

SOFTWARE DESIGN ARCHITECTURE (LAB)

Student Management System

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1. ABSTRACT

Students form a main part of any institution that concerns with. But the institutions find it difficult to keep details of so many students of the organization just in one stretch. It will involve a lot of pen paper work. Sometimes there will be some huge heap of files bundled up and kept together in some corner of the office. If you want any information regarding the particular student then it can be obtained by just entering the roll number or the name of the student to be searched. This student management system will make the work of storing the data in an organized way.

The student management system application will help in managing the student's reports, results and exams will become easier with one such system. It will also help in saving time and effort. The user interface must be user friendly and easy to understand. The information of the particular student will be obtained in just one mouse click. Some of the features that it can include are as follows:

Student database management: The details of the students of the organizations can be stored in the database with the use this application.

Results: The results of the students can also be accessed and stored through this application.

Security: The data that will be disclosed will be more secure since there will be no access to the unknown users.

Performance: The performance of the students might be in curriculum as well as cocurriculum can also be stored through the use of this application.

One-click access: You will obtain the details of the students by entering his/her name or the roll number just in one click.

User interface: The user interface must be simple and easy to understand.

Personal details: All the personal details of the students can be obtained in just one mouse click.

2. INTRODUCTION

Student management system is an environment where all the process of the student in the institution is managed. It is done through the automated computerized method. Conventionally this system is done using papers, file and binders.

This system saves the time of the student and of the administrator. It includes process like registration of the student's details, assigning the department based on their course and maintenance of the record.

This system reduces the cost and workforce required for this job. As the system is online the information is globally present to everyone. This makes the system easy to handle and feasible for finding the omission with updating at the same time.

As for the existing system, they use to maintain their record manually which makes it vulnerable to security. If filed a query to search or update in a manual system, it will take a lot of time to process the query and make a report which is a tedious job.

As the system used in the institute is outdated as it requires paper, files and the binders, which will require the human workforce to maintain them. To get registered in the institute, a student in this system one should come to the university.

Get the forms from the counter while standing in the queue which consumes a lot of the student's time as well as of management team. As the number of the student increases in the institute manually managing the strength becomes a hectic job for the administrator. This computerized system store all the data in the database which makes it easy to fetch and update whenever needed.

3. SCOPE

The scope of this project is limited to the design and implementation of a Student Information Management System. The purpose of the Student Information Management system is to allow for storing information of large number of students. Different privileges are given to different types of users. The Student Information Management System will make use of Visual Basic 6.0 as its front end and Microsoft Access as its back end.

4. CODE

4.1. Properties

4.1.1. AssemblyInfo.cs

```
using System.Reflection;
using System.Runtime.CompilerServices;
using System.Runtime.InteropServices;
// General Information about an assembly is controlled through the following
// set of attributes. Change these attribute values to modify the information
// associated with an assembly.
[assembly: AssemblyTitle("Student_Management_System")]
[assembly: AssemblyDescription("")]
[assembly: AssemblyConfiguration("")]
[assembly: AssemblyCompany("")]
[assembly: AssemblyProduct("Student_Management_System")]
[assembly: AssemblyCopyright("Copyright @ 2020")]
[assembly: AssemblyTrademark("")]
[assembly: AssemblyCulture("")]
// Setting ComVisible to false makes the types in this assembly not visible
// to COM components. If you need to access a type in this assembly from
// COM, set the ComVisible attribute to true on that type.
[assembly: ComVisible(false)]
// The following GUID is for the ID of the typelib if this project is exposed to COM
[assembly: Guid("987e33ff-db5f-42a4-b70c-0b36d39f9174")]
// Version information for an assembly consists of the following four values:
//
//
         Major Version
         Minor Version
//
//
        Build Number
//
         Revision
```

```
//
// You can specify all the values or you can default the Revision and Build Numbers
// by using the '*' as shown below:
[assembly: AssemblyVersion("1.0.0.0")]
[assembly: AssemblyFileVersion("1.0.0.0")]
```

4.2. App_Start

4.2.1. BuildConfig.cs

```
using System.Web;
using System.Web.Optimization;
namespace Student Management System
    public class BundleConfig
        // For more information on bundling, visit
http://go.microsoft.com/fwlink/?LinkId=301862
        public static void RegisterBundles(BundleCollection bundles)
            bundles.Add(new ScriptBundle("~/bundles/jquery").Include(
                        "~/Scripts/jquery-{version}.js"));
            bundles.Add(new ScriptBundle("~/bundles/jqueryval").Include(
                        "~/Scripts/jquery.validate*"));
            // Use the development version of Modernizr to develop with and learn
from. Then, when you're
            // ready for production, use the build tool at http://modernizr.com to
pick only the tests you need.
            bundles.Add(new ScriptBundle("~/bundles/modernizr").Include(
                        "~/Scripts/modernizr-*"));
            bundles.Add(new ScriptBundle("~/bundles/bootstrap").Include(
                      "~/Scripts/bootstrap.js",
                      "~/Scripts/respond.js"));
            bundles.Add(new StyleBundle("~/Content/css").Include(
                      "~/Content/bootstrap.css",
                      "~/Content/site.css"));
        }
   }
}
```

4.2.2. FilterConfig.cs

```
using System.Web;
using System.Web.Mvc;

namespace Student_Management_System
{
    public class FilterConfig
    {
        public static void RegisterGlobalFilters(GlobalFilterCollection filters)
        {
            filters.Add(new HandleErrorAttribute());
        }
}
```

```
}
```

4.2.3. IdentityCongig.cs

```
using System;
using System.Collections.Generic;
using System.Data.Entity;
using System.Linq;
using System.Security.Claims;
using System.Threading.Tasks;
using System.Web;
using Microsoft.AspNet.Identity;
using Microsoft.AspNet.Identity.EntityFramework;
using Microsoft.AspNet.Identity.Owin;
using Microsoft.Owin;
using Microsoft.Owin.Security;
using Student_Management_System.Models;
namespace Student_Management_System
{
    public class EmailService : IIdentityMessageService
        public Task SendAsync(IdentityMessage message)
            // Plug in your email service here to send an email.
            return Task.FromResult(0);
    }
    public class SmsService : IIdentityMessageService
        public Task SendAsync(IdentityMessage message)
            // Plug in your SMS service here to send a text message.
            return Task.FromResult(0);
        }
    }
    // Configure the application user manager used in this application. UserManager
is defined in ASP.NET Identity and is used by the application.
    public class ApplicationUserManager : UserManager<ApplicationUser>
        public ApplicationUserManager(IUserStore<ApplicationUser> store)
            : base(store)
        }
        public static ApplicationUserManager
Create(IdentityFactoryOptions<ApplicationUserManager> options, IOwinContext context)
        {
            var manager = new ApplicationUserManager(new
UserStore<ApplicationUser>(context.Get<ApplicationDbContext>()));
            // Configure validation logic for usernames
            manager.UserValidator = new UserValidator<ApplicationUser>(manager)
            {
                AllowOnlyAlphanumericUserNames = false,
                RequireUniqueEmail = true
            };
```

```
// Configure validation logic for passwords
            manager.PasswordValidator = new PasswordValidator
                RequiredLength = 6,
                RequireNonLetterOrDigit = true,
                RequireDigit = true,
                RequireLowercase = true,
                RequireUppercase = true,
            };
            // Configure user lockout defaults
            manager.UserLockoutEnabledByDefault = true;
            manager.DefaultAccountLockoutTimeSpan = TimeSpan.FromMinutes(5);
            manager.MaxFailedAccessAttemptsBeforeLockout = 5;
            // Register two factor authentication providers. This application uses
Phone and Emails as a step of receiving a code for verifying the user
            // You can write your own provider and plug it in here.
            manager.RegisterTwoFactorProvider("Phone Code", new
PhoneNumberTokenProvider<ApplicationUser>
                MessageFormat = "Your security code is {0}"
            });
            manager.RegisterTwoFactorProvider("Email Code", new
EmailTokenProvider<ApplicationUser>
                Subject = "Security Code",
                BodyFormat = "Your security code is {0}"
            });
            manager.EmailService = new EmailService();
            manager.SmsService = new SmsService();
            var dataProtectionProvider = options.DataProtectionProvider;
            if (dataProtectionProvider != null)
            {
                manager.UserTokenProvider =
DataProtectorTokenProvider<ApplicationUser>(dataProtectionProvider.Create("ASP.NET
Identity"));
            return manager;
        }
   }
   // Configure the application sign-in manager which is used in this application.
   public class ApplicationSignInManager : SignInManager<ApplicationUser, string>
        public ApplicationSignInManager(ApplicationUserManager userManager,
IAuthenticationManager authenticationManager)
            : base(userManager, authenticationManager)
        {
        }
        public override Task<ClaimsIdentity> CreateUserIdentityAsync(ApplicationUser
user)
            return
user.GenerateUserIdentityAsync((ApplicationUserManager)UserManager);
        }
```

4.2.4. RouteConfig.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
using System.Web.Routing;
namespace Student_Management_System
    public class RouteConfig
        public static void RegisterRoutes(RouteCollection routes)
            routes.IgnoreRoute("{resource}.axd/{*pathInfo}");
            routes.MapRoute(
                name: "Default",
                url: "{controller}/{action}/{id}",
                defaults: new { controller = "Course", action = "Index", id =
UrlParameter.Optional }
            );
        }
    }
}
```

4.2.5. Startup.Auth.cs

```
using System;
using Microsoft.AspNet.Identity;
using Microsoft.AspNet.Identity.Owin;
using Microsoft.Owin;
using Microsoft.Owin.Security.Cookies;
using Microsoft.Owin.Security.Google;
using Owin;
using Student_Management_System.Models;
namespace Student_Management_System
{
    public partial class Startup
        // For more information on configuring authentication, please visit
http://go.microsoft.com/fwlink/?LinkId=301864
        public void ConfigureAuth(IAppBuilder app)
            // Configure the db context, user manager and signin manager to use a
single instance per request
```

```
app.CreatePerOwinContext(ApplicationDbContext.Create);
app.CreatePerOwinContext<ApplicationUserManager>(ApplicationUserManager.Create);
app.CreatePerOwinContext<ApplicationSignInManager>(ApplicationSignInManager.Create);
            // Enable the application to use a cookie to store information for the
signed in user
           // and to use a cookie to temporarily store information about a user
logging in with a third party login provider
            // Configure the sign in cookie
            app.UseCookieAuthentication(new CookieAuthenticationOptions
            {
                AuthenticationType = DefaultAuthenticationTypes.ApplicationCookie,
                LoginPath = new PathString("/Account/Login"),
                Provider = new CookieAuthenticationProvider
                    // Enables the application to validate the security stamp when
the user logs in.
                   // This is a security feature which is used when you change a
password or add an external login to your account.
                   OnValidateIdentity =
SecurityStampValidator.OnValidateIdentity<ApplicationUserManager, ApplicationUser>(
                        validateInterval: TimeSpan.FromMinutes(30),
                        regenerateIdentity: (manager, user) =>
user.GenerateUserIdentityAsync(manager))
            });
            app.UseExternalSignInCookie(DefaultAuthenticationTypes.ExternalCookie);
           // Enables the application to temporarily store user information when
they are verifying the second factor in the two-factor authentication process.
            app.UseTwoFactorSignInCookie(DefaultAuthenticationTypes.TwoFactorCookie,
TimeSpan.FromMinutes(5));
           // Enables the application to remember the second login verification
factor such as phone or email.
            // Once you check this option, your second step of verification during
the login process will be remembered on the device where you logged in from.
            // This is similar to the RememberMe option when you log in.
app.UseTwoFactorRememberBrowserCookie(DefaultAuthenticationTypes.TwoFactorRememberBr
owserCookie);
            // Uncomment the following lines to enable logging in with third party
login providers
            //app.UseMicrosoftAccountAuthentication(
                 clientId: "",
            //
                 clientSecret: "");
            //app.UseTwitterAuthentication(
            // consumerKey: "",
            // consumerSecret: "");
            //app.UseFacebookAuthentication(
            // appId: "",
                appSecret: "");
            //app.UseGoogleAuthentication(new GoogleOAuth2AuthenticationOptions()
            //{
                ClientId = "",
```

4.3. Controller

4.3.1. AccountController.cs

```
using System;
using System.Globalization;
using System.Linq;
using System.Security.Claims;
using System.Threading.Tasks;
using System.Web;
using System.Web.Mvc;
using Microsoft.AspNet.Identity;
using Microsoft.AspNet.Identity.Owin;
using Microsoft.Owin.Security;
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
{
    [Authorize]
    public class AccountController : Controller
    {
        private ApplicationSignInManager _signInManager;
        private ApplicationUserManager _userManager;
        public AccountController()
        {
        }
```

```
public
                      AccountController(ApplicationUserManager userManager,
ApplicationSignInManager signInManager )
        {
           UserManager = userManager;
           SignInManager = signInManager;
        }
        public ApplicationSignInManager SignInManager
        {
           get
           {
                return
                                             _signInManager
                                                                                  ??
HttpContext.GetOwinContext().Get<ApplicationSignInManager>();
           }
           private set
            {
               _signInManager = value;
           }
       }
        public ApplicationUserManager UserManager
        {
           get
            {
                                                                                  ??
               return
                                             _userManager
HttpContext.GetOwinContext().GetUserManager<ApplicationUserManager>();
           private set
            {
               _userManager = value;
           }
```

```
//
        // GET: /Account/Login
        [AllowAnonymous]
        public ActionResult Login(string returnUrl)
        {
            ViewBag.ReturnUrl = returnUrl;
            return View();
        }
        //
        // POST: /Account/Login
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> Login(LoginViewModel model, string returnUrl)
        {
            if (!ModelState.IsValid)
            {
                return View(model);
            }
            // This doesn't count login failures towards account lockout
            // To enable password failures to trigger account lockout, change to
shouldLockout: true
                              await SignInManager.PasswordSignInAsync(model.Email,
                 result =
model.Password, model.RememberMe, shouldLockout: false);
            switch (result)
            {
                case SignInStatus.Success:
```

}

```
return RedirectToLocal(returnUrl);
                case SignInStatus.LockedOut:
                    return View("Lockout");
                case SignInStatus.RequiresVerification:
                    return RedirectToAction("SendCode", new { ReturnUrl = returnUrl,
RememberMe = model.RememberMe });
                case SignInStatus.Failure:
                default:
                    ModelState.AddModelError("", "Invalid login attempt.");
                    return View(model);
           }
        }
       //
       // GET: /Account/VerifyCode
        [AllowAnonymous]
        public async Task<ActionResult> VerifyCode(string provider, string returnUrl,
bool rememberMe)
        {
            // Require that the user has already logged in via username/password or
external login
            if (!await SignInManager.HasBeenVerifiedAsync())
                return View("Error");
            return View(new VerifyCodeViewModel { Provider = provider, ReturnUrl =
returnUrl, RememberMe = rememberMe });
        }
        //
        // POST: /Account/VerifyCode
```

