TITLE: IMPLEMENTING EXCEPTION HANDLING

//CODE

```
using System;
namespace UserDefinedException
  class TestTemperature
     static void Main(string[] args)
       Temperature temp = new Temperature();
       try
       {
         temp.showTemp();
       catch (TempIsZeroException e)
         Console.WriteLine("TempIsZeroException: {0}", e.Message);
       Console.ReadKey();
  }
public class TempIsZeroException : Exception
  public TemplsZeroException(string message) : base(message)
public class Temperature
  int temperature = 0;
  public void showTemp()
    if (temperature == 0)
       throw (new TempIsZeroException("Zero Temperature found"));
    else
    {
       Console.WriteLine("Temperature: {0}", temperature);
  }
}
```

//Output

 ${\color{red} \underline{\textbf{C:}Users_Admin_source_repos_Exception\ handling_Exception\ handling_bin_Debug_net6.0_Exception\ handling_exe}}$

TempIsZeroException: Zero Temperature found

TITLE: IMPLEMENTING GENERIC IN C#

//CODE

```
using System;
using System.Collections.Generic;
namespace GenericApp
{
  public class TestClass<T>
  {
     // define an Array of Generic type with length 5
     T[] obj = new T[5];
     int count = 0;
     // adding items mechanism into generic type
     public void Add(T item)
       //checking length
       if (count + 1 < 6)
          obj[count] = item;
       }
       count++;
     //indexer for foreach statement iteration
     public T this[int index]
     {
       get { return obj[index]; }
       set { obj[index] = value; }
 }
  }
  class Program
  {
```

```
static void Main(string[] args)
 {
   //instantiate generic with Integer
   TestClass<int> intObj = new TestClass<int>();
   //adding integer values into collection
   intObj.Add(1);
   intObj.Add(2);
   intObj.Add(3); //No boxing
   intObj.Add(4);
   intObj.Add(5);
   //displaying values
   for (int i = 0; i < 5; i++)
   {
      Console.WriteLine(intObj[i]); //No unboxing
   }
   Console.ReadKey();
 }
```

// OUTPUT

C:\Users\Admin\source\repos\Exception handling\Exception handling\bin\Debug\net6.0\Exception handling.exe

1
2
3
4
5

TITLE: IMPLEMENTING LINQ IN C#

//CODE

```
using System; using
System.Collections.Generic; using
System.Ling; using System.Text;
namespace Operators
{
   class LINQQueryExpressions
   static void Main ()
     {
        // Specify the data source.
         Int [] scores = new int[] { 97, 92, 81, 60 };
        // Define the query expression.
        IEnumerable<int> scoreQuery = from score in scores where score > 80 select
score;
        // Execute the query.
        foreach (int i in scoreQuery)
        {
           Console.Write(i + " ");
        }
        Console.ReadLine();
     }
   }
}
```

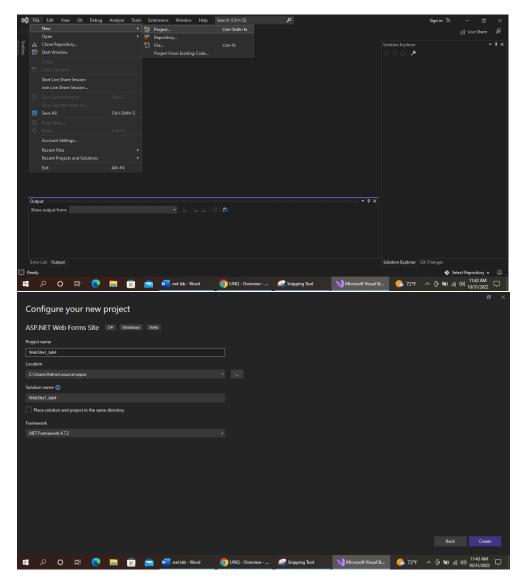
//OUTPUT

C:\Users\Admin\source\repos\lab 3\lab 3\bin\Debug\net6.0\lab 3.exe

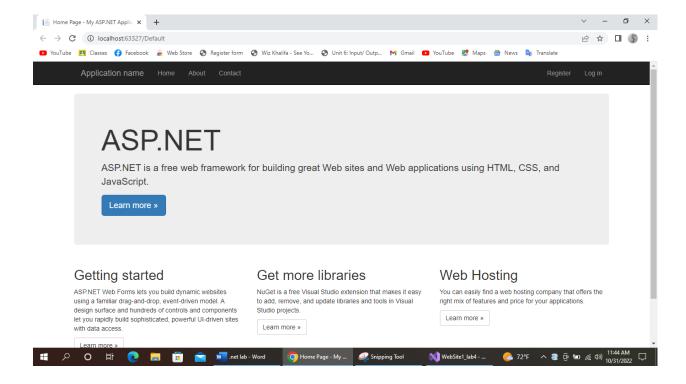
97 92 81

TITLE: METHOD TO CREATE ASP.NET FRAMEWORK

STEPS:

