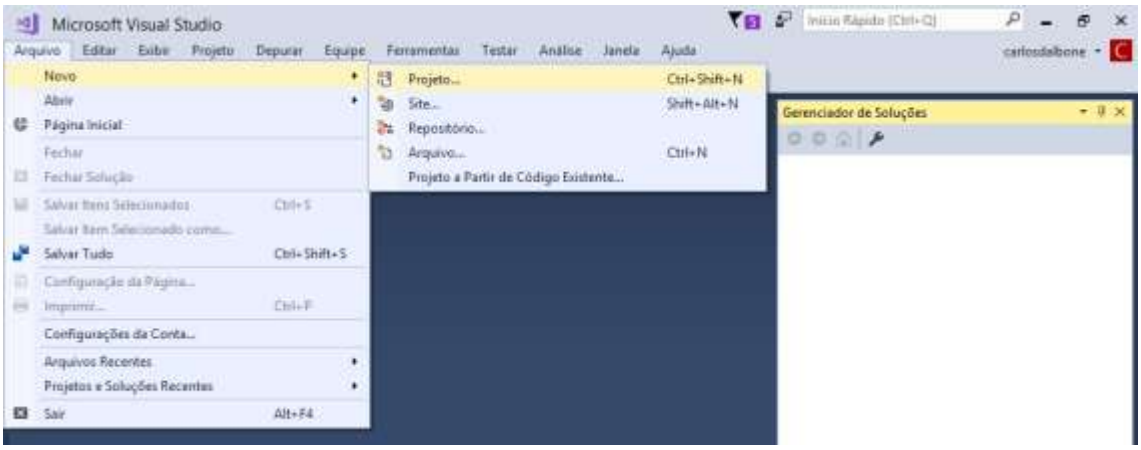
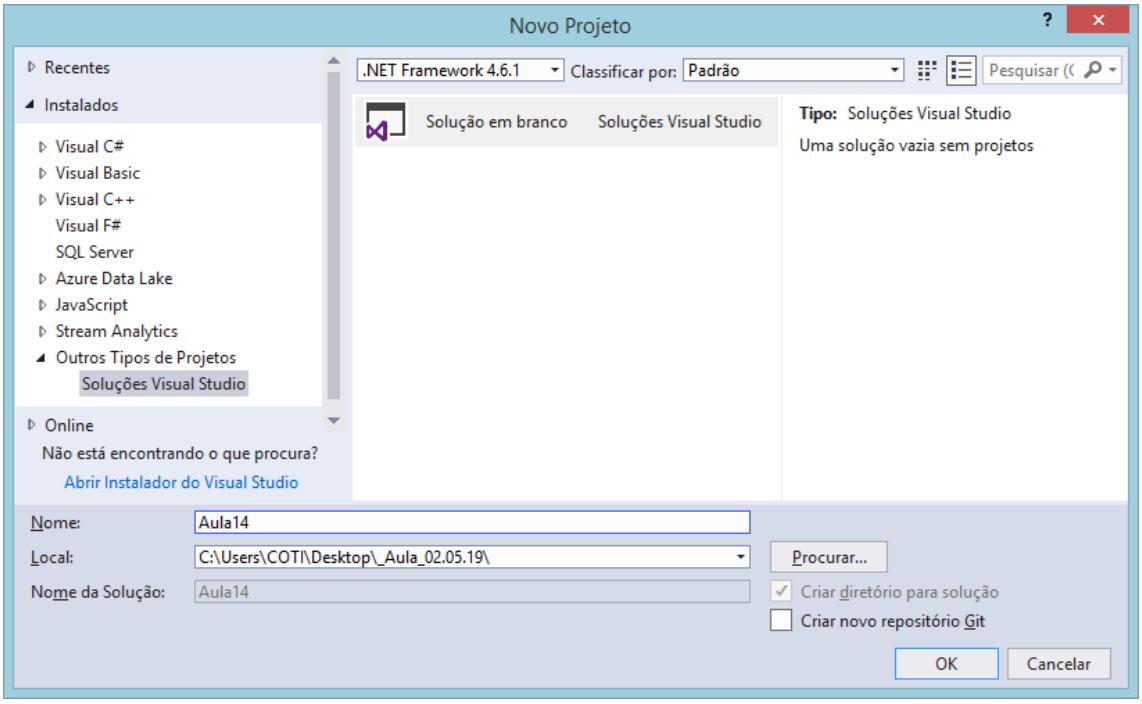
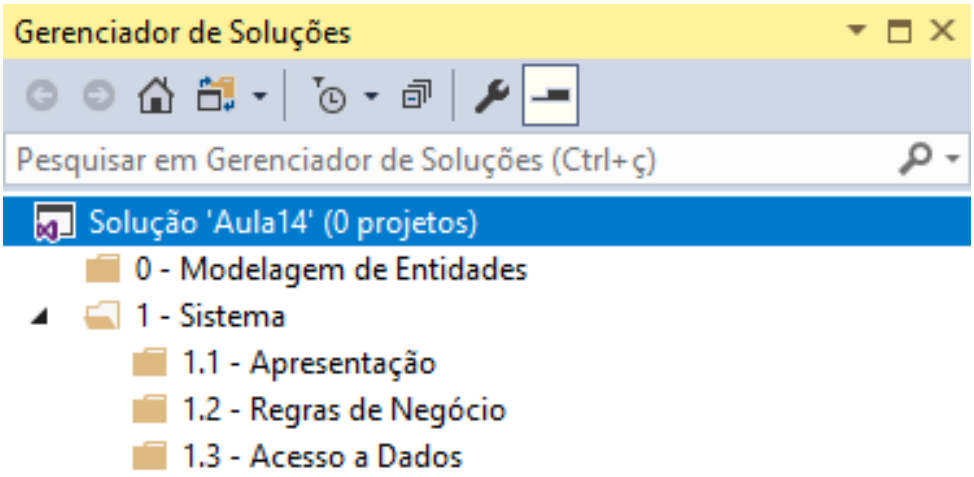
## Criando uma nova solution em branco:

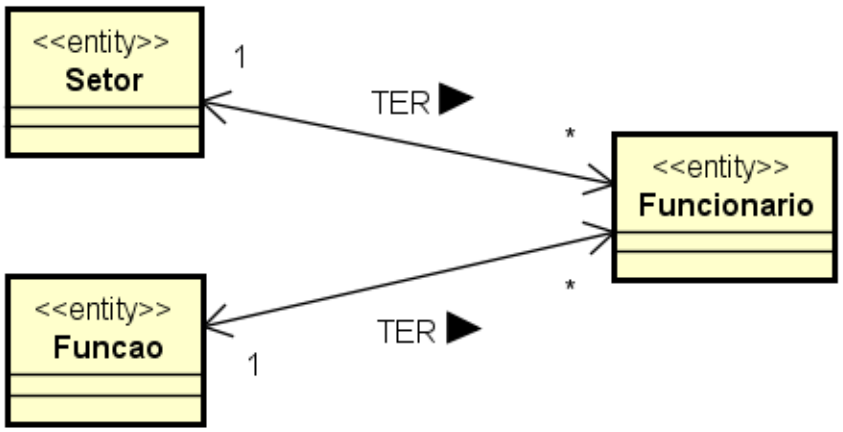


# 0 - Modelagem de entidades

Biblioteca de Classes .NET Framework





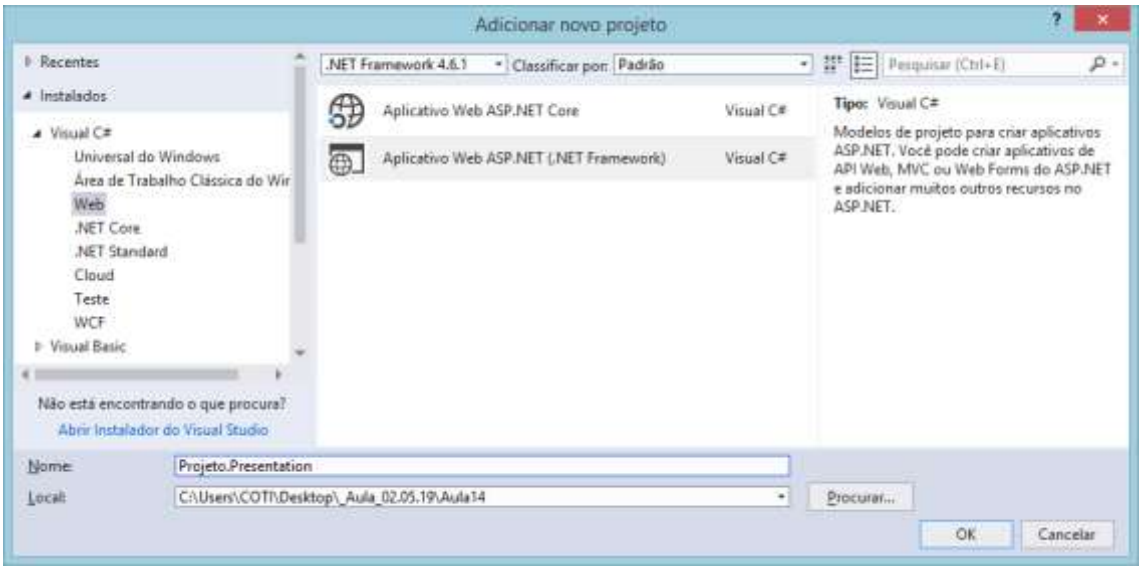
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Projeto.Entities
{
    public class Funcionario
    {
        public int IdFuncionario { get; set; }
        public string Nome { get; set; }
        public decimal Salario { get; set; }
        public DateTime DataAdmissao { get; set; }

        public int IdSetor { get; set; } //FK no banco de dados
        public int IdFuncao { get; set; } //FK no banco de dados
```

