URL was not found on this server.

- làm theo



- Nhận thấy nút **Start** bên phải, màu xanh vì server chưa chạy. Click vào nút Start, xuất hiện thông báo lỗi:

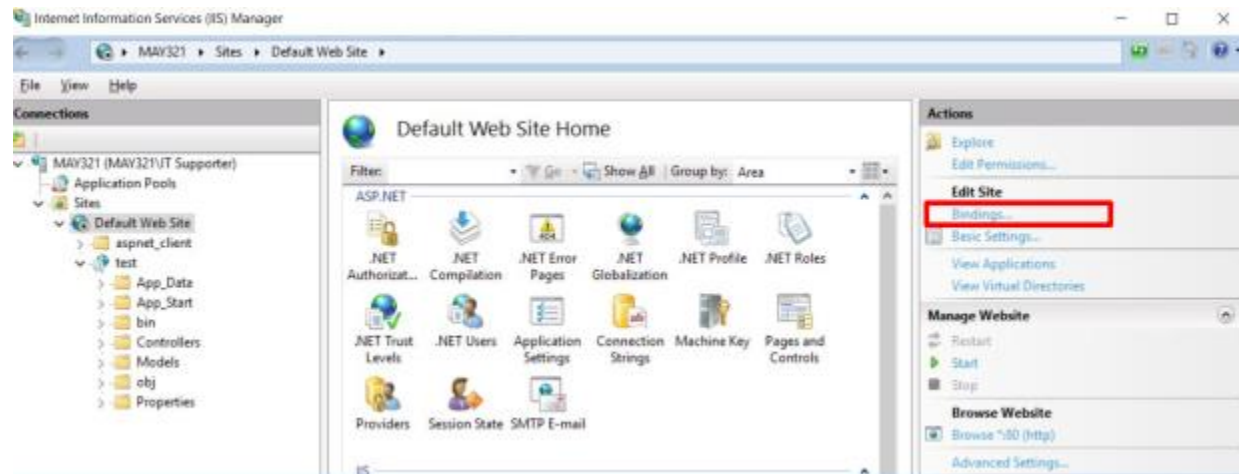
Internet Information Services (IIS) Manager



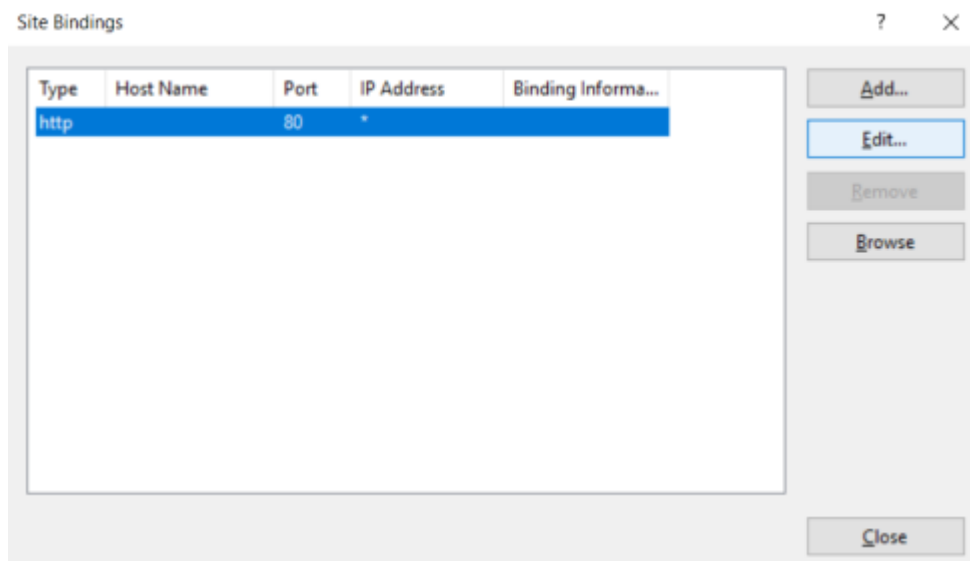
The process cannot access the file because it is being used by another process. (Exception from HRESULT: 0x80070020)

OK

- Click vào mục Bindings... ở bên phải, phía trên:




- Click vào Edit như hình:





- Sửa thành cổng 90, OK:
- Click lại vào nút Start => đã chạy và đổi trạng thái thành Restart=>ok


II. Tạo Project Web API


1. Đặt tên là 2020606033_DangMinhViet_Tao

**Empty**
An empty project template for creating ASP.NET applications. This template does not have any content in it.

**Web Forms**
A project template for creating ASP.NET Web Forms applications. ASP.NET Web Forms lets you build dynamic websites using a familiar drag-and-drop, event-driven model. A design surface and hundreds of controls and components let you rapidly build sophisticated, powerful UI-driven sites with data access.

**MVC**
A project template for creating ASP.NET MVC applications. ASP.NET MVC allows you to build applications using the Model-View-Controller architecture. ASP.NET MVC includes many features that enable fast, test-driven development for creating applications that use the latest standards.

**Web API**
A project template for creating RESTful HTTP services that can reach a broad range of clients including browsers and mobile devices.

**Single Page Application**
A project template for creating rich client side JavaScript driven HTML5 applications using ASP.NET Web API. Single Page Applications provide a rich user experience which includes client-side interactions using HTML5, CSS3, and JavaScript.

Authentication
No Authentication
[Change](#)

Add folders & core references

☐ Web Forms

☐ MVC

☒ Web API

Advanced

☒ Configure for HTTPS

☐ Docker support
(Requires [Docker Desktop](#))

☐ Also create a project for unit tests

2020606033_DangMinhViet_Tao.Tests

Back

Create

2. Tại Model, chọn ADO.net Entity Data Model đặt tên là Model1

- Sử dụng EF Designer from data

Entity Data Model Wizard



Choose Model Contents

What should the model contain?



