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(T14)討論 ActionSelectors 的 HttpGet、HttpPost

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## 0. Summary

In this tutorial, we will discuss

\* Action selectors

\* [AcceptVerbs(HttpVerbs.Get)]

\* [HttpGet]

\* [AcceptVerbs(HttpVerbs.Post)]

\* [HttpPost]

\* [NonAction]

\* 第 11 章: Action Selectors 之簡單寫法 HttpGet、HttpPost。

\* [AcceptVerbs(HttpVerbs.Get)]和[HttpGet]的關係

\* [AcceptVerbs(HttpVerbs.Post)]和[HttpPost]的關係。

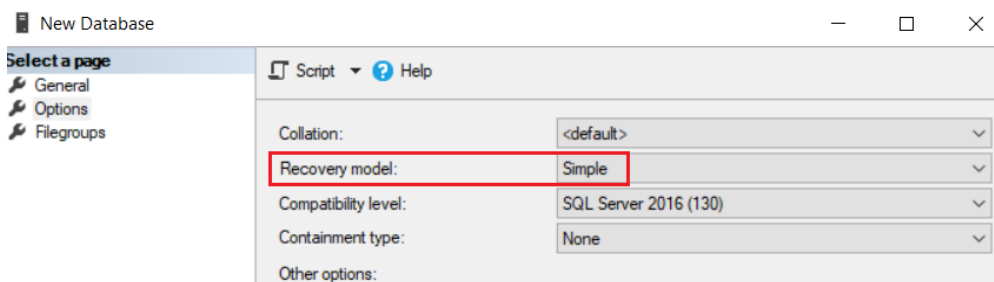
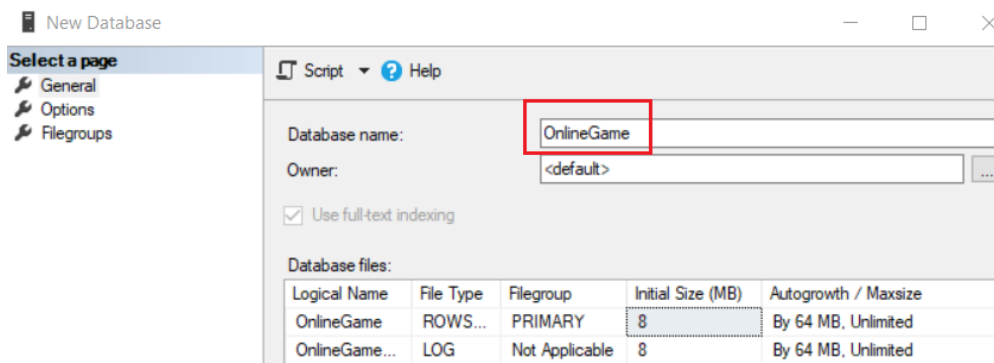
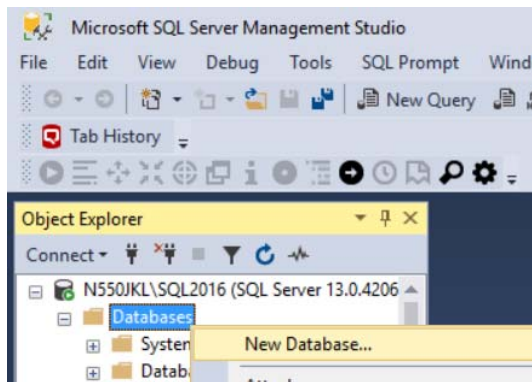
\* [NonAction]有啥用?

## 1. OnlineGame DB

### 1.1. TSQL

In SQL server Management Studio (SSMS)  
Database --> Right Click --> New Database -->  
In General Tab -->  
Name: **OnlineGame**

In options Tab --> Recovery model : **Simple**



```
--1. Drop if it exists
--Drop Table if it exists.
IF ( EXISTS ( SELECT      *
               FROM        INFORMATION_SCHEMA.TABLES
               WHERE       TABLE_NAME = 'Gamer' ) )
BEGIN
    TRUNCATE TABLE Gamer;
    DROP TABLE Gamer;
END;
GO -- Run the previous command and begins new batch
--2. Create Table
CREATE TABLE Gamer
```

```
(
    Id INT PRIMARY KEY
        IDENTITY(1, 1)
        NOT NULL ,
    [Name] NVARCHAR(100) NOT NULL ,
    Gender NVARCHAR(10) NOT NULL,
    EmailAddress nvarchar(100) NOT NULL,
)
--3. Insert Data
INSERT  Gamer
VALUES  ( N'Name01 ABB', N'Male', '1@AAA.com' );
INSERT  Gamer
VALUES  ( N'Name02 CDDE', N'Female', '2@BBB.com' );
INSERT  Gamer
VALUES  ( N'Name03 FIJK', N'Female', '3@CCCC.com' );
INSERT  Gamer
VALUES  ( N'Name04 LMOPPQ', N'Male', '4@DD.com' );
INSERT  Gamer
VALUES  ( N'Name05 QRSTT', N'Male', '5@EEE.com' );
INSERT  Gamer
VALUES  ( N'Name06 TUVVX', N'Female', '6@FF.com' );
INSERT  Gamer
VALUES  ( N'Name07 XYZZX', N'Female', '7@GGGG.com' );
INSERT  Gamer
VALUES  ( N'Name08 ABBEDE', N'Male', '8@HH.com' );
INSERT  Gamer
VALUES  ( N'Name09 QRSTTUVXX', N'Male', '9@IIII.com' );
INSERT  Gamer
VALUES  ( N'Name10 GGAAEE', N'Male', '10@XXWFFS.com' );
INSERT  Gamer
VALUES  ( N'Name11 HFSASER', N'Male', '11@AAA.com' );
INSERT  Gamer
VALUES  ( N'Name12 ESVSADC', N'Female', '12@BBB.com' );
INSERT  Gamer
VALUES  ( N'Name13 REDSVF', N'Female', '13@CCCC.com' );
INSERT  Gamer
VALUES  ( N'Name14 BBGVDD', N'Male', '14@DD.com' );
INSERT  Gamer
VALUES  ( N'Name15 WWVFSSQ', N'Male', '15@EEE.com' );
INSERT  Gamer
VALUES  ( N'Name16 TTVSS', N'Female', '16@FF.com' );
INSERT  Gamer
VALUES  ( N'Name17 AAQERR', N'Female', '17@GGGG.com' );
INSERT  Gamer
VALUES  ( N'Name18 BBFSAQ', N'Male', '18@HH.com' );
INSERT  Gamer
VALUES  ( N'Name19 QRSTTUVXX', N'Male', '19@IIII.com' );
INSERT  Gamer
VALUES  ( N'Name20 HHFWSWQ', N'Male', '20@XXWFFS.com' );
GO -- Run the previous command and begins new batch
```