```
[HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> VerifyCode(VerifyCodeViewModel model)
        {
            if (!ModelState.IsValid)
            {
                return View(model);
            }
            // The following code protects for brute force attacks against the two
factor codes.
            // If a user enters incorrect codes for a specified amount of time then
the user account
            // will be locked out for a specified amount of time.
            // You can configure the account lockout settings in IdentityConfig
            var result = await SignInManager.TwoFactorSignInAsync(model.Provider,
model.Code, isPersistent: model.RememberMe, rememberBrowser: model.RememberBrowser);
            switch (result)
            {
                case SignInStatus.Success:
                    return RedirectToLocal(model.ReturnUrl);
                case SignInStatus.LockedOut:
                    return View("Lockout");
                case SignInStatus.Failure:
                default:
                    ModelState.AddModelError("", "Invalid code.");
                    return View(model);
            }
        }
```

```
// GET: /Account/Register
        [AllowAnonymous]
        public ActionResult Register()
        {
            return View();
        }
        //
        // POST: /Account/Register
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> Register(RegisterViewModel model)
        {
            if (ModelState.IsValid)
            {
                var user = new ApplicationUser { UserName = model.Email, Email =
model.Email };
                var result = await UserManager.CreateAsync(user, model.Password);
                if (result.Succeeded)
                {
                    await
                             SignInManager.SignInAsync(user, isPersistent:false,
rememberBrowser:false);
                    // For more information on how to enable account confirmation and
password reset please visit http://go.microsoft.com/fwlink/?LinkID=320771
                    // Send an email with this link
                    //
                                 string
                                                   code
                                                                               await
UserManager.GenerateEmailConfirmationTokenAsync(user.Id);
                    // var callbackUrl = Url.Action("ConfirmEmail", "Account", new {
userId = user.Id, code = code }, protocol: Request.Url.Scheme);
```

//

```
// await UserManager.SendEmailAsync(user.Id, "Confirm your
account", "Please confirm your account by clicking <a href=\"" + callbackUrl +
"\">here</a>");
                   return RedirectToAction("Index", "Home");
               }
               AddErrors(result);
           }
           // If we got this far, something failed, redisplay form
           return View(model);
       }
       //
       // GET: /Account/ConfirmEmail
        [AllowAnonymous]
        public async Task<ActionResult> ConfirmEmail(string userId, string code)
       {
           if (userId == null || code == null)
               return View("Error");
           var result = await UserManager.ConfirmEmailAsync(userId, code);
           return View(result.Succeeded ? "ConfirmEmail" : "Error");
       }
       //
       // GET: /Account/ForgotPassword
        [AllowAnonymous]
       public ActionResult ForgotPassword()
        {
```

```
return View();
        }
        //
        // POST: /Account/ForgotPassword
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> ForgotPassword(ForgotPasswordViewModel model)
        {
            if (ModelState.IsValid)
            {
               var user = await UserManager.FindByNameAsync(model.Email);
                if
                           (user
                                         ==
                                                    null
                                                                  \Pi
                                                                           !(await
UserManager.IsEmailConfirmedAsync(user.Id)))
                {
                    // Don't reveal that the user does not exist or is not confirmed
                    return View("ForgotPasswordConfirmation");
                }
                // For more information on how to enable account confirmation and
password reset please visit http://go.microsoft.com/fwlink/?LinkID=320771
                // Send an email with this link
                              string
                                                                               await
UserManager.GeneratePasswordResetTokenAsync(user.Id);
               // var callbackUrl = Url.Action("ResetPassword", "Account", new {
userId = user.Id, code = code }, protocol: Request.Url.Scheme);
                // await UserManager.SendEmailAsync(user.Id, "Reset Password",
"Please reset your password by clicking <a href=\"" + callbackUrl + "\">here</a>");
               // return RedirectToAction("ForgotPasswordConfirmation", "Account");
            }
```

```
// If we got this far, something failed, redisplay form
    return View(model);
}
//
// GET: /Account/ForgotPasswordConfirmation
[AllowAnonymous]
public ActionResult ForgotPasswordConfirmation()
{
    return View();
}
//
// GET: /Account/ResetPassword
[AllowAnonymous]
public ActionResult ResetPassword(string code)
{
    return code == null ? View("Error") : View();
}
//
// POST: /Account/ResetPassword
[HttpPost]
[AllowAnonymous]
[ValidateAntiForgeryToken]
public async Task<ActionResult> ResetPassword(ResetPasswordViewModel model)
{
    if (!ModelState.IsValid)
    {
        return View(model);
```

```
}
            var user = await UserManager.FindByNameAsync(model.Email);
            if (user == null)
            {
                // Don't reveal that the user does not exist
                return RedirectToAction("ResetPasswordConfirmation", "Account");
            }
            var result = await UserManager.ResetPasswordAsync(user.Id, model.Code,
model.Password);
            if (result.Succeeded)
                return RedirectToAction("ResetPasswordConfirmation", "Account");
            }
            AddErrors(result);
            return View();
        }
        //
        // GET: /Account/ResetPasswordConfirmation
        [AllowAnonymous]
        public ActionResult ResetPasswordConfirmation()
        {
            return View();
        }
        //
        // POST: /Account/ExternalLogin
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public ActionResult ExternalLogin(string provider, string returnUrl)
```

```
{
            // Request a redirect to the external login provider
            return new ChallengeResult(provider, Url.Action("ExternalLoginCallback",
"Account", new { ReturnUrl = returnUrl }));
        }
        //
        // GET: /Account/SendCode
        [AllowAnonymous]
        public async Task<ActionResult> SendCode(string returnUrl, bool rememberMe)
        {
            var userId = await SignInManager.GetVerifiedUserIdAsync();
            if (userId == null)
            {
                return View("Error");
            }
            var
                                userFactors
                                                                                await
UserManager.GetValidTwoFactorProvidersAsync(userId);
            var factorOptions = userFactors.Select(purpose => new SelectListItem {
Text = purpose, Value = purpose }).ToList();
            return View(new SendCodeViewModel { Providers = factorOptions, ReturnUrl
= returnUrl, RememberMe = rememberMe });
        }
        //
        // POST: /Account/SendCode
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> SendCode(SendCodeViewModel model)
        {
```

```
if (!ModelState.IsValid)
            {
                return View();
            }
            // Generate the token and send it
            if (!await SignInManager.SendTwoFactorCodeAsync(model.SelectedProvider))
            {
                return View("Error");
            }
                      RedirectToAction("VerifyCode",
                                                         new
                                                                 {
                                                                       Provider
model.SelectedProvider, ReturnUrl = model.ReturnUrl, RememberMe = model.RememberMe
});
        }
        //
        // GET: /Account/ExternalLoginCallback
        [AllowAnonymous]
        public async Task<ActionResult> ExternalLoginCallback(string returnUrl)
            var loginInfo = await AuthenticationManager.GetExternalLoginInfoAsync();
            if (loginInfo == null)
                return RedirectToAction("Login");
            }
            // Sign in the user with this external login provider if the user already
has a login
                                await SignInManager.ExternalSignInAsync(loginInfo,
            var
                  result =
isPersistent: false);
            switch (result)
```

```
{
                case SignInStatus.Success:
                    return RedirectToLocal(returnUrl);
                case SignInStatus.LockedOut:
                    return View("Lockout");
                case SignInStatus.RequiresVerification:
                    return RedirectToAction("SendCode", new { ReturnUrl = returnUrl,
RememberMe = false });
                case SignInStatus.Failure:
                default:
                    // If the user does not have an account, then prompt the user to
create an account
                    ViewBag.ReturnUrl = returnUrl;
                    ViewBag.LoginProvider = loginInfo.Login.LoginProvider;
                    return
                                     View("ExternalLoginConfirmation",
                                                                                  new
ExternalLoginConfirmationViewModel { Email = loginInfo.Email });
            }
        }
        //
        // POST: /Account/ExternalLoginConfirmation
        [HttpPost]
        [AllowAnonymous]
        [ValidateAntiForgeryToken]
        public
                                      async
                                                                   Task<ActionResult>
ExternalLoginConfirmation(ExternalLoginConfirmationViewModel
                                                                   model,
                                                                               string
returnUrl)
        {
            if (User.Identity.IsAuthenticated)
            {
                return RedirectToAction("Index", "Manage");
            }
```

```
if (ModelState.IsValid)
            {
                // Get the information about the user from the external login provider
                var info = await AuthenticationManager.GetExternalLoginInfoAsync();
                if (info == null)
                {
                    return View("ExternalLoginFailure");
                }
                var user = new ApplicationUser { UserName = model.Email, Email =
model.Email };
                var result = await UserManager.CreateAsync(user);
                if (result.Succeeded)
                {
                    result = await UserManager.AddLoginAsync(user.Id, info.Login);
                    if (result.Succeeded)
                        await SignInManager.SignInAsync(user, isPersistent: false,
rememberBrowser: false);
                        return RedirectToLocal(returnUrl);
                    }
                }
                AddErrors(result);
            }
            ViewBag.ReturnUrl = returnUrl;
            return View(model);
        }
        //
        // POST: /Account/LogOff
```

```
[HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult LogOff()
        {
Authentication Manager. Sign Out (Default Authentication Types. Application Cookie);\\
            return RedirectToAction("Index", "Home");
        }
        //
        // GET: /Account/ExternalLoginFailure
        [AllowAnonymous]
        public ActionResult ExternalLoginFailure()
        {
            return View();
        }
        protected override void Dispose(bool disposing)
        {
            if (disposing)
            {
                if (_userManager != null)
                {
                    _userManager.Dispose();
                    _userManager = null;
                }
                if (_signInManager != null)
                {
                    _signInManager.Dispose();
                    _signInManager = null;
```

```
}
    }
    base.Dispose(disposing);
}
#region Helpers
// Used for XSRF protection when adding external logins
private const string XsrfKey = "XsrfId";
private IAuthenticationManager AuthenticationManager
{
   get
    {
        return HttpContext.GetOwinContext().Authentication;
    }
}
private void AddErrors(IdentityResult result)
{
    foreach (var error in result.Errors)
    {
        ModelState.AddModelError("", error);
    }
}
private ActionResult RedirectToLocal(string returnUrl)
{
    if (Url.IsLocalUrl(returnUrl))
    {
```

```
return Redirect(returnUrl);
           }
            return RedirectToAction("Index", "Home");
        }
       internal class ChallengeResult : HttpUnauthorizedResult
        {
            public ChallengeResult(string provider, string redirectUri)
                : this(provider, redirectUri, null)
           {
            }
            public ChallengeResult(string provider, string redirectUri, string
userId)
           {
               LoginProvider = provider;
               RedirectUri = redirectUri;
               UserId = userId;
           }
            public string LoginProvider { get; set; }
            public string RedirectUri { get; set; }
            public string UserId { get; set; }
            public override void ExecuteResult(ControllerContext context)
            {
               var properties = new AuthenticationProperties { RedirectUri =
RedirectUri };
               if (UserId != null)
               {
                   properties.Dictionary[XsrfKey] = UserId;
```

4.3.2. BatchController.cs

```
/using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
    public class BatchController : Controller
        private StudentEntities db = new StudentEntities();
        // GET: Batch
        public ActionResult Index()
        {
            return View(db.batches.ToList());
        }
        // GET: Batch/Details/5
        public ActionResult Details(int? id)
        {
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            batch batch = db.batches.Find(id);
            if (batch == null)
            {
                return HttpNotFound();
            }
            return View(batch);
        }
        // GET: Batch/Create
        public ActionResult Create()
        {
            return View();
```

```
}
        // POST: Batch/Create
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include = "id,batch1,year")] batch batch)
            if (ModelState.IsValid)
            {
                db.batches.Add(batch);
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            return View(batch);
        }
        // GET: Batch/Edit/5
        public ActionResult Edit(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            batch batch = db.batches.Find(id);
            if (batch == null)
            {
                return HttpNotFound();
            }
            return View(batch);
        }
        // POST: Batch/Edit/5
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        HttpPost
        [ValidateAntiForgeryToken]
        public ActionResult Edit([Bind(Include = "id,batch1,year")] batch batch)
        {
            if (ModelState.IsValid)
            {
                db.Entry(batch).State = EntityState.Modified;
                db.SaveChanges();
                return RedirectToAction("Index");
            return View(batch);
        }
        // GET: Batch/Delete/5
        public ActionResult Delete(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            batch batch = db.batches.Find(id);
            if (batch == null)
```

```
{
                return HttpNotFound();
            }
            return View(batch);
        }
        // POST: Batch/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
            batch batch = db.batches.Find(id);
            db.batches.Remove(batch);
            db.SaveChanges();
            return RedirectToAction("Index");
        }
        protected override void Dispose(bool disposing)
            if (disposing)
            {
                db.Dispose();
            base.Dispose(disposing);
        }
   }
}
```

4.3.3. CourseController.cs

```
/using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using Student_Management_System.Models;
namespace Student Management System.Controllers
{
    public class CourseController : Controller
    {
        private StudentEntities db = new StudentEntities();
        // GET: Course
        public ActionResult Index()
        {
            return View(db.courses.ToList());
        // GET: Course/Details/5
        public ActionResult Details(int? id)
            if (id == null)
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
```

```
course course = db.courses.Find(id);
            if (course == null)
                return HttpNotFound();
            return View(course);
        }
        // GET: Course/Create
        public ActionResult Create()
            return View();
        }
        // POST: Course/Create
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include = "id,course1,duration")] course
course)
            if (ModelState.IsValid)
            {
                db.courses.Add(course);
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            return View(course);
        }
        // GET: Course/Edit/5
        public ActionResult Edit(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            course course = db.courses.Find(id);
            if (course == null)
            {
                return HttpNotFound();
            return View(course);
        }
        // POST: Course/Edit/5
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Edit([Bind(Include = "id,course1,duration")] course
course)
            if (ModelState.IsValid)
                db.Entry(course).State = EntityState.Modified;
                db.SaveChanges();
```

```
return RedirectToAction("Index");
            return View(course);
        }
        // GET: Course/Delete/5
        public ActionResult Delete(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            course course = db.courses.Find(id);
            if (course == null)
                return HttpNotFound();
            return View(course);
        }
        // POST: Course/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
            course course = db.courses.Find(id);
            db.courses.Remove(course);
            db.SaveChanges();
            return RedirectToAction("Index");
        }
        protected override void Dispose(bool disposing)
            if (disposing)
            {
                db.Dispose();
            base.Dispose(disposing);
        }
   }
}
```

4.3.4. HomeController.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;

namespace Student_Management_System.Controllers
{
    public class HomeController : Controller
    {
        public ActionResult Index()
        {
            return View();
        }
        public ActionResult About()
```

```
{
        ViewBag.Message = "Your application description page.";
        return View();
}

public ActionResult Contact()
{
        ViewBag.Message = "Your contact page.";
        return View();
}
}
```