EF Designer
from
database



Empty EF
Designer
model



Empty Code
First model



Code First
from
database

Creates a model in the EF Designer based on an existing database. You can choose the settings for the model, and database objects to include in the model. The classes that interact with the database are generated from the model.

< Previous

Next >

Connection Properties



Enter information to connect to the selected data source or click "Change" to choose a different data source and/or provider.

Data source:

Microsoft SQL Server (SqlClient)

Change...

Server name:

MAYTINH\SQLEXPRESS03

Refresh

Log on to the server

Authentication: SQL Server Authentication

User name: abc

Password: ●●●

☐ Save my password

Connect to a database

☒ Select or enter a database name:

truonghocdb

☐ Attach a database file:

Browse...

Logical name:

Advanced...

Test Connection

OK

Cancel



Choose Your Data Connection

Which data connection should your application use to connect to the database?

maytinh\sqlexpress03.truonghocdb.dbo

New Connection...

This connection string appears to contain sensitive data (for example, a password) that is required to connect to the database. Storing sensitive data in the connection string can be a security risk. Do you want to include this sensitive data in the connection string?

- ☐ No, exclude sensitive data from the connection string. I will set it in my application code.
- ☒ Yes, include the sensitive data in the connection string.

Connection string:

```
metadata=res://*/Models.Model1.csdl|res://*/Models.Model1.ssdl|
res://*/Models.Model1.msl;provider=System.Data.SqlClient;provider connection string="data
source=MAYTINH\SQLEXPRESS03;initial catalog=truonghocdb;user
id=abc;password=*****;MultipleActiveResultSets=True;App=EntityFramework"
```

☒ Save connection settings in Web.Config as:

truonghocdbEntities

< Previous

Next >

Finish

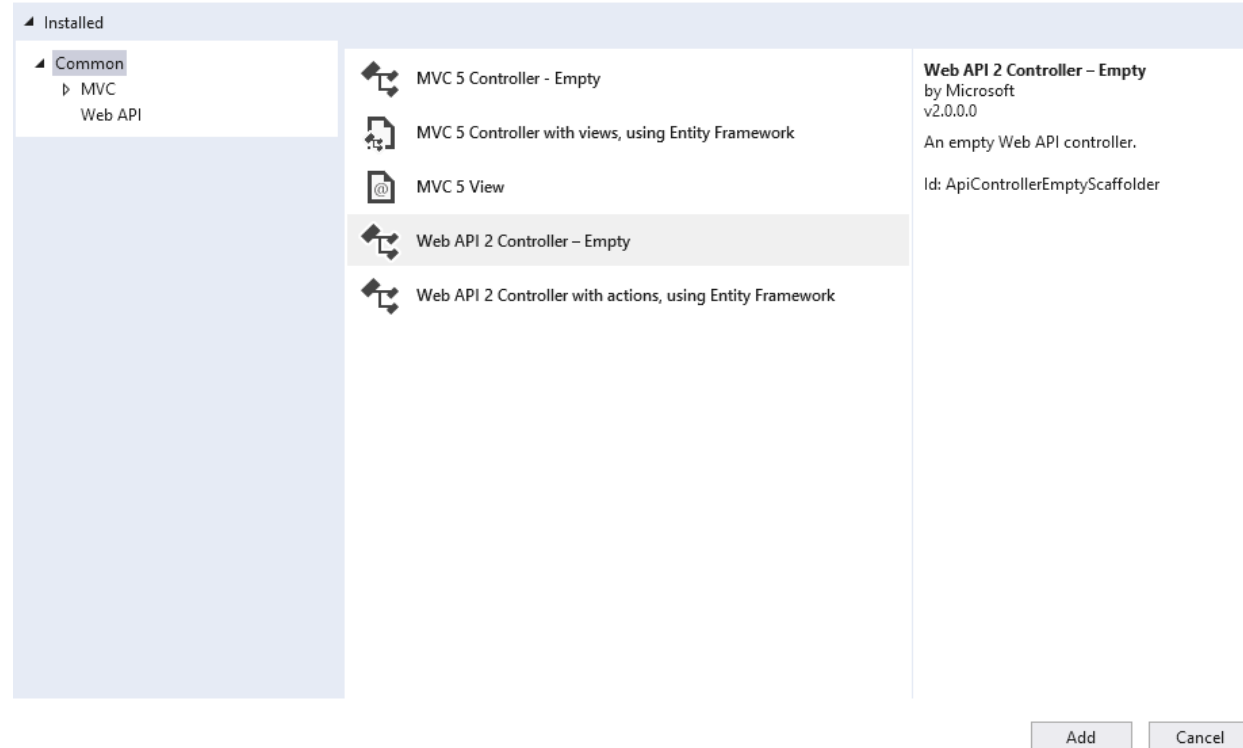
Cancel

click chọn các bảng

3. Tạo Controller đặt tên là thController

- Chuột phải Controller chọn New Scaffolded Item

Add New Scaffolded Item



- Ở file thController
 - thêm using `_2020606033_DangMinhViet_Tao.Models`
`using _2020606033_DangMinhViet_Tao.Models;`

```
namespace _2020606033_DangMinhViet_Tao.Controllers
{
    0 references
    public class thController : ApiController
    {
        truonghocdbEntities db = new truonghocdbEntities();

        [HttpGet]
        [Route("api/th/danhsach")]
        //Viết phương thức lấy ra tất cả các sinh vienn trong bảng snhvien
        0 references
        public List<sinhvien> DanhsachSinhvien()
        {
            return db.sinhvien.ToList();
        }
    }
}
```