```
        //Relacionamento com as demais classes
        public Setor Setor { get; set; } //Funcionario TEM 1 Setor
        public Funcao Funcao { get; set; } //Funcionario TEM 1 Função

        public Funcionario()
        {

        }

        public Funcionario(int idFuncionario, string nome, decimal salario,
                           DateTime dataAdmissao)
        {
            IdFuncionario = idFuncionario;
            Nome = nome;
            Salario = salario;
            DataAdmissao = dataAdmissao;
        }

        public override string ToString()
        {
            return $"Id: {IdFuncionario}, Nome: {Nome},
                     Salário: {Salario}, Admissão: {DataAdmissao}";
        }
    }
}

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Projeto.Entities
{
    public class Funcao
    {
        public int IdFuncao { get; set; }
        public string Nome { get; set; }

        //Relacionamento TER-MUITOS
        public List<Funcionario> Funcionarios { get; set; }

        public Funcao()
        {

        }

        public Funcao(int idFuncao, string nome)
        {
            IdFuncao = idFuncao;
            Nome = nome;
        }

        public override string ToString()
        {
            return $"Id: {IdFuncao}, Nome: {Nome}";
        }
```

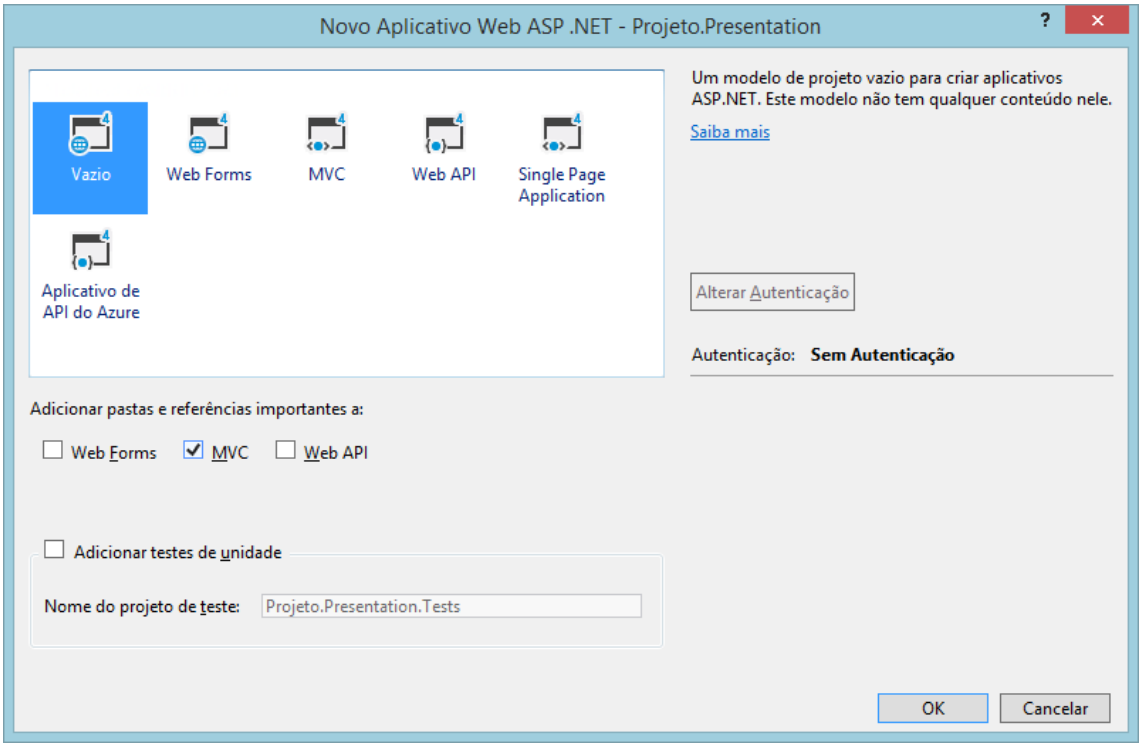
```
    }
}

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;

namespace Projeto.Entities
{
    public class Setor
    {
        public int IdSetor { get; set; }
        public string Nome { get; set; }

        //Relacionamento TER-MUITOS
        public List<Funcionario> Funcionarios { get; set; }

        public Setor()
        {

        }

        public Setor(int idSetor, string nome)
        {
            IdSetor = idSetor;
            Nome = nome;
        }

