C# Web – MVC

PRO/PRW - C# Web 1

DE HOGESCHOOL
MET HET NETWERK

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Doel

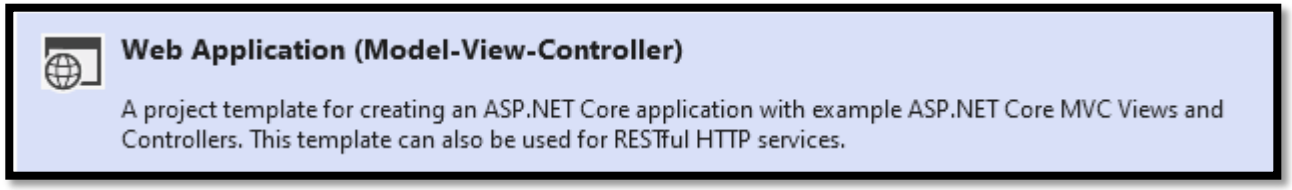
- ASP.Net Core toepassing
  - MVC Web Application
    - Models
    - Views
    - Controllers
  - Entity Framework Core

ASP.Net Core MVC

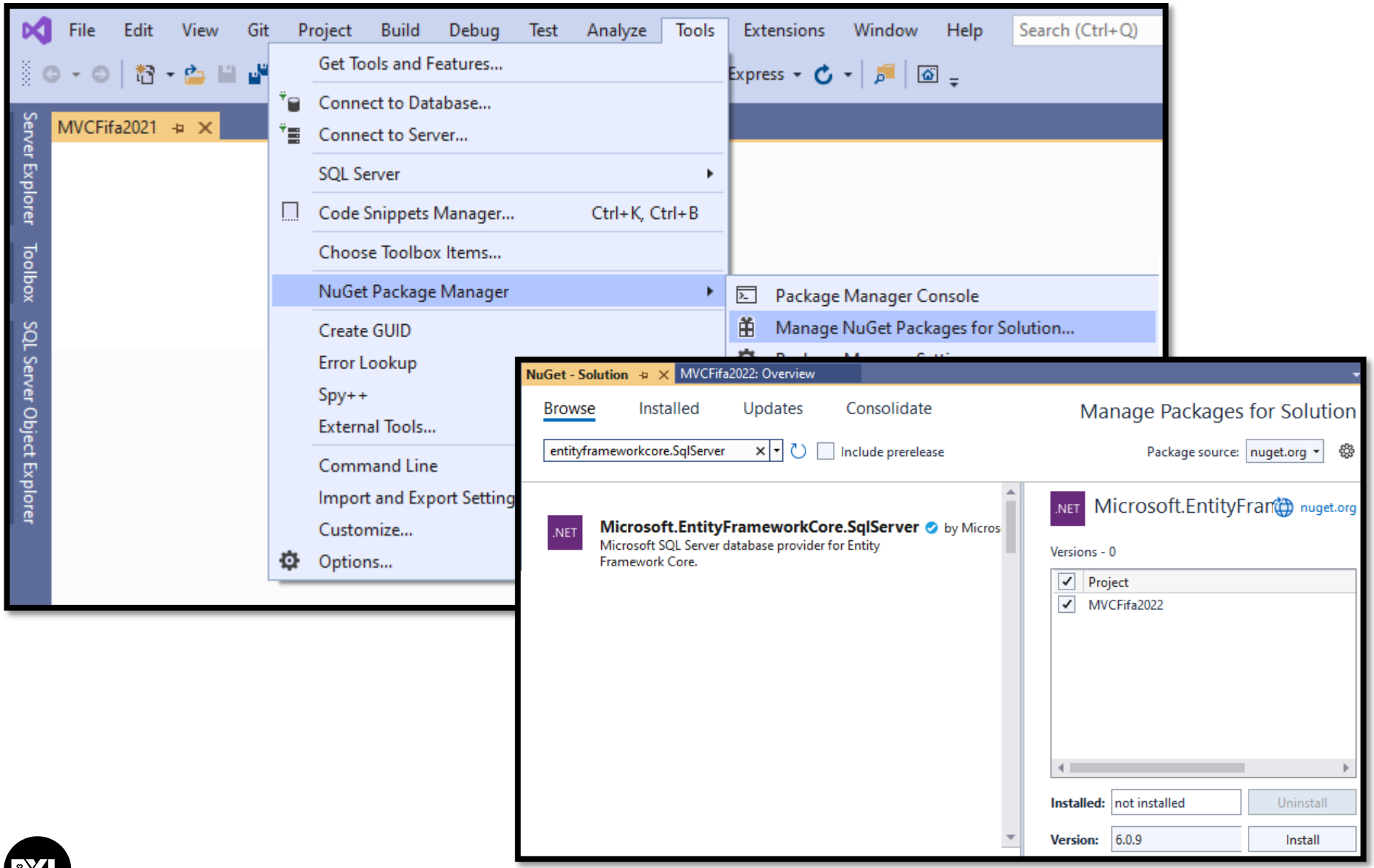
ENTITY FRAMEWORK

- **MVCFifa**

MVCFifa


Web Application (Model-View-Controller)
A project template for creating an ASP.NET Core application with example ASP.NET Core MVC Views and Controllers. This template can also be used for RESTful HTTP services.

Entity Framework Core – SQL Server – Nuget Package Manager



- Create Folder Data
  - Add class ApplicationDbContext.cs
    - BaseClass DbContext

```
using Microsoft.EntityFrameworkCore;

namespace MVCFifa.Data
{
  public class ApplicationDbContext : DbContext
  {
       public ApplicationDbContext(DbContextOptions<ApplicationDbContext> options)
