



PROGRESS REPORT – WEEKS #4, 5 (PCT 104)

Student Information

Student Name:	Maimunah Mohammed Hammad AL-Harbi	ID Number:	2180001941
Company Name:	T2 Company for Business Research and Development		

Progress Report Information: Brief description of activities, assignments, projects and type of training you were involved during each week of training, and problems faced with the resources used (Individuals, Books, and websites).

Tasks Done	Problems Faced	Resources Used
1- Implementing JWT (Jason Web Token) authentication to Web API and testing it using postman. 2- Attending a lecture about customer service. 3- Design the website interfaces using HTML, CSS, and JavaScript, in addition to implementing cookie authentication. 4- Attending a lecture about teamwork.	None	1- Microsoft Visual Studio 2019 2- Microsoft SQL Server Management Studio 3- Trivedi, J. (2018, July 24). <i>JWT Authentication In ASP.NET Core</i> . C# Corner. https://www.c-sharpcorner.com/article/jwt-json-web-token-authentication-in-asp-net-core/ 4- Postman 5- A. (2020, February 26). <i>How to Implement Cookie Authentication in ASP.NET Core</i> . AshProgHelp. https://ashproghelp.blogspot.com/2020/02/how-to-implement-cookie-authentication.html 6- Joshi, B. (n.d.). <i>Implement Cookie Authentication in ASP.NET Core</i> / <i>BinaryIntellect Knowledge Base</i> . ..NET & Web Development Kb. Retrieved June 22, 2021, from http://www.binaryintellect.net/articles/9780ad51-20f6-48f3-989e-7c6511a44810.aspx 7- <i>Manual</i> . (n.d.). DataTables. Retrieved June 20, 2021, from https://datatables.net/manual/

1- Testing JWT (Jason Web Token) Authentication using Postman

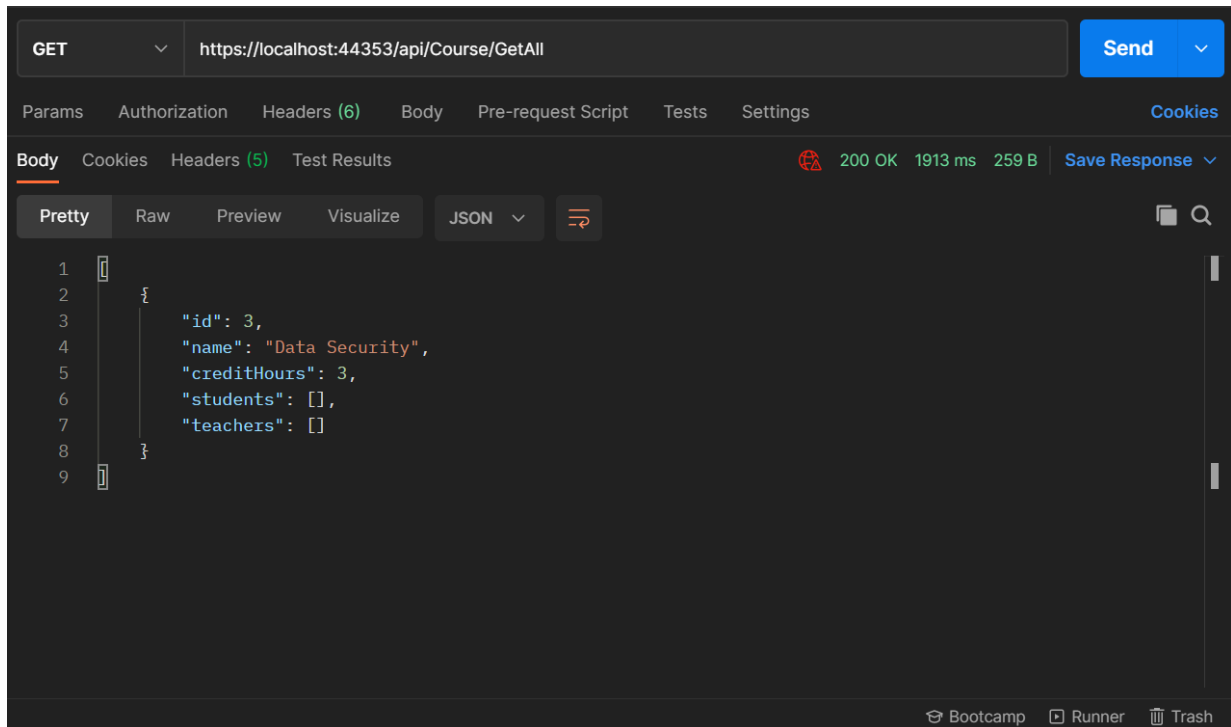
1.1- Attempt to access a function that allows anonymous access without Authentication

The function is “GetAll” which returns a list of all courses as shown in the figure below.

```
[HttpGet]
[Route("GetAll")]
[AllowAnonymous]
0 references
public IActionResult GetAllCourses()
{
    var courses = _courseRepo.List();
    if (courses.Count == 0)
    {
        return NotFound();
    }

    return Ok(courses);
}
```

Testing it using Postman in the figure below.



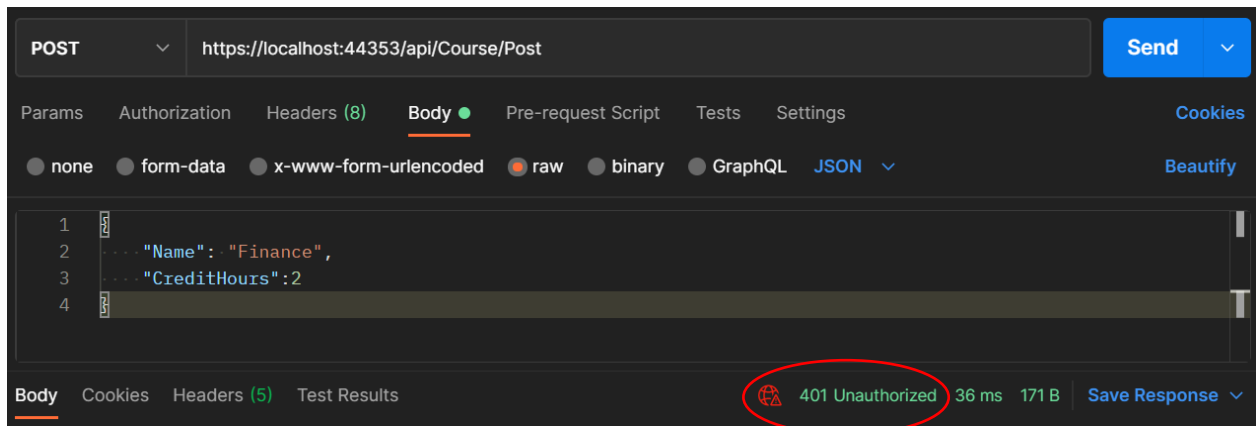
- 1.2- Attempt to access a function that allows only authorized access without authentication

