**PRACTICAL 15**

**Aim: Develop ASP.NET Core MVC Forms application to provide Create, Read, Update and Delete functionality.**

**Code:**

**Add Entity Framework Core and Tools**

>> dotnet add package Microsoft.EntityFrameworkCore.Sqlite

>> dotnet add package Microsoft.EntityFrameworkCore.SqlServer

>> dotnet add package Microsoft.EntityFrameworkCore.Tools

**AppDbContext.cs :** (Data / AppDbContext.cs)

using Microsoft.EntityFrameworkCore;

using PRACTICAL15.Models;

namespace PRACTICAL15.Data {

public class AppDbContext : DbContext {

public AppDbContext(DbContextOptions<AppDbContext> options) : *base*(options) {

}

public DbSet<Item> Items { get; set; }

}

}

**Item.cs :** (Models / Item.cs)

using System.ComponentModel.DataAnnotations.Schema;

namespace PRACTICAL15.Models {

public class Item {

public int Id { get; set; }

public string Name { get; set; } = string.Empty;

public string Description { get; set; } = string.Empty;

[Column(TypeName = "decimal(18,2)")]

public decimal Price { get; set; }

}

}

**Configure Database in ‘appsettings.json’ :**

"ConnectionStrings": {

"DefaultConnection": "Data Source=PRACTICAL15.db"

},

**Program.cs :**

builder.Services.AddDbContext<AppDbContext>(options => options.UseSqlite(builder.Configuration.GetConnectionString("DefaultConnection")));

**Add Migrations and Update Database :**

>> dotnet ef migrations add InitialCreate

>> dotnet ef database update

**HomeController.cs :** (Controllers / HomeController.cs)

using Microsoft.AspNetCore.Mvc;

using PRACTICAL15.Models;

using PRACTICAL15.Data;

using System.Linq;

namespace PRACTICAL15.Controllers {

public class HomeController : Controller {

private readonly AppDbContext \_context;

public HomeController(AppDbContext context) {

\_context = context;

}

public IActionResult Index() {

var items = \_context.Items.ToList();

return View(items);

}

[HttpGet]

public IActionResult Create() {

return View();

}

[HttpPost]

public IActionResult Create(Item item) {

if (ModelState.IsValid) {

\_context.Items.Add(item);

\_context.SaveChanges();

return RedirectToAction(nameof(Index));

}

return View(item);

}

[HttpGet]

public IActionResult Edit(int id) {

var item = \_context.Items.Find(id);

if (item == null) return NotFound();

return View(item);

}

[HttpPost]

public IActionResult Edit(Item item) {

if (ModelState.IsValid) {

\_context.Items.Update(item);

\_context.SaveChanges();

return RedirectToAction(nameof(Index));

}

return View(item);

}

[HttpGet]

public IActionResult Delete(int id) {

var item = \_context.Items.Find(id);

if (item == null) return NotFound();

return View(item);

}

[HttpPost, ActionName("DeleteConfirmed")]

public IActionResult DeleteConfirmed(int id) {

var item = \_context.Items.Find(id);

if (item == null) return NotFound();

\_context.Items.Remove(item);

\_context.SaveChanges();

return RedirectToAction(nameof(Index));

}

}

}

**Index.cshtml :** (Views / Home / Index.cshtml)

@model IEnumerable<PRACTICAL15.Models.Item>

<div class="table-container">

<center><h2>ITEMS LIST</h2></center>

<table>

<thead>

<tr>

<th>ID</th>

<th>Name</th>

<th>Description</th>

<th>Price</th>

<th style="width: 150px;">Actions</th>

</tr>

</thead>

<tbody>

@foreach (var item in Model) {

<tr>

<td>@item.Id</td>

<td>@item.Name</td>

<td>@item.Description</td>

<td>$@item.Price</td>

<td>

<a asp-action="Edit" asp-route-id="@item.Id" class="btn btn-sm btn-primary mx-1">

<i class="fas fa-edit"></i> Edit

</a>

<a asp-action="Delete" asp-route-id="@item.Id" class="btn btn-sm btn-danger mx-1">

