# Assignment # 8

**BSSE/BSCS – Fall 2015 (Enterprise Application Development)**

**Submission deadline:** <mark>Sunday (**14-June-2018 11:00 pm**)</mark>
**Weightage:** <mark>3%</mark>

**Concepts Learning:**
ASP.NET MVC, JQuery, PDF Generation, Thumbnail Generation

**Note:**
1- You need to create a **private** repository "**EAD_S18_A8_YourRollNumber**" on bitbucket
2- Provide access to "**bilalshahzad139**" and to your EAD TA bitbucket account.
3- Clone above repository on your machine.
4- You should commit your changes regularly and push your commits often to server. <mark>Make sure your bin/obj/packages folders are marked as git "ignore".</mark>
6- You need to update your repository link in following sheet against your roll number in **Assignment 8** column. Changes are being tracked there. <mark>Make sure your repository is **private**</mark>.

https://docs.google.com/spreadsheets/d/1gN8m01-J2N_TBaY57tY6KzepdTQrmCHrMH3JjF23bj0/edit?usp=sharing

CS TA: (IFTIKHAR LIAQUAT) bsef14m034@pucit.edu.pk (Bitbucket ID: **bsef14m034**)
SE TA: SANA KANWAL BCSF14M019@pucit.edu.pk (Bitbucket ID:**BCSF14M019**)

**Late commits:**
Within 1 hour (after deadline): Deduction of 10% marks from obtained marks
Within 2 hours (after deadline): Deduction of 20% marks from obtained marks
Within 3 hours (after deadline): Deduction of 30% marks from obtained marks
Within 4 hours (after deadline): Deduction of 40% marks from obtained marks
Within 5 hours (after deadline): Deduction of 50% marks from obtained marks
After 5 hours of deadline: 0 Marks will be given in assignment.

**Case Study:**
In this assignment, we want to create a smaller version of Google Drive.

**Requirements:**
1. **Login Screen:** Already done in previous assignments. You may add dummy users in database directly. No signup screen is required.
2. **Logout option:** Once a user is logged in, there will be a "Logout" option.
3. **Home Screen:**
   a. Show Logged in User name somewhere in the page (at top for example)
   b. When user is logged in, you will show him already created folders. If there is no folder created yet, empty dashboard will be shown.
4. **New Folder Creation:** A user will see an option at top (on every page) to create a new folder. When user will click on it, show a popup to take folder name. When user will provide a name and click save. Popup will be closed and a new folder will be created on current location. You can check this functionality in Google. If you want to use right click menu (context menu) option, that is also fine.
5. **Folder Content Display:** When a user will **double click** on a folder, you need to show its content (files & folders). It is just like Google Drive does. At top, you need to show current navigation flow (like google drive does). Nested folders will be displayed as folders. For files, you need to show thumbnail. If you could not generate thumbnail of a file, you will show standard thumbnail for that file. Check at the end for how to generate thumbnail of a file.
6. **File Uploading:** When you are in a folder, you will see an option to upload a file. You can show a popup where user will select a file. User should be able to upload a file (maximum 8 MB) of any type. File uploading will be done through AJAX. Show some animated GIF when file uploading is in progress.
7. **Folder or File Deletion:** When user will single click on a file or folder, it will be selected and an option "Delete?" will become visible on top. When user will click that **Delete** button, a confirmation box will be shown. If user will select "**YES**", selected items will be deleted and view will be refreshed. **OR** You may also use "Delete" option in right click menu (context menu) to delete a specific file.
8. **File downloading:** When user will double click on a file, it will be downloaded on user machine. OR you may provide 'Download' option in context menu when user will click on a file.
9. **Download Meta:** There will be an option at top "Download Meta as PDF". When user will click on it, a PDF file will be generated and downloaded. This PDF file will contain meta information of all folders & files from current level. If I am currently at folder "EAD" and my current view is showing some nested folders of EAD + some files. These nested folders may contain more folders & files and so on. You need to generate meta information of all the folders and files till last level. Meta information will be

Name: EAD
Type: Folder
Size: (NONE incase of folder, actual size in case of if this is file)
Parent: Name of folder or ROOT if it is top level folder.