The function is “GetAll” which adds a new course to the courses table in the database as shown in the figure below.

```
[HttpPost]
[Route("Post")]
[Authorize]
0 references
public IActionResult PostNewCourse([FromBody] Course crs)
{
    if (!ModelState.IsValid)
    {
        return BadRequest("Invalid data.");
    }

    _courseRepo.Add(crs);

    return Ok();
}
```



1.3- Attempt to access a function that allows only authorized access with authentication

The implementation of JWT authentication is shown in the figures below.

```
[AllowAnonymous]
[HttpPost]
0 references
public IActionResult Login([FromBody] User login)
{
    IActionResult response = Unauthorized();
    var user = AuthenticateUser(login);

    if (user != null)
    {
        var tokenString = GenerateJSONWebToken(user);
        response = Ok(new { token = tokenString });
    }

    return response;
}
```

```

1 reference
private User AuthenticateUser(User login)
{
    User user = null;

    if (login.Username == "admin" && login.Password == "admin12345")
    {
        user = new User { Username = "admin", EmailAddress = "admin@gmail.com" , DateOfJoining=DateTime.Now };
    }
    return user;
}

```

```

[Route("api/[controller]")]
[ApiController]
1 reference
public class LoginController : Controller
{
    private IConfiguration _config;

    0 references
    public LoginController(IConfiguration config)
    {
        _config = config;
    }
}

