* **Validation Control**

ASP.NET validation controls validate the user input data to ensure that useless, unauthenticated, or contradictory data don't get stored.

ASP.NET provides the following validation controls:

* RequiredFieldValidator
* RangeValidator
* CompareValidator
* RegularExpressionValidator
* CustomValidator
* ValidationSummary

**BaseValidator Class**

The validation control classes are inherited from the BaseValidator class hence they inherit its properties and methods. Therefore, it would help to take a look at the properties and the methods of this base class, which are common for all the validation controls:

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| **Members** | **Description** |
| ControlToValidate | Indicates the input control to validate. |
| Display | Indicates how the error message is shown. |
| EnableClientScript | Indicates whether client side validation will take. |
| Enabled | Enables or disables the validator. |
| ErrorMessage | Indicates error string. |
| Text | Error text to be shown if validation fails. |
| IsValid | Indicates whether the value of the control is valid. |
| SetFocusOnError | It indicates whether in case of an invalid control, the focus should switch to the related input control. |
| ValidationGroup | The logical group of multiple validators, where this control belongs. |
| Validate() | This method revalidates the control and updates the IsValid property. |

**RequiredFieldValidator**

RequiredFieldValidator validator control is used to make a field as mandatory in the form. Without filling the field user can't submit the form.

Following are some basic properties of all Validator controls

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| ControlToValidate | Gets or sets the input control to validate (eg. The ID value of asp:TextBox control). |
| Display | Dynamic/Static. Used to indicate how the area of error message will be allocated.  Dynamic: Error message area will only be allocated when error will be displayed. Static: Error messagea area will be allocated in either case. |
| Enabled | true/false. Gets or sets whether to enable the validation control or not. |
| ErrorMessage | Gets or sets the text of the error message that will be displayed when validation fails (This is displayed when ValidationSummary validatoin control is used.). |
| Text | Gets or sets the description of the error message text. |
| ValidationGroup | Gets or sets the validation group it belongs to. This is used to group a set of controls. |
| SetFocusOnError | true/false. Used to move focus on the control that fails the validation. |

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| DEMO : RequiredFieldValidator |
| Write into TextBox |  |

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| <asp:RequiredFieldValidator ID="req1" runat="Server" ControlToValidate="TextBox1" ErrorMessage="TextBox is Mandatory field" Text="Please write something in the Box."></asp:RequiredFieldValidator> |

**RangeValidator**

RangeValidator is used to validate if the given data is in between the specified range or not.

Following are main properties of the validation control.

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| MinimumValue | Gets or sets the minimum value of the range. |
| MaximumValue | Gets or sets the maximum value of the range. |
| Type | Integer/String/Date/Currency/Double. Used to specify the data type to validate. |
| ControlToValidate | Gets or sets the input control to validate (eg. The ID value of asp:TextBox control). |
| Display | Dynamic/Static. Used to indicate how the area of error message will be allocated.  Dynamic: Error message area will only be allocated when error will be displayed. Static: Error messagea area will be allocated in either case. |
| Enabled | true/false. Gets or sets whether to enable the validation control or not. |
| ErrorMessage | Gets or sets the text of the error message that will be displayed when validation fails (This is displayed when ValidationSummary validatoin control is used.). |
| Text | Gets or sets the description of the error message text. |
| ValidationGroup | Gets or sets the validation group it belongs to. This is used to group a set of controls. |
| SetFocusOnError | true/false. Used to move focus on the control that fails the validation. |

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| DEMO : RangeValidator |  |
| Write into TextBox |  |

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| <asp:RangeValidator ID="range1" runat="Server" ControlToValidate="TextBox1" MinimumValue="5" MaximumValue="10" Display="dynamic" Type="Integer" Text="Integer only" ErrorMessage="Value must be between 5 to 10"></asp:RangeValidator> |

**RegularExpressionValidator**

RegularExpressionValidator validation control is used to make sure that a textbox will accept a predefined format of characters. This format can be of any type like you@domain.com (a valid email address).

Following are main properties of the validation control.

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| ValidationExpression | Gets or sets the regular expression that will be used to validate input control data. |
| ControlToValidate | Gets or sets the input control to validate (eg. The ID value of asp:TextBox control). |
| Display | Dynamic/Static. Used to indicate how the area of error message will be allocated.  Dynamic: Error message area will only be allocated when error will be displayed. Static: Error messagea area will be allocated in either case. |
| Enabled | true/false. Gets or sets whether to enable the validation control or not. |
| ErrorMessage | Gets or sets the text of the error message that will be displayed when validation fails (This is displayed when ValidationSummary validatoin control is used.). |
| Text | Gets or sets the description of the error message text. |
| ValidationGroup | Gets or sets the validation group it belongs to. This is used to group a set of controls. |
| SetFocusOnError | true/false. Used to move focus on the control that fails the validation. |

The following table summarizes the commonly used syntax constructs for regular expressions:

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| **Character Escapes** | **Description** |
| \b | Matches a backspace. |
| \t | Matches a tab. |
| \r | Matches a carriage return. |
| \v | Matches a vertical tab. |
| \f | Matches a form feed. |
| \n | Matches a new line. |
| \ | Escape character. |

Apart from single character match, a class of characters could be specified that can be matched, called the metacharacters.

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| **Metacharacters** | **Description** |
| . | Matches any character except \n. |
| [abcd] | Matches any character in the set. |
| [^abcd] | Excludes any character in the set. |
| [2-7a-mA-M] | Matches any character specified in the range. |
| \w | Matches any alphanumeric character and underscore. |
| \W | Matches any non-word character. |
| \s | Matches whitespace characters like, space, tab, new line etc. |
| \S | Matches any non-whitespace character. |
| \d | Matches any decimal character. |
| \D | Matches any non-decimal character. |

Quantifiers could be added to specify number of times a character could appear.