-
- Ở file Global.asax.cs thêm code


```

1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Web;
5  using System.Web.Http;
6  using System.Web.Routing;
7
8  namespace _2020606033_DangMinhViet_Tao
9  {
10     public class WebApiApplication : System.Web.HttpApplication
11     {
12         protected void Application_Start()
13         {
14             GlobalConfiguration.Configure(WebApiConfig.Register);
15             GlobalConfiguration.Configuration.Formatters.JsonFormatter.SerializerSettings
16                 .ReferenceLoopHandling = Newtonsoft.Json.ReferenceLoopHandling.Ignore;
17             GlobalConfiguration.Configuration.Formatters
18                 .Remove(GlobalConfiguration.Configuration.Formatters.XmlFormatter);
19         }
20     }
21 }

```

→ Chạy file thController, sau đó test postman:

chọn Get, paste link : <https://localhost:44317/api/th/danhsach> và bấm send

- Code lấy ra msv theo mã lớp, tại file thController

//Viết phương thức lấy ra mã sinh viên theo mã lớp

[HttpGet]

[Route("api/th/dstheolop")]

0 references

public List<sinhvien> Danhsachsinhvientheolop(int malop)

```

{
    return db.sinhvien.Where(sv => sv.malop == malop).ToList();
}

```

→ chạy ctrình : <https://localhost:44317/api/th/dstheolop?malop=1>

test trên postman bằng Get:

<https://localhost:44317/api/th/dstheolop?malop=1>

- Code tìm sv theo msv

//Viết phương thức tìm sinh viên mã sinh viên

[HttpGet]

[Route("api/th/timsv")]

0 references

public sinhvien Timsinhvien(int masv)

```

{
    return db.sinhvien.SingleOrDefault(sv => sv.masv == masv);
}

```

<https://localhost:44317/api/th/timsv?masv=20>

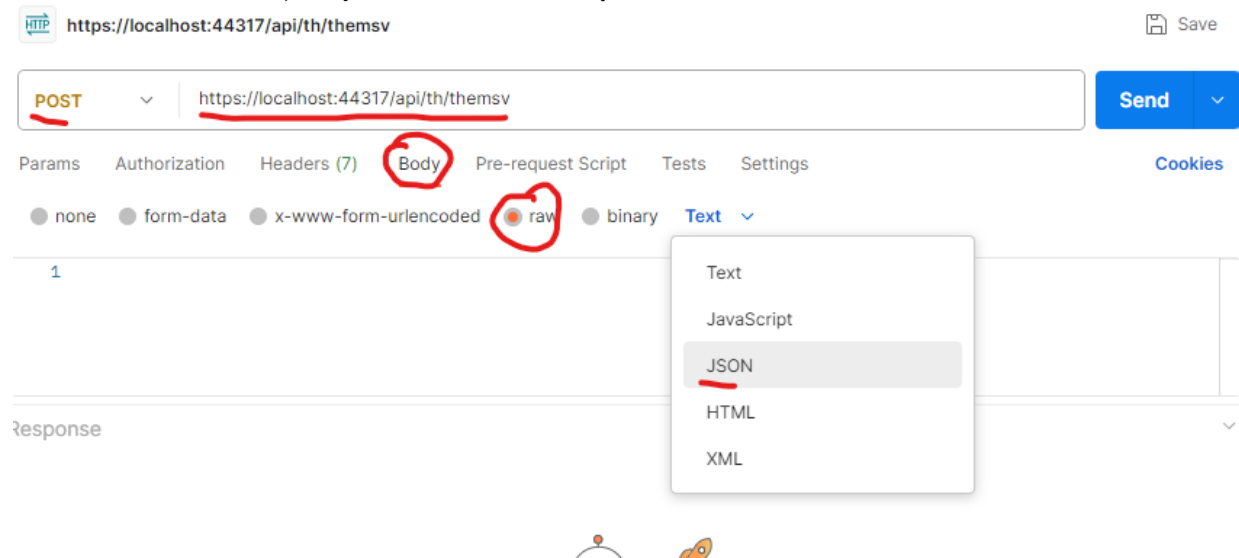
- Code thêm sv

```

//Viết phương thức thêm sinh viên
[HttpPost]
[Route("api/th/themsv")]
public bool Themsinhvien([FromBody] sinhvien s)
{
    try
    {
        //db.sinhvien.InsertOnSubmit(s);
        //db.SubmitChanges();
        db.sinhvien.Add(s);
        db.SaveChanges();
        return true;
    }
    catch (Exception ex)
    {
        Console.WriteLine("Co loi: " + ex.Message);
        return false;
    }
}

```

Test trên Postman, chọn new/HTTP chọn POST



POST ▼ | https://localhost:44317/api/th/themsv Send ▼

Params Authorization Headers (8) **Body** ● Pre-request Script Tests Settings Cookies

● none ● form-data ● x-www-form-urlencoded ● raw ● binary JSON ▼ Beautify

```
1 {
2   ... "masv": 20,
3   ... "hoten": "Đặng Minh Việt",
4   ... "diachi": "Nam Định",
5   ... "malop": 1,
6   ... "anh": "viet.jpg"
7 }
```

body Cookies Headers (10) Test Results 🚩 Status: 200 OK Time: 2.53 s Size: 475 B Save Response ▼

Pretty Raw Preview Visualize JSON ▼ 🔍

```
1 true
```

đã thêm, xem đã có trong ds hay chưa: chọn new/http chọn Get

🔍 https://localhost:44317/api/th/danhsach Save

GET ▼ | https://localhost:44317/api/th/danhsach Send ▼

Params Authorization Headers (6) **Body** Pre-request Script Tests Settings Cookies

Query Params

	Key	Value	Bulk Edit
--	-----	-------	-----------

body Cookies Headers (10) Test Results 🚩 Status: 200 OK Time: 773 ms Size: 2.47 KB Save Response ▼