<i class="fas fa-trash"></i> Delete

</a>

</td>

</tr>

}

</tbody>

</table>

<a href="@Url.Action("Create")">

<button>Create New Item</button>

</a>

</div>

**Create.cshtml :** (Views / Home / Create.cshtml)

@model PRACTICAL15.Models.Item

@{

ViewData["Title"] = "Create Item";

}

<h2 class="text-center">CREATE ITEM</h2>

<div class="container"><br>

<div class="row justify-content-center">

<div class="col-md-6">

<form asp-action="Create" method="post">

<div class="form-group row">

<label asp-for="Name" class="col-sm-4 col-form-label"></label>

<div class="col-sm-8">

<input asp-for="Name" class="form-control" />

<span asp-validation-for="Name" class="text-danger"></span>

</div>

</div><br>

<div class="form-group row">

<label asp-for="Description" class="col-sm-4 col-form-label"></label>

<div class="col-sm-8">

<input asp-for="Description" class="form-control" />

<span asp-validation-for="Description" class="text-danger"></span>

</div>

</div><br>

<div class="form-group row">

<label asp-for="Price" class="col-sm-4 col-form-label"></label>

<div class="col-sm-8">

<input asp-for="Price" class="form-control" />

<span asp-validation-for="Price" class="text-danger"></span>

</div>

</div><br>

<div class="form-group text-center">

<input type="submit" value="Create" class="btn btn-primary" />

</div>

</form>

</div>

</div>

</div>

**Edit.cshtml :** (Views / Home / Edit.cshtml)

@model PRACTICAL15.Models.Item

@{

ViewData["Title"] = "Edit Item";

}

<center>

<h2 class="text-center">EDIT ITEMS</h2>

<div class="container2"><br>

<form asp-action="Edit" method="post" class="form-group">

<div class="form-group row">

<label asp-for="Id" class="col-sm-2 col-form-label"></label>

<div class="col-sm-10">

<input asp-for="Id" class="form-control" readonly />

</div>

</div><br>

<div class="form-group row">

<label asp-for="Name" class="col-sm-2 col-form-label"></label>

<div class="col-sm-10">

<input asp-for="Name" class="form-control" />

<span asp-validation-for="Name" class="text-danger"></span>

</div>

</div><br>

<div class="form-group row">

<label asp-for="Description" class="col-sm-2 col-form-label"></label>

<div class="col-sm-10">

<textarea asp-for="Description" class="form-control"></textarea>

<span asp-validation-for="Description" class="text-danger"></span>

</div>

</div><br>

<div class="form-group row">

<label asp-for="Price" class="col-sm-2 col-form-label"></label>

<div class="col-sm-10">

<input asp-for="Price" class="form-control" />

<span asp-validation-for="Price" class="text-danger"></span>

</div>

</div>

<div class="form-group row">

<div class="col-sm-12 text-center">

<button type="submit" class="btn btn-primary">Save Changes</button>

</div>

</div>

</form>

</div>

<div>

<a asp-controller="Home" asp-action="Index">Back To The List</a>

</div>

</center>

@section Scripts {

@{await Html.RenderPartialAsync("\_ValidationScriptsPartial");}

}

**Delete.cshtml :** (Views / Home / Delete.cshtml)

@model PRACTICAL15.Models.Item

<h2>DELTE ITEMS</h2>

<h3>Are you sure you want to delete this item?</h3>

<div>

<pre><b>Name</b> @Model.Name</pre>

<pre><b>Desciption</b> @Model.Description</pre>

<pre><b>Price</b> @Model.Price</pre>

<form asp-action="DeleteConfirmed">

<input type="hidden" asp-for="Id" />

<button type="submit" class="btn btn-danger">Delete</button>

<a asp-action="Index" class="btn btn-secondary">Cancel</a>

</form>

</div>

**site.css :** (Views / wwwroot / css / site.css)

.table-container {

margin: 20px auto;

max-width: 800px;

}

table {

width: 100%;

border-collapse: collapse;

margin: 20px 0;

