Validation Control in ASP.NET

Validation

Validation:- Valid data

- Check User input
- Against a set of rules

Validation Types:-

- Client side validation
- Server side validation

Client Side Validation

- Client side validation is something that will happen on users' browser.
- The validation will occur before the data gets posted back to server.
- it gives fast response and from the developers' point of view, it saves valuable resources of server.
- JavaScript is most widely used to perform client side validation.
- Now Microsoft is also embracing jQuery in its current versions so perhaps JavaScript and/or Jquery should be the right thing to use for client side validation.
- ASP.NET also provides some validation controls to perform client side validation which could help the developers in putting client side validation in place without writing a lot of code.

Server Side Validation

- Server side validation occurs at server.
- The benefit of having server side validation is that if the user somehow bypasses the client side validation (accidentally or deliberately), then we can catch the problem on the server side.
- Server side validation is done by writing our custom logic for validating all the input.
- ASP.NET also provides us some controls which will facilitate the server side validation and provides a framework for the developers to do the same.

- **NOTE**: Web developer may choose to go with any one type of validation but usually it is a good idea to have client side validation and same validation on server side too.

- The validation Control classes are present in System.Web.UI.WebControls namespace
- They are used to validate user input. if user data does not pass validation then error message is displayed
- By default page validation is done when any type of buttons like Button, ImageButton, LinkButton is processed
- Every button has CausesValidation property, it can be set to true or false. Its default value is true.
- ASP.NET provides 6 built in validation controls. Each control performs a specific type of validation

Validation Controls in ASP.NET

The validation controls provided by ASP.NET are:

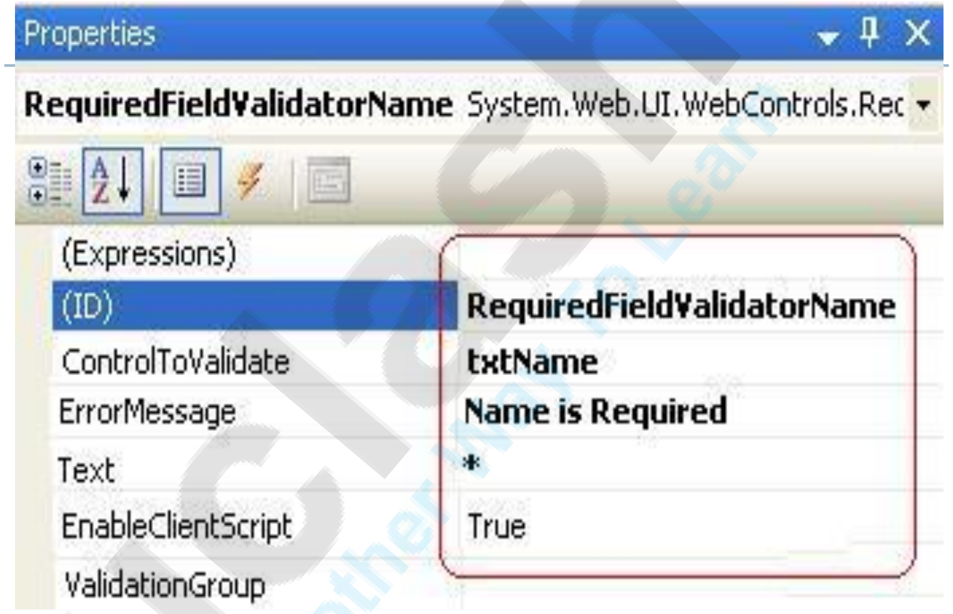
- RequiredFieldValidator
- CompareValidator
- RangeValidator
- RegularExpressionValidator
- CustomValidator
- ValidationSummary

some properties common to all these controls.

- ControlToValidate: ID of the control which should be validated by this control.
- ErrorMessage: This message will be displayed to the user when validation fails. This should always be something which user can read and act upon.
- Text: This string will be visible where the validation control is placed. Usually it is a good idea to set it to "*".

RequiredFieldValidator

- This validation control will be used when we are mandating the user input for any particular field.
- Let's say we have a simple form with name field and we don't want this to be empty.
- so what we can do is add a**RequiredFieldValidator** to the page, set the **ControlToValidate** to the ID of the name input field, set the error message property.


Properties

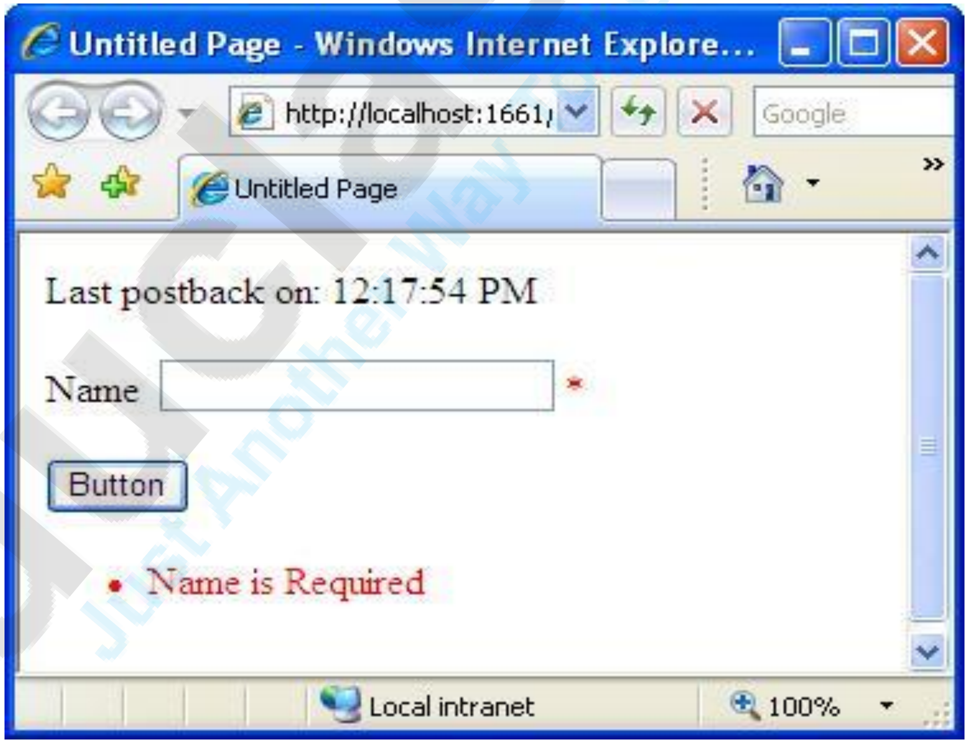
RequiredFieldValidatorName System.Web.UI.WebControls.Rec