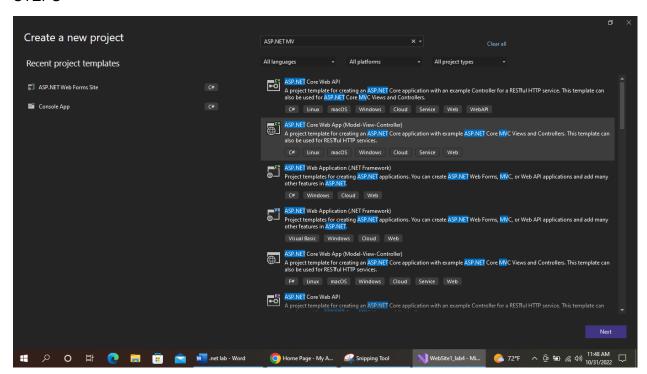


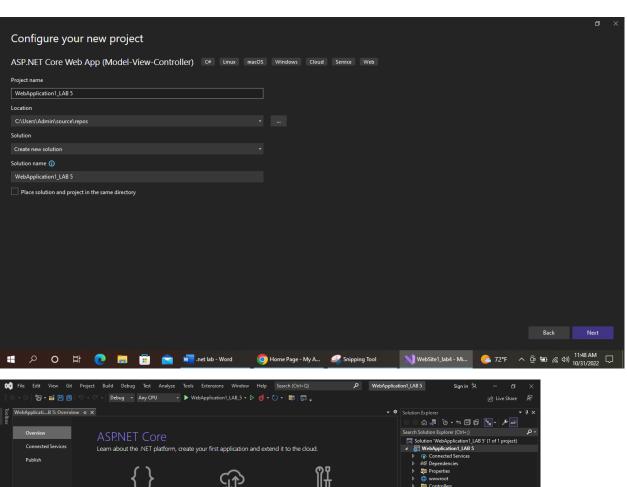
//OUTPUT

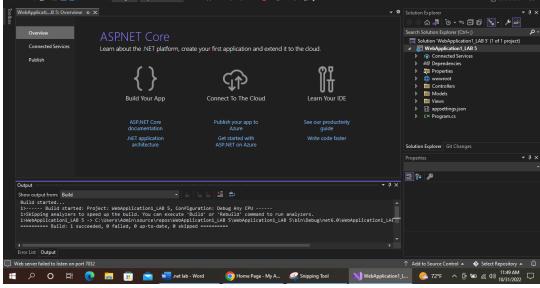


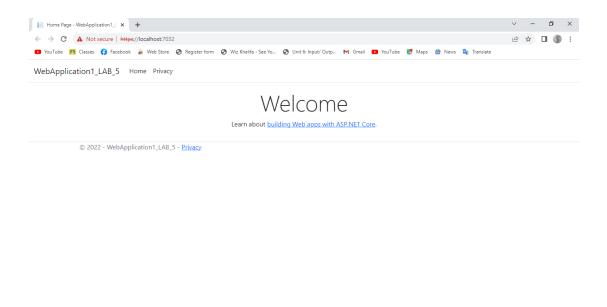
TITLE: ASP.NET MVC

STEPS





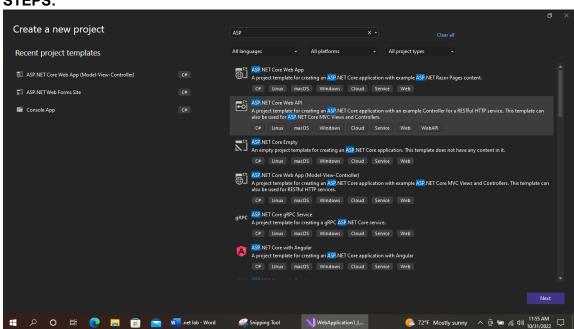


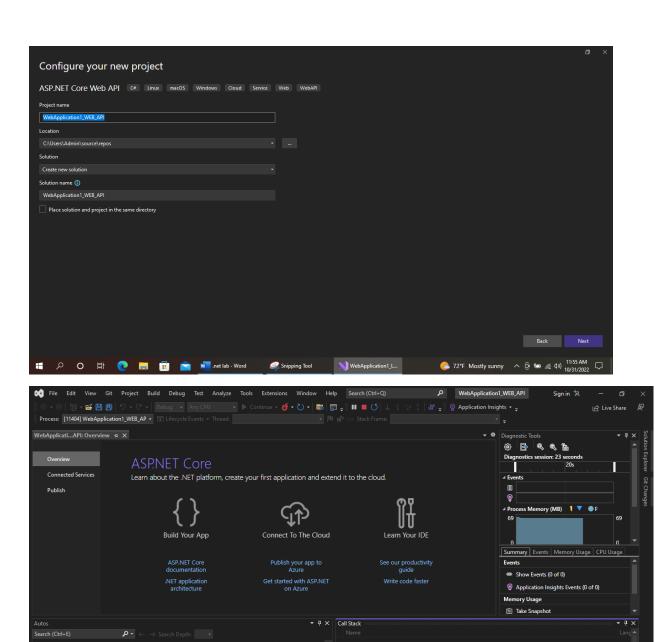


🚆 🔎 🔘 📑 📵 🛅 💼 🚾 met lab - Word 🔘 Home Page - ... 🧬 Snipping Tool 🐧 WebApplicati... 🔤 CAUSers Adm... 🍖 72°F \land 👵 🐿 🙉 📢 1159 AM 🖵

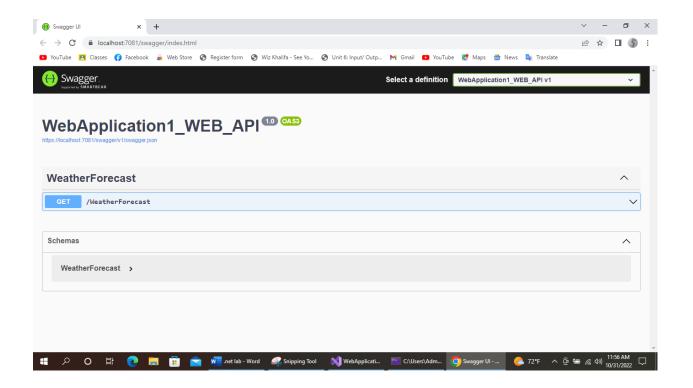
TITLE: ASP.NET WEB API

STEPS:





OUTPUT:



TITLE: JQUERY FORM VALIDATION //CODE: Index.htlm <!DOCTYPE html> <html> <head> <!-- Latest compiled and minified CSS --> k rel="stylesheet" href="https://maxcdn.bootstrapcdn.com/bootstrap/ 4.0.0/css/bootstrap.min.css"> <!-- jQuery library --> <script src="https://ajax.googleapis.com/ajax/libs/</pre> jquery/3.3.1/jquery.min.js"> </script> <!-- Popper JS --> <script src="https://cdnjs.cloudflare.com/ajax/libs/</pre> popper.js/1.12.9/umd/popper.min.js"> </script> <!-- Latest compiled JavaScript --> <script src="https://maxcdn.bootstrapcdn.com/bootstrap/</pre> 4.0.0/js/bootstrap.min.js"> </script> </head> <body>
 FORM VALIDATION USING JQUERY

<div class="container">

<div class="col-lg-8"

```
m-auto d-block">
                      <form>
                             <div class="form-group">
                                     <label for="user">
                                            Username:
                                    </label>
                      <input type="text" name="username" id="usernames" class="form-
       control">
                                    <h5 id="usercheck" style="color: red;">
                                            **Username is missing
                                     </h5>
                             </div>
                             <div class="form-group">
                                     <label for="user">
                                            Email:
                                    </label>
                      <input type="email" name="email" id="email" required class="form-
control">
                                    <small id="emailvalid" class="form-text</pre>
                             text-muted invalid-feedback">
                                            Your email must be a valid email
                                    </small>
                             </div>
                             <div class="form-group">
                                     <label for="password">
                                            Password:
                                     </label>
                      <input type="password" name="pass" id="password" class="form-
control">
                                    <h5 id="passcheck" style="color: red;">
                                            **Please Fill the password
```

```
</h5>
                             </div>
                             <div class="form-group">
                                    <label for="conpassword">
                                           Confirm Password:
                                    </label>
              <input type="password" name="username" id="conpassword" class="form-
control">
                                    <h5 id="conpasscheck" style="color: red;">
                                           **Password didn't match
                                    </h5>
                             </div>
                      <input type="submit" id="submitbtn" value="Submit" class="btn btn-
primary">
                     </form>
              </div>
       </div>
       <!-- Including app.js jQuery Script -->
       <script src="app.js"></script>
</body>
</html>
APP.JS
// Document is ready
$(document).ready(function () {
// Validate Username
$("#usercheck").hide();
let usernameError = true;
$("#usernames").keyup(function () {
       validateUsername();
```