## 1.2. Security login

In SQL server

Object Explorer --> Security --> Logins --> New Logins

-->

General Tab

Login Name :

**Tester**

Password:

**1234**

Default Database:

**OnlineGame**

-->

Server Roles Tab

Select

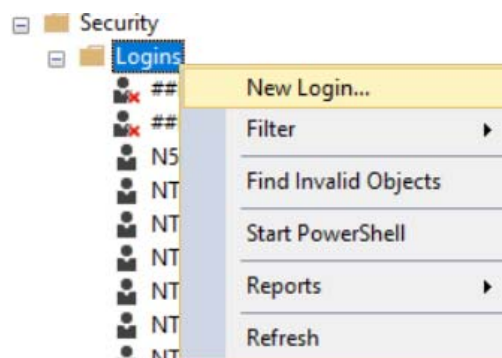
**sysadmin**

-->

User Mapping Tab

Select **OnlineGame**

Select every single role.

A screenshot of the 'Login - New' dialog box in SQL Server Enterprise Manager. The 'General' tab is selected in the left-hand pane. The 'Login name' field contains 'Tester'. Under 'Authentication', 'SQL Server authentication' is selected. The 'Password' and 'Confirm password' fields are filled with dots. There are checkboxes for 'Enforce password policy', 'Enforce password expiration', and 'User must change password at next login', all of which are checked. The 'Default database' dropdown is set to 'Sample.' and the 'Default language' dropdown is set to '<default>'. At the bottom, there are 'OK' and 'Cancel' buttons. The 'Progress' bar at the bottom left shows a circular progress indicator and the word 'Ready'.

Login Properties - Tester

Select a page

General

Server Roles

User Mapping

Securables

Status

Connection

Server:  
N55QJKL\SQL2016

Connection:  
N55QJKL\pmp1

View connection properties

Progress

Ready

Script Help

Server role is used to grant server-wide security privileges to a user.

Server roles:

☐ bulkadmin

☐ dbcreator

☐ diskadmin

☐ processadmin

☒ public

☐ securityadmin

☐ serveradmin

☐ setupadmin

☒ sysadmin

OK

Cancel

Login Properties - Tester

Select a page

General

Server Roles

User Mapping

Securables

Status

Connection

Server:  
N55QJKL\SQL2016

Connection:  
N55QJKL\pmp1

View connection properties

Progress

Ready

Script Help

Users mapped to this login:

Map	Database	User	Default Schema
<input type="checkbox"/>	Movie3		
<input type="checkbox"/>	NORTHWND		
<input type="checkbox"/>	Northwind		
<input type="checkbox"/>	ReportServer\$SQL2016		
<input type="checkbox"/>	ReportServer\$SQL20...		
<input checked="" type="checkbox"/>	Sample	Tester	dbo
<input type="checkbox"/>	master		
<input type="checkbox"/>	model		
<input type="checkbox"/>	msdb		
<input type="checkbox"/>	tempdb		