4.3.5. LoginController.cs

```
using System;
using System.Collections.Generic;
using System.Linq;
using System.Web;
using System.Web.Mvc;
using System.Data.Entity;
using System.Data.Entity.Infrastructure;
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
{
    public class LoginController : Controller
    {
        StudentEntities db = new StudentEntities();
        // GET: Login
        public ActionResult Index()
        {
            return View();
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Index(user objchk)
        {
            if (ModelState.IsValid)
            {
                using (StudentEntities db = new StudentEntities())
            var obj = db.users.Where(a => a.username.Equals(objchk.username) &&
a.password.Equals(objchk.password)).FirstOrDefault();
            if (obj != null)
            {
                Session["userID"] = obj.id.ToString();
                Session["UserName"] = obj.username.ToString();
                return RedirectToAction("Index", "Home");
            }
            else
                        ModelState.AddModelError("", "The username or Password is
Incorrect");
           }
            return View();
        }
```

```
public ActionResult Logout()
            Session.Clear();
            return RedirectToAction("Index", "Login");
   }
}
4.3.6.
           ManageController.cs
using System;
using System.Linq;
using System.Threading.Tasks;
using System.Web;
using System.Web.Mvc;
using Microsoft.AspNet.Identity;
using Microsoft.AspNet.Identity.Owin;
using Microsoft.Owin.Security;
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
{
    [Authorize]
    public class ManageController : Controller
    {
        private ApplicationSignInManager _signInManager;
        private ApplicationUserManager _userManager;
        public ManageController()
        {
        }
        public
                       ManageController(ApplicationUserManager
                                                                         userManager,
ApplicationSignInManager signInManager)
```

```
{
            UserManager = userManager;
            SignInManager = signInManager;
        }
        public ApplicationSignInManager SignInManager
        {
            get
            {
                                                                                    ??
                return
                                             _signInManager
HttpContext.GetOwinContext().Get<ApplicationSignInManager>();
            }
            private set
            {
                _signInManager = value;
            }
        }
        public ApplicationUserManager UserManager
        {
            get
            {
                return
                                              _userManager
                                                                                    ??
HttpContext.GetOwinContext().GetUserManager<ApplicationUserManager>();
            }
            private set
            {
                _userManager = value;
            }
        }
```

```
//
        // GET: /Manage/Index
        public async Task<ActionResult> Index(ManageMessageId? message)
        {
            ViewBag.StatusMessage =
                message == ManageMessageId.ChangePasswordSuccess ? "Your password has
been changed."
                : message == ManageMessageId.SetPasswordSuccess ? "Your password has
been set."
                : message == ManageMessageId.SetTwoFactorSuccess ? "Your two-factor
authentication provider has been set."
                : message == ManageMessageId.Error ? "An error has occurred."
                : message == ManageMessageId.AddPhoneSuccess ? "Your phone number was
added."
                : message == ManageMessageId.RemovePhoneSuccess ? "Your phone number
was removed."
                : "";
            var userId = User.Identity.GetUserId();
            var model = new IndexViewModel
            {
                HasPassword = HasPassword(),
                PhoneNumber = await UserManager.GetPhoneNumberAsync(userId),
                TwoFactor = await UserManager.GetTwoFactorEnabledAsync(userId),
                Logins = await UserManager.GetLoginsAsync(userId),
                BrowserRemembered
                                                                                await
AuthenticationManager.TwoFactorBrowserRememberedAsync(userId)
            };
            return View(model);
        }
        //
```

```
// POST: /Manage/RemoveLogin
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> RemoveLogin(string loginProvider, string
providerKey)
        {
            ManageMessageId? message;
                                  result
                                                                               await
UserManager.RemoveLoginAsync(User.Identity.GetUserId(),
                                                                                 new
UserLoginInfo(loginProvider, providerKey));
            if (result.Succeeded)
            {
                var
                                     user
                                                                               await
UserManager.FindByIdAsync(User.Identity.GetUserId());
                if (user != null)
                {
                    await SignInManager.SignInAsync(user, isPersistent:
                                                                              false,
rememberBrowser: false);
                }
                message = ManageMessageId.RemoveLoginSuccess;
            }
            else
            {
                message = ManageMessageId.Error;
            }
            return RedirectToAction("ManageLogins", new { Message = message });
        }
        //
        // GET: /Manage/AddPhoneNumber
        public ActionResult AddPhoneNumber()
        {
```

```
return View();
        }
        //
        // POST: /Manage/AddPhoneNumber
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> AddPhoneNumber(AddPhoneNumberViewModel model)
        {
            if (!ModelState.IsValid)
            {
                return View(model);
            }
            // Generate the token and send it
                                                                                await
            var
                                   code
UserManager.GenerateChangePhoneNumberTokenAsync(User.Identity.GetUserId(),
model.Number);
            if (UserManager.SmsService != null)
            {
                var message = new IdentityMessage
                {
                    Destination = model.Number,
                    Body = "Your security code is: " + code
                };
                await UserManager.SmsService.SendAsync(message);
            }
                    RedirectToAction("VerifyPhoneNumber", new {
                                                                      PhoneNumber =
            return
model.Number });
        }
        //
```

```
// POST: /Manage/EnableTwoFactorAuthentication
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> EnableTwoFactorAuthentication()
        {
            await
                    UserManager.SetTwoFactorEnabledAsync(User.Identity.GetUserId(),
true);
           var user = await UserManager.FindByIdAsync(User.Identity.GetUserId());
           if (user != null)
                         SignInManager.SignInAsync(user, isPersistent:
                                                                             false,
rememberBrowser: false);
            }
            return RedirectToAction("Index", "Manage");
        }
        //
        // POST: /Manage/DisableTwoFactorAuthentication
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> DisableTwoFactorAuthentication()
                    UserManager.SetTwoFactorEnabledAsync(User.Identity.GetUserId(),
            await
false);
           var user = await UserManager.FindByIdAsync(User.Identity.GetUserId());
            if (user != null)
                        SignInManager.SignInAsync(user, isPersistent:
                await
                                                                             false,
rememberBrowser: false);
           }
            return RedirectToAction("Index", "Manage");
```

```
}
        //
        // GET: /Manage/VerifyPhoneNumber
        public async Task<ActionResult> VerifyPhoneNumber(string phoneNumber)
        {
            var
                                  code
                                                                               await
UserManager.GenerateChangePhoneNumberTokenAsync(User.Identity.GetUserId(),
phoneNumber);
            // Send an SMS through the SMS provider to verify the phone number
                     phoneNumber
                                               ? View("Error") :
            return
                                          null
VerifyPhoneNumberViewModel { PhoneNumber = phoneNumber });
        }
        //
       // POST: /Manage/VerifyPhoneNumber
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> VerifyPhoneNumber(VerifyPhoneNumberViewModel
model)
        {
           if (!ModelState.IsValid)
            {
                return View(model);
            }
                                  result
            var
                                                                               await
UserManager.ChangePhoneNumberAsync(User.Identity.GetUserId(), model.PhoneNumber,
model.Code);
           if (result.Succeeded)
            {
                var
                                                                               await
UserManager.FindByIdAsync(User.Identity.GetUserId());
```

```
if (user != null)
               {
                   await SignInManager.SignInAsync(user, isPersistent: false,
rememberBrowser: false);
               }
                          RedirectToAction("Index", new {
               return
                                                                    Message
ManageMessageId.AddPhoneSuccess });
           // If we got this far, something failed, redisplay form
           ModelState.AddModelError("", "Failed to verify phone");
           return View(model);
       }
       //
       // POST: /Manage/RemovePhoneNumber
       [HttpPost]
       [ValidateAntiForgeryToken]
       public async Task<ActionResult> RemovePhoneNumber()
       {
                                result
                                                                            await
           var
UserManager.SetPhoneNumberAsync(User.Identity.GetUserId(), null);
           if (!result.Succeeded)
               return
                         RedirectToAction("Index",
                                                      new {
                                                                    Message =
ManageMessageId.Error });
           var user = await UserManager.FindByIdAsync(User.Identity.GetUserId());
           if (user != null)
           {
                        SignInManager.SignInAsync(user, isPersistent:
               await
                                                                           false,
rememberBrowser: false);
           }
```

```
RedirectToAction("Index",
           return
                                                     new
                                                              {
                                                                    Message
ManageMessageId.RemovePhoneSuccess });
        }
       //
       // GET: /Manage/ChangePassword
       public ActionResult ChangePassword()
        {
           return View();
       }
       //
       // POST: /Manage/ChangePassword
        [HttpPost]
        [ValidateAntiForgeryToken]
       public async Task<ActionResult> ChangePassword(ChangePasswordViewModel model)
        {
           if (!ModelState.IsValid)
               return View(model);
           }
                                 result
                                                                             await
UserManager.ChangePasswordAsync(User.Identity.GetUserId(),
                                                          model.OldPassword,
model.NewPassword);
           if (result.Succeeded)
           {
               var
                                    user
                                                                             await
UserManager.FindByIdAsync(User.Identity.GetUserId());
               if (user != null)
               {
                   await SignInManager.SignInAsync(user, isPersistent:
                                                                            false,
rememberBrowser: false);
```

```
}
                           RedirectToAction("Index",
                return
                                                         new
                                                                {
                                                                       Message
ManageMessageId.ChangePasswordSuccess });
            }
            AddErrors(result);
            return View(model);
        }
        //
        // GET: /Manage/SetPassword
        public ActionResult SetPassword()
        {
            return View();
        }
        //
        // POST: /Manage/SetPassword
        [HttpPost]
        [ValidateAntiForgeryToken]
        public async Task<ActionResult> SetPassword(SetPasswordViewModel model)
        {
            if (ModelState.IsValid)
            {
                                     result
                                                                               await
UserManager.AddPasswordAsync(User.Identity.GetUserId(), model.NewPassword);
                if (result.Succeeded)
                {
                    var
                                        user
                                                                               await
UserManager.FindByIdAsync(User.Identity.GetUserId());
                    if (user != null)
                    {
```

```
await SignInManager.SignInAsync(user, isPersistent: false,
rememberBrowser: false);
                   }
                             RedirectToAction("Index", new { Message =
                   return
ManageMessageId.SetPasswordSuccess });
               }
               AddErrors(result);
           }
           // If we got this far, something failed, redisplay form
           return View(model);
       }
       //
       // GET: /Manage/ManageLogins
       public async Task<ActionResult> ManageLogins(ManageMessageId? message)
        {
           ViewBag.StatusMessage =
               message == ManageMessageId.RemoveLoginSuccess ? "The external login
was removed."
               : message == ManageMessageId.Error ? "An error has occurred."
           var user = await UserManager.FindByIdAsync(User.Identity.GetUserId());
           if (user == null)
           {
               return View("Error");
           }
           var
                                userLogins
                                                                              await
UserManager.GetLoginsAsync(User.Identity.GetUserId());
                                           otherLogins
           var
AuthenticationManager.GetExternalAuthenticationTypes().Where(auth
                                                                                 =>
userLogins.All(ul => auth.AuthenticationType != ul.LoginProvider)).ToList();
```

```
ViewBag.ShowRemoveButton = user.PasswordHash != null || userLogins.Count
> 1;
            return View(new ManageLoginsViewModel
            {
                CurrentLogins = userLogins,
                OtherLogins = otherLogins
            });
        }
        //
       // POST: /Manage/LinkLogin
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult LinkLogin(string provider)
            // Request a redirect to the external login provider to link a login for
the current user
                                         AccountController.ChallengeResult(provider,
            return
                            new
Url.Action("LinkLoginCallback", "Manage"), User.Identity.GetUserId());
        }
        //
        // GET: /Manage/LinkLoginCallback
        public async Task<ActionResult> LinkLoginCallback()
        {
            var
                                 loginInfo
AuthenticationManager.GetExternalLoginInfoAsync(XsrfKey, User.Identity.GetUserId());
            if (loginInfo == null)
            {
                return RedirectToAction("ManageLogins",
                                                           new {
                                                                        Message
ManageMessageId.Error });
            }
```

```
var result = await UserManager.AddLoginAsync(User.Identity.GetUserId(),
loginInfo.Login);
                     result.Succeeded
                                         ?
                                               RedirectToAction("ManageLogins")
           return
RedirectToAction("ManageLogins", new { Message = ManageMessageId.Error });
        }
        protected override void Dispose(bool disposing)
        {
            if (disposing && _userManager != null)
            {
               _userManager.Dispose();
               _userManager = null;
           }
            base.Dispose(disposing);
       }
#region Helpers
       // Used for XSRF protection when adding external logins
        private const string XsrfKey = "XsrfId";
        private IAuthenticationManager AuthenticationManager
        {
           get
            {
                return HttpContext.GetOwinContext().Authentication;
           }
        }
        private void AddErrors(IdentityResult result)
        {
```

```
foreach (var error in result.Errors)
    {
        ModelState.AddModelError("", error);
    }
}
private bool HasPassword()
{
    var user = UserManager.FindById(User.Identity.GetUserId());
    if (user != null)
    {
        return user.PasswordHash != null;
    }
    return false;
}
private bool HasPhoneNumber()
{
    var user = UserManager.FindById(User.Identity.GetUserId());
    if (user != null)
    {
        return user.PhoneNumber != null;
    }
    return false;
}
public enum ManageMessageId
{
    AddPhoneSuccess,
    ChangePasswordSuccess,
```

```
SetTwoFactorSuccess,

SetPasswordSuccess,

RemoveLoginSuccess,

RemovePhoneSuccess,

Error

}

#endregion

}
```

4.3.7. RegistrationController.cs

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
    public class RegistrationController : Controller
        private StudentEntities db = new StudentEntities();
        // GET: Registration
        public ActionResult Index()
            var registrations = db.registrations.Include(r => r.batch).Include(r =>
r.course);
            return View(registrations.ToList());
        }
        // GET: Registration/Details/5
        public ActionResult Details(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            registration registration = db.registrations.Find(id);
            if (registration == null)
            {
                return HttpNotFound();
            return View(registration);
        }
```

```
// GET: Registration/Create
        public ActionResult Create()
            ViewBag.barch_id = new SelectList(db.batches, "id", "batch1");
ViewBag.course_id = new SelectList(db.courses, "id", "course1");
            return View();
        }
        // POST: Registration/Create
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include =
"id,firstname,lastname,nic,course_id,barch_id,telno")] registration registration)
            if (ModelState.IsValid)
            {
                db.registrations.Add(registration);
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            ViewBag.barch_id = new SelectList(db.batches, "id", "batch1",
registration.barch_id);
            ViewBag.course_id = new SelectList(db.courses, "id", "course1",
registration.course_id);
            return View(registration);
        }
        // GET: Registration/Edit/5
        public ActionResult Edit(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            registration registration = db.registrations.Find(id);
            if (registration == null)
            {
                return HttpNotFound();
            ViewBag.barch_id = new SelectList(db.batches, "id", "batch1",
registration.barch_id);
            ViewBag.course_id = new SelectList(db.courses, "id", "course1",
registration.course_id);
            return View(registration);
        }
        // POST: Registration/Edit/5
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Edit([Bind(Include =
"id,firstname,lastname,nic,course_id,barch_id,telno")] registration registration)
            if (ModelState.IsValid)
```