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| **Quantifier** | **Description** |
| \* | Zero or more matches. |
| + | One or more matches. |
| ? | Zero or one matches. |
| {N} | N matches. |
| {N,} | N or more matches. |
| {N,M} | Between N and M matches. |

The syntax of the control is as given:

<asp:RegularExpressionValidator ID="string" runat="server" ErrorMessage="string"

ValidationExpression="string" ValidationGroup="string"> </asp:RegularExpressionValidator>

**CompareValidator**

CompareValidator control is used to comapre two values. The value to compare can be either a value of another control or a constant specified. There are predefined data types that can be compared like string, integer etc.

 Following are main properties of the validation control.

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| --- | --- |
| ControlToCompare | Gets or sets the ID of the control whose value will be compared with the currently entered value. |
| Operator | DataTypeCheck/Equal/GreaterThan/GreaterThanEqual/LessThan/LessThanEqual/NotEqual. Used to specify the comparison operation to peform. In case of DataTypeCheck, ControlToCompare properties are ingnored. |
| Display | Dynamic/Static. Used to indicate how the area of error message will be allocated.  Dynamic: Error message area will only be allocated when error will be displayed. Static: Error messagea area will be allocated in either case. |
| Enabled | true/false. Gets or sets whether to enable the validation control or not. |
| ErrorMessage | Gets or sets the text of the error message that will be displayed when validation fails (This is displayed when ValidationSummary validatoin control is used.). |
| Text | Gets or sets the description of the error message text. |
| ValidationGroup | Gets or sets the validation group it belongs to. This is used to group a set of controls. |
| SetFocusOnError | true/false. Used to move focus on to the control that fails the validation. |

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| DEMO : CompareValidator |  |
| Write into TextBox |  |

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| <asp:CompareValidator ID="CompareValidator1" runat="Server" ControlToValidate="TextBox2" ControlToCompare="TextBox1" Operator="Equal" Type="string" Text="Both textbox value should be same." ErrorMessage="Both textbox values are not equal." Display="Dynamic"></asp:CompareValidator> |

**CustomValidator**

CustomValidator control is used to validate an input control with user-defined function either from server side or client side. Generally, this control is used when you feel that no other validation controls fit in your requirement.

Following are main properties of the validation control.

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| --- | --- |
| ClientValidationFunction | Gets or sets the validation function that will be used in client side (JavaScript function). |
| OnServerValidate | Method that fires after post back. |
| ControlToCompare | Gets or sets the ID of the control whose value will be compared with the currently entered value. |
| Operator | DataTypeCheck/Equal/GreaterThan/GreaterThanEqual/LessThan/LessThanEqual/NotEqual. Used to specify the comparison operation to peform. In case of DataTypeCheck, ControlToCompare properties are ingnored. |
| Display | Dynamic/Static. Used to indicate how the area of error message will be allocated.  Dynamic: Error message area will only be allocated when error will be displayed. Static: Error message area will be allocated in either case. |
| Enabled | true/false. Gets or sets whether to enable the validation control or not. |
| ErrorMessage | Gets or sets the text of the error message that will be displayed when validation fails (This is displayed when ValidationSummary validatoin control is used.). |
| Text | Gets or sets the description of the error message text. |
| ValidationGroup | Gets or sets the validation group it belongs to. This is used to group a set of controls. |
| SetFocusOnError | true/false. Used to move focus on the control that fails the validation. |

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| DEMO : CustomValidator | [Show Source Code](http://www.dotnetfunda.com/misc/codeviewer/default.aspx?pagename=~/tutorials/controls/customvalidator.aspx) |
| Write into TextBox |  |

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| <asp:CustomValidator ID="CustomValidator1" runat="Server" ControlToValidate="TextBox1" ClientValidationFunction="CheckForHardCodedValue" ErrorMessage="Value doens't match." Text="TextBox value must be [GOLD]" OnServerValidate="ValidateServerSide"></asp:CustomValidator>  // JavaScript validation function /////////////////////////  function CheckForHardCodedValue(source, arguments)  {  var tID = '<%= TextBox1.ClientID %>';  if (document.getElementById(tID).value == 'GOLD')  arguments.IsValid = true;  else  arguments.IsValid = false;  }  // Server side function to validate /////////////////////////  protected void ValidateServerSide(object source, ServerValidateEventArgs args)  {  if (args.Value.Equals("GOLD"))  { args.IsValid = true;  lblMessage.Text += "Page is valid.<br />"; }  else  { args.IsValid = false;  lblMessage.Text += "Page is NOT valid. <br />"; } } |

**ValidationSummary**

ValidationSummary control is used to summarize all validation errors on the page and display.

 Following are main properties of the validation control.

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| ShowMessageBox | true/false. Popup alert box with all validation error, if true. |
| ShowSummary | true/false. Display summary of all errors on the page, if true. |
| DisplayMode | BulletList/List/SingleParagraph. Used to display all validation errors in specified format. |
| HeaderText | Used to write the header of the error summary. |
| ValidationGroup | Used to specify the group name of input controls for which summary will be displayed. |

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| DEMO : ValidationSummary |
| Write into TextBox |  |

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| // Form & Validation Control /////////////////////////  <asp:ValidationSummary ID="ValidationSummary" runat="Server" ShowMessageBox="true" ShowSummary="true" DisplayMode="List" HeaderText="Following error occured." /> |