Web 快速开发指南

(veronica + ASP.NET MVC + EF)

Contents:

- Front-End:
  - UI (tinyui)
  - Data Interactivity (jquery, promise/A)
  - Architecture (veronica, requirejs, grunt)
- Back-End:
  - Service (asp.net mvc, VeronicaMvcFriend)
  - DataBase (EntityFramework)
  - publish & deploy (msbuild, Jenkins, nodejs)
- Functions
  - Logging, Caching, Excel, Security, ...

Extra

- 什么叫做完
- 什么叫负责
- 什么是资源

- 如何解决技术难题
- 如何响应反馈
- 如何作为核心开发人员

Architecture

- View

- Service Interface (class: Controller)
- Service Logic (class: Service)
- Data Access (class: Context)

- Data (File, DataBase, Memory)

Service Interface

Controller

- Model Binding
- Filter
- Action
- Result

Model Binding

- ASP.NET MVC 3 bug
  - EnumBinder
  - NullableBinder ??
- Name Match

Filters

- AOP (before or after action)

- includes:
  - BaseAuthorizeAttribute
  - HandleExceptionAttribute
  - RequireRouteValuesAttribute ...

Action

- Data Transfer
- Data Mapping
- Error Handle

Data Transfer

- Entity
  - base: (IEntity, INamedEntity, IAutoGenerateDateFields)

- DTO(data transfer object)
  - ItemDTO

Entity (database) <-> DTO (view)

-> ItemDTO (list view)

Data Mapper

- AutoMapper

  - Same Name

  - Custom Resolve

  - Get Methods

  - Member Property

Error Handle

- throw LogicException
- ModelState Error -> ViewError
- DbResult -> ViewError

- HandleExceptionFilter
  - Exception -> Feedback

Result

- JsonResult
  - Feedback.List
  - Feedback.Data
  - Feedback.Success
  - Feedback.Fail
  - Feedback.From
- PartialResult
- ContentResult
- FileContentResult

Service Logic

BaseService<>

- CRUD (auto update date)
- Querable
- custom complex logic

Data Access

EntityFramework Code-First – (1)

- Migration:
  - Update-Database –TargetMigration: $InitialDatabase
  - Add-Migration [MigrationName]
  - Update-Database -Script
  - Enable-Migrations

- Relations
  - 1 – 1
  - 1 - *
  - * - *

EF Code-First – (2)

- Data Initializer
  - CreateDatabaseIfNotExists
  - DropCreateDatabaseIfModelChanges
  - DropCreateDatabaseAlways

  - method: Seed

EF Code-First – (3)

- typical errors:
  - 更新时出现外键约束错误，一般是外键字段未赋值
  - 删除时出现错误，一般是该外键未设置为级联删除，导致外键约束出错（手动设置级联删除）
  - 删除时多重路径错误

Functions

- CRUD
- Import/Export Excel
- Data Changelog
- System Exception log
- User Activity
- Caching
- Security

CRUDController => View (return HTML)

- Template
- EditTemplate
- DetailTemplate

CRUDController => CRUD (return JSON)

- List
- Entity
- CreateSave
- ModifySave
- DeleteSave

- ListByQuerable

CRUDController => virtual methods

- CanBeDeleted
- CreateEntity
- PreprocessData

- List

Read[or Query] Details

- DataSourceRequest -> AdvanceDataSourceRequest
  - Sort, Filter, Aggregates, Take, Skip
- DataSourceResult
  - Data, Total

- IQueryable

Import Excel

1. ExcelHandler
   - ToDataTable

2. Converter (base: DataTableConverter) `complex`
   - GetCollection

   - GetPropertyValue `rewrite`
   - GetAdditionalData

Export Excel

- ExcelHandler

  - ToExcel (data: DataTable)

  - ToExcel (data: Typed Object)

    - **ExcelEntityMappingConfig**

    - **ExcelEntityMapping**

complex

Data Changelog

- Service.GetChangeLog

```
// 记录变更轨迹
var changePath = string.Join("<br />", _service.GetChangeLog(oldDuty).DataChangeLogItems.Select(d =>
{
    return string.Format("{0}: 从 {1} 变为 {2}.", d.Name, d.OriginalValue, d.CurrentValue);
}).ToArray());
dutyChange.ChangePath = changePath;
```

Exception Log – part 1

- Elmah, Elmah.Mvc
  - app.config(or web.config)

```xml
<add key="elmah.mvc.disableHandler" value="false" />
<add key="elmah.mvc.disableHandleErrorFilter" value="false" />
<add key="elmah.mvc.requiresAuthentication" value="false" />
<add key="elmah.mvc.IgnoreDefaultRoute" value="false" />
<add key="elmah.mvc.allowedRoles" value="*" />
<add key="elmah.mvc.allowedUsers" value="*" />
<add key="elmah.mvc.route" value="YuLinTuErrorLogs" />
<add key="elmah.mvc.UserAuthCaseSensitive" value="true" />
```

Exception Log – part 2

- Elmah, Elmah.Mvc
  - */YulintuErrorLogs

User Activity – (automatic)

- UserActivityAttribute

  - prop: ParamName (default: "data")

  - action: DisplayAttribute

  - data: INamedEntity

User Activity – (manual)

- UserActivityTracker

  - => Record<T, TKey>(controllerContext, data, actionName)

  - => Record(controllerContext, data, type, actionName, userName)

Caching

- GlobalCaching.Instance
  - use DI
  - use GlobalCachingDataExtensions to extend
  - based on: MemoryCache

- methods:
  - Init(type)
  - Cache<TEntity>()
  - Get<TEntity>()
  - GetList<TEntity>()

Security

- Role
- Group `extend`
- User

- based on: ASP.NET Identity 2.0+
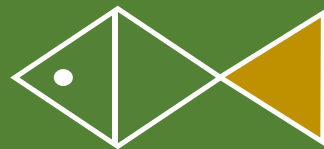
Security – (Role)

- class: ConfigAuthorizeAttribute `*`
  - applied to: controller, action
  - prop: IsIgnore
  - default: "Index", "Entity", "List", "CreateSave", ...
  - DisplayAttribute as name

- interfaces:
  - Roles/Rebuild
  - Roles/GroupedList

Security – (Group)

- relations: User *-* Group, Group *-* Role

- interfaces:
  - Groups/RolesSave
  - Groups/GetRoles
  - Groups/RebuildAdminRoles

- BLL: GroupService
  - SetUserGroupsAsync
  - SetGroupRolesAsync

Security – (User)

- Login/Logout
  - HttpContext.User.Identity
  - Caching Roles

- interfaces:
  - Account/Login
  - Account/Logoff
  - Users/ChangePassword
  - Users/ResetPassword
  - Users/ModifySave ...

Q & A