Data Annotations

.NET

Data Annotations Attributes enable you to perform validation simply by adding one or more attributes to a Model class property.

Data Annotations – Overview

https://docs.microsoft.com/en-us/aspnet/mvc/overview/older-versions-1/models-data/validation-with-the-data-annotation-validators-cs

The *DataAnnotations* namespace provides a set of built-in *validation attributes* that are applied declaratively to a *class* or *property*. *DataAnnotations* also contains formatting *attributes* like *DataType* that help with formatting but don't provide *validation*.

```csharp
[StringLength(60, MinimumLength = 3)]
[Required]
public string Title { get; set; }


[Display(Name = "Release Date")]
[DataType(DataType.Date)]
public DateTime ReleaseDate { get; set;


[Range(1, 100)]
[DataType(DataType.Currency)]
[Column(TypeName = "decimal(18, 2)")]
public decimal Price { get; set; }
```

Annotations to Display and Edit

[Display()]	[DataType()]
[Display(Name ="Film Genre")] This gives the *View* the desired name for Display in the browser	[DataType(DataType.Password)] Displays the types' text as dots to obscure the actual content.

```
[Display(Name = "Release Date")]
[DataType(DataType.Date)]
[DisplayFormat(DataFormatString = "{0:yyyy-MM-dd}", ApplyFormatInEditMode = true)]
public DateTime ReleaseDate { get; set; }
```

Annotations for Validation

Annotation	Purpose
[Required]	The property is not allowed to be null
[Range(x,y)]	X is the minimum. Y is the maximum.
[StringLength(x)]	X is the maximum length of the property
[RegularExpression]	[RegularExpression(@"^[A-Z]+[a-zA-Z0-9""'\s-]*$")]
[MinLength(x)]	Minimum length is x. Also sets DB column size max.
[MaxLength(y)]	Maximum length is y. Also sets DB column size max.

*Custom validation is also possible.

Data Annotations – Examples

https://docs.microsoft.com/en-us/aspnet/mvc/overview/getting-started/introduction/adding-validation

```csharp
public class Movie
{
    public int ID { get; set; }

    [StringLength(60, MinimumLength = 3)]
    public string Title { get; set; }

    [Display(Name = "Release Date")]
    [DataType(DataType.Date)]
    [DisplayFormat(DataFormatString = "{0:yyyy-MM-dd}", ApplyFormatInEditMode = true)]
    public DateTime ReleaseDate { get; set; }

    [RegularExpression(@"^[A-Z]+[a-zA-Z'\s]*$")]
    [Required]
    [StringLength(30)]
    public string Genre { get; set; }

    [Range(1, 100)]
    [DataType(DataType.Currency)]
    public decimal Price { get; set; }

    [RegularExpression(@"^[A-Z]+[a-zA-Z'\s]*$")]
    [StringLength(5)]
    public string Rating { get; set; }
}
```

EF Code First Data Annotations

https://docs.microsoft.com/en-us/ef/ef6/modeling/code-first/data-annotations#the-model