☐ Guest account enabled for: Sample

Database role membership for: Sample

☒ db\_accessadmin

☒ db\_backupoperator

☒ db\_datareader

☒ db\_datawriter

☒ db\_ddladmin

☒ db\_denydatareader

☒ db\_denydatawriter

☒ db\_owner

☒ db\_securityadmin

☒ public

OK

Cancel

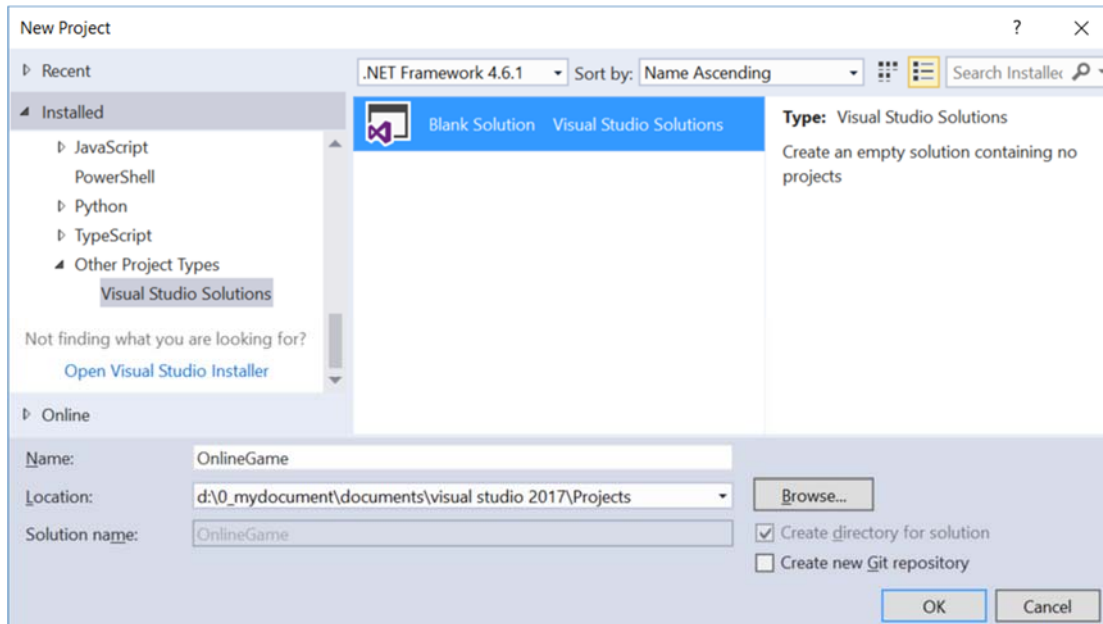
## 2. New Project - OnlineGame

File --> New --> Project... -->

Other Project Types --> Visual Studio Solutions --> Blank Solution

-->

Name: **OnlineGame**



### 2.1. New Project - OnlineGame.Web

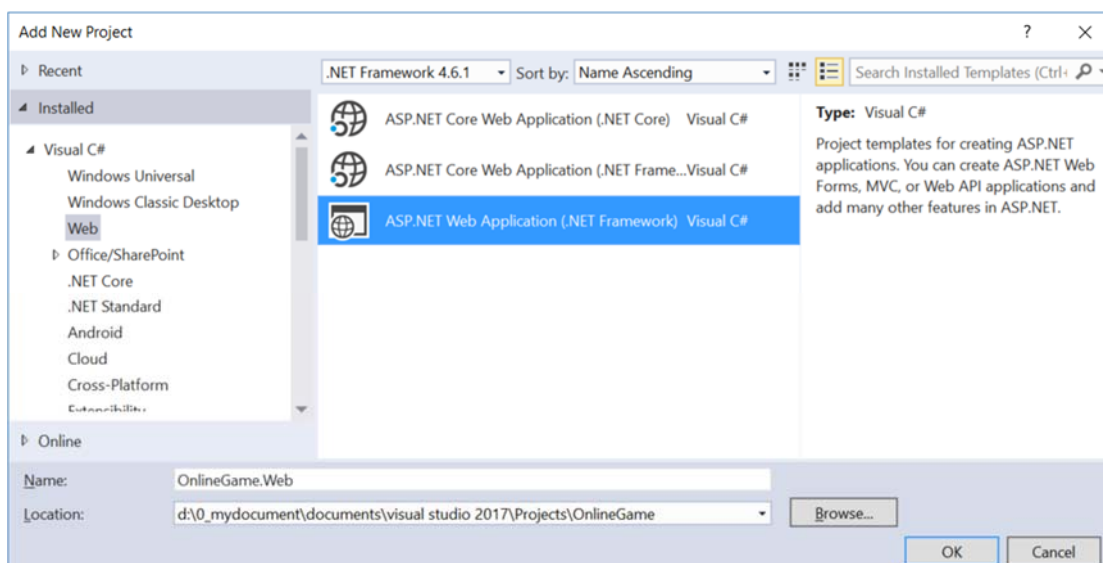
Solutions Name --> Add --> New Project -->

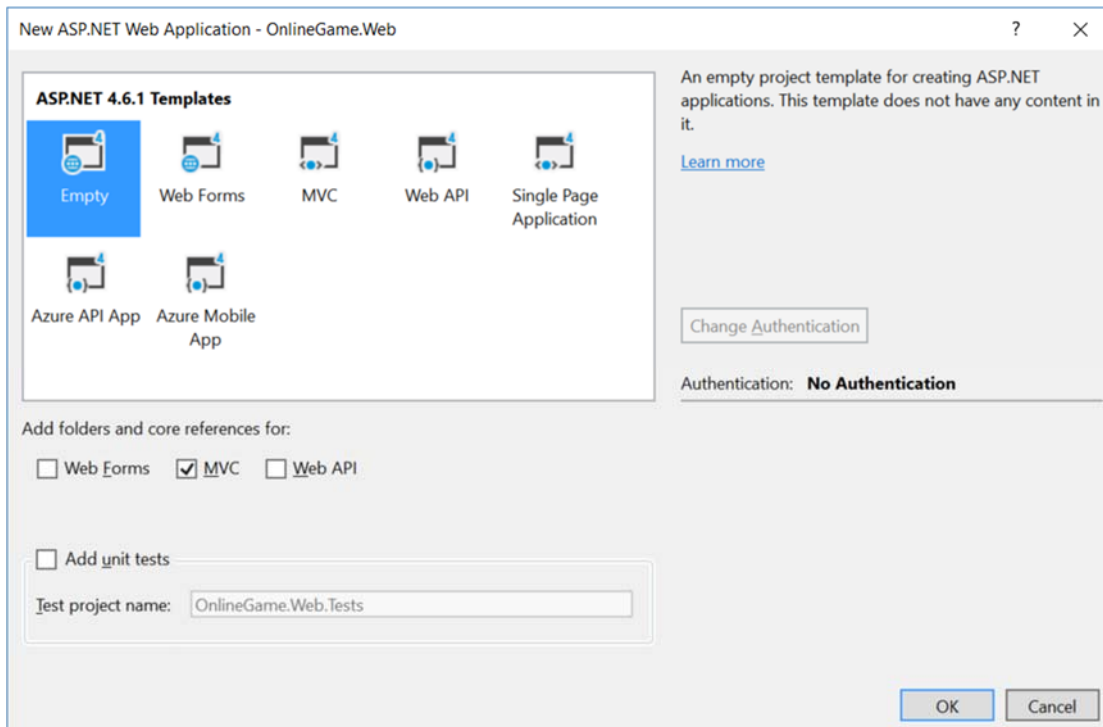
Visual C# --> Web --> [ASP.NET](#) Web Application (.Net Framework)

