



# 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
    - Entity framework – Sql server
      - Table reference keys
    - Configuration
      - Appsettings.json
    - Entity framework Tools
      - Migrations

# ASP.NET CORE

MVC Web Application  
Configuration  
Appsettings.json

Program.cs

```
var builder = WebApplication.CreateBuilder(args);  
var connString =  
    builder.Configuration.GetConnectionString("ApplicationDbContext");
```

Appsettings.json

```
, "ConnectionStrings": {  
    "ApplicationDbContext": "Server=(localdb)\\mssqllocaldb;  
        Database=fifa2023; Trusted_Connection=True;  
        MultipleActiveResultSets=true"  
}
```

```
,  
    "AllowedHosts": "*",  
    "ConnectionStrings": {  
        "ApplicationDbContext": "Server=(localdb)\\mssqllocaldb;  
            Database=fifa2023; MultipleActiveResultSets=true"  
    }  
}
```

# ASP.NET CORE

MVC Web Application  
Foreign key reference

```
public class TeamPlayer
{
    public int Id { get; set; }
    [Required]
    public int TeamId { get; set; }
    [Required]
    public int PlayerId { get; set; }
    [Required]
    public DateTime StartDate { get; set; }
    [Required]
    public DateTime EndDate { get; set; }

    public Team? Team { get; set; }

    public Player? Player { get; set; }
}
```

```
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; }

    public ICollection<TeamPlayer>? TeamPlayers { get; set; }
}
```

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

    public ICollection<TeamPlayer>? TeamPlayers { get; set; }
}
```



# ASP.NET CORE

MVC Web Application  
EntityFramework - Tools  
Migrations

## Microsoft.EntityFrameworkCore.Tools (.Net 6)

- Nuget Package Manager



**Microsoft.EntityFrameworkCore.Tools** ✓ by Microsoft, 111M downloads

v3.1.18

Entity Framework Core Tools for the NuGet Package Manager Console in Visual Studio.

v5.0.10

### Description

Entity Framework Core Tools for the NuGet Package Manager Console in Visual Studio.

Enables these commonly used commands:

Add-Migration  
Drop-Database  
Get-DbContext  
Scaffold-DbContext  
Script-Migrations  
Update-Database

**Version:** 3.1.19

- Delete database fifa2023
  - Remove Database.EnsureCreated()  
(TeamController & PlayerController)
- Nuget Package Manager console
  - Add-migration initial
  - Update-database

```
Package Manager Console
Package source: All
PM> add-migration initial
Build started...
Build succeeded.
To undo this action, use Remove-Migration.
PM> update-database
Build started...
Build succeeded.
```

```

migrationBuilder.CreateTable(
    name: "TeamPlayers",
    columns: table => new
    {
        Id = table.Column<int>(nullable: false)
            .Annotation("SqlServer:Identity", "1, 1"),
        TeamId = table.Column<int>(nullable: false),
        PlayerId = table.Column<int>(nullable: false),
        StartDate = table.Column<DateTime>(nullable: false),
        EndDate = table.Column<DateTime>(nullable: false)
    },
    constraints: table =>
    {
        table.PrimaryKey("PK_TeamPlayers", x => x.Id);
        table.ForeignKey(
            name: "FK_TeamPlayers_Players_PlayerId",
            column: x => x.PlayerId,
            principalTable: "Players",
            principalColumn: "PlayerId",
            onDelete: ReferentialAction.Cascade);
        table.ForeignKey(
            name: "FK_TeamPlayers_Teams_TeamId",
            column: x => x.TeamId,
            principalTable: "Teams",
            principalColumn: "TeamId",
            onDelete: ReferentialAction.Cascade);
    });

```

- Player creation
  - Update form
    - Add Combobox Teams
    - Create Model
    - Add Create2 Action

## Create

### Player

---

FirstName

LastName

ImageLink

TeamId

Create

[Back to List](#)

- Player creation
  - Update form
    - Add Combobox Teams
    - Create Model
    - Add Create2 Action

- New ViewModel (Project/ViewModels folder)
  - NewPlayer.cs

```
public class NewPlayer : Player
{
    public int TeamId { get; set; }
}
```

## Create

### Player

FirstName

LastName

ImageLink

TeamId

[Back to List](#)

- PlayerController

```
[HttpGet]
public IActionResult Create2()
{
    var player = new NewPlayer();
    ViewData["TeamId"] = new SelectList(_context.Teams,
    "TeamId", "TeamName");
    return View(player);
}
[HttpPost]
public IActionResult Create2(NewPlayer player)
{
    if (ModelState.IsValid)
    {
        AddNewPlayer(player);
        return RedirectToAction("Index");
    }
    return View(player);
}
```

## Create

### Player

FirstName

LastName

ImageLink

TeamId

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- Views/Player/Create2.cshtml

```
@model MVCFifa2023.ViewModels.NewPlayer
```

```
...
```

```
<div class="row">
```

```
  <div class="col-md-4">
```

```
    <form asp-action="Create">
```

```
      ...
```

```
      <div class="form-group">
```

```
        <label asp-for="TeamId" class="control-label"></label>
```

```
        <select asp-for="TeamId" class="form-control" asp-items="ViewBag.TeamId"></select>
```

```
      </div>
```

## Create

### Player

FirstName

LastName

ImageLink

TeamId

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- PlayerController

```
private void AddNewPlayer(NewPlayer player)
{
    Player p = new Player();
    p.FirstName = player.FirstName;
    p.LastName = player.LastName;
    p.ImageLink = player.ImageLink;
    _context.Players.Add(p);
    _context.SaveChanges();

    var tp = new TeamPlayer();
    tp.PlayerId = p.PlayerId;
    tp.TeamId = player.TeamId;
    tp.StartDate = DateTime.Now;
    tp.EndDate = DateTime.Now.AddMonths(3);
    _context.TeamPlayers.Add(tp);
    _context.SaveChanges();
}
```

## Create

### Player

FirstName

LastName

ImageLink

TeamId

[Back to List](#)



- TeamController
  - List Template – add hyperlink to PlayerOverview
  - New Action – PlayerOverview
  - New View – PlayerOverview
    - Show all players from 1/1/year(now)
      - TeamName – FirstName - LastName

<a href="#">Players</a>		
<a href="#">Teams</a>		
<a href="#">TeamPlayers</a>		
<h2>Index</h2>		
<a href="#">Create New</a>		
TeamId	TeamName	
1	PSG	<a href="#">PlayerOverview</a>
2	LA Galaxy	<a href="#">PlayerOverview</a>

# ASP.NET CORE

Oefening 11  
EntityFramework - Tools  
Migrations