        public override string ToString()
        {
            return $"Id: {IdSetor}, Nome: {Nome}";
        }
    }
}
```

# 1.1 - Camada de Apresentação

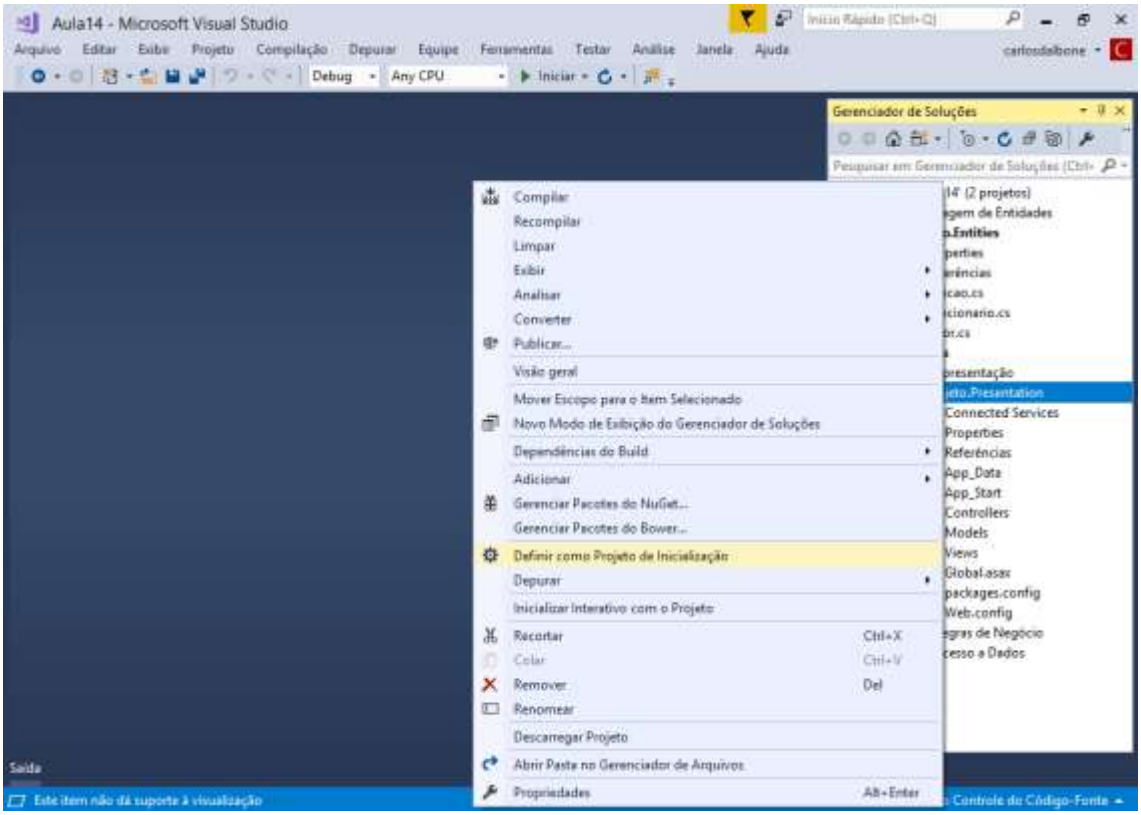
Projeto Asp.Net MVC



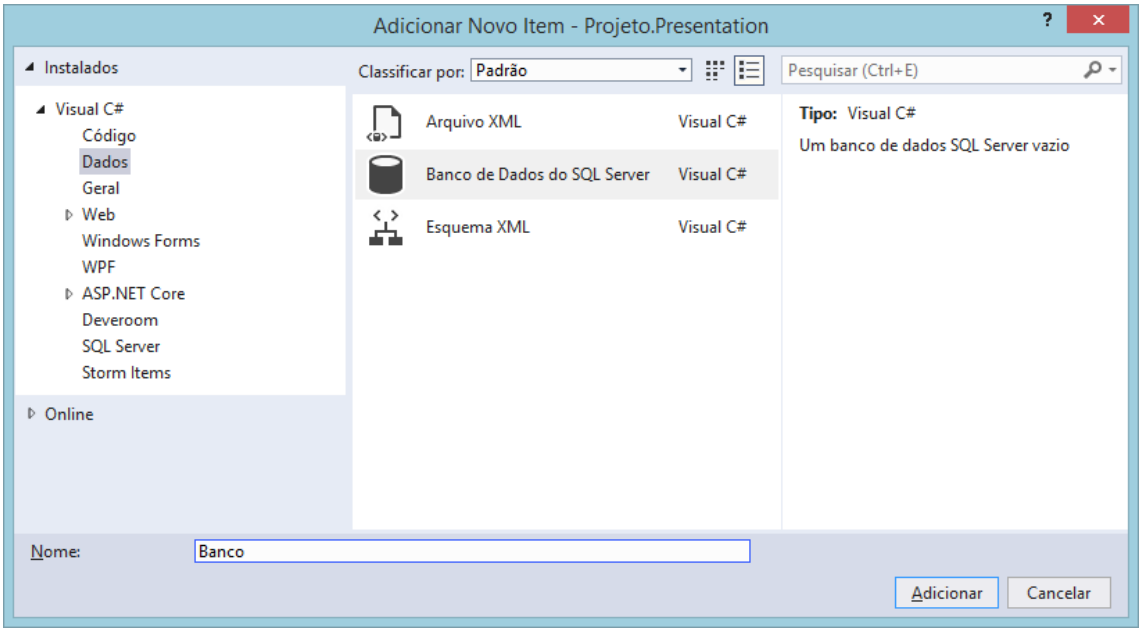
Escolha: Vazio / MVC

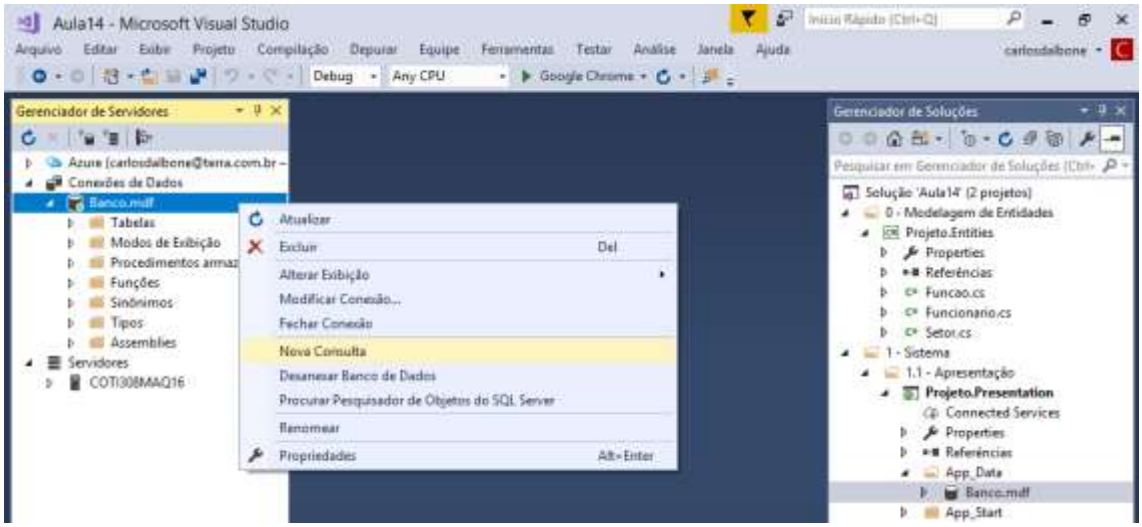



**Definindo o projeto de inicialização da solution:**



Criando um banco de dados
**MDF - Master Database File**

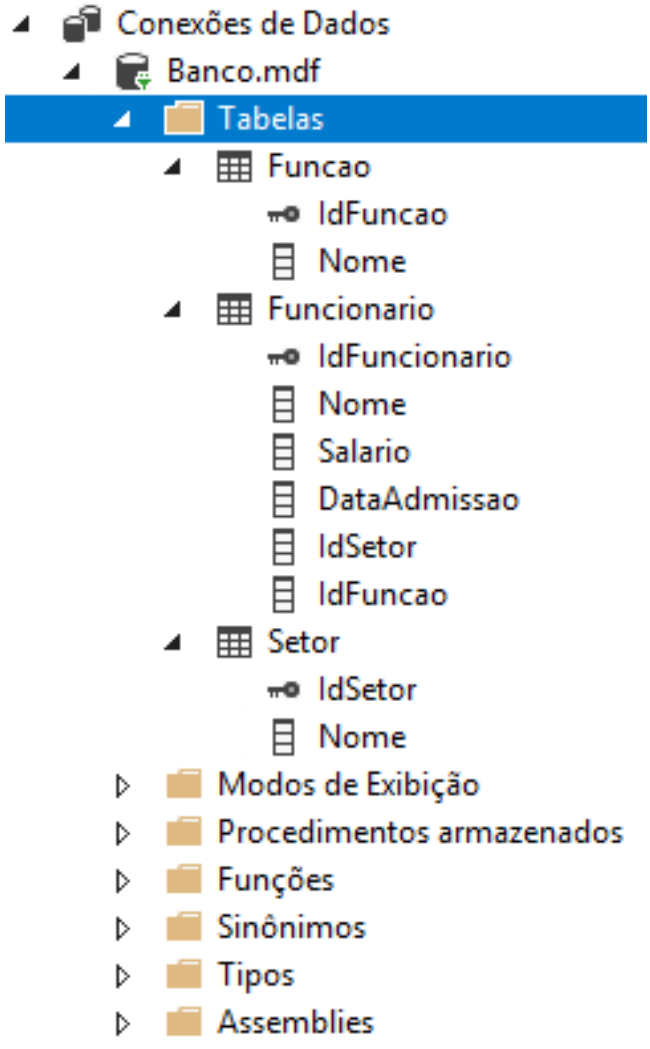



```
create table Setor(
       IdSetor              integer       identity(1,1),
       Nome                 nvarchar(100) not null,
       primary key(IdSetor))

insert into Setor(Nome) values('Recursos Humanos')
insert into Setor(Nome) values('Desenvolvimento de Sistemas')
insert into Setor(Nome) values('Contabilidade')
insert into Setor(Nome) values('Engenharia de Produção')

create table Funcao(
       IdFuncao             integer       identity(1,1),
       Nome                 nvarchar(100) not null,
       primary key(IdFuncao))
```

```
insert into Funcao(Nome) values('Estagiario')
insert into Funcao(Nome) values('Gerente')
insert into Funcao(Nome) values('Supervisor')
insert into Funcao(Nome) values('Operacional')
insert into Funcao(Nome) values('Analista')

create table Funcionario(
	IdFuncionario		integer		identity(1,1),
	Nome			nvarchar(150) not null,
	Salario			decimal(18,2) not null,
	DataAdmissao		date		not null,
	IdSetor			integer		not null,
	IdFuncao		integer		not null,
	primary key(IdFuncionario),
	foreign key(IdSetor) references Setor(IdSetor),
	foreign key(IdFuncao) references Funcao(IdFuncao))

------------------
```

**Tabelas criadas:**



# Web.config.xml

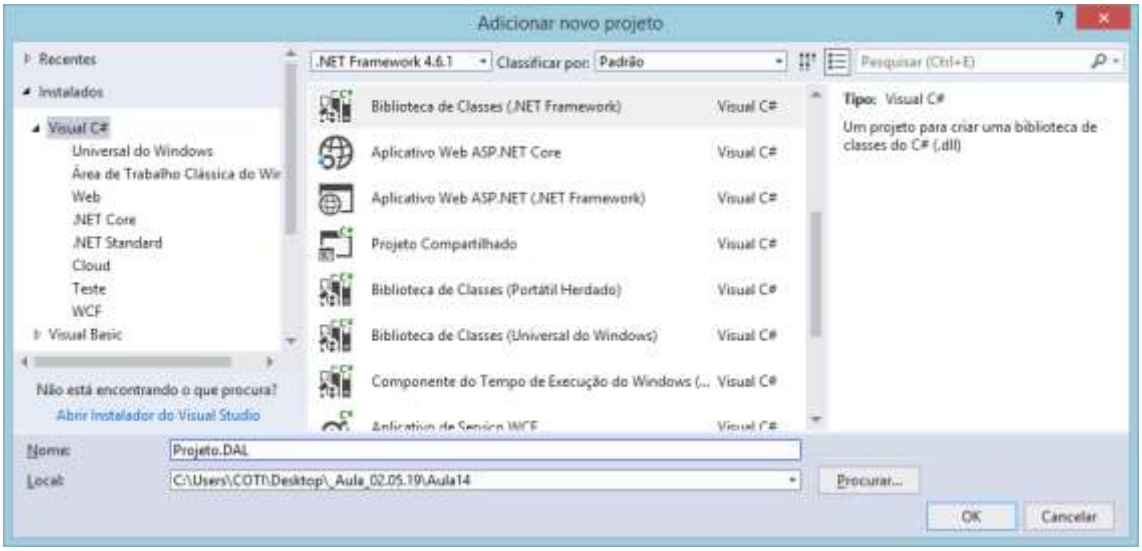
Mapeando a string de conexão com o banco de dados