(Expressions)	
(ID)	RequiredFieldValidatorName
ControlToValidate	txtName
ErrorMessage	Name is Required
Text	*
EnableClientScript	True
ValidationGroup	

```
<asp:RequiredFieldValidator ID="RequiredField
Validator" runat="server"  Text="*"
ErrorMessage="Name is required"
ControlToValidate="TextBox1"></asp:Required
FieldValidator>
```

- When we try to do a postback without entering name, then the postback will not happen and the "*" will be displayed in place to our validation control.

- The ValidationSummary we already added will display the full error message.
- If we need to change this to validation in server side, then we will have to set the EnableClientScript property of the validation control to false.



Last postback on: 12:17:54 PM

Name *

- Name is Required

- Validation groups allow you to organize validation controls on a page as a set. Each validation group can perform validation independently from other validation groups on the page.

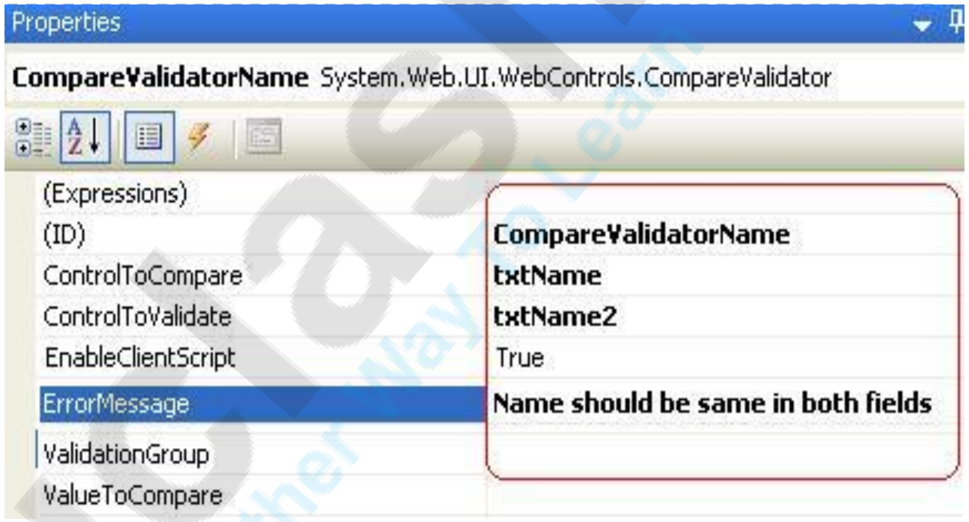
```
<asp:TextBox ID="TextBox1" Runat="server“
    ValidationGroup="Second"></asp:TextBox>
<asp:RequiredFieldValidator ID="RequiredFieldValidator1" Runat="server"
    ValidationGroup="First"
    ErrorMessage="TextBox1 should not be blank" ControlToValidate="TextBox1">
    </asp:RequiredFieldValidator>
    <asp:Button ID="Submit1" Runat="server" ValidationGroup="First" Text="Submit 1"
    />
<asp:TextBox ID="TextBox3" Runat="server"
    ValidationGroup="Second"></asp:TextBox>


<asp:RequiredFieldValidator ID="RequiredFieldValidator2" Runat="server"
    ErrorMessage=" TextBox3 should not be blank"
    ControlToValidate="TextBox3" ValidationGroup="Second">
    </asp:RequiredFieldValidator>

    <asp:Button ID="Submit2" Runat="server" ValidationGroup="Second" Text="Submit
    2" />
```

CompareValidator

- This control will compare the value of its **ControlToValidate** with **ControlToCompare**.
- It uses the comparison operators to do the same..
- Now suppose you want the same name to be entered twice (it would be password) then we can have a **CompareValidator** in place with the following properties:
- In case we want this control to use some predefined value instead of value in some control, then we can use **ValueToCompare** property.