```

```

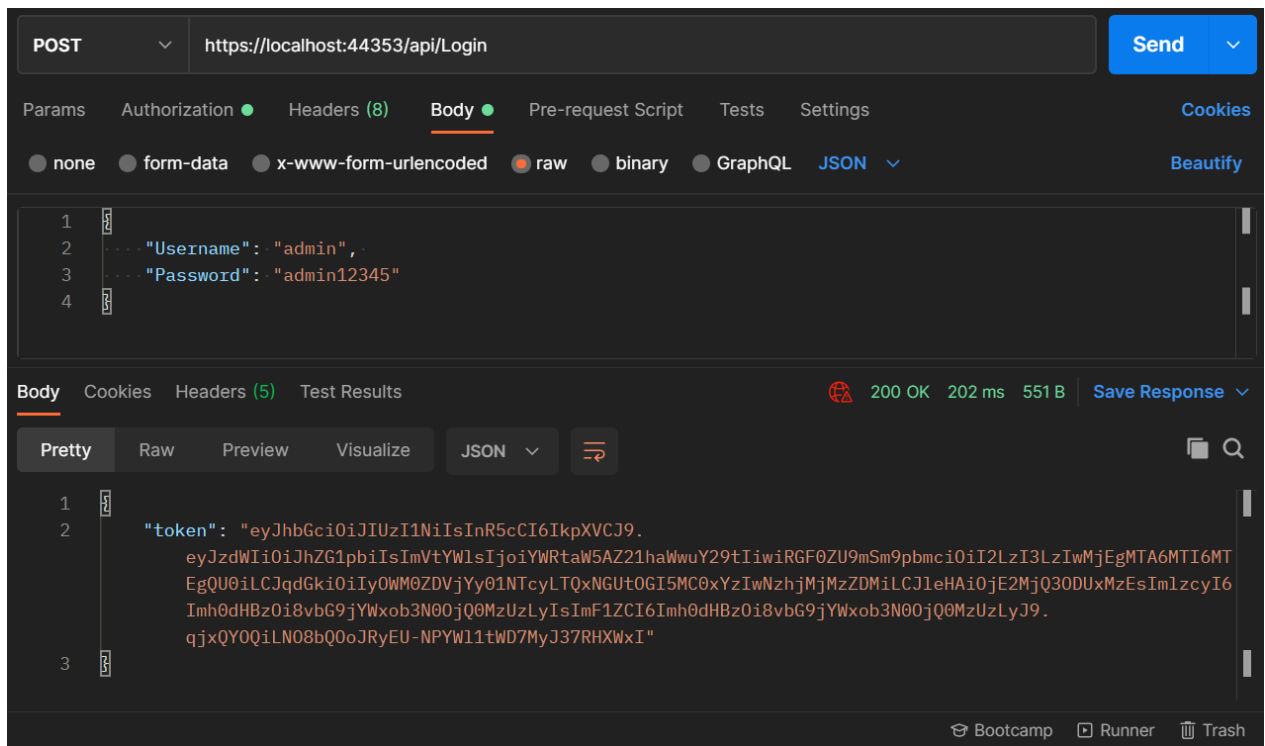
1 reference
private string GenerateJSONWebToken(User userInfo)
{
    var securityKey = new SymmetricSecurityKey(Encoding.UTF8.GetBytes(_config["Jwt:Key"]));
    var credentials = new SigningCredentials(securityKey, SecurityAlgorithms.HmacSha256);
    var claims = new[]
    {
        new Claim(JwtRegisteredClaimNames.Sub, userInfo.Username),
        new Claim(JwtRegisteredClaimNames.Email, userInfo.EmailAddress),
        new Claim("DateOfJoining", userInfo.DateOfJoining.ToString()),
        new Claim(JwtRegisteredClaimNames.Jti, Guid.NewGuid().ToString())
    };

    var token = new JwtSecurityToken(_config["Jwt:Issuer"],
        _config["Jwt:Issuer"],
        claims,
        expires: DateTime.Now.AddMinutes(120),
        signingCredentials: credentials);

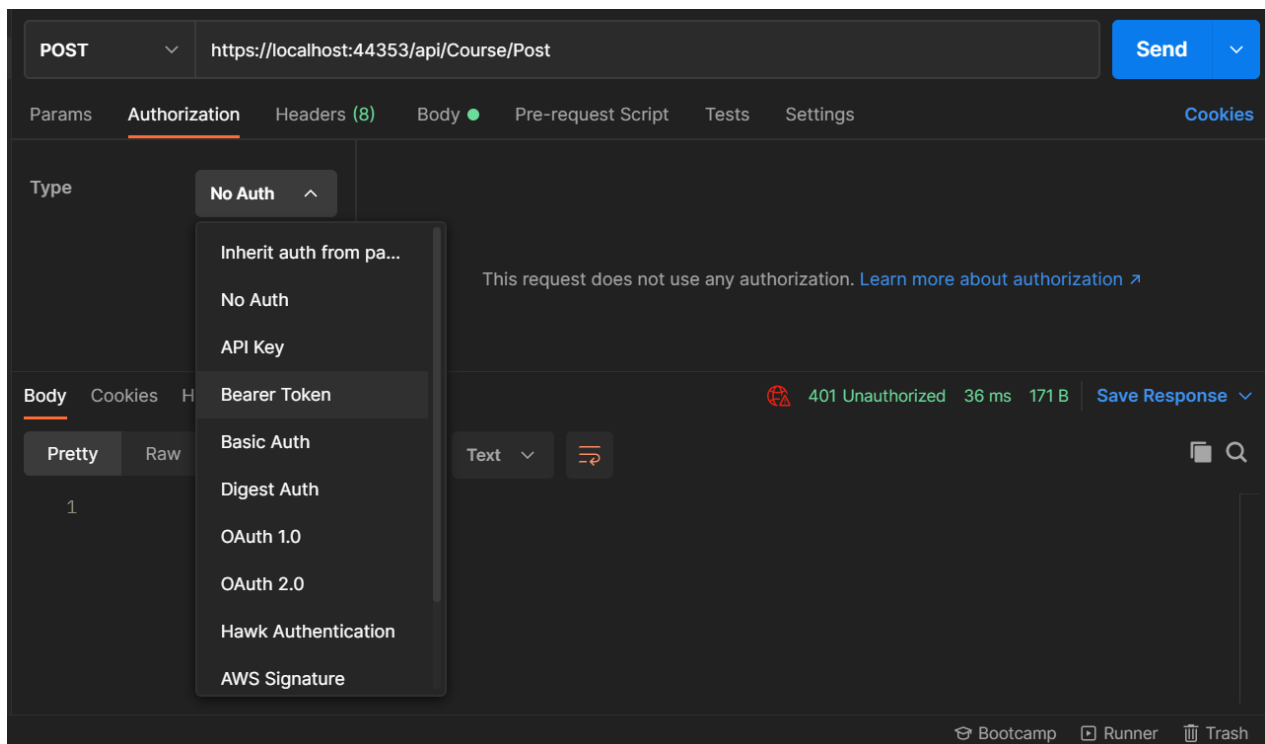
    return new JwtSecurityTokenHandler().WriteToken(token);
}

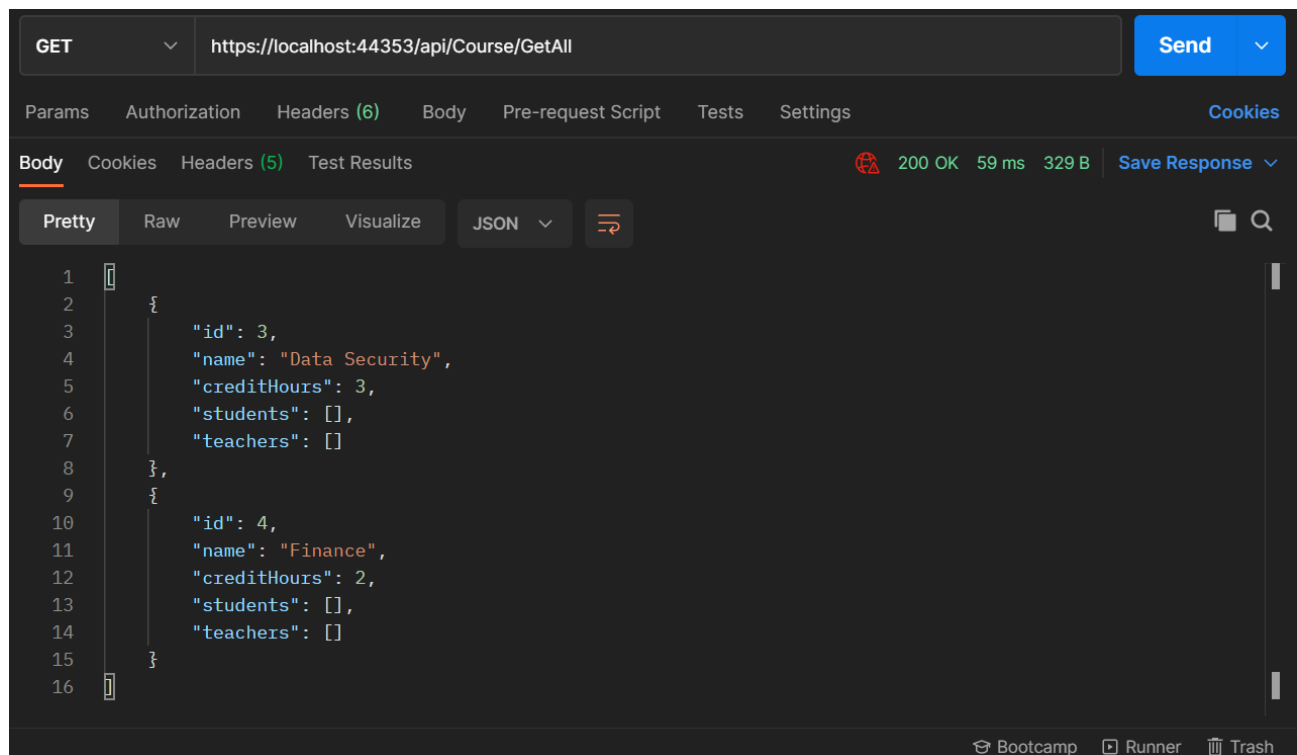
```

Sending a Post request of the “Login” function where its body has the username and password to return the token as shown in the figure below.



