

The [MaxLength], [MinLength], and [StringLength] Attributes Labs

Perform these labs on your own computer using Visual Studio 2022 or later to ensure you understand the lessons presented in the corresponding videos and lectures.

Lab 1: Add [MaxLength] Attribute to Limit Total Characters

Open the **Product.cs** file and decorate the **ProductNumber** and **Color** properties with the following code.

```
[Display(Name = "Product Number")]
[Required(ErrorMessage =
    "{0} Must Be Filled In.")]
[MaxLength(25)]
public string ProductNumber { get; set; }

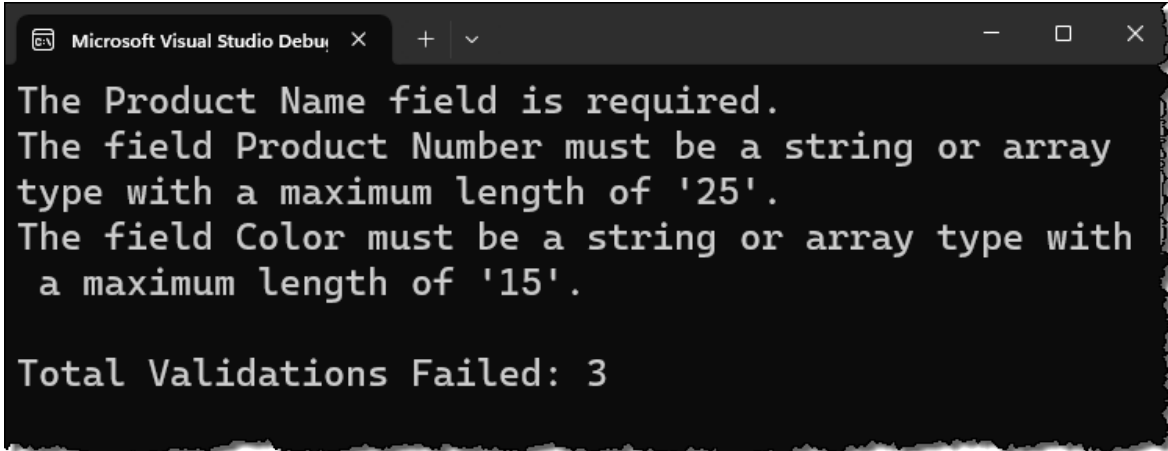
[Display(Name = "Product Color")]
[MaxLength(15)]
public string Color { get; set; }
```

Try It Out

Open the **Program.cs** file and modify the initialization of the properties on the entity object to look like the following.

```
Product entity = new() {  
    ProductID = 1,  
    Name = "",  
    ProductNumber = "A very long product number to  
illustrate the [MaxLength] property.",  
    Color = "A very long color name.",  
    StandardCost = 0,  
    ListPrice = 0,  
    SellStartDate = Convert.ToDateTime("1/1/1999"),  
    SellEndDate = Convert.ToDateTime("1/1/2031"),  
    DiscontinuedDate = DateTime.Now  
};
```

Run the application and you should see the appropriate error messages displayed for both the **ProductNumber** and **Color** properties.



Lab 2: Add [MinLength] Attribute to Force a Minimum Number of Characters

Sometimes you need to ensure a **minimum** amount of string data is added to a property. For example, the product color should not have any string data that is less than 3 characters as there are no 1 or 2 letter colors. Add a **[MinLength]** attribute to the **Color** property in the Product class as shown in the following code.