```
<connectionStrings>
  <add
      name="projeto"
      connectionString="Data Source=(LocalDB)\MSSQLLocalDB;
            AttachDbFilename=C:\Users\COTI\Desktop\
            _Aula_02.05.19\Aula14\Projeto.Presentation\
            App_Data\Banco.mdf;Integrated Security=True"
    />
</connectionStrings>
```

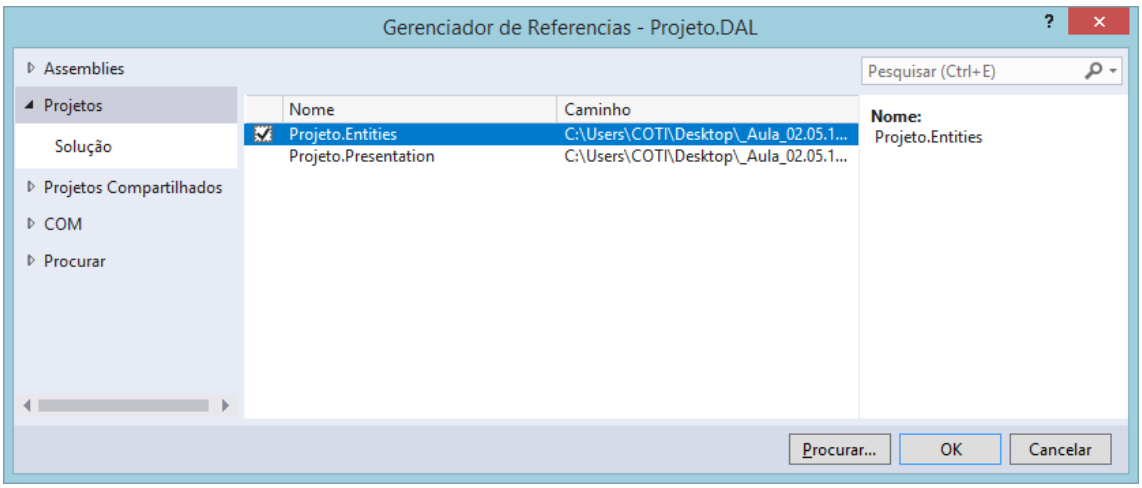
---

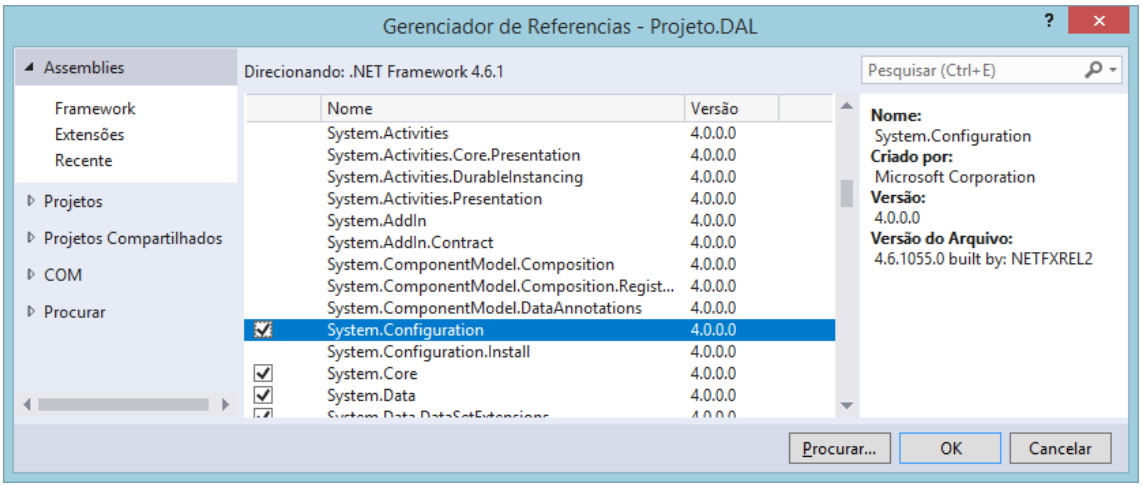
# 1.3 - Camada de Acesso a Dados

Repositório de banco de dados



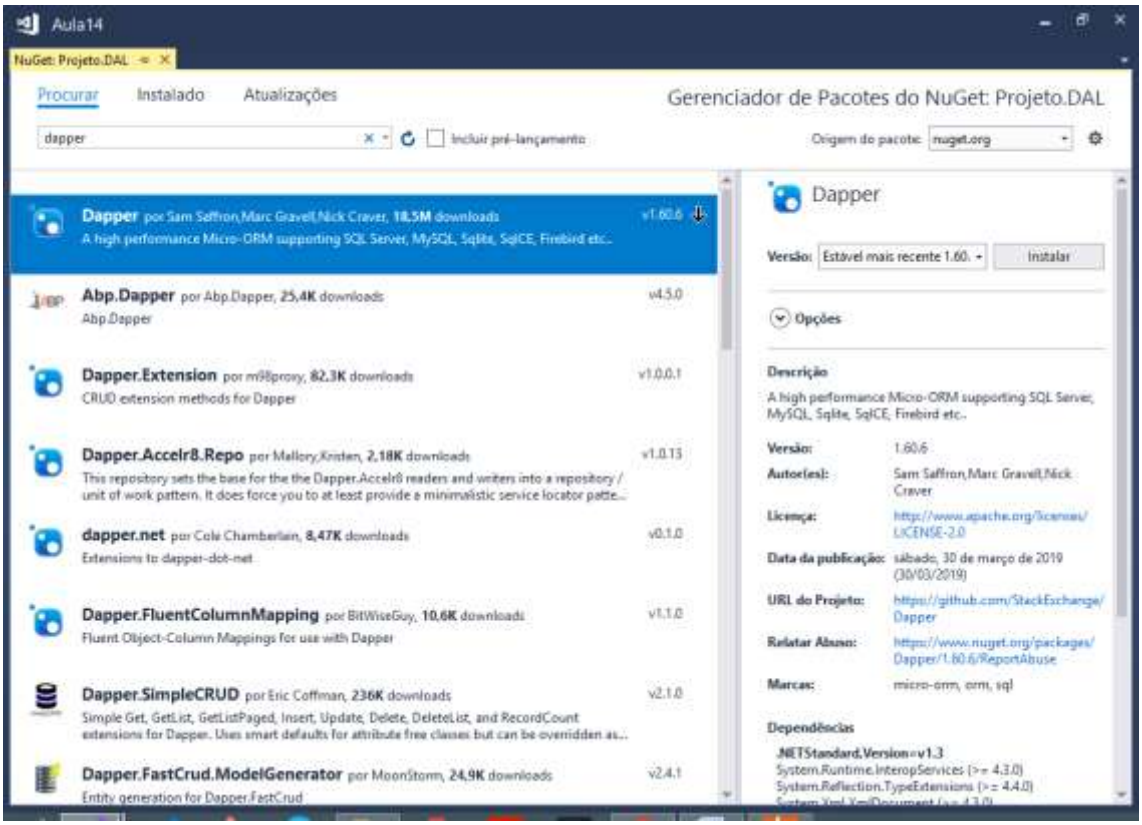

**Adicionando referencias no projeto:**






# Instalando o Dapper:

Gerenciador de pacotes do NuGet



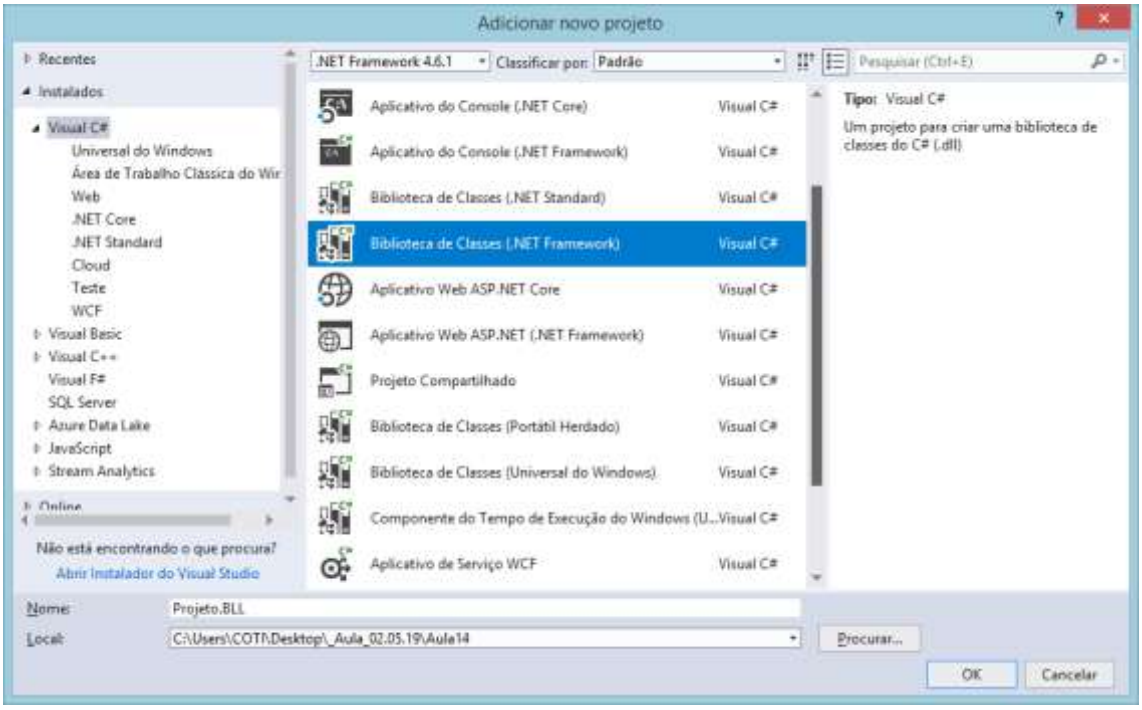

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Data.SqlClient; //importando
using System.Configuration; //importando
using Projeto.Entities; //importando
using Dapper; //importando
```

```
namespace Projeto.DAL
{
    public class FuncionarioRepository
    {
        //atributo
        private string connectionString;

        //construtor
        public FuncionarioRepository()
        {
            connectionString = ConfigurationManager.ConnectionStrings
                               ["projeto"].ConnectionString;
        }

        //método para inserir um funcionario na base de dados
        public void Insert(Funcionario funcionario)
        {
            using (SqlConnection conn = new SqlConnection(connectionString))
            {
                string query = "insert into Funcionario(Nome, Salario, "
                             + "DataAdmissao, IdSetor, IdFuncao) "
                             + "values(@Nome, @Salario, @DataAdmissao, "
                             + "@IdSetor, @IdFuncao)";

                conn.Execute(query, funcionario);
            }
        }

    }
}

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Data.SqlClient;
using System.Configuration;
using Dapper;
using Projeto.Entities;

namespace Projeto.DAL
{
    public class FuncaoRepository
    {
        //atributo
        private string connectionString;

        //construtor
        public FuncaoRepository()
        {
            connectionString = ConfigurationManager.ConnectionStrings
                               ["projeto"].ConnectionString;
```