Going to “Post” function that has returned Unauthorized response previously and pass token got from “Login” function to it.



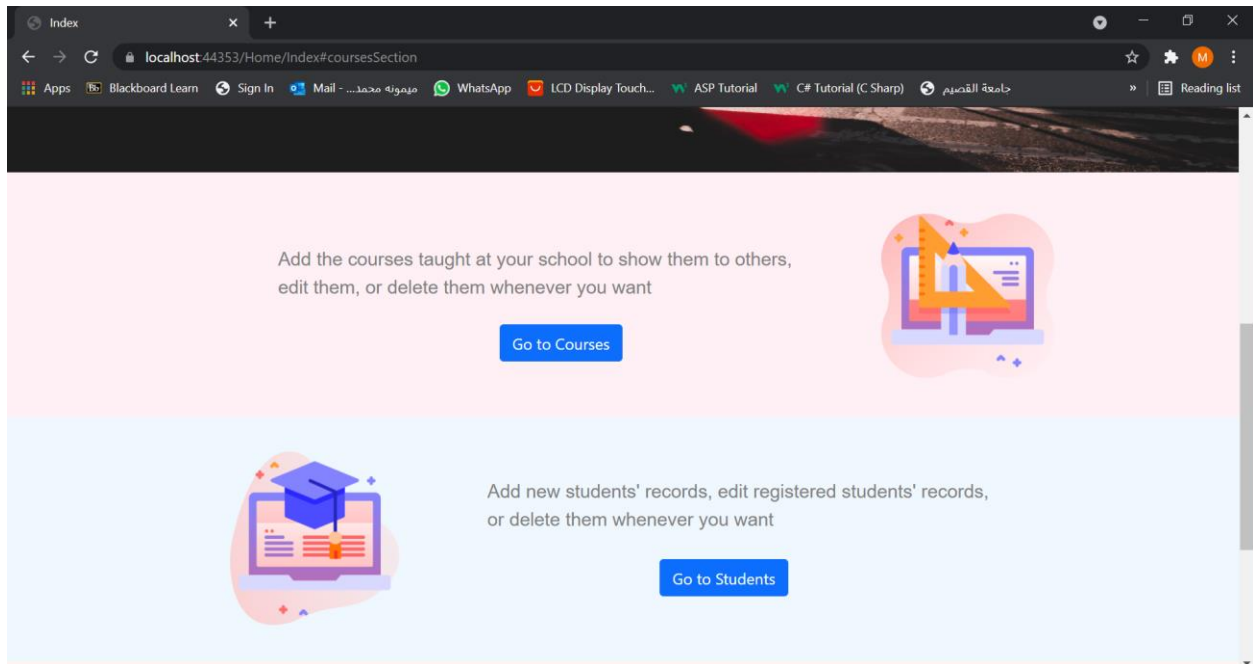
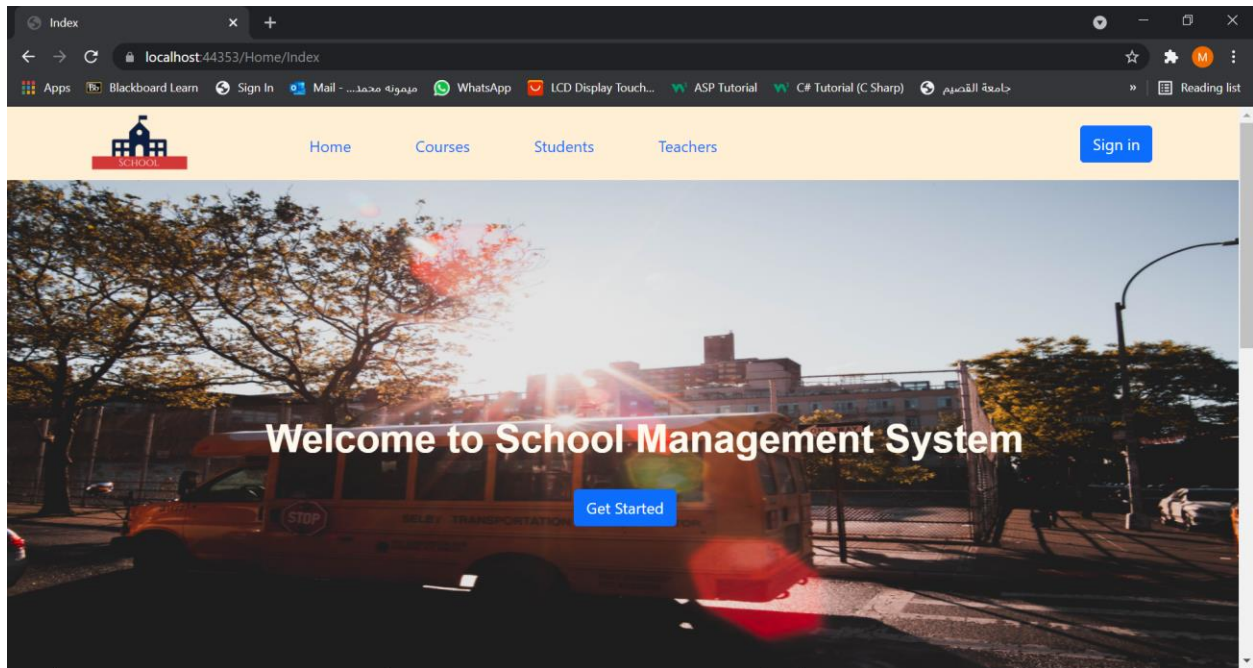