```
{
                db.Entry(registration).State = EntityState.Modified;
                db.SaveChanges();
                return RedirectToAction("Index");
            ViewBag.barch_id = new SelectList(db.batches, "id", "batch1",
registration.barch_id);
            ViewBag.course_id = new SelectList(db.courses, "id", "course1",
registration.course id);
            return View(registration);
        }
        // GET: Registration/Delete/5
        public ActionResult Delete(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            registration registration = db.registrations.Find(id);
            if (registration == null)
                return HttpNotFound();
            }
            return View(registration);
        }
        // POST: Registration/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
            registration registration = db.registrations.Find(id);
            db.registrations.Remove(registration);
            db.SaveChanges();
            return RedirectToAction("Index");
        }
        protected override void Dispose(bool disposing)
            if (disposing)
            {
                db.Dispose();
            base.Dispose(disposing);
        }
   }
}
```

4.3.8. UserController.cs

```
using System;
using System.Collections.Generic;
using System.Data;
using System.Data.Entity;
using System.Linq;
using System.Net;
using System.Web;
using System.Web.Mvc;
```

```
using Student_Management_System.Models;
namespace Student_Management_System.Controllers
    public class UserController : Controller
        private StudentEntities db = new StudentEntities();
        // GET: User
        public ActionResult Index()
            return View(db.users.ToList());
        }
        // GET: User/Details/5
        public ActionResult Details(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            user user = db.users.Find(id);
            if (user == null)
                return HttpNotFound();
            }
            return View(user);
        }
        // GET: User/Create
        public ActionResult Create()
        {
            return View();
        }
        // POST: User/Create
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        HttpPost
        [ValidateAntiForgeryToken]
        public ActionResult Create([Bind(Include =
"id,firstname,lastname,username,password")] user user)
        {
            if (ModelState.IsValid)
            {
                db.users.Add(user);
                db.SaveChanges();
                return RedirectToAction("Index");
            }
            return View(user);
        }
        // GET: User/Edit/5
        public ActionResult Edit(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            }
```

```
user user = db.users.Find(id);
            if (user == null)
                return HttpNotFound();
            return View(user);
        }
        // POST: User/Edit/5
        // To protect from overposting attacks, please enable the specific
properties you want to bind to, for
        // more details see http://go.microsoft.com/fwlink/?LinkId=317598.
        [HttpPost]
        [ValidateAntiForgeryToken]
        public ActionResult Edit([Bind(Include =
"id,firstname,lastname,username,password")] user user)
            if (ModelState.IsValid)
            {
                db.Entry(user).State = EntityState.Modified;
                db.SaveChanges();
                return RedirectToAction("Index");
            return View(user);
        }
        // GET: User/Delete/5
        public ActionResult Delete(int? id)
            if (id == null)
            {
                return new HttpStatusCodeResult(HttpStatusCode.BadRequest);
            user user = db.users.Find(id);
            if (user == null)
            {
                return HttpNotFound();
            }
            return View(user);
        }
        // POST: User/Delete/5
        [HttpPost, ActionName("Delete")]
        [ValidateAntiForgeryToken]
        public ActionResult DeleteConfirmed(int id)
            user user = db.users.Find(id);
            db.users.Remove(user);
            db.SaveChanges();
            return RedirectToAction("Index");
        }
        protected override void Dispose(bool disposing)
            if (disposing)
            {
                db.Dispose();
            base.Dispose(disposing);
        }
   }
```

4.4. Model

4.5. AccountViewModel.cs

```
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
namespace Student_Management_System.Models
    public class ExternalLoginConfirmationViewModel
        [Required]
        [Display(Name = "Email")]
        public string Email { get; set; }
    public class ExternalLoginListViewModel
        public string ReturnUrl { get; set; }
    }
    public class SendCodeViewModel
        public string SelectedProvider { get; set; }
        public ICollection<System.Web.Mvc.SelectListItem> Providers { get; set; }
        public string ReturnUrl { get; set; }
        public bool RememberMe { get; set; }
    }
    public class VerifyCodeViewModel
        [Required]
        public string Provider { get; set; }
        [Required]
        [Display(Name = "Code")]
        public string Code { get; set; }
        public string ReturnUrl { get; set; }
        [Display(Name = "Remember this browser?")]
        public bool RememberBrowser { get; set; }
        public bool RememberMe { get; set; }
    }
    public class ForgotViewModel
        [Required]
        [Display(Name = "Email")]
        public string Email { get; set; }
    }
    public class LoginViewModel
        [Required]
        [Display(Name = "Email")]
        [EmailAddress]
        public string Email { get; set; }
```

```
[Required]
        [DataType(DataType.Password)]
        [Display(Name = "Password")]
        public string Password { get; set; }
        [Display(Name = "Remember me?")]
        public bool RememberMe { get; set; }
    public class RegisterViewModel
        [Required]
        [EmailAddress]
        [Display(Name = "Email")]
        public string Email { get; set; }
        [Required]
        [StringLength(100, ErrorMessage = "The {0} must be at least {2} characters
long.", MinimumLength = 6)]
        [DataType(DataType.Password)]
        [Display(Name = "Password")]
        public string Password { get; set; }
        [DataType(DataType.Password)]
        [Display(Name = "Confirm password")]
        [Compare("Password", ErrorMessage = "The password and confirmation password
do not match.")]
        public string ConfirmPassword { get; set; }
    }
    public class ResetPasswordViewModel
        [Required]
        [EmailAddress]
        [Display(Name = "Email")]
        public string Email { get; set; }
        [Required]
        [StringLength(100, ErrorMessage = "The {0} must be at least {2} characters
long.", MinimumLength = 6)]
        [DataType(DataType.Password)]
        [Display(Name = "Password")]
        public string Password { get; set; }
        [DataType(DataType.Password)]
[Display(Name = "Confirm password")]
        [Compare("Password", ErrorMessage = "The password and confirmation password
do not match.")]
        public string ConfirmPassword { get; set; }
        public string Code { get; set; }
    }
    public class ForgotPasswordViewModel
        [Required]
        [EmailAddress]
        [Display(Name = "Email")]
        public string Email { get; set; }
    }}
```

4.6. IdentityModel.cs

```
using System.Data.Entity;
using System.Security.Claims;
using System.Threading.Tasks;
using Microsoft.AspNet.Identity;
using Microsoft.AspNet.Identity.EntityFramework;
namespace Student Management System.Models
    // You can add profile data for the user by adding more properties to your
ApplicationUser class, please visit http://go.microsoft.com/fwlink/?LinkID=317594 to
learn more.
    public class ApplicationUser : IdentityUser
        public async Task<ClaimsIdentity>
GenerateUserIdentityAsync(UserManager<ApplicationUser> manager)
        {
            // Note the authenticationType must match the one defined in
CookieAuthenticationOptions.AuthenticationType
            var userIdentity = await manager.CreateIdentityAsync(this,
DefaultAuthenticationTypes.ApplicationCookie);
            // Add custom user claims here
            return userIdentity;
        }
    }
    public class ApplicationDbContext : IdentityDbContext<ApplicationUser>
        public ApplicationDbContext()
            : base("DefaultConnection", throwIfV1Schema: false)
        {
        public static ApplicationDbContext Create()
            return new ApplicationDbContext();
    }
}
```

4.7. ManageViewModel.cs

```
using System.Collections.Generic;
using System.ComponentModel.DataAnnotations;
using Microsoft.AspNet.Identity;
using Microsoft.Owin.Security;

namespace Student_Management_System.Models
{
    public class IndexViewModel
    {
        public bool HasPassword { get; set; }
            public IList<UserLoginInfo> Logins { get; set; }
            public bool TwoFactor { get; set; }
            public bool BrowserRemembered { get; set; }
```

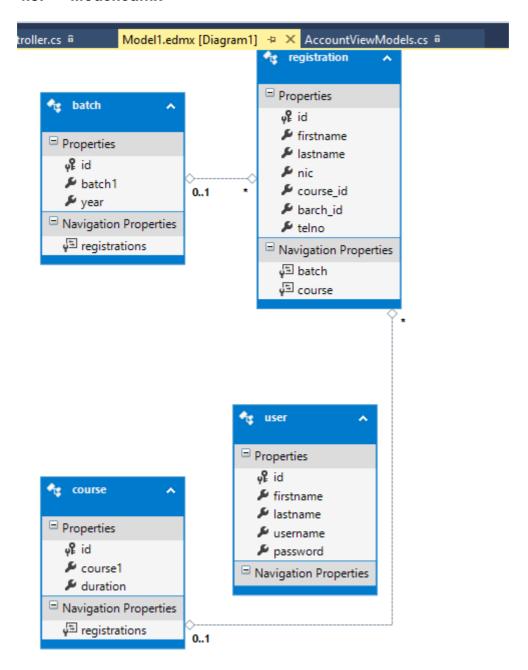
```
}
   public class ManageLoginsViewModel
        public IList<UserLoginInfo> CurrentLogins { get; set; }
        public IList<AuthenticationDescription> OtherLogins { get; set; }
   public class FactorViewModel
        public string Purpose { get; set; }
   public class SetPasswordViewModel
        [Required]
        [StringLength(100, ErrorMessage = "The {0} must be at least {2} characters
long.", MinimumLength = 6)]
        [DataType(DataType.Password)]
        [Display(Name = "New password")]
        public string NewPassword { get; set; }
        [DataType(DataType.Password)]
        [Display(Name = "Confirm new password")]
        [Compare("NewPassword", ErrorMessage = "The new password and confirmation
password do not match.")]
        public string ConfirmPassword { get; set; }
   public class ChangePasswordViewModel
        [Required]
        [DataType(DataType.Password)]
        [Display(Name = "Current password")]
        public string OldPassword { get; set; }
        [Required]
        [StringLength(100, ErrorMessage = "The {0} must be at least {2} characters
long.", MinimumLength = 6)]
        [DataType(DataType.Password)]
        [Display(Name = "New password")]
        public string NewPassword { get; set; }
        [DataType(DataType.Password)]
        [Display(Name = "Confirm new password")]
        [Compare("NewPassword", ErrorMessage = "The new password and confirmation
password do not match.")]
        public string ConfirmPassword { get; set; }
   public class AddPhoneNumberViewModel
        [Required]
        [Phone]
        [Display(Name = "Phone Number")]
        public string Number { get; set; }
   }
   public class VerifyPhoneNumberViewModel
        [Required]
```

```
[Display(Name = "Code")]
   public string Code { get; set; }

    [Required]
    [Phone]
    [Display(Name = "Phone Number")]
    public string PhoneNumber { get; set; }
}

public class ConfigureTwoFactorViewModel
{
    public string SelectedProvider { get; set; }
    public ICollection<System.Web.Mvc.SelectListItem> Providers { get; set; }
}
```

4.8. Model.edmx



4.9. Views:

4.10. Account:

4.10.1. ExternalLogins

@model Student_Management_System.Models.ExternalLoginListViewModel
@using Microsoft.Owin.Security

<h4>Use another service to log in.</h4>

```
<hr />
@{
    var loginProviders =
Context.GetOwinContext().Authentication.GetExternalAuthenticationTypes();
    if (loginProviders.Count() == 0) {
        <div>
            <
                There are no external authentication services configured. See <a
href="http://go.microsoft.com/fwlink/?LinkId=403804">this article</a>
                for details on setting up this ASP.NET application to support
logging in via external services.
            </div>
    }
    else {
        using (Html.BeginForm("ExternalLogin", "Account", new { ReturnUrl =
Model.ReturnUrl })) {
            @Html.AntiForgeryToken()
            <div id="socialLoginList">
                >
                    @foreach (AuthenticationDescription p in loginProviders) {
                        <button type="submit" class="btn btn-default"</pre>
id="@p.AuthenticationType" name="provider" value="@p.AuthenticationType" title="Log
in using your @p.Caption account">@p.AuthenticationType</button>
                </div>
        }
    }
```

4.10.2. ConfirmEmail

4.10.3. ExternalLoginConfirmation

```
@model Student_Management_System.Models.ExternalLoginConfirmationViewModel
@{
     ViewBag.Title = "Register";
}
<h2>@ViewBag.Title.</h2>
<h3>Associate your @ViewBag.LoginProvider account.</h3>
```

```
@using (Html.BeginForm("ExternalLoginConfirmation", "Account", new { ReturnUrl =
ViewBag.ReturnUrl }, FormMethod.Post, new { @class = "form-horizontal", role =
"form" }))
{
    @Html.AntiForgeryToken()
    <h4>Association Form</h4>
    <hr />
    @Html.ValidationSummary(true, "", new { @class = "text-danger" })
    You've successfully authenticated with
<strong>@ViewBag.LoginProvider</strong>.
       Please enter a user name for this site below and click the Register button
to finish
       logging in.
    <div class="form-group">

@Html.LabelFor(m => m.Email, new { @class = "col-md-2 control-label" })

        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Email, new { @class = "form-control" })
            @Html.ValidationMessageFor(m => m.Email, "", new { @class = "text-
danger" })
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Register" />
        </div>
    </div>
}
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
4.10.4.
           ExternalLoginFailure
    ViewBag.Title = "Login Failure";
<hgroup>
    <h2>@ViewBag.Title.</h2>
    <h3 class="text-danger">Unsuccessful login with service.</h3>
</hgroup>
4.10.5.
           ForgotPassword
@model Student_Management_System.Models.ForgotPasswordViewModel
    ViewBag.Title = "Forgot your password?";
```

@using (Html.BeginForm("ForgotPassword", "Account", FormMethod.Post, new { @class =

<h2>@ViewBag.Title.</h2>

"form-horizontal", role = "form" }))

```
@Html.AntiForgeryToken()
    <h4>Enter your email.</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.Email, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Email, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Email Link" />
        </div>
    </div>
}
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
```

4.10.6. ForgotPasswordConfirmation

4.10.7. Login

```
@Html.ValidationSummary(true, "", new { @class = "text-danger" })
                <div class="form-group">
                    @Html.LabelFor(m => m.Email, new { @class = "col-md-2 control-
label" })
                    <div class="col-md-10">
                        @Html.TextBoxFor(m => m.Email, new { @class = "form-control"
})
                        @Html.ValidationMessageFor(m => m.Email, "", new { @class =
"text-danger" })
                    </div>
                </div>
                <div class="form-group">
                    @Html.LabelFor(m => m.Password, new { @class = "col-md-2
control-label" })
                    <div class="col-md-10">
                        @Html.PasswordFor(m => m.Password, new { @class = "form-
control" })
                        @Html.ValidationMessageFor(m => m.Password, "", new { @class
= "text-danger" })
                    </div>
                </div>
                <div class="form-group">
                    <div class="col-md-offset-2 col-md-10">
                        <div class="checkbox">
                            @Html.CheckBoxFor(m => m.RememberMe)
                            @Html.LabelFor(m => m.RememberMe)
                        </div>
                    </div>
                </div>
                <div class="form-group">
                    <div class="col-md-offset-2 col-md-10">
                        <input type="submit" value="Log in" class="btn btn-default"</pre>
/>
                    </div>
                </div>
                >
                    @Html.ActionLink("Register as a new user", "Register")
                ©* Enable this once you have account confirmation enabled for
password reset functionality
                        @Html.ActionLink("Forgot your password?", "ForgotPassword")
                    *@
            }
        </section>
    </div>
    <div class="col-md-4">
        <section id="socialLoginForm">
            @Html.Partial("_ExternalLoginsListPartial", new
ExternalLoginListViewModel { ReturnUrl = ViewBag.ReturnUrl })
        </section>
    </div>
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
```

4.10.8. Register