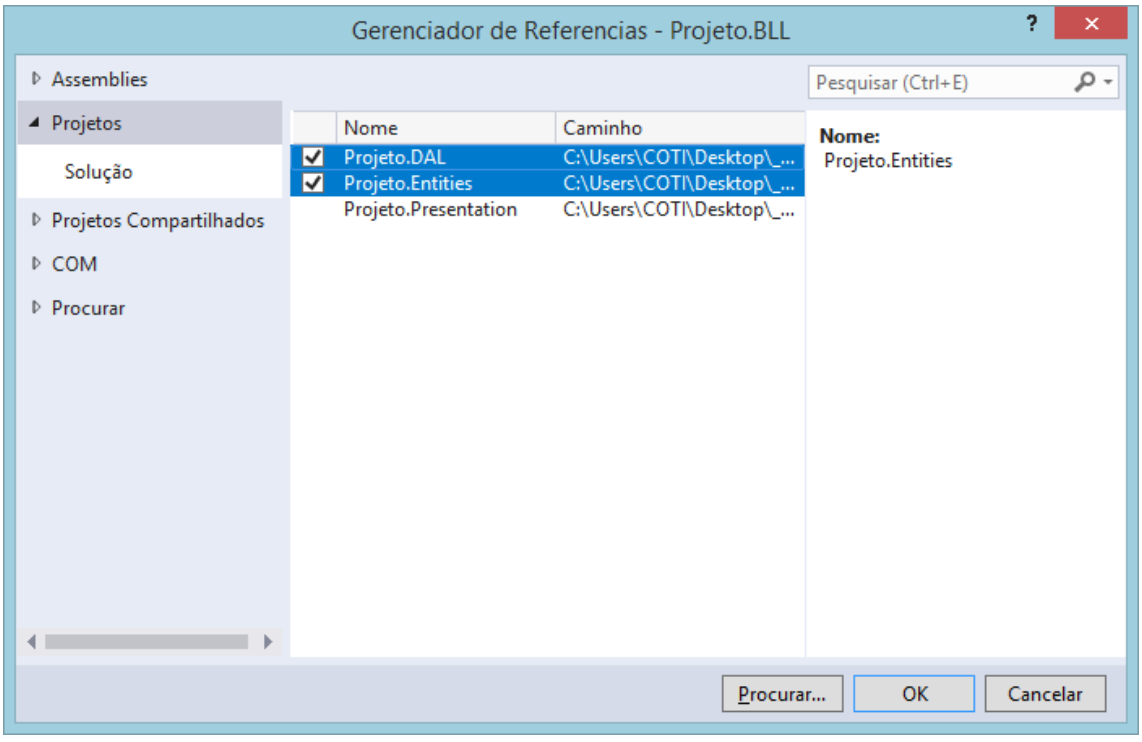
```
        }

        public List<Funcao> FindAll()
        {

            using (SqlConnection conn = new SqlConnection(connectionString))
            {
                string query = "select * from Funcao order by Nome";

                return conn.Query<Funcao>(query).ToList();
            }
        }
    }
}

using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using System.Data.SqlClient;
using System.Configuration;
using Dapper;
using Projeto.Entities;

namespace Projeto.DAL
{
    public class SetorRepository
    {
        //atributo..
        private string connectionString;

        public SetorRepository()
        {
            connectionString = ConfigurationManager.ConnectionStrings
                               ["projeto"].ConnectionString;
        }

        public List<Setor> FindAll()
        {
            using (SqlConnection conn = new SqlConnection())
            {
                string query = "select * from Setor order by Nome";

                return conn.Query<Setor>(query).ToList();
            }
        }
    }
}
```

# 1.2 - Camada de Regras de Negócio:

Biblioteca de Classes .NET Framework




**Adicionando referencias:**



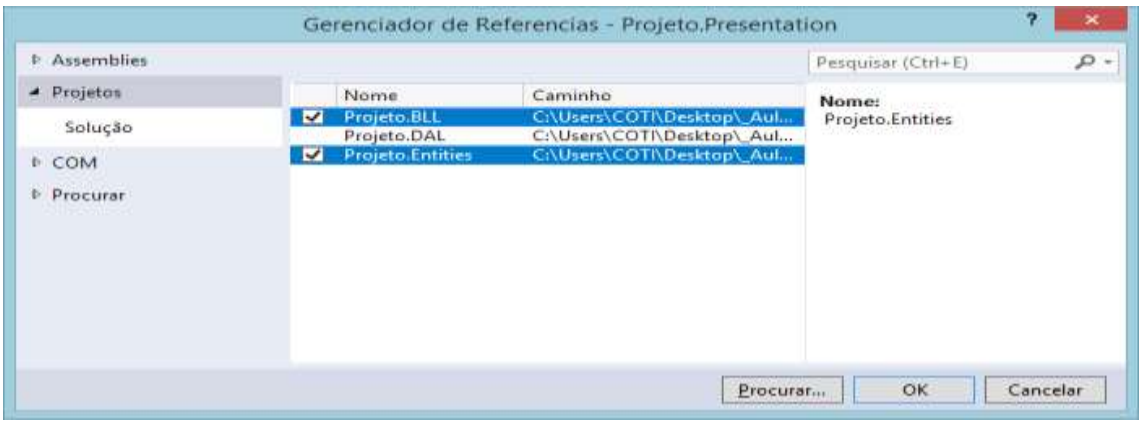
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using Projeto.Entities; //importando
using Projeto.DAL; //importando

namespace Projeto.BLL
{
    public class FuncionarioBusiness
    {
        //atributo
        private FuncionarioRepository repository;

        //construtor -> ctor + 2x[tab]
        public FuncionarioBusiness()
        {
            repository = new FuncionarioRepository();
        }

        //método para cadastrar funcionario
        public void CadastrarFuncionario(Funcionario funcionario)
        {
            repository.Insert(funcionario);
        }
    }
}
```

---

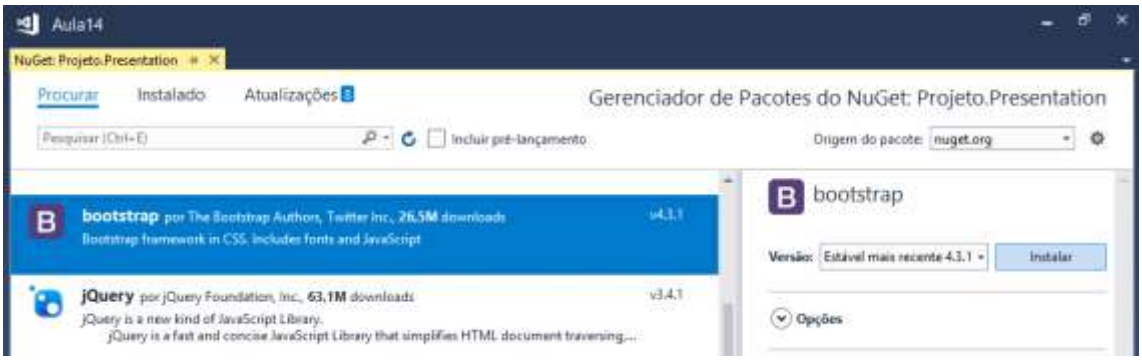
```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using Projeto.Entities;
using Projeto.DAL;

namespace Projeto.BLL
{
    public class FuncaoBusiness
    {
        //atributo
        private FuncaoRepository repository;