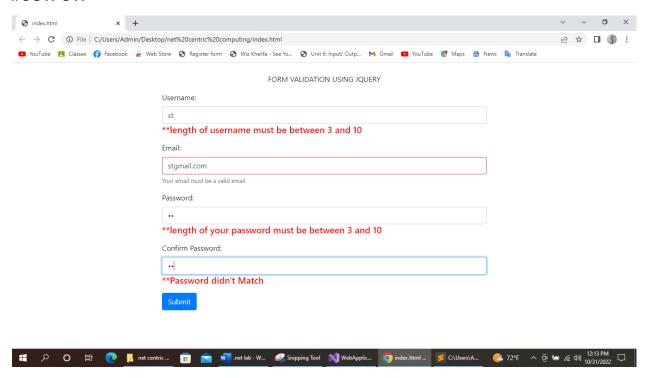
```
function validateUsername() {
       let usernameValue = $("#usernames").val();
       if (usernameValue.length == "") {
       $("#usercheck").show();
       usernameError = false;
       return false;
       } else if (usernameValue.length < 3 || usernameValue.length > 10) {
       $("#usercheck").show();
       $("#usercheck").html("**length of username must be between 3 and 10");
       usernameError = false;
       return false;
       } else {
       $("#usercheck").hide();
       }
}
// Validate Email
const email = document.getElementById("email");
email.addEventListener("blur", () => {
       let regex = /^([_-.0-9a-zA-Z]+)@([_-.0-9a-zA-Z]+).([a-zA-Z]){2,7}$/;
       let s = email.value;
       if (regex.test(s)) {
       email.classList.remove("is-invalid");
       emailError = true;
       } else {
       email.classList.add("is-invalid");
       emailError = false:
       }
});
```

});

```
// Validate Password
$("#passcheck").hide();
let passwordError = true;
$("#password").keyup(function () {
       validatePassword();
});
function validatePassword() {
       let passwordValue = $("#password").val();
       if (passwordValue.length == "") {
       $("#passcheck").show();
       passwordError = false;
       return false;
       }
       if (passwordValue.length < 3 || passwordValue.length > 10) {
       $("#passcheck").show();
       $("#passcheck").html(
              "**length of your password must be between 3 and 10"
       );
       $("#passcheck").css("color", "red");
       passwordError = false;
       return false;
       } else {
       $("#passcheck").hide();
       }
}
// Validate Confirm Password
$("#conpasscheck").hide();
let confirmPasswordError = true;
$("#conpassword").keyup(function () {
       validateConfirmPassword();
});
```

```
function validateConfirmPassword() {
       let confirmPasswordValue = $("#conpassword").val();
       let passwordValue = $("#password").val();
       if (passwordValue != confirmPasswordValue) {
       $("#conpasscheck").show();
       $("#conpasscheck").html("**Password didn't Match");
       $("#conpasscheck").css("color", "red");
       confirmPasswordError = false;
       return false;
       } else {
       $("#conpasscheck").hide();
       }
}
// Submit button
$("#submitbtn").click(function () {
       validateUsername();
       validatePassword();
       validateConfirmPassword();
       validateEmail();
       if (
       usernameError == true &&
       passwordError == true &&
       confirmPasswordError == true &&
       emailError == true
       ) {
       return true;
       } else {
       return false;
});
});
```

//OUTPUT:



TITLE: ROLE BASED AUTHORIZATION

//CODE:

```
1. HomeController.cs
using Microsoft.AspNetCore.Authorization;
using Microsoft.AspNetCore.Mvc;
using prjAspCoreMVCSecurity.Models;
using System. Diagnostics;
namespace prjAspCoreMVCSecurity.Controllers
{
  public class HomeController: Controller
  {
    private readonly ILogger<HomeController> _logger;
    public HomeController(ILogger<HomeController> logger)
    {
       _logger = logger;
    }
    [Authorize(Roles = "Admin, User")]
    public IActionResult Index()
       return View();
    [Authorize(Roles = "Admin")]
    public IActionResult Privacy()
       return View();
    }
    [ResponseCache(Duration = 0, Location = ResponseCacheLocation.None, NoStore =
true)]
    public IActionResult Error()
```