- Code sửa sinh viên (copy themsv vì gần giống)

```
[HttpPut]
[Route("api/th/suasv")]
0 references
public bool Suasinhvien([FromBody] sinhvien s)
{
    try
    {
        //db.sinhvien.InsertOnSubmit(s);
        //db.SubmitChanges();
        sinhvien sv = db.sinhvien.SingleOrDefault(x => x.masv == s.masv);
        sv.hoten = s.hoten;
        sv.diachi = s.diachi;
        sv.dienthoai = s.dienthoai;
        sv.anh = s.anh;
        sv.malop = s.malop;
        db.SaveChanges();
        return true;
    }
    catch (Exception ex)
    {
        Console.WriteLine("Co loi: " + ex.Message);
        return false;
    }
}
```

chạy ctr, test postman

The screenshot shows the Postman interface for a PUT request to `https://localhost:44317/api/th/suasv`. The request body is a JSON object with the following fields: `masv` (1), `hoten` (Đặng Minh Việt), `diachi` (Nam Định), `dienthoai` (012), `anh` (viet.jpg), and `malop` (3). The response status is 200 OK, and the response body is `true`.

```
1 {
2   .... "masv":1,
3   .... "hoten":"Đặng Minh Việt",
4   .... "diachi":"Nam Định",
5   .... "dienthoai":"012",
6   .... "anh":"viet.jpg",
7   .... "malop":3
8 }
9 }
```

Body Cookies Headers (10) Test Results Status: 200 OK Time: 3.26 s Size: 471 B Save Response

Pretty Raw Preview Visualize JSON true

- Code xóa sv theo msv

```
//Viết phương thức xóa sinh viên theo masv
[HttpDelete]
[Route("api/th/xoasv")]
```

0 references

```
public bool Xoasinhvien(int masv)
{
    sinhvien sv = db.sinhvien.FirstOrDefault(x => x.masv == masv);
    if(sv != null)
    {
        db.sinhvien.Remove(sv);
        db.SaveChanges();
        return true;
    }
    return false;
}
```



https://localhost:44317/api/th/xoasv?masv=1

Save

DELETE

https://localhost:44317/api/th/xoasv?masv=1

Send

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Cookies

Key	Value	Bulk Edit
<input checked="" type="checkbox"/> masv	1	
Key	Value	

Body

Cookies

Headers (10)

Test Results



Status: 200 OK Time: 569 ms Size: 471 B

Save Response

Pretty

Raw

Preview

Visualize

JSON



1 true

- Viết phương thức lấy danh sách lớp học

```
//Phương thức lấy danh sách lớp học
[HttpGet]
[Route("api/th/dslop")]
```

0 references

```
public List<lophoc> Danhsachlop()
{
    return db.lophoc.ToList();
}
```