```
@model Student Management System.Models.RegisterViewModel
@{
    ViewBag.Title = "Register";
<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("Register", "Account", FormMethod.Post, new { @class = "form-
horizontal", role = "form" }))
    @Html.AntiForgeryToken()
    <h4>Create a new account.</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.Email, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Email, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        Mtml.LabelFor(m => m.Password, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.PasswordFor(m => m.Password, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        @Html.LabelFor(m => m.ConfirmPassword, new { @class = "col-md-2 control-
label" })
        <div class="col-md-10">
            @Html.PasswordFor(m => m.ConfirmPassword, new { @class = "form-control"
})
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Register" />
        </div>
    </div>
}
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
```

4.10.9. ResetPassword

```
@Html.AntiForgeryToken()
    <h4>Create a new account.</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.Email, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Email, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        Mtml.LabelFor(m => m.Password, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.PasswordFor(m => m.Password, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        @Html.LabelFor(m => m.ConfirmPassword, new { @class = "col-md-2 control-
label" })
        <div class="col-md-10">
            @Html.PasswordFor(m => m.ConfirmPassword, new { @class = "form-control"
})
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Register" />
        </div>
    </div>
}
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
```

4.10.10. ResetPasswordConfirmation

4.10.11. SendCode

```
@model Student_Management_System.Models.SendCodeViewModel

@{
    ViewBag.Title = "Send";
```

```
}
<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("SendCode", "Account", new { ReturnUrl = Model.ReturnUrl },
FormMethod.Post, new { @class = "form-horizontal", role = "form" })) {
    @Html.AntiForgeryToken()
    @Html.Hidden("rememberMe", @Model.RememberMe)
    <h4>Send verification code</h4>
    <hr />
    <div class="row">
        <div class="col-md-8">
            Select Two-Factor Authentication Provider:
            @Html.DropDownListFor(model => model.SelectedProvider, Model.Providers)
            <input type="submit" value="Submit" class="btn btn-default" />
        </div>
    </div>
}
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
4.10.12.
            VerifyCode
@model Student Management System.Models.VerifyCodeViewModel
@{
    ViewBag.Title = "Verify";
<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("VerifyCode", "Account", new { ReturnUrl = Model.ReturnUrl },
FormMethod.Post, new { @class = "form-horizontal", role = "form" })) {
    @Html.AntiForgeryToken()
    @Html.Hidden("provider", @Model.Provider)
@Html.Hidden("rememberMe", @Model.RememberMe)
    <h4>Enter verification code</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.Code, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Code, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <div class="checkbox">
                @Html.CheckBoxFor(m => m.RememberBrowser)
                @Html.LabelFor(m => m.RememberBrowser)
            </div>
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Submit" />
        </div>
    </div>
```

```
}
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
4.11. Batch
4.11.1.
           Create
@model Student_Management_System.Models.batch
@{
   ViewBag.Title = "Create";
<h2>Create</h2>
@using (Html.BeginForm())
   @Html.AntiForgeryToken()
    <div class="form-horizontal">
        <h4>batch</h4>
        <hr />
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        <div class="form-group">
           @Html.LabelFor(model => model.batch1, htmlAttributes: new { @class =
@Html.EditorFor(model => model.batch1, new { htmlAttributes = new {
@class = "form-control" } })
               @Html.ValidationMessageFor(model => model.batch1, "", new { @class =
"text-danger" })
           </div>
        </div>
        <div class="form-group">
           @Html.LabelFor(model => model.year, htmlAttributes: new { @class =
"control-label col-md-2" })
           <div class="col-md-10">
               @Html.EditorFor(model => model.year, new { htmlAttributes = new {
@class = "form-control" } })
               @Html.ValidationMessageFor(model => model.year, "", new { @class =
"text-danger" })
           </div>
       </div>
        <div class="form-group">
            <div class="col-md-offset-2 col-md-10">
               <input type="submit" value="Create" class="btn btn-default" />
            </div>
        </div>
   </div>
}
   @Html.ActionLink("Back to List", "Index")
</div>
```

```
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
}
```

4.11.2. Delete

```
@model Student_Management_System.Models.batch
<mark>@{</mark>
    ViewBag.Title = "Delete";
<h2>Delete</h2>
<h3>Are you sure you want to delete this?</h3>
<div>
    <h4>batch</h4>
    <hr />
    <dl class="dl-horizontal">
            @Html.DisplayNameFor(model => model.batch1)
        </dt>
            @Html.DisplayFor(model => model.batch1)
        </dd>
            MHtml.DisplayNameFor(model => model.year)
        </dt>
            @Html.DisplayFor(model => model.year)
        </dd>
    </dl>
    @using (Html.BeginForm()) {
        @Html.AntiForgeryToken()
        <div class="form-actions no-color">
            <input type="submit" value="Delete" class="btn btn-default" /> |
            @Html.ActionLink("Back to List", "Index")
        </div>
    }
</div>
```

4.11.3. Details

```
@model Student_Management_System.Models.batch

@{
     ViewBag.Title = "Details";
}
<h2>Details</h2></h2>
```

```
<div>
    <h4>batch</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>
            @Html.DisplayNameFor(model => model.batch1)
        </dt>
        <dd>
            @Html.DisplayFor(model => model.batch1)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.year)
        </dt>
        <dd>
            @Html.DisplayFor(model => model.year)
        </dd>
    </dl>
</div>
>
    @Html.ActionLink("Edit", "Edit", new { id = Model.id }) |
    @Html.ActionLink("Back to List", "Index")
4.11.4.
            Edit
@model Student Management System.Models.batch
   ViewBag.Title = "Edit";
<h2>Edit</h2>
@using (Html.BeginForm())
    @Html.AntiForgeryToken()
    <div class="form-horizontal">
        <h4>batch</h4>
        <hr />
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        @Html.HiddenFor(model => model.id)
        <div class="form-group">
            @Html.LabelFor(model => model.batch1, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.batch1, new { htmlAttributes = new {
@class = "form-control" } })
                @Html.ValidationMessageFor(model => model.batch1, "", new { @class =
"text-danger" })
            </div>
        </div>
```

```
<div class="form-group">
           @Html.LabelFor(model => model.year, htmlAttributes: new { @class =
"control-label col-md-2" })
           <div class="col-md-10">
              @Html.EditorFor(model => model.year, new { htmlAttributes = new {
@class = "form-control" } })
              @Html.ValidationMessageFor(model => model.year, "", new { @class =
"text-danger" })
          </div>
       </div>
       <div class="form-group">
           <div class="col-md-offset-2 col-md-10">
               <input type="submit" value="Save" class="btn btn-default" />
           </div>
       </div>
   </div>
}
<div>
   @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
4.11.5.
           Index
@model IEnumerable<Student_Management_System.Models.batch>
   ViewBag.Title = "Index";
<h2>Index</h2>
   @Html.ActionLink("Create New", "Create")
@Html.DisplayNameFor(model => model.batch1)
       @Html.DisplayNameFor(model => model.year)
       @foreach (var item in Model) {
   @Html.DisplayFor(modelItem => item.batch1)
       @Html.DisplayFor(modelItem => item.year)
```

```
@Html.ActionLink("Edit", "Edit", new { id=item.id }) |
     @Html.ActionLink("Details", "Details", new { id=item.id }) |
     @Html.ActionLink("Delete", "Delete", new { id=item.id })

2
```

4.12. Course

4.12.1. Create

```
@model Student Management System.Models.course
   ViewBag.Title = "Create";
<h2>Create</h2>
@using (Html.BeginForm())
    @Html.AntiForgeryToken()
    <div class="form-horizontal">
        <h4>course</h4>
        <hr />
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        <div class="form-group">
            @Html.LabelFor(model => model.course1, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.course1, new { htmlAttributes = new {
@class = "form-control" } })
                @Html.ValidationMessageFor(model => model.course1, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.duration, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.duration, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.duration, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            <div class="col-md-offset-2 col-md-10">
                <input type="submit" value="Create" class="btn btn-default" />
            </div>
        </div>
    </div>
```

```
}
<div>
    @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
4.12.2.
            Delete
@model Student_Management_System.Models.course
@{
    ViewBag.Title = "Delete";
<h2>Delete</h2>
<h3>Are you sure you want to delete this?</h3>
<div>
    <h4>course</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>
            @Html.DisplayNameFor(model => model.course1)
        </dt>
        <dd>>
            MHtml.DisplayFor(model => model.course1)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.duration)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.duration)
        </dd>
    </dl>
    @using (Html.BeginForm()) {
        @Html.AntiForgeryToken()
        <div class="form-actions no-color">
            <input type="submit" value="Delete" class="btn btn-default" /> |
            @Html.ActionLink("Back to List", "Index")
        </div>
    }
```

4.12.3. Details

</div>

```
@model Student_Management_System.Models.course
```

```
@{
    ViewBag.Title = "Details";
<h2>Details</h2>
<div>
    <h4>course</h4>
    <hr />
    <dl class="dl-horizontal">
            @Html.DisplayNameFor(model => model.course1)
        </dt>
            @Html.DisplayFor(model => model.course1)
        </dd>
            @Html.DisplayNameFor(model => model.duration)
        </dt>
            @Html.DisplayFor(model => model.duration)
        </dd>
    </dl>
</div>
>
    @Html.ActionLink("Edit", "Edit", new { id = Model.id }) |
    @Html.ActionLink("Back to List", "Index")
4.12.4.
            Edit
@model Student_Management_System.Models.course
<u>@{</u>
    ViewBag.Title = "Edit";
<h2>Edit</h2>
@using (Html.BeginForm())
    @Html.AntiForgeryToken()
    <div class="form-horizontal">
        <h4>course</h4>
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        @Html.HiddenFor(model => model.id)
        <div class="form-group">
            @Html.LabelFor(model => model.course1, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
```

```
@Html.EditorFor(model => model.course1, new { htmlAttributes = new {
@class = "form-control" } })
               @Html.ValidationMessageFor(model => model.course1, "", new { @class
= "text-danger" })
           </div>
       </div>
       <div class="form-group">
           @Html.LabelFor(model => model.duration, htmlAttributes: new { @class =
"control-label col-md-2" })
           <div class="col-md-10">
               @Html.EditorFor(model => model.duration, new { htmlAttributes = new
{ @class = "form-control" } })
               @Html.ValidationMessageFor(model => model.duration, "", new { @class
= "text-danger" })
           </div>
       </div>
       <div class="form-group">
           <div class="col-md-offset-2 col-md-10">
               <input type="submit" value="Save" class="btn btn-default" />
           </div>
       </div>
   </div>
}
<div>
   @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
4.12.5.
           Index
@model IEnumerable<Student_Management_System.Models.course>
   ViewBag.Title = "Index";
<h2>Index</h2>
   @Html.ActionLink("Create New", "Create")
@Html.DisplayNameFor(model => model.course1)
       @Html.DisplayNameFor(model => model.duration)
       @foreach (var item in Model) {
```

5. HOME

5.1.1. About

```
@{
     ViewBag.Title = "About";
}
<h2>@ViewBag.Title.</h2>
<h3>@ViewBag.Message</h3>
Use this area to provide additional information.
```

5.1.2. Contact

```
@{
    ViewBag.Title = "Contact";
<h2>@ViewBag.Title.</h2>
<h3>@ViewBag.Message</h3>
<address>
    One Microsoft Way<br />
    Redmond, WA 98052-6399<br />
    <abbr title="Phone">P:</abbr>
    425.555.0100
</address>
<address>
    <strong>Support:</strong> <a</pre>
href="mailto:Support@example.com">Support@example.com</a><br />
    <strong>Marketing:</strong> <a</pre>
href="mailto:Marketing@example.com">Marketing@example.com</a>
</address>
```

5.1.3. Index

```
@{
    ViewBag.Title = "Home Page";
```

```
}
<div class="jumbotron">
   <h1>ASP.NET</h1>
   ASP.NET is a free web framework for building great Web sites and
Web applications using HTML, CSS and JavaScript.
   <a href="http://asp.net" class="btn btn-primary btn-lg">Learn more
»</a>
</div>
<div class="row">
   <div class="col-md-4">
       <h2>Getting started</h2>
           ASP.NET MVC gives you a powerful, patterns-based way to build dynamic
websites that
           enables a clean separation of concerns and gives you full control over
markup
           for enjoyable, agile development.
       <a class="btn btn-default"
href="http://go.microsoft.com/fwlink/?LinkId=301865">Learn more »</a>
   </div>
   <div class="col-md-4">
       <h2>Get more libraries</h2>
       NuGet is a free Visual Studio extension that makes it easy to add,
remove, and update libraries and tools in Visual Studio projects.
       <a class="btn btn-default"
href="http://go.microsoft.com/fwlink/?LinkId=301866">Learn more »</a>
   </div>
   <div class="col-md-4">
       <h2>Web Hosting</h2>
       You can easily find a web hosting company that offers the right mix of
features and price for your applications.
       <a class="btn btn-default"
href="http://go.microsoft.com/fwlink/?LinkId=301867">Learn more »</a>
   </div>
</div>
```

5.2. Login

5.2.1. Index.cs.html

```
<div class="form-group">
            @Html.LabelFor(model => model.username, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.username, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.username, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.password, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.PasswordFor(model => model.password, new { htmlAttributes =
new { @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.password, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            <div class="col-md-offset-2 col-md-10">
                <input type="submit" value="Login" class="btn btn-default" />
            </div>
        </div>
   </div>
}
<div>
    @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
```

6. MANAGE

6.1.1. AddPhoneNumber

```
@model Student_Management_System.Models.AddPhoneNumberViewModel
@{
    ViewBag.Title = "Phone Number";
}

<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("AddPhoneNumber", "Manage", FormMethod.Post, new { @class = "form-horizontal", role = "form" }))
{
    @Html.AntiForgeryToken()
    <h4>Add a phone number</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
```

6.1.2. ChangePassword

```
@model Student_Management_System.Models.ChangePasswordViewModel
@{
    ViewBag.Title = "Change Password";
<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("ChangePassword", "Manage", FormMethod.Post, new { @class =
"form-horizontal", role = "form" }))
{
    @Html.AntiForgeryToken()
    <h4>Change Password Form</h4>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.OldPassword, new { @class = "col-md-2 control-label"
})
        <div class="col-md-10">
            @Html.PasswordFor(m => m.OldPassword, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        @Html.LabelFor(m => m.NewPassword, new { @class = "col-md-2 control-label"
})
        <div class="col-md-10">
            @Html.PasswordFor(m => m.NewPassword, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        @Html.LabelFor(m => m.ConfirmPassword, new { @class = "col-md-2 control-
label" })
        <div class="col-md-10">
            @Html.PasswordFor(m => m.ConfirmPassword, new { @class = "form-control"
})
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" value="Change password" class="btn btn-default" />
        </div>
```