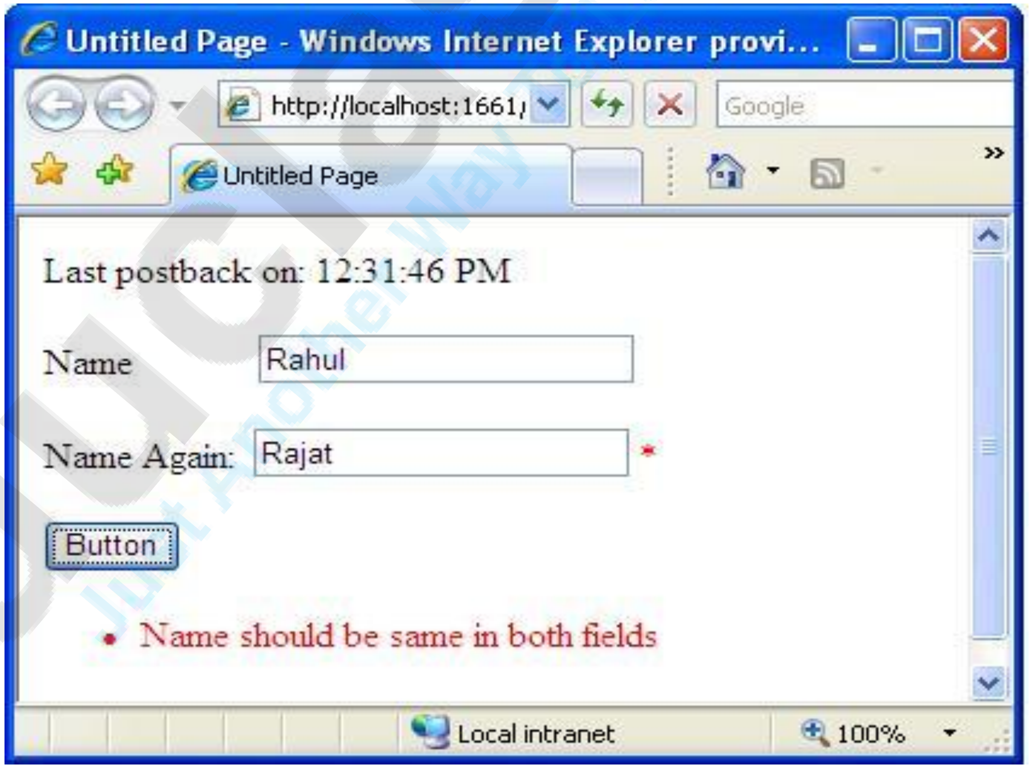


CompareValidatorName System.Web.UI.WebControls.CompareValidator

(Expressions)	
(ID)	CompareValidatorName
ControlToCompare	txtName
ControlToValidate	txtName2
EnableClientScript	True
ErrorMessage	Name should be same in both fields
ValidationGroup	
ValueToCompare	

```
<asp:CompareValidator ID="CompareValidator1" runat="server" ErrorMessage="Both Names must match"
        ControlToCompare="txtName1" ControlToValidate="txtName2"></asp:CompareValidator>
```

- If we look at the timestamp we added on the page, we can verify that the validation is happening on client side and no postback is happening to the server.
- If we need to change this to do this validation in server side, then we will have to set the EnableClientScript property of the validation control to false.



Last postback on: 12:31:46 PM

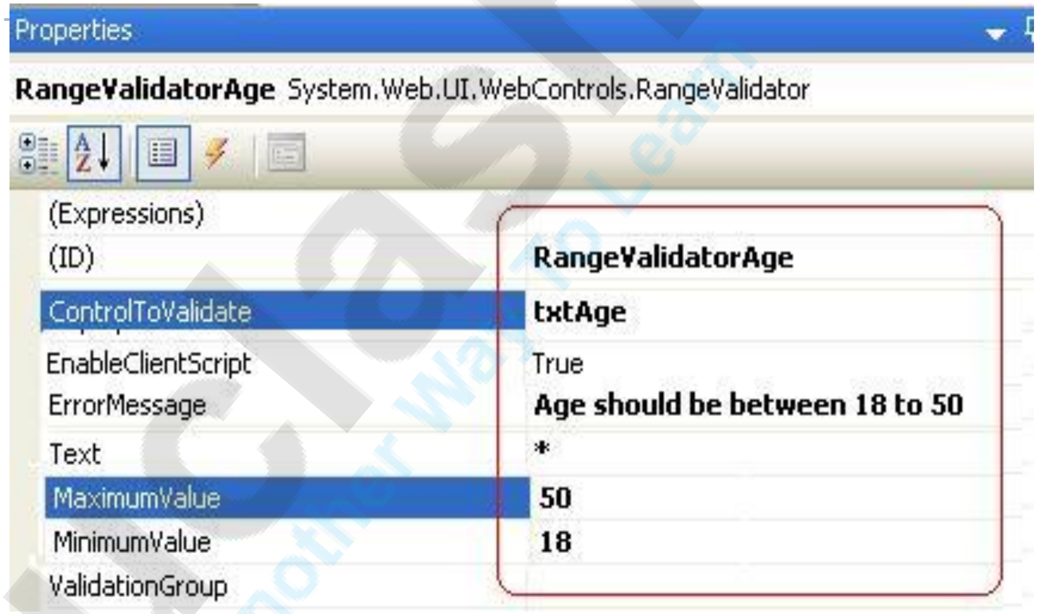
Name: Rahul

Name Again: Rajat *

- Name should be same in both fields

RangeValidator

- In scenarios where we want to ensure that the value entered by the user is in some predefined range, we can use this control.
- Let us try to add this control on our page and use this to validate the age of the user.
- We are saying the valid age is between 18 to 50.