-->

Name: **OnlineGame.Web**

Empty --> Select "MVC" --> OK





### 2.1.1. Global.asax.cs

```
using System.Web.Mvc;
using System.Web.Routing;
namespace OnlineGame.Web
{
    public class MvcApplication : System.Web.HttpApplication
    {
        //Application_Start() is the magic start point of this application
        protected void Application_Start()
        {
            AreaRegistration.RegisterAllAreas();
            //1.
            //Register Route Configure in RouteConfig.cs
            //If you want to see route configuration,
            //you may find it in RouteConfig.cs
            //2.
            //System.Web.Routing.RouteCollection Routes { get; }
            //Gets a collection of objects that derive from the System.Web.Routing.RouteBase class.
            RouteConfig.RegisterRoutes(RouteTable.Routes);
        }
    }
}
```

### 2.1.2. App\_Start/RouteConfig.cs

```
using System.Web.Mvc;
using System.Web.Routing;
namespace OnlineGame.Web
{
    public class RouteConfig
    {
        public static void RegisterRoutes(RouteCollection routes)
        {

```

```

//Handle the Route of the axd request file.
//E.g. ASP.Net Tracing
routes.IgnoreRoute("{resource}.axd/{*pathInfo}");
//Handle the Route called "Default".
//The mapping URL is "{controller}/{action}/{id}"
//Set the default value of Controller, action, and id.
routes.MapRoute(
    name: "Default",
    url: "{controller}/{action}/{id}",
    defaults: new { controller = "Home", action = "Index", id = UrlParameter.Optional }
);
}
}
}

```

```

/*
1.
//routes.MapRoute(
//    name: "Default",
//    url: "{controller}/{action}/{id}",
//    defaults: new { controller = "Home", action = "Index", id = UrlParameter.Optional }
//);

```

1.1.  
When a request comes in,  
it's trying to do a pattern match based on  
all the templates it sees in these mapped routes.  
A route is some instructions for  
how to take a URI coming into a request  
and map it to some code,  
normally a controller.

In this case,  
look at defaults parameter,  
when user request <http://localhost:PortNumber/>  
IIS Express will run  
HomeController Index action.  
It will map to Controllers/HomeController.cs  
and map to Index Method

1.2.  
By convention in MVC.  
All controllers will have Controller suffix.  
This suffix is not required in the URL.  
So, if you want to invoke Home controller,  
you specify /Home and not /HomeController.

-----

2.  
//routes.IgnoreRoute("{resource}.axd/{\*pathInfo}");

2.1.  
Reference:  
<https://stackoverflow.com/questions/9016650/what-is-routes-ignorerouteresource-axd-pathinfo>

This line can handle the axd file request route,  
E.g. trace.axd  
.axd files don't exist physically.

[ASP.NET](#) uses URLs with .axd extensions  
(ScriptResource.axd and WebResource.axd) internally,  
and they are handled by an [HttpHandler](#).  
Therefore, you should keep this rule,  
to prevent [ASP.NET](#) MVC from trying to handle the request  
instead of letting the dedicated [HttpHandler](#) do it.

2.2.  
trace.axd  
Reference:  
<https://msdn.microsoft.com/en-us/library/wwh16c6c.aspx>  
trace.axd trace details for a specific request.  
If you want to enable trace.axd,  
then you have to go to Web.config



Add `<trace enabled="true" pageOutput="false"/>` under `<system.web>`  
Then run the project, type the following URL  
<http://localhost/OnlineGame.Web/trace.axd>  
This will return [ASP.NET](#) trace, trace.axd.  
If you do not have  
`// routes.IgnoreRoute("{resource}.axd/{*pathInfo}");`  
then you can not enable the trace.axd.  
\*/