```
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
6.1.3.
           Index.cs.html
@model Student_Management_System.Models.IndexViewModel
@{
    ViewBag.Title = "Manage";
<h2>@ViewBag.Title.</h2>
@ViewBag.StatusMessage
<div>
    <h4>Change your account settings</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>Password:</dt>
        <dd>>
            @if (Model.HasPassword)
            {
                @Html.ActionLink("Change your password", "ChangePassword")
            }
            else
            {
                @Html.ActionLink("Create", "SetPassword")
        </dd>
        <dt>External Logins:</dt>
            @Model.Logins.Count [
            @Html.ActionLink("Manage", "ManageLogins") ]
        </dd>
        @*
            Phone Numbers can used as a second factor of verification in a two-
factor authentication system.
             See <a href="http://go.microsoft.com/fwlink/?LinkId=403804">this
article</a>
                for details on setting up this ASP.NET application to support two-
factor authentication using SMS.
             Uncomment the following block after you have set up two-factor
authentication
        *@
        @*
            <dt>Phone Number:</dt>
            <dd>>
                @(Model.PhoneNumber ?? "None")
                @if (Model.PhoneNumber != null)
```

<text>[@Html.ActionLink("Change",

"AddPhoneNumber")]</text>

```
using (Html.BeginForm("RemovePhoneNumber", "Manage",
FormMethod.Post, new { @class = "form-horizontal", role = "form" }))
                        @Html.AntiForgeryToken()
                        <text>[<input type="submit" value="Remove" class="btn-link"</pre>
/>]</text>
                    }
                }
                else
                {
                    <text>[&nbsp;&nbsp;@Html.ActionLink("Add", "AddPhoneNumber")
            </dd>
        *@
        <dt>Two-Factor Authentication:</dt>
                There are no two-factor authentication providers configured. See <a
href="http://go.microsoft.com/fwlink/?LinkId=403804">this article</a>
                for details on setting up this ASP.NET application to support two-
factor authentication.
            @*@if (Model.TwoFactor)
                {
                    using (Html.BeginForm("DisableTwoFactorAuthentication"
"Manage", FormMethod.Post, new { @class = "form-horizontal", role = "form" }))
                        @Html.AntiForgeryToken()
                        <text>Enabled
                        <input type="submit" value="Disable" class="btn btn-link" />
                        </text>
                    }
                }
                else
                    using (Html.BeginForm("EnableTwoFactorAuthentication", "Manage",
FormMethod.Post, new { @class = "form-horizontal", role = "form" }))
                        @Html.AntiForgeryToken()
                        <text>Disabled
                        <input type="submit" value="Enable" class="btn btn-link" />
               }<mark>*@</mark>
        </dd>
    </dl>
</div>
```

6.1.4. ManageLogins.cshtml

```
@model Student_Management_System.Models.ManageLoginsViewModel
@using Microsoft.Owin.Security
@{
    ViewBag.Title = "Manage your external logins";
}
<h2>@ViewBag.Title.</h2>

class="text-success">@ViewBag.StatusMessage
```

```
@{
   var loginProviders =
Context.GetOwinContext().Authentication.GetExternalAuthenticationTypes();
   if (loginProviders.Count() == 0) {
        <div>
           >
               There are no external authentication services configured. See <a
href="http://go.microsoft.com/fwlink/?LinkId=313242">this article</a>
               for details on setting up this ASP.NET application to support
logging in via external services.
           </div>
   }
   else
   {
        if (Model.CurrentLogins.Count > 0)
            <h4>Registered Logins</h4>
           @foreach (var account in Model.CurrentLogins)
                           @account.LoginProvider
                           @if (ViewBag.ShowRemoveButton)
                                   using (Html.BeginForm("RemoveLogin", "Manage"))
                                   {
                                       @Html.AntiForgeryToken()
                                       <div>
                                           @Html.Hidden("loginProvider",
account.LoginProvider)
                                          @Html.Hidden("providerKey",
account.ProviderKey)
                                           <input type="submit" class="btn btn-</pre>
default" value="Remove" title="Remove this @account.LoginProvider login from your
account" />
                                       </div>
                                   }
                               }
                               else
                               {
                                   <mark>@:</mark> &nbsp;
                           }
               if (Model.OtherLogins.Count > 0)
           using (Html.BeginForm("LinkLogin", "Manage"))
           {
               @Html.AntiForgeryToken()
               <div id="socialLoginList">
               >
                   @foreach (AuthenticationDescription p in Model.OtherLogins)
```

6.1.5. SetPassword.cshtml

```
@model Student_Management_System.Models.SetPasswordViewModel
@{
   ViewBag.Title = "Create Password";
<h2>@ViewBag.Title.</h2>
You do not have a local username/password for this site. Add a local
   account so you can log in without an external login.
@using (Html.BeginForm("SetPassword", "Manage", FormMethod.Post, new { @class =
"form-horizontal", role = "form" }))
{
   @Html.AntiForgeryToken()
    <h4>Create Local Login</h4>
   @Html.ValidationSummary("", new { @class = "text-danger" })
   <div class="form-group">
        @Html.LabelFor(m => m.NewPassword, new { @class = "col-md-2 control-label"
})
        <div class="col-md-10">
           @Html.PasswordFor(m => m.NewPassword, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        @Html.LabelFor(m => m.ConfirmPassword, new { @class = "col-md-2 control-
label" })
        <div class="col-md-10">
           @Html.PasswordFor(m => m.ConfirmPassword, new { @class = "form-control"
})
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
           <input type="submit" value="Set password" class="btn btn-default" />
        </div>
   </div>
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
```

6.1.6. VerifyPhoneNumber.cshtml

<div class="col-md-10">

```
@model Student Management System.Models.VerifyPhoneNumberViewModel
@{
    ViewBag.Title = "Verify Phone Number";
<h2>@ViewBag.Title.</h2>
@using (Html.BeginForm("VerifyPhoneNumber", "Manage", FormMethod.Post, new { @class
= "form-horizontal", role = "form" }))
    @Html.AntiForgeryToken()
    @Html.Hidden("phoneNumber", @Model.PhoneNumber)
    <h4>Enter verification code</h4>
    <h5>@ViewBag.Status</h5>
    <hr />
    @Html.ValidationSummary("", new { @class = "text-danger" })
    <div class="form-group">
        @Html.LabelFor(m => m.Code, new { @class = "col-md-2 control-label" })
        <div class="col-md-10">
            @Html.TextBoxFor(m => m.Code, new { @class = "form-control" })
        </div>
    </div>
    <div class="form-group">
        <div class="col-md-offset-2 col-md-10">
            <input type="submit" class="btn btn-default" value="Submit" />
    </div>
}
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
6.2.
       Registration:
6.2.1.
            Create
@model Student_Management_System.Models.registration
    ViewBag.Title = "Create";
<h2>Create</h2>
@using (Html.BeginForm())
    @Html.AntiForgeryToken()
    <div class="form-horizontal">
        <h4>registration</h4>
        <hr />
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        <div class="form-group">
            @Html.LabelFor(model => model.firstname, htmlAttributes: new { @class =
"control-label col-md-2" })
```

```
@Html.EditorFor(model => model.firstname, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.firstname, "", new {
@class = "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.lastname, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.lastname, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.lastname, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.nic, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.nic, new { htmlAttributes = new {
@class = "form-control" } })
                @Html.ValidationMessageFor(model => model.nic, "", new { @class =
"text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.course_id, "course_id", htmlAttributes:
new { @class = "control-label col-md-2" })
            <div class="col-md-10">
                @Html.DropDownList("course_id", null, htmlAttributes: new { @class =
"form-control" })
                @Html.ValidationMessageFor(model => model.course id, "", new {
@class = "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.barch id, "barch id", htmlAttributes: new
{ @class = "control-label col-md-2" })
            <div class="col-md-10">
                @Html.DropDownList("barch_id", null, htmlAttributes: new { @class =
"form-control" })
                @Html.ValidationMessageFor(model => model.barch_id, "", new { @class
= "text-danger" )
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.telno, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.telno, new { htmlAttributes = new {
@class = "form-control" } })
               @Html.ValidationMessageFor(model => model.telno, "", new { @class =
"text-danger" })
            </div>
        </div>
```

```
<div class="form-group">
            <div class="col-md-offset-2 col-md-10">
                <input type="submit" value="Create" class="btn btn-default" />
            </div>
        </div>
    </div>
}
<div>
    @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
6.2.2.
            Delete
@model Student_Management_System.Models.registration
<u>@{</u>
    ViewBag.Title = "Delete";
<h2>Delete</h2>
<h3>Are you sure you want to delete this?</h3>
<div>
    <h4>registration</h4>
    <hr />
    <dl class="dl-horizontal">
            @Html.DisplayNameFor(model => model.firstname)
        </dt>
            @Html.DisplayFor(model => model.firstname)
        </dd>
            @Html.DisplayNameFor(model => model.lastname)
        </dt>
            @Html.DisplayFor(model => model.lastname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.nic)
        </dt>
            @Html.DisplayFor(model => model.nic)
        </dd>
            @Html.DisplayNameFor(model => model.telno)
        </dt>
```

```
<dd>>
            @Html.DisplayFor(model => model.telno)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.batch.batch1)
        </dt>
        <dd>
            MHtml.DisplayFor(model => model.batch.batch1)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.course.course1)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.course.course1)
        </dd>
    </dl>
    @using (Html.BeginForm()) {
        @Html.AntiForgeryToken()
        <div class="form-actions no-color">
            <input type="submit" value="Delete" class="btn btn-default" /> |
            @Html.ActionLink("Back to List", "Index")
        </div>
    }
</div>
6.2.3.
            Details
@model Student_Management_System.Models.registration
<mark>@{</mark>
    ViewBag.Title = "Details";
<h2>Details</h2>
<div>
    <h4>registration</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>
            @Html.DisplayNameFor(model => model.firstname)
        </dt>
        <dd>>
            MHtml.DisplayFor(model => model.firstname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.lastname)
```

</dt>

```
<dd>>
            @Html.DisplayFor(model => model.lastname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.nic)
        </dt>
            @Html.DisplayFor(model => model.nic)
        </dd>
            @Html.DisplayNameFor(model => model.telno)
        </dt>
            @Html.DisplayFor(model => model.telno)
        </dd>
            @Html.DisplayNameFor(model => model.batch.batch1)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.batch.batch1)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.course.course1)
        </dt>
            @Html.DisplayFor(model => model.course.course1)
        </dd>
    </dl>
</div>
    @Html.ActionLink("Edit", "Edit", new { id = Model.id }) |
    @Html.ActionLink("Back to List", "Index")
6.2.4.
            Edit
@model Student_Management_System.Models.registration
    ViewBag.Title = "Edit";
<h2>Edit</h2>
@using (Html.BeginForm())
    @Html.AntiForgeryToken()
    <div class="form-horizontal">
```

```
<h4>registration</h4>
        <hr />
        @Html.ValidationSummary(true, "", new { @class = "text-danger" })
        @Html.HiddenFor(model => model.id)
        <div class="form-group">
            @Html.LabelFor(model => model.firstname, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.firstname, new { htmlAttributes = new
{ @class = "form-control" } })
               @Html.ValidationMessageFor(model => model.firstname, "", new {
@class = "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.lastname, htmlAttributes: new { @class =
"control-label col-md-2" })
           <div class="col-md-10">
               @Html.EditorFor(model => model.lastname, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.lastname, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.nic, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.nic, new { htmlAttributes = new {
@class = "form-control" } })
               @Html.ValidationMessageFor(model => model.nic, "", new { @class =
"text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.course_id, "course_id", htmlAttributes:
new { @class = "control-label col-md-2" })
           <div class="col-md-10">
                @Html.DropDownList("course_id", null, htmlAttributes: new { @class =
"form-control" })
                @Html.ValidationMessageFor(model => model.course_id, "", new {
@class = "text-danger" })
            </div>
        </div>
        <div class="form-group">
           @Html.LabelFor(model => model.barch_id, "barch_id", htmlAttributes: new
{ @class = "control-label col-md-2" })
            <div class="col-md-10">
                @Html.DropDownList("barch_id", null, htmlAttributes: new { @class =
"form-control" })
                @Html.ValidationMessageFor(model => model.barch_id, "", new { @class
= "text-danger" )
            </div>
        </div>
        <div class="form-group">
```

```
@Html.LabelFor(model => model.telno, htmlAttributes: new { @class =
"control-label col-md-2" })
           <div class="col-md-10">
              @Html.EditorFor(model => model.telno, new { htmlAttributes = new {
@class = "form-control" } })
              @Html.ValidationMessageFor(model => model.telno, "", new { @class =
"text-danger" })
           </div>
       </div>
       <div class="form-group">
           <div class="col-md-offset-2 col-md-10">
               <input type="submit" value="Save" class="btn btn-default" />
           </div>
       </div>
   </div>
}
<div>
   @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
   @Scripts.Render("~/bundles/jqueryval")
6.2.5.
           Index
@model IEnumerable<Student Management System.Models.registration>
@{
   ViewBag.Title = "Index";
<h2>Index</h2>
   @Html.ActionLink("Create New", "Create")
@Html.DisplayNameFor(model => model.firstname)
       @Html.DisplayNameFor(model => model.lastname)
       @Html.DisplayNameFor(model => model.nic)
       @Html.DisplayNameFor(model => model.telno)
       @Html.DisplayNameFor(model => model.batch.batch1)
       @Html.DisplayNameFor(model => model.course.course1)
```

```
@foreach (var item in Model) {
   Mtml.DisplayFor(modelItem => item.firstname)
       MHtml.DisplayFor(modelItem => item.lastname)
       @Html.DisplayFor(modelItem => item.nic)
       @Html.DisplayFor(modelItem => item.telno)
       @Html.DisplayFor(modelItem => item.batch.batch1)
       @Html.DisplayFor(modelItem => item.course.course1)
       @Html.ActionLink("Edit", "Edit", new { id=item.id }) |
           @Html.ActionLink("Details", "Details", new { id=item.id }) |
@Html.ActionLink("Delete", "Delete", new { id=item.id })
       }
```

6.3. Shared

6.3.1. Layout.cshtml

```
<!DOCTYPE html>
<html>
<head>
    <meta charset="utf-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>@ViewBag.Title - My ASP.NET Application</title>
    @Styles.Render("~/Content/css")
    @Scripts.Render("~/bundles/modernizr")
</head>
<body>
    <div class="navbar navbar-inverse navbar-fixed-top">
        <div class="container">
            <div class="navbar-header">
                <button type="button" class="navbar-toggle" data-toggle="collapse"</pre>
data-target=".navbar-collapse">
                    <span class="icon-bar"></span>
                    <span class="icon-bar"></span>
                    <span class="icon-bar"></span>
                </button>
                @Html.ActionLink("Application name", "Index", "Home", new { area =
"" }, new { @class = "navbar-brand" })
            </div>
```

```
<div class="navbar-collapse collapse">
               @Html.ActionLink("Home", "Index", "Home")
@Html.ActionLink("Course", "Index", "Course")
@Html.ActionLink("Batch", "Index", "Batch")