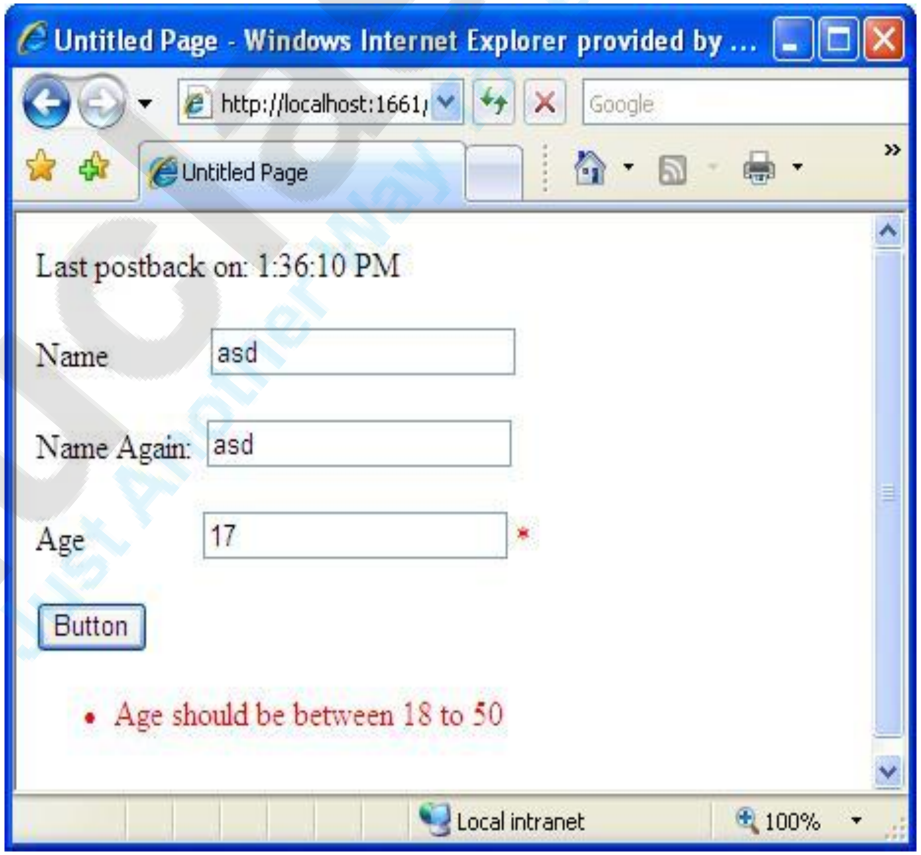

Properties

RangeValidatorAge System.Web.UI.WebControls.RangeValidator

(Expressions)	
(ID)	RangeValidatorAge
ControlToValidate	txtAge
EnableClientScript	True
ErrorMessage	Age should be between 18 to 50
Text	*
MaximumValue	50
MinimumValue	18
ValidationGroup	

```
<asp:RangeValidator ID="RangeValidator" runat="se
rver"
ErrorMessage="“Age should be between 18 to 50"
 ControlToValidate="“txtAge" MaximumValue="“50"
        MinimumValue="18" Type="Integer">
</asp:RangeValidator>
```

- If we look at the timestamp we added on the page, we can verify that the validation is happening on the client side and no postback is happening to the server.
- If we need to change this to do this validation in server side, then we will have to set the EnableClientScript property of the validation control to false.



Last postback on: 1:36:10 PM

Name: asd

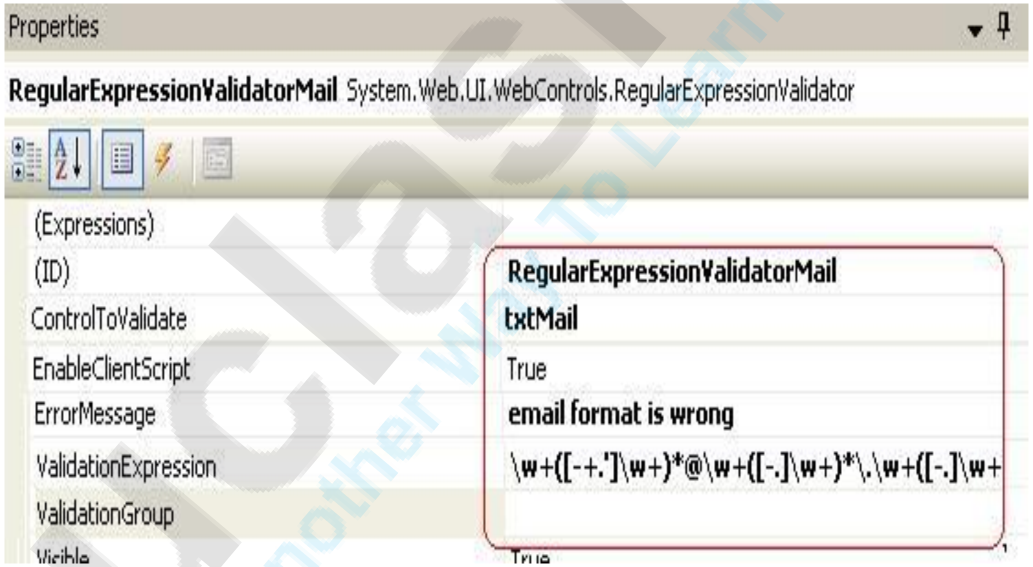
Name Again: asd

Age: 17 *

- Age should be between 18 to 50

Regular Expression Validator

- RegularExpressionValidator comes in handy when we want input data to be in some specific format.
- We will be using theRegularExpressionValidator for validating the format of email id.