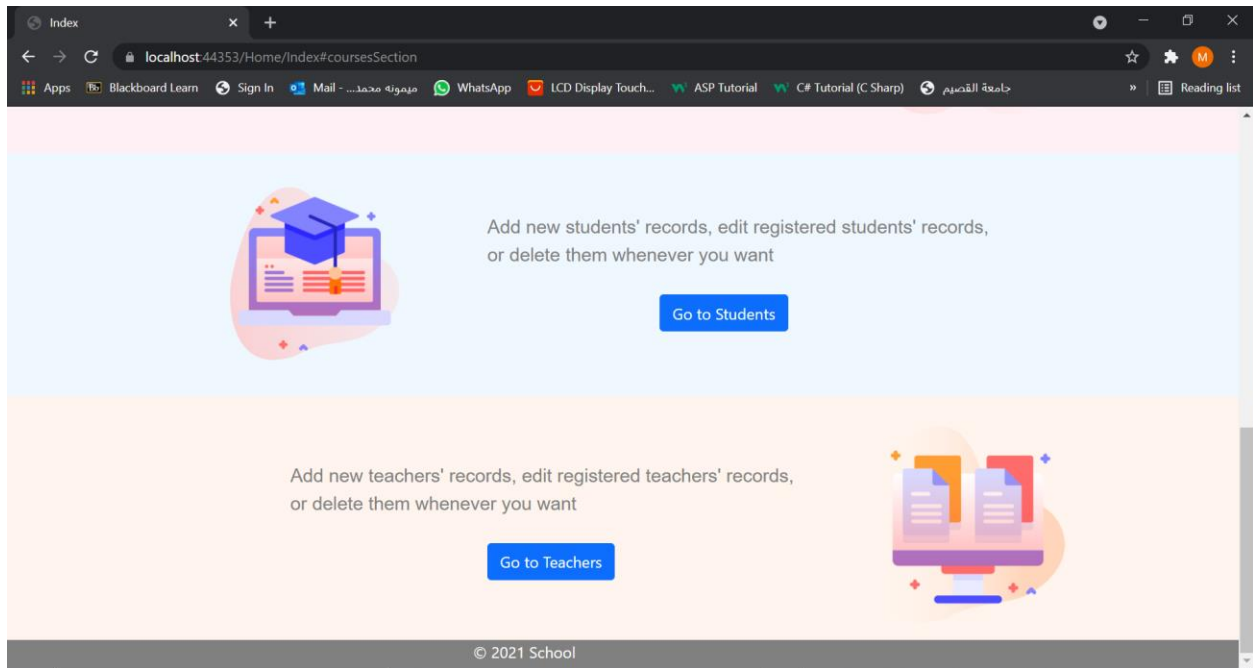
It is also updated in the Database as shown in the figure below.