### 2.1.3. Web.config



```
<system.web>
  <globalization culture="en-au"/>
```

## 3. OnlineGame.Web

### 3.1. ADO.Net Entity Data Model - Entity Framework

In Visual Studio 2017

**Models** folder --> Right Click --> Add --> New Item  
--> Visual C# --> Data --> ADO.Net Entity Data Model  
Name:

**OnlineGameDataModel**

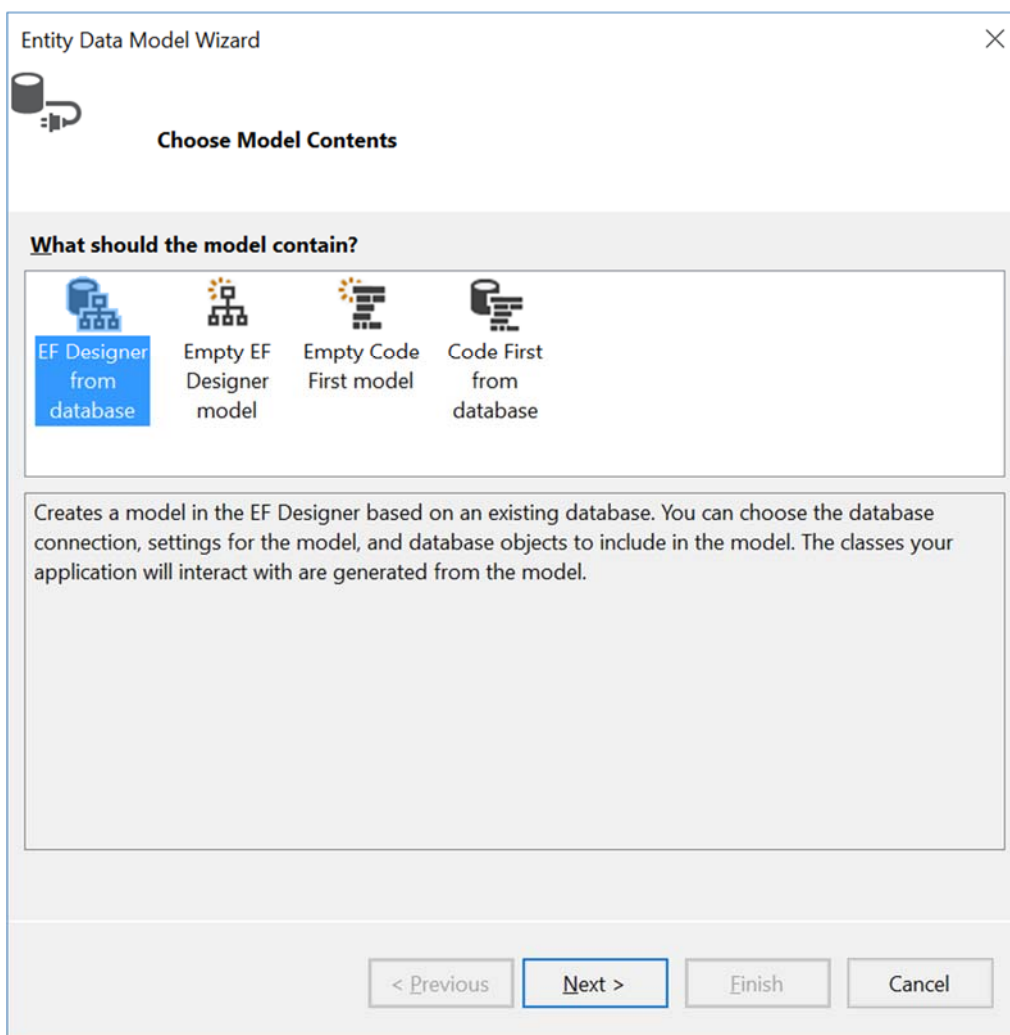
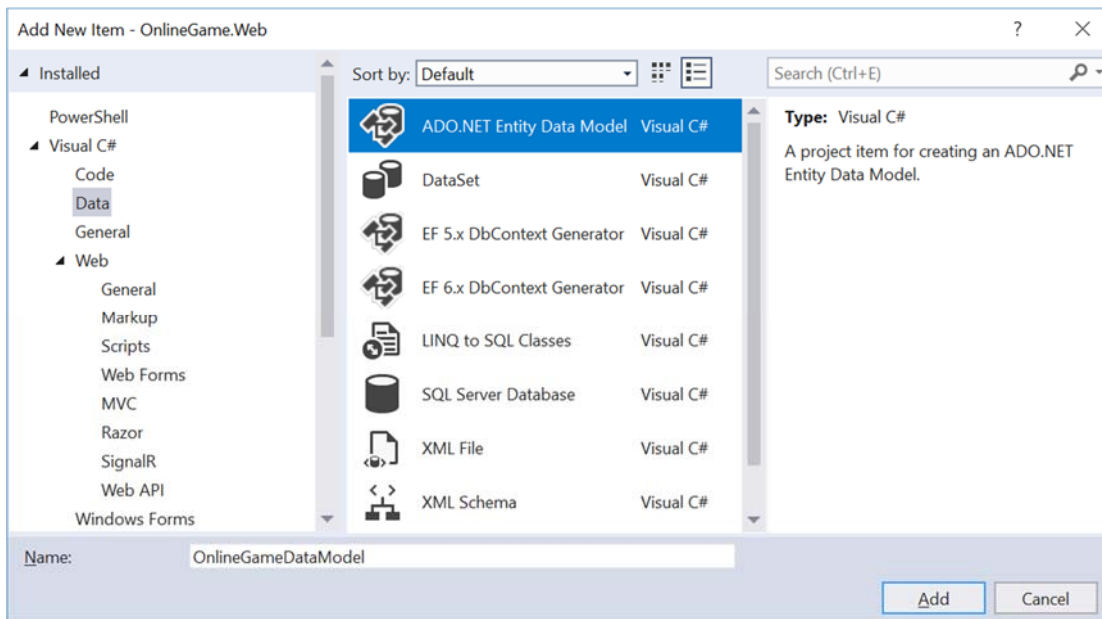
-->

EF Designer from database

....

-->

## Save Connection settings in Web.Config as: **OnlineGameContext**



**Choose Your Data Connection**

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

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:

☒ Save connection settings in Web.Config as:

< Previous

Next >

Finish

Cancel

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:

N550JKL\SQL2016

Refresh

Log on to the server

Authentication: SQL Server Authentication

User name: Tester

Password: ●●●●

☒ Save my password

Microsoft Visual Studio



Test connection succeeded.