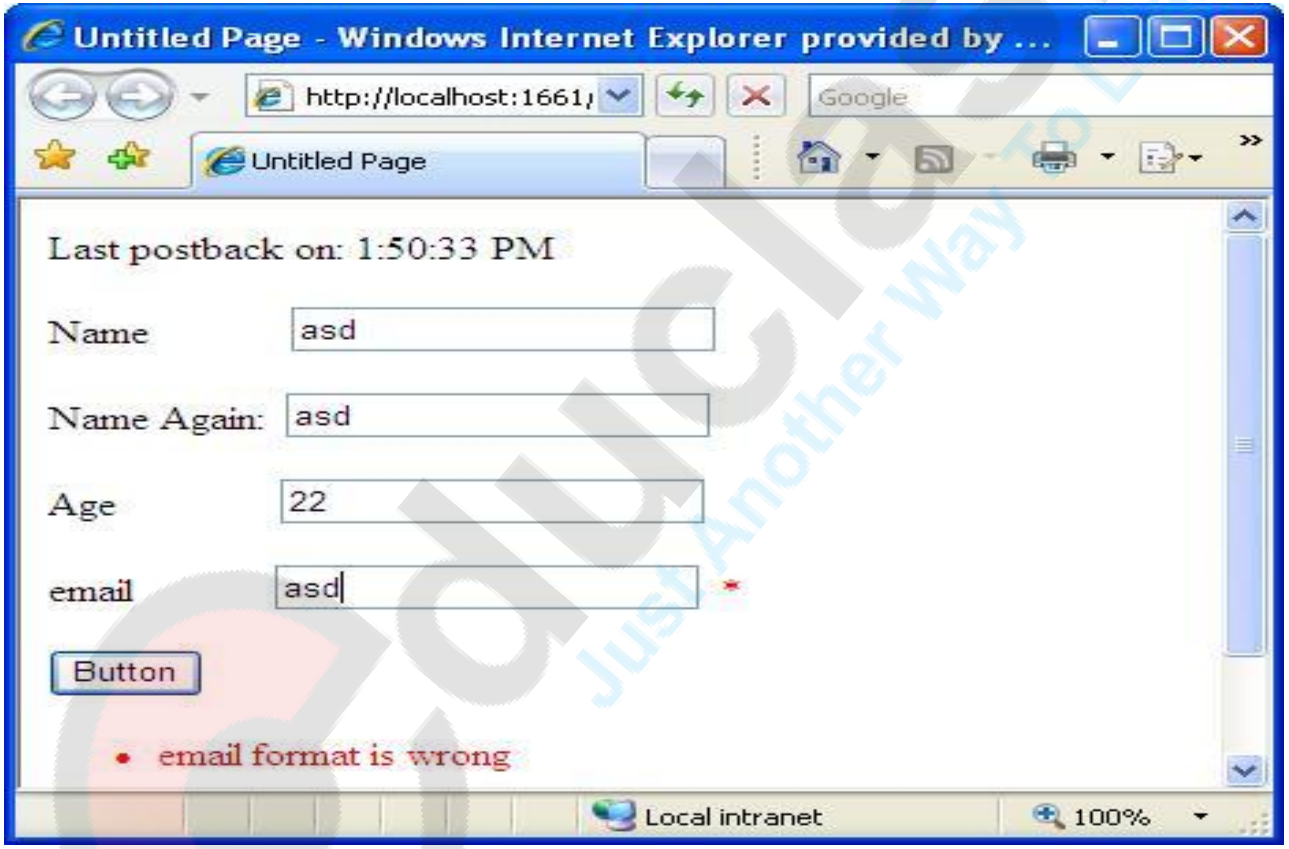


Properties

RegularExpressionValidatorMail System.Web.UI.WebControls.RegularExpressionValidator

(Expressions)	
(ID)	RegularExpressionValidatorMail
ControlToValidate	txtMail
EnableClientScript	True
ErrorMessage	email format is wrong
ValidationExpression	\w+([-+.']\w+)*@\w+([-.]\w+)*\.\w+([-.]\w+
ValidationGroup	
Visible	True

<asp:RegularExpressionValidator ID="RegularExpressionValidatorMail" runat="server“ ErrorMessage="“Email format is wrong" ControlToValidate=“txtMail" ValidationExpression="\w+([-+.']\w+)*@\w+([-.]\w+)*\.\w+([-.]\w+)*"> </asp:RegularExpressionValidator>