        //construtor
        public FuncaoBusiness()
        {
            repository = new FuncaoRepository();
        }

        //método para executar a consulta de funções
        public List<Funcao> ConsultarFuncoes()
        {
            return repository.FindAll();
        }
    }
}
```

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Text;
using System.Threading.Tasks;
using Projeto.DAL;
using Projeto.Entities;

namespace Projeto.BLL
{
    public class SetorBusiness
    {
        //atributo
        private SetorRepository repository;

        public SetorBusiness()
        {
            repository = new SetorRepository();
        }

        public List<Setor> ConsultarSetores()
        {
            return repository.FindAll();
        }
    }
}
```

**Adicionando referências no projeto Asp.Net MVC:**

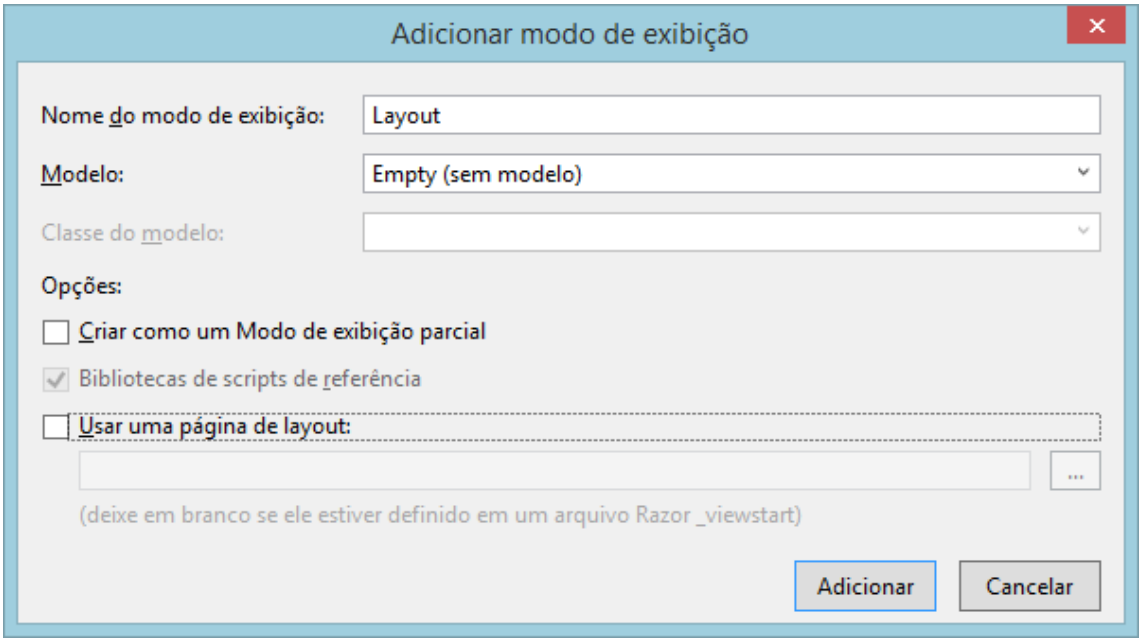



**Instalando o bootstrap:**



Criando uma página de layout mestre

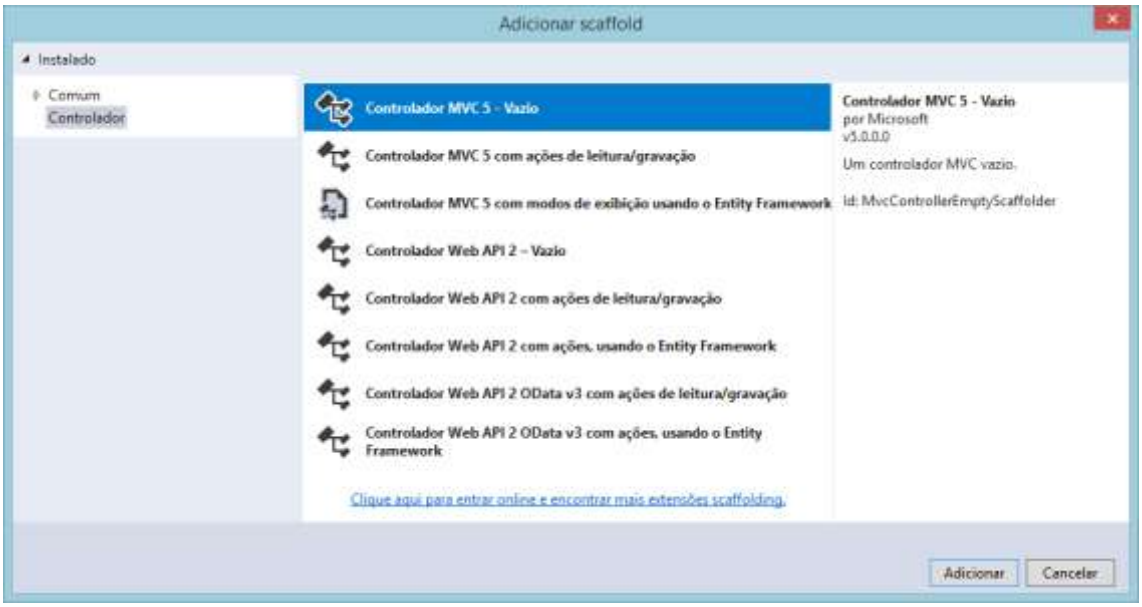
# /Views/Shared/Layout.cshtml

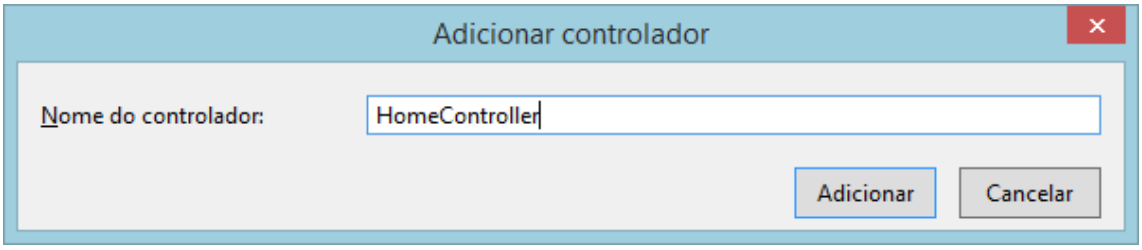



```
@{
    Layout = null;
}

<!DOCTYPE html>

<html>
<head>
    <meta name="viewport" content="width=device-width" />
    <title>Projeto</title>

    <!-- folhas de estilo CSS -->
    <link href="~/Content/bootstrap.min.css" rel="stylesheet" />

</head>
<body>

    <div class="container">

        <div class="card card-body bg-dark">
            <h3 class="text-white">Sistema de Controle de Funcionários</h3>
        </div>
        <br/>

        @RenderBody()

    </div>

    <!-- arquivos javascript -->
    <script src="~/Scripts/jquery-3.0.0.min.js"></script>
    <script src="~/Scripts/bootstrap.min.js"></script>

</body>
</html>
```