}

th, td {

border: 1px solid #ddd;

padding: 12px;

text-align: center;

}

th {

background-color: #f2f2f2;

font-weight: bold;

}

button {

display: block;

margin: 20px auto;

padding: 10px 15px;

background-color: black;

color: white;

border: none;

border-radius: 5px;

cursor: pointer;

text-decoration: none;

}

a {

text-decoration: none;

}

.container2 {

max-width: 600px;

}

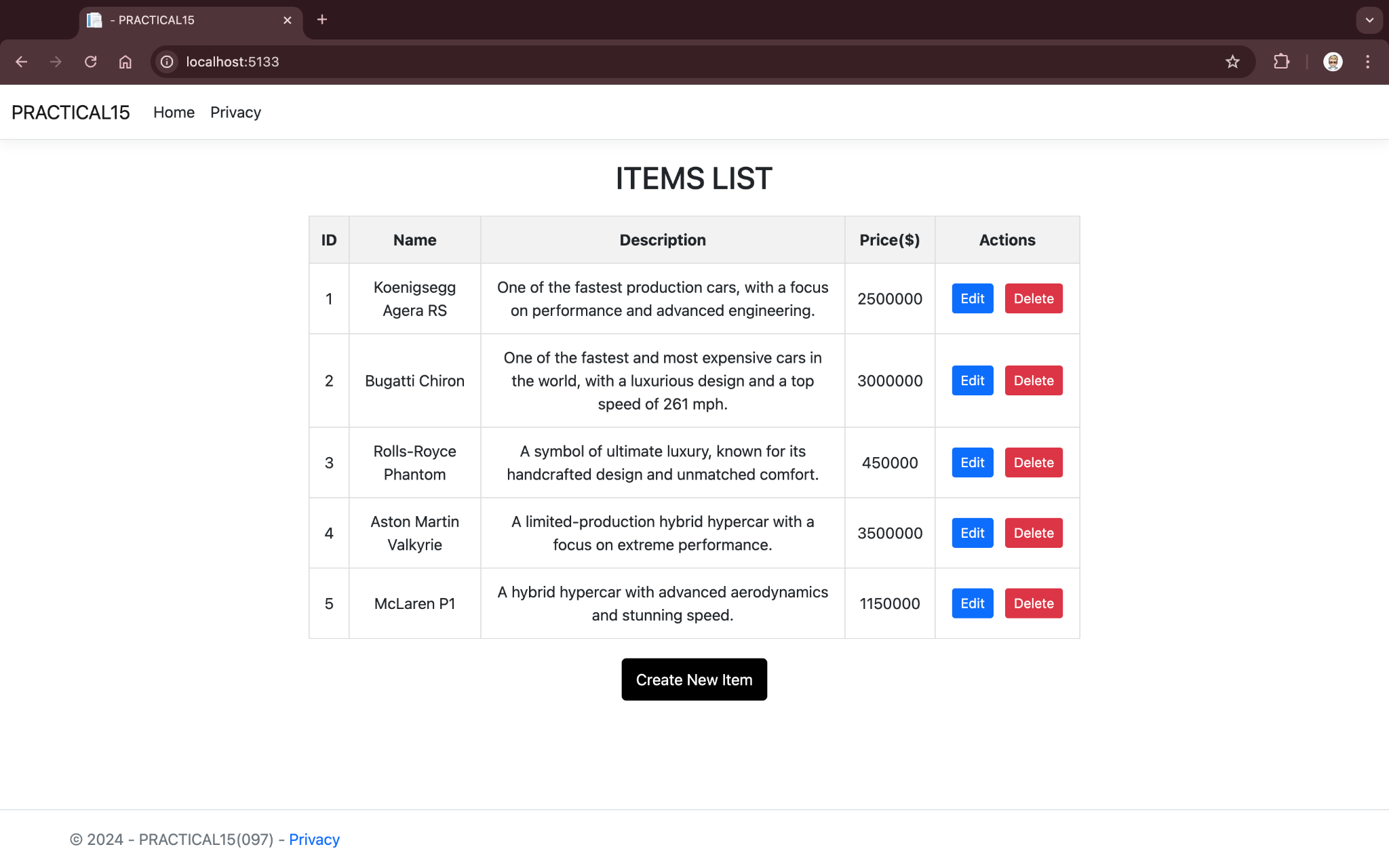
.footer{

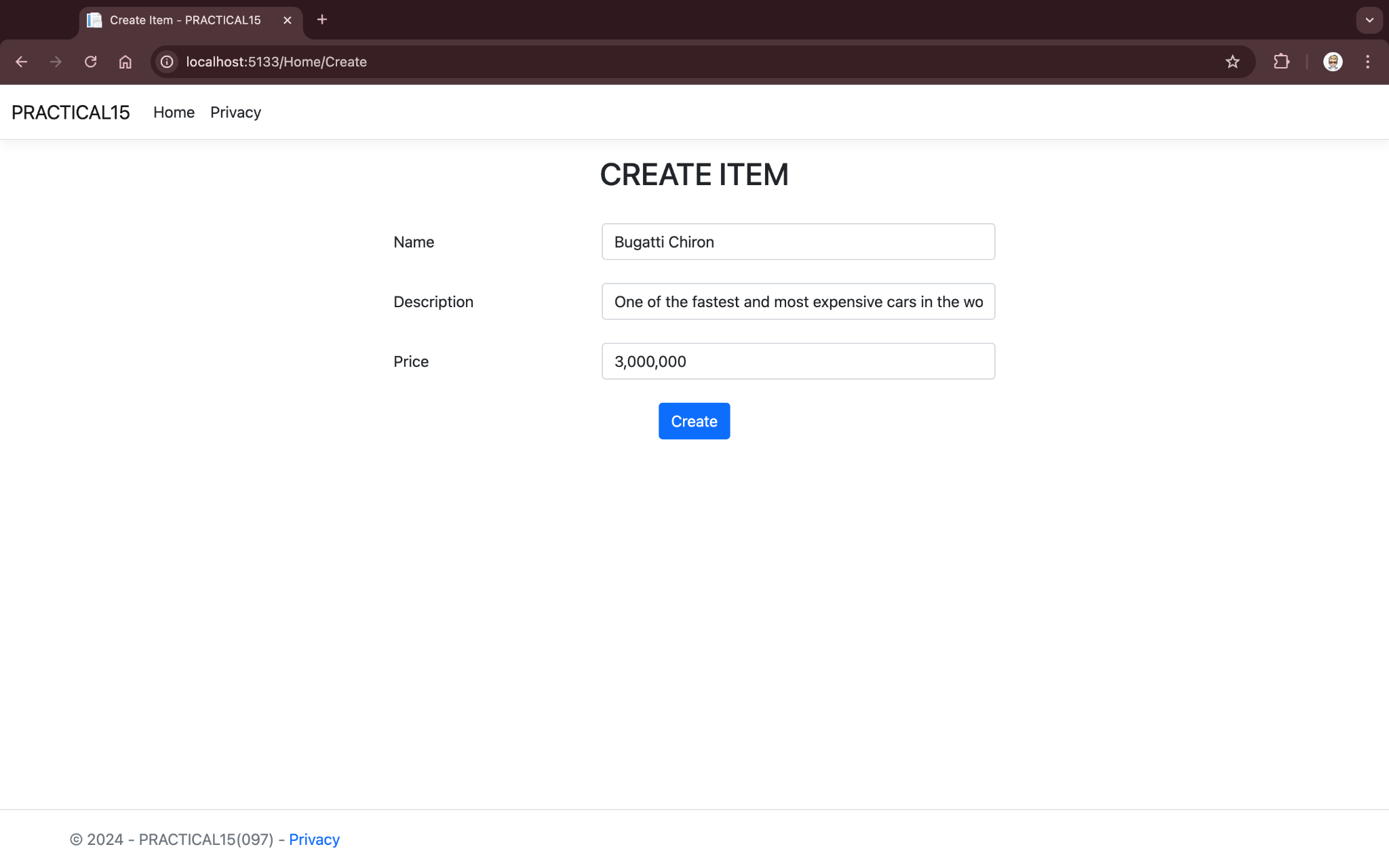
text-align: start;