	ID	Name	CreditHours
1	3	Data Security	3
2	4	Finance	2

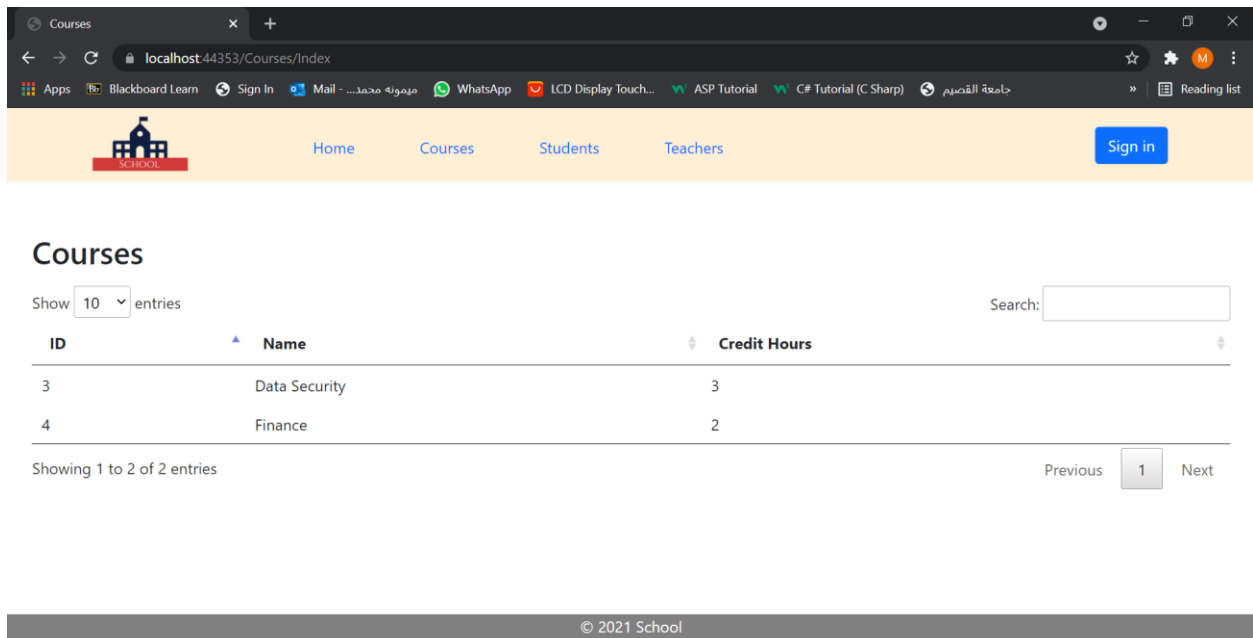
2- School management system website

2.1- Homepage

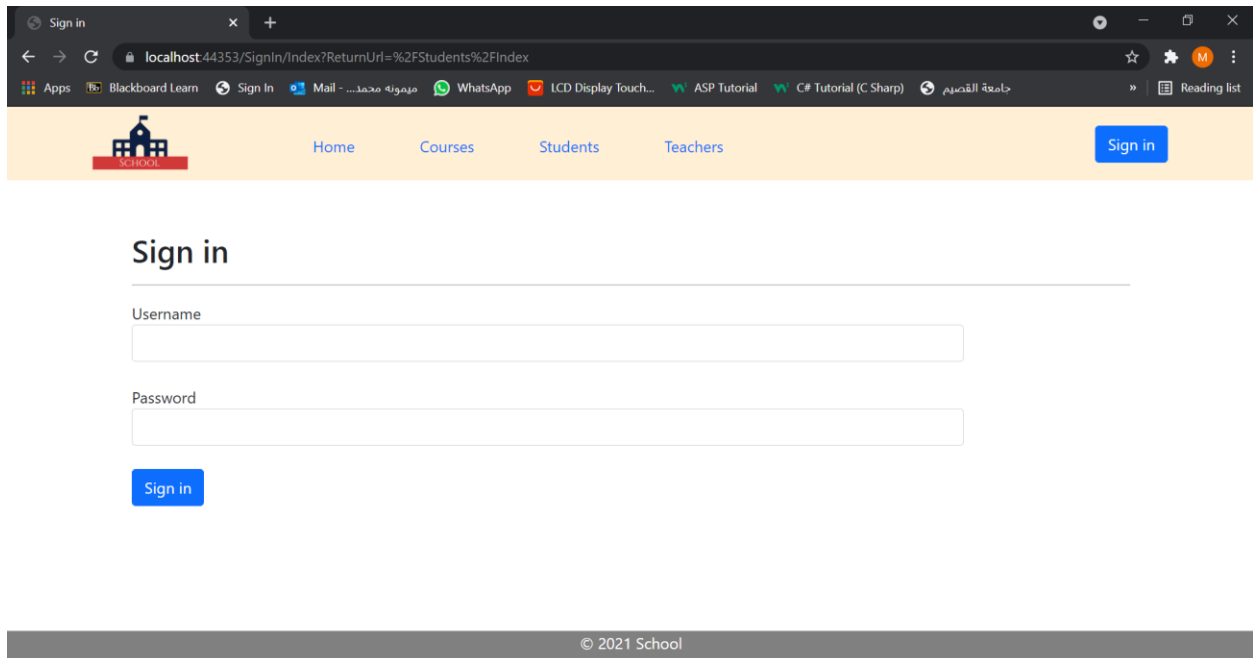




2.2- Courses page in case the user is unauthenticated

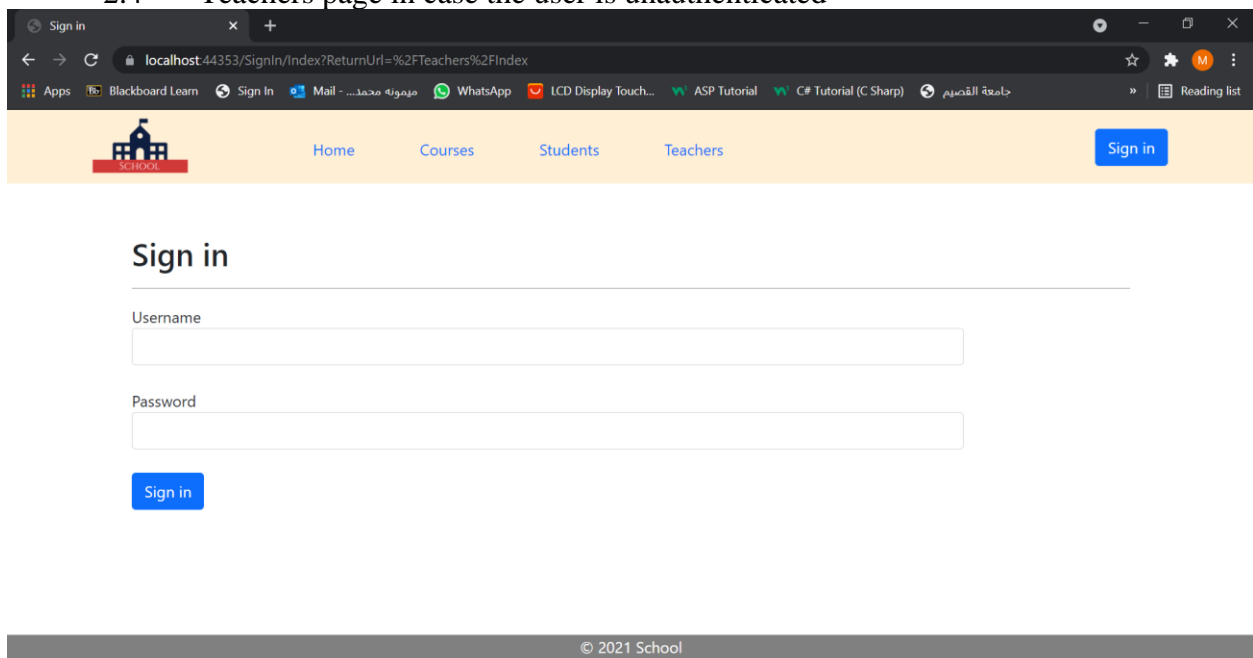


2.3- Students page in case the user is unauthenticated



A screenshot of a web browser showing the 'Sign in' page for a system named 'School'. The browser's address bar shows the URL 'localhost:44353/SignIn/Index?ReturnUrl=%2FStudents%2FIndex'. The page has a light orange header with a 'School' logo on the left and navigation links for 'Home', 'Courses', 'Students', and 'Teachers' in the center. A blue 'Sign in' button is on the right. The main content area is titled 'Sign in' and contains two input fields: 'Username' and 'Password'. Below the password field is a blue 'Sign in' button. At the bottom of the page is a dark grey footer with the text '© 2021 School'.

2.4- Teachers page in case the user is unauthenticated



A screenshot of a web browser showing the 'Sign in' page for a system named 'School'. The browser's address bar shows the URL 'localhost:44353/SignIn/Index?ReturnUrl=%2FTeachers%2FIndex'. The page layout is identical to the previous one, with a light orange header, a 'School' logo, navigation links for 'Home', 'Courses', 'Students', and 'Teachers', and a blue 'Sign in' button. The main content area is titled 'Sign in' and contains 'Username' and 'Password' input fields with a blue 'Sign in' button below them. The footer is dark grey with '© 2021 School'.

2.5- Sign in page

Where the username is “admin” and the password “admin12345”

Sign in

localhost:44353/SignIn/Index

Home Courses Students Teachers Sign in

Sign in

Username

admin

Password

Sign in

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2.6- Courses page in case the user is authenticated

Courses

localhost:44353/Courses/Index

Home Courses Students Teachers Sign out

Courses

Create New

Show 10 entries

Search:

ID	Name	Credit Hours	Action
3	Data Security	3	Edit Delete
4	Finance	2	Edit Delete

Showing 1 to 2 of 2 entries

Previous 1 Next

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2.6-1. "Create new course record" page