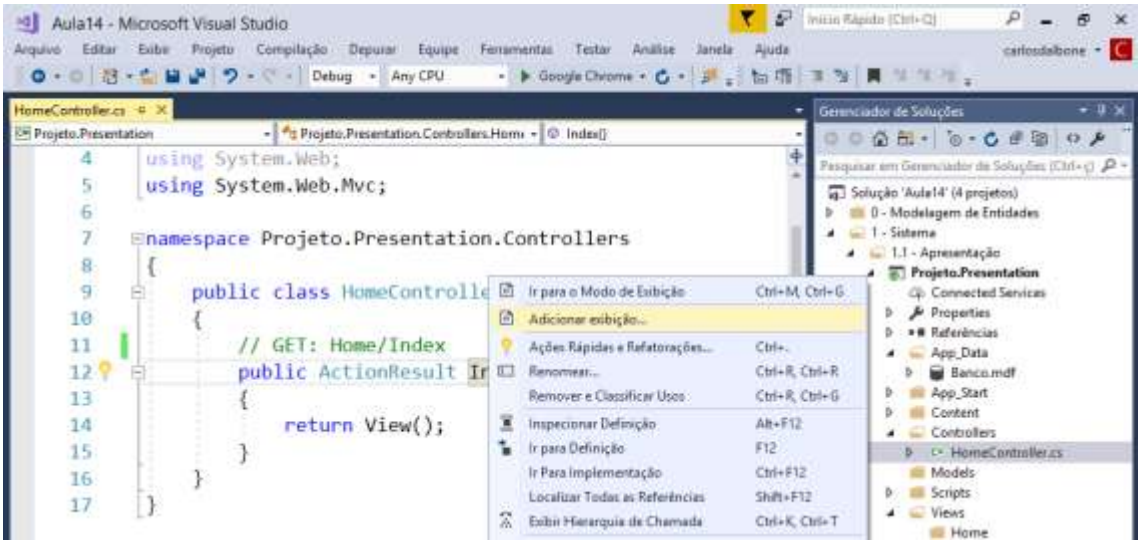
# /Home/Index

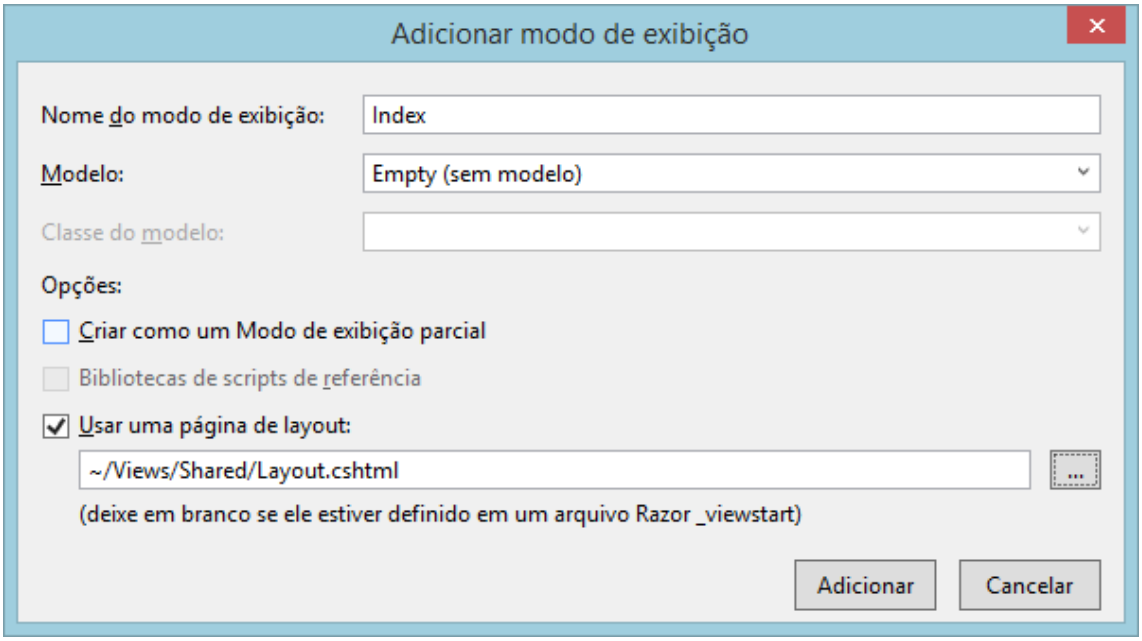
[Controller] [View]



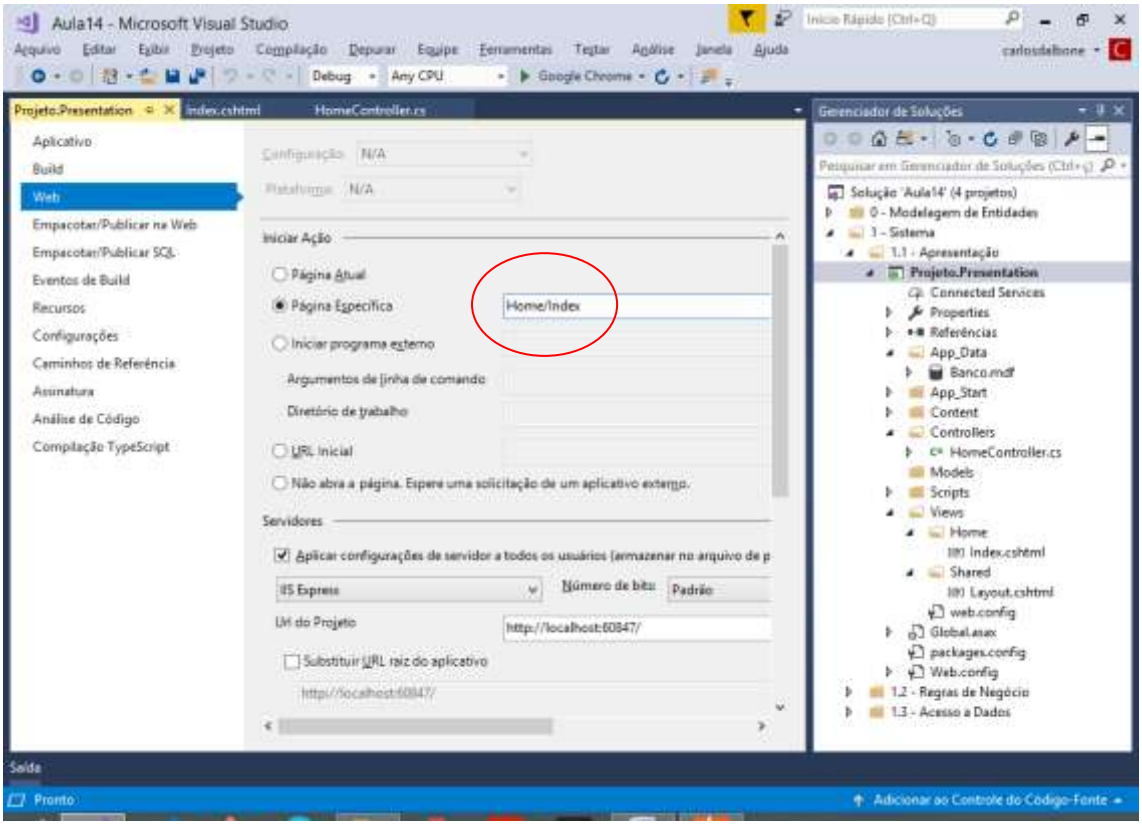

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;

namespace Projeto.Presentation.Controllers
{
    public class HomeController : Controller
    {
        // GET: Home/Index
        public ActionResult Index()
        {
            return View();
        }
    }
}
```



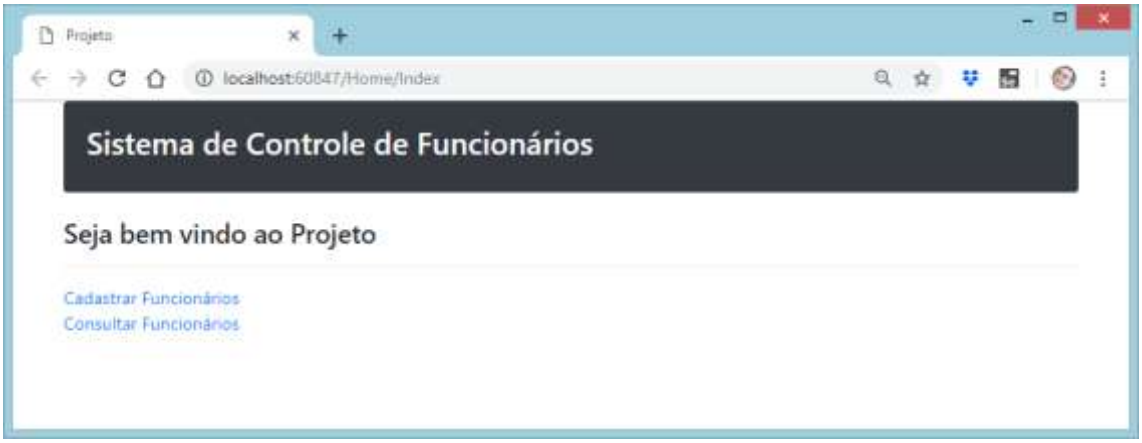



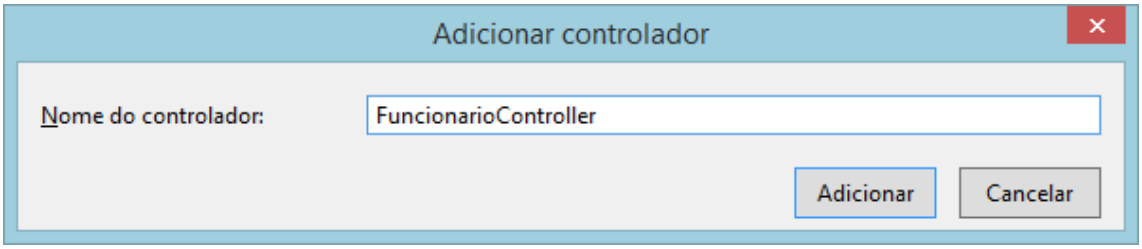

```
@{
    ViewBag.Title = "Index";
    Layout = "~/Views/Shared/Layout.cshtml";
}