                   @Html.ActionLink("Registration", "Index",
"Registration")
                   @Html.ActionLink("User", "Index", "User")
               @if (Session["userid"] != null)
                       <h4 style="color: white">Hello @Session["UserName"]</h4>
                       @Html.ActionLink("Logout","Logout","Login")
                   }
               <mark>@</mark>Html.Partial("_LoginPartial")
           </div>
       </div>
   </div>
   <div class="container body-content">
       @RenderBody()
       <hr />
       <footer>
           © @DateTime.Now.Year - My ASP.NET Application
       </footer>
   </div>
   @Scripts.Render("~/bundles/jquery")
   @Scripts.Render("~/bundles/bootstrap")
   @RenderSection("scripts", required: false)
</body>
</html>
```

6.3.2. LoginPartial.cshtml

```
@using Microsoft.AspNet.Identity
@if (Request.IsAuthenticated)
               using (Html.BeginForm("LogOff", "Account", FormMethod.Post, new { id =
 "logoutForm", @class = "navbar-right" }))
               @Html.AntiForgeryToken()
                <
                                              @Html.ActionLink("Hello " + User.Identity.GetUserName() + "!", "Index",
 "Manage", routeValues: null, htmlAttributes: new { title = "Manage" })
                               <a href="javascript:document.getElementById('logoutForm').submit()">Log
off</a>
               }
}
else
{
                <multiple continuous de la compara d
htmlAttributes: new { id = "registerLink" })
```

6.3.3. Error.cshtml

```
@model System.Web.Mvc.HandleErrorInfo

@{
    ViewBag.Title = "Error";
}

<h1 class="text-danger">Error.</h1>
<h2 class="text-danger">An error occurred while processing your request.</h2>
```

6.3.4. Lockout.cs.html

```
@model System.Web.Mvc.HandleErrorInfo

@{
     ViewBag.Title = "Locked Out";
}

<hgroup>
     <h1 class="text-danger">Locked out.</h1>
     <h2 class="text-danger">This account has been locked out, please try again later.</h2>
</hgroup>
```

6.4. User

6.4.1. Create

```
@Html.EditorFor(model => model.firstname, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.firstname, "", new {
@class = "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.lastname, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.lastname, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.lastname, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.username, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.EditorFor(model => model.username, new { htmlAttributes = new
{ @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.username, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            @Html.LabelFor(model => model.password, htmlAttributes: new { @class =
"control-label col-md-2" })
            <div class="col-md-10">
                @Html.PasswordFor(model => model.password, new { htmlAttributes =
new { @class = "form-control" } })
                @Html.ValidationMessageFor(model => model.password, "", new { @class
= "text-danger" })
            </div>
        </div>
        <div class="form-group">
            <div class="col-md-offset-2 col-md-10">
                <input type="submit" value="Create" class="btn btn-default" />
            </div>
        </div>
    </div>
}
    @Html.ActionLink("Back to List", "Index")
</div>
@section Scripts {
    @Scripts.Render("~/bundles/jqueryval")
```

6.4.2. **Delete**

```
@model Student_Management_System.Models.user
```

```
<u>@{</u>
    ViewBag.Title = "Delete";
<h2>Delete</h2>
<h3>Are you sure you want to delete this?</h3>
    <h4>user</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>
            @Html.DisplayNameFor(model => model.firstname)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.firstname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.lastname)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.lastname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.username)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.username)
        </dd>
        <dt>
            MHtml.DisplayNameFor(model => model.password)
        </dt>
            @Html.DisplayFor(model => model.password)
        </dd>
    </dl>
    @using (Html.BeginForm()) {
        @Html.AntiForgeryToken()
        <div class="form-actions no-color">
            <input type="submit" value="Delete" class="btn btn-default" /> |
            @Html.ActionLink("Back to List", "Index")
        </div>
    }
</div>
```

6.4.3. Details

```
@model Student_Management_System.Models.user
```

```
@{
    ViewBag.Title = "Details";
<h2>Details</h2>
<div>
    <h4>user</h4>
    <hr />
    <dl class="dl-horizontal">
        <dt>
            @Html.DisplayNameFor(model => model.firstname)
        </dt>
        <dd>
            @Html.DisplayFor(model => model.firstname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.lastname)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.lastname)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.username)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.username)
        </dd>
        <dt>
            @Html.DisplayNameFor(model => model.password)
        </dt>
        <dd>>
            @Html.DisplayFor(model => model.password)
        </dd>
    </dl>
</div>
    @Html.ActionLink("Edit", "Edit", new { id = Model.id }) |
    @Html.ActionLink("Back to List", "Index")
6.4.4.
            Edit
@model Student_Management_System.Models.user
<mark>@{</mark>
    ViewBag.Title = "Details";
<h2>Details</h2>
```

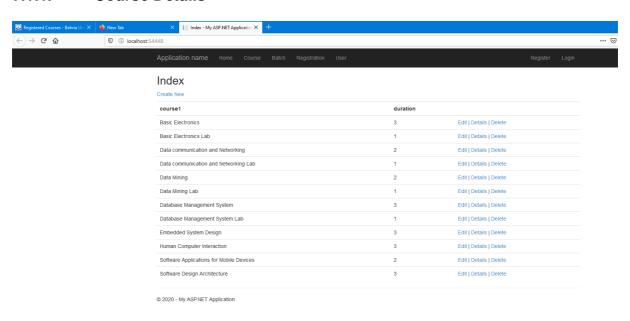
```
<div>
   <h4>user</h4>
   <hr />
   <dl class="dl-horizontal">
        <dt>
           @Html.DisplayNameFor(model => model.firstname)
        </dt>
        <dd>
           @Html.DisplayFor(model => model.firstname)
        </dd>
        <dt>
           @Html.DisplayNameFor(model => model.lastname)
        </dt>
        <dd>
           @Html.DisplayFor(model => model.lastname)
        </dd>
       <dt>
           @Html.DisplayNameFor(model => model.username)
        </dt>
        <dd>>
           @Html.DisplayFor(model => model.username)
        </dd>
        <dt>
           @Html.DisplayNameFor(model => model.password)
        </dt>
        <dd>>
           MHtml.DisplayFor(model => model.password)
        </dd>
   </dl>
</div>
>
   @Html.ActionLink("Edit", "Edit", new { id = Model.id }) |
   @Html.ActionLink("Back to List", "Index")
6.4.5.
           Index
@model IEnumerable<Student_Management_System.Models.user>
@{
   ViewBag.Title = "Index";
<h2>Index</h2>
   @Html.ActionLink("Create New", "Create")
```

```
@Html.DisplayNameFor(model => model.firstname)
       @Html.DisplayNameFor(model => model.lastname)
       @Html.DisplayNameFor(model => model.username)
       @Html.DisplayNameFor(model => model.password)
       @foreach (var item in Model) {
   @Html.DisplayFor(modelItem => item.firstname)
       >
           @Html.DisplayFor(modelItem => item.lastname)
       >
           @Html.DisplayFor(modelItem => item.username)
       <mark>@*</mark>
           @Html.DisplayFor(modelItem => item.password)
       </de>
       >
           @Html.ActionLink("Edit", "Edit", new { id=item.id }) |
           @Html.ActionLink("Details", "Details", new { id=item.id }) |
@Html.ActionLink("Delete", "Delete", new { id=item.id })
       }
```

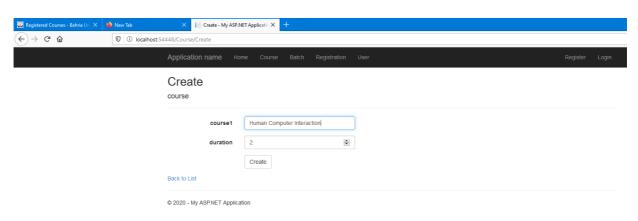
7. OUTPUT

7.1. Course

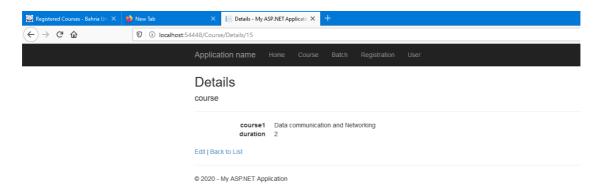
7.1.1. Course Details



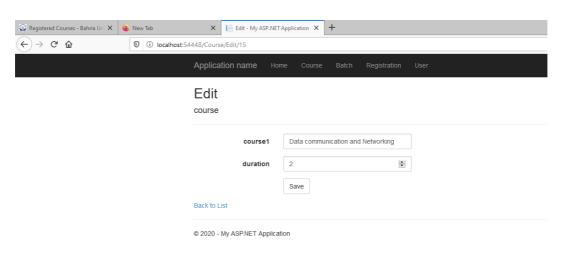
7.1.2. Add Course



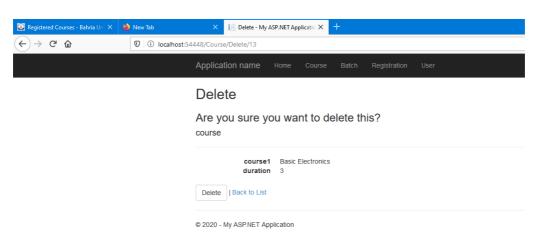
7.1.3. View Course



7.1.4. Edit Course

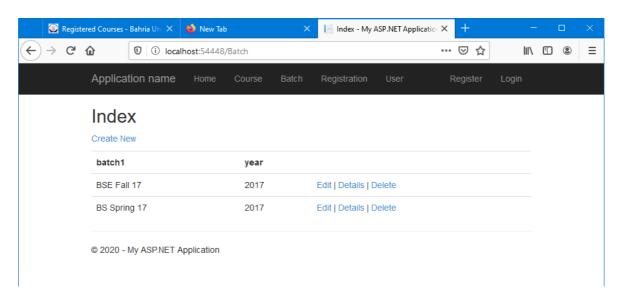


7.1.5. Delete Course

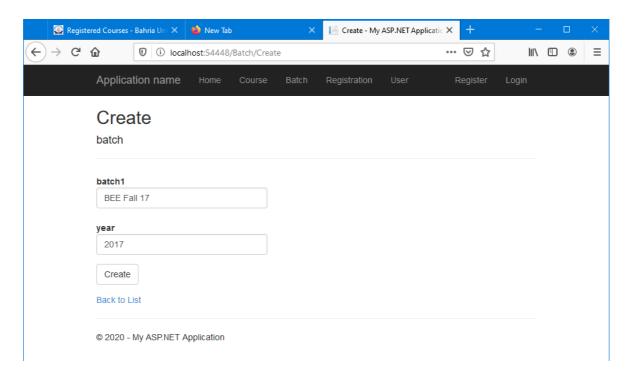


7.2. Batch:

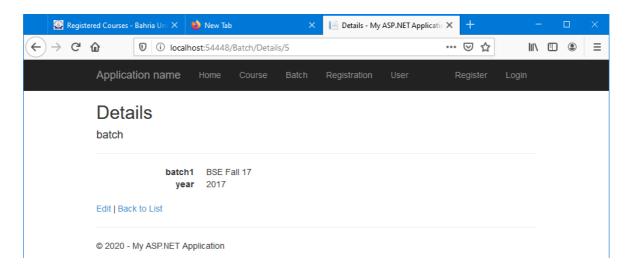
7.2.1. Batch Details



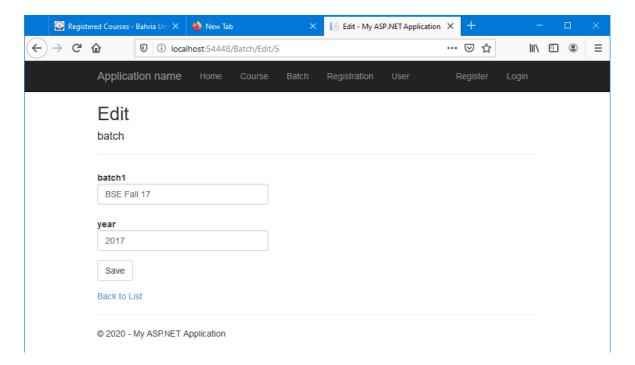
7.2.2. Add Batch



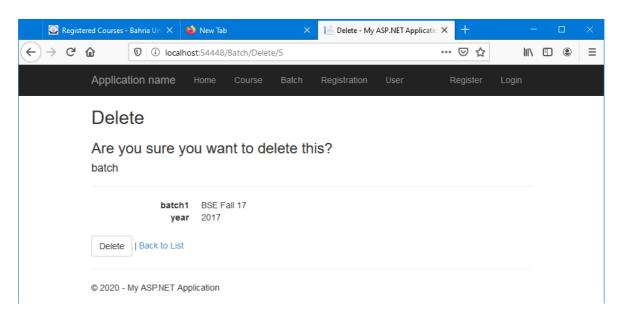
7.2.3. View Batch



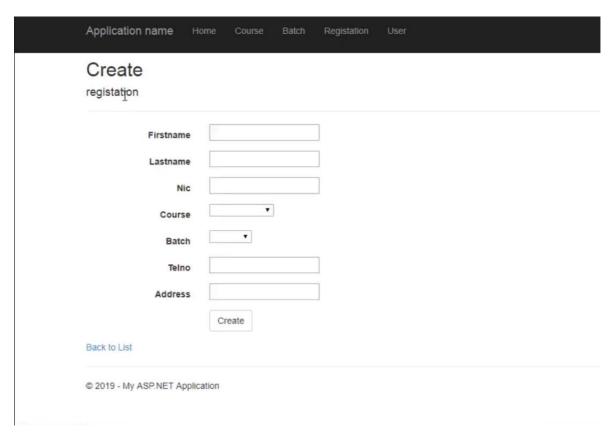
7.2.4. Edit Batch



7.2.5. Delete Batch

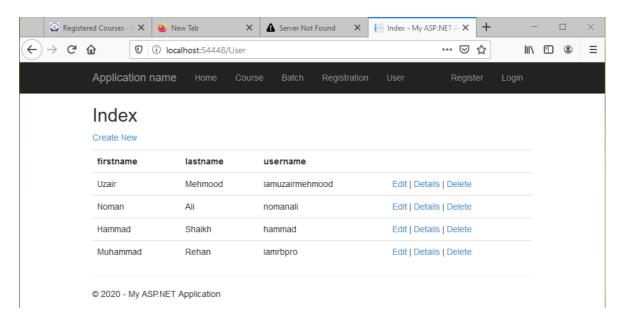


7.3. Registration:

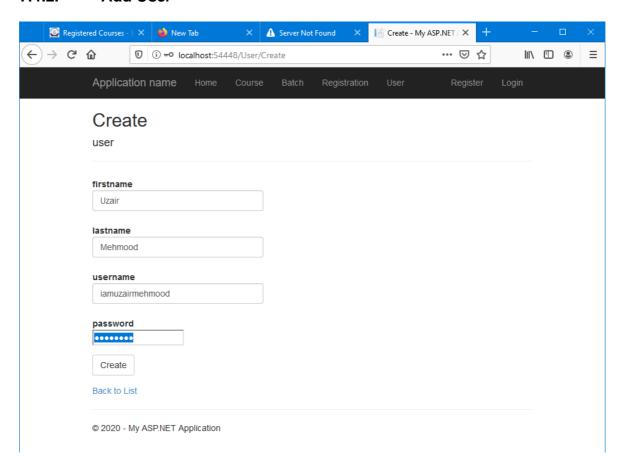


7.4. User:

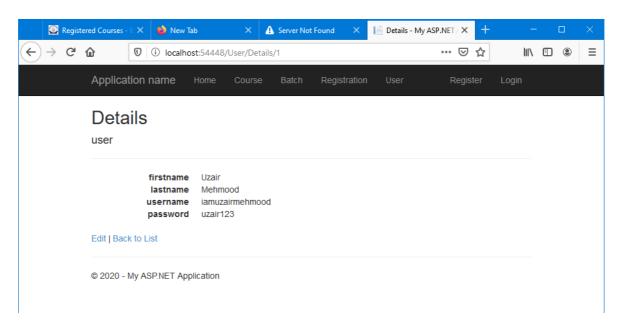
7.4.1. User Details



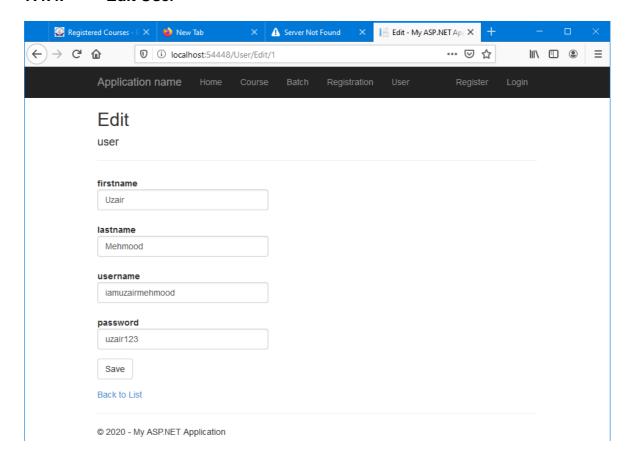
7.4.2. Add User



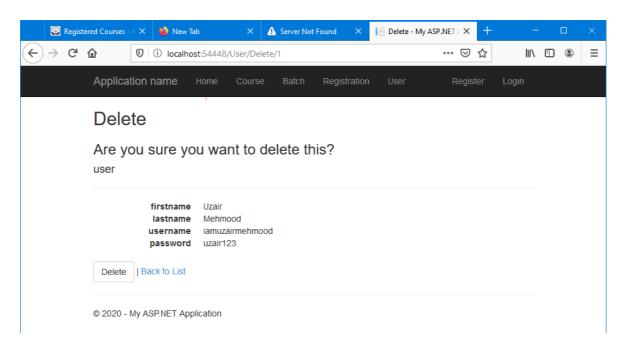
7.4.3. View User



7.4.4. Edit User

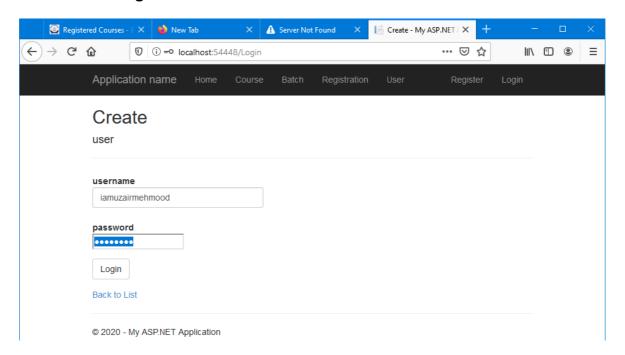


7.4.5. Delete User

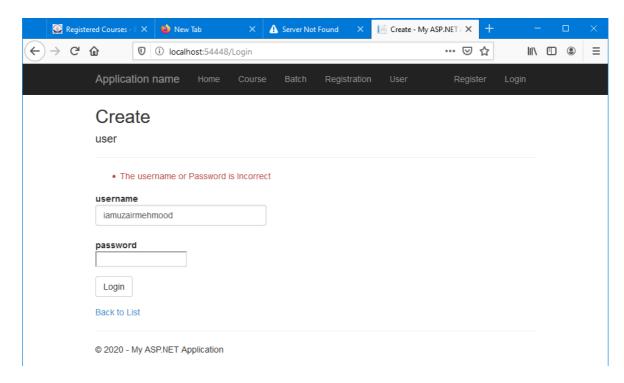


7.5. Login

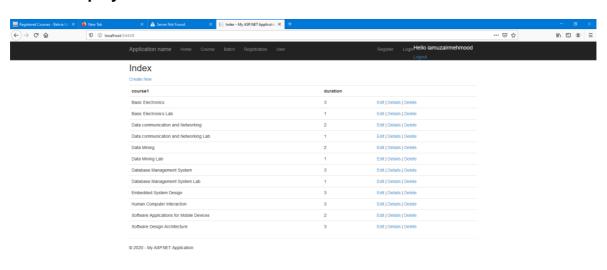
7.5.1. Login View



7.5.2. Error



7.6. Display User Name



8. DATABASE

8.1. Table-Design

8.1.1. Batch

Column Name	Data Type	Allow Nulls
▶ ? id	int	
batch	varchar(50)	$\overline{\checkmark}$
year	varchar(50)	$\overline{\checkmark}$

8.1.2. Course

	Column Name	Data Type	Allow Nulls
₽₽	id	int	
	course	varchar(50)	\checkmark
	duration	int	\checkmark

8.1.3. Registration

Column Name	Data Type	Allow Nulls
▶ id	int	
firstname	varchar(50)	
lastname	varchar(50)	\checkmark
nic	varchar(50)	$\overline{\mathbf{z}}$
course_id	int	\checkmark
batch_id	int	$\overline{\mathbf{z}}$
tel	int	\checkmark

8.1.4. User

	Column Name	Data Type	Allow Nulls
₽Ÿ	id	int	
	firstname	varchar(50)	\checkmark
	lastname	varchar(50)	\checkmark
	username	varchar(50)	~
	password	varchar(50)	\checkmark

8.2. Data In Tables

8.2.1. Batch

	id	batch	year
1	5	BSE Fall 17	2017
2	6	BS Spring 17	2017

8.2.2. Course

	id	course	duration
1	13	Basic Electronics	3
2	14	Basic Electronics Lab	1
3	15	Data communication and Networking	2
4	16	Data communication and Networking Lab	1
5	17	Data Mining	2
6	18	Data Mining Lab	1
7	19	Database Management System	3
8	20	Database Management System Lab	1
9	23	Embedded System Design	3
10	24	Human Computer Interaction	3
11	25	Software Applications for Mobile Devices	2
12	26	Software Design Architecture	3

8.2.3. Registration

	id	firstname	lastname	nic	course_id	batch_id	tel
1	1	Uzair	Mehmood	4240155254	26	5	90078601
2	2	Uzair	Mehmood	4240155254	17	5	90078601
3	3	Uzair	Mehmood	4240155254	18	5	90078601
4	4	Uzair	Mehmood	4240155254	19	5	90078601
5	5	Uzair	Mehmood	4240155254	20	5	90078601
6	6	Hassam	Arif	4223155254	20	5	92318621
7	7	Hassam	Arif	4223155254	19	5	92318621
8	8	Hassam	Arif	4223155254	13	5	92318621
9	9	Hassam	Arif	4223155254	14	5	92318621
10	10	Hassam	Arif	4223155254	26	5	92318621
11	11	Hammad	Shakh	456845484	24	6	94568781
12	12	Hammad	Shakh	456845484	23	6	94568781
13	13	Hammad	Shakh	456845484	17	6	94568781
14	14	Hammad	Shakh	456845484	18	6	94568781
15	15	Noman	Ali	73213184	13	6	942132111
16	16	Noman	Ali	73213184	19	6	942132111
17	17	Noman	Ali	73213184	17	6	942132111
18	18	Noman	Ali	73213184	18	6	942132111

8.2.4. User

	id	firstname	lastname	usemame	password
1	1	Uzair	Mehmood	iamuzaimehmood	uzair123
2	2	Noman	Ali	nomanali	noman 123
3	3	Hammad	Shaikh	hammad	hammad123
4	4	Muhammad	Rehan	iamrbpro	rehan

9. SOLUTION EXPOLRER