                 : base(options)
      {
      }
  }
}
```

Models folder

- Add Player.cs

```
namespace MVCFifa.Models
{
    public class Player
    {
        public int? PlayerId { get; set; }
        [Required]
        public string? FirstName { get; set; }
        [Required]
        public string? LastName { get; set; }
        public string? ImageLink { get; set; }
    }
}
```

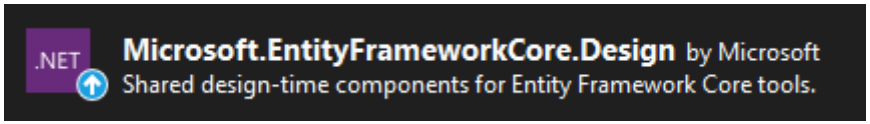
Program.cs

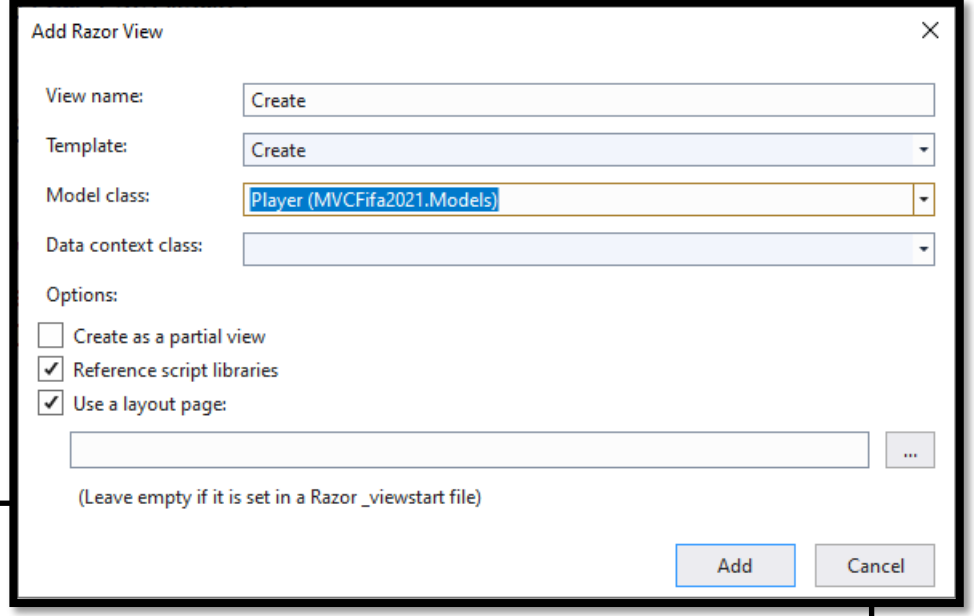
```
using Microsoft.EntityFrameworkCore;
using MVCFifa.Data;
using System.Text;

var builder = WebApplication.CreateBuilder(args);
var sb = new StringBuilder();
sb.Append("Server=(localdb)\\mssqllocaldb;");
sb.Append("Database=fifaDb;");
sb.Append("Trusted_Connection=true;");
sb.Append("MultipleActiveResultSets=true");
var connString = sb.ToString();
builder.Services.AddDbContext<ApplicationDbContext>(
       options => options.UseSqlServer(connString));
```