OK

Connect to a database

☒ Select or enter a database name:

OnlineGame

☐ Attach a database file:

Browse...

Advanced...

Test Connection

OK

Cancel

**Choose Your Data Connection****Which data connection should your application use to connect to the database?**

n550jkl\sql2016.OnlineGame.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.OnlineGameDataModel.csdl|
res://*/Models.OnlineGameDataModel.ssdl|
res://*/Models.OnlineGameDataModel.msl;provider=System.Data.SqlClient;provider connection
string="data source=N550JKL\SQL2016;initial catalog=OnlineGame;persist security info=True;user
id=Tester;password=*****;MultipleActiveResultSets=True;App=EntityFramework"
```

☒ Save connection settings in Web.Config as:

OnlineGameContext

&lt; Previous

Next &gt;

Finish

Cancel

**Choose Your Version****Which version of Entity Framework do you want to use?**

- ☒ Entity Framework 6.x  
☐ Entity Framework 5.0

**i** It is also possible to install and use other versions of Entity Framework.  
[Learn more about this](#)


&lt; Previous

Next &gt;

Finish


Cancel


Entity Data Model Wizard





Choose Your Database Objects and Settings


**Which database objects do you want to include in your model?**


☒  Tables

☒  dbo

☒  Gamer

☐  sysdiagrams

☐  Views

☐  Stored Procedures and Functions

☒ Pluralize or singularize generated object names

☒ Include foreign key columns in the model

☒ Import selected stored procedures and functions into the entity model

Model Namespace:

OnlineGameModel

< Previous

Next >

Finish

Cancel

Security Warning

?

×

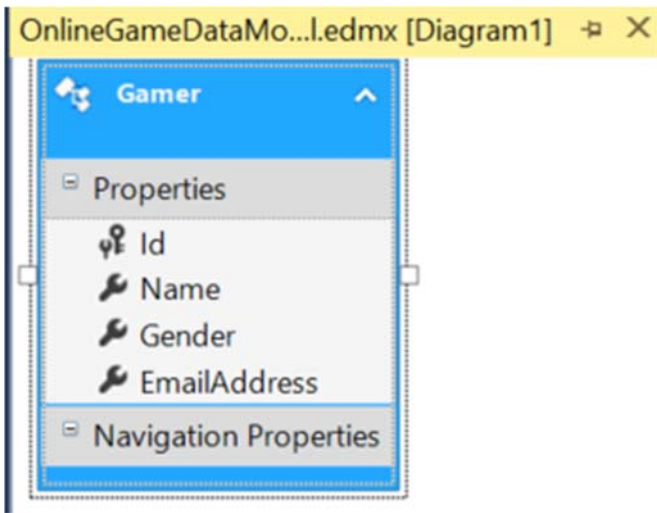
Running this text template can potentially harm your computer. Do not run it if you obtained it from an untrusted source.

Click OK to run the template.  
Click Cancel to stop the process.

☐ Do not show this message again

OK

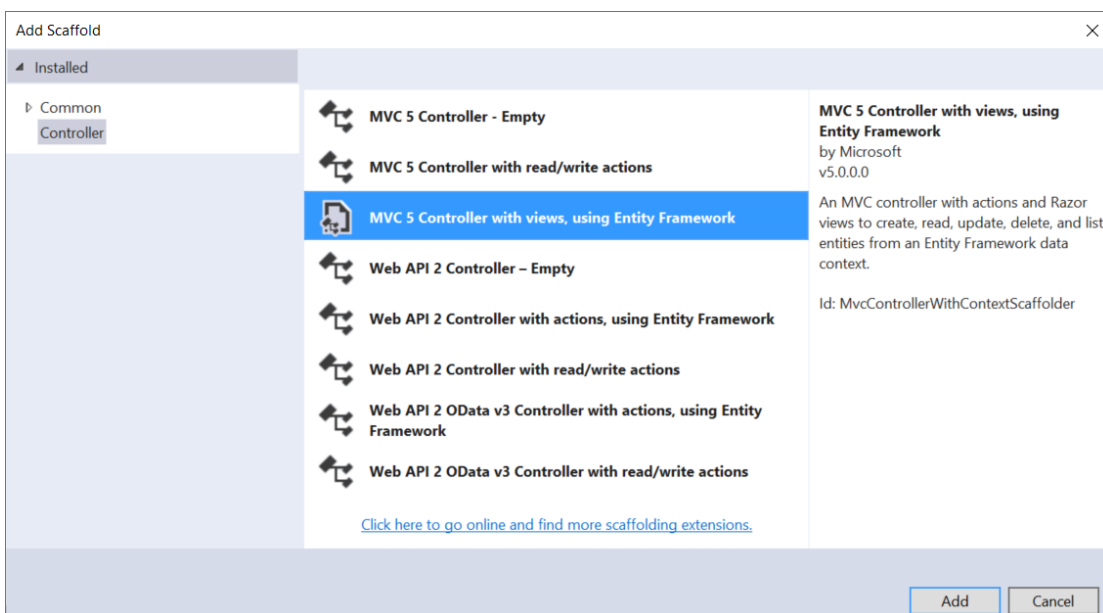
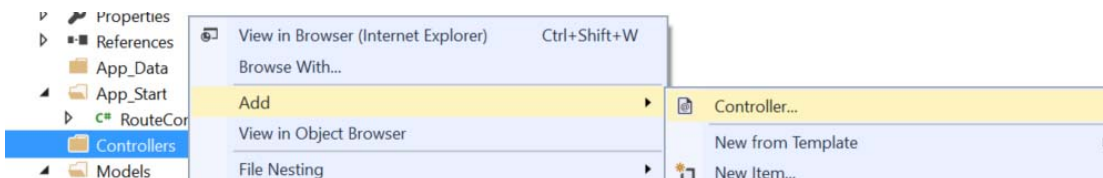
Cancel