GET

https://localhost:44317/api/th/dslop

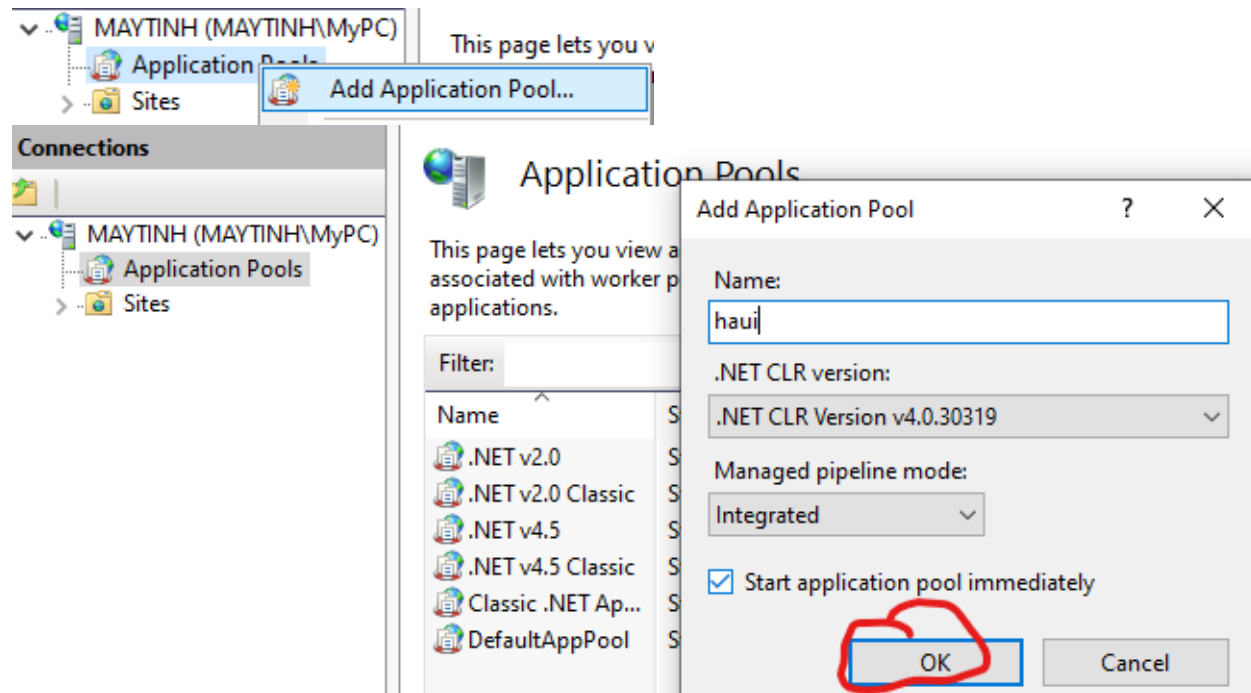
Send

- Xem ds bên sql

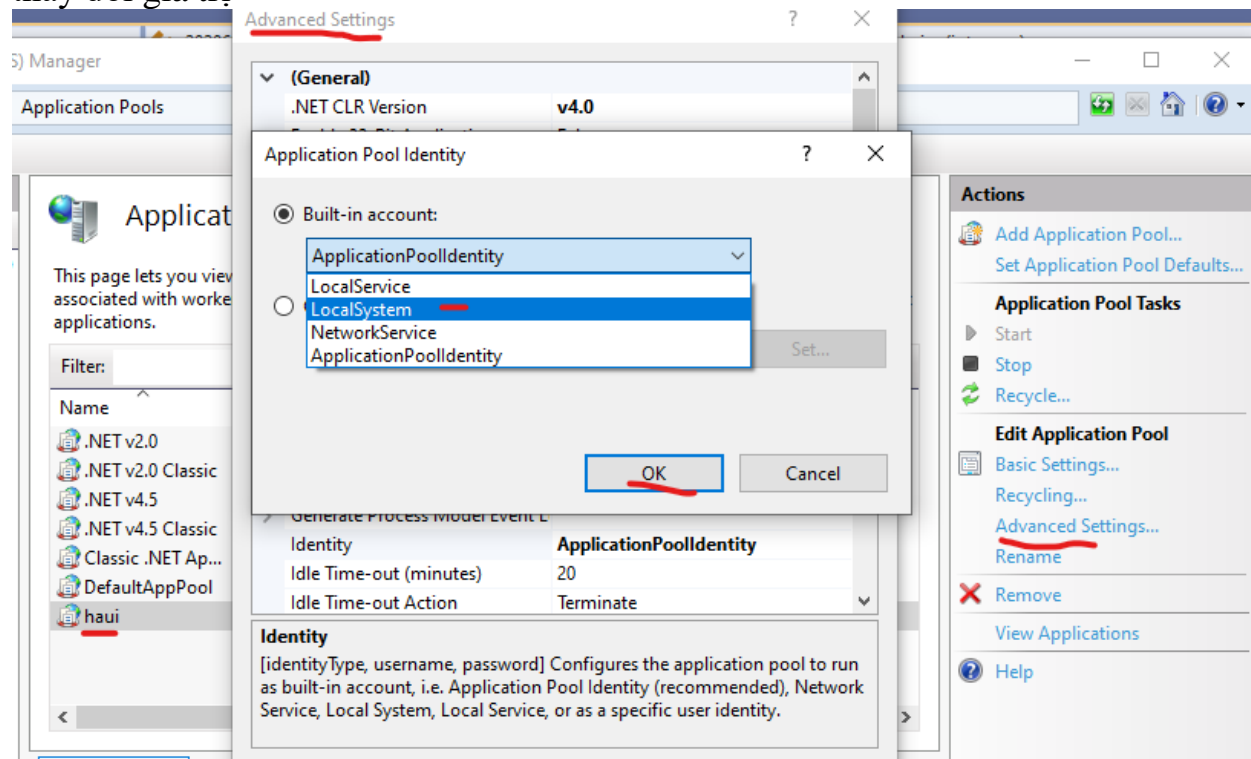
```
SQLQuery1.sql - M...nghocdb (abc (67))*
select *from lophoc
select *from sinhvien
```