Controllers folder

- Add PlayerController.cs





Views folder

- Add folder Player
  - Scaffold Razor View - Index – List Template – Player Model
  - Scaffold Razor View - Create – Create Template – Player Model
  - Geen Data context class selecteren

Data folder

- Add new Table in database file - ApplicationDbContext

```
public class ApplicationDbContext : DbContext
{
    public ApplicationDbContext(DbContextOptions<ApplicationDbContext> options) : base(options)
    {
    }
    public DbSet<Player>? Players { get; set; }
}
```

Controllers folder

- Add PlayerController.cs
  - IActionResult Index()
  - IActionResult Create() (HttpGet)
  - IActionResult Create(Player player) (HttpPost)

Views folder

- Add folder Player
  - Razor View – Index.cshtml
  - Razor View – Create.cshtml

Data folder

- DbSet - Table “Players” in database file – ApplicationDbContext

```
public class ApplicationDbContext : DbContext
{
    public ApplicationDbContext(DbContextOptions<ApplicationDbContext> options)
        : base(options){}

    public DbSet<Player>? Players { get; set; }
}
```

Controllers - PlayerController

```
public class PlayerController : Controller
{
    public IActionResult Index()
    {
        return View();
    }
    [HttpGet]
    public IActionResult Create()
    {
        return View();
    }
    [HttpPost]
    public IActionResult Create(Player player)
    {
        return View();
    }
}
```

Dependency Injection

- PlayerController
  - Add Constructor
    - PlayerController(DbContext Service)

```
public class PlayerController : Controller
{
    ApplicationDbContext _context;
    public PlayerController(ApplicationDbContext context)
    {
        _context = context;
        _context.Database.EnsureCreated();
    }
…
```

- Styling the content
  - Views/Shared
    - _Layout.cshtml

- wwwroot folder
  - Add folder images
    - Add image fifa…

```
<header>
    <div class="text-center">
        <img src="~/images/fifa_header2.png" />
    </div>
</header>
<div class="row">
    <div class="col-1"></div>
    <div class="col-3">
        <br />
        <a asp-controller="Player" asp-action="Index">Players</a>
    </div>
    <div class="col-8"> @RenderBody()</div>
</div>
<footer class="border-top footer text-muted">
    <div class="container">
        &copy; PXL- MVCFifa
    </div>
</footer>
```

- PlayerController
  - Read data
    - Index

```
public IActionResult Index()
{
        var players = _context.Players;
        return View(players);
}
```

