

3. Model and Controller

A Complete MVC Application

CodeLab 3.2

- 要求开发一个员工信息管理的 MVC应用
- 员工信息包括：
 - 工号
 - 姓名
 - 职务
 - 国籍
- 管理功能包括：
 - 罗列所有员工信息
 - 添加新员工信息
 - 更改现有员工信息
 - 删除员工信息

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Models

- To represent this data, create a model class.
- What model does the project need?
 - 员工信息包括：
 - 工号
 - 姓名
 - 职务
 - 国籍

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Project: The Employee Model

```
public class Employee
{
    public int EmployeeId { get; set; } //工号
    public string EmployeeName { get; set; } //姓名
    public string Title { get; set; } //职务
    public string Country { get; set; } //国籍
}
```

Models
Employee.cs

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Controllers (一)

- Controllers are C# classes inherited from Controller class.
- The convention in ASP.NET Core projects is to put controller classes in a folder named Controllers.
- Controller classes have names that end with Controller, such as EmployeeManagerController.

```
public class EmployeeManagerController : Controller
{
    //Some code
}
```

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Controllers (二)

- Each public method defined by a controller is an **action**, which means you can invoke the action method to handle an HTTP request.

```
public class EmployeeManagerController : Controller
{
    public IActionResult List()//罗列员工信息
    {
    }
    public IActionResult Insert()//新增员工
    {
    }
}
```

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Project: EmployeeManagerController

```
public class EmployeeManagerController : Controller
{
    //罗列员工信息
    public IActionResult List()
    //新增员工信息
    public IActionResult Insert(Employee model)
    //更新员工信息
    public IActionResult Update(Employee model)
    //删除员工信息
    public IActionResult Delete(int EmployeeId)
}
```

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4. Repository Pattern

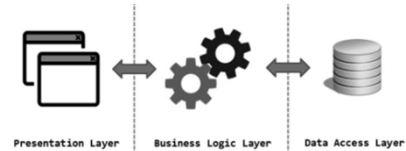
Enterprise Application Architecture (一)

- Enterprise Applications are usually large-scale data-driven applications.
 - They deal with large amounts of data.
 - They store data in some data store.
 - The data is used in multiuser environment.
- Is it a good practice to write all the data operation details into the controller?

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Enterprise Application Architecture (二)

- Applications are divided into three conceptual layers.
- Following a classic layering architecture, each layer must be independent and isolated to limit tight coupling.



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Enterprise Application Architecture (三)

- The data layer is where the persistence code goes.
- Several patterns are commonly used in data layer:
 - Repository (Object-Relational Metadata Mapping)
 - Unit of Work (Object-Relational Behavioral)
 - Lazy Load (Object-Relational Behavioral)

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