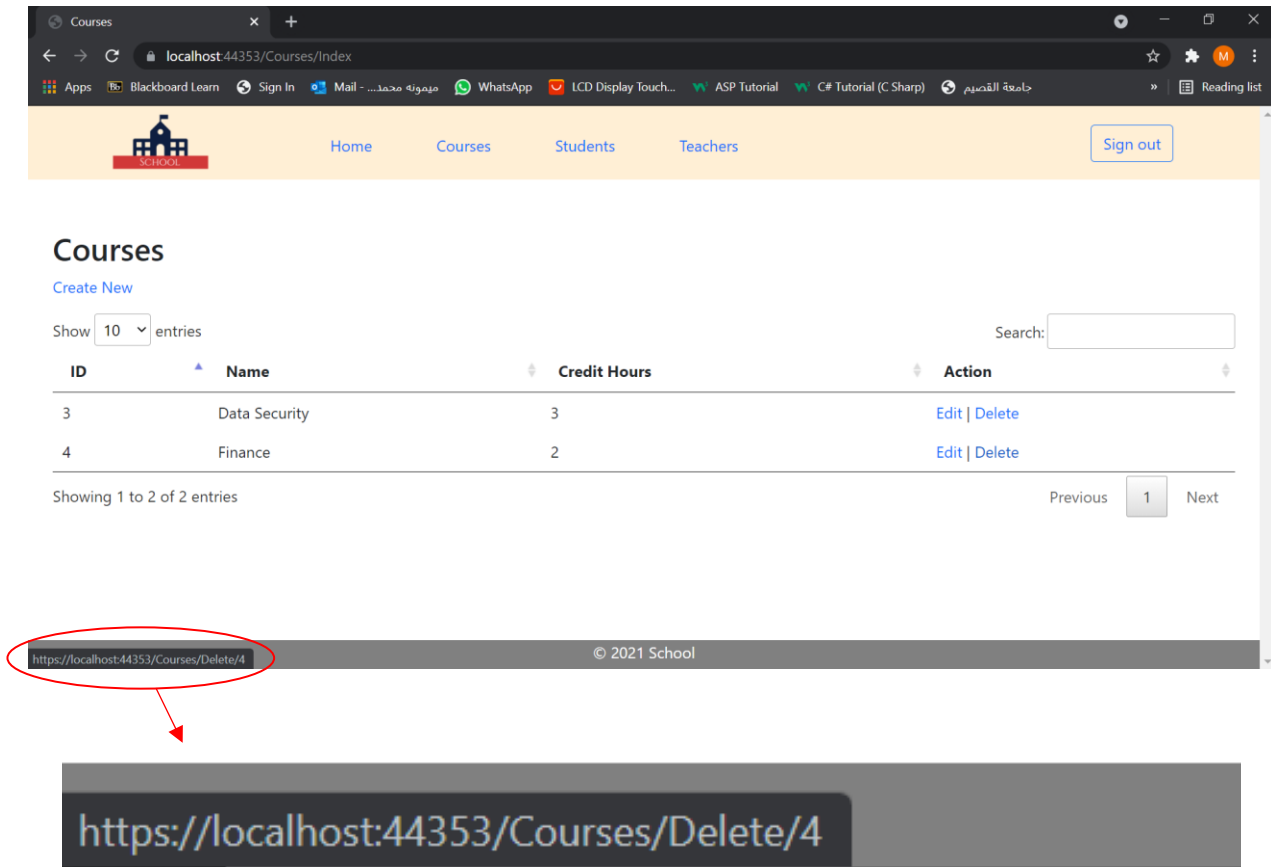
The screenshot shows a web browser window with the address bar displaying 'localhost:44353/Courses/Create'. The page has a navigation bar with links for 'Home', 'Courses', 'Students', and 'Teachers', and a 'Sign out' button. The main heading is 'Create New Course Record'. Below it, there are two input fields: one for 'Name' and one for 'Credit Hours'. A red error message below the 'Credit Hours' field states 'Credit Hours Must be in Between 1 and 3 Hours'. At the bottom, there is a blue 'Create' button and a blue link 'Back to List'.

2.6-2. “Edit course record” page

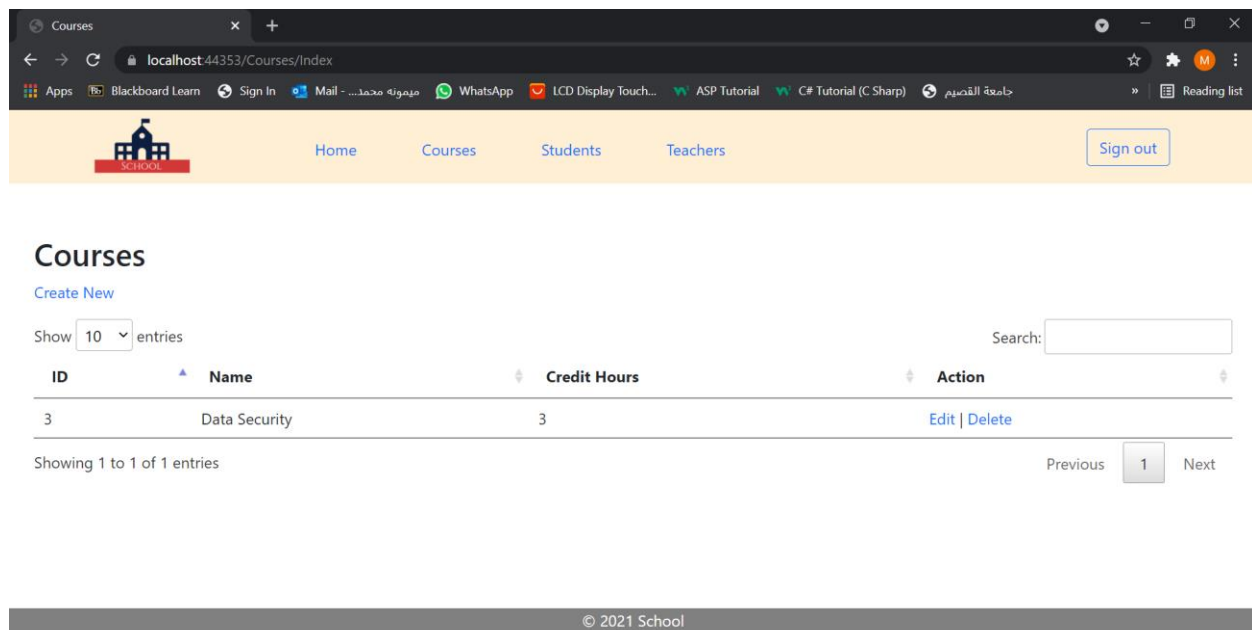
The screenshot shows a web browser window with the address bar displaying 'localhost:44353/Courses/Edit/3'. The page has the same navigation bar as the previous page. The main heading is 'Edit Course Record'. Below it, there are two input fields: one for 'Name' containing the text 'Data Security' and one for 'Credit Hours' containing the number '3'. A red error message below the 'Credit Hours' field states 'Credit Hours Must be in Between 1 and 3 Hours'. At the bottom, there is a blue 'Save' button and a blue link 'Back to List'. The Windows taskbar is visible at the bottom of the screen, showing the time as 10:26 AM on 6/27/2021.