- PlayerController
  - Insert data
    - Create

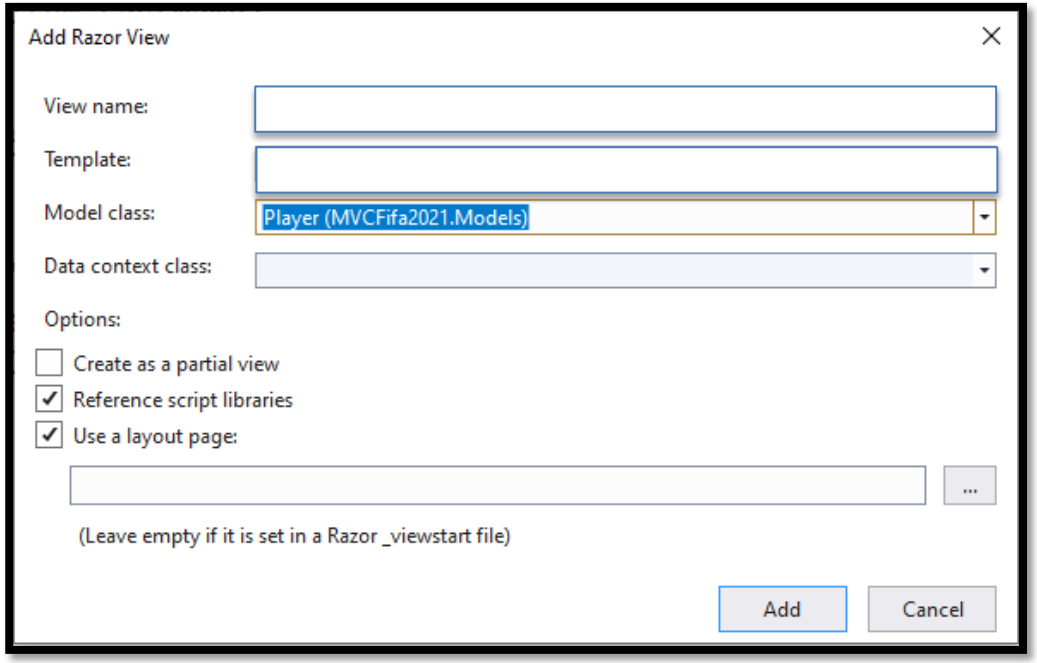
```
[HttpGet]
public IActionResult Create()
{
    var player = new Player();
    return View(player);
}
[HttpPost]
public IActionResult Create(Player player)
{
    if (ModelState.IsValid)
    {
        AddPlayer(player);
        return RedirectToAction("Index");
    }
    return View(player);
}
private void AddPlayer(Player player)
{
    _context.Players.Add(player);
    _context.SaveChanges();
}
```

Samenvatting Entity Framework

- Install Nuget package
- Update Startup class Program.cs
  - Service DBContext
- Create DbContext class file in Data folder
- Create Model -> Table -> DbSet
- Dependency Injection
  - Context class -> Controller
    - Context.SaveChanges()

Oefening

- Edit/Details/Delete



Views folder

- Scaffold razor views in Player folder
  - Scaffold Razor View - Details – Details Template – Player Model
  - Scaffold Razor View - Edit – Edit Template – Player Model
  - Scaffold Razor View - Delete – Delete Template – Player Model

- PlayerController
  - Details

```
public IActionResult Details(int id)
{
        var player = _context.Players.Where(x=>x.PlayerId == id).FirstOrDefault();
        return View(player);
}
```

Views/Player/Index.cshtml

```
…
@Html.ActionLink("Edit", "Edit", new { id = item.PlayerId }) |
@Html.ActionLink("Details", "Details", new { id=item.PlayerId}) |
@Html.ActionLink("Delete", "Delete", new { id = item.PlayerId })
<br>
<a asp-action="Details" asp-route-id="item.PlayerID">Details</a>
```

- PlayerController
  - Delete

```
[HttpGet]
public IActionResult Delete(int id)
{
    var player = _context.Players.Where(x => x.PlayerId == id).FirstOrDefault();
    return View(player);
}
[HttpPost]
public IActionResult DeletePost(int id)
{
    var player = _context.Players.Where(x => x.PlayerId == id).FirstOrDefault();
    _context.Players.Remove(player);
    _context.SaveChanges();
    return RedirectToAction("Index");
}
```

Views/Player/Delete.cshtml

```
<form asp-action="DeletePost" asp-route-id="@Model.PlayerId">
        <input type="submit" value="Delete" class="btn btn-danger" /> |
        <a asp-action="Index">Back to List</a>
</form>
```

- PlayerController
  - Update data
    - Edit

```
[HttpGet]
public IActionResult Edit(int id)
        {
            var player = _context.Players
               .Where(x => x.PlayerId == id)
               .FirstOrDefault();
            return View(player);
        }
[HttpPost]
public IActionResult Edit(Player player)
{
    if (ModelState.IsValid)
    {
        UpdatePlayer(player);
        return RedirectToAction("Index");
    }
    return View(player);
}
private void UpdatePlayer(Player player)
{
    _context.Players.Update(player);
    _context.SaveChanges();
}
```