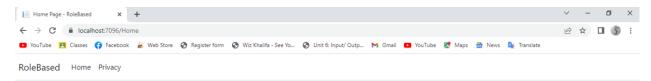
```
{
       return View(new ErrorViewModel { RequestId = Activity.Current?.Id ??
HttpContext.TraceIdentifier });
    }
  }
}
2. Program.cs
using Microsoft.AspNetCore.Authentication.Cookies;
var builder = WebApplication.CreateBuilder(args);
// Add services to the container.
builder.Services.AddControllersWithViews();
builder.Services.Configure < CookiePolicyOptions > (options =>
{
  options.CheckConsentNeeded = context => true;
  options.MinimumSameSitePolicy = SameSiteMode.None;
});
builder.Services.AddAuthentication(CookieAuthenticationDefaults.AuthenticationScheme).Ad
dCookie();
var app = builder.Build();
// Configure the HTTP request pipeline.
if (!app.Environment.IsDevelopment())
{
  app.UseExceptionHandler("/Home/Error");
  // The default HSTS value is 30 days. You may want to change this for production
scenarios, see https://aka.ms/aspnetcore-hsts.
  app.UseHsts();
```

```
}
app.UseCookiePolicy();
app.UseAuthentication();
app.UseHttpsRedirection();
app.UseStaticFiles();
app.UseRouting();
app.UseAuthorization();
app.MapControllerRoute(
  name: "default",
  pattern: "{controller=Login}/{action=Index}/{id?}");
app.Run();
3. Index.cshtml
<form asp-action = "Index" method = "post">
  User Id <input type = "text" name = "userid" class = "form-control" />
  Password <input type = "text" name = "password" class = "form-control" />
  <input type = "submit" value = "login" />
</form>
4. LoginController.cs
using Microsoft.AspNetCore.Authentication;
using Microsoft.AspNetCore.Authentication.Cookies;
using Microsoft.AspNetCore.Mvc;
using System.Security.Claims;
namespace prjAspCoreMVCSecurity.Controllers
{
```

```
public class LoginController : Controller
{
  public IActionResult Index()
  {
     return View();
  }
  [HttpPost]
  public IActionResult Index(string userid, string password)
  {
     if (userid == null || password == "")
       return View();
     ClaimsIdentity identity = null;
     bool IsAuthenticate = false;
     if (userid =="admin" && password =="admin")
     {
       identity = new ClaimsIdentity(new[]
       {
          new Claim(ClaimTypes.Name, userid),
          new Claim(ClaimTypes.Role, "Admin"),
       }, CookieAuthenticationDefaults.AuthenticationScheme);
       IsAuthenticate = true;
    }
     if (userid == "user" && password == "user")
     {
       identity = new ClaimsIdentity(new[]
          new Claim(ClaimTypes.Name, userid),
          new Claim(ClaimTypes.Role, "User"),
```

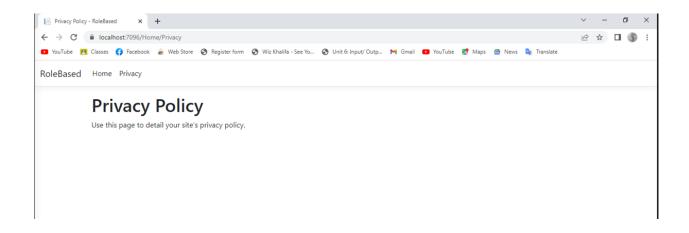
```
}, CookieAuthenticationDefaults.AuthenticationScheme);
IsAuthenticate = true;
}
if(IsAuthenticate)
{
    var principal = new ClaimsPrincipal(identity);
    var login =
HttpContext.SignInAsync(CookieAuthenticationDefaults.AuthenticationScheme, principal);
    return RedirectToAction("Index", "Home");
}
return View();
}
```

//OUTPUT



Welcome

Learn about building Web apps with ASP.NET Core



TITLE: Take student information (rollno, firstname, lastname) of database and select from database using ASP.NET Core MVC Entity Framework

// code

appsettings.json

```
"AllowedHosts": "*",
"ConnectionStrings": {
   "DevConnection": "server=localhost;user id=root;password=;database=kct_db;"
}
```

DataDbContext.cs

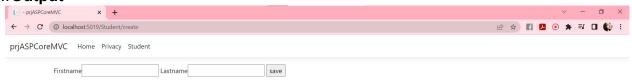
```
using Microsoft.EntityFrameworkCore; using
prjAspcoreMVC.Models;
namespace prjASPCoreMVC.Models
{
  public class DataDbContext : DbContext
  {
     public DataDbContext(DbContextOptions options) : base(options)
     {}
     public DbSet<StudentInfo> student { get; set; }
  }
}
Program.cs
using prjASPCoreMVC.Models; using
Microsoft.EntityFrameworkCore;
builder.Services.AddDbContext<DataDbContext>(option =>
{
  option.UseMySQL(builder.Configuration.GetConnectionString("DevConnection"));
});
```

