C# Web – MVC

PRO/PRW - C# Web 1

**DE HOGESCHOOL
MET HET NETWERK**

Doel

- ASP.Net Core toepassing
  - MVC Web Application
    - Models
    - Views
    - Controllers
  - WebhostEnvironment
  - Entity framework
    - (Table reference keys) Project setup

ASP.NET CORE

MVCFifa2023

- PlayerController
    - Details
        - Upgrade -> show image in details page if exists

```
private IWebHostEnvironment _environment;
```

```
public class PlayerController : Controller
{
    ApplicationDbContext _context;
    private IWebHostEnvironment _environment;
    public PlayerController(ApplicationDbContext context,
                IWebHostEnvironment environment)
    {

            _context = context;
            //_context.Database.EnsureCreated();
            _environment = environment;
    }
```

- PlayerController
  - Details
    - Upgrade -> show image in details page if exists

```csharp
public IActionResult Details(int id)
{
    var player = _context.Players.Where(x=>x.PlayerId == id).FirstOrDefault();
    var fileExist=false;
    if(player.ImageLink != null)
    {
        var path = _environment.WebRootPath;
        var file = Path.Combine($"{path}\\images", player.ImageLink);
        fileExist = System.IO.File.Exists(file);
    }
    ViewBag.FileExist = fileExist;
    return View(player);
}
```

- PlayerController
  - Details
    - Upgrade -> show image in details page if exists

```
Views/Player/Details.cshtml
@{
    ViewData["Title"] = "Details";
    var fileExist = Convert.ToBoolean(ViewBag.FileExist);
    var imgLink = "";
    if(fileExist)
        imgLink = $"/images/{Model.ImageLink}";
}
…
@if (fileExist)
{
        <img src="@imgLink" width="200" />
}
```

- Download messi.jpg
  - Save messi.jpg in wwwroot/images folder
    - Create players record with messi.jpg in ImageLink column

Models folder
- Add Team.cs

```
namespace MVCFifa2023.Models
{
    public class Team
    {
        public int TeamId { get; set; }
        [Required]
        public string TeamName { get; set; }
    }
}
```

Controllers folder
- Add <mark>Team</mark>Controller.cs

Views folder
- Add folder <mark>Team</mark>
    - Scaffold Razor View - Index – List Template – Team Model
    - Scaffold Razor View - Create – Create Template – Team Model

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

Dependency Injection
- TeamController
  - Add Constructor
    - TeamController(DbContext Service)

```
public class TeamController : Controller
{
    ApplicationDbContext _context;
    public TeamController(ApplicationDbContext context)
    {
        _context = context;

    }
```

- TeamController
  - Read data
    - Index

```
public IActionResult Index()
{
        var teams = _context.Teams;
        return View(teams);

}
```

- TeamController
  - Insert data
    - Create

```csharp
[HttpGet]
public IActionResult Create()
{
    var team = new Team();
    return View(team);
}
[HttpPost]
public IActionResult Create(Team team)
{
    if (ModelState.IsValid)
    {
        _context.Teams.Add(team);
        _context.SaveChanges();
        return RedirectToAction("Index");
    }
    return View(team);
}
```

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

```
<div class="row">
    <div class="col-1"></div>
    <div class="col-3">
        <br />
        <a asp-controller="Player" asp-action="Index">Players</a>
        <br />
        <a asp-controller="Team" asp-action="Index">Teams</a>
    </div>
</div>
```

Database
- EnsureCreated()
  - Database is ondertussen gewijzigd in onze ApplicationDbContext
  - We moeten database wissen zodat hij ook de nieuwe tabellen aanmaakt via het EnsureCreated() commando