Notice that the fields are filled with data of chosen item.

2.6-3. “Delete course record” functionality



The list after deleting the course with ID number 4 is shown in the figure below.



2.7- Students page in case the user is authenticated

Students

localhost:44353/Students/Index

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Home Courses Students Teachers Sign out

Students

Create New

Show 10 entries Search:

ID	First Name	Last Name	Birth Date	Gender	Enrollment Date	Major	Status	GPA	Action
1	Noura	Fahad	1999-07-13	Female	2017-06-21	Software Engineering	Active	4.53	Edit Delete
2	Salma	Mohammed	1999-10-12	Female	2017-06-21	Computer Science	Active	4.32	Edit Delete

Showing 1 to 2 of 2 entries Previous 1 Next

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2.7-1. "Create new student record" page

Create New Student Record

localhost:44353/Students/Create

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Home Courses Students Teachers Sign out

Create New Student Record

* First Name

* Last Name

* Birth Date

mm/dd/yyyy

* Gender

☐ Female

☐ Male

* Enrollment Date

Create New Student Record

localhost:44353/Students/Create

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* Enrollment Date
mm/dd/yyyy

* Major
Computer Science

* Status
Active

* GPA

GPA Must be in Between 2 and 5

Create


[Back to List](#)

2.7-2. "Edit student record" page

Edit Student Record

localhost:44353/Students/Edit/2

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 [Home](#) [Courses](#) [Students](#) [Teachers](#) [Sign out](#)

Edit Student Record

* First Name
Salma

* Last Name
Mohammed

* Birth Date
10/12/1999

* Gender
☒ Female
☐ Male

* Enrollment Date

* Enrollment Date
06/21/2017

* Major
Computer Science

* Status
Active

* GPA
4.32

GPA Must be in Between 2 and 5

Save

[Back to List](#)

Notice that the fields are filled with data of chosen item.

2.7-3. “Delete student record” functionality

Students

[Create New](#)

Show 10 entries

Search:

ID	First Name	Last Name	Birth Date	Gender	Enrollment Date	Major	Status	GPA	Action
1	Noura	Fahad	1999-07-13	Female	2017-06-21	Software Engineering	Active	4.53	Edit Delete
2	Salma	Mohammed	1999-10-12	Female	2017-06-21	Computer Science	Active	4.32	Edit Delete

Showing 1 to 2 of 2 entries

Previous 1 Next

<https://localhost:44353/Students/Delete/1>

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<https://localhost:44353/Students/Delete/1>

The list after deleting the student with ID number 1 is shown in the figure below.

Students

localhost:44353/Students/Index

Home Courses Students Teachers Sign out

Students

Create New

Show 10 entries Search:

ID	First Name	Last Name	Birth Date	Gender	Enrollment Date	Major	Status	GPA	Action
2	Salma	Mohammed	1999-10-12	Female	2017-06-21	Computer Science	Active	4.32	Edit Delete

Showing 1 to 1 of 1 entries Previous 1 Next

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2.8- Teachers page in case the user is authenticated

Teachers

localhost:44353/Teachers/Index

Home Courses Students Teachers Sign out

Teachers

Create New

Show 10 entries Search:

ID	First Name	Last Name	Birth Date	Gender	Department	Salary	Action
1	Rana	Sameer	1990-02-12	Female	Computer Science	14500	Edit Delete
2	Khalid	Jamal	1991-04-07	Male	Software Engineering	13000	Edit Delete

Showing 1 to 2 of 2 entries Previous 1 Next

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2.8-1. Create new teacher record page

Create New Teacher Record

localhost:44353/Teachers/Create

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Home Courses Students Teachers Sign out

Create New Teacher Record

* First Name

* Last Name

* Birth Date

mm/dd/yyyy

* Gender

☐ Female

☐ Male

* Department

mm/dd/yyyy

* Gender

☐ Female

☐ Male

* Department

Computer Science

* Salary

Salary Must be in Between 5000 and 15000

Create

[Back to List](#)

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2.8-2. Edit teacher record page

Edit Teacher Record

* First Name
Rana

* Last Name
Sameer

* Birth Date
02/12/1990

* Gender
☒ Female
☐ Male

* Department
Computer Science

* Salary
14500

Salary Must be in Between 5000 and 15000

Save

[Back to List](#)

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Notice that the fields are filled with data of chosen item.

2.8-3. Delete teacher recode functionality

The screenshot shows a web application titled "Teachers" with a navigation bar containing "Home", "Courses", "Students", "Teachers", and a "Sign out" button. Below the navigation bar, there is a "Teachers" section with a "Create New" link. A table displays two entries:

ID	First Name	Last Name	Birth Date	Gender	Department	Salary	Action
1	Rana	Sameer	1990-02-12	Female	Computer Science	14500	Edit Delete
2	Khalid	Jamal	1991-04-07	Male	Software Engineering	13000	Edit Delete

Below the table, it says "Showing 1 to 2 of 2 entries". In the footer, the URL `https://localhost:44353/Teachers/Delete/2` is circled in red, and an arrow points to a larger version of the same URL.

The list after deleting the teacher with ID number 2 is shown in the figure below.

The screenshot shows the same "Teachers" web application, but now only one entry is displayed in the table:

ID	First Name	Last Name	Birth Date	Gender	Department	Salary	Action
1	Rana	Sameer	1990-02-12	Female	Computer Science	14500	Edit Delete

Below the table, it says "Showing 1 to 1 of 1 entries". The footer still shows "© 2021 School".

2.9- "Sign out" functionality

In case that the user is authenticated, the “Sign out” button will be provided in the website header as shown in the figure below.



In case that the user is unauthenticated, the “Sign in” button will be provided in the website header as shown in the figure below.



Arwa Alruhaili

A handwritten signature in black ink, appearing to be 'Arwa Alruhaili'.