Last postback on: 1:50:33 PM

Name asd

Name Again: asd

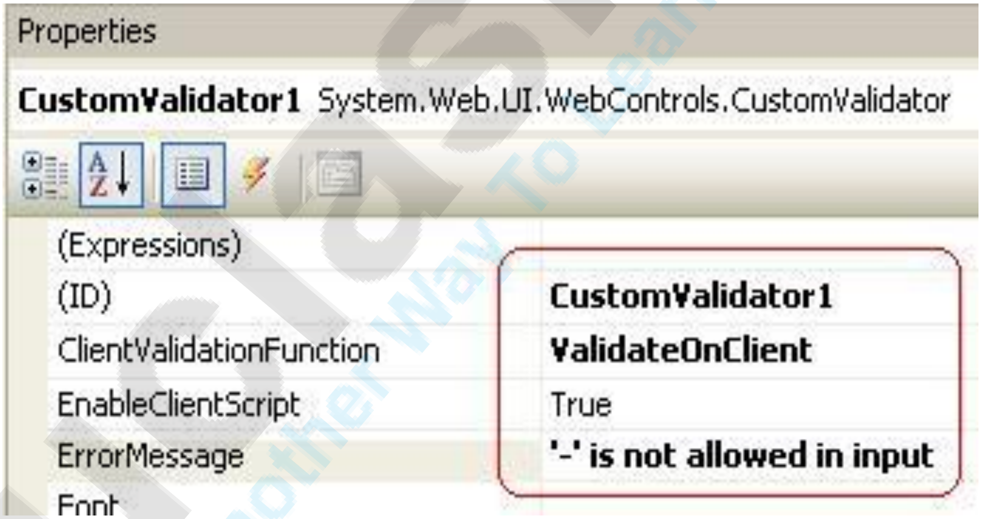
Age 22

email asd *

- email format is wrong

CustomValidator

- If with all these validation controls provided by ASP.NET, we still find ourselves a scenario where we need customized validation behavior, we can use the CustomValidator C ontrol.
- What we will do is we will check for '-' character in user input and reject the input if '-' is present in any field



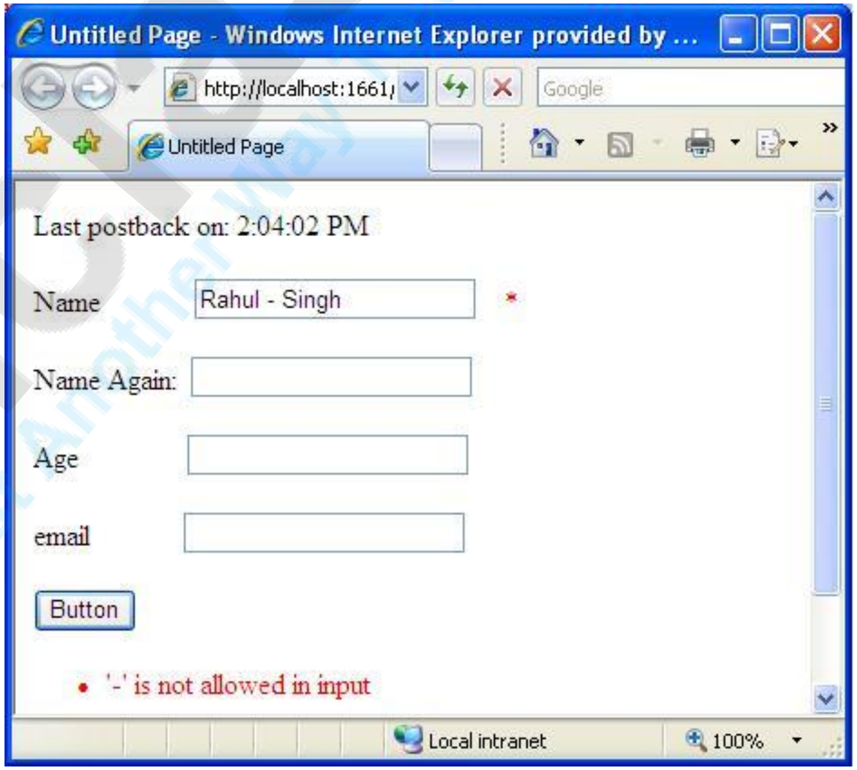
(Expressions)	
(ID)	CustomValidator1
ClientValidationFunction	ValidateOnClient
EnableClientScript	True
ErrorMessage	'-' is not allowed in input
Font	

<asp:CustomValidator ID="CustomValidator1" runat="server" OnServerValidate="UserCustomValidate"ControlToValidate="TextBox1"
ErrorMessage=“”-’ is not allowed in input” SetFocusOnError="True"></asp:CustomValidator>

- Now let us look at the client side JavaScript we had to write to provide our custom validation behavior:

```
function ValidateOnClient(source, arguments)
 {
if( arguments.Value.search('-') != -1)
 {
arguments.IsValid = false;
}
 }
```

and when we run the page:


Untitled Page - Windows Internet Explorer provided by ...

http://localhost:1661/

Last postback on: 2:04:02 PM

Name: Rahul - Singh *

Name Again:

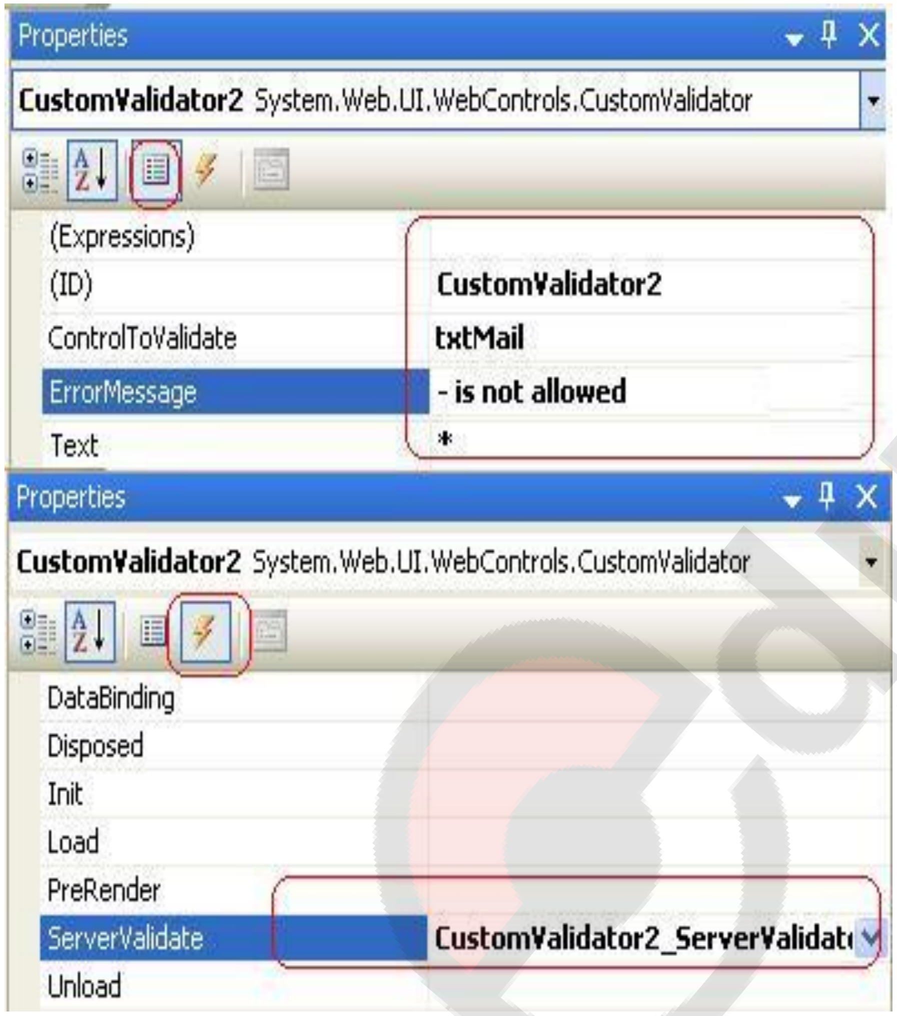
Age

email

Button

- '-' is not allowed in input

Now let us do the same by having the validation done at server side. We will do that for the email id field.



Properties

CustomValidator2 System.Web.UI.WebControls.CustomValidator

(Expressions)	
(ID)	CustomValidator2
ControlToValidate	txtMail
ErrorMessage	- is not allowed
Text	*

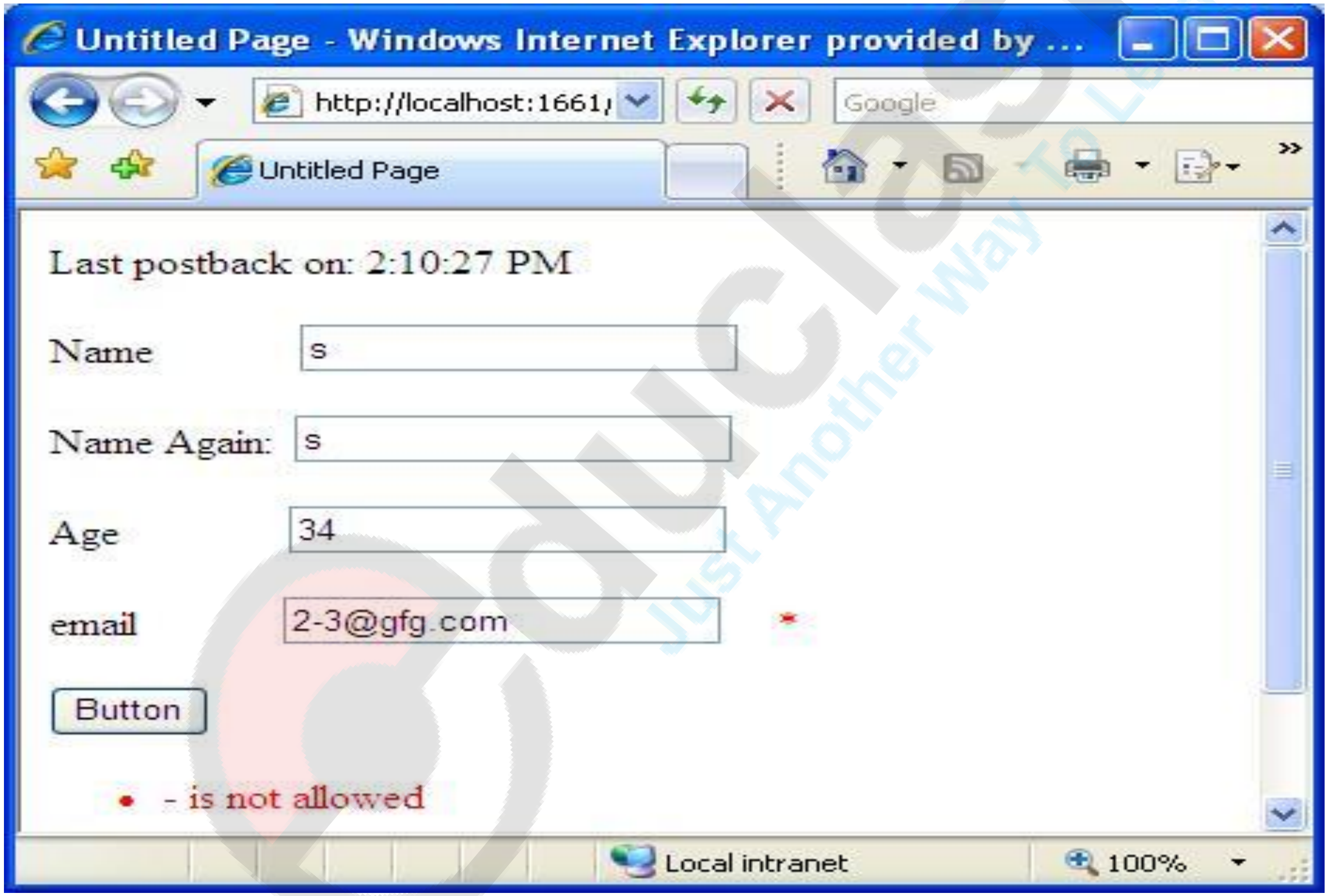
Properties

CustomValidator2 System.Web.UI.WebControls.CustomValidator

DataBinding	
Disposed	
Init	
Load	
PreRender	
ServerValidate	CustomValidator2_ServerValidat
Unload	

```
protected void
    CustomValidator2_ServerValidate
    (object source,
    ServerValidateEventArgs args)
{
string value = args.Value;
if (value.Contains("-"))
 {
args.IsValid = false;
}
}
```

When we enter invalid data in email id field, the validation error will be displayed after postback.