Model (studentInfo.cs)

```
using System.ComponentModel.DataAnnotations;
namespace prjAspcoreMVC.Models
{
  public class StudentInfo
  {
     [Key]
     public int id { get; set; } public
     string firstname { get; set; } public
     string lastname { get; set; }
  }
}
View (Create.cshtml)
@model prjAspcoreMVC.Models.StudentInfo
<form asp-action="Create">
  Firstname<input asp-for="firstname">
  Lastname<input asp-for="lastname">
  <input type="submit" value="save">
</form>
(List.cshtml)
@model List<prjAspcoreMVC.Models.StudentInfo>
@foreach(var v in Model)
{
  @v.id
  @v.firstname;
  @v.lastname;
}
Controller(StudentController.cs)
using Microsoft.AspNetCore.Mvc;
using prjAspcoreMVC.Models;
using prjASPCoreMVC.Models;
```

```
namespace prjASPCoreMVC.Controllers
{
   public class StudentController : Controller
   {
      DataDbContext db; public
     StudentController(DataDbContext _db)
        db = _db;
     }
     public IActionResult Index()
     {
        return View();
     }
     public IActionResult List()
        List<StudentInfo> students = db.student.ToList(); return
        View(students);
     }
     [HttpGet]
     public IActionResult Create()
     {
        return View();
     }
     [HttpPost] public IActionResult
     Create(StudentInfo info)
     {
        db.student.Add(info);
        db.SaveChanges();
        return View();
     }
   }
}
```

//Output



TITLE: Make the CRUD operation for student in ASP.Net Core Web Application

//source code

appsettings.json

```
"AllowedHosts": "*",
 "ConnectionStrings": {
   "Dev_Connection": "server=localhost;user id=root;password=;database=kct_db;"
 }
}
DataContext.cs using
Microsoft.EntityFrameworkCore; using
prjAspcoreMVC.Models;
namespace prj2ASPcoreWebApp.Models
{
  public class DataContext : DbContext
  {
     public DataContext(DbContextOptions options) : base(options)
     {
     }
     public DbSet<StudentInfo> student { get; set; }
  }
}
```

Program.cs

```
using
prjASPCoreMVC.Models
; using
Microsoft.EntityFramewo
rkCore;
```

```
builder.Services.AddDbContext<DataDbContext>(option =>
{
  option.UseMySQL(builder.Configuration.GetConnectionString("DevConnection"));
});
StudentInfo.cs using
System.ComponentModel.DataAnnotations;
namespace prjAspcoreMVC.Models
{
  public class StudentInfo
     [Key]
     public int id { get; set; } public
  string firstname { get; set; } public
  string lastname { get; set; } }
}
Create.cshtml
@page
@model prj2ASPcoreWebApp.Pages.Student.CreateModel
@{
}
<a a asp-page="list">Go To List</a>
<h1>Create Student </h1>
<form method="post">
  Firstname<input type="text" asp-for="info.firstname" class="form-control">
  Lastname<input type="text" asp-for="info.lastname" class="form-control">
  <input type="submit" value="save" class="btn-primary" />
</form>
Create.cshtml.cs
using Microsoft.AspNetCore.Mvc; using
Microsoft.AspNetCore.Mvc.RazorPages; using
prj2ASPcoreWebApp.Models; using
```

prjAspcoreMVC.Models;

```
namespace prj2ASPcoreWebApp.Pages.Student
{
  public class CreateModel : PageModel
  {
     public void OnGet()
     private DataContext db;
     public CreateModel(DataContext _db)
     {
       db = _db;
     }
     [BindProperty] public StudentInfo
     info { get; set; } public
     IActionResult OnPost()
     {
       db.student.Add(info); db.SaveChanges();
       HttpContext.Session.SetString("Message", "Saved Successfully"); return
       RedirectToPage("List");
    }
  }
}
List.cshtml
@page
@model prj2ASPcoreWebApp.Pages.Student.ListModel
@{
}
<h2>@Model.Message</h2>
<a asp-page="Create">Go To Create</a>
```

```
Firstname
    Lastname
    Action
  @foreach(var item in Model.list)
    @item.firstname
      @item.lastname
      >
        <a asp-route-id="@item.id" asp-page="Delete" class="btn btn-
danger">Delete</a>
           <a asp-route-id="@item.id" asp-page="Edit" class="btn btn-primary">Edit</a>
      }
```

List.cshtml.cs

```
using Microsoft.AspNetCore.Mvc; using
Microsoft.AspNetCore.Mvc.RazorPages; using
prj2ASPcoreWebApp.Models; using
prjAspcoreMVC.Models;

namespace prj2ASPcoreWebApp.Pages.Student
{
    public class ListModel : PageModel
    {
        public DataContext db;
        public ListModel(DataContext _db)
        {
            db = _db;
        }
}
```

