

Contents

| | |
|--|----|
| Part 1 - Building N-Layered Applications with ASP.NET 4.5 - Introduction..... | 7 |
| Introducing the Contact Manager Application | 7 |
| History OF the Contact Manager Application..... | 10 |
| Room for Improvement | 11 |
| A Look Ahead | 11 |
| Overview of the architecture | 13 |
| Spaanjaars.Infrastructure | 16 |
| Spaanjaars.ContactManager45.Model | 18 |
| Spaanjaars.ContactManager45.Repositories.EF | 21 |
| Spaanjaars.ContactManager45.Web.Mvc | 22 |
| Spaanjaars.ContactManager45.Web.WebForms | 22 |
| Spaanjaars.ContactManager45.Web.Wcf..... | 23 |
| Spaanjaars.ContactManager45.Import..... | 23 |
| Spaanjaars.ContactManager45.Tests.Unit | 23 |
| Spaanjaars.ContactManager45.Tests.Integration | 23 |
| Spaanjaars.ContactManager45.Tests.Frontend.Mvc | 23 |
| Spaanjaars.ContactManager45.Tests.Frontend.Wcf..... | 23 |
| Stuff I Like to Do..... | 23 |
| Summary | 24 |
| Part 2 - Building N-Layered Applications with ASP.NET 4.5 - Setting up the Solution in Visual Studio | 25 |
| Naming Conventions..... | 25 |
| Setting up the Solution | 26 |
| Optimizing the Solution | 29 |
| Adding your Solution to TFS..... | 30 |
| Stuff I like to do..... | 32 |
| Summary | 32 |
| Part 3 - Building N-Layered Applications with ASP.NET 4.5 - Making your Projects Unit Testable | 33 |
| Making Your Projects Unit Testable..... | 33 |
| Using Fluent Assertions..... | 39 |
| Stuff I Like to Do..... | 40 |
| Summary | 41 |
| Part 4 - Building N-Layered Applications with ASP.NET 4.5 - Implementing a Model..... | 42 |
| Introduction | 42 |
| Where does the Model Fit In? | 45 |
| Defining Your Types | 46 |

| | |
|--|-----|
| Creating the Infrastructure | 46 |
| Creating Base Classes for Entities and Value Types..... | 46 |
| Adding Properties to the Person Class..... | 48 |
| Adding the Contact Detail Classes | 52 |
| Dealing with Collections..... | 54 |
| Implementing Equality Comparison | 55 |
| Creating Collections | 62 |
| Automatic Tracking of Creation and Modification Dates | 67 |
| Putting it All Together | 68 |
| Defining Repository Interfaces | 70 |
| Stuff I Like to Do..... | 72 |
| Summary | 73 |
| Part 5 - Building N-Layered Applications with ASP.NET 4.5 - Implementing a Repository using Entity Framework Code First..... | 75 |
| Introduction | 75 |
| Adding EF to your project using NuGet | 76 |
| Building the DbContext..... | 77 |
| Building a context storage mechanism..... | 79 |
| Configuring your model's business rules | 85 |
| Implementing Property Level Validation Using Attributes..... | 86 |
| Implementing Property Level Validation using the Fluent API | 86 |
| Implementing Object Level Validation..... | 88 |
| Dealing with database initialization..... | 92 |
| Implementing a base repository class to Centralize common queries..... | 95 |
| Implementing Search | 99 |
| Implementing concrete repositories to manage contact people in the system..... | 100 |
| Implementing a Unit of Work | 101 |
| Managing Relationships..... | 105 |
| Implementing IDateTracking..... | 106 |
| Improving Error Messages generated by the DbContext | 107 |
| Stuff I Like to Do..... | 109 |
| Summary | 109 |
| Part 6 - Building N-Layered Applications with ASP.NET 4.5 - Putting it all together - Implementing an ASP.NET MVC 4 Frontend | 110 |
| Intro..... | 110 |
| Making your Controllers Testable..... | 114 |

| | |
|---|-----|
| Injecting Repositories using StructureMap..... | 118 |
| Adding the StructureMap.MVC4 Package using NuGet..... | 118 |
| Write Code to Tell the DI Component how to Resolve Types | 119 |
| Building the PeopleController and its Views | 120 |
| Index / List..... | 120 |
| Details | 128 |
| Create..... | 129 |
| Edit | 132 |
| Delete..... | 134 |
| Handling Validation..... | 134 |
| Implementing Drop Down Lists | 136 |
| Stuff I Like to Do..... | 136 |
| Summary | 137 |
| Part 7 - Building N-Layered Applications with ASP.NET 4.5 - Putting it all together - Implementing a Web Forms 4.5 Frontend | 138 |
| Intro..... | 138 |
| Building the Pages to Manage Contact People and Related Data | 142 |
| List..... | 144 |
| Delete..... | 146 |
| Details | 146 |
| Create, Edit and Building DropDownList Controls from Enums..... | 147 |
| Summary | 153 |
| Stuff I Like to Do..... | 153 |
| Part 8 - Building N-Layered Applications with ASP.NET 4.5 - Putting it all together - Implementing a WCF 4.5 Frontend | 154 |
| Intro..... | 154 |
| Using StructureMap for Dependency Injection (DI) | 155 |
| Install StructureMap | 157 |
| Add Code Files to the Project to Define a Custom ServiceHostFactory and other Custom Types | 157 |
| Write a method that initializes StructureMap..... | 158 |
| Adding the Service to the WCF Project..... | 159 |
| Designing your Service API..... | 159 |
| Returning and Accepting Data | 160 |
| Returning ValidationErrors | 163 |
| Implementing the Service | 164 |

| | |
|---|-----|
| Stuff I Like to Do..... | 165 |
| Summary | 165 |
| Part 9 – Putting it all together - Importing Data from an Existing Source using the API | 167 |
| Intro..... | 167 |
| Importing from a CSV File | 167 |
| Introducing the CSV File..... | 168 |
| Introducing the FileHelpers..... | 169 |
| Processing Contact Rows | 170 |
| Ensuring Great Performance..... | 172 |
| Stuff I Like to Do..... | 174 |
| Summary | 175 |
| Part 10 - Building N-Layered Applications with ASP.NET 4.5 – Extensions, Tools and Wrapping Up. | 176 |
| Possible Extensions | 176 |
| Implementing Security..... | 176 |
| Implementing Concurrency | 176 |
| Using Red Gate's SQL Data Generator to Generate Relevant Sample Data and Find Performance Issues..... | 178 |
| Using Entity Framework Profiler from Hibernating Rhinos | 180 |
| Download the Entity Framework Profiler | 180 |
| Add a reference to one of the application's assemblies..... | 180 |
| Write some startup code in your application's Global.asax file (or other startup file for non-web projects) | 180 |
| Start the profiler and your application | 181 |
| Analyze the results | 181 |
| Using NLog for Extensive Logging | 182 |
| Using Red Gate's SQL Compare to Update your Live Database | 185 |
| Summary | 187 |