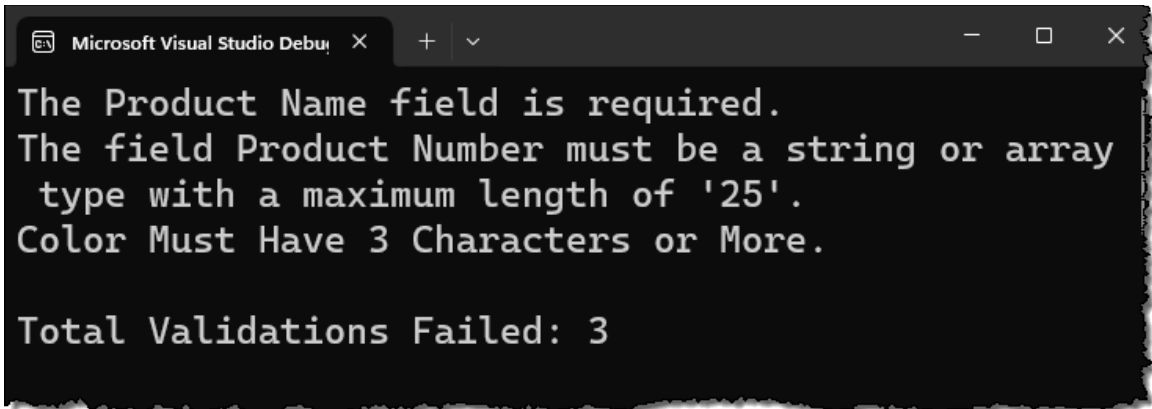
```
[Required(ErrorMessage = "{0} Must Be Filled In.")]
[Display(Name = "Color")]
[MinLength(3, ErrorMessage = "{0} Must Have {1}
Characters or More.")]
[MaxLength(15)]
public string Color { get; set; } = string.Empty;
```

Try it Out

Open the **Program.cs** file and change the **Color** property to "Re" on the initialization of the entity object to look like the following code.

```
Product entity = new() {
    ProductID = 1,
    Name = "",
    ProductNumber = "A very long product name to
illustrate the[MaxLength] property.",
    Color = "Re",
    StandardCost = 0,
    ListPrice = 0,
    SellStartDate = Convert.ToDateTime("1/1/1999"),
    SellEndDate = Convert.ToDateTime("1/1/2031"),
    DiscontinuedDate = DateTime.Now
};
```

Run the application and you should see the appropriate error message displayed for the **Color** property.



Lab 3: Using the [StringLength] Attribute to Set a Minimum and Maximum Number of Characters

If you don't want to apply both the [MinLength] and [MaxLength] attributes to a single property, use the [StringLength] attribute as it supports both maximum and minimum length properties. When adding the [StringLength] attribute, the first parameter is the maximum length, and then you can specify the **MinimumLength** as either the second parameter or as a named parameter as I have done in the following code. Add the [StringLength] attribute above the **Name** property in the Product class.

```
[Display(Name = "Product Name")]
[Required]
[StringLength(50, MinimumLength = 4, ErrorMessage = "{0}
Can Only Have Between {2} and {1} Characters.")]
public string Name { get; set; } = string.Empty;
```

Additional Place Holders

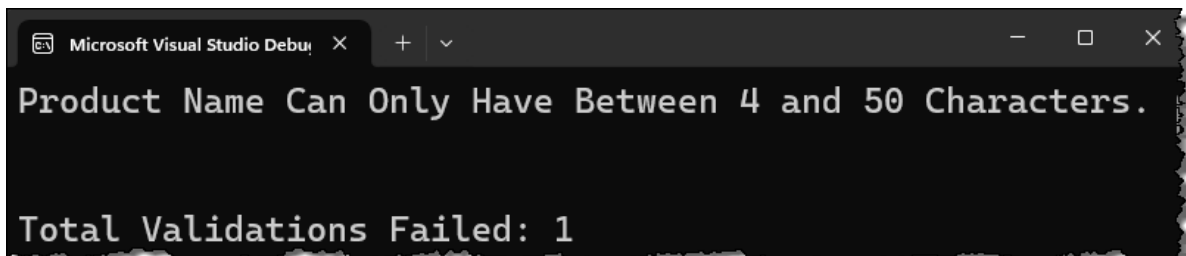
Notice the two additional placeholders in the string {1} and {2}. The {1} placeholder is for the first parameter passed to the attribute. The {2} parameter is for the second placeholder passed to the attribute. In this specific case {1} is replaced with 50, and the {2} is replaced with a 4.

Try it Out

Open the **Program.cs** file and modify the initialization of the entity object to look like the following code.

```
Product entity = new() {  
    ProductID = 1,  
    Name = "A",  
    ProductNumber = "NEW-001",  
    Color = "Red",  
    StandardCost = 0,  
    ListPrice = 0,  
    SellStartDate = Convert.ToDateTime("1/1/1999"),  
    SellEndDate = Convert.ToDateTime("1/1/2031"),  
    DiscontinuedDate = DateTime.Now  
};
```

Run the application and you should see the appropriate error message displayed for the **Name** property.



If you want to ensure the maximum length of the **Name** property also works, try setting the **Name** property to the following and then run the program again.

```
Name = "A very long product name used  
to illustrate [StringLength] attribute."
```