4. IIS

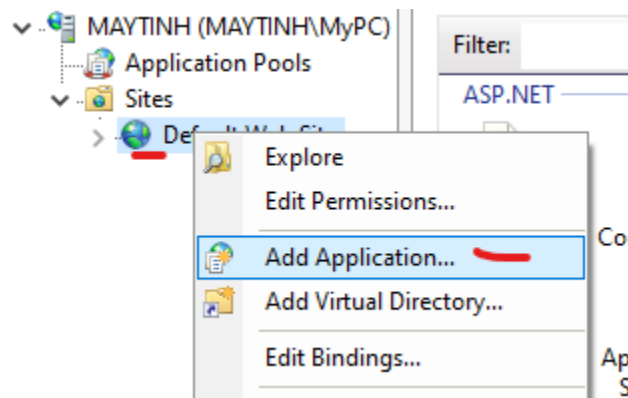
- Mở IIS, sau đó add pool



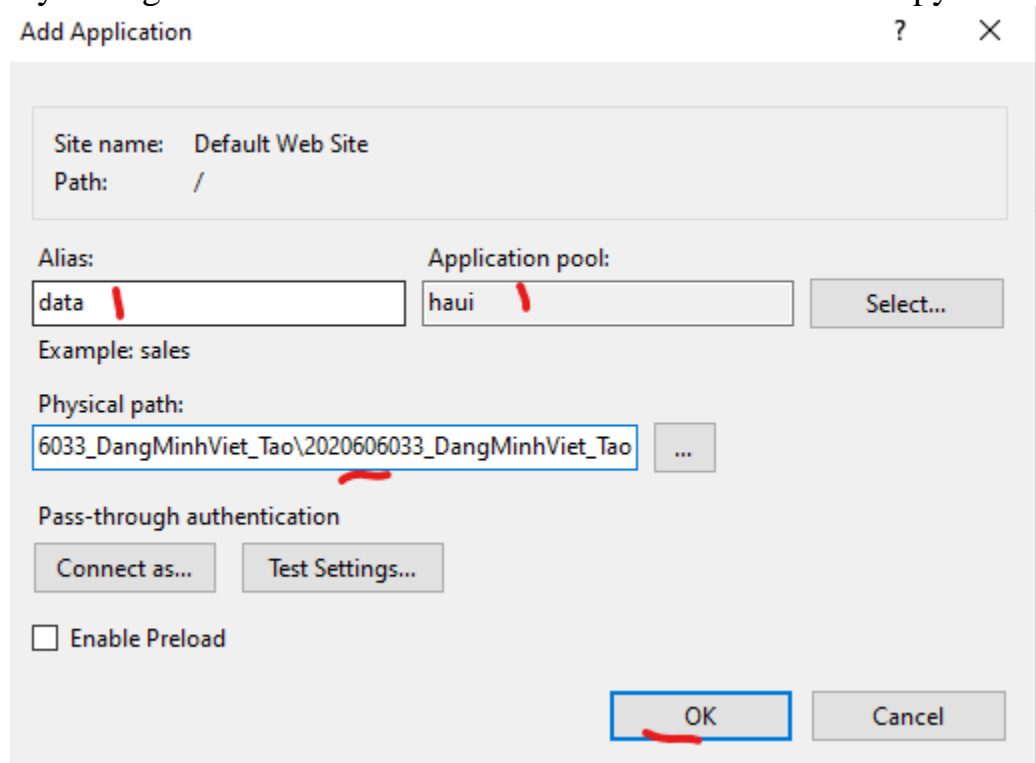
- thay đổi giá trị



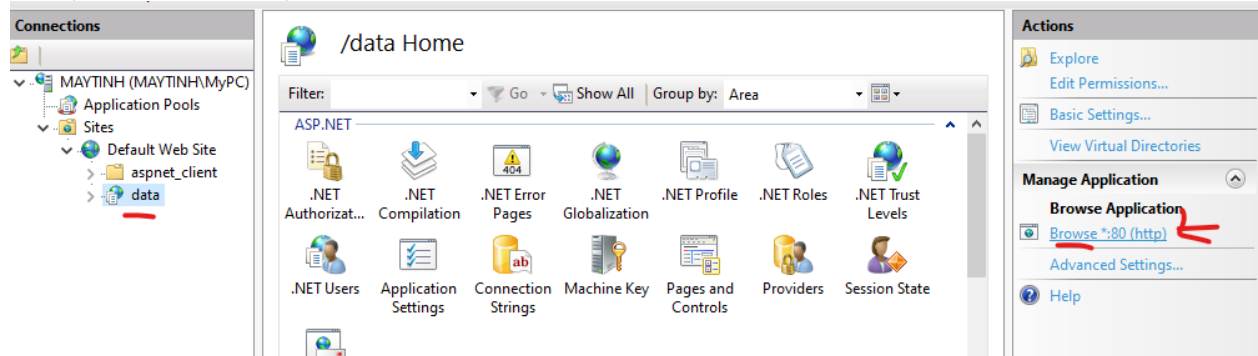
- Thêm ứng dụng vào Application Pool vừa tạo



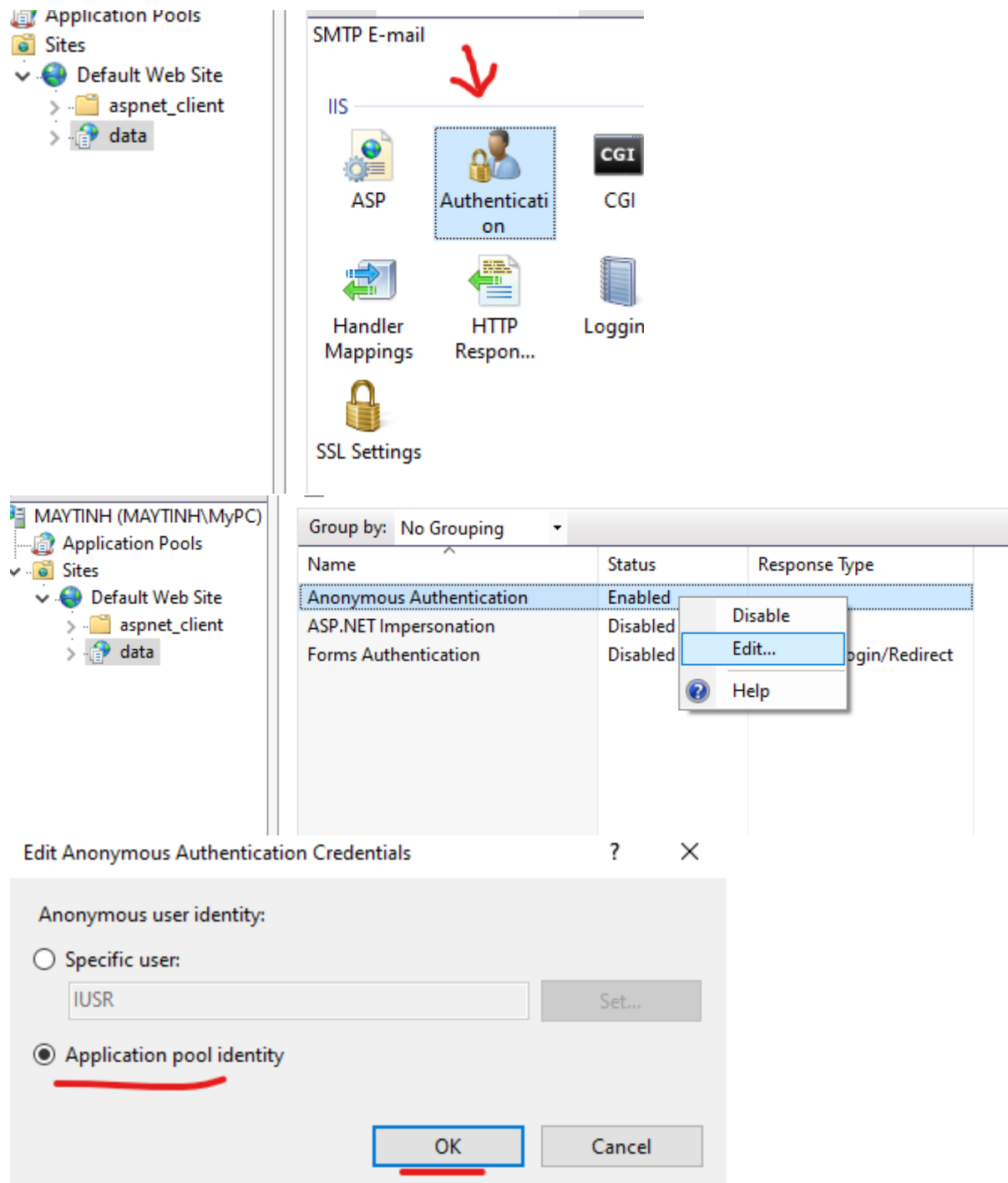
lấy đường dẫn của file [Open Folder in File Explorer](#) rồi copy