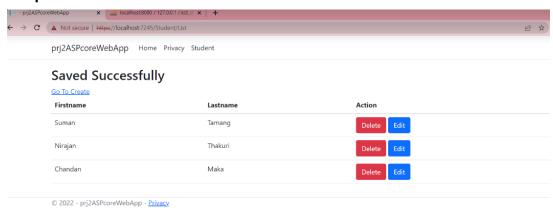
```
public string Message = "";
     public List<StudentInfo> list { get; set; } public
     void OnGet()
     {
        Message = HttpContext.Session.GetString("Message"); if(db.student !=
        null)
       { list = db.student.ToList();
       }
     }
  }
}
Edit.cshtml
@page
@model prj2ASPcoreWebApp.Pages.Student.EditModel
@{
}
<h1>Update Student </h1>
<form method="post">
  Firstname<input type="text" asp-for="info.firstname" class="form-control">
  Lastname<input type="text" asp-for="info.lastname" class="form-control">
  <input type="submit" value="Update" class="btn-primary" />
</form>
Edit.cshtml.cs
_using Microsoft.AspNetCore.Mvc; using
Microsoft.AspNetCore.Mvc.RazorPages; using
prj2ASPcoreWebApp.Models; using
prjAspcoreMVC.Models;
namespace prj2ASPcoreWebApp.Pages.Student
{
  public class EditModel : PageModel
  {
```

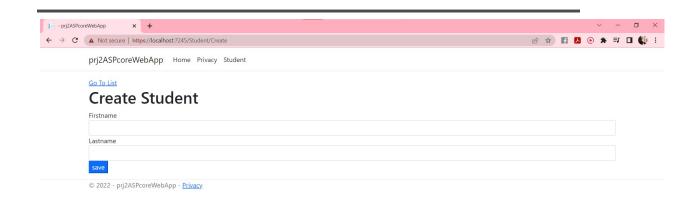
```
public DataContext db; public
     EditModel(DataContext _db)
     {
        db = _db;
     }
     [BindProperty] public StudentInfo
     info { get; set; }
     public void OnGet(int id)
     { info = db.student.Find(id);
     public IActionResult OnPost(int id)
        StudentInfo s = db.student.Find(id); s.firstname
        = info.firstname;
        s.lastname = info.lastname;
        db.SaveChanges(); return
        RedirectToPage("List");
     }
  }
}
Delete.cshtml
@page
@model prj2ASPcoreWebApp.Pages.Student.DeleteModel
@{
}
Delete.cshtml.cs
using Microsoft.AspNetCore.Mvc; using
Microsoft.AspNetCore.Mvc.RazorPages; using
prj2ASPcoreWebApp.Models;
namespace prj2ASPcoreWebApp.Pages.Student
{
  public class DeleteModel : PageModel
  {
```

```
private DataContext db; public
    DeleteModel(DataContext _db)
{
        db = _db;
}

public IActionResult OnGet(int id)
{
        db.student.Remove(db.student.Find(id));
        db.SaveChanges(); return
        RedirectToPage("list");
}
}
```

Output



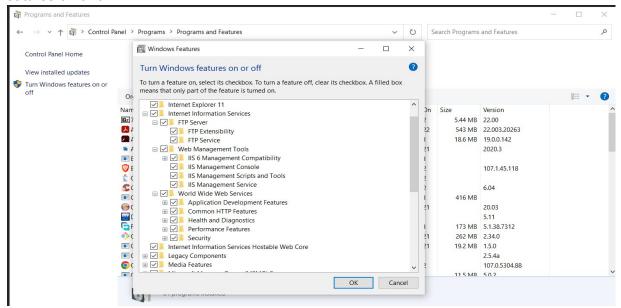




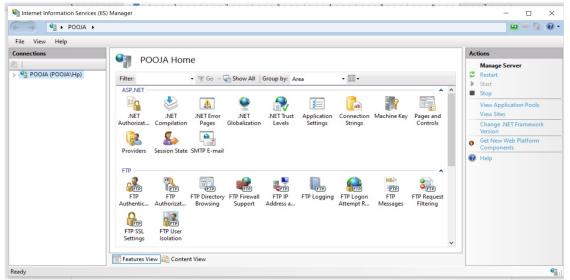
LAB 9 TITLE: HOSTING AND DEPLOYING ASP.NET CORE APPLICATION IN IIS SERVER

//source code

 We turn-on IIS: Control Panel>Programs>Programs and Features>Turn Windows features on or off

