**Assignment # 6**

**Marks: 100**

In case of any partial or full plagiarism (copying) is found or you could not explain the concepts in VIVA there will be penalty. Even if you do discuss your concept with others, make sure your solution is genuine.

Penalty will be -100% marks at least.

**Submission:**

To: Tayyab Nasir ([bcsf13m036@pucit.edu.pk](mailto:bcsf13m036@pucit.edu.pk))

CC: ([bilal.shahzad@pucit.edu.pk](mailto:bilal.shahzad@pucit.edu.pk))

**Deadline:** **21-June-2017 11:00 PM**

If delay is between 1 hour, -10 marks will be deducted from obtained marks.

If delay is between 2 hour, -20 marks will be deducted from obtained marks.

If delay is between 3 hour, -30 marks will be deducted from obtained marks.

If delay is between 4 hour, -40 marks will be deducted from obtained marks.

So on.

**Submission Guidelines:**

Delete **bin/obj/packages** folder, zip your source code, change extension to txt and then email.

**Task 1:**

1. A Screen to create a new user (only two fields). This should be main page.
   1. Login (email address)
   2. Password
2. When user will click “Sign up”. Apply client side validation and if valid then pass data to a Web API controller (AJAX hit). In API, you need to do server side validation. If everything is right, save the record in DB. Hash of password need to be stored in DB.
3. API will return error message (if any error by validations) or success message if record is created.
4. This screen should also provide a link “Forgot Password”. When user will click on this link, he will be redirect to “Forgot Password” view.

**Validations:**

1. Email address should be valid (format wise). Use regular expression.
2. Email should be unique in system. You should show error message if another user exists with same email address.
3. Both fields should not be empty
4. Password should be at least 5 characters.

**Table: Users**

|  |  |  |
| --- | --- | --- |
| UserID | int | PK, Identity column |
| Login | varchar(50) | Not Null |
| Password | varchar(20) | Not Null |
| CodeForReset | varchar(20) | Null |

**Task 2:**

1. Create Login Screen with Login field , Password field and “Sign In” button.
2. When “Sign In” button will be clicked, Validations will be performed. If everything is fine, make ajax call to “Web API” controller and pass login & password.
3. If user is valid
   1. Make an entry in Login History table to track user login history
   2. Return success, on client side, redirect user to Home screen
4. If user is not valid
   1. Return error message to client
   2. Client will show error to user, “Invalid Login/Password”

**Validations:**

1. Email address should be valid (format wise). Use regular expression.
2. Both fields should not be empty

**Table: LoginHistory**

|  |  |  |
| --- | --- | --- |
| LoginHistoryID | int | PK, Identity column |
| UserID | int | Not Null |
| LoginTime | datetime | Not Null |

**Task 3:**

1. Create “Forgot Password” screen. This screen should ask for user email address. Apply format validation on email address and then send request to Web API controller. On server side, verify if user with this email exists.
   1. If exists
      1. Generate a code (e.g. GUID), store it in Users table (CodeForReset column).
      2. Send a link with code to user via email. It is just like you see on all sites for “Password Recovery”
      3. User will click the link (link will be of your site, for now it will be something [http://localhost:someport/somecontroller/someaction?email=useremail&code=hereyourcode](http://localhost:someport/somecontroller/someaction?code=hereyourcode)
      4. So when link will be opened, you will get email & code from link and will verify if any code exists in DB against this user. If yes, show view user to provide new password.
      5. When user provides password & click update, update the password in DB. apply password validations here as you have applied in Task 1.
      6. Please note that user will not provide any email address while updating password.
      7. You need to make sure there is no security breach in this case.
      8. Also while updating password, you also need to make “CodeForReset” to null so that same link can’t be used again.

**Task 4:**

Try to find security issues in your above application and fix. As there is no session management, so home screen can be accessed without login. That is not an issue for now. If any security issue is found, marks in this task will be zero. You may also google on possible security issues in a web application.

**You need to following technologies & guidelines for this assignment**

* Visual Studio 2013
* C#, ASP.NET MVC, ASP.NET Web API
* SQL Server
  + Stored Procedures (All queries should be in stored procedure and you need to call stored procedures from your code. Pass parameters to stored procedure and get output back)
* ADO.NET
  + Parameterized Query
* Gmail account for sending email

**Note:**

1. You don’t need to do any session management in this assignment.
2. Hash of Password should be saved in DB instead of actual password.
3. Login & password to send email should be taken from web.config. It should not be hard coded.
4. You may use Bootstrap theme

**FAQS**

**Question # 1-** is assignment main entity framework use ker sakty hain???

**Answer:** Yes You may but you need to use Stored procedures for all DB interactions. So EF only helps you loading data into your entities directly (i.e. You will not have to write FillDTO() method). My suggestion is that you should use pure [ADO.NET.](https://l.facebook.com/l.php?u=http%3A%2F%2FADO.NET%2F&h=ATMDXJnB68kbUQGec9Pu0JnWf1KQiLQeL5GDHemCQSJJoHPVLxQ3KJI1wxAdzy4M0-dKkdeN4kYut22434RLPSQqbcwFIOBvAXd0TfcJyhgz_4e6OghbvqJ6r9QszCxMj2lRErBR)

**Question # 2**- How to send email using .NET (C#)

**Answer:**

How to send email using C# (.NET)

https://www.youtube.com/watch?v=a\_xV0PXqwSk&list=PL0kdOcU3HXGL1zJEqUCtSZfwmpF8bVbOG

Sample Email Code

https://www.dropbox.com/s/2q3jgin59671j03/EmailPrac.zip?dl=0

**Question # 3** - store procedure may hum kia kary gay koi example bta day please?

**Answer:** You will write your SQL query/logic in SP. For example, you want to check if provided email exists in DB or not. You will pass email id to an SP which will return true or false. Same goes for new user creation, login validation etc.

**Question # 4 -**

sir kya ye zrori hy k email ki validation Regular expression say he krni hy q k HTML 5 me input type email rakhny say validation automatically hoti hy or password ki b aysy ho jati hy or agar client side pay validation ho gye hy to server pay krni zrori hy??

or sir AJAX call ki samaj ni a rahi us k liye kuch helping material mil jaye to??

**Answer:**

Yes that can be used but in this assignment you need to use regular expressions to learn this concept. Have you checked PHP or [ASP.NET](https://l.facebook.com/l.php?u=http%3A%2F%2FASP.NET%2F&h=ATOoa0alyuGmRlzlAOd8iVkgABtaOJfXQWKS7s0dwGtfC_WbZrqxAG9y2LgInPJ8fOByykaeM5MPXqMeoLI7-Da4kyp7HeiJ8EdCEgu31-Pjk_XzmvVdOhZcA8da0wKj67nOtlee) MVC videos? If not, Please go through those first, you will learn many concepts from them.

And if you don't have that much time, Just watch last three videos of [ASP.NET](https://l.facebook.com/l.php?u=http%3A%2F%2FASP.NET%2F&h=ATPYwep3tDkXMDUppRz02vyfZjDzSLTjWc1-bH3FR4zrMd2dSNytFYdhRSNrsUR9IKrDN_PQt8X9eBeLBWrfdJm9p08Ae8nuU9rydm95SW1tqmbXje966SylGdqqQmCt56QqcqtC) MVC series.