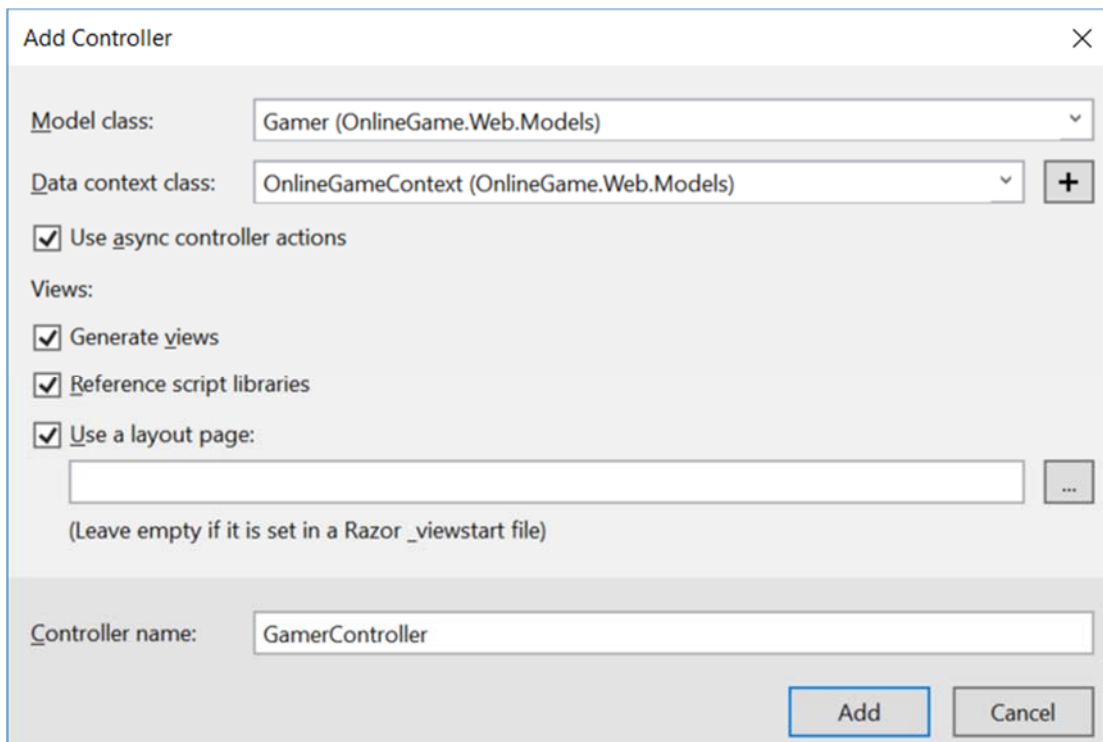
## 3.2. Controllers/GamersController.cs

Controllers --> Right click --> Add --> Controller  
-->

### **MVC 5 Controller with views, using Entity Framework**



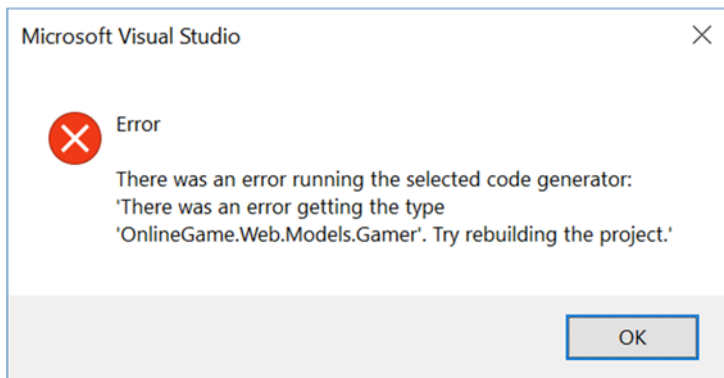




The 'Add Controller' dialog box in Visual Studio. It contains the following fields and options:

- Model class:** A dropdown menu with 'Gamer (OnlineGame.Web.Models)' selected.
- Data context class:** A dropdown menu with 'OnlineGameContext (OnlineGame.Web.Models)' selected, followed by a '+' button.
- ☒ **Use async controller actions**
- Views:**
  - ☒ **Generate views**
  - ☒ **Reference script libraries**
  - ☒ **Use a layout page:** A text box with an empty field and a '...' button.
- (Leave empty if it is set in a Razor \_viewstart file)
- Controller name:** A text box containing 'GamerController'.
- Buttons:** 'Add' and 'Cancel' at the bottom right.

If you see the following error message, then you have to re-build solution before you create the controller.



It will automatically generate the controller, views, and several javascript and css files.

# Index

[Create New](#)

Name	Gender	EmailAddress	
Name01 ABB	Male	1@AAA.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name02 CDDE	Female	2@BBB.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name03 FIJK	Female	3@CCCC.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name04 LMOPPQ	Male	4@DD.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name05 QRSTT	Male	5@EEE.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name06 TUVVX	Female	6@FF.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name07 XYZZXX	Female	7@GGGG.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name08 ABBCDE	Male	8@HH.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>
Name09 QRSTTUVXX	Male	9@IIII.com	<a href="#">Edit</a>   <a href="#">Details</a>   <a href="#">Delete</a>

## 4. OnlineGame.Web

### 4.1. Controllers/GamerController.cs