Models folder
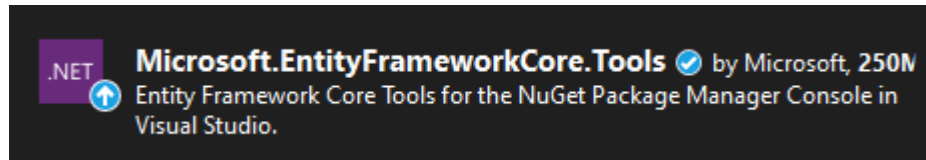- Add TeamPlayer.cs

```csharp
namespace MVCFifa2023.Models
{

    public class TeamPlayer
    {

        public int Id { get; set; }
        public int TeamId { get; set; }
        public int PlayerId { get; set; }
        public DateTime StartDate { get; set; }
        public DateTime EndDate { get; set; }


    }
}
```
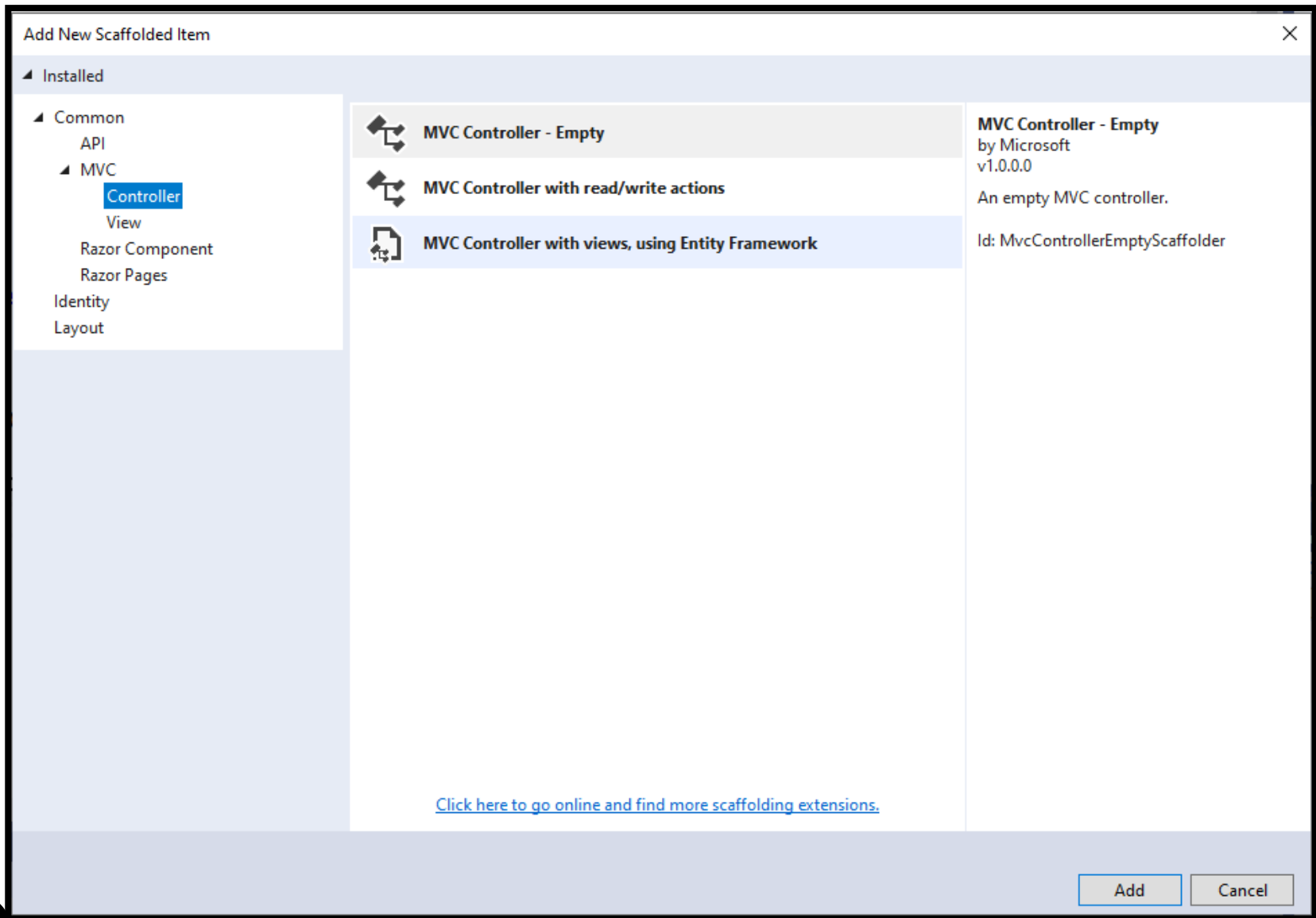
Scaffold – New controller

Scaffold – New controller

Nuget Package Manager Console

Install EntityFrameworkCore.Tools

Scaffold – New controller

Scaffold – New controller

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

```html
<div class="row">
    <div class="col-1"></div>
    <div class="col-3">
        <br />
      <a asp-controller="Player" asp-action="Index">Players</a>
        <br />
      <a asp-controller="Team" asp-action="Index">Teams</a>
        <br />
      <a asp-controller="TeamPlayer" asp-action="Index">Teamplayers</a>
    </div>
</div>
```

Database
- EnsureCreated()
    - Database is ondertussen gewijzigd in onze ApplicationDbContext
    - We moeten database wissen zodat hij ook de nieuwe tabellen aanmaakt via het EnsureCreated() commando
- Migrations

```csharp
public class ApplicationDbContext : DbContext
{
    public ApplicationDbContext(... options) : base(options)
    {
    }
    public DbSet<Team> Teams { get; set; }
    public DbSet<Player> Players { get; set; }
    public DbSet<TeamPlayer> TeamPlayers { get; set; }
```

AddModelError

TeamPlayerController
- **Create (HttpPost)**

```
public async Task<IActionResult>
Create([Bind("Id,TeamId,PlayerId,StartDate,EndDate")] TeamPlayer teamPlayer)
{
    if (ModelState.IsValid)
    {
        if (_context.Players.Where(x => x.PlayerId == teamPlayer.PlayerId).Count() == 0)
        {
            ModelState.AddModelError("Error",
                    "Er bestaat geen link tussen de playerid uit de 2 tabellen!");
            return View(teamPlayer);
        }
        else
        {
            ...
        }
        ...
    }
}
```

AddModelError

Views/TeamPlayers/Create

```
<div asp-validation-summary="All" class="text-danger"></div>
```

Oefening

Voeg ook een controle toe die controleert of de teamid al bestaat in de Teams tabel

21

Oefening

Voeg ook een controle toe zodat de teamid al bestaat in de Teams tabel

```csharp
if (_context.Players.Where(x => x.PlayerId == teamPlayer.PlayerId).Count() == 0)
{
    ModelState.AddModelError("Error", "Foutieve foreign key met de players tabel ");
    return View(teamPlayer);
}
else
{
    if (_context.Teams.Where(x => x.TeamId == teamPlayer.TeamId).Count() == 0)
    {
        ModelState.AddModelError("Error", "Foutieve foreign key met de teams tabel ");
        return View(teamPlayer);
    }
    else
    {
        _context.Add(teamPlayer);
        await _context.SaveChangesAsync();
        return RedirectToAction(nameof(Index));
    }
}
```

Oefening

Uitbreiding MvcFifa2023

- PlayerController
  - Create action
    - Delete imgLink property in the create View
      - Create Action CreateImage
      - Add new View "CreateImage" to upload image
      - Save imageLink in the datamodel

ASP.NET CORE

MVC Web Application – Scaffold controller

- **Oefening 10**