- Chạy trên trình duyệt



- sửa lỗi:

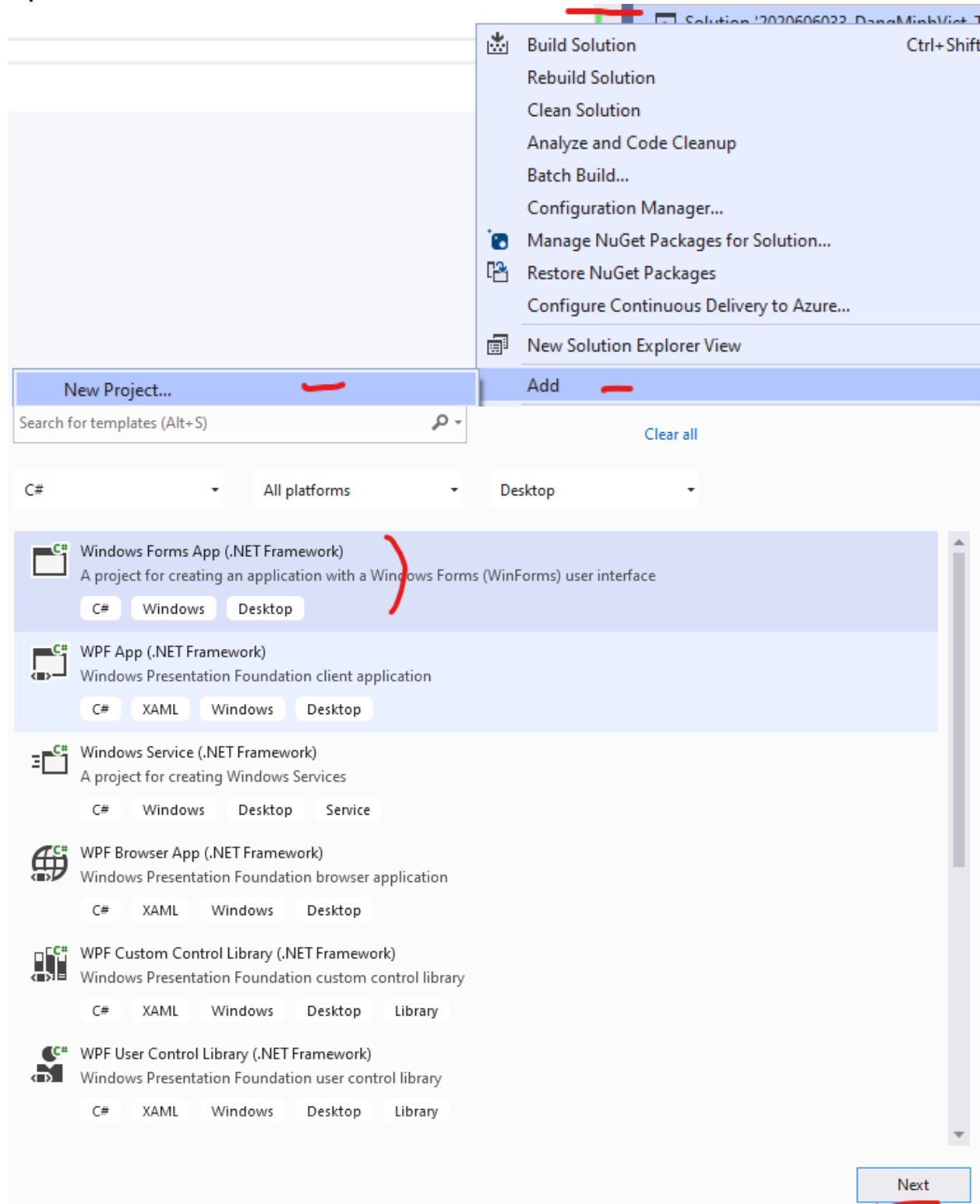


- chạy lại đường link
<http://localhost/data/api/th/danhsach>
- Xem địa chỉ ip máy
 mở cmd gõ : ipconfig sau đó copy địa chỉ Ipv4 thay trên đường link
 chữ localhost bằng địa chỉ ip

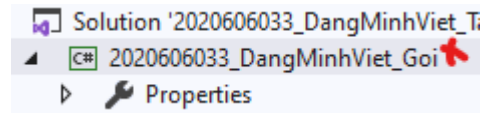
III. Tạo Project Windows Forms

- Gọi Web API bằng từ Project Windows Forms

- Tạo file



- Tại



tại đây tạo class có tên là Sinhvien

•

```
public class Sinhvien
{
    1 reference
    public int masv { get; set; }
    1 reference
    public string hoten { get; set; }
    1 reference
    public string diachi { get; set; }
    1 reference
    public string dienthoai { get; set; }
    1 reference
    public int malop { get; set; }
    1 reference
    public string anh { get; set; }
    0 references
    public Sinhvien()
    {
    }

    0 references
    public Sinhvien(int masv, string hoten, string diachi, string dienthoai, int malop, string a
    {
        this.masv = masv;
        this.hoten = hoten;
        this.diachi = diachi;
        this.dienthoai = dienthoai;
        this.malop = malop;
        this.anh = anh;
    }
}
```

- Tạo class Lophoc

```
public class Lophoc
{
    0 references
    public int malop { get; set; }
    0 references
    public string tenlop { get; set; }
    0 references
    public string giangvien { get; set; }
}
```

1. Thiết kế form

- nhớ setup lại file như sau:

⚙ Set as Startup Project

-

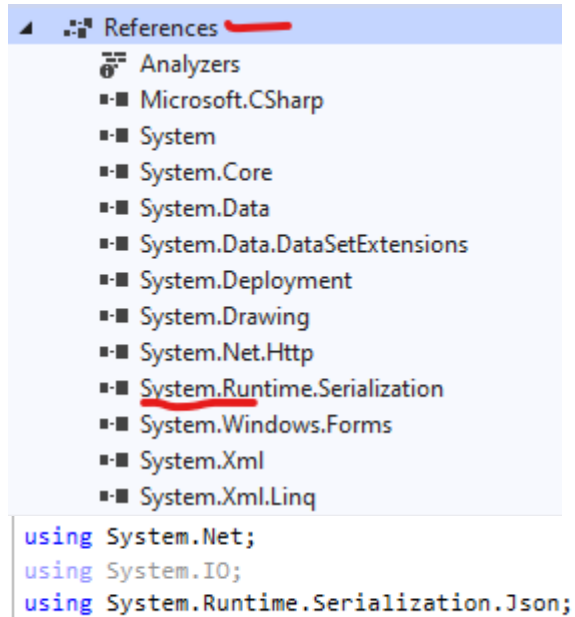
Form1

Quản lý sinh viên

Mã sv	<input type="text"/>	Danh sách
Họ tên	<input type="text"/>	Thêm
Địa chỉ	<input type="text"/>	Tìm
Điện thoại	<input type="text"/>	Sửa
Mã lớp	<input type="text"/>	Xóa
Ảnh	<input type="text"/>	Kết thúc

2. Code

- Kiểm tra nếu ko có thì thêm



- Hienthi

```

private void Form1_Load(object sender, EventArgs e)
{
    Hienthi();
}
2 references
private void Hienthi()
{
    string link = "http://localhost/data/api/th/danh sach";
    HttpRequest req = HttpRequest.CreateHttp(link);
    WebResponse res = req.GetResponse();
    DataContractJsonSerializer js = new DataContractJsonSerializer(typeof(Sinhvien[]));
    object data = js.ReadObject(res.GetResponseStream());
    Sinhvien[] danh sach = (Sinhvien[])data;
    dataGridView1.DataSource = danh sach;
}

1 reference
private void btnXemsds_Click(object sender, EventArgs e)
{
    Hienthi();
}

```

- Tìm , copy code hienthi rồi sửa

```

private void btnTim_Click(object sender, EventArgs e)
{
    string masv = string.Format("?masv={0}", textBox1.Text); //
    string link = "http://localhost/data/api/th/timsv"+masv; //
    HttpRequest req = HttpRequest.CreateHttp(link);
    WebResponse res = req.GetResponse();
    DataContractJsonSerializer js = new DataContractJsonSerializer(typeof(Sinhvien)); //
    object data = js.ReadObject(res.GetResponseStream());
    Sinhvien sv = (Sinhvien)data; //
    if(sv != null) //
    {
        txthoten.Text = sv.hoten;
        txt diachi.Text = sv.diachi;
        txt dienthoai.Text = sv.dienthoai;
        txt malop.Text = sv.malop.ToString();
        txt anh.Text = sv.anh;
    }
    else
    {
        MessageBox.Show("Không có sv có mã " + textBox1.Text, "Thông báo");
    }
}

```

- Thêm
thêm `using System.Collections.Specialized;`

```
private void btnThem_Click(object sender, EventArgs e)
{
    string url = "http://localhost/data/api/th/themsv";
    var client = new WebClient();
    var sv = new NameValueCollection();
    sv["hoten"] = txthoten.Text;
    sv["diachi"] = txttdiachi.Text;
    sv["dienthoai"] = txttdienthoai.Text;
    sv["malop"] = txtmalop.Text;
    sv["anh"] = txtanh.Text;
    var response = client.UploadValues(url, sv);
    //string msg = Encoding.UTF8.GetString(response);
    //MessageBox.Show("Kết quả thêm: " + msg);
    Hienthi();
}
```

- Sửa , copy code phần thêm và sửa:

```
1 reference
private void btnSua_Click(object sender, EventArgs e)
{
    string url = "http://localhost/data/api/th/suasv"; //
    var client = new WebClient();
    var sv = new NameValueCollection();
    sv["hoten"] = txthoten.Text;
    sv["diachi"] = txttdiachi.Text;
    sv["dienthoai"] = txttdienthoai.Text;
    sv["malop"] = txtmalop.Text;
    sv["anh"] = txtanh.Text;
    sv["masv"] = textBox1.Text; //
    var response = client.UploadValues(url, "PUT", sv); //
    //string msg = Encoding.UTF8.GetString(response);
    //MessageBox.Show("Kết quả thêm: " + msg);
    Hienthi();
}
```

- Xóa

```
private void btnXoa_Click(object sender, EventArgs e)
{
    string masv = string.Format("?masv={0}", textBox1.Text);
    string url = "http://localhost/data/api/th/xoasv" + masv;
    WebRequest req = WebRequest.CreateHttp(url);
    req.Method = "DELETE";
    HttpWebResponse res = (HttpWebResponse)req.GetResponse();
    Hienthi();
}
```

- Click vào tia sét của datagridview1 chọn CellMouseClicked

```
private void dataGridView1_CellMouseClick(object sender, DataGridViewCellMouseEventArgs e)
{
    int d = e.RowIndex;
    textBox1.Text = dataGridView1.Rows[d].Cells[0].Value.ToString();
    txthoten.Text = dataGridView1.Rows[d].Cells[1].Value.ToString();
    txtdiachi.Text = dataGridView1.Rows[d].Cells[2].Value.ToString();
    txtredienthoai.Text = dataGridView1.Rows[d].Cells[3].Value.ToString();
    txtmalop.Text = dataGridView1.Rows[d].Cells[4].Value.ToString();
    txtanh.Text = dataGridView1.Rows[d].Cells[5].Value.ToString();
}
```