```
using System.Data.Entity;
using System.Threading.Tasks;
using System.Net;
using System.Web.Mvc;
using OnlineGame.Web.Models;
namespace OnlineGame.Web.Controllers
{
    public class GamerController : Controller
    {
        private OnlineGameContext db = new OnlineGameContext();
        // GET: Gamer
        //[AcceptVerbs(HttpVerbs.Get)]
        [HttpGet]
        public async Task<ActionResult> Index()
        {
            return View(await db.Gamers.ToListAsync());
        }
        // GET: Gamer/Details/5
        //[AcceptVerbs(HttpVerbs.Get)]
        [HttpGet]
        public async Task<ActionResult> Details(int? id)
        {
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
        }
    }
}
```

```

        Gamer gamer = await db.Gamers.FindAsync(id);
        if (gamer == null)
        {
            return HttpNotFound();
        }
        return View(gamer);
    }
    // GET: Gamer/Create
    //[AcceptVerbs(HttpVerbs.Get)]
    [HttpGet]
    public ActionResult Create()
    {
        return View();
    }
    // POST: Gamer/Create
    // To protect from overposting attacks, please enable the specific properties you want to bind to,
for
    // more details see https://go.microsoft.com/fwlink/?LinkId=317598.
    //[AcceptVerbs(HttpVerbs.Post)]
    [HttpPost]
    [ValidateAntiForgeryToken]
    public async Task<ActionResult> Create([Bind(Include = "Id,Name,Gender,EmailAddress")] Gamer gamer)
    {
        if (ModelState.IsValid)
        {
            db.Gamers.Add(gamer);
            await db.SaveChangesAsync();
            return RedirectToAction("Index");
        }
        return View(gamer);
    }
    // GET: Gamer/Edit/5
    //[AcceptVerbs(HttpVerbs.Get)]
    [HttpGet]
    public async Task<ActionResult> Edit(int? id)
    {
        if (id == null)
        {
            return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
        }
        Gamer gamer = await db.Gamers.FindAsync(id);
        if (gamer == null)
        {
            return HttpNotFound();
        }
        return View(gamer);
    }
    // POST: Gamer/Edit/5
    // To protect from overposting attacks, please enable the specific properties you want to bind to,
for
    // more details see https://go.microsoft.com/fwlink/?LinkId=317598.
    //[AcceptVerbs(HttpVerbs.Post)]
    [HttpPost]
    [ValidateAntiForgeryToken]
    public async Task<ActionResult> Edit([Bind(Include = "Id,Name,Gender,EmailAddress")] Gamer gamer)
    {
        if (ModelState.IsValid)
        {

```

```

        db.Entry(gamer).State = EntityState.Modified;
        await db.SaveChangesAsync();
        return RedirectToAction("Index");
    }
    return View(gamer);
}
// GET: Gamer/Delete/5
//[AcceptVerbs(HttpVerbs.Get)]
[HttpGet]
public async Task<ActionResult> Delete(int? id)
{
    if (id == null)
    {
        return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
    }
    Gamer gamer = await db.Gamers.FindAsync(id);
    if (gamer == null)
    {
        return HttpNotFound();
    }
    return View(gamer);
}
// POST: Gamer/Delete/5
//[AcceptVerbs(HttpVerbs.Post)]
[HttpPost, ActionName("Delete")]
[ValidateAntiForgeryToken]
public async Task<ActionResult> DeleteConfirmed(int id)
{
    Gamer gamer = await db.Gamers.FindAsync(id);
    db.Gamers.Remove(gamer);
    await db.SaveChangesAsync();
    return RedirectToAction("Index");
}
protected override void Dispose(bool disposing)
{
    if (disposing)
    {
        db.Dispose();
    }
    base.Dispose(disposing);
}
}
}

```

## 4.2. Controllers/HomeController.cs

```

using System.Web.Mvc;
namespace OnlineGame.Web.Controllers
{
    public class HomeController : Controller
    {
        // GET: Home
        //home/index
        //[AcceptVerbs(HttpVerbs.Get)]
        [HttpGet]
    }
}

```

```

public ActionResult Index()
{
    return View();
}
//home/list2
[ActionName("List2")]
public ActionResult Index2()
{
    return View();
}
//home/List3
[ActionName("List3")]
public ActionResult Index3()
{
    return View("Index3");
}
//home/Index4
public string Index4()
{
    return "<h1>Index4</h1>";
}
//home/Index5
[NonAction] // It is a bad design to use [NonAction] attribute
public string Index5()
{
    return "<h1>Index5</h1>";
}
//home/Index6
private string Index6()
{
    return "<h1>Index6</h1>";
}
}
}

```

### 4.3. Views/Home/Index.cshtml

```

@{
    ViewBag.Title = "Index";
}
<h2>Home Index</h2>

```

### 4.4. Views/Home/List2.cshtml

Add View

View name: Index

Template: Empty (without model)

Model class:

Options:

☐ Create as a partial view

☒ Reference script libraries

☒ Use a layout page:

(Leave empty if it is set in a Razor \_viewstart file)

Add Cancel

```
@{  
    ViewBag.Title = "List2";  
}  
<h2>Home List2</h2>
```

## 4.5. Views/Home/Index3.cshtml

Add View

View name: Index3

Template: Empty (without model)

Model class:

Data context class:

Options:

☐ Create as a partial view

☐ Reference script libraries

☒ Use a layout page:

(Leave empty if it is set in a Razor \_viewstart file)

Add Cancel

```
@{  
    ViewBag.Title = "Index3";  
}  
<h2>Home Index3</h2>
```