<h4>Seja bem vindo ao Projeto</h4>
<hr/>

<a href="/Funcionario/Cadastro">
    Cadastrar Funcionários
</a>

<br/>

<a href="/Funcionario/Consulta">
    Consultar Funcionários
</a>
```

**Definindo a página inicial do projeto:**




http://localhost:60847/Home/Index

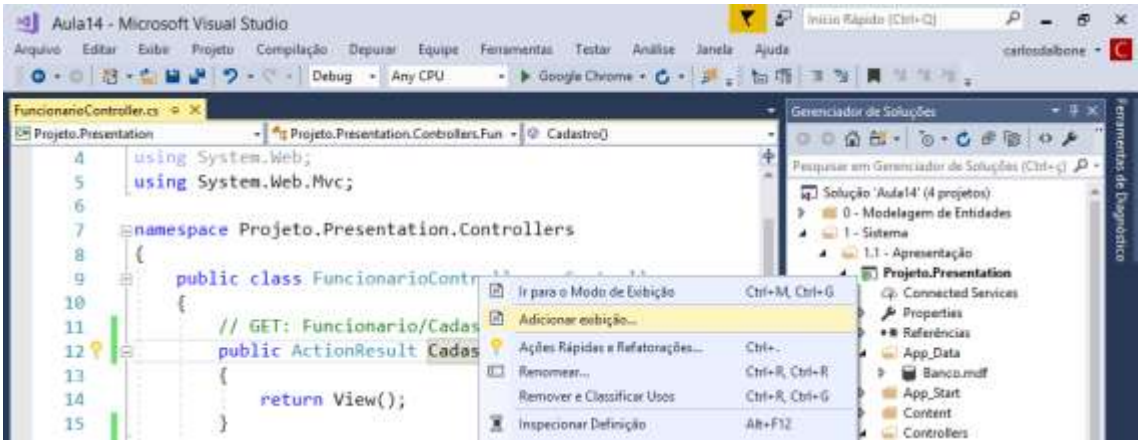


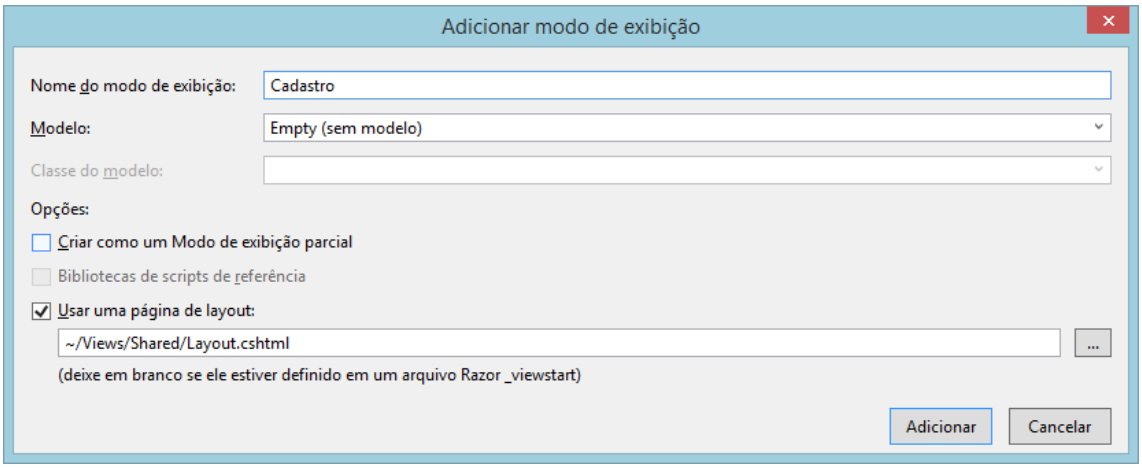



```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;

namespace Projeto.Presentation.Controllers
{
    public class FuncionarioController : Controller
    {
        // GET: Funcionario/Cadastro
        public ActionResult Cadastro()
        {
            return View();
        }

        // GET: Funcionario/Consulta
        public ActionResult Consulta()
        {
            return View();
        }
    }
}
```

---

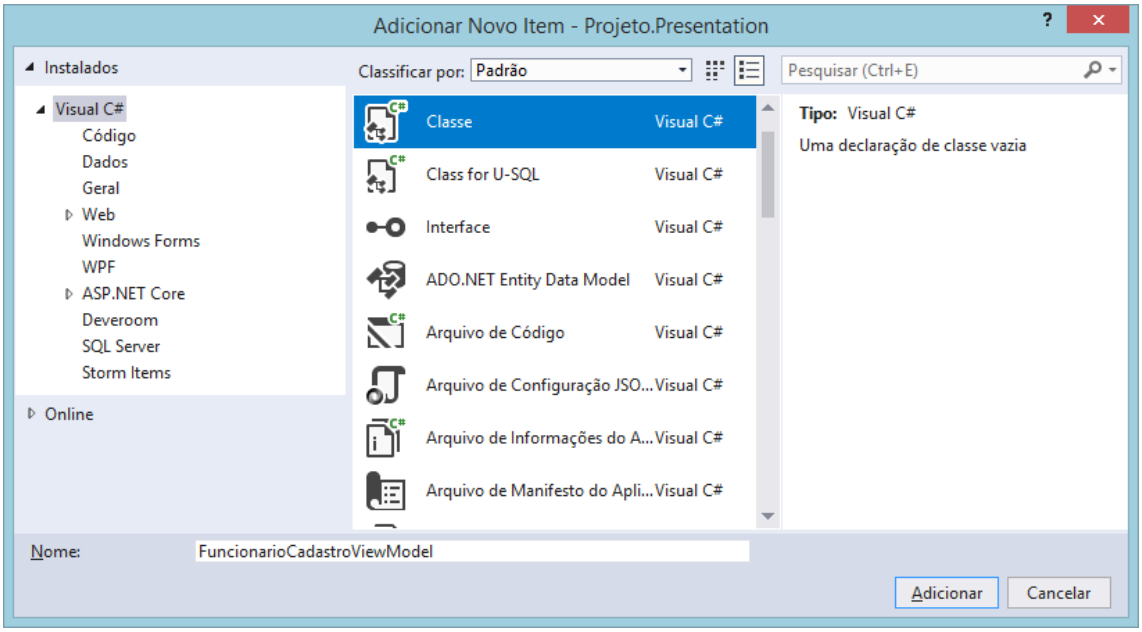
Criando as Views de Funcionario:



# Classe de modelo (Model)

Criando uma ViewModel para cadastro de Funcionario




```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.ComponentModel.DataAnnotations; //validações

namespace Projeto.Presentation.Models
{
    public class FuncionarioCadastroViewModel
    {
        [Required(ErrorMessage = "Campo obrigatório")]
        public string Nome { get; set; }

        [Required(ErrorMessage = "Campo obrigatório")]
        public decimal Salario { get; set; }

        [Required(ErrorMessage = "Campo obrigatório")]
        public DateTime DataAdmissao { get; set; }
    }
}
```

**Criando o formulário para cadastro de funcionário contendo por enquanto os campos Nome, Salario e DataAdmissao:**

```
@model Projeto.Presentation.Models.FuncionarioCadastroViewModel

@{
    ViewBag.Title = "Cadastro";
    Layout = "~/Views/Shared/Layout.cshtml";
}

<h4>Cadastro de Funcionários</h4>
<a href="/Home/Index">Página inicial</a>
```

```
<hr/>
<div class="row">
    <div class="col-md-4">
        @using (Html.BeginForm())
        {
            <label>Nome do Funcionário:</label>
            @Html.TextBoxFor(model => model.Nome,
                new { @class = "form-control" })
            <span class="text-danger">
                @Html.ValidationMessageFor(model => model.Nome)
            </span>
            <br/>

            <label>Salário:</label>
            @Html.TextBoxFor(model => model.Salario,
                new { @class = "form-control" })
            <span class="text-danger">
                @Html.ValidationMessageFor(model => model.Salario)
            </span>
            <br />

            <label>Data de Admissão:</label>
            @Html.TextBoxFor(model => model.DataAdmissao,
                new { @class = "form-control", @type = "date" })
            <span class="text-danger">
                @Html.ValidationMessageFor(model => model.DataAdmissao)
            </span>
            <br />

            <input type="submit" value="Cadastrar Funcionário"
                   class="btn btn-success"/>
            <br />
            <br />

            <strong>@TempData["Mensagem"]</strong>
        }
    </div>
</div>
```

## Criando o método HttpPost na classe FuncionarioController:

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
using Projeto.Entities; //importando
using Projeto.BLL; //importando
using Projeto.Presentation.Models; //importando

namespace Projeto.Presentation.Controllers
{
    public class FuncionarioController : Controller
    {
        //atributo
        private FuncionarioBusiness business;

        //construtor -> ctor + 2x[tab]
        public FuncionarioController()
        {
            business = new FuncionarioBusiness();
        }

        // GET: Funcionario/Cadastro
        public ActionResult Cadastro()
        {
            return View();
        }

        // POST: Funcionario/Cadastro
        [HttpPost] //método recebe SUBMIT do formulário
        public ActionResult Cadastro(FuncionarioCadastroViewModel model)
        {
            return View();
        }

        // GET: Funcionario/Consulta
        public ActionResult Consulta()
        {
            return View();
        }
    }
}
```

**Executando:**
http://localhost:60847/Funcionario/Cadastro


Continua...