Name: Assignment8.docx
Type: File
Size:2341 KB
Parent: EAD

10. **[Bonus Task]**: Provide a search option to search any file (by name not content). Google drive also provides this feature. Simply provide a text box, user will type something and click on Search button. Show all matching files thumbnails in view area.

**DB Guidelines:**
Database Name: Assignment8
**Tables:**
**Users:** Id (int), Name (varchar 20), Login(varchar 20), Password (varchar 20), Email (varchar 20)

**Folder:** Id (int), Name (varchar 20), ParentFolderId (int), CreatedBy int, CreatedOn (datetime),IsActive (bit)
**Files:** Id (int), Name (varchar 20), ParentFolderId (int), FileExt varchar(10), FileSizeInKB (int) CreatedBy int, UploadedOn (datetime),IsActive (bit)

**General Guidelines**
- Apply Client Side & Server side validations. Also Apply Client/Server side validation on file uploading (~~only jpg files should be uploaded~~). File can be of any type.
- Apply Exception Handling in whole application.
- With every commit, provide proper message (regarding working on which task and what is done in this commit)
- Authorization of internal pages
- UI should be appealing & smooth
- You should be using AJAX wherever possible. Also use Web API for all such AJAX call handling.

Every bug will reduce 3% marks. So make sure everything is of **high quality.**

**How to get thumbnail from file**

https://stackoverflow.com/questions/1439719/c-sharp-get-thumbnail-from-file-via-windows-api

**Generating PDF file from C#**

http://www.pdfsharp.com/
http://www.pdfsharp.net/wiki/PDFsharpSamples.ashx

**For Path Issues**

http://bstechnical.blogspot.com/2017/03/paths-in-aspnet.html

**FAQS**

1) Currently I've only two controllers Home & User. Is that okay to have [HttpPost] methods returning JsonResult such as GetAllFolders(int ParentFolderId) SaveFolder() Upload file or I should make another separate controller called AjaxController and use it just of ajax calls.

Answer: You need to use API Controller for AJAX calls (not MVC Controllers)

2) Can I add validation checks on Session in these methods? Like if guest/logged out user make a call via postman or fiddler and that request should be prevented via session checks.

Answer: Yes if we would have enabled Session in Web API, we can apply similar authorization conditions using Sessions there. In Web API, we use some token mechanism (oAuth for example) but for now you may skip authorization on Web API.

3) I've added WebAPI in the project but it works fine. But unable to access the Session. An null exception is occurring in SessionManager.cs on line 25 **HttpContext.Current.Session["User"] = value;**. I'm unable to use session in the WebAPI Controller. I've googled it and found https://stackoverflow.com/questions/9594229/accessing-session-using-asp-net-web-api but unable to understand whats to do. I've tried to follow this link but does not work.

Answer: Yes you can't use Session in Web API directly. There is a workaround but you should not go for that. Instead if you want to use any information from session, store that information on client side at page load. You may keep that data in JS variables or in localstorage or sessionstorage and then pass that information with request to web api.

4) My whole operations are ajax based even login validation and redirection after login success. Should I change it to non-ajax and create session inside Controller class?

Answer: No, You should use AJAX approach with Web API and ignore authorization on Web API side. But handle session authorization on MVC side. User should not be able to open Home view directly without login.

5) I am having problem uploading file via APIController's action. There does not exists Request.Files.
Answer: Please check Web API PDF tutorial (you people attempted in lab). It contains file handling code at the end.
https://github.com/bilalshahzad139/Tutorials/tree/master/ASP.NET%20Web%20API

6) In task four if we create a new folder then that folder will also be created in our project folder somewhere or not?
Answer: No, those are logical folders. You just need to create a record in your table. You will use data from that table to show folders (like thing) on your page as google does.