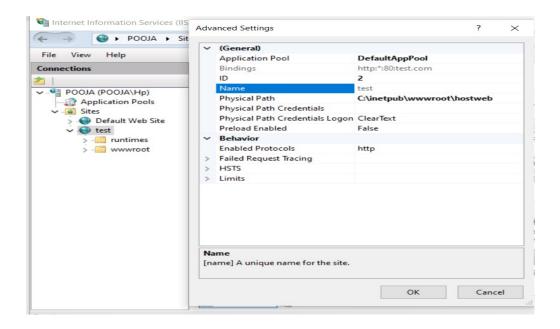


After restarting our device, we Press Win+R and type "inetmgr" or Search IIS Manager



3. Right click on sites and choose "Add Website" ● Fill the site name and host name ● Set physical path as :

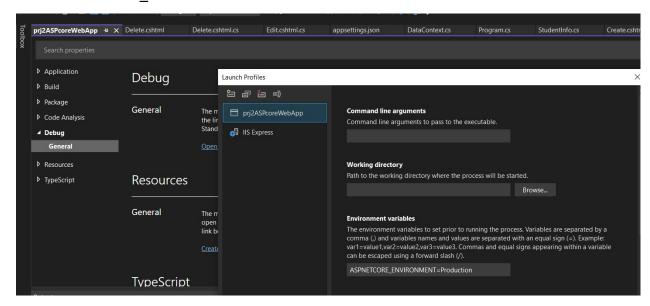
C:>inetpub>wwwroot>hostweb(created_folder_name)



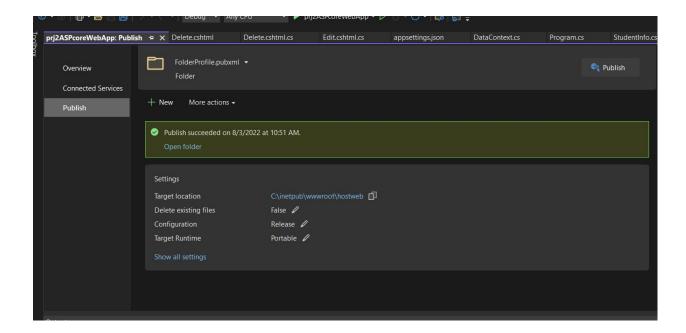
4. We opened our project in visual studio and check build error: Goto Build>Build Solution....

If Build Succeeded, then OK.

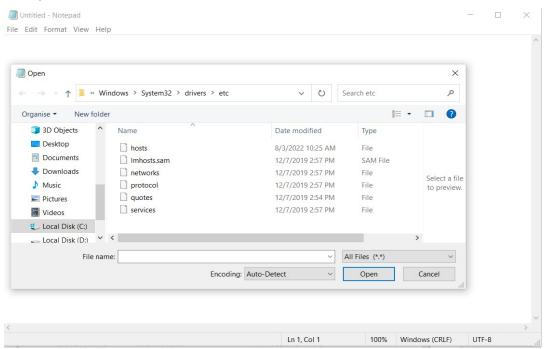
5. Right click our main project and choose properties>Debug>Open debug launch profiles UI>IIs Express>Environment variables: ASPNETCORE_ENVIRONMENT=Production



6. Right click on our project and choose publish



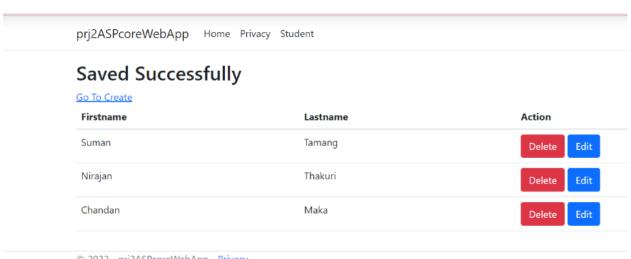
7. Configure domain name in Window OS



8. Place 127.0.0.1 test.com

```
hosts - Notepad
                                                                                            # Copyright (c) 1993-2009 Microsoft Corp.
 # This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
 # be placed in the first column followed by the corresponding host name.
 # The IP address and the host name should be separated by at least one
# Additionally, comments (such as these) may be inserted on individual # lines or following the machine name denoted by a '#' symbol.
# For example:
         102.54.94.97
                             rhino.acme.com
                                                          # source server
          38.25.63.10
                             x.acme.com
                                                          # x client host
# localhost name resolution is handled within DNS itself.
          127.0.0.1 localhost
##
                             localhost
          ::1
          127.0.0.1
                             test.com
```

9. Open browser and type URL "test.com"



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Conclusion

Thus, the ASP.NET Core application is hosted and deployed in IIS server.