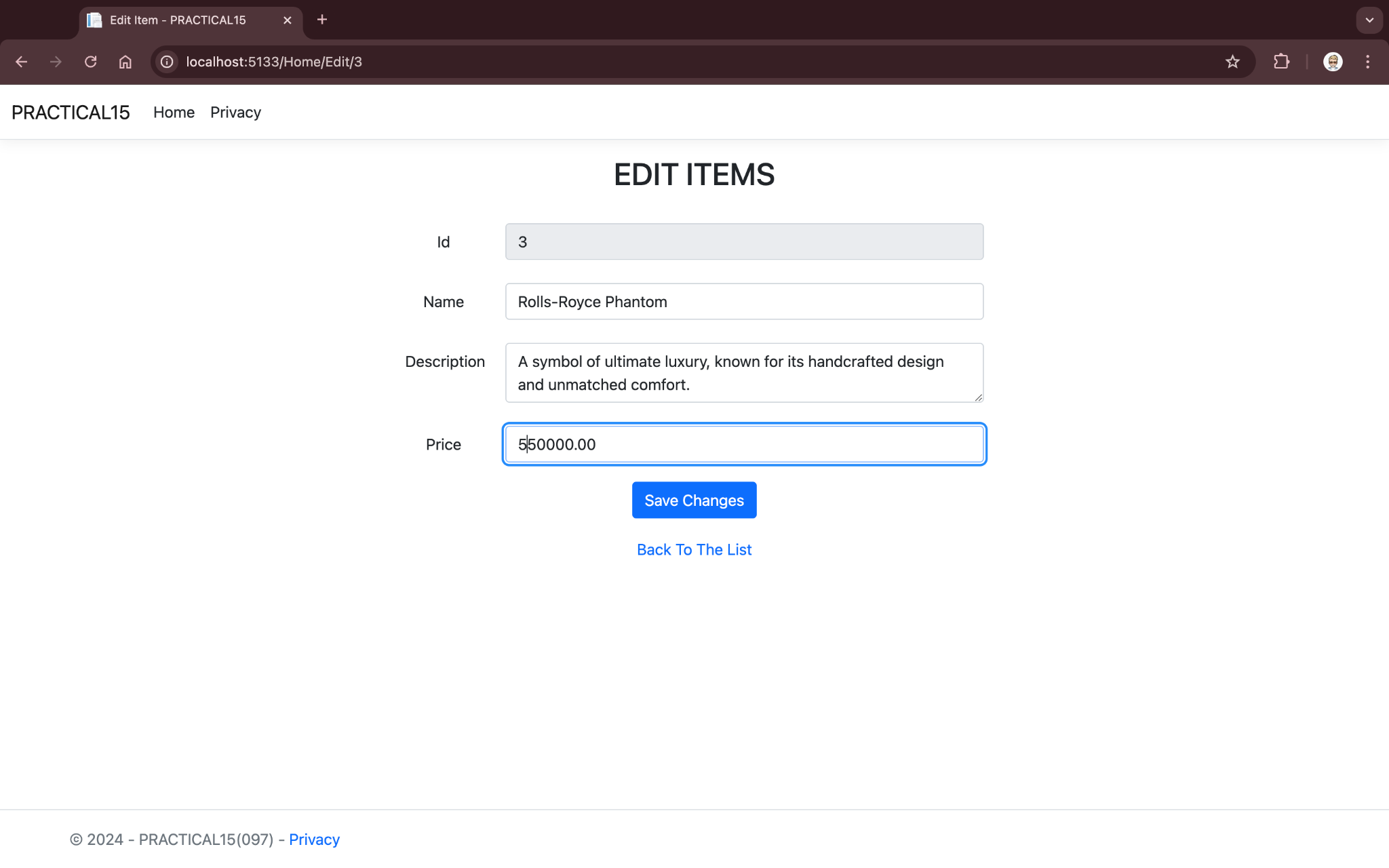
position: relative;