```
G Solution 'Student-Management-System' (1 project)
▲ √
■ Student-Management-System
   ▲ 🌮 Properties
      a C# AssemblyInfo.cs
  ▶ ■·■ References
     App_Data
   App_Start
     ▲ a C# BundleConfig.cs
       🔺 🍕 BundleConfig

    RegisterBundles(BundleCollection) : void

     ▲ a C# FilterConfig.cs
        🗸 🍕 FilterConfig
             @ RegisterGlobalFilters(GlobalFilterCollection) : void
     ▲ a C* IdentityConfig.cs
       🔺 🍕 EmailService

▲ ★ SmsService

             ApplicationUserManager
             © Create(IdentityFactoryOptions<ApplicationUserManager>, IOwinContext) : ApplicationUserManager

▲ ♣ ApplicationSignInManager

    ApplicationSignInManager(ApplicationUserManager, |AuthenticationManager)

             © CreateUserIdentityAsync(ApplicationUser) : Task<ClaimsIdentity>
             © Create(IdentityFactoryOptions<ApplicationSignInManager>, IOwinContext) : ApplicationSignInManager
     ▲ a C* RouteConfig.cs

▲ ★ RouteConfig

             RegisterRoutes(RouteCollection): void
     ▲ a C* Startup.Auth.cs

▲ ★ Startup

            ☐ Site.css
   ▲ a C# AccountController.cs
       ♦ ★ AccountController
     ▲ G C# BatchController.cs

▶ ♣ BatchController

     ▲ a C# CourseController.cs
       ♦ CourseController
     ▲ a C# HomeController.cs
       ♦ MomeController
```


- - - __signlhanager : ApplicationSignlnManager
 __userManager : ApplicationUserManager
 __userManager : ApplicationUserManager
 __ ManageController()
 ManageController(ApplicationUserManager, ApplicationSignlnManager)

 - | Manage: Application Signin Manager | Application Signin Manager | Application Signin Manager | Application Manager | Signin Manager | Sign
 - ⊕ EnableTwoFactorAuthentication(): Task<ActionResult>

 ⊕ DisableTwoFactorAuthentication(): Task<ActionResult>

 - VerifyPhoneNumber(string) : Task<ActionResult>
 VerifyPhoneNumber(VerifyPhoneNumberViewModel) : Task<ActionResult>
 - RemovePhoneNumber(): Task<ActionResult>
 ChangePassword(): ActionResult

 - ChangePassword(ChangePasswordViewModel) : Task<ActionResult> SetPassword() : ActionResult

 - SetPassword(): ActionResult
 SetPassword(SetPasswordViewModel): Task<ActionResult>
 ManageLogins(ManageMessageld?): Task<ActionResult>

 - Managet.ogins(ManageMessageIdf): lask
 LinkLogin(String): ActionResult
 LinkLoginCallback(): Task<ActionResult>
 LinkLoginCollback(): Task<ActionResult>
 Xirkey: String
 Xirkey: string

 - ♣ AuthenticationManager: |AuthenticationManager ♠ AddErrors(|dentityResult): void
- © HasPassword(): bool

 © HasPhoneNumber(): bool

 D ManageMessageId

 C RegistrationController.cs

- RegistrationController
 RegistrationController
 Index(): ActionResult
 Details(int?): ActionResult

 - Details(int?): ActionResult
 Create(): ActionResult
 Create(registration): ActionResult
 Edit(int?): ActionResult
 Edit(registration): ActionResult
 Delete(int?): ActionResult DeleteConfirmed(int) : ActionResult
 Dispose(bool) : void

▲ a C# UserController.cs 🔩 db : StudentEntities ♥ Edit(user) : ActionResult ♥ Delete(int?) : ActionResult DeleteConfirmed(int) : ActionResult ⊕ Dispose(bool) : void a 🗋 glyphicons-halflings-regular.eot â⊠ glyphicons-halflings-regular.svg a glyphicons-halflings-regular.ttf glyphicons-halflings-regular.woff ▲ G C* AccountViewModels.cs ▶ ★ ExternalLoginConfirmationViewModel tremail.oginConfirmationvi tremail.oginListViewModel SendCodeViewModel VerifyCodeViewModel ▶ ★ ForgotViewModel 🕨 🔩 LoginViewModel RegisterViewModel ResetPasswordViewModel ▶ ♣ ForgotPasswordViewModel ▲ a C# IdentityModels.cs ▶ ♣ ApplicationUser ▶ ♣ ApplicationDbContext ▲ a C# ManageViewModels.cs ▶ 🔩 IndexViewModel ManageLoginsViewModel ▶ ★ FactorViewModel ♦ SetPasswordViewModel thangePasswordViewModel 4 AddPhoneNumberViewModel VerifyPhoneNumberViewModel **⊿** a ₩ Model1.edmx ▶ 📸 Model1.Context.tt Model1.Designer.cs Model1.edmx.diagram ▶ 📸 Model1.tt ■ Views ▲ Goount a [@] _ExternalLoginsListPartial.cshtml a [@] ConfirmEmail.cshtml a [@] ExternalLoginConfirmation.cshtml a [@] External Login Failure.cshtml @@ ForgotPassword.cshtml ■ ForgotPasswordConfirmation.cshtml @@ Login.cshtml @[@] Register.cshtml @[@] ResetPassword.cshtml @ ResetPasswordConfirmation.cshtml a [@] SendCode.cshtml ■[@] VerifyCode.cshtml Batch @[@] Create.cshtml ■[@] Delete.cshtml @[@] Details.cshtml @[@] Edit.cshtml @[@] Index.cshtml @[@] Create.cshtml @[@] Delete.cshtml @[@] Details.cshtml @@ Edit.cshtml @[@] Index.cshtml ▲ ■ Home

✓ (@) About.cshtml a(@) Contact.cshtml a(@) Index.cshtml

+[@] Index.cshtml

■ Manage

a@ AddPhoneNumber.cshtml
a@ ChangePassword.cshtml
a@ Index.cshtml
a@ ManageLogins.cshtml
a@ SetPassword.cshtml
a@ VerifyPhoneNumber.cshtml

🔺 偏 Login

```
Registration
       @ Create.cshtml
       @ Delete.cshtml
       @[@] Details.cshtml
       @ Edit.cshtml
       @[@] Index.cshtml
   Shared
       ✓ [@] _Layout.cshtml
       ✓ (@) _LoginPartial.cshtml
       @[@] Error.cshtml
       @ Lockout.cshtml
  User
       @[@] Create.cshtml
       @[@] Delete.cshtml
       @[@] Details.cshtml
       @[@] Edit.cshtml
       ✓[@] Index.cshtml
    @[@] ViewStart.cshtml
    a ₩ Web.config
▶ a 🏳 ApplicationInsights.config
 a 🖹 favicon.ico
⊳ 🕳 🖺 Global.asax
  a packages.config
 a Project_Readme.html
▶ क्¶ Web.config
```

10. CONCLUSION

Student Management System can be used by educational institutions to maintain their student records easily. Achieving this objective is difficult using the manual system as the information is scattered, can be redundant and collecting relevant information may be very time-consuming.

All these problems are solved by this project. This system helps in maintaining the information of pupil of the organization. It can be easily accessed by the manager and kept safe for a long period of time without any changes.

11. LINK

Project Link (GitHub)