Last postback on: 2:10:27 PM

Name: s

Name Again: s

Age: 34

email: 2-3@gfg.com *

Button

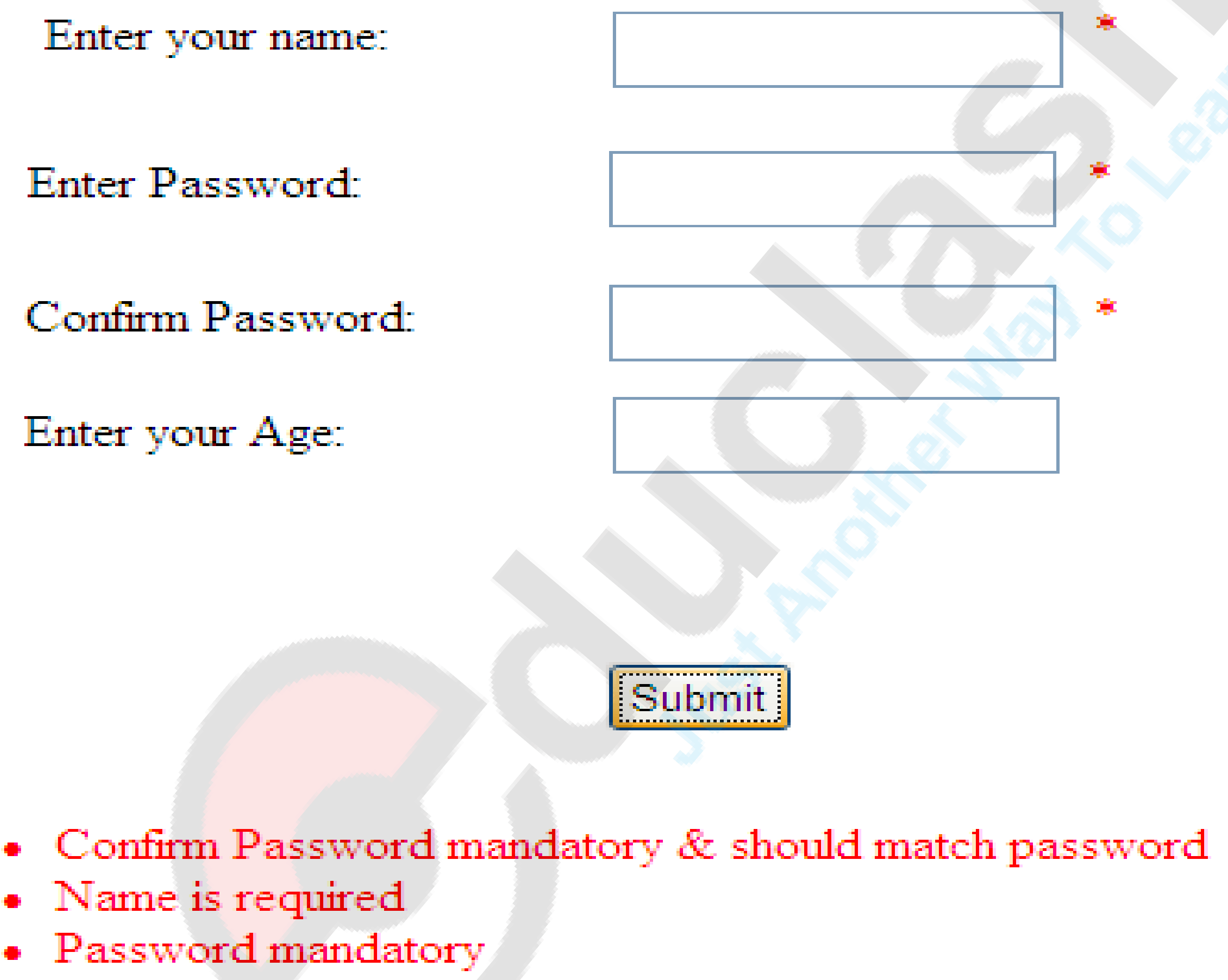
- - is not allowed

ValidationSummary

- The ValidationSummary control is reporting control, which is used by the other validation controls on a page.
- You can use this validation control to consolidate errors reporting for all the validation errors that occur on a page instead of leaving this up to each and every individual validation control.
- The validation summary control will collect all the error messages of all the non-valid controls and put them in a tidy list.

- <asp:ValidationSummary ID="ValidationSummary1" runat="server"
          style="top: 390px; left: 44px; position: absolute; height: 38px; wi
  dth: 625px" />

- Both ErrorMessage and Text properties are used to display error messages.



Enter your name:	*
Enter Password:	*
Confirm Password:	*
Enter your Age:	

- Confirm Password mandatory & should match password
- Name is required
- Password mandatory