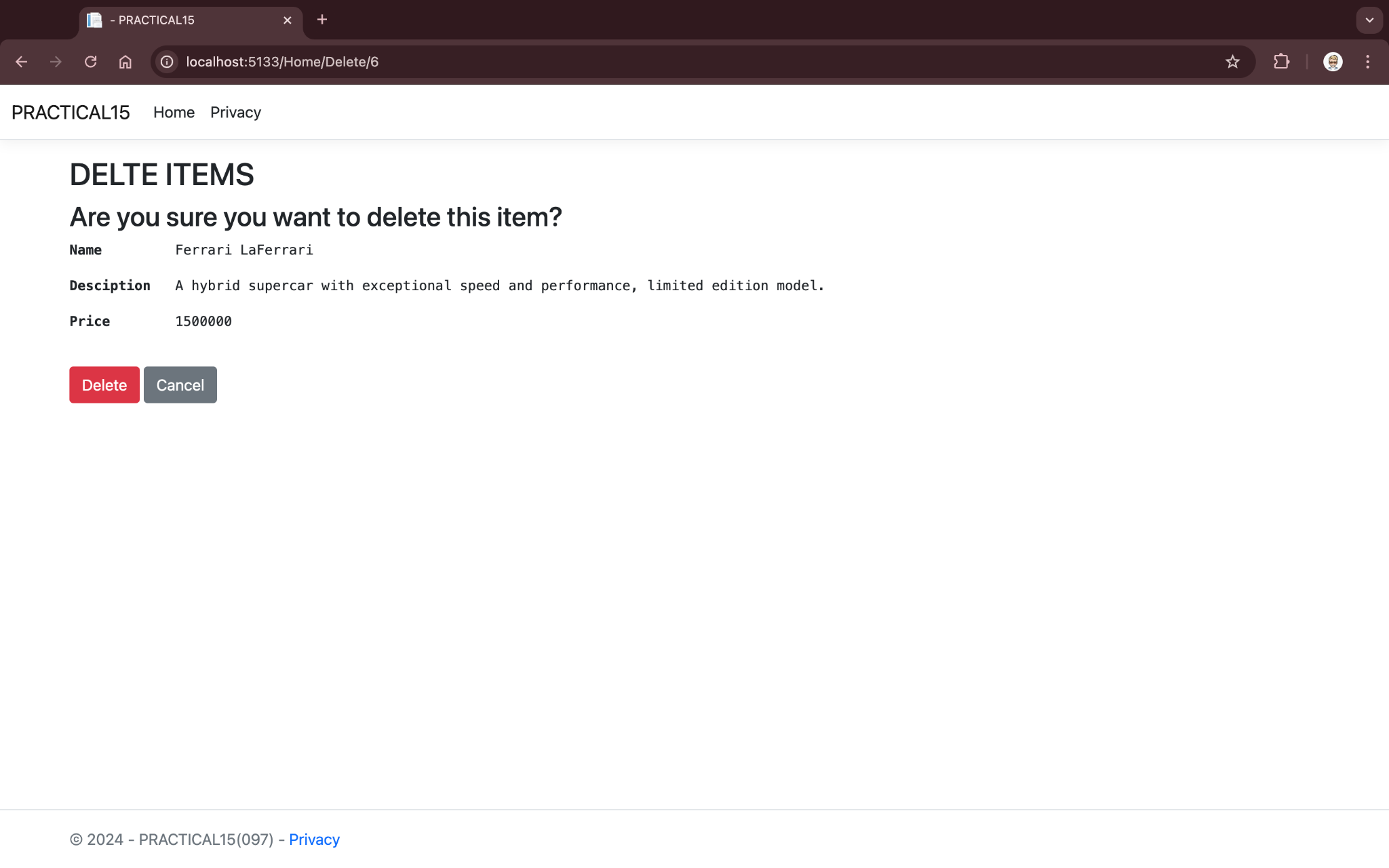
}

**Output:**

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